Project: Mustang
Site: H Section 25
Well: Emmy State H36-753
Wellbore: Wellbore #1
Design: Plan #2

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

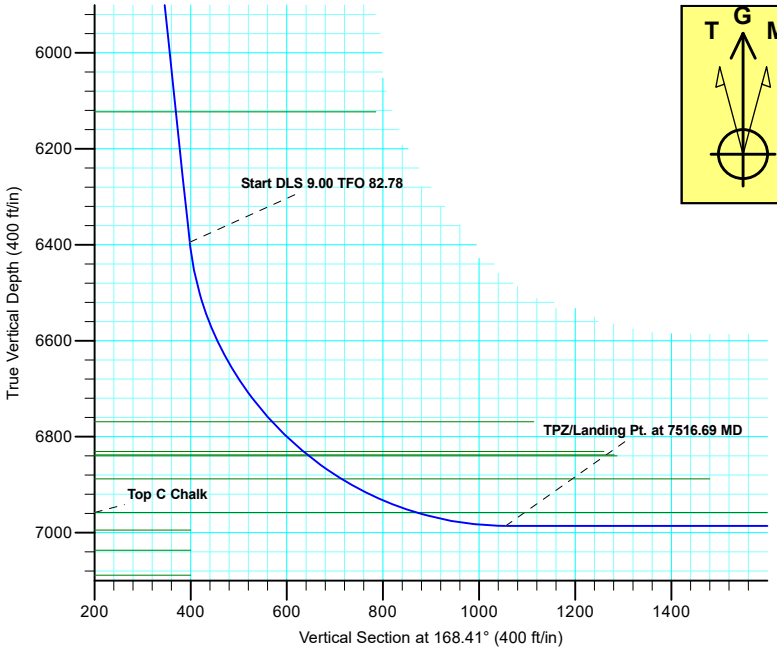
SECTION DETAILS

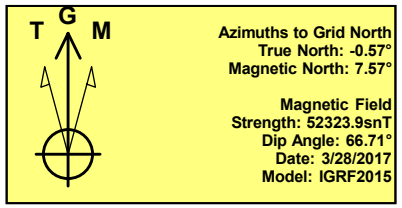
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	0.00	0.00
3	2991.05	15.82	100.12	2981.03	-19.08	106.83	2.00	100.12	40.15
4	6539.35	15.82	100.12	6394.92	-189.12	1059.15	0.00	0.00	398.04
5	7516.69	90.00	182.62	6986.00	-832.27	1195.93	9.00	82.78	1055.56
6	9885.76	90.00	182.62	6986.00	-3198.86	1087.55	0.00	0.00	3352.13
7	9988.91	90.00	180.56	6986.00	-3301.97	1084.69	2.00	-90.00	3452.56
8	11885.88	90.00	180.56	6986.00	-5198.85	1066.18	0.00	0.00	5307.05

WELL DETAILS: Emmy State H36-753

Ground Level: 4816.00

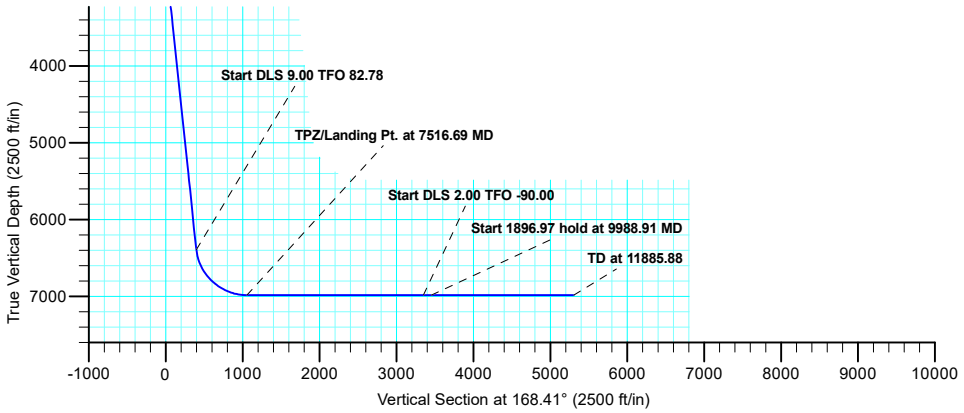
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1313321.53	3246774.20	40.1900899	-104.6166700	

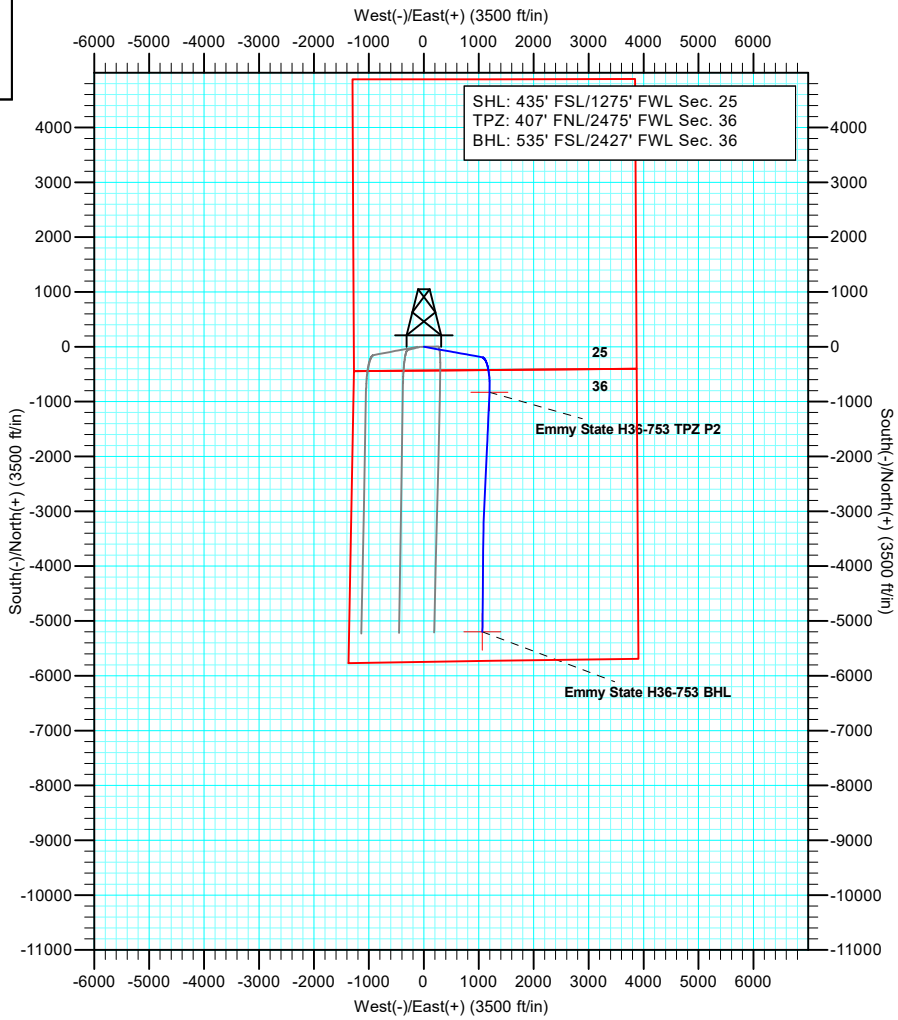




Azimuths to Grid North
True North: -0.57°
Magnetic North: 7.57°

Magnetic Field
Strength: 52323.9snT
Dip Angle: 66.71°
Date: 3/28/2017
Model: IGRF2015





