Project: Mustang
Site: CC Section 31
Well: Booth DD06-765
Wellbore: Wellbore #1
Design: APD-Rev 0

Northern Region - DJ Basin

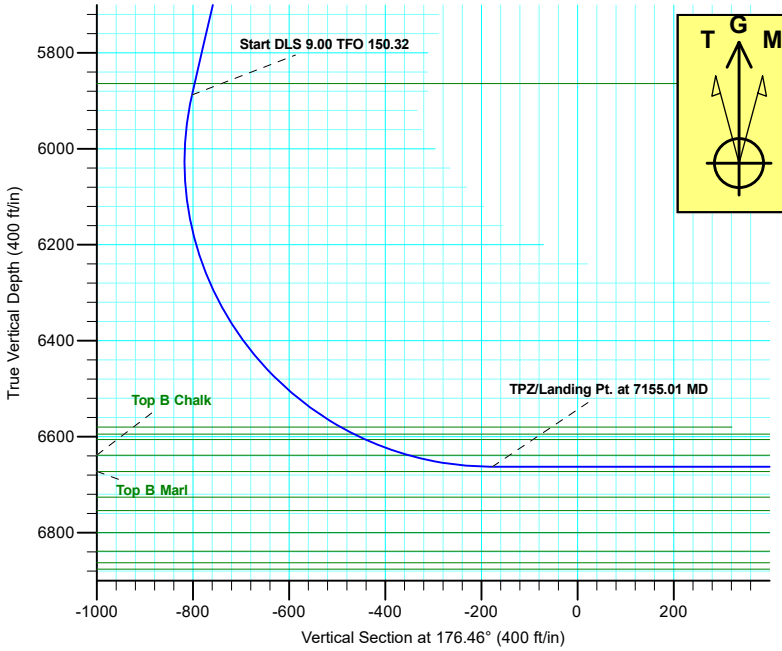
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone
System Datum: Mean Sea Level

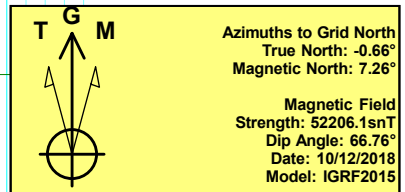
SECTION DETAILS

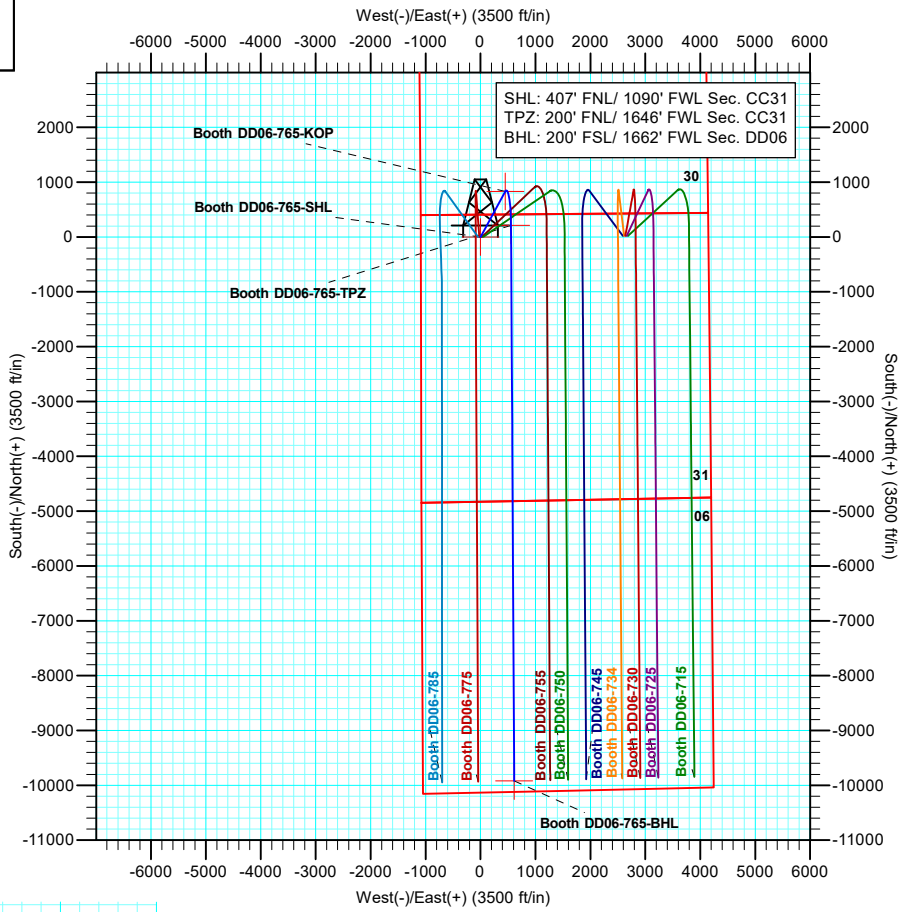
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.00
3	2754.25	15.09	28.50	2745.57	86.76	47.10	2.00	28.50	-83.69
4	6008.57	15.09	28.50	5887.74	831.09	451.19	0.00	0.00	-801.67
5	7155.01	90.00	179.67	6663.00	211.82	555.45	9.00	150.32	-177.15
6	8055.01	90.00	179.67	6663.00	-688.16	560.57	0.00	0.00	721.43
7	8058.74	89.93	179.67	6663.00	-691.89	560.60	2.00	180.00	725.15
8	17286.23	89.93	179.67	6675.00	-9919.22	613.09	0.00	0.00	9938.15

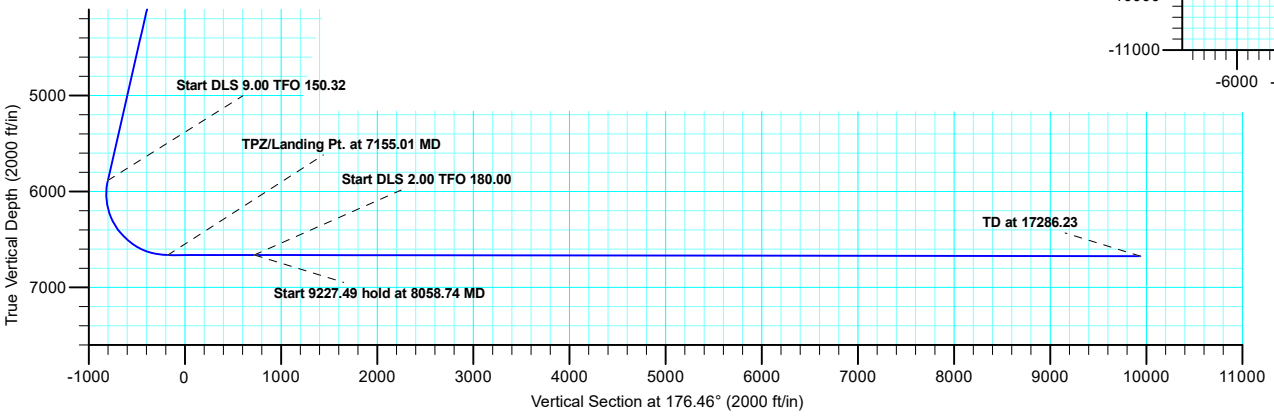
WELL DETAILS: Booth DD06-765

+N/-S	+E/-W	Northing	Ground Level: 4777.00 Easting	Latitude	Longitude	Slot
0.00	0.00	1344634.47	3282946.45	40.2749800	-104.4859200	









Plan: APD-Rev 0 (Booth DD06-765/Wellbore #1)

Created By: Shelly C. Peterkin Date: 9:51, October 15 2018

Northern Region - DJ Basin

Mustang
CC Section 31
Booth DD06-765

Wellbore #1

Plan: APD-Rev 0

Standard Planning Report

15 October, 2018

Database:	EDMP	**Local Co-ordinate Reference:**	Well Booth DD06-765
Company:	Northern Region - DJ Basin	**TVD Reference:**	KB @ 4807.00ft
Project:	Mustang	**MD Reference:**	KB @ 4807.00ft
Site:	CC Section 31	**North Reference:**	Grid
Well:	Booth DD06-765	**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 DD06-765

Well Position	**+N/-S**	4,337.90 ft	**Northing:**	1,344,634.47 usft	**Latitude:**	40.2749800
	+E/-W	-1,078.06 ft	**Easting:**	3,282,946.45 usft	**Longitude:**	-104.4859200
Position Uncertainty		0.00 ft	**Wellhead Elevation:**		**Ground Level:**	4,777.00 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	10/12/2018	7.91	66.76	52,206.07661144

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	176.46

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	
2,754.25	15.09	28.50	2,745.57	86.76	47.10	2.00	2.00	0.00	28.50	
6,008.57	15.09	28.50	5,887.74	831.09	451.19	0.00	0.00	0.00	0.00	
7,155.01	90.00	179.67	6,663.00	211.82	555.45	9.00	6.53	13.19	150.32	Booth DD06-765-TPZ
8,055.01	90.00	179.67	6,663.00	-688.16	560.57	0.00	0.00	0.00	0.00	
8,058.74	89.93	179.67	6,663.00	-691.89	560.60	2.00	-2.00	0.00	180.00	
17,286.23	89.93	179.67	6,675.00	-9,919.22	613.09	0.00	0.00	0.00	0.00	Booth DD06-765-BHL

