

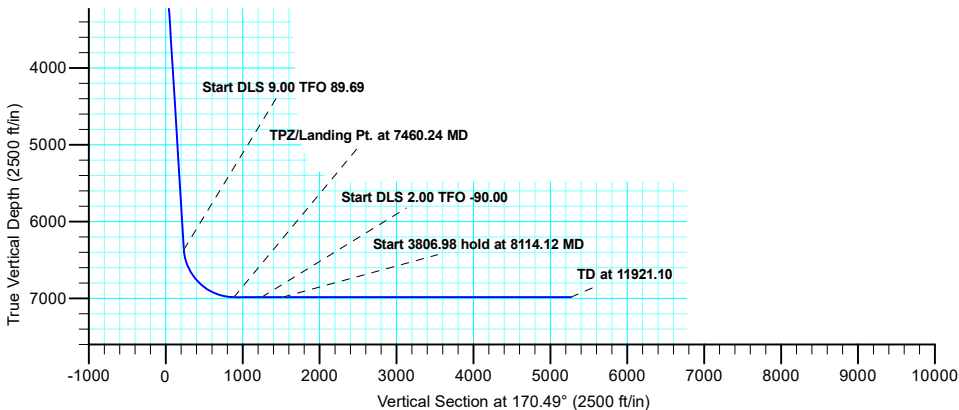
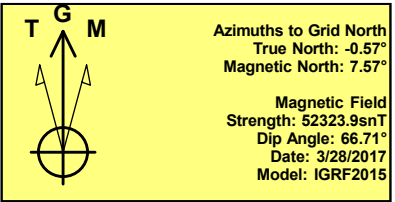
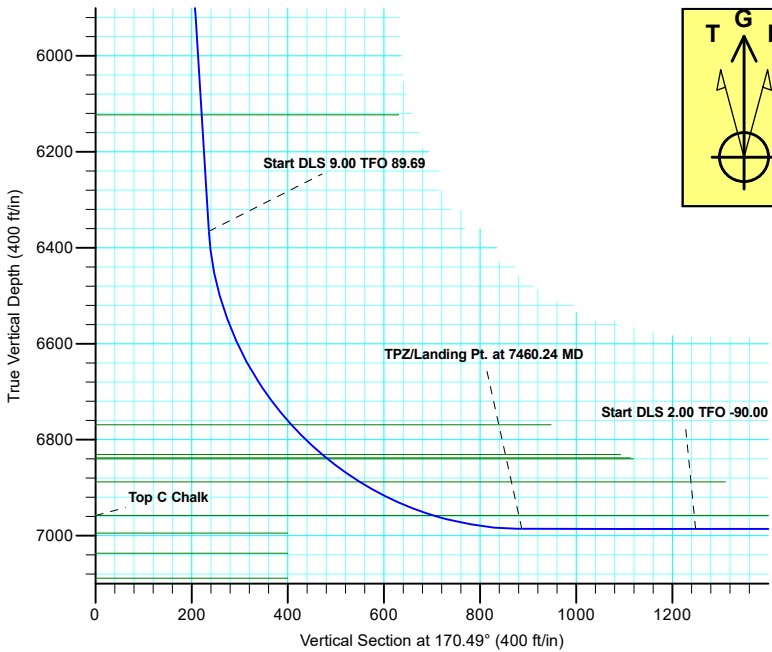
Project: Mustang
Site: H Section 25
Well: Emmy State H36-753
Wellbore: Wellbore #1
Design: Plan #3

Northern Region - DJ Basin

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

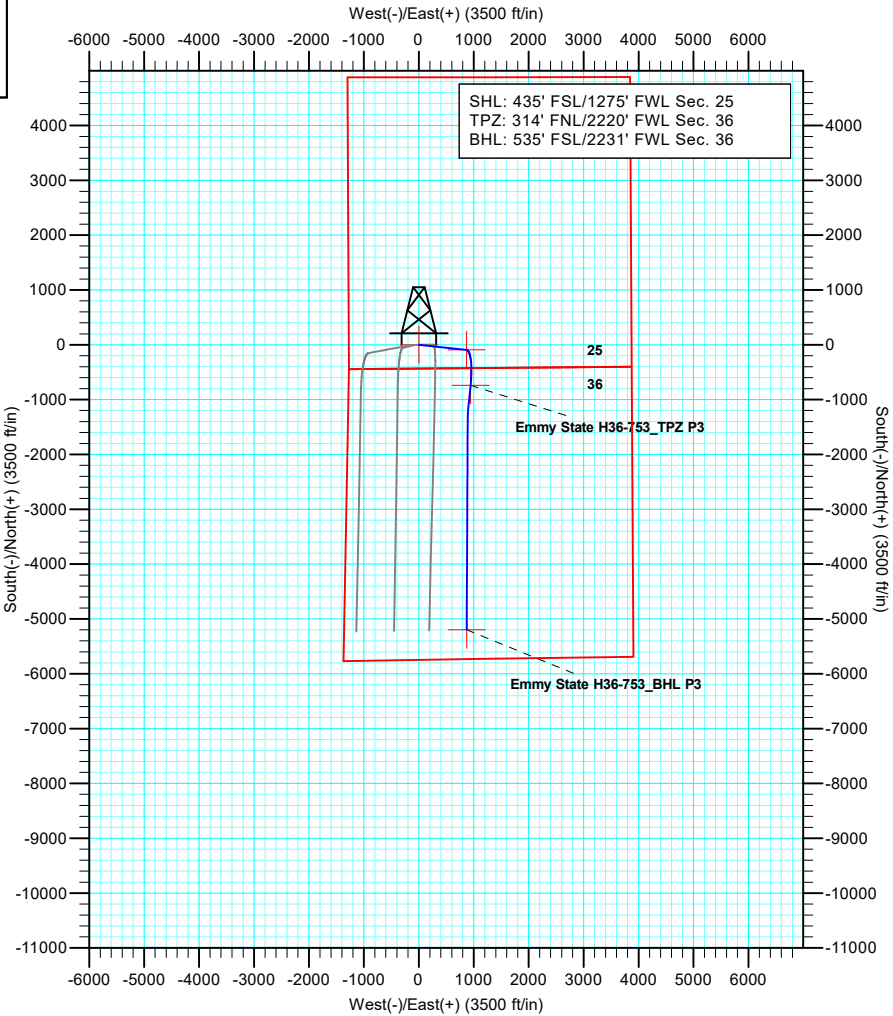
SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	0.00	0.00
3	2839.27	12.79	96.17	2833.98	-7.63	70.62	2.00	96.17	19.20
4	6461.02	12.79	96.17	6365.93	-93.77	867.47	0.00	0.00	235.83
5	7460.24	90.00	185.85	6986.00	-741.41	942.56	9.00	89.69	886.98
6	7835.24	90.00	185.85	6986.00	-1114.46	904.34	0.00	0.00	1248.59
7	8114.12	90.00	180.27	6986.00	-1392.84	889.45	2.00	-90.00	1520.68
8	11921.10	90.00	180.27	6986.00	-5199.78	871.36	0.00	0.00	5272.28



WELL DETAILS: Emmy State H36-753

+N/-S	+E/-W	Northing	Ground Level: Easting	4816.00 Latitude	Longitude	Slot
0.00	0.00	1313321.53	3246774.20	40.1900899	-104.6166700	



Plan: Plan #3 (Emmy State H36-753/Wellbore #1)

Created By: Shelly C. Peterkin Date: 13:37, August 07 2019

Northern Region - DJ Basin

Mustang

H Section 25

Emmy State H36-753

Wellbore #1

Plan: Plan #3

Standard Planning Report

07 August, 2019

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Emmy State H36-753
Company:	Northern Region - DJ Basin	TVD Reference:	WELL @ 4846.00ft (Original Well Elev)
Project:	Mustang	MD Reference:	WELL @ 4846.00ft (Original Well Elev)
Site:	H Section 25	North Reference:	Grid
Well:	Emmy State H36-753	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

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	H Section 25			
Site Position:		Northing:	1,313,437.52 usft	Latitude: 40.1904331
From:	Map	Easting:	3,245,869.57 usft	Longitude: -104.6199038
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence: 0.57 °

Well	Emmy State H36-753			
Well Position	+N/-S	-116.00 ft	Northing:	1,313,321.52 usft
	+E/-W	904.64 ft	Easting:	3,246,774.21 usft
Position Uncertainty		0.00 ft	Wellhead Elevation:	Latitude: 40.1900900
				Longitude: -104.6166700
				Ground Level: 4,816.00 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	3/28/2017	8.14	66.71	52,323.88503415

Design	Plan #3			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	170.49

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,839.27	12.79	96.17	2,833.98	-7.63	70.62	2.00	2.00	0.00	96.17	
6,461.02	12.79	96.17	6,365.93	-93.77	867.47	0.00	0.00	0.00	0.00	
7,460.24	90.00	185.85	6,986.00	-741.41	942.56	9.00	7.73	8.98	89.69	Emmy State H36-753
7,835.24	90.00	185.85	6,986.00	-1,114.46	904.34	0.00	0.00	0.00	0.00	
8,114.12	90.00	180.27	6,986.00	-1,392.84	889.45	2.00	0.00	-2.00	-90.00	
11,921.10	90.00	180.27	6,986.00	-5,199.78	871.36	0.00	0.00	0.00	0.00	Emmy State H36-753

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Emmy State H36-753
Company:	Northern Region - DJ Basin	TVD Reference:	WELL @ 4846.00ft (Original Well Elev)
Project:	Mustang	MD Reference:	WELL @ 4846.00ft (Original Well Elev)
Site:	H Section 25	North Reference:	Grid
Well:	Emmy State H36-753	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
572.00	0.00	0.00	572.00	0.00	0.00	0.00	0.00	0.00	0.00
Pierre									
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
724.00	0.00	0.00	724.00	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
1,612.00	0.00	0.00	1,612.00	0.00	0.00	0.00	0.00	0.00	0.00
Upper Pierre Aquifer Base									
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
2,300.00	2.00	96.17	2,299.98	-0.19	1.74	0.47	2.00	2.00	0.00
2,400.00	4.00	96.17	2,399.84	-0.75	6.94	1.89	2.00	2.00	0.00
2,500.00	6.00	96.17	2,499.45	-1.69	15.60	4.24	2.00	2.00	0.00
2,600.00	8.00	96.17	2,598.70	-3.00	27.72	7.54	2.00	2.00	0.00
2,700.00	10.00	96.17	2,697.47	-4.68	43.27	11.76	2.00	2.00	0.00
2,800.00	12.00	96.17	2,795.62	-6.73	62.24	16.92	2.00	2.00	0.00
2,839.27	12.79	96.17	2,833.98	-7.63	70.62	19.20	2.00	2.00	0.00
Start 3621.75 hold at 2839.27 MD									
2,900.00	12.79	96.17	2,893.20	-9.08	83.98	22.83	0.00	0.00	0.00
3,000.00	12.79	96.17	2,990.72	-11.46	105.98	28.81	0.00	0.00	0.00
3,100.00	12.79	96.17	3,088.24	-13.83	127.98	34.79	0.00	0.00	0.00
3,200.00	12.79	96.17	3,185.76	-16.21	149.99	40.78	0.00	0.00	0.00
3,300.00	12.79	96.17	3,283.28	-18.59	171.99	46.76	0.00	0.00	0.00
3,400.00	12.79	96.17	3,380.80	-20.97	193.99	52.74	0.00	0.00	0.00
3,500.00	12.79	96.17	3,478.33	-23.35	215.99	58.72	0.00	0.00	0.00
3,600.00	12.79	96.17	3,575.85	-25.73	237.99	64.70	0.00	0.00	0.00
3,700.00	12.79	96.17	3,673.37	-28.10	260.00	70.68	0.00	0.00	0.00
3,800.00	12.79	96.17	3,770.89	-30.48	282.00	76.67	0.00	0.00	0.00
3,900.00	12.79	96.17	3,868.41	-32.86	304.00	82.65	0.00	0.00	0.00
3,910.86	12.79	96.17	3,879.00	-33.12	306.39	83.30	0.00	0.00	0.00
Parkman									
4,000.00	12.79	96.17	3,965.93	-35.24	326.00	88.63	0.00	0.00	0.00
4,100.00	12.79	96.17	4,063.45	-37.62	348.00	94.61	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Emmy State H36-753
Company:	Northern Region - DJ Basin	TVD Reference:	WELL @ 4846.00ft (Original Well Elev)
Project:	Mustang	MD Reference:	WELL @ 4846.00ft (Original Well Elev)
Site:	H Section 25	North Reference:	Grid
Well:	Emmy State H36-753	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