Plan: Plan #2 (Emmy State H36-753/Wellbore #1)

Created By: Shelly C. Peterkin Date: 13:48, May 29 2019

Northern Region - DJ Basin

Mustang
H Section 25
Emmy State H36-753

Wellbore #1

Plan: Plan #2

Standard Planning Report

29 May, 2019

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 #2		

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	**Latitude:**	40.1900900
	+E/-W	904.64 ft	**Easting:**	3,246,774.21 usft	**Longitude:**	-104.6166700
Position Uncertainty		0.00 ft	**Wellhead Elevation:**		**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 #2

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	168.41

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	
2,991.05	15.82	100.12	2,981.03	-19.08	106.83	2.00	2.00	0.00	100.12	
6,539.35	15.82	100.12	6,394.92	-189.12	1,059.15	0.00	0.00	0.00	0.00	
7,516.69	90.00	182.62	6,986.00	-832.27	1,195.93	9.00	7.59	8.44	82.78	Emmy State H36-753
9,885.76	90.00	182.62	6,986.00	-3,198.86	1,087.55	0.00	0.00	0.00	0.00	Emmy State H36-753
9,988.91	90.00	180.56	6,986.00	-3,301.97	1,084.69	2.00	0.00	-2.00	-90.00	
11,885.88	90.00	180.56	6,986.00	-5,198.85	1,066.18	0.00	0.00	0.00	0.00	Emmy State H36-753

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 #2		

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	100.12	2,299.98	-0.31	1.72	0.65	2.00	2.00	0.00
2,400.00	4.00	100.12	2,399.84	-1.23	6.87	2.58	2.00	2.00	0.00
2,500.00	6.00	100.12	2,499.45	-2.76	15.45	5.81	2.00	2.00	0.00
2,600.00	8.00	100.12	2,598.70	-4.90	27.45	10.31	2.00	2.00	0.00
2,700.00	10.00	100.12	2,697.47	-7.65	42.84	16.10	2.00	2.00	0.00
2,800.00	12.00	100.12	2,795.62	-11.00	61.63	23.16	2.00	2.00	0.00
2,900.00	14.00	100.12	2,893.06	-14.96	83.77	31.48	2.00	2.00	0.00
2,991.05	15.82	100.12	2,981.03	-19.08	106.83	40.15	2.00	2.00	0.00
Start 3548.31 hold at 2991.05 MD									
3,000.00	15.82	100.12	2,989.65	-19.50	109.24	41.05	0.00	0.00	0.00
3,100.00	15.82	100.12	3,085.86	-24.30	136.07	51.14	0.00	0.00	0.00
3,200.00	15.82	100.12	3,182.07	-29.09	162.91	61.23	0.00	0.00	0.00
3,300.00	15.82	100.12	3,278.28	-33.88	189.75	71.31	0.00	0.00	0.00
3,400.00	15.82	100.12	3,374.49	-38.67	216.59	81.40	0.00	0.00	0.00
3,500.00	15.82	100.12	3,470.71	-43.47	243.43	91.48	0.00	0.00	0.00
3,600.00	15.82	100.12	3,566.92	-48.26	270.27	101.57	0.00	0.00	0.00
3,700.00	15.82	100.12	3,663.13	-53.05	297.11	111.66	0.00	0.00	0.00
3,800.00	15.82	100.12	3,759.34	-57.84	323.95	121.74	0.00	0.00	0.00
3,900.00	15.82	100.12	3,855.55	-62.63	350.78	131.83	0.00	0.00	0.00
3,924.37	15.82	100.12	3,879.00	-63.80	357.32	134.29	0.00	0.00	0.00
Parkman									
4,000.00	15.82	100.12	3,951.77	-67.43	377.62	141.92	0.00	0.00	0.00
4,100.00	15.82	100.12	4,047.98	-72.22	404.46	152.00	0.00	0.00	0.00

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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 #2		

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	15.82	100.12	4,144.19	-77.01	431.30	162.09	0.00	0.00	0.00
4,300.00	15.82	100.12	4,240.40	-81.80	458.14	172.18	0.00	0.00	0.00
4,400.00	15.82	100.12	4,336.61	-86.60	484.98	182.26	0.00	0.00	0.00
4,500.00	15.82	100.12	4,432.82	-91.39	511.82	192.35	0.00	0.00	0.00
4,538.64	15.82	100.12	4,470.00	-93.24	522.19	196.25	0.00	0.00	0.00
Sussex									
4,600.00	15.82	100.12	4,529.04	-96.18	538.65	202.43	0.00	0.00	0.00
4,700.00	15.82	100.12	4,625.25	-100.97	565.49	212.52	0.00	0.00	0.00
4,800.00	15.82	100.12	4,721.46	-105.76	592.33	222.61	0.00	0.00	0.00
4,900.00	15.82	100.12	4,817.67	-110.56	619.17	232.69	0.00	0.00	0.00
5,000.00	15.82	100.12	4,913.88	-115.35	646.01	242.78	0.00	0.00	0.00
5,100.00	15.82	100.12	5,010.10	-120.14	672.85	252.87	0.00	0.00	0.00
5,200.00	15.82	100.12	5,106.31	-124.93	699.69	262.95	0.00	0.00	0.00
5,247.49	15.82	100.12	5,152.00	-127.21	712.43	267.74	0.00	0.00	0.00
Shannon									
5,300.00	15.82	100.12	5,202.52	-129.73	726.53	273.04	0.00	0.00	0.00
5,400.00	15.82	100.12	5,298.73	-134.52	753.36	283.13	0.00	0.00	0.00
5,500.00	15.82	100.12	5,394.94	-139.31	780.20	293.21	0.00	0.00	0.00
5,600.00	15.82	100.12	5,491.15	-144.10	807.04	303.30	0.00	0.00	0.00
5,700.00	15.82	100.12	5,587.37	-148.89	833.88	313.38	0.00	0.00	0.00
5,800.00	15.82	100.12	5,683.58	-153.69	860.72	323.47	0.00	0.00	0.00
5,900.00	15.82	100.12	5,779.79	-158.48	887.56	333.56	0.00	0.00	0.00
6,000.00	15.82	100.12	5,876.00	-163.27	914.40	343.64	0.00	0.00	0.00
6,100.00	15.82	100.12	5,972.21	-168.06	941.23	353.73	0.00	0.00	0.00
6,200.00	15.82	100.12	6,068.43	-172.86	968.07	363.82	0.00	0.00	0.00
6,256.72	15.82	100.12	6,123.00	-175.57	983.30	369.54	0.00	0.00	0.00
Teepee Buttes									
6,300.00	15.82	100.12	6,164.64	-177.65	994.91	373.90	0.00	0.00	0.00
6,400.00	15.82	100.12	6,260.85	-182.44	1,021.75	383.99	0.00	0.00	0.00
6,500.00	15.82	100.12	6,357.06	-187.23	1,048.59	394.08	0.00	0.00	0.00
6,539.35	15.82	100.12	6,394.92	-189.12	1,059.15	398.04	0.00	0.00	0.00
Start DLS 9.00 TFO 82.78									
6,550.00	15.97	103.58	6,405.16	-189.72	1,062.00	399.20	9.00	1.39	32.47
6,600.00	17.35	118.57	6,453.09	-194.90	1,075.24	406.94	9.00	2.76	29.98
6,650.00	19.66	130.78	6,500.52	-203.96	1,088.17	418.42	9.00	4.62	24.42
6,700.00	22.62	140.22	6,547.16	-216.85	1,100.70	433.56	9.00	5.91	18.88
6,750.00	26.00	147.45	6,592.73	-233.49	1,112.75	452.28	9.00	6.76	14.46
6,800.00	29.66	153.06	6,636.95	-253.77	1,124.26	474.46	9.00	7.32	11.23
6,850.00	33.51	157.52	6,679.54	-277.56	1,135.14	499.95	9.00	7.70	8.91
6,900.00	37.49	161.14	6,720.24	-304.73	1,145.35	528.62	9.00	7.96	7.24
6,950.00	41.57	164.15	6,758.80	-335.10	1,154.80	560.27	9.00	8.14	6.02
6,963.76	42.70	164.90	6,769.00	-344.00	1,157.26	569.48	9.00	8.24	5.41
Sharon Springs									
7,000.00	45.70	166.71	6,794.98	-368.49	1,163.45	594.71	9.00	8.29	5.01
7,050.00	49.89	168.93	6,828.56	-404.69	1,171.23	631.74	9.00	8.38	4.44
7,053.80	50.21	169.09	6,831.00	-407.55	1,171.79	634.65	9.00	8.42	4.14
Top A Chalk									
7,064.84	51.14	169.54	6,838.00	-415.95	1,173.37	643.19	9.00	8.43	4.07
Top A Marl									
7,068.04	51.41	169.67	6,840.00	-418.40	1,173.82	645.69	9.00	8.44	4.00
Top B Chalk									
7,100.00	54.12	170.90	6,859.34	-443.48	1,178.11	671.12	9.00	8.46	3.84
7,150.00	58.37	172.66	6,887.11	-484.61	1,184.04	712.60	9.00	8.51	3.53