Database:	EDMP	**Local Co-ordinate Reference:**	Well Booth DD06-765
Company:	Northern Region - DJ Basin	**TVD Reference:**	KB @ 4807.00ft
Project:	Mustang	**MD Reference:**	KB @ 4807.00ft
Site:	CC Section 31	**North Reference:**	Grid
Well:	Booth DD06-765	**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
434.00	0.00	0.00	434.00	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
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
1,620.00	0.00	0.00	1,620.00	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	28.50	2,099.98	1.53	0.83	-1.48	2.00	2.00	0.00
2,200.00	4.00	28.50	2,199.84	6.13	3.33	-5.92	2.00	2.00	0.00
2,300.00	6.00	28.50	2,299.45	13.79	7.49	-13.30	2.00	2.00	0.00
2,400.00	8.00	28.50	2,398.70	24.50	13.30	-23.63	2.00	2.00	0.00
2,500.00	10.00	28.50	2,497.47	38.25	20.77	-36.90	2.00	2.00	0.00
2,600.00	12.00	28.50	2,595.62	55.02	29.87	-53.07	2.00	2.00	0.00
2,700.00	14.00	28.50	2,693.06	74.79	40.60	-72.14	2.00	2.00	0.00
2,754.25	15.09	28.50	2,745.57	86.76	47.10	-83.69	2.00	2.00	0.00
Start 3254.31 hold at 2754.25 MD									
2,800.00	15.09	28.50	2,789.74	97.22	52.78	-93.78	0.00	0.00	0.00
2,900.00	15.09	28.50	2,886.29	120.09	65.20	-115.84	0.00	0.00	0.00
3,000.00	15.09	28.50	2,982.85	142.97	77.61	-137.91	0.00	0.00	0.00
3,100.00	15.09	28.50	3,079.40	165.84	90.03	-159.97	0.00	0.00	0.00
3,200.00	15.09	28.50	3,175.96	188.71	102.45	-182.03	0.00	0.00	0.00
3,300.00	15.09	28.50	3,272.51	211.58	114.87	-204.09	0.00	0.00	0.00
3,400.00	15.09	28.50	3,369.06	234.45	127.28	-226.16	0.00	0.00	0.00
3,500.00	15.09	28.50	3,465.62	257.33	139.70	-248.22	0.00	0.00	0.00
3,600.00	15.09	28.50	3,562.17	280.20	152.12	-270.28	0.00	0.00	0.00
3,700.00	15.09	28.50	3,658.73	303.07	164.53	-292.34	0.00	0.00	0.00
3,734.46	15.09	28.50	3,692.00	310.95	168.81	-299.95	0.00	0.00	0.00
Parkman									
3,800.00	15.09	28.50	3,755.28	325.94	176.95	-314.41	0.00	0.00	0.00
3,900.00	15.09	28.50	3,851.83	348.82	189.37	-336.47	0.00	0.00	0.00
4,000.00	15.09	28.50	3,948.39	371.69	201.78	-358.53	0.00	0.00	0.00
4,100.00	15.09	28.50	4,044.94	394.56	214.20	-380.59	0.00	0.00	0.00
4,200.00	15.09	28.50	4,141.50	417.43	226.62	-402.66	0.00	0.00	0.00

Database:	EDMP	**Local Co-ordinate Reference:**	Well Booth DD06-765
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Project:	Mustang	**MD Reference:**	KB @ 4807.00ft
Site:	CC Section 31	**North Reference:**	Grid
Well:	Booth DD06-765	**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)
4,300.00	15.09	28.50	4,238.05	440.30	239.04	-424.72	0.00	0.00	0.00
4,369.34	15.09	28.50	4,305.00	456.16	247.64	-440.02	0.00	0.00	0.00
Sussex									
4,400.00	15.09	28.50	4,334.60	463.18	251.45	-446.78	0.00	0.00	0.00
4,500.00	15.09	28.50	4,431.16	486.05	263.87	-468.84	0.00	0.00	0.00
4,600.00	15.09	28.50	4,527.71	508.92	276.29	-490.91	0.00	0.00	0.00
4,700.00	15.09	28.50	4,624.27	531.79	288.70	-512.97	0.00	0.00	0.00
4,800.00	15.09	28.50	4,720.82	554.66	301.12	-535.03	0.00	0.00	0.00
4,900.00	15.09	28.50	4,817.38	577.54	313.54	-557.09	0.00	0.00	0.00
5,000.00	15.09	28.50	4,913.93	600.41	325.95	-579.16	0.00	0.00	0.00
5,017.68	15.09	28.50	4,931.00	604.45	328.15	-583.06	0.00	0.00	0.00
Shannon									
5,100.00	15.09	28.50	5,010.48	623.28	338.37	-601.22	0.00	0.00	0.00
5,200.00	15.09	28.50	5,107.04	646.15	350.79	-623.28	0.00	0.00	0.00
5,300.00	15.09	28.50	5,203.59	669.02	363.20	-645.34	0.00	0.00	0.00
5,400.00	15.09	28.50	5,300.15	691.90	375.62	-667.41	0.00	0.00	0.00
5,500.00	15.09	28.50	5,396.70	714.77	388.04	-689.47	0.00	0.00	0.00
5,600.00	15.09	28.50	5,493.25	737.64	400.46	-711.53	0.00	0.00	0.00
5,700.00	15.09	28.50	5,589.81	760.51	412.87	-733.59	0.00	0.00	0.00
5,800.00	15.09	28.50	5,686.36	783.39	425.29	-755.66	0.00	0.00	0.00
5,900.00	15.09	28.50	5,782.92	806.26	437.71	-777.72	0.00	0.00	0.00
5,983.98	15.09	28.50	5,864.00	825.47	448.13	-796.25	0.00	0.00	0.00
Teepee Buttes									
6,008.57	15.09	28.50	5,887.74	831.09	451.19	-801.67	0.00	0.00	0.00
Start DLS 9.00 TFO 150.32									
6,050.00	11.99	37.42	5,928.02	839.25	456.38	-809.49	9.00	-7.48	21.53
6,100.00	8.90	55.76	5,977.20	845.55	462.73	-815.39	9.00	-6.17	36.69
6,150.00	7.42	86.18	6,026.72	847.94	469.15	-817.38	9.00	-2.96	60.83
6,200.00	8.43	118.45	6,076.26	846.41	475.60	-815.46	9.00	2.03	64.55
6,250.00	11.29	139.07	6,125.53	840.96	482.03	-809.62	9.00	5.72	41.23
6,300.00	14.97	150.60	6,174.23	831.63	488.41	-799.92	9.00	7.36	23.06
6,350.00	19.00	157.50	6,222.04	818.48	494.70	-786.40	9.00	8.06	13.81
6,400.00	23.20	162.02	6,268.68	801.58	500.86	-769.16	9.00	8.40	9.04
6,450.00	27.49	165.21	6,313.86	781.05	506.85	-748.29	9.00	8.58	6.37
6,500.00	31.83	167.59	6,357.30	757.00	512.63	-723.93	9.00	8.69	4.76
6,550.00	36.21	169.45	6,398.73	729.58	518.17	-696.23	9.00	8.76	3.72
6,600.00	40.61	170.96	6,437.90	698.98	523.43	-665.36	9.00	8.80	3.01
6,650.00	45.03	172.22	6,474.56	665.36	528.39	-631.50	9.00	8.84	2.52
6,700.00	49.46	173.29	6,508.50	628.95	533.00	-594.87	9.00	8.86	2.15
6,750.00	53.90	174.24	6,539.49	589.96	537.25	-555.70	9.00	8.88	1.89
6,800.00	58.35	175.08	6,567.36	548.64	541.11	-514.22	9.00	8.89	1.68
6,824.88	60.56	175.47	6,580.00	527.29	542.87	-492.80	9.00	8.90	1.56
Sharon Springs									
6,850.00	62.80	175.84	6,591.92	505.24	544.55	-470.69	9.00	8.90	1.50
6,856.81	63.40	175.94	6,595.00	499.18	544.98	-464.61	9.00	8.91	1.46
Top A Chalk									
6,882.41	65.68	176.31	6,606.00	476.13	546.54	-441.50	9.00	8.91	1.42
Top A Marl									
6,900.00	67.25	176.55	6,613.02	460.03	547.55	-425.37	9.00	8.91	1.38
6,950.00	71.71	177.21	6,630.55	413.28	550.09	-378.56	9.00	8.91	1.32
6,978.91	74.29	177.58	6,639.00	385.67	551.35	-350.92	9.00	8.92	1.27
Top B Chalk									
7,000.00	76.17	177.84	6,644.38	365.29	552.16	-330.53	9.00	8.92	1.24