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	12.79	96.17	4,160.97	-40.00	370.00	100.59	0.00	0.00	0.00
4,300.00	12.79	96.17	4,258.49	-42.37	392.01	106.57	0.00	0.00	0.00
4,400.00	12.79	96.17	4,356.01	-44.75	414.01	112.55	0.00	0.00	0.00
4,500.00	12.79	96.17	4,453.53	-47.13	436.01	118.54	0.00	0.00	0.00
4,516.89	12.79	96.17	4,470.00	-47.53	439.73	119.55	0.00	0.00	0.00
Sussex									
4,600.00	12.79	96.17	4,551.05	-49.51	458.01	124.52	0.00	0.00	0.00
4,700.00	12.79	96.17	4,648.57	-51.89	480.01	130.50	0.00	0.00	0.00
4,800.00	12.79	96.17	4,746.09	-54.26	502.02	136.48	0.00	0.00	0.00
4,900.00	12.79	96.17	4,843.61	-56.64	524.02	142.46	0.00	0.00	0.00
5,000.00	12.79	96.17	4,941.13	-59.02	546.02	148.44	0.00	0.00	0.00
5,100.00	12.79	96.17	5,038.65	-61.40	568.02	154.42	0.00	0.00	0.00
5,200.00	12.79	96.17	5,136.18	-63.78	590.02	160.41	0.00	0.00	0.00
5,216.23	12.79	96.17	5,152.00	-64.16	593.59	161.38	0.00	0.00	0.00
Shannon									
5,300.00	12.79	96.17	5,233.70	-66.16	612.03	166.39	0.00	0.00	0.00
5,400.00	12.79	96.17	5,331.22	-68.53	634.03	172.37	0.00	0.00	0.00
5,500.00	12.79	96.17	5,428.74	-70.91	656.03	178.35	0.00	0.00	0.00
5,600.00	12.79	96.17	5,526.26	-73.29	678.03	184.33	0.00	0.00	0.00
5,700.00	12.79	96.17	5,623.78	-75.67	700.03	190.31	0.00	0.00	0.00
5,800.00	12.79	96.17	5,721.30	-78.05	722.03	196.30	0.00	0.00	0.00
5,900.00	12.79	96.17	5,818.82	-80.43	744.04	202.28	0.00	0.00	0.00
6,000.00	12.79	96.17	5,916.34	-82.80	766.04	208.26	0.00	0.00	0.00
6,100.00	12.79	96.17	6,013.86	-85.18	788.04	214.24	0.00	0.00	0.00
6,200.00	12.79	96.17	6,111.38	-87.56	810.04	220.22	0.00	0.00	0.00
6,211.91	12.79	96.17	6,123.00	-87.84	812.66	220.93	0.00	0.00	0.00
Teepee Buttes									
6,300.00	12.79	96.17	6,208.90	-89.94	832.04	226.20	0.00	0.00	0.00
6,400.00	12.79	96.17	6,306.42	-92.32	854.05	232.18	0.00	0.00	0.00
6,461.02	12.79	96.17	6,365.93	-93.77	867.47	235.83	0.00	0.00	0.00
Start DLS 9.00 TFO 89.69									
6,500.00	13.27	111.63	6,403.92	-95.88	875.92	239.31	9.00	1.24	39.67
6,550.00	15.09	128.53	6,452.41	-102.05	886.35	247.13	9.00	3.64	33.79
6,600.00	17.86	141.09	6,500.37	-112.08	896.26	258.65	9.00	5.55	25.12
6,650.00	21.22	150.09	6,547.50	-125.90	905.60	273.82	9.00	6.72	18.00
6,700.00	24.93	156.62	6,593.50	-143.42	914.29	292.54	9.00	7.41	13.07
6,750.00	28.85	161.52	6,638.09	-164.54	922.30	314.69	9.00	7.84	9.80
6,800.00	32.90	165.32	6,681.00	-189.13	929.57	340.15	9.00	8.12	7.60
6,850.00	37.05	168.36	6,721.96	-217.03	936.06	368.74	9.00	8.30	6.08
6,900.00	41.27	170.86	6,760.72	-248.08	941.72	400.30	9.00	8.43	5.01
6,911.09	42.21	171.36	6,769.00	-255.38	942.86	407.68	9.00	8.49	4.49
Sharon Springs									
6,950.00	45.53	172.98	6,797.05	-282.09	946.52	434.63	9.00	8.53	4.15
7,000.00	49.82	174.80	6,830.71	-318.83	950.43	471.52	9.00	8.59	3.65
7,000.45	49.86	174.82	6,831.00	-319.18	950.46	471.86	9.00	8.61	3.41
Top A Chalk									
7,011.42	50.80	175.19	6,838.00	-327.59	951.20	480.28	9.00	8.62	3.36
Top A Marl									
7,014.59	51.08	175.29	6,840.00	-330.04	951.40	482.73	9.00	8.63	3.30
Top B Chalk									
7,050.00	54.14	176.41	6,861.50	-358.10	953.43	510.74	9.00	8.64	3.16
7,097.65	58.27	177.78	6,888.00	-397.64	955.43	550.06	9.00	8.67	2.89
Top B Marl									

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Emmy State H36-753
Company:	Northern Region - DJ Basin	TVD Reference:	WELL @ 4846.00ft (Original Well Elev)
Project:	Mustang	MD Reference:	WELL @ 4846.00ft (Original Well Elev)
Site:	H Section 25	North Reference:	Grid
Well:	Emmy State H36-753	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
7,100.00	58.48	177.85	6,889.23	-399.64	955.50	552.04	9.00	8.69	2.75
7,150.00	62.83	179.16	6,913.73	-443.19	956.63	595.19	9.00	8.70	2.62
7,200.00	67.19	180.37	6,934.85	-488.50	956.80	639.90	9.00	8.73	2.43
7,250.00	71.57	181.51	6,952.45	-535.28	956.03	685.91	9.00	8.74	2.28
7,268.31	73.17	181.91	6,958.00	-552.72	955.51	703.02	9.00	8.75	2.19
Top C Chalk									
7,300.00	75.94	182.59	6,966.44	-583.24	954.30	732.92	9.00	8.76	2.14
7,350.00	80.33	183.63	6,976.72	-632.08	951.64	780.66	9.00	8.77	2.08
7,400.00	84.71	184.65	6,983.22	-681.52	948.06	828.82	9.00	8.77	2.03
7,450.00	89.10	185.65	6,985.92	-731.23	943.59	877.11	9.00	8.78	2.00
7,460.24	90.00	185.85	6,986.00	-741.41	942.56	886.98	9.00	8.78	1.99
TPZ/Landing Pt. at 7460.24 MD									
7,500.00	90.00	185.85	6,986.00	-780.97	938.51	925.33	0.00	0.00	0.00
7,600.00	90.00	185.85	6,986.00	-880.45	928.31	1,021.75	0.00	0.00	0.00
7,700.00	90.00	185.85	6,986.00	-979.93	918.12	1,118.18	0.00	0.00	0.00
7,800.00	90.00	185.85	6,986.00	-1,079.41	907.93	1,214.61	0.00	0.00	0.00
7,835.24	90.00	185.85	6,986.00	-1,114.46	904.34	1,248.59	0.00	0.00	0.00
Start DLS 2.00 TFO -90.00									
7,900.00	90.00	184.55	6,986.00	-1,178.96	898.47	1,311.22	2.00	0.00	-2.00
8,000.00	90.00	182.55	6,986.00	-1,278.76	892.27	1,408.63	2.00	0.00	-2.00
8,100.00	90.00	180.55	6,986.00	-1,378.72	889.55	1,506.77	2.00	0.00	-2.00
8,114.12	90.00	180.27	6,986.00	-1,392.84	889.45	1,520.68	2.00	0.00	-2.00
Start 3806.98 hold at 8114.12 MD									
8,200.00	90.00	180.27	6,986.00	-1,478.72	889.04	1,605.31	0.00	0.00	0.00
8,300.00	90.00	180.27	6,986.00	-1,578.72	888.57	1,703.85	0.00	0.00	0.00
8,400.00	90.00	180.27	6,986.00	-1,678.71	888.09	1,802.40	0.00	0.00	0.00
8,500.00	90.00	180.27	6,986.00	-1,778.71	887.62	1,900.94	0.00	0.00	0.00
8,600.00	90.00	180.27	6,986.00	-1,878.71	887.14	1,999.49	0.00	0.00	0.00
8,700.00	90.00	180.27	6,986.00	-1,978.71	886.67	2,098.03	0.00	0.00	0.00
8,800.00	90.00	180.27	6,986.00	-2,078.71	886.19	2,196.58	0.00	0.00	0.00
8,900.00	90.00	180.27	6,986.00	-2,178.71	885.72	2,295.12	0.00	0.00	0.00
9,000.00	90.00	180.27	6,986.00	-2,278.71	885.24	2,393.67	0.00	0.00	0.00
9,100.00	90.00	180.27	6,986.00	-2,378.71	884.77	2,492.21	0.00	0.00	0.00
9,200.00	90.00	180.27	6,986.00	-2,478.71	884.29	2,590.76	0.00	0.00	0.00
9,300.00	90.00	180.27	6,986.00	-2,578.70	883.82	2,689.31	0.00	0.00	0.00
9,400.00	90.00	180.27	6,986.00	-2,678.70	883.34	2,787.85	0.00	0.00	0.00
9,500.00	90.00	180.27	6,986.00	-2,778.70	882.87	2,886.40	0.00	0.00	0.00
9,600.00	90.00	180.27	6,986.00	-2,878.70	882.39	2,984.94	0.00	0.00	0.00
9,700.00	90.00	180.27	6,986.00	-2,978.70	881.92	3,083.49	0.00	0.00	0.00
9,800.00	90.00	180.27	6,986.00	-3,078.70	881.44	3,182.03	0.00	0.00	0.00
9,900.00	90.00	180.27	6,986.00	-3,178.70	880.97	3,280.58	0.00	0.00	0.00
10,000.00	90.00	180.27	6,986.00	-3,278.70	880.49	3,379.12	0.00	0.00	0.00
10,100.00	90.00	180.27	6,986.00	-3,378.70	880.02	3,477.67	0.00	0.00	0.00
10,200.00	90.00	180.27	6,986.00	-3,478.69	879.54	3,576.21	0.00	0.00	0.00
10,300.00	90.00	180.27	6,986.00	-3,578.69	879.07	3,674.76	0.00	0.00	0.00
10,400.00	90.00	180.27	6,986.00	-3,678.69	878.59	3,773.30	0.00	0.00	0.00
10,500.00	90.00	180.27	6,986.00	-3,778.69	878.12	3,871.85	0.00	0.00	0.00
10,600.00	90.00	180.27	6,986.00	-3,878.69	877.64	3,970.40	0.00	0.00	0.00
10,700.00	90.00	180.27	6,986.00	-3,978.69	877.17	4,068.94	0.00	0.00	0.00
10,800.00	90.00	180.27	6,986.00	-4,078.69	876.69	4,167.49	0.00	0.00	0.00
10,900.00	90.00	180.27	6,986.00	-4,178.69	876.22	4,266.03	0.00	0.00	0.00
11,000.00	90.00	180.27	6,986.00	-4,278.68	875.74	4,364.58	0.00	0.00	0.00
11,100.00	90.00	180.27	6,986.00	-4,378.68	875.26	4,463.12	0.00	0.00	0.00

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Emmy State H36-753
Company:	Northern Region - DJ Basin	TVD Reference:	WELL @ 4846.00ft (Original Well Elev)
Project:	Mustang	MD Reference:	WELL @ 4846.00ft (Original Well Elev)
Site:	H Section 25	North Reference:	Grid
Well:	Emmy State H36-753	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

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)
11,200.00	90.00	180.27	6,986.00	-4,478.68	874.79	4,561.67	0.00	0.00	0.00
11,300.00	90.00	180.27	6,986.00	-4,578.68	874.31	4,660.21	0.00	0.00	0.00
11,400.00	90.00	180.27	6,986.00	-4,678.68	873.84	4,758.76	0.00	0.00	0.00
11,500.00	90.00	180.27	6,986.00	-4,778.68	873.36	4,857.30	0.00	0.00	0.00
11,600.00	90.00	180.27	6,986.00	-4,878.68	872.89	4,955.85	0.00	0.00	0.00
11,700.00	90.00	180.27	6,986.00	-4,978.68	872.41	5,054.40	0.00	0.00	0.00
11,800.00	90.00	180.27	6,986.00	-5,078.68	871.94	5,152.94	0.00	0.00	0.00
11,900.00	90.00	180.27	6,986.00	-5,178.67	871.46	5,251.49	0.00	0.00	0.00
11,921.10	90.00	180.27	6,986.00	-5,199.78	871.36	5,272.28	0.00	0.00	0.00
TD at 11921.10									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Emmy State H36-753_S - hit/miss target - Shape - Point	0.00	0.00	0.00	0.00	0.00	1,313,321.52	3,246,774.21	40.1900900	-104.6166700
Emmy State H36-753_K - plan hits target center - Point	0.00	0.00	6,365.93	-93.77	867.47	1,313,227.76	3,247,641.68	40.1898088	-104.6135684
Emmy State H36-753_B - plan hits target center - Point	0.00	0.00	6,986.00	-5,199.78	871.36	1,308,121.76	3,247,645.57	40.1757928	-104.6137372
Emmy State H36-753_T - plan hits target center - Point	0.00	0.00	6,986.00	-741.41	942.56	1,312,580.11	3,247,716.76	40.1880290	-104.6133228

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
572.00	572.00	Pierre				
724.00	724.00	Upper Pierre Aquifer Top				
1,612.00	1,612.00	Upper Pierre Aquifer Base				
3,910.86	3,879.00	Parkman				
4,516.89	4,470.00	Sussex				
5,216.23	5,152.00	Shannon				
6,211.91	6,123.00	Teepee Buttes				
6,911.09	6,769.00	Sharon Springs				
7,000.45	6,831.00	Top A Chalk				
7,011.42	6,838.00	Top A Marl				
7,014.59	6,840.00	Top B Chalk				
7,097.65	6,888.00	Top B Marl				
7,268.31	6,958.00	Top C Chalk				

Noble Energy, Inc.