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Site:	H Section 25	**North Reference:**	Grid
Well:	Emmy State H36-753	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2		

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)
7,151.70	58.52	172.72	6,888.00	-486.05	1,184.22	714.05	9.00	8.53	3.35
Top B Marl									
7,200.00	62.65	174.27	6,911.72	-527.84	1,188.98	755.94	9.00	8.55	3.21
7,250.00	66.95	175.75	6,933.00	-572.90	1,192.90	800.87	9.00	8.59	2.98
7,300.00	71.25	177.15	6,950.84	-619.51	1,195.78	847.11	9.00	8.61	2.79
7,323.51	73.28	177.78	6,958.00	-641.88	1,196.77	869.22	9.00	8.63	2.68
Top C Chalk									
7,350.00	75.57	178.48	6,965.11	-667.38	1,197.61	894.37	9.00	8.64	2.62
7,400.00	79.89	179.75	6,975.73	-716.22	1,198.36	942.36	9.00	8.65	2.55
7,450.00	84.22	180.99	6,982.64	-765.73	1,198.03	990.80	9.00	8.66	2.48
7,500.00	88.55	182.22	6,985.79	-815.59	1,196.63	1,039.37	9.00	8.66	2.45
7,516.69	90.00	182.62	6,986.00	-832.27	1,195.93	1,055.56	9.00	8.66	2.43
TPZ/Landing Pt. at 7516.69 MD									
7,600.00	90.00	182.62	6,986.00	-915.49	1,192.12	1,136.32	0.00	0.00	0.00
7,700.00	90.00	182.62	6,986.00	-1,015.39	1,187.54	1,233.26	0.00	0.00	0.00
7,800.00	90.00	182.62	6,986.00	-1,115.28	1,182.97	1,330.20	0.00	0.00	0.00
7,900.00	90.00	182.62	6,986.00	-1,215.18	1,178.39	1,427.14	0.00	0.00	0.00
8,000.00	90.00	182.62	6,986.00	-1,315.07	1,173.82	1,524.08	0.00	0.00	0.00
8,100.00	90.00	182.62	6,986.00	-1,414.97	1,169.24	1,621.02	0.00	0.00	0.00
8,200.00	90.00	182.62	6,986.00	-1,514.86	1,164.67	1,717.96	0.00	0.00	0.00
8,300.00	90.00	182.62	6,986.00	-1,614.76	1,160.09	1,814.90	0.00	0.00	0.00
8,400.00	90.00	182.62	6,986.00	-1,714.65	1,155.52	1,911.84	0.00	0.00	0.00
8,500.00	90.00	182.62	6,986.00	-1,814.55	1,150.95	2,008.78	0.00	0.00	0.00
8,600.00	90.00	182.62	6,986.00	-1,914.44	1,146.37	2,105.72	0.00	0.00	0.00
8,700.00	90.00	182.62	6,986.00	-2,014.34	1,141.80	2,202.66	0.00	0.00	0.00
8,800.00	90.00	182.62	6,986.00	-2,114.23	1,137.22	2,299.59	0.00	0.00	0.00
8,900.00	90.00	182.62	6,986.00	-2,214.13	1,132.65	2,396.53	0.00	0.00	0.00
9,000.00	90.00	182.62	6,986.00	-2,314.02	1,128.07	2,493.47	0.00	0.00	0.00
9,100.00	90.00	182.62	6,986.00	-2,413.92	1,123.50	2,590.41	0.00	0.00	0.00
9,200.00	90.00	182.62	6,986.00	-2,513.81	1,118.92	2,687.35	0.00	0.00	0.00
9,300.00	90.00	182.62	6,986.00	-2,613.71	1,114.35	2,784.29	0.00	0.00	0.00
9,400.00	90.00	182.62	6,986.00	-2,713.61	1,109.77	2,881.23	0.00	0.00	0.00
9,500.00	90.00	182.62	6,986.00	-2,813.50	1,105.20	2,978.17	0.00	0.00	0.00
9,600.00	90.00	182.62	6,986.00	-2,913.40	1,100.62	3,075.11	0.00	0.00	0.00
9,700.00	90.00	182.62	6,986.00	-3,013.29	1,096.05	3,172.05	0.00	0.00	0.00
9,800.00	90.00	182.62	6,986.00	-3,113.19	1,091.47	3,268.99	0.00	0.00	0.00
9,885.76	90.00	182.62	6,986.00	-3,198.86	1,087.55	3,352.13	0.00	0.00	0.00
Start DLS 2.00 TFO -90.00									
9,900.00	90.00	182.34	6,986.00	-3,213.08	1,086.93	3,365.94	2.00	0.00	-2.00
9,988.91	90.00	180.56	6,986.00	-3,301.97	1,084.69	3,452.56	2.00	0.00	-2.00
Start 1896.97 hold at 9988.91 MD									
10,000.00	90.00	180.56	6,986.00	-3,313.05	1,084.58	3,463.40	0.00	0.00	0.00
10,100.00	90.00	180.56	6,986.00	-3,413.05	1,083.60	3,561.16	0.00	0.00	0.00
10,200.00	90.00	180.56	6,986.00	-3,513.04	1,082.63	3,658.92	0.00	0.00	0.00
10,300.00	90.00	180.56	6,986.00	-3,613.04	1,081.65	3,756.68	0.00	0.00	0.00
10,400.00	90.00	180.56	6,986.00	-3,713.03	1,080.68	3,854.44	0.00	0.00	0.00
10,500.00	90.00	180.56	6,986.00	-3,813.03	1,079.70	3,952.20	0.00	0.00	0.00
10,600.00	90.00	180.56	6,986.00	-3,913.02	1,078.72	4,049.96	0.00	0.00	0.00
10,700.00	90.00	180.56	6,986.00	-4,013.02	1,077.75	4,147.72	0.00	0.00	0.00
10,800.00	90.00	180.56	6,986.00	-4,113.01	1,076.77	4,245.48	0.00	0.00	0.00
10,900.00	90.00	180.56	6,986.00	-4,213.01	1,075.80	4,343.24	0.00	0.00	0.00
11,000.00	90.00	180.56	6,986.00	-4,313.00	1,074.82	4,441.00	0.00	0.00	0.00
11,100.00	90.00	180.56	6,986.00	-4,413.00	1,073.85	4,538.76	0.00	0.00	0.00