Database:	EDMP	**Local Co-ordinate Reference:**	Well Booth DD06-765
Company:	Northern Region - DJ Basin	**TVD Reference:**	KB @ 4807.00ft
Project:	Mustang	**MD Reference:**	KB @ 4807.00ft
Site:	CC Section 31	**North Reference:**	Grid
Well:	Booth DD06-765	**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	80.63	178.45	6,654.43	316.35	553.75	-281.59	9.00	8.92	1.21
7,100.00	85.09	179.03	6,660.64	266.76	554.84	-232.03	9.00	8.92	1.18
7,150.00	89.55	179.62	6,662.98	216.83	555.42	-182.16	9.00	8.92	1.16
7,155.01	90.00	179.67	6,663.00	211.82	555.45	-177.15	9.00	8.92	1.16
TPZ/Landing Pt. at 7155.01 MD									
7,200.00	90.00	179.67	6,663.00	166.84	555.71	-132.24	0.00	0.00	0.00
7,300.00	90.00	179.67	6,663.00	66.84	556.28	-32.39	0.00	0.00	0.00
7,400.00	90.00	179.67	6,663.00	-33.16	556.85	67.45	0.00	0.00	0.00
7,500.00	90.00	179.67	6,663.00	-133.16	557.42	167.29	0.00	0.00	0.00
7,600.00	90.00	179.67	6,663.00	-233.16	557.99	267.14	0.00	0.00	0.00
7,700.00	90.00	179.67	6,663.00	-333.16	558.56	366.98	0.00	0.00	0.00
7,800.00	90.00	179.67	6,663.00	-433.16	559.12	466.82	0.00	0.00	0.00
7,900.00	90.00	179.67	6,663.00	-533.15	559.69	566.67	0.00	0.00	0.00
8,000.00	90.00	179.67	6,663.00	-633.15	560.26	666.51	0.00	0.00	0.00
8,055.01	90.00	179.67	6,663.00	-688.16	560.57	721.43	0.00	0.00	0.00
Start DLS 2.00 TFO 180.00									
8,058.74	89.93	179.67	6,663.00	-691.89	560.60	725.15	2.00	-2.00	0.00
Start 9227.49 hold at 8058.74 MD									
8,100.00	89.93	179.67	6,663.06	-733.15	560.83	766.35	0.00	0.00	0.00
8,200.00	89.93	179.67	6,663.19	-833.15	561.40	866.19	0.00	0.00	0.00
8,300.00	89.93	179.67	6,663.32	-933.15	561.97	966.04	0.00	0.00	0.00
8,400.00	89.93	179.67	6,663.45	-1,033.15	562.54	1,065.88	0.00	0.00	0.00
8,500.00	89.93	179.67	6,663.58	-1,133.14	563.11	1,165.72	0.00	0.00	0.00
8,600.00	89.93	179.67	6,663.71	-1,233.14	563.68	1,265.57	0.00	0.00	0.00
8,700.00	89.93	179.67	6,663.84	-1,333.14	564.24	1,365.41	0.00	0.00	0.00
8,800.00	89.93	179.67	6,663.97	-1,433.14	564.81	1,465.25	0.00	0.00	0.00
8,900.00	89.93	179.67	6,664.10	-1,533.14	565.38	1,565.10	0.00	0.00	0.00
9,000.00	89.93	179.67	6,664.23	-1,633.13	565.95	1,664.94	0.00	0.00	0.00
9,100.00	89.93	179.67	6,664.36	-1,733.13	566.52	1,764.78	0.00	0.00	0.00
9,200.00	89.93	179.67	6,664.49	-1,833.13	567.09	1,864.62	0.00	0.00	0.00
9,300.00	89.93	179.67	6,664.62	-1,933.13	567.66	1,964.47	0.00	0.00	0.00
9,400.00	89.93	179.67	6,664.75	-2,033.13	568.23	2,064.31	0.00	0.00	0.00
9,500.00	89.93	179.67	6,664.88	-2,133.13	568.80	2,164.15	0.00	0.00	0.00
9,600.00	89.93	179.67	6,665.01	-2,233.12	569.36	2,264.00	0.00	0.00	0.00
9,700.00	89.93	179.67	6,665.14	-2,333.12	569.93	2,363.84	0.00	0.00	0.00
9,800.00	89.93	179.67	6,665.27	-2,433.12	570.50	2,463.68	0.00	0.00	0.00
9,900.00	89.93	179.67	6,665.40	-2,533.12	571.07	2,563.52	0.00	0.00	0.00
10,000.00	89.93	179.67	6,665.53	-2,633.12	571.64	2,663.37	0.00	0.00	0.00
10,100.00	89.93	179.67	6,665.66	-2,733.12	572.21	2,763.21	0.00	0.00	0.00
10,200.00	89.93	179.67	6,665.79	-2,833.11	572.78	2,863.05	0.00	0.00	0.00
10,300.00	89.93	179.67	6,665.92	-2,933.11	573.35	2,962.90	0.00	0.00	0.00
10,400.00	89.93	179.67	6,666.05	-3,033.11	573.92	3,062.74	0.00	0.00	0.00
10,500.00	89.93	179.67	6,666.18	-3,133.11	574.48	3,162.58	0.00	0.00	0.00
10,600.00	89.93	179.67	6,666.31	-3,233.11	575.05	3,262.43	0.00	0.00	0.00
10,700.00	89.93	179.67	6,666.44	-3,333.11	575.62	3,362.27	0.00	0.00	0.00
10,800.00	89.93	179.67	6,666.57	-3,433.10	576.19	3,462.11	0.00	0.00	0.00
10,900.00	89.93	179.67	6,666.70	-3,533.10	576.76	3,561.95	0.00	0.00	0.00
11,000.00	89.93	179.67	6,666.83	-3,633.10	577.33	3,661.80	0.00	0.00	0.00
11,100.00	89.93	179.67	6,666.96	-3,733.10	577.90	3,761.64	0.00	0.00	0.00
11,200.00	89.93	179.67	6,667.09	-3,833.10	578.47	3,861.48	0.00	0.00	0.00
11,300.00	89.93	179.67	6,667.22	-3,933.10	579.04	3,961.33	0.00	0.00	0.00
11,400.00	89.93	179.67	6,667.35	-4,033.09	579.61	4,061.17	0.00	0.00	0.00
11,500.00	89.93	179.67	6,667.48	-4,133.09	580.17	4,161.01	0.00	0.00	0.00

Database:	EDMP	**Local Co-ordinate Reference:**	Well Booth DD06-765
Company:	Northern Region - DJ Basin	**TVD Reference:**	KB @ 4807.00ft
Project:	Mustang	**MD Reference:**	KB @ 4807.00ft
Site:	CC Section 31	**North Reference:**	Grid
Well:	Booth DD06-765	**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)
11,600.00	89.93	179.67	6,667.61	-4,233.09	580.74	4,260.85	0.00	0.00	0.00
11,700.00	89.93	179.67	6,667.74	-4,333.09	581.31	4,360.70	0.00	0.00	0.00
11,800.00	89.93	179.67	6,667.87	-4,433.09	581.88	4,460.54	0.00	0.00	0.00
11,900.00	89.93	179.67	6,668.00	-4,533.09	582.45	4,560.38	0.00	0.00	0.00
12,000.00	89.93	179.67	6,668.13	-4,633.08	583.02	4,660.23	0.00	0.00	0.00
12,100.00	89.93	179.67	6,668.26	-4,733.08	583.59	4,760.07	0.00	0.00	0.00
12,200.00	89.93	179.67	6,668.39	-4,833.08	584.16	4,859.91	0.00	0.00	0.00
12,300.00	89.93	179.67	6,668.52	-4,933.08	584.73	4,959.75	0.00	0.00	0.00
12,400.00	89.93	179.67	6,668.65	-5,033.08	585.29	5,059.60	0.00	0.00	0.00
12,500.00	89.93	179.67	6,668.78	-5,133.08	585.86	5,159.44	0.00	0.00	0.00
12,600.00	89.93	179.67	6,668.91	-5,233.07	586.43	5,259.28	0.00	0.00	0.00
12,700.00	89.93	179.67	6,669.04	-5,333.07	587.00	5,359.13	0.00	0.00	0.00
12,800.00	89.93	179.67	6,669.17	-5,433.07	587.57	5,458.97	0.00	0.00	0.00
12,900.00	89.93	179.67	6,669.30	-5,533.07	588.14	5,558.81	0.00	0.00	0.00
13,000.00	89.93	179.67	6,669.43	-5,633.07	588.71	5,658.66	0.00	0.00	0.00
13,100.00	89.93	179.67	6,669.56	-5,733.07	589.28	5,758.50	0.00	0.00	0.00
13,200.00	89.93	179.67	6,669.69	-5,833.06	589.85	5,858.34	0.00	0.00	0.00
13,300.00	89.93	179.67	6,669.82	-5,933.06	590.41	5,958.18	0.00	0.00	0.00
13,400.00	89.93	179.67	6,669.95	-6,033.06	590.98	6,058.03	0.00	0.00	0.00
13,500.00	89.93	179.67	6,670.08	-6,133.06	591.55	6,157.87	0.00	0.00	0.00
13,600.00	89.93	179.67	6,670.21	-6,233.06	592.12	6,257.71	0.00	0.00	0.00
13,700.00	89.93	179.67	6,670.34	-6,333.05	592.69	6,357.56	0.00	0.00	0.00
13,800.00	89.93	179.67	6,670.47	-6,433.05	593.26	6,457.40	0.00	0.00	0.00
13,900.00	89.93	179.67	6,670.60	-6,533.05	593.83	6,557.24	0.00	0.00	0.00
14,000.00	89.93	179.67	6,670.73	-6,633.05	594.40	6,657.08	0.00	0.00	0.00
14,100.00	89.93	179.67	6,670.86	-6,733.05	594.97	6,756.93	0.00	0.00	0.00
14,200.00	89.93	179.67	6,670.99	-6,833.05	595.53	6,856.77	0.00	0.00	0.00
14,300.00	89.93	179.67	6,671.12	-6,933.04	596.10	6,956.61	0.00	0.00	0.00
14,400.00	89.93	179.67	6,671.25	-7,033.04	596.67	7,056.46	0.00	0.00	0.00
14,500.00	89.93	179.67	6,671.38	-7,133.04	597.24	7,156.30	0.00	0.00	0.00
14,600.00	89.93	179.67	6,671.51	-7,233.04	597.81	7,256.14	0.00	0.00	0.00
14,700.00	89.93	179.67	6,671.64	-7,333.04	598.38	7,355.99	0.00	0.00	0.00
14,800.00	89.93	179.67	6,671.77	-7,433.04	598.95	7,455.83	0.00	0.00	0.00
14,900.00	89.93	179.67	6,671.90	-7,533.03	599.52	7,555.67	0.00	0.00	0.00
15,000.00	89.93	179.67	6,672.03	-7,633.03	600.09	7,655.51	0.00	0.00	0.00
15,100.00	89.93	179.67	6,672.16	-7,733.03	600.65	7,755.36	0.00	0.00	0.00
15,200.00	89.93	179.67	6,672.29	-7,833.03	601.22	7,855.20	0.00	0.00	0.00
15,300.00	89.93	179.67	6,672.42	-7,933.03	601.79	7,955.04	0.00	0.00	0.00
15,400.00	89.93	179.67	6,672.55	-8,033.03	602.36	8,054.89	0.00	0.00	0.00
15,500.00	89.93	179.67	6,672.68	-8,133.02	602.93	8,154.73	0.00	0.00	0.00
15,600.00	89.93	179.67	6,672.81	-8,233.02	603.50	8,254.57	0.00	0.00	0.00
15,700.00	89.93	179.67	6,672.94	-8,333.02	604.07	8,354.41	0.00	0.00	0.00
15,748.00	89.93	179.67	6,673.00	-8,381.02	604.34	8,402.34	0.00	0.00	0.00
Top B Marl									
15,800.00	89.93	179.67	6,673.07	-8,433.02	604.64	8,454.26	0.00	0.00	0.00
15,900.00	89.93	179.67	6,673.20	-8,533.02	605.21	8,554.10	0.00	0.00	0.00
16,000.00	89.93	179.67	6,673.33	-8,633.02	605.78	8,653.94	0.00	0.00	0.00
16,100.00	89.93	179.67	6,673.46	-8,733.01	606.34	8,753.79	0.00	0.00	0.00
16,200.00	89.93	179.67	6,673.59	-8,833.01	606.91	8,853.63	0.00	0.00	0.00
16,300.00	89.93	179.67	6,673.72	-8,933.01	607.48	8,953.47	0.00	0.00	0.00
16,400.00	89.93	179.67	6,673.85	-9,033.01	608.05	9,053.32	0.00	0.00	0.00
16,500.00	89.93	179.67	6,673.98	-9,133.01	608.62	9,153.16	0.00	0.00	0.00
16,600.00	89.93	179.67	6,674.11	-9,233.01	609.19	9,253.00	0.00	0.00	0.00
16,700.00	89.93	179.67	6,674.24	-9,333.00	609.76	9,352.84	0.00	0.00	0.00