Planning Report

Database:	EDMP	Local Co-ordinate Reference:	Well Emmy State H36-753
Company:	Northern Region - DJ Basin	TVD Reference:	WELL @ 4846.00ft (Original Well Elev)
Project:	Mustang	MD Reference:	WELL @ 4846.00ft (Original Well Elev)
Site:	H Section 25	North Reference:	Grid
Well:	Emmy State H36-753	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,200.00	2,200.00	0.00	0.00	Start Build 2.00
2,839.27	2,833.98	-7.63	70.62	Start 3621.75 hold at 2839.27 MD
6,461.02	6,365.93	-93.77	867.47	Start DLS 9.00 TFO 89.69
7,460.24	6,986.00	-741.41	942.56	TPZ/Landing Pt. at 7460.24 MD
7,835.24	6,986.00	-1,114.46	904.34	Start DLS 2.00 TFO -90.00
8,114.12	6,986.00	-1,392.84	889.45	Start 3806.98 hold at 8114.12 MD
11,921.10	6,986.00	-5,199.78	871.36	TD at 11921.10

Northern Region - DJ Basin

Mustang

H Section 25

Emmy State H36-753

Wellbore #1

Plan #3

Anticollision Summary Report

07 August, 2019

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Emmy State H36-753
Project:	Mustang	TVD Reference:	WELL @ 4846.00ft (Original Well Elev)
Reference Site:	H Section 25	MD Reference:	WELL @ 4846.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Emmy State H36-753	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Reference	Plan #3		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD + Stations Interval 100.00ft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.00 ft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	8/7/2019		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	11,921.10	Plan #3 (Wellbore #1)	MWD+IFR1+MS_WY	Fixed:v2:Rockies, crustal dec + 3-axis correction

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
D Section 31						
Dechant 1-31A (PR) - Wellbore #1 - Gyro Surveys	11,392.84	6,734.41	4,060.03	3,988.67	56.902	CC
Dechant 1-31A (PR) - Wellbore #1 - Gyro Surveys	11,400.00	6,734.33	4,060.03	3,988.60	56.840	ES
Dechant 1-31A (PR) - Wellbore #1 - Gyro Surveys	11,921.61	6,728.77	4,094.31	4,017.56	53.345	SF
Dechant D 31-22D (PR) - Wellbore #1 - Gyro Surveys	9,625.16	7,018.08	6,647.95	6,587.44	109.873	CC
Dechant D 31-22D (PR) - Wellbore #1 - Gyro Surveys	9,700.00	7,018.36	6,648.37	6,587.09	108.497	ES
Dechant D 31-22D (PR) - Wellbore #1 - Gyro Surveys	11,921.61	7,026.04	7,033.40	6,950.72	85.060	SF
Dechant D31-18D (PR) - Wellbore #1 - As Drilled	8,410.46	7,205.94	5,338.77	5,276.30	85.465	CC
Dechant D31-18D (PR) - Wellbore #1 - As Drilled	8,500.00	7,208.66	5,339.52	5,276.19	84.311	ES
Dechant D31-18D (PR) - Wellbore #1 - As Drilled	11,100.00	7,334.86	5,976.83	5,890.65	69.352	SF
Dechant D31-21D (PR) - Wellbore #1 - As Drilled	9,564.07	6,993.60	5,616.32	5,557.96	96.232	CC
Dechant D31-21D (PR) - Wellbore #1 - As Drilled	9,600.00	6,994.21	5,616.44	5,557.72	95.641	ES
Dechant D31-21D (PR) - Wellbore #1 - As Drilled	11,921.61	7,033.18	6,090.95	6,011.26	76.435	SF
Dechant D31-24D (PR) - Wellbore #1 - Gyro Surveys	10,923.09	7,199.41	5,566.04	5,495.78	79.213	CC
Dechant D31-24D (PR) - Wellbore #1 - Gyro Surveys	11,000.00	7,203.44	5,566.57	5,495.46	78.276	ES
Dechant D31-24D (PR) - Wellbore #1 - Gyro Surveys	11,921.61	7,251.72	5,654.65	5,573.94	70.055	SF
Dechant D31-31D (SI) - Dechant D31-31D Gyros - As-Dr	8,549.47	7,000.00	3,063.14	3,001.78	49.922	CC
Dechant D31-31D (SI) - Dechant D31-31D Gyros - As-Dr	8,600.00	7,000.00	3,063.56	3,001.63	49.469	ES
Dechant D31-31D (SI) - Dechant D31-31D Gyros - As-Dr	9,600.00	7,000.00	3,238.28	3,166.52	45.127	SF
Dechant D31-31D (SI) - Dechant D31-31D OH - As-Drille	8,549.47	7,088.28	3,062.36	3,001.00	49.905	CC
Dechant D31-31D (SI) - Dechant D31-31D OH - As-Drille	8,600.00	7,088.51	3,062.78	3,000.85	49.453	ES
Dechant D31-31D (SI) - Dechant D31-31D OH - As-Drille	9,600.00	7,093.54	3,237.54	3,165.79	45.121	SF
Dechant State D31-32 (SI) - Wellbore #1 - As-Drilled	9,541.50	6,969.45	3,391.86	3,336.09	60.823	CC
Dechant State D31-32 (SI) - Wellbore #1 - As-Drilled	9,600.00	6,970.30	3,392.36	3,336.00	60.188	ES
Dechant State D31-32 (SI) - Wellbore #1 - As-Drilled	10,900.00	6,990.94	3,653.75	3,586.09	53.999	SF
Dechant Y 06-27D (PR) - Wellbore #1 - As Drilled	11,921.61	6,983.64	6,822.50	6,742.74	85.546	CC, ES, SF
Dechant Y 06-28D (PR) - Wellbore #1 - As Drilled	11,921.61	7,044.11	5,619.50	5,539.19	69.972	CC, ES, SF
Riva Blue 31-15 (PR) - Wellbore #1 - Gyro Surveys	11,364.17	11,364.17	6,164.55	6,077.44	70.768	CC
Riva Blue 31-15 (PR) - Wellbore #1 - Gyro Surveys	11,400.00	11,400.00	6,164.66	6,077.05	70.365	ES
Riva Blue 31-15 (PR) - Wellbore #1 - Gyro Surveys	11,921.61	11,921.61	6,189.70	6,094.95	65.324	SF
Riva Blue 31-16 (PR) - Wellbore #1 - Gyro Surveys	11,583.11	6,935.15	7,203.90	7,130.30	97.874	CC
Riva Blue 31-16 (PR) - Wellbore #1 - Gyro Surveys	11,700.00	6,933.89	7,204.85	7,130.06	96.336	ES
Riva Blue 31-16 (PR) - Wellbore #1 - Gyro Surveys	11,921.61	6,931.42	7,211.85	7,134.84	93.648	SF
Riva Blue 31-9 (PR) - Wellbore #1 - Gyro Surveys	10,330.53	6,853.28	7,235.65	7,173.61	116.633	CC
Riva Blue 31-9 (PR) - Wellbore #1 - Gyro Surveys	10,400.00	6,853.73	7,235.98	7,173.27	115.377	ES
Riva Blue 31-9 (PR) - Wellbore #1 - Gyro Surveys	11,921.61	6,862.90	7,408.51	7,331.52	96.234	SF
Riva Blue D 31-04J (PR) - Wellbore #1 - Gyro Surveys	10,668.22	6,817.05	6,464.52	6,399.58	99.533	CC
Riva Blue D 31-04J (PR) - Wellbore #1 - Gyro Surveys	10,700.00	6,817.83	6,464.60	6,399.33	99.046	ES

CC - Min centre to center distance or convergent 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 Emmy State H36-753
Project:	Mustang	TVD Reference:	WELL @ 4846.00ft (Original Well Elev)
Reference Site:	H Section 25	MD Reference:	WELL @ 4846.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Emmy State H36-753	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
D Section 31						
Riva Blue D 31-04J (PR) - Wellbore #1 - Gyro Surveys	11,921.61	6,850.17	6,584.78	6,507.77	85.499	SF
Riva Blue D 31-11 (PR) - Wellbore #1 - Gyro Surveys	10,184.39	6,899.72	5,131.28	5,068.73	82.038	CC
Riva Blue D 31-11 (PR) - Wellbore #1 - Gyro Surveys	10,200.00	6,899.48	5,131.30	5,068.60	81.834	ES
Riva Blue D 31-11 (PR) - Wellbore #1 - Gyro Surveys	11,921.61	6,872.83	5,417.31	5,339.28	69.431	SF
Riva Blue D 31-12 (SI) - Wellbore #1 - Gyro Surveys	10,339.00	6,948.48	3,501.45	3,439.03	56.092	CC
Riva Blue D 31-12 (SI) - Wellbore #1 - Gyro Surveys	10,400.00	6,949.81	3,501.98	3,438.90	55.518	ES
Riva Blue D 31-12 (SI) - Wellbore #1 - Gyro Surveys	11,600.00	6,979.66	3,721.52	3,647.76	50.457	SF
Riva Blue D31-14 (PR) - Wellbore #1 - Gyro Surveys	11,921.61	6,917.10	4,987.70	4,911.09	65.103	CC, ES, SF
Riva D 31-10 (PR) - Wellbore #1 - As-Drilled	10,225.85	7,041.32	5,926.68	5,864.99	96.074	CC
Riva D 31-10 (PR) - Wellbore #1 - As-Drilled	10,300.00	7,043.02	5,927.14	5,864.72	94.948	ES
Riva D 31-10 (PR) - Wellbore #1 - As-Drilled	11,921.61	7,080.27	6,164.38	6,087.03	79.697	SF
Riva Red D 31-2J (PA) - Wellbore #1 - Gyro Surveys	8,471.46	6,915.48	4,082.02	4,034.75	86.363	CC
Riva Red D 31-2J (PA) - Wellbore #1 - Gyro Surveys	8,500.00	6,915.73	4,082.12	4,034.62	85.943	ES
Riva Red D 31-2J (PA) - Wellbore #1 - Gyro Surveys	10,500.00	6,932.56	4,558.23	4,494.72	71.772	SF
Riva Red D 31-3 (PA) - Wellbore #1 - Gyro Surveys	7,282.20	7,006.38	4,877.52	4,836.17	117.959	CC, ES
Riva Red D 31-3 (PA) - Wellbore #1 - Gyro Surveys	10,600.00	7,083.15	5,864.34	5,801.02	92.611	SF
Riva Red D 31-6 (PA) - Wellbore #1 - No Surveys	9,171.52	6,948.00	4,978.66	4,674.30	16.358	CC
Riva Red D 31-6 (PA) - Wellbore #1 - No Surveys	9,200.00	6,948.00	4,978.75	4,674.12	16.344	ES
Riva Red D 31-6 (PA) - Wellbore #1 - No Surveys	9,900.00	6,948.00	5,031.68	4,720.58	16.174	SF
Riva Red D31-06X (SI) - Wellbore #1 - Gyro Surveys	8,958.38	6,838.23	4,879.94	4,829.35	96.466	CC
Riva Red D31-06X (SI) - Wellbore #1 - Gyro Surveys	9,000.00	6,838.76	4,880.12	4,829.16	95.766	ES
Riva Red D31-06X (SI) - Wellbore #1 - Gyro Surveys	11,500.00	6,874.35	5,501.98	5,430.75	77.248	SF
Riva White D 31-1 (PR) - Wellbore #1 - Gyro Surveys	7,310.18	6,845.65	7,282.38	7,241.49	178.105	CC, ES
Riva White D 31-1 (PR) - Wellbore #1 - Gyro Surveys	11,921.61	6,777.12	8,485.76	8,412.15	115.279	SF
Riva White D 31-7 (PR) - Wellbore #1 - Gyro Surveys	8,926.62	6,923.03	6,251.77	6,201.31	123.917	CC
Riva White D 31-7 (PR) - Wellbore #1 - Gyro Surveys	9,000.00	6,924.80	6,252.20	6,201.12	122.399	ES
Riva White D 31-7 (PR) - Wellbore #1 - Gyro Surveys	11,921.61	6,995.22	6,931.76	6,856.69	92.337	SF
Riva White D 31-8 (PA) - Wellbore #1 - Gyro Surveys	9,116.57	7,236.03	7,279.90	7,227.43	138.742	CC
Riva White D 31-8 (PA) - Wellbore #1 - Gyro Surveys	9,200.00	7,239.95	7,280.38	7,227.17	136.837	ES
Riva White D 31-8 (PA) - Wellbore #1 - Gyro Surveys	11,921.61	7,210.00	7,802.10	7,725.50	101.854	SF
River Red D 31-4 (PA) - Wellbore #1 - Gyro Surveys	7,376.74	7,218.10	3,049.43	2,941.67	28.299	CC, ES
River Red D 31-4 (PA) - Wellbore #1 - Gyro Surveys	7,800.00	7,218.51	3,093.85	2,983.86	28.130	SF
UPRR 53 Pan Am UT R 1 (PA) - Wellbore #1 - No Survey	8,357.73	6,941.00	6,746.71	6,448.61	22.633	CC
UPRR 53 Pan Am UT R 1 (PA) - Wellbore #1 - No Survey	8,400.00	6,941.00	6,746.84	6,448.44	22.610	ES
UPRR 53 Pan Am UT R 1 (PA) - Wellbore #1 - No Survey	9,700.00	6,941.00	6,878.94	6,569.70	22.245	SF