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 #2		

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	180.56	6,986.00	-4,512.99	1,072.87	4,636.52	0.00	0.00	0.00
11,300.00	90.00	180.56	6,986.00	-4,612.99	1,071.89	4,734.28	0.00	0.00	0.00
11,400.00	90.00	180.56	6,986.00	-4,712.98	1,070.92	4,832.04	0.00	0.00	0.00
11,500.00	90.00	180.56	6,986.00	-4,812.98	1,069.94	4,929.80	0.00	0.00	0.00
11,600.00	90.00	180.56	6,986.00	-4,912.97	1,068.97	5,027.56	0.00	0.00	0.00
11,700.00	90.00	180.56	6,986.00	-5,012.97	1,067.99	5,125.32	0.00	0.00	0.00
11,800.00	90.00	180.56	6,986.00	-5,112.97	1,067.02	5,223.08	0.00	0.00	0.00
11,885.88	90.00	180.56	6,986.00	-5,198.85	1,066.18	5,307.05	0.00	0.00	0.00
TD at 11885.88									

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
Emmy State H36-753 BH - plan hits target center - Point	0.00	0.00	6,986.00	-5,198.85	1,066.18	1,308,122.69	3,247,840.38	40.1757900	-104.6130400
Emmy State H36-753 TH - plan hits target center - Point	0.00	0.00	6,986.00	-832.27	1,195.93	1,312,489.26	3,247,970.13	40.1877726	-104.6124193

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			
3,924.37	3,879.00	Parkman			
4,538.64	4,470.00	Sussex			
5,247.49	5,152.00	Shannon			
6,256.72	6,123.00	Teepee Buttes			
6,963.76	6,769.00	Sharon Springs			
7,053.80	6,831.00	Top A Chalk			
7,064.84	6,838.00	Top A Marl			
7,068.04	6,840.00	Top B Chalk			
7,151.70	6,888.00	Top B Marl			
7,323.51	6,958.00	Top C Chalk			

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 #2		

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
2,200.00	2,200.00	0.00	0.00	Start Build 2.00
2,991.05	2,981.03	-19.08	106.83	Start 3548.31 hold at 2991.05 MD
6,539.35	6,394.92	-189.12	1,059.15	Start DLS 9.00 TFO 82.78
7,516.69	6,986.00	-832.27	1,195.93	TPZ/Landing Pt. at 7516.69 MD
9,885.76	6,986.00	-3,198.86	1,087.55	Start DLS 2.00 TFO -90.00
9,988.91	6,986.00	-3,301.97	1,084.69	Start 1896.97 hold at 9988.91 MD
11,885.88	6,986.00	-5,198.85	1,066.18	TD at 11885.88

Northern Region - DJ Basin

Mustang
H Section 25
Emmy State H36-753

Wellbore #1
Plan #2

Anticollision Summary Report

29 May, 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 #2	**Offset TVD Reference:**	Offset Datum

Reference	Plan #2		
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** 5/29/2019

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	11,885.88	Plan #2 (Wellbore #1)	MWD+IFR1+MS_WY	Fixed:v2:Rockies, crustal dec + 3-axis correction