Database:	EDMP	**Local Co-ordinate Reference:**	Well Booth DD06-765
Company:	Northern Region - DJ Basin	**TVD Reference:**	KB @ 4807.00ft
Project:	Mustang	**MD Reference:**	KB @ 4807.00ft
Site:	CC Section 31	**North Reference:**	Grid
Well:	Booth DD06-765	**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	89.93	179.67	6,674.37	-9,433.00	610.33	9,452.69	0.00	0.00	0.00
16,900.00	89.93	179.67	6,674.50	-9,533.00	610.90	9,552.53	0.00	0.00	0.00
17,000.00	89.93	179.67	6,674.63	-9,633.00	611.46	9,652.37	0.00	0.00	0.00
17,100.00	89.93	179.67	6,674.76	-9,733.00	612.03	9,752.22	0.00	0.00	0.00
17,200.00	89.93	179.67	6,674.89	-9,833.00	612.60	9,852.06	0.00	0.00	0.00
17,286.23	89.93	179.67	6,675.00	-9,919.22	613.09	9,938.15	0.00	0.00	0.00
TD at 17286.23									

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 DD06-765-SHL - plan hits target center - Point	0.00	0.01	0.00	0.00	0.00	1,344,634.47	3,282,946.45	40.2749800	-104.4859200
Booth DD06-765-KOP - plan hits target center - Point	0.00	0.00	5,887.74	831.09	451.19	1,345,465.56	3,283,397.64	40.2772471	-104.4842689
Booth DD06-765-TPZ - plan hits target center - Point	0.00	0.00	6,663.00	211.82	555.45	1,344,846.29	3,283,501.91	40.2755440	-104.4839207
Booth DD06-765-BHL - plan hits target center - Point	0.00	0.00	6,675.00	-9,919.22	613.09	1,334,715.27	3,283,559.55	40.2477334	-104.4841301

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
434.00	434.00	Pierre			
700.00	700.00	Upper Pierre Aquifer Top			
1,620.00	1,620.00	Upper Pierre Aquifer Base			
3,734.46	3,692.00	Parkman			
4,369.34	4,305.00	Sussex			
5,017.68	4,931.00	Shannon			
5,983.98	5,864.00	Teepee Buttes			
6,824.88	6,580.00	Sharon Springs			
6,856.81	6,595.00	Top A Chalk			
6,882.41	6,606.00	Top A Marl			
6,978.91	6,639.00	Top B Chalk			
15,748.00	6,673.00	Top B Marl			

Database:	EDMP	**Local Co-ordinate Reference:**	Well Booth DD06-765
Company:	Northern Region - DJ Basin	**TVD Reference:**	KB @ 4807.00ft
Project:	Mustang	**MD Reference:**	KB @ 4807.00ft
Site:	CC Section 31	**North Reference:**	Grid
Well:	Booth DD06-765	**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
2,754.25	2,745.57	86.76	47.10	Start 3254.31 hold at 2754.25 MD
6,008.57	5,887.74	831.09	451.19	Start DLS 9.00 TFO 150.32
7,155.01	6,663.00	211.82	555.45	TPZ/Landing Pt. at 7155.01 MD
8,055.01	6,663.00	-688.16	560.57	Start DLS 2.00 TFO 180.00
8,058.74	6,663.00	-691.89	560.60	Start 9227.49 hold at 8058.74 MD
17,286.23	6,675.00	-9,919.22	613.09	TD at 17286.23