CC - Min centre to center distance or convergent 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 Emmy State H36-753
Project:	Mustang	TVD Reference:	WELL @ 4846.00ft (Original Well Elev)
Reference Site:	H Section 25	MD Reference:	WELL @ 4846.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Emmy State H36-753	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
H Section 25						
Dechant 21-25 - Original Drilling - Original Drilling - As Dr	572.75	556.76	2,985.05	2,982.14	1,024.536	CC
Dechant 21-25 - Original Drilling - Original Drilling - As Dr	1,400.00	1,373.26	2,987.11	2,979.49	392.018	ES
Dechant 21-25 - Original Drilling - Original Drilling - As Dr	6,750.00	6,787.37	3,660.93	3,611.95	74.738	SF
Dechant D30-33D - Original Drilling - Original Drilling - As	100.00	52.72	2,971.84	2,971.68	10,000.000	CC, ES
Dechant D30-33D - Original Drilling - Original Drilling - As	7,350.00	7,350.00	3,208.21	3,163.04	71.026	SF
Dechant D31-30D - Original Drilling - Original Drilling - As	7,001.50	6,899.07	2,719.80	2,674.36	59.850	CC, ES
Dechant D31-30D - Original Drilling - Original Drilling - As	7,700.00	7,070.01	2,881.17	2,830.84	57.242	SF
Dechant H25-64-1HN - Original Drilling - Original Drilling	6,640.91	8,891.05	1,412.74	1,348.28	21.917	CC
Dechant H25-64-1HN - Original Drilling - Original Drilling	6,650.00	8,892.50	1,412.83	1,348.22	21.867	ES
Dechant H25-64-1HN - Original Drilling - Original Drilling	6,750.00	8,907.29	1,425.99	1,359.87	21.567	SF
Dechant H25-65HN - Original Drilling - Original Drilling	907.95	911.99	1,844.50	1,842.13	779.600	CC
Dechant H25-65HN - Original Drilling - Original Drilling	1,700.00	1,692.69	1,845.23	1,838.37	268.821	ES
Dechant H25-65HN - Original Drilling - Original Drilling	6,750.00	8,845.00	2,294.09	2,229.02	35.253	SF
Emmy H25-711 - Emmy H25-711 OH - As-Drilled	3,068.06	2,568.92	2,179.19	2,165.83	163.105	CC, ES
Emmy H25-711 - Emmy H25-711 OH - As-Drilled	8,500.00	6,312.19	3,062.32	3,017.81	68.809	SF
Emmy State H25-718 - Emmy State H25-718 OH - As-Dr	3,570.20	3,085.56	2,074.86	2,059.57	135.775	CC
Emmy State H25-718 - Emmy State H25-718 OH - As-Dr	3,700.00	3,214.87	2,075.14	2,059.28	130.863	ES
Emmy State H25-718 - Emmy State H25-718 OH - As-Dr	8,200.00	6,423.00	2,632.58	2,590.64	62.778	SF
Emmy State H25-724 - Emmy State H25-724 OH - As-Dr	7,057.86	6,899.00	1,813.03	1,777.21	50.608	CC, ES
Emmy State H25-724 - Emmy State H25-724 OH - As-Dr	7,350.00	6,821.83	1,847.26	1,810.21	49.854	SF
Emmy State H25-731 - Emmy State H25-731 OH - As-Dr	7,035.47	6,842.47	1,505.92	1,470.73	42.793	CC, ES
Emmy State H25-731 - Emmy State H25-731 OH - As-Dr	8,100.00	8,100.00	1,861.93	1,817.76	42.156	SF
Emmy State H25-738 - Emmy State H25-738 OH - As-Dr	7,002.55	6,935.59	1,076.05	1,041.04	30.734	CC, ES
Emmy State H25-738 - Emmy State H25-738 OH - As-Dr	7,100.00	6,924.12	1,082.60	1,047.15	30.539	SF
Emmy State H25-744 - Emmy State H25-744 OH - As-Dr	6,973.98	6,844.13	652.12	617.24	18.698	CC, ES, SF
Emmy State H25-751 - Emmy State H25-751 OH - As-Dr	7,087.85	7,096.44	108.79	71.92	2.951	CC, ES
Emmy State H25-751 - Emmy State H25-751 OH - As-Dr	7,100.00	7,092.45	109.41	72.30	2.948	SF
Emmy State H25-757 - Emmy State H25-757 OH - As-Dr	7,072.65	7,080.78	93.81	56.88	2.540	CC, ES, SF
Emmy State H25-764 - Emmy State H25-764 OH - As-Dr	2,217.00	2,217.30	155.86	144.32	13.507	CC, ES
Emmy State H25-764 - Emmy State H25-764 OH - As-Dr	2,500.00	2,499.41	160.34	148.02	13.016	SF
Emmy State H25-771 - Emmy State H25-771 OH - As-Dr	0.00	0.00	167.05			
Emmy State H25-771 - Emmy State H25-771 OH - As-Dr	2,200.00	2,200.03	167.78	156.11	14.370	ES
Emmy State H25-771 - Emmy State H25-771 OH - As-Dr	2,400.00	2,397.65	170.30	158.11	13.981	SF
Emmy State H25-777 - Emmy State H25-777 OH - As-Dr	2,068.83	2,069.87	172.99	161.81	15.469	CC
Emmy State H25-777 - Emmy State H25-777 OH - As-Dr	2,200.00	2,199.68	173.18	161.66	15.034	ES
Emmy State H25-777 - Emmy State H25-777 OH - As-Dr	2,300.00	2,295.00	175.90	164.13	14.939	SF
Emmy State H25-785 - Emmy State H25-785 OH - As-Dr	299.96	300.97	190.69	189.30	137.643	CC
Emmy State H25-785 - Emmy State H25-785 OH - As-Dr	2,001.78	2,002.89	197.94	186.92	17.951	ES
Emmy State H25-785 - Emmy State H25-785 OH - As-Dr	2,100.00	2,091.78	200.34	189.08	17.801	SF
Emmy State H36-766 - Wellbore #1 - Plan #2	2,420.87	2,425.29	44.45	33.96	4.240	CC, ES
Emmy State H36-766 - Wellbore #1 - Plan #2	2,500.00	2,504.41	45.54	34.74	4.218	SF
Emmy State H36-773 - Wellbore #1 - Plan #2	2,200.00	2,201.00	67.05	57.45	6.985	CC, ES
Emmy State H36-773 - Wellbore #1 - Plan #2	2,300.00	2,300.98	68.78	58.75	6.855	SF
Emmy State H36-787 - Wellbore #1 - Plan #2	2,200.00	2,203.00	114.54	104.94	11.926	CC, ES
Emmy State H36-787 - Wellbore #1 - Plan #2	2,300.00	2,298.98	118.03	108.02	11.792	SF
HSR Cohn 03-25 - Original Drilling - Original Drilling - As	3,047.84	3,044.94	4,211.15	4,194.01	245.761	CC
HSR Cohn 03-25 - Original Drilling - Original Drilling - As	3,500.00	3,500.01	4,211.51	4,191.62	211.784	ES
HSR Cohn 03-25 - Original Drilling - Original Drilling - As	6,750.00	6,615.18	4,371.80	4,331.88	109.513	SF
HSR Crowe 06-25 - Original Drilling - Original Drilling - As	3,530.87	3,496.82	2,905.81	2,885.86	145.644	CC
HSR Crowe 06-25 - Original Drilling - Original Drilling - As	5,000.00	4,988.67	2,908.42	2,879.13	99.299	ES
HSR Crowe 06-25 - Original Drilling - Original Drilling - As	6,750.00	6,618.59	3,031.25	2,991.33	75.928	SF
HSR Dechant 04-25 - Original Drilling - Original Drilling -	1,545.56	1,540.71	2,708.13	2,699.58	316.740	CC, ES
HSR Dechant 04-25 - Original Drilling - Original Drilling -	6,750.00	7,085.81	4,676.40	4,634.91	112.705	SF

CC - Min centre to center distance or convergent 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 Emmy State H36-753
Project:	Mustang	TVD Reference:	WELL @ 4846.00ft (Original Well Elev)
Reference Site:	H Section 25	MD Reference:	WELL @ 4846.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Emmy State H36-753	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
H Section 25						
HSR Dechant 05-25 - Original Drilling - Original Drilling -	1,061.44	1,057.46	2,736.14	2,730.37	474.501	CC
HSR Dechant 05-25 - Original Drilling - Original Drilling -	2,200.00	2,180.71	2,737.35	2,725.11	223.625	ES
HSR Dechant 05-25 - Original Drilling - Original Drilling -	6,700.00	6,564.75	3,193.37	3,154.19	81.503	SF
KY Blue D30-32 - Original Drilling - Original Drilling - As D	6,587.69	6,382.88	3,593.53	3,555.15	93.626	CC
KY Blue D30-32 - Original Drilling - Original Drilling - As D	6,600.00	6,398.52	3,593.61	3,555.15	93.416	ES
KY Blue D30-32 - Original Drilling - Original Drilling - As D	7,050.00	6,780.51	3,714.49	3,673.29	90.155	SF
KY Blue H25-04J - Original Drilling - Original Drilling - As	6,944.43	7,400.00	2,269.51	2,253.49	141.733	CC
KY Blue H25-04J - Original Drilling - Original Drilling - As	6,950.00	7,400.00	2,269.53	2,253.49	141.508	ES
KY Blue H25-04J - Original Drilling - Original Drilling - As	7,400.00	7,400.00	2,413.78	2,395.60	132.797	SF
KY Blue H25-09 - Original Drilling - Original Drilling - As D	6,605.18	6,451.76	2,868.38	2,829.74	74.239	CC, ES
KY Blue H25-09 - Original Drilling - Original Drilling - As D	7,000.00	6,761.74	2,959.31	2,918.35	72.240	SF
KY Blue H25-10 - Original Drilling - Original Drilling - As D	6,499.09	6,333.16	2,069.29	2,030.78	53.730	CC
KY Blue H25-10 - Original Drilling - Original Drilling - As D	6,500.00	6,334.02	2,069.29	2,030.77	53.722	ES
KY Blue H25-10 - Original Drilling - Original Drilling - As D	6,700.00	6,539.60	2,099.38	2,059.60	52.782	SF
KY Blue H25-11 - Original Drilling - Original Drilling - As D	4,175.54	4,091.66	1,616.38	1,592.57	67.897	CC
KY Blue H25-11 - Original Drilling - Original Drilling - As D	4,200.00	4,113.42	1,616.40	1,592.45	67.487	ES
KY Blue H25-11 - Original Drilling - Original Drilling - As D	6,700.00	6,533.51	1,772.34	1,708.17	27.618	SF
KY Blue H25-12 - Original Drilling - Original Drilling - As D	1,322.13	1,317.98	1,789.24	1,781.47	230.083	CC
KY Blue H25-12 - Original Drilling - Original Drilling - As D	1,500.00	1,484.84	1,789.81	1,781.00	203.350	ES
KY Blue H25-12 - Original Drilling - Original Drilling - As D	6,650.00	6,611.23	2,499.58	2,460.69	64.276	SF
KY Blue H25-14 - Original Drilling - Original Drilling - As D	5,434.33	5,331.29	192.61	160.83	6.062	CC, ES
KY Blue H25-14 - Original Drilling - Original Drilling - As D	5,600.00	5,492.25	196.51	163.76	6.001	SF
KY Blue H25-15 - Original Drilling - Original Drilling - As D	6,657.10	6,513.41	907.84	869.13	23.453	CC, ES
KY Blue H25-15 - Original Drilling - Original Drilling - As D	6,800.00	6,634.88	919.37	879.74	23.196	SF
KY H25-24 - Original Drilling - Original Drilling - As Drilled	6,509.94	6,391.95	1,132.39	1,093.70	29.267	CC, ES
KY H25-24 - Original Drilling - Original Drilling - As Drilled	6,600.00	6,475.30	1,138.85	1,099.63	29.033	SF
Moore UPRC H25-01 - Original Drilling - Original Drilling	6,526.31	6,416.20	5,047.98	5,009.25	130.322	CC, ES
Moore UPRC H25-01 - Original Drilling - Original Drilling	7,000.00	6,762.45	5,208.75	5,167.50	126.277	SF
Moore UPRC H25-02 - Original Drilling - Original Drilling	6,475.78	6,312.85	4,414.96	4,376.60	115.086	CC, ES
Moore UPRC H25-02 - Original Drilling - Original Drilling	6,800.00	6,622.74	4,495.23	4,454.94	111.582	SF
Moser 25-32 - Original Drilling - Original Drilling - As Drille	6,484.39	6,358.84	2,958.29	2,919.73	76.723	CC, ES
Moser 25-32 - Original Drilling - Original Drilling - As Drille	6,800.00	6,674.07	3,034.16	2,993.69	74.978	SF
Moser 25-42 - Original Drilling - Original Drilling - As Drille	6,549.94	6,408.00	3,940.51	3,901.83	101.870	CC
Moser 25-42 - Original Drilling - Original Drilling - As Drille	6,550.00	6,408.07	3,940.51	3,901.83	101.869	ES
Moser 25-42 - Original Drilling - Original Drilling - As Drille	6,950.00	6,752.86	4,047.83	4,006.80	98.650	SF
UPRR 53 Pan Am T#2 - Original Drilling - Original Drilling	1,058.44	1,053.45	3,479.84	3,474.11	606.454	CC
UPRR 53 Pan Am T#2 - Original Drilling - Original Drilling	2,600.00	2,596.45	3,482.48	3,467.96	239.906	ES
UPRR 53 Pan Am T#2 - Original Drilling - Original Drilling	6,700.00	6,474.19	3,687.59	3,648.40	94.087	SF
UPRR 53 Pan Am UT T#1 - Original Drilling - Original Dri	6,516.76	6,376.14	3,940.28	3,901.59	101.837	CC, ES
UPRR 53 Pan Am UT T#1 - Original Drilling - Original Dri	6,900.00	6,746.22	4,046.20	4,005.19	98.660	SF
Von Feldt 1-25B - Original Drilling - Original Drilling - As D	2,159.04	2,138.11	616.33	604.33	51.356	CC
Von Feldt 1-25B - Original Drilling - Original Drilling - As D	2,200.00	2,176.16	616.43	604.20	50.419	ES
Von Feldt 1-25B - Original Drilling - Original Drilling - As D	6,500.00	6,416.01	1,363.29	1,325.87	36.434	SF