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 31						
Dechant 1-31A (PR) - Wellbore #1 - Gyro Surveys	11,340.05	6,743.36	3,862.83	3,791.23	53.945	CC
Dechant 1-31A (PR) - Wellbore #1 - Gyro Surveys	11,400.00	6,742.74	3,863.30	3,791.02	53.447	ES
Dechant 1-31A (PR) - Wellbore #1 - Gyro Surveys	11,885.88	6,737.61	3,901.20	3,823.82	50.412	SF
Dechant D 31-22D (PR) - Wellbore #1 - Gyro Surveys	9,327.90	7,018.14	6,423.81	6,365.45	110.089	CC
Dechant D 31-22D (PR) - Wellbore #1 - Gyro Surveys	9,400.00	7,018.39	6,424.21	6,365.11	108.707	ES
Dechant D 31-22D (PR) - Wellbore #1 - Gyro Surveys	11,885.88	7,026.94	6,848.78	6,765.29	82.028	SF
Dechant D31-18D (PR) - Wellbore #1 - As Drilled	8,167.94	7,205.23	5,066.02	5,004.87	82.834	CC
Dechant D31-18D (PR) - Wellbore #1 - As Drilled	8,200.00	7,206.16	5,066.13	5,004.67	82.430	ES
Dechant D31-18D (PR) - Wellbore #1 - As Drilled	10,900.00	7,332.60	5,723.83	5,637.86	66.577	SF
Dechant D31-21D(PR) - Wellbore #1 - As Drilled	9,309.14	6,992.10	5,390.55	5,333.86	95.087	CC
Dechant D31-21D(PR) - Wellbore #1 - As Drilled	9,400.00	6,993.61	5,391.31	5,333.69	93.566	ES
Dechant D31-21D(PR) - Wellbore #1 - As Drilled	11,885.88	7,034.89	5,910.85	5,830.36	73.429	SF
Dechant D31-24D (PR) - Wellbore #1 - Gyro Surveys	10,862.48	7,191.92	5,366.27	5,295.98	76.341	CC
Dechant D31-24D (PR) - Wellbore #1 - Gyro Surveys	10,900.00	7,193.89	5,366.40	5,295.68	75.883	ES
Dechant D31-24D (PR) - Wellbore #1 - Gyro Surveys	11,885.88	7,245.69	5,462.72	5,381.46	67.220	SF
Dechant D31-31D (SI) - Dechant D31-31D Gyros - As-Dr	8,400.13	7,000.00	2,798.00	2,737.35	46.132	CC, ES
Dechant D31-31D (SI) - Dechant D31-31D Gyros - As-Dr	9,400.00	7,000.00	2,971.28	2,899.81	41.571	SF
Dechant D31-31D (SI) - Dechant D31-31D OH - As-Drille	8,400.12	7,087.90	2,797.13	2,736.49	46.132	CC, ES
Dechant D31-31D (SI) - Dechant D31-31D OH - As-Drille	9,400.00	7,092.71	2,970.47	2,899.02	41.578	SF
Dechant State D31-32 (SI) - Wellbore #1 - As-Drilled	9,377.78	6,966.48	3,167.02	3,112.07	57.636	CC
Dechant State D31-32 (SI) - Wellbore #1 - As-Drilled	9,400.00	6,966.80	3,167.10	3,111.91	57.388	ES
Dechant State D31-32 (SI) - Wellbore #1 - As-Drilled	10,700.00	6,986.63	3,406.40	3,339.10	50.616	SF
Dechant Y 06-27D (PR) - Wellbore #1 - As Drilled	11,885.88	6,987.39	6,628.04	6,548.02	82.823	CC, ES, SF
Dechant Y 06-28D (PR) - Wellbore #1 - As Drilled	11,885.88	7,044.15	5,425.36	5,344.83	67.372	CC, ES, SF
Riva Blue 31-15 (PR) - Wellbore #1 - Gyro Surveys	11,300.85	6,908.88	5,966.90	5,895.30	83.341	CC
Riva Blue 31-15 (PR) - Wellbore #1 - Gyro Surveys	11,800.00	11,800.00	5,987.74	5,893.78	63.731	ES
Riva Blue 31-15 (PR) - Wellbore #1 - Gyro Surveys	11,885.88	11,885.88	5,995.51	5,900.38	63.025	SF
Riva Blue 31-16 (PR) - Wellbore #1 - Gyro Surveys	11,514.66	6,936.75	7,007.33	6,933.70	95.181	CC
Riva Blue 31-16 (PR) - Wellbore #1 - Gyro Surveys	11,600.00	6,935.87	7,007.84	6,933.34	94.057	ES
Riva Blue 31-16 (PR) - Wellbore #1 - Gyro Surveys	11,885.88	6,932.82	7,017.15	6,939.72	90.620	SF
Riva Blue 31-9 (PR) - Wellbore #1 - Gyro Surveys	10,261.97	6,854.94	7,032.82	6,970.68	113.178	CC
Riva Blue 31-9 (PR) - Wellbore #1 - Gyro Surveys	10,300.00	6,855.18	7,032.92	6,970.40	112.496	ES
Riva Blue 31-9 (PR) - Wellbore #1 - Gyro Surveys	11,885.88	6,864.67	7,217.86	7,140.21	92.951	SF
Riva Blue D 31-04J (PR) - Wellbore #1 - Gyro Surveys	10,603.57	6,818.85	6,263.42	6,198.35	96.254	CC
Riva Blue D 31-04J (PR) - Wellbore #1 - Gyro Surveys	10,700.00	6,821.25	6,264.16	6,198.10	94.819	ES
Riva Blue D 31-04J (PR) - Wellbore #1 - Gyro Surveys	11,885.88	6,853.25	6,393.20	6,315.54	82.321	SF
Riva Blue D 31-11 (PR) - Wellbore #1 - Gyro Surveys	10,126.30	6,902.17	4,927.73	4,864.98	78.527	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 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 #2	**Offset TVD Reference:**	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
D Section 31						
Riva Blue D 31-11 (PR) - Wellbore #1 - Gyro Surveys	10,200.00	6,901.02	4,928.28	4,864.77	77.600	ES
Riva Blue D 31-11 (PR) - Wellbore #1 - Gyro Surveys	11,885.88	6,874.84	5,232.39	5,153.61	66.416	SF
Riva Blue D 31-12 (SI) - Wellbore #1 - Gyro Surveys	10,289.11	6,948.98	3,298.69	3,236.02	52.635	CC
Riva Blue D 31-12 (SI) - Wellbore #1 - Gyro Surveys	10,300.00	6,949.21	3,298.71	3,235.91	52.532	ES
Riva Blue D 31-12 (SI) - Wellbore #1 - Gyro Surveys	11,500.00	6,977.75	3,513.85	3,439.81	47.463	SF
Riva Blue D31-14 (PR) - Wellbore #1 - Gyro Surveys	11,885.88	6,918.77	4,792.95	4,716.01	62.296	CC, ES, SF
Riva D 31-10 (PR) - Wellbore #1 - As-Drilled	10,163.73	7,037.50	5,723.34	5,661.54	92.606	CC
Riva D 31-10 (PR) - Wellbore #1 - As-Drilled	10,200.00	7,038.34	5,723.46	5,661.29	92.059	ES
Riva D 31-10 (PR) - Wellbore #1 - As-Drilled	11,885.88	7,077.20	5,976.70	5,898.67	76.601	SF
Riva Red D 31-2J (PA) - Wellbore #1 - Gyro Surveys	8,280.37	6,915.81	3,812.74	3,766.09	81.732	CC
Riva Red D 31-2J (PA) - Wellbore #1 - Gyro Surveys	8,300.00	6,915.98	3,812.79	3,765.98	81.458	ES
Riva Red D 31-2J (PA) - Wellbore #1 - Gyro Surveys	10,400.00	6,933.45	4,347.57	4,283.59	67.945	SF
Riva Red D 31-3 (PA) - Wellbore #1 - Gyro Surveys	7,416.61	7,009.87	4,631.01	4,588.34	108.530	CC, ES
Riva Red D 31-3 (PA) - Wellbore #1 - Gyro Surveys	10,400.00	7,076.98	5,604.30	5,541.00	88.536	SF
Riva Red D 31-6 (PA) - Wellbore #1 - No Surveys	8,943.08	6,948.00	4,737.32	4,434.16	15.626	CC
Riva Red D 31-6 (PA) - Wellbore #1 - No Surveys	9,000.00	6,948.00	4,737.66	4,433.97	15.600	ES
Riva Red D 31-6 (PA) - Wellbore #1 - No Surveys	9,600.00	6,948.00	4,782.65	4,473.28	15.459	SF
Riva Red D31-06X (SI) - Wellbore #1 - Gyro Surveys	8,734.24	6,839.47	4,630.01	4,580.48	93.472	CC
Riva Red D31-06X (SI) - Wellbore #1 - Gyro Surveys	8,800.00	6,840.29	4,630.48	4,580.36	92.382	ES