Northern Region - DJ Basin

Mustang
CC Section 31
Booth DD06-765

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 DD06-765
Project:	Mustang	**TVD Reference:**	KB @ 4807.00ft
Reference Site:	CC Section 31	**MD Reference:**	KB @ 4807.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Booth DD06-765	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	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	17,286.23	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	2,000.00	1,929.00	3,772.63	3,690.53	45.954	CC
Ava State C36-18 (SI) - Wellbore #1 - No Surveys	2,200.00	2,128.84	3,777.30	3,686.50	41.600	ES
Ava State C36-18 (SI) - Wellbore #1 - No Surveys	8,400.00	6,607.55	4,232.67	3,943.92	14.659	SF
Ava State C36-20 (PR) - Wellbore #1 - No Surveys	2,000.00	1,919.00	5,603.32	5,521.62	68.587	CC
Ava State C36-20 (PR) - Wellbore #1 - No Surveys	9,800.00	6,584.27	5,613.55	5,319.08	19.063	ES
Ava State C36-20 (PR) - Wellbore #1 - No Surveys	10,400.00	6,585.05	5,647.95	5,350.22	18.970	SF
Ava State C36-21 (SI) - Wellbore #1 - No Surveys	2,000.00	1,924.00	4,372.57	4,290.67	53.391	CC
Ava State C36-21 (SI) - Wellbore #1 - No Surveys	9,500.00	6,588.88	4,386.60	4,093.60	14.971	ES
Ava State C36-21 (SI) - Wellbore #1 - No Surveys	9,800.00	6,589.27	4,398.66	4,104.17	14.937	SF
Ava State C36-22 (SI) - Wellbore #1 - No Surveys	9,632.89	6,610.05	3,055.38	2,760.80	10.372	CC, ES
Ava State C36-22 (SI) - Wellbore #1 - No Surveys	9,800.00	6,610.27	3,059.95	2,764.56	10.359	SF
Ava State C36-24 (PR) - Wellbore #1 - No Surveys	10,938.61	6,600.75	4,237.96	3,935.77	14.024	CC, ES
Ava State C36-24 (PR) - Wellbore #1 - No Surveys	11,300.00	6,601.22	4,253.34	3,949.02	13.976	SF
Ava State C36-31 (PR) - Wellbore #1 - No Surveys	2,000.00	1,909.00	6,278.65	6,197.35	77.232	CC
Ava State C36-31 (PR) - Wellbore #1 - No Surveys	2,200.00	2,108.84	6,282.93	6,192.93	69.809	ES
Ava State C36-31 (PR) - Wellbore #1 - No Surveys	9,000.00	6,573.23	6,790.00	6,500.31	23.439	SF
Booth CC31-68-1HN (PR) - Original Drilling - Original Dri	7,999.54	8,234.68	50.04	18.91	1.607	CC, ES
Booth CC31-68-1HN (PR) - Original Drilling - Original Dri	8,055.01	8,233.74	74.71	20.63	1.381	Level 3, SF
Booth State C36-69HN (PR) - Original Drilling - Original D	2,261.75	2,272.87	1,346.48	1,333.07	100.439	CC
Booth State C36-69HN (PR) - Original Drilling - Original D	2,400.00	2,425.23	1,347.11	1,332.68	93.356	ES
Booth State C36-69HN (PR) - Original Drilling - Original D	6,100.00	5,939.00	1,815.58	1,774.90	44.641	SF
Booth State CC30-79HN (PR) - Original Drilling - Orignal	3,495.46	3,598.38	1,237.96	1,213.85	51.350	CC
Booth State CC30-79HN (PR) - Original Drilling - Orignal	3,500.00	3,602.10	1,237.96	1,213.82	51.280	ES
Booth State CC30-79HN (PR) - Original Drilling - Orignal	6,600.00	6,490.79	1,537.16	1,491.39	33.589	SF
Booth State CC31-69HN (PR) - Original Drilling - Origina	7,021.01	7,908.39	55.68	29.35	2.115	CC
Booth State CC31-69HN (PR) - Original Drilling - Origina	7,050.00	7,908.67	63.35	19.30	1.438	Level 3, ES, SF
State 36-04I4 (PR) - Wellbore #1 - No Surveys	2,000.00	1,917.00	5,347.52	5,265.90	65.520	CC
State 36-04I4 (PR) - Wellbore #1 - No Surveys	2,200.00	2,116.84	5,351.77	5,261.45	59.253	ES
State 36-04I4 (PR) - Wellbore #1 - No Surveys	8,600.00	6,580.71	5,858.14	5,569.78	20.316	SF
State 36-07I4 (SI) - Wellbore #1 - No Surveys	2,000.00	1,937.00	3,586.54	3,504.12	43.517	CC
State 36-07I4 (SI) - Wellbore #1 - No Surveys	8,955.68	6,601.17	3,770.49	3,479.69	12.966	ES
State 36-07I4 (SI) - Wellbore #1 - No Surveys	9,200.00	6,601.49	3,778.40	3,486.56	12.947	SF
State 36-10I4 (SI) - Wellbore #1 - No Surveys	10,241.98	6,601.16	3,830.24	3,532.48	12.863	CC, ES
State 36-10I4 (SI) - Wellbore #1 - No Surveys	10,500.00	6,600.82	3,838.92	3,539.77	12.833	SF
State 36-11I4 (PR) - Wellbore #1 - No Surveys	10,431.82	6,588.09	4,944.87	4,646.46	16.570	CC, ES
State 36-11I4 (PR) - Wellbore #1 - No Surveys	10,900.00	6,588.70	4,966.99	4,665.87	16.495	SF
State 36-12I4 (PR) - Wellbore #1 - No Surveys	10,285.22	6,602.90	6,430.85	6,132.97	21.589	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 Booth DD06-765
Project:	Mustang	**TVD Reference:**	KB @ 4807.00ft
Reference Site:	CC Section 31	**MD Reference:**	KB @ 4807.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Booth DD06-765	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	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 36-12I4 (PR) - Wellbore #1 - No Surveys	10,300.00	6,602.92	6,430.87	6,132.91	21.583	ES
State 36-12I4 (PR) - Wellbore #1 - No Surveys	11,100.00	6,603.96	6,482.26	6,179.61	21.418	SF
State 36-14I4 (PR) - Wellbore #1 - No Surveys	11,742.88	6,608.21	4,940.08	4,632.12	16.041	CC
State 36-14I4 (PR) - Wellbore #1 - No Surveys	11,800.00	6,608.13	4,940.41	4,632.08	16.023	ES
State 36-14I4 (PR) - Wellbore #1 - No Surveys	12,200.00	6,607.61	4,961.19	4,650.39	15.963	SF
State 36-15I4 (PR) - Wellbore #1 - No Surveys	11,200.79	6,608.91	3,311.37	3,007.11	10.883	CC, ES
State 36-15I4 (PR) - Wellbore #1 - No Surveys	11,400.00	6,608.65	3,317.35	3,011.95	10.862	SF
State 36-16I4 (PR) - Wellbore #1 - No Surveys	11,731.95	6,634.78	2,540.91	2,231.96	8.224	CC, ES
State 36-16I4 (PR) - Wellbore #1 - No Surveys	11,800.00	6,634.87	2,541.82	2,232.47	8.217	SF
State 36-2I4 (SI) - Wellbore #1 - No Surveys	2,000.00	1,925.00	3,090.41	3,008.47	37.717	CC
State 36-2I4 (SI) - Wellbore #1 - No Surveys	2,200.00	2,124.84	3,094.50	3,003.86	34.140	ES
State 36-2I4 (SI) - Wellbore #1 - No Surveys	7,800.00	6,588.00	3,624.31	3,338.00	12.659	SF
State 36-3I4 (SI) - Wellbore #1 - No Surveys	2,000.00	1,915.00	4,378.84	4,297.30	53.704	CC
State 36-3I4 (SI) - Wellbore #1 - No Surveys	2,200.00	2,114.84	4,382.68	4,292.44	48.566	ES
State 36-3I4 (SI) - Wellbore #1 - No Surveys	7,900.00	6,578.00	4,925.04	4,638.93	17.214	SF
State 36-6I4 (PR) - Wellbore #1 - No Surveys	2,000.00	1,911.00	4,579.20	4,497.83	56.272	CC
State 36-6I4 (PR) - Wellbore #1 - No Surveys	2,200.00	2,110.84	4,584.23	4,494.15	50.890	ES
State 36-6I4 (PR) - Wellbore #1 - No Surveys	9,100.00	6,575.36	4,944.33	4,654.04	17.033	SF
State 36-8I4 (SI) - Wellbore #1 - No Surveys	2,000.00	1,956.00	2,208.08	2,124.90	26.547	CC
State 36-8I4 (SI) - Wellbore #1 - No Surveys	8,717.52	6,619.86	2,300.99	2,010.47	7.920	ES
State 36-8I4 (SI) - Wellbore #1 - No Surveys	8,800.00	6,619.97	2,302.47	2,011.66	7.918	SF
State 36-9I4 (PR) - Wellbore #1 - No Surveys	10,427.27	6,630.08	2,515.37	2,215.31	8.383	CC, ES
State 36-9I4 (PR) - Wellbore #1 - No Surveys	10,500.00	6,630.18	2,516.42	2,215.97	8.375	SF
State B14-36 (PA) - Wellbore #1 - No Surveys	11,168.45	6,601.95	6,001.80	5,698.03	19.758	CC
State B14-36 (PA) - Wellbore #1 - No Surveys	11,200.00	6,601.91	6,001.88	5,697.92	19.745	ES
State B14-36 (PA) - Wellbore #1 - No Surveys	11,900.00	6,601.00	6,046.22	5,737.98	19.616	SF
State B41-36 (SI) - Wellbore #1 - No Surveys	2,000.00	1,947.00	2,157.24	2,074.42	26.048	CC
State B41-36 (SI) - Wellbore #1 - No Surveys	2,200.00	2,146.84	2,162.22	2,070.70	23.625	ES