CC - Min centre to center distance or convergent 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 Emmy State H36-753
Project:	Mustang	TVD Reference:	WELL @ 4846.00ft (Original Well Elev)
Reference Site:	H Section 25	MD Reference:	WELL @ 4846.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Emmy State H36-753	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
H Section 26						
Bullard 31-26 - Original Drilling - Original Drilling - As Dril	0.00	0.00	5,508.52			
Bullard 31-26 - Original Drilling - Original Drilling - As Dril	700.00	671.82	5,511.27	5,507.67	1,529.195	ES
Bullard 31-26 - Original Drilling - Original Drilling - As Dril	6,950.00	6,605.72	6,411.05	6,371.77	163.244	SF
Bullard 32-26 - Original Drilling - Original Drilling - As Dril	809.87	815.93	4,237.61	4,233.25	971.880	CC
Bullard 32-26 - Original Drilling - Original Drilling - As Dril	900.00	883.56	4,237.85	4,233.05	883.028	ES
Bullard 32-26 - Original Drilling - Original Drilling - As Dril	6,950.00	6,785.24	5,170.42	5,130.74	130.316	SF
Bullard 41-26 - Original Drilling - Original Drilling - As Dril	0.00	5.59	4,542.46			
Bullard 41-26 - Original Drilling - Original Drilling - As Dril	400.00	377.90	4,544.04	4,542.14	2,389.283	ES
Bullard 41-26 - Original Drilling - Original Drilling - As Dril	6,850.00	6,850.00	5,340.73	5,300.68	133.374	SF
Dechant H25-29D - Original Drilling - Original Drilling - As	0.00	0.00	4,502.55			
Dechant H25-29D - Original Drilling - Original Drilling - As	1,300.00	1,332.94	4,506.26	4,497.97	543.779	ES
Dechant H25-29D - Original Drilling - Original Drilling - As	6,650.00	7,038.81	5,130.83	5,068.17	81.882	SF
Dechant H25-33D - Original Drilling - Original Drilling - As	5,864.15	6,995.23	2,527.87	2,470.76	44.265	CC
Dechant H25-33D - Original Drilling - Original Drilling - As	6,400.00	7,541.02	2,528.65	2,465.31	39.920	ES
Dechant H25-33D - Original Drilling - Original Drilling - As	6,800.00	7,918.25	2,577.19	2,510.76	38.798	SF
Harsh H26-09D - Original Drilling - Original Drilling - As D	321.52	330.53	2,477.06	2,475.50	1,586.085	CC
Harsh H26-09D - Original Drilling - Original Drilling - As D	400.00	388.10	2,477.39	2,475.45	1,276.579	ES
Harsh H26-09D - Original Drilling - Original Drilling - As D	6,800.00	6,783.12	3,350.58	3,311.14	84.944	SF
Harsh H26-10 - Original Drilling - Original Drilling - As Dri	511.29	522.29	3,575.04	3,572.39	1,347.817	CC
Harsh H26-10 - Original Drilling - Original Drilling - As Dri	1,500.00	1,496.43	3,579.73	3,571.45	432.415	ES
Harsh H26-10 - Original Drilling - Original Drilling - As Dri	7,000.00	6,828.84	4,609.85	4,570.06	115.828	SF
Harsh H26-15 - Original Drilling - Original Drilling - As Dri	1,134.47	1,149.54	3,261.93	3,255.68	521.554	CC
Harsh H26-15 - Original Drilling - Original Drilling - As Dri	1,400.00	1,391.02	3,262.90	3,255.21	424.039	ES
Harsh H26-15 - Original Drilling - Original Drilling - As Dri	7,900.00	7,138.56	4,379.63	4,334.93	97.964	SF
Harsh H26-16 - Original Drilling - Original Drilling - As Dri	0.00	3.63	2,182.73			
Harsh H26-16 - Original Drilling - Original Drilling - As Dri	1,200.00	1,187.95	2,185.16	2,178.63	334.741	ES
Harsh H26-16 - Original Drilling - Original Drilling - As Dri	7,350.00	7,035.56	3,227.30	3,186.06	78.265	SF
Harsh H26-23D - Original Drilling - Original Drilling - As D	4,069.39	4,848.64	3,213.88	3,186.99	119.496	CC
Harsh H26-23D - Original Drilling - Original Drilling - As D	4,100.00	4,865.78	3,213.99	3,186.93	118.788	ES
Harsh H26-23D - Original Drilling - Original Drilling - As D	7,100.00	7,100.00	3,736.09	3,694.58	90.000	SF
HSR Moser 04-26 - Original Drilling - Original Drilling - As	1,893.67	1,862.72	7,472.73	7,462.29	715.788	CC
HSR Moser 04-26 - Original Drilling - Original Drilling - As	2,000.00	1,932.14	7,472.96	7,462.04	684.274	ES
HSR Moser 04-26 - Original Drilling - Original Drilling - As	6,500.00	6,500.00	8,294.83	8,256.96	218.985	SF
HSR Moser 06-26 - Original Drilling - Original Drilling - As	0.00	0.00	5,223.20			
HSR Moser 06-26 - Original Drilling - Original Drilling - As	2,206.54	2,205.39	5,228.49	5,216.15	423.715	ES
HSR Moser 06-26 - Original Drilling - Original Drilling - As	6,950.00	6,732.76	6,158.09	6,118.66	156.212	SF
HSR Regalia 05-26 - Original Drilling - Original Drilling - A	2,213.98	2,214.94	6,474.33	6,461.93	522.059	CC, ES
HSR Regalia 05-26 - Original Drilling - Original Drilling - A	7,150.00	7,000.01	7,467.44	7,426.77	183.619	SF
HSR-Moser 03-26A - Original Drilling - Original Drilling - A	571.73	543.73	6,195.49	6,192.63	2,164.128	CC
HSR-Moser 03-26A - Original Drilling - Original Drilling - A	2,200.00	2,167.36	6,197.29	6,185.10	508.312	ES
HSR-Moser 03-26A - Original Drilling - Original Drilling - A	6,800.00	6,500.01	6,992.85	6,954.32	181.499	SF
Hurley H26-712 - Hurley H26-712 OH - As-Drilled	5,804.29	6,424.00	3,166.59	3,134.63	99.072	CC, ES
Hurley H26-712 - Hurley H26-712 OH - As-Drilled	6,600.00	6,613.00	3,254.56	3,220.21	94.728	SF
Hurley H26-717 - Hurley H26-717 OH - As-Drilled	5,693.43	6,328.00	3,289.14	3,258.06	105.818	CC
Hurley H26-717 - Hurley H26-717 OH - As-Drilled	5,700.00	6,328.00	3,289.15	3,258.05	105.752	ES
Hurley H26-717 - Hurley H26-717 OH - As-Drilled	6,461.02	6,517.00	3,357.61	3,324.03	99.990	SF
Hurley H26-724 - Hurley H26-724 OH - As-Drilled	2,570.71	2,947.13	3,458.39	3,445.26	263.426	CC, ES
Hurley H26-724 - Hurley H26-724 OH - As-Drilled	6,700.00	6,517.00	3,835.46	3,801.84	114.079	SF
Hurley H26-730 - Hurley H26-730 OH - As-Drilled	1,474.05	1,512.10	3,504.44	3,496.19	424.521	CC
Hurley H26-730 - Hurley H26-730 OH - As-Drilled	1,600.00	1,613.35	3,504.87	3,495.98	394.120	ES
Hurley H26-730 - Hurley H26-730 OH - As-Drilled	6,700.00	6,423.00	4,283.86	4,250.77	129.487	SF
Hurley H26-736 - Hurley H26-736 OH - As-Drilled	1,383.20	1,421.24	3,518.66	3,510.93	455.095	CC
Hurley H26-736 - Hurley H26-736 OH - As-Drilled	1,500.00	1,521.42	3,518.94	3,510.60	421.626	ES