Riva Red D31-06X (SI) - Wellbore #1 - Gyro Surveys	11,300.00	6,875.51	5,249.96	5,178.91	73.885	SF
Riva White D 31-1 (PR) - Wellbore #1 - Gyro Surveys	7,468.67	6,863.20	7,031.50	6,989.15	166.028	CC, ES
Riva White D 31-1 (PR) - Wellbore #1 - Gyro Surveys	11,885.88	6,780.57	8,316.77	8,242.24	111.591	SF
Riva White D 31-7 (PR) - Wellbore #1 - Gyro Surveys	8,646.06	6,917.92	5,999.31	5,950.32	122.454	CC
Riva White D 31-7 (PR) - Wellbore #1 - Gyro Surveys	8,700.00	6,919.21	5,999.55	5,950.11	121.348	ES
Riva White D 31-7 (PR) - Wellbore #1 - Gyro Surveys	11,885.88	6,995.78	6,755.53	6,679.65	89.021	SF
Riva White D 31-8 (PA) - Wellbore #1 - Gyro Surveys	8,792.91	7,212.44	7,034.54	6,984.02	139.249	CC
Riva White D 31-8 (PA) - Wellbore #1 - Gyro Surveys	8,900.00	7,217.63	7,035.35	6,983.92	136.784	ES
Riva White D 31-8 (PA) - Wellbore #1 - Gyro Surveys	11,885.88	7,210.00	7,619.90	7,542.55	98.501	SF
River Red D 31-4 (PA) - Wellbore #1 - Gyro Surveys	7,472.06	7,197.80	2,797.19	2,688.81	25.810	CC, ES
River Red D 31-4 (PA) - Wellbore #1 - Gyro Surveys	7,900.00	7,192.29	2,839.66	2,728.70	25.592	SF
UPRR 53 Pan Am UT R 1 (PA) - Wellbore #1 - No Survey	8,057.47	6,941.00	6,470.51	6,173.63	21.795	CC
UPRR 53 Pan Am UT R 1 (PA) - Wellbore #1 - No Survey	8,100.00	6,941.00	6,470.65	6,173.48	21.774	ES
UPRR 53 Pan Am UT R 1 (PA) - Wellbore #1 - No Survey	9,300.00	6,941.00	6,588.73	6,281.82	21.468	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 #2	**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
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	6,800.00	6,784.37	3,729.95	3,679.05	73.274	SF
Dechant D30-33D - Original Drilling - Original Drilling - As	6,818.31	6,683.53	2,879.47	2,837.84	69.169	CC, ES
Dechant D30-33D - Original Drilling - Original Drilling - As	7,350.00	7,038.13	3,012.89	2,967.38	66.195	SF
Dechant D31-30D - Original Drilling - Original Drilling - As	7,116.46	6,942.68	2,506.95	2,459.76	53.129	CC, ES
Dechant D31-30D - Original Drilling - Original Drilling - As	7,700.00	7,074.23	2,637.70	2,585.86	50.879	SF
Dechant H25-64-1HN - Original Drilling - Original Drilling	6,688.55	9,075.78	1,500.65	1,430.66	21.439	CC
Dechant H25-64-1HN - Original Drilling - Original Drilling	6,700.00	9,079.30	1,500.80	1,430.57	21.370	ES
Dechant H25-64-1HN - Original Drilling - Original Drilling	6,850.00	9,122.91	1,528.66	1,455.72	20.960	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	6,800.00	9,057.06	2,390.13	2,318.88	33.546	SF
Emmy H25-711 - Emmy H25-711 OH - As-Drilled	3,323.73	2,713.37	2,166.08	2,152.04	154.313	CC
Emmy H25-711 - Emmy H25-711 OH - As-Drilled	3,400.00	2,781.32	2,166.34	2,152.02	151.262	ES
Emmy H25-711 - Emmy H25-711 OH - As-Drilled	8,100.00	6,399.19	2,667.17	2,623.38	60.916	SF
Emmy State H25-718 - Emmy State H25-718 OH - As-Dr	4,053.34	3,463.96	2,026.29	2,008.99	117.157	CC, ES
Emmy State H25-718 - Emmy State H25-718 OH - As-Dr	7,900.00	6,471.69	2,277.46	2,235.85	54.726	SF
Emmy State H25-724 - Emmy State H25-724 OH - As-Dr	7,142.72	6,851.84	1,591.31	1,554.31	43.014	CC
Emmy State H25-724 - Emmy State H25-724 OH - As-Dr	7,150.00	6,850.55	1,591.33	1,554.30	42.970	ES
Emmy State H25-724 - Emmy State H25-724 OH - As-Dr	7,350.00	6,798.72	1,610.70	1,572.62	42.295	SF
Emmy State H25-731 - Emmy State H25-731 OH - As-Dr	7,105.74	6,803.00	1,286.59	1,250.32	35.473	CC, ES
Emmy State H25-731 - Emmy State H25-731 OH - As-Dr	7,250.00	6,803.00	1,297.85	1,260.77	35.004	SF
Emmy State H25-738 - Emmy State H25-738 OH - As-Dr	7,049.06	6,899.00	869.74	833.68	24.114	CC
Emmy State H25-738 - Emmy State H25-738 OH - As-Dr	7,050.00	6,899.00	869.74	833.67	24.110	ES
Emmy State H25-738 - Emmy State H25-738 OH - As-Dr	7,150.00	6,899.00	878.36	841.61	23.904	SF
Emmy State H25-744 - Emmy State H25-744 OH - As-Dr	6,986.10	6,803.64	440.39	404.82	12.382	CC, ES, SF
Emmy State H25-751 - Emmy State H25-751 OH - As-Dr	7,050.00	7,080.57	114.44	76.68	3.031	SF
Emmy State H25-751 - Emmy State H25-751 OH - As-Dr	7,053.77	7,080.05	114.38	76.66	3.032	CC, ES
Emmy State H25-757 - Emmy State H25-757 OH - As-Dr	0.00	0.00	154.61			
Emmy State H25-757 - Emmy State H25-757 OH - As-Dr	2,400.00	2,399.48	155.39	143.34	12.896	ES
Emmy State H25-757 - Emmy State H25-757 OH - As-Dr	7,021.00	7,056.74	314.31	276.62	8.340	SF
Emmy State H25-764 - Emmy State H25-764 OH - As-Dr	2,222.31	2,222.59	155.86	144.31	13.491	CC, ES
Emmy State H25-764 - Emmy State H25-764 OH - As-Dr	2,600.00	2,598.23	163.02	150.40	12.917	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	2,397.66	169.84	157.66	13.946	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	2,295.01	175.79	164.02	14.931	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	2,422.26	2,426.67	44.37	33.89	4.232	CC, ES
Emmy State H36-766 - Wellbore #1 - Plan #2	2,500.00	2,504.39	45.44	34.64	4.210	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	68.77	58.73	6.854	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	2,298.99	118.01	108.00	11.791	SF
HSR Cohn 03-25 - Original Drilling - Original Drilling - As	2,500.00	2,520.20	4,214.77	4,200.71	299.949	CC
HSR Cohn 03-25 - Original Drilling - Original Drilling - As	2,800.00	2,818.27	4,216.01	4,200.27	267.854	ES
HSR Cohn 03-25 - Original Drilling - Original Drilling - As	6,850.00	6,647.26	4,511.27	4,469.92	109.117	SF
HSR Crowe 06-25 - Original Drilling - Original Drilling - As	3,189.62	3,199.64	2,919.87	2,901.83	161.839	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 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 #2	**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
H Section 25						
HSR Crowe 06-25 - Original Drilling - Original Drilling - As	3,300.00	3,292.48	2,920.27	2,901.60	156.436	ES
HSR Crowe 06-25 - Original Drilling - Original Drilling - As	6,800.00	6,617.14	3,151.20	3,110.15	76.757	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 -	6,850.00	7,125.04	4,855.75	4,812.64	112.655	SF