State B41-36 (SI) - Wellbore #1 - No Surveys	8,055.01	6,610.00	2,624.27	2,336.48	9.119	SF
State C36-01 (SI) - Wellbore #1 - No Surveys	2,000.00	1,947.00	1,563.26	1,480.44	18.876	CC
State C36-01 (SI) - Wellbore #1 - No Surveys	2,200.00	2,146.84	1,566.85	1,475.33	17.120	ES
State C36-01 (SI) - Wellbore #1 - No Surveys	7,419.96	6,610.00	2,118.89	1,832.31	7.394	SF
State C36-04 (PR) - Wellbore #1 - No Surveys	2,000.00	1,918.00	5,895.72	5,814.07	72.202	CC
State C36-04 (PR) - Wellbore #1 - No Surveys	2,200.00	2,117.84	5,899.31	5,808.95	65.286	ES
State C36-04 (PR) - Wellbore #1 - No Surveys	7,900.00	6,581.00	6,456.74	6,170.52	22.559	SF
State C36-13 (SI) - Wellbore #1 - No Surveys	11,735.63	6,613.78	6,459.14	6,151.01	20.962	CC
State C36-13 (SI) - Wellbore #1 - No Surveys	11,800.00	6,613.87	6,459.46	6,150.90	20.934	ES
State C36-13 (SI) - Wellbore #1 - No Surveys	12,600.00	6,614.91	6,516.72	6,203.04	20.775	SF
State C36-15 (PR) - Wellbore #1 - No Surveys	11,742.84	6,612.79	3,824.61	3,516.46	12.412	CC, ES
State C36-15 (PR) - Wellbore #1 - No Surveys	12,000.00	6,613.13	3,833.24	3,523.51	12.376	SF
State C36-32D (SI) - Wellbore #1 - As Drilled	100.00	50.39	6,612.80	6,612.58	10,000.000	CC
State C36-32D (SI) - Wellbore #1 - As Drilled	600.00	516.83	6,614.34	6,611.53	2,349.597	ES
State C36-32D (SI) - Wellbore #1 - As Drilled	12,500.00	6,795.32	7,428.15	7,355.51	102.259	SF
State C36-33D (SI) - Wellbore #1 - Original Drilling	958.99	913.00	6,613.21	6,608.08	1,290.110	CC
State C36-33D (SI) - Wellbore #1 - Original Drilling	1,000.00	913.00	6,613.34	6,608.06	1,254.156	ES
State C36-33D (SI) - Wellbore #1 - Original Drilling	13,900.00	6,745.75	7,466.16	7,385.90	93.029	SF
State C36-99HZ (PR) - Wellbore #1 - As Drilled	10,781.34	10,537.02	2,119.74	2,057.45	34.031	CC, ES
State C36-99HZ (PR) - Wellbore #1 - As Drilled	12,400.00	10,537.02	2,667.09	2,558.98	24.671	SF
State D01-30D (SI) - Wellbore #1 - Original Drilling	100.00	49.87	6,619.54	6,619.33	10,000.000	CC
State D01-30D (SI) - Wellbore #1 - Original Drilling	500.00	419.22	6,620.72	6,618.44	2,897.602	ES
State D01-30D (SI) - Wellbore #1 - Original Drilling	14,800.00	7,052.09	7,417.01	7,314.07	72.053	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 DD06-765
Project:	Mustang	**TVD Reference:**	KB @ 4807.00ft
Reference Site:	CC Section 31	**MD Reference:**	KB @ 4807.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Booth DD06-765	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	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	6,214.59	6,004.69	5,361.16	5,218.61	37.610	CC
JIGGER STATE CC #30-01(PR) - JIGGER STATE CC #3	6,250.00	6,039.53	5,361.96	5,218.61	37.404	ES
JIGGER STATE CC #30-01(PR) - JIGGER STATE CC #3	6,650.00	6,388.56	5,479.36	5,328.19	36.246	SF
SPIKE ST GWS #CC 30-03(PA) - SPIKE ST GWS #CC 3	6,161.06	5,987.68	4,196.06	4,053.91	29.519	CC, ES
SPIKE ST GWS #CC 30-03(PA) - SPIKE ST GWS #CC 3	6,500.00	6,307.30	4,284.22	4,134.83	28.679	SF
SPIKE ST GWS #CC 30-04(PA) - SPIKE ST GWS #CC 3	6,150.31	6,057.96	4,381.49	4,345.40	121.405	CC, ES
SPIKE ST GWS #CC 30-04(PA) - SPIKE ST GWS #CC 3	6,350.00	6,246.29	4,411.98	4,375.26	120.146	SF
SPIKE ST GWS #CC 30-05(PA) - SPIKE ST GWS #CC 3	6,127.71	5,962.62	2,999.07	2,857.48	21.181	CC
SPIKE ST GWS #CC 30-05(PA) - SPIKE ST GWS #CC 3	6,150.00	5,984.72	2,999.44	2,857.33	21.106	ES
SPIKE ST GWS #CC 30-05(PA) - SPIKE ST GWS #CC 3	6,400.00	6,226.68	3,053.59	2,905.95	20.683	SF
SPIKE ST GWS #CC 30-06(SI) - SPIKE ST GWS #CC 30	6,164.93	5,988.53	2,889.70	2,747.53	20.326	CC, ES
SPIKE ST GWS #CC 30-06(SI) - SPIKE ST GWS #CC 30	6,450.00	6,260.86	2,952.33	2,803.97	19.900	SF
SPIKE ST GWS #CC 30-08(PR) - SPIKE ST GWS #CC 3	6,238.62	6,052.36	4,151.46	4,007.91	28.920	CC
SPIKE ST GWS #CC 30-08(PR) - SPIKE ST GWS #CC 3	6,250.00	6,063.53	4,151.53	4,007.72	28.868	ES
SPIKE ST GWS #CC 30-08(PR) - SPIKE ST GWS #CC 3	6,650.00	6,412.56	4,244.88	4,093.22	27.990	SF
SPIKE ST GWS #CC 30-09(SI) - SPIKE ST GWS #CC 30	6,306.11	6,148.12	3,331.42	3,185.77	22.873	CC
SPIKE ST GWS #CC 30-09(SI) - SPIKE ST GWS #CC 30	6,350.00	6,190.04	3,332.17	3,185.57	22.728	ES
SPIKE ST GWS #CC 30-09(SI) - SPIKE ST GWS #CC 30	6,700.00	6,476.50	3,394.28	3,241.24	22.180	SF
SPIKE ST GWS #CC 30-10(SI) - SPIKE ST GWS #CC 30	6,241.44	6,108.13	2,248.03	2,103.35	15.539	CC
SPIKE ST GWS #CC 30-10(SI) - SPIKE ST GWS #CC 30	6,250.00	6,116.53	2,248.07	2,103.20	15.518	ES
SPIKE ST GWS #CC 30-10(SI) - SPIKE ST GWS #CC 30	6,500.00	6,348.30	2,285.42	2,135.30	15.224	SF
SPIKE ST GWS #CC 30-12(PR) - SPIKE ST GWS #CC 3	6,098.40	5,957.63	1,850.51	1,709.12	13.088	CC
SPIKE ST GWS #CC 30-12(PR) - SPIKE ST GWS #CC 3	6,100.00	5,959.20	1,850.51	1,709.09	13.084	ES
SPIKE ST GWS #CC 30-12(PR) - SPIKE ST GWS #CC 3	6,300.00	6,156.23	1,876.69	1,730.70	12.854	SF
SPIKE ST GWS #CC 30-14(PR) - SPIKE ST GWS #CC 3	6,284.15	6,128.87	444.09	298.89	3.058	CC
SPIKE ST GWS #CC 30-14(PR) - SPIKE ST GWS #CC 3	6,300.00	6,144.23	444.21	298.66	3.052	ES
SPIKE ST GWS #CC 30-14(PR) - SPIKE ST GWS #CC 3	6,350.00	6,192.04	446.31	299.66	3.043	SF
SPIKE ST GWS #CC 30-15(SI) - SPIKE ST GWS #CC 30	6,507.77	6,348.88	1,596.05	1,445.87	10.627	CC
SPIKE ST GWS #CC 30-15(SI) - SPIKE ST GWS #CC 30	6,550.00	6,383.73	1,596.57	1,445.60	10.576	ES
SPIKE ST GWS #CC 30-15(SI) - SPIKE ST GWS #CC 30	6,700.00	6,493.50	1,607.85	1,454.43	10.480	SF
SPIKE ST GWS #CC 30-16(SI) - SPIKE ST GWS #CC 30	6,635.16	6,447.96	2,908.86	2,756.44	19.085	CC
SPIKE ST GWS #CC 30-16(SI) - SPIKE ST GWS #CC 30	6,650.00	6,458.56	2,908.91	2,756.25	19.055	ES
SPIKE ST GWS #CC 30-16(SI) - SPIKE ST GWS #CC 30	6,900.00	6,597.02	2,926.99	2,771.24	18.793	SF
SPIKE ST GWS CC #30-07(SI) - SPIKE ST GWS CC #30	6,205.05	6,044.26	3,372.38	3,229.06	23.530	CC, ES
SPIKE ST GWS CC #30-07(SI) - SPIKE ST GWS CC #30	6,500.00	6,320.30	3,430.69	3,281.11	22.935	SF
Spike State #CC30-19(SI) - Spike State #CC30-19 - No S	6,150.30	5,966.01	3,493.53	3,351.83	24.654	CC, ES
Spike State #CC30-19(SI) - Spike State #CC30-19 - No S	6,450.00	6,252.86	3,562.83	3,414.60	24.036	SF
Spike State #CC30-24(PR) - Spike State #CC30-24 - We	6,326.37	6,133.62	2,499.05	2,465.47	74.410	CC, ES
Spike State #CC30-24(PR) - Spike State #CC30-24 - We	6,650.00	6,384.94	2,535.43	2,500.60	72.804	SF
Spike State #CC30-24(SI) - Spike State #CC30-24 - No S	6,232.34	6,094.18	1,337.20	1,192.83	9.262	CC
Spike State #CC30-24(SI) - Spike State #CC30-24 - No S	6,250.00	6,111.53	1,337.38	1,192.61	9.238	ES
Spike State #CC30-24(SI) - Spike State #CC30-24 - No S	6,400.00	6,254.68	1,353.96	1,205.92	9.146	SF
SPIKE STATE CC #30-11J(PA) - SPIKE STATE CC #30-1	6,158.29	6,009.94	1,190.36	1,047.77	8.348	CC, ES
SPIKE STATE CC #30-11J(PA) - SPIKE STATE CC #30-1	6,300.00	6,149.23	1,206.20	1,060.40	8.273	SF
SPIKE STATE CC #30-13(PR) - SPIKE STATE CC #30-1	5,023.31	4,905.44	895.62	779.47	7.710	CC
SPIKE STATE CC #30-13(PR) - SPIKE STATE CC #30-1	5,300.00	5,172.59	898.51	775.97	7.332	ES
SPIKE STATE CC #30-13(PR) - SPIKE STATE CC #30-1	6,250.00	6,094.53	959.72	815.21	6.642	SF