CC - Min centre to center distance or convergent 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 Emmy State H36-753
Project:	Mustang	TVD Reference:	WELL @ 4846.00ft (Original Well Elev)
Reference Site:	H Section 25	MD Reference:	WELL @ 4846.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Emmy State H36-753	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
H Section 26						
Hurley H26-736 - Hurley H26-736 OH - As-Drilled	6,850.00	6,850.00	4,566.09	4,530.62	128.707	SF
Hurley H26-743 - Hurley H26-743 OH - As-Drilled	1,287.55	1,326.46	3,535.36	3,528.18	492.671	CC
Hurley H26-743 - Hurley H26-743 OH - As-Drilled	1,600.00	1,617.67	3,536.63	3,527.73	397.544	ES
Hurley H26-743 - Hurley H26-743 OH - As-Drilled	6,550.00	5,951.00	4,704.05	4,671.50	144.539	SF
Hurley H26-750 - Hurley H26-750 OH - As-Drilled	5,354.29	6,612.00	5,291.84	5,260.10	166.717	CC, ES
Hurley H26-750 - Hurley H26-750 OH - As-Drilled	6,550.00	6,801.00	5,408.07	5,373.05	154.445	SF
Hurley H26-756 - Hurley H26-756 OH - As-Drilled	5,311.72	6,565.06	5,560.87	5,529.99	180.071	CC, ES
Hurley H26-756 - Hurley H26-756 OH - As-Drilled	6,650.00	6,801.00	5,699.17	5,664.40	163.931	SF
Hurley H26-762 - Hurley H26-762 OH - As-Drilled	2,757.43	2,757.43	5,808.59	5,796.22	469.690	CC
Hurley H26-762 - Hurley H26-762 OH - As-Drilled	2,800.00	3,922.11	5,808.70	5,793.14	373.383	ES
Hurley H26-762 - Hurley H26-762 OH - As-Drilled	6,950.00	6,814.25	6,171.51	6,136.62	176.912	SF
Hurley H26-768 - Hurley H26-768 OH - As-Drilled	1,460.96	1,465.99	5,842.47	5,834.40	724.620	CC
Hurley H26-768 - Hurley H26-768 OH - As-Drilled	2,506.14	3,106.68	5,843.44	5,830.27	443.587	ES
Hurley H26-768 - Hurley H26-768 OH - As-Drilled	10,400.00	6,519.00	8,226.39	8,182.56	187.705	SF
Hurley H26-776 - Hurley H26-776 OH - As-Drilled	1,352.21	1,357.24	5,862.40	5,854.95	787.653	CC
Hurley H26-776 - Hurley H26-776 OH - As-Drilled	1,500.00	1,472.68	5,862.86	5,854.68	716.899	ES
Hurley H26-776 - Hurley H26-776 OH - As-Drilled	11,200.00	6,517.00	9,180.05	9,132.11	191.491	SF
Hurley H26-783 - Hurley H26-783 OH - As-drilled	0.00	0.00	5,885.12			
Hurley H26-783 - Hurley H26-783 OH - As-drilled	1,900.00	1,883.08	5,891.01	5,880.51	560.721	ES
Hurley H26-783 - Hurley H26-783 OH - As-drilled	11,500.00	6,423.00	9,582.18	9,532.52	192.948	SF
Hurley H35-727 - Wellbore #1 - Plan #2	8,101.11	10,660.39	3,280.84	3,218.45	52.582	CC
Hurley H35-727 - Wellbore #1 - Plan #2	11,400.00	13,935.54	3,295.88	3,182.85	29.159	ES
Hurley H35-727 - Wellbore #1 - Plan #2	11,921.61	14,375.56	3,312.40	3,191.44	27.384	SF
Hurley H35-733 - Wellbore #1 - Plan #2	2,106.24	2,144.24	3,621.88	3,609.83	300.783	CC
Hurley H35-733 - Wellbore #1 - Plan #2	2,200.00	2,219.82	3,621.97	3,609.45	289.259	ES
Hurley H35-733 - Wellbore #1 - Plan #2	11,921.61	14,870.05	3,952.07	3,829.53	32.251	SF
Hurley H35-746 - Wellbore #1 - Plan #2	2,106.24	2,144.24	3,650.21	3,638.16	303.136	CC
Hurley H35-746 - Wellbore #1 - Plan #2	2,200.00	2,223.88	3,650.28	3,637.74	291.205	ES
Hurley H35-746 - Wellbore #1 - Plan #2	11,921.61	14,662.90	4,648.83	4,526.70	38.064	SF
Hurley H35-755 - Wellbore #1 - Plan #2	11,921.61	14,913.86	5,154.60	5,031.74	41.957	CC, ES, SF
Hurley H35-768 - Wellbore #1 - Plan #2	11,921.61	14,521.87	5,848.32	5,726.31	47.932	CC, ES, SF
Hurley H35-774 - Wellbore #1 - Plan #2	2,200.00	2,206.00	5,909.16	5,896.69	473.733	CC, ES
Hurley H35-774 - Wellbore #1 - Plan #2	11,921.61	14,860.45	6,502.49	6,358.83	45.264	SF
Hurley H35-787 - Wellbore #1 - Plan #2	2,200.00	2,205.00	5,950.60	5,938.13	477.192	CC, ES
Hurley H35-787 - Wellbore #1 - Plan #2	11,921.61	14,650.56	7,168.17	7,045.97	58.663	SF
Hurley State H35-713 - Wellbore #1 - Plan #2	8,090.86	10,817.36	2,612.97	2,550.69	41.955	CC
Hurley State H35-713 - Wellbore #1 - Plan #2	11,921.61	14,647.98	2,643.98	2,522.11	21.695	ES, SF
John 03-26 - Original Drilling - Original Drilling - As Drilled	2,166.11	2,143.39	6,104.01	6,091.96	506.629	CC
John 03-26 - Original Drilling - Original Drilling - As Drilled	2,200.00	2,168.93	6,104.03	6,091.82	499.781	ES
John 03-26 - Original Drilling - Original Drilling - As Drilled	6,950.00	6,600.01	7,017.70	6,978.65	179.700	SF
Lamp H25-31 - Original Drilling - Original Drilling - As Dril	0.00	12.05	3,848.97			
Lamp H25-31 - Original Drilling - Original Drilling - As Dril	400.00	394.64	3,850.12	3,848.16	1,964.229	ES
Lamp H25-31 - Original Drilling - Original Drilling - As Dril	6,750.00	6,611.19	4,389.17	4,349.92	111.821	SF
Lamp H26-01 - Original Drilling - Original Drilling - As Dril	1,430.89	1,444.05	3,846.29	3,838.34	483.858	CC, ES
Lamp H26-01 - Original Drilling - Original Drilling - As Dril	6,800.00	6,833.38	5,286.90	5,246.45	130.727	SF
Lamp H26-08 - Original Drilling - Original Drilling - As Dril	1,713.18	1,720.34	3,565.78	3,556.23	373.289	CC
Lamp H26-08 - Original Drilling - Original Drilling - As Dril	1,800.00	1,787.11	3,566.03	3,556.05	357.303	ES
Lamp H26-08 - Original Drilling - Original Drilling - As Dril	7,250.00	7,111.50	4,542.48	4,499.27	105.110	SF
Lamp H26-22 - Original Drilling - Original Drilling - As Dril	2,537.32	2,854.00	3,549.12	3,532.23	210.147	CC
Lamp H26-22 - Original Drilling - Original Drilling - As Dril	2,600.00	2,916.86	3,549.66	3,532.20	203.240	ES
Lamp H26-22 - Original Drilling - Original Drilling - As Dril	6,700.00	6,688.95	4,250.96	4,203.17	88.953	SF
Moser 05-26 - Original Drilling - Original Drilling - As Drille	2,215.80	2,224.90	6,680.61	6,668.18	537.702	CC, ES
Moser 05-26 - Original Drilling - Original Drilling - As Drille	10,800.00	6,984.89	9,680.21	9,627.86	184.897	SF

CC - Min centre to center distance or convergent 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 Emmy State H36-753
Project:	Mustang	TVD Reference:	WELL @ 4846.00ft (Original Well Elev)
Reference Site:	H Section 25	MD Reference:	WELL @ 4846.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Emmy State H36-753	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
H Section 26						
Moser 41-27 - Original Drilling - Original Drilling - As Drille	884.85	858.89	6,686.79	6,682.11	1,429.552	CC
Moser 41-27 - Original Drilling - Original Drilling - As Drille	900.00	867.78	6,686.80	6,682.06	1,409.885	ES
Moser 41-27 - Original Drilling - Original Drilling - As Drille	7,200.00	7,016.73	8,615.53	8,573.46	204.808	SF
Moser H26-11 - Original Drilling - Original Drilling - As Dri	397.44	381.45	5,105.13	5,103.23	2,674.668	CC
Moser H26-11 - Original Drilling - Original Drilling - As Dri	1,000.00	955.63	5,106.85	5,101.58	969.969	ES
Moser H26-11 - Original Drilling - Original Drilling - As Dri	7,350.00	6,925.97	6,222.83	6,182.22	153.208	SF
Moser H26-12 - Wellbore #1 - Wellbore #1 - As Drilled	0.00	0.00	6,141.02			
Moser H26-12 - Wellbore #1 - Wellbore #1 - As Drilled	2,200.00	2,146.56	6,146.57	6,134.45	506.952	ES
Moser H26-12 - Wellbore #1 - Wellbore #1 - As Drilled	11,200.00	7,185.37	9,086.78	9,029.69	159.166	SF
Moser H26-13 - Wellbore #1 - Wellbore #1 - As Drilled	0.00	0.00	5,918.35			
Moser H26-13 - Wellbore #1 - Wellbore #1 - As Drilled	1,200.00	1,152.58	5,923.35	5,916.93	923.819	ES
Moser H26-13 - Wellbore #1 - Wellbore #1 - As Drilled	11,700.00	7,223.75	8,598.48	8,535.66	136.877	SF
Moser H26-14 - Original Drilling - Original Drilling - As Dr	571.85	565.86	4,414.74	4,411.79	1,499.230	CC
Moser H26-14 - Original Drilling - Original Drilling - As Dr	2,202.46	2,200.28	4,419.74	4,407.43	358.955	ES
Moser H26-14 - Original Drilling - Original Drilling - As Dr	9,900.00	6,849.86	6,212.11	6,160.96	121.462	SF
Moser H26-18D - Original Drilling - Original Drilling - As D	0.00	0.00	4,466.27			
Moser H26-18D - Original Drilling - Original Drilling - As D	6,850.00	7,119.60	6,081.55	6,025.60	108.681	SF
Moser H26-24 - Original Drilling - Original Drilling - As Dr	239.73	245.73	4,220.48	4,219.40	3,914.063	CC
Moser H26-24 - Original Drilling - Original Drilling - As Dr	2,215.12	2,243.48	4,229.12	4,216.61	338.212	ES
Moser H26-24 - Original Drilling - Original Drilling - As Dr	7,900.00	7,113.83	5,497.06	5,454.38	128.803	SF
Moser H26-25 - Original Drilling - Original Drilling - As Dr	0.00	0.00	4,979.50			
Moser H26-25 - Original Drilling - Original Drilling - As Dr	1,800.00	1,765.66	4,984.33	4,974.43	503.480	ES
Moser H26-25 - Original Drilling - Original Drilling - As Dr	10,000.00	7,044.59	7,125.38	7,074.05	138.799	SF
Moser H26-27D - Original Drilling - Original Drilling - As D	0.00	15.28	4,489.04			
Moser H26-27D - Original Drilling - Original Drilling - As D	6,900.00	6,944.71	6,138.12	6,096.57	147.749	SF
Moser H26-28D - Original Drilling - Original Drilling - As D	0.00	16.54	4,482.45			
Moser H26-28D - Original Drilling - Original Drilling - As D	7,600.00	7,600.00	7,571.00	7,512.85	130.200	SF
Moser H26-29D - Original Drilling - Original Drilling - As D	0.00	20.46	4,475.96			
Moser H26-29D - Original Drilling - Original Drilling - As D	200.00	196.00	4,476.53	4,475.74	5,688.641	ES
Moser H26-29D - Original Drilling - Original Drilling - As D	6,500.00	3,007.01	6,909.99	6,880.89	237.505	SF
Moser, Wesley E. G. U. B1 (PA) - Original Drilling - Origin	2,200.00	2,186.00	5,593.84	5,545.33	115.292	CC
Moser, Wesley E. G. U. B1 (PA) - Original Drilling - Origin	2,300.00	2,285.98	5,595.59	5,544.86	110.307	ES
Moser, Wesley E. G. U. B1 (PA) - Original Drilling - Origin	7,835.24	6,972.00	6,683.94	6,526.08	42.343	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Emmy State H36-753
Project:	Mustang	TVD Reference:	WELL @ 4846.00ft (Original Well Elev)
Reference Site:	H Section 25	MD Reference:	WELL @ 4846.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Emmy State H36-753	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
H Section 35						
Cannon Farms 01-35C - Original Drilling - Original Drilling	11,362.45	7,031.10	3,326.50	3,254.51	46.209	CC
Cannon Farms 01-35C - Original Drilling - Original Drilling	11,400.00	7,032.03	3,326.71	3,254.46	46.044	ES
Cannon Farms 01-35C - Original Drilling - Original Drilling	11,921.61	7,044.84	3,373.14	3,297.79	44.766	SF
Cannon H35-03D - Original Drilling - Original Drilling - As	10,868.24	6,838.58	5,756.12	5,689.55	86.477	CC
Cannon H35-03D - Original Drilling - Original Drilling - As	10,900.00	6,839.15	5,756.20	5,689.39	86.157	ES
Cannon H35-03D - Original Drilling - Original Drilling - As	11,921.61	6,856.97	5,851.66	5,777.45	78.861	SF
Cannon H35-09 - Original Drilling - Original Drilling - As D	10,429.50	6,922.95	2,956.77	2,890.37	44.530	CC, ES
Cannon H35-09 - Original Drilling - Original Drilling - As D	11,000.00	6,910.76	3,011.28	2,942.05	43.498	SF
Cannon H35-10 - Original Drilling - Original Drilling - As D	10,551.32	7,048.09	4,196.99	4,132.31	64.889	CC
Cannon H35-10 - Original Drilling - Original Drilling - As D	10,600.00	7,048.26	4,197.27	4,132.24	64.543	ES
Cannon H35-10 - Original Drilling - Original Drilling - As D	11,800.00	7,052.42	4,378.80	4,306.69	60.725	SF
Cannon H35-11 - Original Drilling - Original Drilling - As D	10,445.04	6,852.23	5,264.91	5,202.07	83.780	CC
Cannon H35-11 - Original Drilling - Original Drilling - As D	10,500.00	6,852.58	5,265.20	5,201.94	83.238	ES
Cannon H35-11 - Original Drilling - Original Drilling - As D	11,921.61	6,862.36	5,468.04	5,395.43	75.311	SF
Cannon H35-12 - Original Drilling - Original Drilling - As D	10,566.98	7,033.03	6,731.66	6,666.92	103.984	CC
Cannon H35-12 - Original Drilling - Original Drilling - As D	10,600.00	7,033.29	6,731.74	6,666.75	103.570	ES
Cannon H35-12 - Original Drilling - Original Drilling - As D	11,921.61	7,043.17	6,866.60	6,791.84	91.847	SF
Cannon H35-13 - Wellbore #1 - Wellbore #1 - As Drilled	11,758.11	7,049.11	6,779.66	6,704.02	89.630	CC
Cannon H35-13 - Wellbore #1 - Wellbore #1 - As Drilled	11,800.00	7,047.89	6,779.79	6,703.82	89.236	ES
Cannon H35-13 - Wellbore #1 - Wellbore #1 - As Drilled	11,921.61	7,044.31	6,781.63	6,704.69	88.140	SF
Cannon H35-14 - Original Drilling - Original Drilling - As D	11,776.54	6,995.36	5,386.06	5,304.12	65.729	CC
Cannon H35-14 - Original Drilling - Original Drilling - As D	11,800.00	6,995.21	5,386.11	5,303.99	65.586	ES
Cannon H35-14 - Original Drilling - Original Drilling - As D	11,921.61	6,994.44	5,388.01	5,304.97	64.880	SF
Cannon H35-15 (PA) - Original Drilling - Original Drilling -	11,798.56	6,984.00	4,169.35	3,978.16	21.807	CC
Cannon H35-15 (PA) - Original Drilling - Original Drilling -	11,800.00	6,984.00	4,169.35	3,978.15	21.806	ES
Cannon H35-15 (PA) - Original Drilling - Original Drilling -	11,921.61	6,984.00	4,171.16	3,979.07	21.715	SF
Cannon H35-20 - Original Drilling - Original Drilling - As D	9,956.58	6,842.14	6,134.52	6,075.93	104.705	CC
Cannon H35-20 - Original Drilling - Original Drilling - As D	10,000.00	6,842.41	6,134.67	6,075.76	104.129	ES
Cannon H35-20 - Original Drilling - Original Drilling - As D	11,921.61	6,855.01	6,441.53	6,369.64	89.601	SF
Cannon H35-21 - Original Drilling - Original Drilling - As D	10,024.79	7,031.32	4,717.53	4,657.56	78.674	CC, ES
Cannon H35-21 - Original Drilling - Original Drilling - As D	11,700.00	7,037.27	5,006.13	4,936.04	71.426	SF
Cannon H35-22 - Original Drilling - Original Drilling - As D	9,929.79	7,046.76	3,786.85	3,727.48	63.789	CC, ES
Cannon H35-22 - Original Drilling - Original Drilling - As D	11,000.00	7,032.41	3,935.12	3,869.73	60.172	SF
Cannon H35-24 - Original Drilling - Original Drilling - As D	11,211.27	6,812.31	4,902.50	4,832.98	70.520	CC, ES
Cannon H35-24 - Original Drilling - Original Drilling - As D	11,921.61	6,820.36	4,953.68	4,879.13	66.450	SF
Cannon X02-27 - Original Drilling - Original Drilling - As D	11,921.61	6,987.67	3,759.76	3,682.41	48.606	CC, ES, SF
Cannon X02-28 - Original Drilling - Original Drilling - As D	11,921.61	6,895.49	4,929.83	4,853.19	64.326	CC, ES, SF
Cannon X02-29 - Original Drilling - Original Drilling - As D	11,921.61	7,165.43	6,256.93	6,178.73	80.013	CC, ES, SF
Foster 18-35 - Original Drilling - Original Drilling - As Drill	662.53	652.54	5,564.67	5,561.22	1,613.802	CC
Foster 18-35 - Original Drilling - Original Drilling - As Drill	1,200.00	1,153.98	5,567.07	5,560.67	868.944	ES
Foster 18-35 - Original Drilling - Original Drilling - As Drill	11,800.00	6,900.01	7,193.97	7,127.73	108.619	SF
Foster UPRR 31-35 #1 (PA) - Original Drilling - Original D	2,200.00	2,210.01	3,406.93	3,358.00	69.634	CC
Foster UPRR 31-35 #1 (PA) - Original Drilling - Original D	2,300.00	2,309.99	3,408.54	3,357.41	66.663	ES
Foster UPRR 31-35 #1 (PA) - Original Drilling - Original D	8,200.00	6,996.01	4,192.63	4,032.12	26.121	SF
Foster UPRR 32-35 - Original Drilling - Original Drilling - A	0.00	0.00	4,128.37			
Foster UPRR 32-35 - Original Drilling - Original Drilling - A	1,600.00	1,592.35	4,132.12	4,123.28	467.334	ES
Foster UPRR 32-35 - Original Drilling - Original Drilling - A	10,600.00	7,010.79	4,557.89	4,497.36	75.294	SF
Foster UPRR 41-35 - Original Drilling - Original Drilling - A	1,785.61	1,781.72	2,305.22	2,295.30	232.340	CC
Foster UPRR 41-35 - Original Drilling - Original Drilling - A	2,100.00	2,084.67	2,306.39	2,294.70	197.393	ES
Foster UPRR 41-35 - Original Drilling - Original Drilling - A	8,500.00	6,991.38	2,894.55	2,838.91	52.018	SF
Foster UPRR 42-35 #2 - Original Drilling - Original Drilling	8,996.47	7,078.35	2,864.66	2,812.90	55.341	CC
Foster UPRR 42-35 #2 - Original Drilling - Original Drilling	9,000.00	7,078.43	2,864.67	2,812.88	55.319	ES
Foster UPRR 42-35 #2 - Original Drilling - Original Drilling	9,700.00	7,095.65	2,949.74	2,894.41	53.310	SF