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 -	6,750.00	6,561.46	3,363.43	3,323.36	83.937	SF
KY Blue D30-32 - Original Drilling - Original Drilling - As D	6,674.43	6,421.53	3,506.61	3,466.73	87.925	CC, ES
KY Blue D30-32 - Original Drilling - Original Drilling - As D	7,150.00	6,808.50	3,638.10	3,595.04	84.477	SF
KY Blue H25-04J - Original Drilling - Original Drilling - As	7,014.16	7,400.00	2,123.47	2,106.24	123.216	CC, ES
KY Blue H25-04J - Original Drilling - Original Drilling - As	7,450.00	7,400.00	2,265.38	2,245.57	114.356	SF
KY Blue H25-09 - Original Drilling - Original Drilling - As D	6,686.21	6,476.22	2,776.79	2,736.70	69.249	CC, ES
KY Blue H25-09 - Original Drilling - Original Drilling - As D	7,050.00	6,761.42	2,857.04	2,814.53	67.209	SF
KY Blue H25-10 - Original Drilling - Original Drilling - As D	6,557.86	6,341.97	2,086.76	2,046.87	52.316	CC, ES
KY Blue H25-10 - Original Drilling - Original Drilling - As D	6,800.00	6,587.77	2,131.06	2,089.56	51.355	SF
KY Blue H25-11 - Original Drilling - Original Drilling - As D	3,750.74	3,677.16	1,638.30	1,616.99	76.865	CC
KY Blue H25-11 - Original Drilling - Original Drilling - As D	3,800.00	3,719.61	1,638.45	1,616.84	75.819	ES
KY Blue H25-11 - Original Drilling - Original Drilling - As D	6,800.00	6,572.21	1,930.42	1,864.53	29.298	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	6,700.00	6,615.79	2,703.83	2,664.23	68.283	SF
KY Blue H25-14 - Original Drilling - Original Drilling - As D	4,937.07	4,820.75	236.47	207.43	8.143	CC, ES
KY Blue H25-14 - Original Drilling - Original Drilling - As D	5,100.00	4,975.53	241.16	211.12	8.030	SF
KY Blue H25-15 - Original Drilling - Original Drilling - As D	6,696.33	6,503.87	797.11	756.97	19.859	CC
KY Blue H25-15 - Original Drilling - Original Drilling - As D	6,700.00	6,507.40	797.12	756.95	19.846	ES
KY Blue H25-15 - Original Drilling - Original Drilling - As D	6,800.00	6,594.97	804.45	763.55	19.665	SF
KY H25-24 - Original Drilling - Original Drilling - As Drilled	6,556.54	6,396.70	1,167.41	1,127.42	29.194	CC, ES
KY H25-24 - Original Drilling - Original Drilling - As Drilled	6,650.00	6,479.12	1,174.71	1,134.16	28.968	SF
Moore UPRC H25-01 - Original Drilling - Original Drilling	6,597.90	6,432.26	5,042.97	5,002.80	125.548	CC
Moore UPRC H25-01 - Original Drilling - Original Drilling	6,600.00	6,433.98	5,042.97	5,002.79	125.509	ES
Moore UPRC H25-01 - Original Drilling - Original Drilling	7,050.00	6,760.38	5,189.98	5,147.18	121.244	SF
Moore UPRC H25-02 - Original Drilling - Original Drilling	6,502.04	6,293.89	4,466.16	4,426.70	113.165	CC
Moore UPRC H25-02 - Original Drilling - Original Drilling	6,539.35	6,325.17	4,466.19	4,426.49	112.494	ES
Moore UPRC H25-02 - Original Drilling - Original Drilling	6,900.00	6,651.09	4,565.77	4,523.85	108.906	SF
Moser 25-32 - Original Drilling - Original Drilling - As Drille	5,768.55	5,546.80	3,004.68	2,970.29	87.366	CC
Moser 25-32 - Original Drilling - Original Drilling - As Drille	6,550.00	6,386.01	3,007.62	2,967.67	75.269	ES
Moser 25-32 - Original Drilling - Original Drilling - As Drille	6,850.00	6,674.65	3,079.53	3,037.67	73.575	SF
Moser 25-42 - Original Drilling - Original Drilling - As Drille	6,625.64	6,431.13	3,902.05	3,861.89	97.173	CC, ES
Moser 25-42 - Original Drilling - Original Drilling - As Drille	7,050.00	6,783.43	4,023.56	3,980.70	93.871	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	2,400.00	2,401.46	3,482.30	3,468.88	259.494	ES
UPRR 53 Pan Am T#2 - Original Drilling - Original Drilling	6,800.00	6,509.46	3,841.24	3,800.71	94.778	SF
UPRR 53 Pan Am UT T#1 - Original Drilling - Original Dri	6,585.78	6,396.77	3,944.03	3,903.89	98.256	CC, ES
UPRR 53 Pan Am UT T#1 - Original Drilling - Original Dri	7,000.00	6,781.99	4,067.93	4,025.13	95.030	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	6,600.00	6,474.28	1,584.41	1,546.08	41.337	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 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 #2	**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
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	7,000.00	6,596.44	6,622.10	6,582.04	165.320	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	7,000.00	6,782.22	5,396.89	5,356.49	133.583	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	6,900.00	6,900.00	5,541.44	5,500.41	135.051	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	6,750.00	7,090.34	5,269.34	5,205.07	81.988	SF
Dechant H25-33D - Original Drilling - Original Drilling - As	5,419.28	6,677.17	2,677.04	2,623.37	49.878	CC
Dechant H25-33D - Original Drilling - Original Drilling - As	5,500.00	6,724.01	2,677.69	2,623.33	49.262	ES
Dechant H25-33D - Original Drilling - Original Drilling - As	6,800.00	7,907.37	2,782.87	2,715.52	41.315	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	6,750.49	3,550.13	3,510.22	88.946	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	7,050.00	6,825.92	4,845.53	4,805.03	119.638	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	8,200.00	7,151.91	4,751.07	4,704.60	102.231	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	7,023.25	3,473.60	3,431.72	82.928	SF
Harsh H26-23D - Original Drilling - Original Drilling - As D	2,822.53	3,579.45	3,237.22	3,219.03	177.883	CC, ES
Harsh H26-23D - Original Drilling - Original Drilling - As D	7,150.00	7,150.00	3,979.83	3,937.44	93.899	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	6,550.00	6,550.00	8,501.69	8,463.06	220.074	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	2,206.35	2,205.20	5,228.49	5,216.15	423.753	ES
HSR Moser 06-26 - Original Drilling - Original Drilling - As	7,000.00	6,730.44	6,389.08	6,348.96	159.250	SF
HSR Regalia 05-26 - Original Drilling - Original Drilling - A	2,213.63	2,214.69	6,474.33	6,461.93	522.132	CC, ES