Spike State CC #30-18(SI) - Spike State CC #30-18 - No	6,179.03	6,002.50	3,655.11	3,512.65	25.657	CC
Spike State CC #30-18(SI) - Spike State CC #30-18 - No	6,200.00	6,023.26	3,655.45	3,512.50	25.573	ES
Spike State CC #30-18(SI) - Spike State CC #30-18 - No	6,500.00	6,304.30	3,731.72	3,582.43	24.996	SF
SPIKE STATE CC #30-20(PR) - SPIKE STATE CC #30-2	6,150.58	5,985.29	2,108.49	1,966.39	14.839	CC, ES
SPIKE STATE CC #30-20(PR) - SPIKE STATE CC #30-2	6,350.00	6,180.04	2,139.55	1,992.99	14.598	SF
SPIKE STATE CC #30-21(PR) - SPIKE STATE CC #30-2	6,187.03	6,033.42	2,002.43	1,859.35	13.995	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 Booth DD06-765
Project:	Mustang	**TVD Reference:**	KB @ 4807.00ft
Reference Site:	CC Section 31	**MD Reference:**	KB @ 4807.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Booth DD06-765	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	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 #30-21(PR) - SPIKE STATE CC #30-2	6,200.00	6,046.26	2,002.56	1,859.17	13.966	ES
SPIKE STATE CC #30-21(PR) - SPIKE STATE CC #30-2	6,400.00	6,238.68	2,035.77	1,888.00	13.776	SF
SPIKE STATE CC #30-22(SI) - SPIKE STATE CC #30-22	6,215.28	5,952.35	3,305.35	3,271.32	97.120	CC, ES
SPIKE STATE CC #30-22(SI) - SPIKE STATE CC #30-22	6,500.00	6,191.29	3,350.23	3,315.09	95.353	SF
SPIKE STATE CC #30-IJ(PR) - SPIKE STATE CC #30-IJ	6,199.09	5,956.52	4,297.82	4,264.99	130.918	CC
SPIKE STATE CC #30-IJ(PR) - SPIKE STATE CC #30-IJ	6,200.00	5,957.46	4,297.82	4,264.99	130.900	ES
SPIKE STATE CC #30-IJ(PR) - SPIKE STATE CC #30-IJ	6,500.00	6,195.45	4,358.94	4,324.95	128.243	SF
SPIKE STATE GWS CC #30-02(PR) - SPIKE STATE GW	6,189.27	6,000.65	4,468.96	4,326.53	31.376	CC
SPIKE STATE GWS CC #30-02(PR) - SPIKE STATE GW	6,200.00	6,011.26	4,469.04	4,326.36	31.322	ES
SPIKE STATE GWS CC #30-02(PR) - SPIKE STATE GW	6,550.00	6,333.73	4,561.68	4,411.74	30.422	SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Booth DD06-765
Project:	Mustang	**TVD Reference:**	KB @ 4807.00ft
Reference Site:	CC Section 31	**MD Reference:**	KB @ 4807.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Booth DD06-765	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	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	2,000.00	1,963.00	496.61	450.41	10.750	CC
BOOTH 11-31U (SI) - BOOTH #11-31U - No Surveys	2,100.00	2,062.98	498.10	449.55	10.259	ES
BOOTH 11-31U (SI) - BOOTH #11-31U - No Surveys	7,610.23	6,626.00	987.73	830.77	6.293	SF
Booth 12-31U (SI) - Wellbore #1 - No Surveys	8,896.01	6,647.09	958.04	665.67	3.277	CC
Booth 12-31U (SI) - Wellbore #1 - No Surveys	8,900.00	6,647.10	958.05	665.67	3.277	ES, SF
BOOTH 21-31U (SI) - BOOTH #21-31U - No Surveys	7,602.77	6,656.00	306.93	149.38	1.948	CC, ES, SF
Booth 22-31U (SI) - Wellbore #1 - No Surveys	8,837.66	6,647.02	319.65	27.54	1.094	Level 2, CC, ES, SF
BOOTH 31-31 (SI) - BOOTH #31-31 - No Surveys	7,598.77	6,641.00	1,623.94	1,466.69	10.327	CC
BOOTH 31-31 (SI) - BOOTH #31-31 - No Surveys	7,600.00	6,641.00	1,623.94	1,466.69	10.327	ES, SF
BOOTH 31-AU (SI) - BOOTH #31-AU - No Surveys	8,306.14	6,636.32	372.65	213.74	2.345	CC, ES, SF
Booth 31DU (SI) - Wellbore #1 - No Surveys	10,862.62	6,669.65	2,284.84	1,980.40	7.505	CC, ES
Booth 31DU (SI) - Wellbore #1 - No Surveys	11,000.00	6,669.83	2,288.97	1,983.52	7.494	SF
Booth 32-31 (SI) - Wellbore #1 - No Surveys	8,730.44	6,651.88	1,406.19	1,114.34	4.818	CC, ES
Booth 32-31 (SI) - Wellbore #1 - No Surveys	8,800.00	6,651.97	1,407.91	1,115.70	4.818	SF
Booth 33-31U (SI) - Wellbore #1 - No Surveys	10,207.07	6,668.80	1,630.79	1,330.53	5.431	CC, ES
Booth 33-31U (SI) - Wellbore #1 - No Surveys	10,300.00	6,668.92	1,633.43	1,332.51	5.428	SF
Booth 34-31U (SI) - Wellbore #1 - No Surveys	11,544.85	6,709.47	1,490.68	1,180.05	4.799	CC, ES
Booth 34-31U (SI) - Wellbore #1 - No Surveys	11,600.00	6,709.39	1,491.70	1,180.62	4.795	SF
BOOTH 41-31 (SI) - BOOTH #41-31 - No Surveys	7,669.62	6,647.00	2,836.19	2,678.71	18.009	CC, ES
BOOTH 41-31 (SI) - BOOTH #41-31 - No Surveys	7,800.00	6,647.00	2,839.19	2,681.42	17.995	SF
Booth 42-31 (PA) - Wellbore #1 - No Surveys	8,820.93	6,651.99	2,936.17	2,643.93	10.047	CC, ES
Booth 42-31 (PA) - Wellbore #1 - No Surveys	9,000.00	6,652.23	2,941.62	2,648.49	10.035	SF
Booth 43-31U (SI) - Wellbore #1 - No Surveys	10,199.30	6,668.79	2,956.28	2,656.07	9.847	CC
Booth 43-31U (SI) - Wellbore #1 - No Surveys	10,200.00	6,668.79	2,956.28	2,656.07	9.847	ES
Booth 43-31U (SI) - Wellbore #1 - No Surveys	10,400.00	6,669.05	2,963.09	2,661.54	9.826	SF
Booth 44-31U (SI) - Wellbore #1 - No Surveys	11,503.52	6,680.48	2,950.01	2,640.82	9.541	CC, ES
Booth 44-31U (SI) - Wellbore #1 - No Surveys	11,700.00	6,680.74	2,956.55	2,645.89	9.517	SF
Booth CC30-715 - Booth CC30-715 - Plan #1	2,784.31	2,500.00	2,649.65	2,631.34	144.706	CC, ES
Booth CC30-715 - Booth CC30-715 - Plan #1	8,300.00	5,903.91	3,275.24	3,226.92	67.778	SF
Booth CC31-13 (PR) - Wellbore #1 - No Surveys	11,511.21	6,678.49	881.66	572.50	2.852	CC, ES, SF
Booth CC31-17D (SI) - Booth #CC31-17D - Wellbore #1 -	100.00	75.86	2,234.16	2,233.93	9,875.477	CC
Booth CC31-17D (SI) - Booth #CC31-17D - Wellbore #1 -	200.00	163.79	2,234.42	2,233.65	2,897.935	ES
Booth CC31-17D (SI) - Booth #CC31-17D - Wellbore #1 -	8,800.00	6,750.81	2,366.58	2,320.69	51.568	SF
Booth DD06-715 - Wellbore #1 - APD-Rev 0	2,807.35	2,484.27	2,681.11	2,662.79	146.351	CC, ES
Booth DD06-715 - Wellbore #1 - APD-Rev 0	17,286.23	17,396.06	3,280.03	3,104.72	18.711	SF
Booth DD06-725 - Wellbore #1 - APD-Rev 0	6,474.56	6,176.69	2,582.15	2,536.58	56.658	CC
Booth DD06-725 - Wellbore #1 - APD-Rev 0	17,286.23	17,222.12	2,624.26	2,448.76	14.953	ES, SF
Booth DD06-730 - Wellbore #1 - APD-Rev 0	7,022.56	7,071.66	2,272.78	2,224.88	47.452	CC
Booth DD06-730 - Wellbore #1 - APD-Rev 0	17,286.23	17,391.85	2,300.81	2,125.74	13.142	ES, SF
Booth DD06-734 - Wellbore #1 - APD-Rev 0	7,144.94	7,200.73	1,945.08	1,897.14	40.572	CC
Booth DD06-734 - Wellbore #1 - APD-Rev 0	17,286.23	17,315.22	1,968.46	1,793.08	11.223	ES, SF
Booth DD06-745 - Wellbore #1 - APD-Rev 0	7,150.65	7,172.17	1,295.70	1,247.54	26.905	CC
Booth DD06-745 - Wellbore #1 - APD-Rev 0	17,286.23	17,287.37	1,312.29	1,136.82	7.479	ES, SF
Booth DD06-750 - Wellbore #1 - APD-Rev 0	2,000.00	1,999.00	44.64	30.77	3.219	CC
Booth DD06-750 - Wellbore #1 - APD-Rev 0	2,100.00	2,097.73	45.20	30.63	3.102	ES
Booth DD06-750 - Wellbore #1 - APD-Rev 0	2,200.00	2,196.41	46.97	31.71	3.079	SF
Booth DD06-755 - Wellbore #1 - APD-Rev 0	2,000.00	1,999.00	22.32	8.45	1.609	CC
Booth DD06-755 - Wellbore #1 - APD-Rev 0	2,100.00	2,098.43	22.73	8.15	1.559	ES, SF
Booth DD06-775 - Wellbore #1 - APD-Rev 0	2,000.00	2,000.00	22.32	8.45	1.609	CC, ES
Booth DD06-775 - Wellbore #1 - APD-Rev 0	2,100.00	2,099.94	23.28	8.69	1.596	SF
Booth DD06-785 - Wellbore #1 - APD-Rev 0	2,000.00	1,999.00	44.64	30.77	3.219	CC, ES
Booth DD06-785 - Wellbore #1 - APD-Rev 0	2,100.00	2,098.09	46.47	31.89	3.188	SF
Sadie CC31-11 (PR) - Wellbore #1 - No Surveys	10,119.84	6,670.68	405.20	105.40	1.352	Level 3, CC, ES, SF