CC - Min centre to center distance or convergent 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 Emmy State H36-753
Project:	Mustang	TVD Reference:	WELL @ 4846.00ft (Original Well Elev)
Reference Site:	H Section 25	MD Reference:	WELL @ 4846.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Emmy State H36-753	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
H Section 35						
HSR Foster 03-35 - Original Drilling - Original Drilling - As	0.00	0.00	4,696.39			
HSR Foster 03-35 - Original Drilling - Original Drilling - As	1,900.00	1,866.62	4,706.68	4,696.21	449.326	ES
HSR Foster 03-35 - Original Drilling - Original Drilling - As	11,400.00	11,400.00	6,422.10	6,344.92	83.217	SF
HSR Foster 04-35 - Wellbore #1 - Wellbore #1 - As Drille	164.42	144.44	6,185.04	6,184.48	10,000.000	CC
HSR Foster 04-35 - Wellbore #1 - Wellbore #1 - As Drille	1,200.00	1,150.54	6,187.29	6,180.90	967.270	ES
HSR Foster 04-35 - Wellbore #1 - Wellbore #1 - As Drille	11,921.61	11,921.61	8,261.70	8,178.11	98.837	SF
HSR Foster 05-35 - Wellbore #1 - Wellbore #1 - As Drille	347.03	336.03	6,382.29	6,380.66	3,906.118	CC
HSR Foster 05-35 - Wellbore #1 - Wellbore #1 - As Drille	2,000.00	1,946.50	6,387.73	6,376.75	581.567	ES
HSR Foster 05-35 - Wellbore #1 - Wellbore #1 - As Drille	11,921.61	6,663.99	7,350.67	7,281.08	105.622	SF
HSR Foster 06-35 - Original Drilling - Original Drilling - As	522.96	524.97	5,162.01	5,159.32	1,917.540	CC
HSR Foster 06-35 - Original Drilling - Original Drilling - As	700.00	683.78	5,162.32	5,158.68	1,417.509	ES
HSR Foster 06-35 - Original Drilling - Original Drilling - As	11,600.00	6,975.77	6,018.76	5,951.75	89.817	SF
UPRR 53 Pan Am Unit P1 - Original Drilling - Original Dri	426.48	424.49	3,121.75	3,119.63	1,470.076	CC
UPRR 53 Pan Am Unit P1 - Original Drilling - Original Dri	2,204.42	2,206.10	3,126.95	3,114.60	253.260	ES
UPRR 53 Pan Am Unit P1 - Original Drilling - Original Dri	9,500.00	6,973.25	3,527.66	3,475.12	67.135	SF
UPRR 53 Pan Am UT P2 - Original Drilling - Original Drill	0.00	0.00	5,161.84			
UPRR 53 Pan Am UT P2 - Original Drilling - Original Drill	1,700.00	1,662.95	5,163.34	5,154.03	554.794	ES
UPRR 53 Pan Am UT P2 - Original Drilling - Original Drill	11,400.00	6,811.21	6,702.41	6,639.69	106.865	SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Emmy State H36-753
Project:	Mustang	TVD Reference:	WELL @ 4846.00ft (Original Well Elev)
Reference Site:	H Section 25	MD Reference:	WELL @ 4846.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Emmy State H36-753	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
H Section 36						
Dechant 07-36 - Original Drilling - Original Drilling - As Dr	9,349.52	6,940.27	816.29	762.28	15.113	CC, ES
Dechant 07-36 - Original Drilling - Original Drilling - As Dr	9,500.00	6,940.97	830.04	774.00	14.811	SF
Dechant 13N-1HZ - Production Hole - Production Hole - A	11,921.61	6,739.00	1,838.72	1,765.17	25.000	CC, ES, SF
Dechant 13N-1HZ - Surface Hole - Surface Hole - As Dril	561.13	542.16	5,495.33	5,492.49	1,934.603	CC
Dechant 13N-1HZ - Surface Hole - Surface Hole - As Dril	600.00	574.89	5,495.35	5,492.31	1,806.667	ES
Dechant 13N-1HZ - Surface Hole - Surface Hole - As Dril	11,921.61	600.00	6,439.36	6,398.09	156.048	SF
Dechant 14C-1HZ - Production Hole - Production Hole - A	11,921.61	6,784.77	607.31	546.30	9.954	CC, ES, SF
Dechant 14C-1HZ - Surface Hole - Surface Hole - As Dril	247.36	231.37	5,498.05	5,497.00	5,209.311	CC
Dechant 14C-1HZ - Surface Hole - Surface Hole - As Dril	609.89	593.90	5,498.47	5,495.34	1,755.824	ES
Dechant 14C-1HZ - Surface Hole - Surface Hole - As Dril	11,921.61	610.00	6,420.55	6,379.25	155.454	SF
Dechant 15-36 - Original Drilling - Original Drilling - As Dr	11,802.75	6,961.03	833.54	740.50	8.959	CC, ES
Dechant 15-36 - Original Drilling - Original Drilling - As Dr	11,900.00	6,961.44	839.19	744.71	8.882	SF
Dechant 24-36 - Original Drilling - Original Drilling - As Dr	9,676.86	7,070.69	1,509.44	1,450.20	25.480	CC
Dechant 24-36 - Original Drilling - Original Drilling - As Dr	9,700.00	7,070.70	1,509.61	1,449.95	25.301	ES
Dechant 24-36 - Original Drilling - Original Drilling - As Dr	10,200.00	7,070.91	1,597.52	1,529.99	23.656	SF
Dechant 35N-E1HZ - Production Hole - Production Hole -	11,921.61	6,727.19	842.41	776.49	12.781	CC, ES, SF
Dechant 35N-E1HZ - Surface Hole - Surface Hole - As D	574.45	557.45	5,497.38	5,494.46	1,882.859	CC
Dechant 35N-E1HZ - Surface Hole - Surface Hole - As D	600.00	579.11	5,497.39	5,494.33	1,800.867	ES
Dechant 35N-E1HZ - Surface Hole - Surface Hole - As D	11,921.61	612.00	6,420.89	6,379.59	155.500	SF
Dechant 35N-W1HZ - Original Drilling - Original Drilling -	11,921.61	6,692.51	1,236.61	1,166.46	17.627	CC, ES, SF
Dechant 36N-W1HZ - Original Drilling - Original Drilling -	11,921.61	6,750.01	529.31	477.82	10.280	CC, ES, SF
Dechant 37N-E1HZ - Production Hole - Production Hole -	11,921.61	6,801.00	2,116.91	2,042.22	28.344	CC, ES, SF
Dechant 37N-E1HZ - Surface Hole - Surface Hole - As D	100.00	80.56	5,623.82	5,623.60	10,000.000	CC
Dechant 37N-E1HZ - Surface Hole - Surface Hole - As D	600.00	548.93	5,626.14	5,623.19	1,908.018	ES
Dechant 37N-E1HZ - Surface Hole - Surface Hole - As D	11,921.61	648.00	6,342.91	6,300.41	149.245	SF
Dechant 37N-W1HZ - Production Hole - Production Hole	11,921.61	7,194.80	1,371.00	1,293.97	17.798	CC, ES, SF
Dechant 37N-W1HZ - Surface Hole - Surface Hole - As D	0.00	0.00	5,649.43			
Dechant 37N-W1HZ - Surface Hole - Surface Hole - As D	700.00	655.00	5,649.75	5,646.21	1,596.262	ES
Dechant 37N-W1HZ - Surface Hole - Surface Hole - As D	11,921.61	655.00	6,338.44	6,295.91	149.030	SF
Dechant State 15C-1HZ - Wellbore #1 - As Drilled	7,429.04	6,982.03	920.35	880.76	23.246	CC
Dechant State 15C-1HZ - Wellbore #1 - As Drilled	11,921.61	11,435.76	975.89	869.01	9.130	ES, SF
Dechant State 16C-1HZ - Original Drilling - Original Drilling	7,271.33	6,953.01	2,093.87	2,052.51	50.635	CC, ES
Dechant State 16C-1HZ - Original Drilling - Original Drilling	11,921.61	11,706.97	2,248.19	2,108.73	16.121	SF
Dechant State 36N-E1HZ - Wellbore #1 - Wellbore #1	7,569.67	6,990.89	587.91	548.02	14.739	CC
Dechant State 36N-E1HZ - Wellbore #1 - Wellbore #1	11,921.10	11,288.20	621.86	514.10	5.771	ES
Dechant State 36N-E1HZ - Wellbore #1 - Wellbore #1	11,921.61	11,288.55	621.87	514.10	5.770	SF
Dechant State 37N-E36HZ - Wellbore #1 - As Drilled	7,226.93	6,817.98	1,869.44	1,830.83	48.410	CC, ES
Dechant State 37N-E36HZ - Wellbore #1 - As Drilled	11,921.61	11,466.00	1,972.52	1,863.56	18.104	SF
Dechant State 37N-W36HZ - Wellbore #1 - As Drilled	7,365.64	7,005.37	1,377.12	1,337.05	34.366	CC
Dechant State 37N-W36HZ - Wellbore #1 - As Drilled	11,921.61	11,474.87	1,431.58	1,322.54	13.129	ES, SF
Dechant State 38N-1HZ - Wellbore #1 - As Drilled	7,326.48	6,952.00	2,593.93	2,554.81	66.318	CC
Dechant State 38N-1HZ - Wellbore #1 - As Drilled	7,350.00	6,966.76	2,594.05	2,554.80	66.101	ES
Dechant State 38N-1HZ - Wellbore #1 - As Drilled	11,921.61	11,371.84	2,703.07	2,594.37	24.868	SF
Dechant State H36-11D - Original Drilling - Original Drilling	10,551.42	6,967.93	336.86	272.43	5.228	CC, ES, SF
Dechant State H36-18D - Dechant State H36-18D Gyros	8,494.54	7,148.95	196.91	146.80	3.929	CC
Dechant State H36-18D - Dechant State H36-18D Gyros	8,500.00	7,149.17	196.98	145.97	3.862	ES
Dechant State H36-18D - Dechant State H36-18D Gyros	8,600.00	7,153.15	223.33	152.85	3.169	SF
Dechant State H36-18D - Dechant State H36-18D OH - A	8,494.51	7,161.95	196.95	146.83	3.930	CC
Dechant State H36-18D - Dechant State H36-18D OH - A	8,500.00	7,162.17	197.02	146.00	3.862	ES
Dechant State H36-18D - Dechant State H36-18D OH - A	8,600.00	7,166.15	223.38	152.90	3.169	SF
Dechant State H36-19 - Original Drilling - Original Drilling	8,161.50	6,881.67	1,188.62	1,143.87	26.563	CC, ES
Dechant State H36-19 - Original Drilling - Original Drilling	8,200.00	6,882.52	1,189.24	1,144.41	26.531	SF
Dechant State H36-20D - Dechant State H36-20D Gyros	9,944.80	7,046.06	973.56	910.36	15.404	CC, ES