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

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Booth DD06-765
Project:	Mustang	**TVD Reference:**	KB @ 4807.00ft
Reference Site:	CC Section 31	**MD Reference:**	KB @ 4807.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Booth DD06-765	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	APD-Rev 0	**Offset TVD Reference:**	Offset Datum

Summary

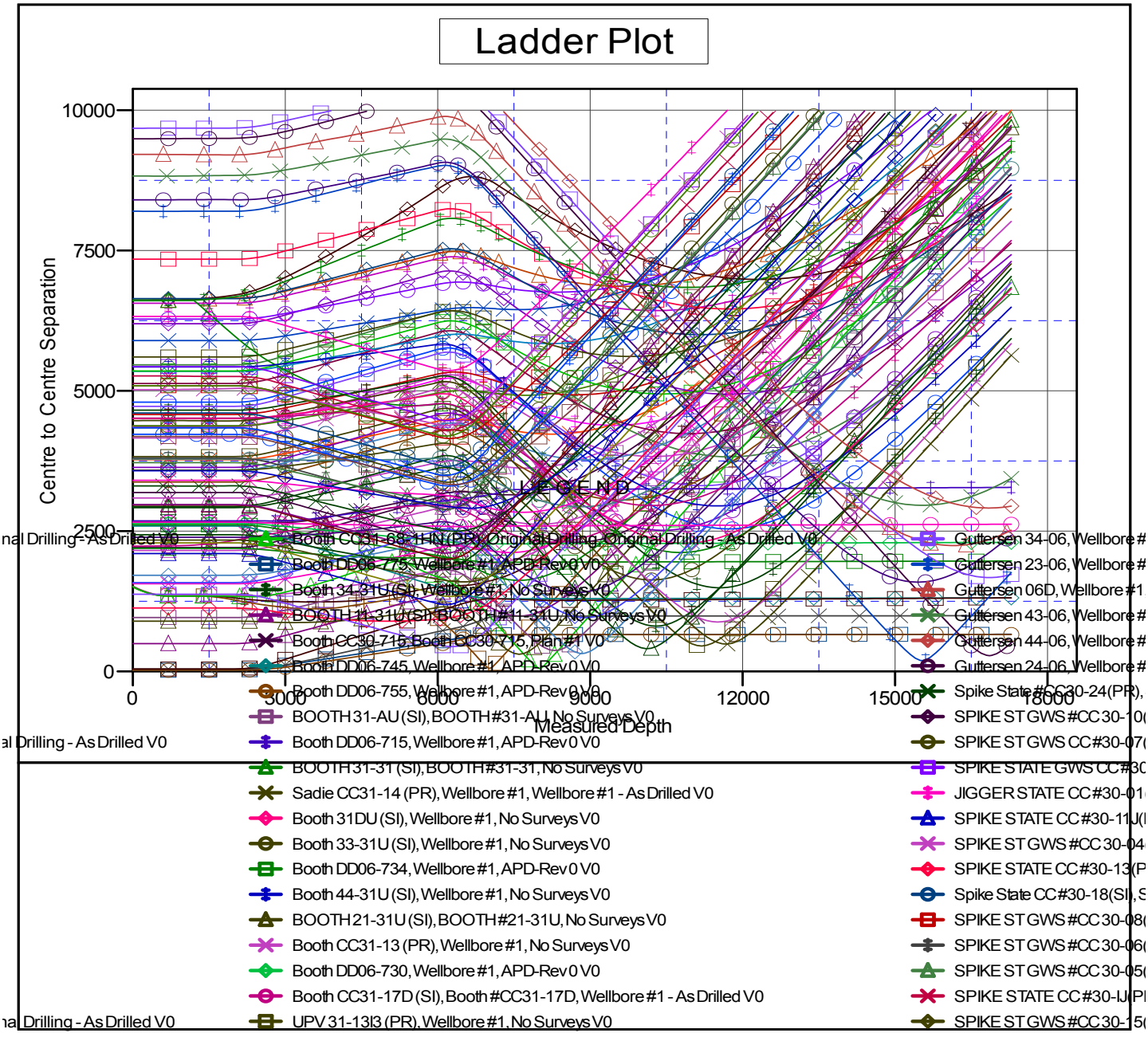
Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
CC Section 31						
Sadie CC31-12 (PR) - Wellbore #1 - No Surveys	10,295.13	6,688.91	807.98	506.38	2.679	CC
Sadie CC31-12 (PR) - Wellbore #1 - No Surveys	10,300.00	6,688.92	808.00	506.38	2.679	ES, SF
Sadie CC31-14 (PR) - Wellbore #1 - Wellbore #1 - As Dri	11,673.61	6,701.80	487.57	419.07	7.117	CC, ES
Sadie CC31-14 (PR) - Wellbore #1 - Wellbore #1 - As Dri	11,700.00	6,702.17	488.29	419.51	7.099	SF
UPV 31-13I3 (PR) - Wellbore #1 - No Surveys	11,191.82	6,667.08	454.84	148.31	1.484	Level 3, CC, ES, SF
DD Section 06						
Guttersen 06D - Wellbore #1 - Wellbore #1 - As Drilled	16,146.73	6,568.87	2,243.17	2,141.40	22.043	CC, ES
Guttersen 06D - Wellbore #1 - Wellbore #1 - As Drilled	16,400.00	6,572.16	2,257.42	2,153.77	21.780	SF
Guttersen 23-06 - Wellbore #1 - Wellbore #1 - As Drilled	15,533.22	6,703.20	193.79	96.44	1.991	CC, ES, SF
Guttersen 24-06 - Wellbore #1 - Wellbore #1 - As Drilled	16,858.26	6,679.91	282.31	174.74	2.625	CC, ES, SF
Guttersen 33-06 - Wellbore #1 - Wellbore #1 - As Drilled	15,454.31	6,711.24	1,592.16	1,495.53	16.476	CC, ES
Guttersen 33-06 - Wellbore #1 - Wellbore #1 - As Drilled	15,600.00	6,715.80	1,598.81	1,501.07	16.357	SF
Guttersen 34-06 - Wellbore #1 - Wellbore #1 - As Drilled	16,852.77	6,683.05	1,673.27	1,565.71	15.558	CC, ES
Guttersen 34-06 - Wellbore #1 - Wellbore #1 - As Drilled	17,000.00	6,685.82	1,679.73	1,571.06	15.457	SF
Guttersen 43-06 - Wellbore #1 - Wellbore #1 - As Drilled	15,531.09	6,571.04	2,961.48	2,864.53	30.546	CC, ES
Guttersen 43-06 - Wellbore #1 - Wellbore #1 - As Drilled	16,000.00	6,575.48	2,998.37	2,898.12	29.909	SF
Guttersen 44-06 - Wellbore #1 - Wellbore #1 - As Drilled	16,838.80	6,694.44	2,912.29	2,804.83	27.101	CC, ES
Guttersen 44-06 - Wellbore #1 - Wellbore #1 - As Drilled	17,200.00	6,691.83	2,934.60	2,824.55	26.664	SF

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Booth DD06-765
Project:	Mustang	**TVD Reference:**	KB @ 4807.00ft
Reference Site:	CC Section 31	**MD Reference:**	KB @ 4807.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Booth DD06-765	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	APD-Rev 0	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to KB @ 4807.00ft	Coordinates are relative to: Booth DD06-765
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is -105.5000000	Grid Convergence at Surface is: 0.66°



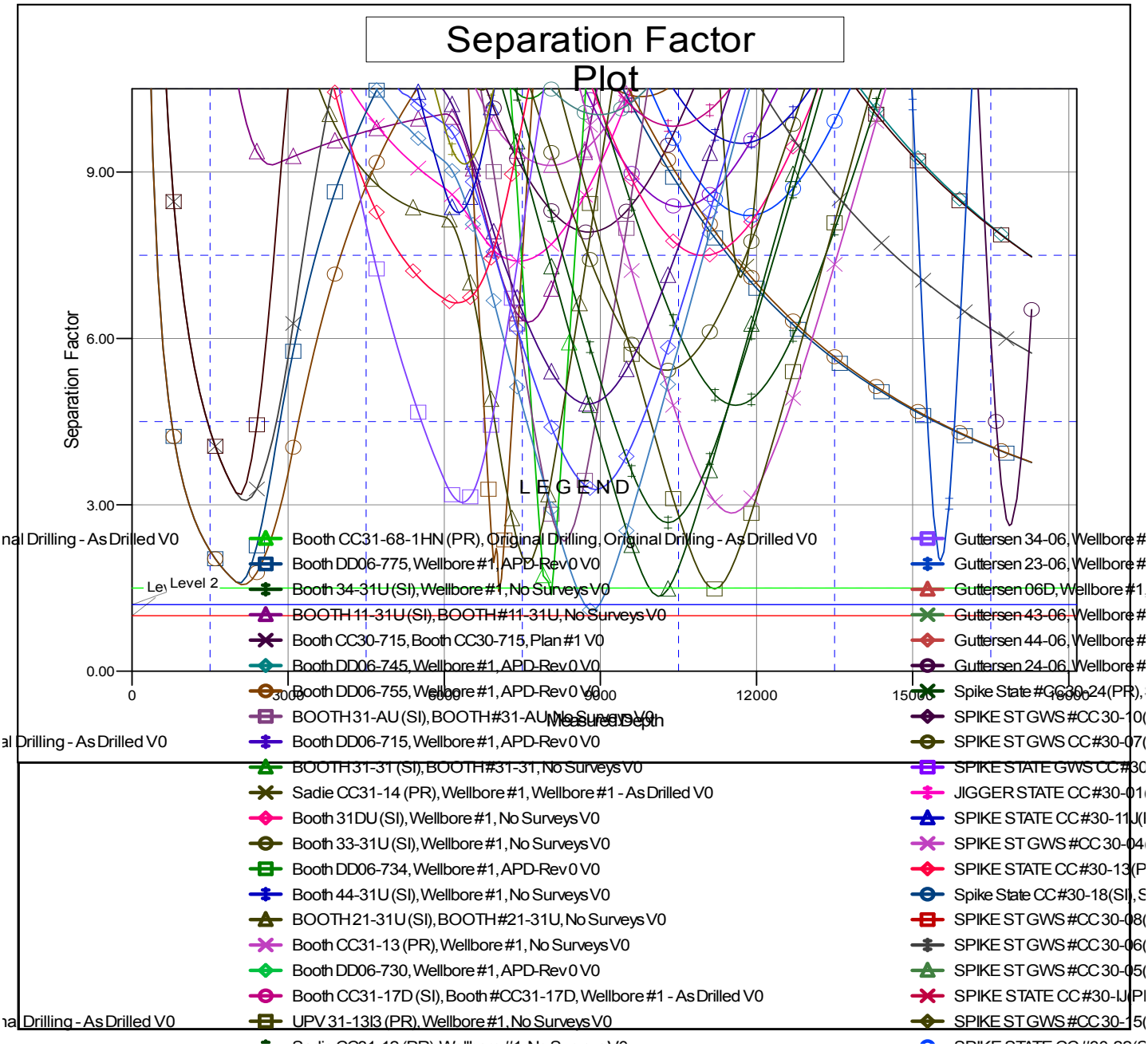
CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well Booth DD06-765
Project:	Mustang	**TVD Reference:**	KB @ 4807.00ft
Reference Site:	CC Section 31	**MD Reference:**	KB @ 4807.00ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Booth DD06-765	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDMP
Reference Design:	APD-Rev 0	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to KB @ 4807.00ft	Coordinates are relative to: Booth DD06-765
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is -105.5000000	Grid Convergence at Surface is: 0.66°



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