CC - Min centre to center distance or convergent 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 Emmy State H36-753
Project:	Mustang	TVD Reference:	WELL @ 4846.00ft (Original Well Elev)
Reference Site:	H Section 25	MD Reference:	WELL @ 4846.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Emmy State H36-753	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
H Section 36						
Dechant State H36-20D - Dechant State H36-20D Gyros	10,200.00	7,050.25	1,006.44	939.03	14.929	SF
Dechant State H36-20D - Dechant State H36-20D OH - A	9,944.81	7,059.06	973.55	910.35	15.404	CC, ES
Dechant State H36-20D - Dechant State H36-20D OH - A	10,200.00	7,063.25	1,006.44	939.02	14.929	SF
Dechant State H36-21D - Dechant State H36-21D Gyros	9,920.32	7,034.37	236.72	171.57	3.633	CC, ES, SF
Dechant State H36-21D - Dechant State H36-21D OH - A	9,920.34	7,047.37	236.69	171.54	3.633	CC, ES, SF
Dechant State H36-24 - Original Drilling - Original Drilling	11,117.99	7,126.54	313.28	242.23	4.410	CC, ES, SF
Dechant State H36-31D - Dechant State H36-31D OH - A	1,085.97	1,071.96	1,539.23	1,534.53	327.244	CC
Dechant State H36-31D - Dechant State H36-31D OH - A	1,100.00	1,079.44	1,539.25	1,534.49	323.340	ES
Dechant State H36-31D - Dechant State H36-31D OH - A	9,100.00	7,144.17	2,269.33	2,217.30	43.619	SF
Dechant State H36-32D - Dechant State H36-32D Gyros	9,779.31	6,950.00	2,202.88	2,139.70	34.869	CC, ES
Dechant State H36-32D - Dechant State H36-32D Gyros	9,900.00	6,950.00	2,206.18	2,142.77	34.794	SF
Dechant State H36-32D - Dechant State H36-32D OH - A	9,780.33	7,033.52	2,201.97	2,138.52	34.706	CC, ES
Dechant State H36-32D - Dechant State H36-32D OH - A	9,900.00	7,036.48	2,205.22	2,141.53	34.625	SF
Dechant State H36-33 - Dechant State H36-33D Gyros -	10,996.11	7,059.10	2,138.90	2,070.60	31.315	CC
Dechant State H36-33 - Dechant State H36-33D Gyros -	11,000.00	7,059.09	2,138.91	2,070.59	31.311	ES
Dechant State H36-33 - Dechant State H36-33D Gyros -	11,800.00	7,056.45	2,284.98	2,209.64	30.329	SF
Dechant State H36-33 - Dechant State H36-33D OH - As	10,996.14	7,072.10	2,138.89	2,070.59	31.315	CC
Dechant State H36-33 - Dechant State H36-33D OH - As	11,000.00	7,072.09	2,138.90	2,070.58	31.311	ES
Dechant State H36-33 - Dechant State H36-33D OH - As	11,800.00	7,069.45	2,284.96	2,209.62	30.329	SF
HSR Dechant State 01-36 - Wellbore #1 - As Drilled	7,406.44	6,920.84	2,418.10	2,376.69	58.385	CC, ES
HSR Dechant State 01-36 - Wellbore #1 - As Drilled	8,600.00	6,927.59	2,659.66	2,610.25	53.826	SF
HSR Dechant State 02-36 - Original Drilling - Original Dri	7,527.42	6,937.07	708.32	666.50	16.938	CC, ES
HSR Dechant State 02-36 - Original Drilling - Original Dri	7,600.00	6,938.46	712.02	669.61	16.786	SF
HSR Dechant/State 07-36 (PA) - Original Drilling - Origina	8,782.51	6,949.00	1,348.95	1,184.52	8.204	CC
HSR Dechant/State 07-36 (PA) - Original Drilling - Origina	8,800.00	6,949.00	1,349.06	1,184.43	8.195	ES
HSR Dechant/State 07-36 (PA) - Original Drilling - Origina	8,900.00	6,949.00	1,354.05	1,188.29	8.169	SF
Spike State GWS H36-03 - Original Drilling - Original Dril	7,771.82	6,951.13	190.12	147.26	4.435	CC, ES, SF
Spike State GWS H36-04 - Original Drilling - Original Dril	0.00	0.00	1,174.28			
Spike State GWS H36-04 - Original Drilling - Original Dril	2,300.00	2,291.08	1,180.73	1,167.89	91.978	ES
Spike State GWS H36-04 - Original Drilling - Original Dril	7,900.00	6,924.30	1,704.72	1,653.97	33.586	SF
Spike State GWS H36-13 - Original Drilling - Original Dril	11,742.80	7,447.51	1,635.56	1,557.13	20.855	CC, ES
Spike State GWS H36-13 - Original Drilling - Original Dril	11,900.00	7,401.34	1,642.44	1,563.31	20.755	SF
Spike State GWS H36-14 - Original Drilling - Original Dril	11,900.00	6,972.94	63.82	-13.37	0.827	Level 1, ES, SF
Spike State GWS H36-14 - Original Drilling - Original Dril	11,905.01	6,972.68	63.62	-13.16	0.829	Level 1, CC
Spike State H36-02J - Original Drilling - Original Drilling -	8,824.52	6,963.79	711.42	628.41	8.571	CC, ES, SF
Spike State H36-05 - Original Drilling - Original Drilling - A	9,013.28	6,919.17	1,714.39	1,663.35	33.587	CC, ES
Spike State H36-05 - Original Drilling - Original Drilling - A	9,200.00	6,919.24	1,724.53	1,672.80	33.336	SF
Spike State H36-11J - Original Drilling - Original Drilling -	11,163.01	6,972.43	920.41	850.53	13.171	CC, ES, SF
Spike State H36-12 - Original Drilling - Original Drilling - A	10,283.12	6,969.31	1,811.98	1,750.03	29.247	CC
Spike State H36-12 - Original Drilling - Original Drilling - A	10,300.00	6,969.12	1,812.06	1,750.02	29.210	ES
Spike State H36-12 - Original Drilling - Original Drilling - A	10,500.00	6,966.74	1,824.91	1,762.12	29.061	SF
X Section 01						
Dechant USX X1-6 - Wellbore #1 - As Drilled	11,921.61	7,151.69	2,114.59	2,064.17	41.939	CC, ES, SF
Dechant USX X1-7 - Wellbore #1 - As Drilled	11,921.61	7,033.99	2,822.33	2,779.90	66.526	CC, ES, SF
Dechant X01-02 - Wellbore #1 - As Drilled	11,921.61	7,028.65	1,439.88	1,384.13	25.828	CC, ES, SF
Dechant X01-03 - Wellbore #1 - Wellbore #1	11,921.61	6,999.83	1,255.08	1,206.21	25.682	CC, ES, SF
Dechant X01-04 - Wellbore #1 - As Drilled	11,921.61	6,984.27	1,911.54	1,838.90	26.314	CC, ES, SF
Dechant X01-06 - Wellbore #1 - As Drilled	11,921.61	6,988.44	2,614.94	2,571.04	59.558	CC, ES, SF
Dechant X12-01 - Wellbore #1 - As Drilled	11,921.61	7,127.70	2,953.78	2,888.72	45.398	CC, ES, SF

Noble Energy, Inc.
Anticollision Summary Report

Company:	Northern Region - DJ Basin	Local Co-ordinate Reference:	Well Emmy State H36-753
Project:	Mustang	TVD Reference:	WELL @ 4846.00ft (Original Well Elev)
Reference Site:	H Section 25	MD Reference:	WELL @ 4846.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Emmy State H36-753	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMP
Reference Design:	Plan #3	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
X Section 02						
Greenleaf 1C-2HZ - Original Hole - As-Drilled	11,921.61	12,178.00	2,876.10	2,748.10	22.469	CC, ES, SF
Greenleaf 1N-2HZ - Original Hole - As-Drilled	11,921.61	11,854.00	3,444.35	3,313.86	26.395	CC, ES, SF
Greenleaf 26N-2HZ - Original Hole - As-Drilled	11,921.61	11,967.00	2,648.29	2,524.16	21.335	CC, ES, SF
Greenleaf 27N-2HZ - Original Hole - As-Drilled	11,921.61	11,754.00	4,206.55	4,073.07	31.514	CC, ES, SF
Greenleaf 28C-2HZ - Original Hole - Original Hole	11,921.61	12,005.00	4,954.73	4,819.23	36.566	CC, ES, SF
Greenleaf 29C-2HZ - Original Hole - Original Hole	11,921.61	12,733.00	6,079.39	5,937.64	42.888	CC, ES, SF
Greenleaf 29N-2HZ - Original Hole - Original Hole	11,921.61	12,533.00	6,318.35	6,177.74	44.933	CC, ES, SF
Greenleaf 2N-2HZ - Original Hole - Original Hole	11,921.61	12,018.00	4,808.32	4,671.96	35.261	CC, ES, SF
Greenleaf 30N-2HZ - Original Hole - Original Hole	11,921.61	11,541.00	7,425.20	7,291.72	55.628	CC, ES, SF
Greenleaf 3N-2HZR - Original Hole - Original Hole	11,921.61	12,432.00	5,352.92	5,214.81	38.758	CC, ES, SF
Greenleaf 4N-2HZ - Original Hole - Original Hole	11,921.61	12,764.00	6,622.77	6,481.18	46.775	CC, ES, SF
Harkis 11-02 - Original Drilling - Original Drilling - As Drille	11,921.61	6,869.20	7,018.48	6,941.54	91.218	CC, ES, SF
Harkis 31-2 - Original Hole - As-Drilled	11,921.61	7,021.33	4,336.24	4,258.77	55.978	CC, ES, SF
Pioneer 1-2 - Original Hole - As-Drilled	11,921.61	7,216.75	2,973.17	2,865.00	27.484	CC, ES, SF
Pioneer 3-2 - Original Hole - Original Hole	11,921.61	7,262.52	5,568.97	5,449.70	46.693	CC, ES, SF
Pioneer 3-2 - Surface Gyros - Surface Gyros	11,921.61	7,245.52	5,569.03	5,448.08	46.043	CC, ES, SF