HSR Regalia 05-26 - Original Drilling - Original Drilling - A	7,200.00	7,000.01	7,710.61	7,669.18	186.130	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	6,850.00	6,500.01	7,206.27	7,167.02	183.582	SF
Hurley H26-712 - Hurley H26-712 OH - As-Drilled	2,973.45	3,725.39	3,295.72	3,280.05	210.330	CC
Hurley H26-712 - Hurley H26-712 OH - As-Drilled	3,300.00	4,043.29	3,296.31	3,278.94	189.772	ES
Hurley H26-712 - Hurley H26-712 OH - As-Drilled	6,650.00	6,613.00	3,458.20	3,423.17	98.731	SF
Hurley H26-717 - Hurley H26-717 OH - As-Drilled	2,914.09	3,622.15	3,341.99	3,326.77	219.521	CC, ES
Hurley H26-717 - Hurley H26-717 OH - As-Drilled	6,400.00	6,517.00	3,535.23	3,501.26	104.062	SF
Hurley H26-724 - Hurley H26-724 OH - As-Drilled	2,555.49	2,936.95	3,459.41	3,446.33	264.612	CC, ES
Hurley H26-724 - Hurley H26-724 OH - As-Drilled	6,750.00	6,517.00	4,049.27	4,015.00	118.167	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	6,650.00	6,369.98	4,455.41	4,422.08	133.663	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
Hurley H26-736 - Hurley H26-736 OH - As-Drilled	6,900.00	6,900.00	4,788.93	4,752.64	131.965	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 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 #2	**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
H Section 26						
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	6,650.00	5,951.00	4,934.58	4,901.42	148.816	SF
Hurley H26-750 - Hurley H26-750 OH - As-Drilled	5,010.55	6,565.57	5,419.61	5,388.73	175.524	CC, ES
Hurley H26-750 - Hurley H26-750 OH - As-Drilled	6,600.00	6,801.00	5,618.13	5,582.54	157.862	SF
Hurley H26-756 - Hurley H26-756 OH - As-Drilled	3,854.96	5,410.73	5,676.60	5,653.72	248.054	CC
Hurley H26-756 - Hurley H26-756 OH - As-Drilled	4,868.84	6,442.45	5,682.46	5,653.04	193.135	ES
Hurley H26-756 - Hurley H26-756 OH - As-Drilled	6,650.00	6,801.00	5,898.68	5,863.40	167.213	SF
Hurley H26-762 - Hurley H26-762 OH - As-Drilled	2,756.57	2,756.57	5,809.62	5,797.26	470.248	CC
Hurley H26-762 - Hurley H26-762 OH - As-Drilled	2,800.00	3,922.46	5,809.88	5,794.33	373.654	ES
Hurley H26-762 - Hurley H26-762 OH - As-Drilled	7,000.00	6,812.02	6,404.97	6,369.39	180.060	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	2,500.56	3,102.17	5,843.75	5,830.61	444.441	ES
Hurley H26-768 - Hurley H26-768 OH - As-Drilled	10,500.00	6,519.00	8,464.47	8,420.23	191.306	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	11,300.00	6,517.00	9,414.07	9,365.78	194.951	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	11,700.00	6,423.00	9,884.98	9,834.64	196.391	SF
Hurley H35-727 - Wellbore #1 - Plan #2	6,182.73	9,451.95	3,471.57	3,423.46	72.165	CC
Hurley H35-727 - Wellbore #1 - Plan #2	11,400.00	13,960.85	3,493.43	3,379.55	30.677	ES
Hurley H35-727 - Wellbore #1 - Plan #2	11,885.88	14,366.11	3,506.99	3,385.82	28.942	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	11,885.88	14,867.17	4,146.87	4,024.00	33.751	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	11,885.88	14,659.30	4,843.62	4,721.17	39.558	SF
Hurley H35-755 - Wellbore #1 - Plan #2	11,885.88	14,914.31	5,349.42	5,226.20	43.413	CC, ES, SF
Hurley H35-768 - Wellbore #1 - Plan #2	2,200.00	2,206.00	5,889.30	5,876.83	472.140	CC, ES
Hurley H35-768 - Wellbore #1 - Plan #2	11,885.88	14,523.23	6,043.14	5,920.75	49.375	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	11,885.88	14,859.78	6,697.31	6,553.30	46.506	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	11,885.88	14,650.96	7,362.99	7,240.42	60.076	SF
Hurley State H35-713 - Wellbore #1 - Plan #2	6,363.35	9,626.99	2,824.21	2,774.15	56.415	CC
Hurley State H35-713 - Wellbore #1 - Plan #2	11,885.88	14,644.03	2,838.77	2,716.60	23.236	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	7,000.00	6,600.01	7,240.61	7,200.80	181.910	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	6,800.00	6,608.69	4,574.32	4,534.22	114.051	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	6,850.00	6,834.14	5,470.68	5,429.30	132.223	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	7,300.00	7,117.59	4,760.44	4,716.19	107.577	SF
Lamp H26-22 - Original Drilling - Original Drilling - As Dril	2,518.12	2,836.22	3,550.03	3,533.31	212.345	CC, ES
Lamp H26-22 - Original Drilling - Original Drilling - As Dril	6,750.00	6,685.91	4,466.11	4,417.70	92.252	SF
Moser 05-26 - Original Drilling - Original Drilling - As Drille	2,215.48	2,224.53	6,680.61	6,668.18	537.794	CC, ES
Moser 05-26 - Original Drilling - Original Drilling - As Drille	10,900.00	6,985.76	9,916.32	9,863.50	187.736	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 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 #2	**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
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	7,250.00	7,014.89	8,863.85	8,821.02	206.990	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	7,400.00	6,922.54	6,482.89	6,441.54	156.785	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	11,300.00	7,190.60	9,323.35	9,265.71	161.766	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	11,800.00	7,230.29	8,834.55	8,771.14	139.310	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	2,202.48	2,200.30	4,419.74	4,407.43	358.952	ES
Moser H26-14 - Original Drilling - Original Drilling - As Dr	9,885.76	6,846.74	6,399.63	6,348.18	124.396	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	7,079.20	6,275.72	6,219.42	111.466	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	2,215.02	2,243.40	4,229.12	4,216.61	338.230	ES
Moser H26-24 - Original Drilling - Original Drilling - As Dr	7,400.00	7,102.39	5,608.42	5,566.23	132.936	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	9,885.76	7,047.50	7,249.87	7,198.63	141.477	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	6,950.00	6,942.86	6,332.47	6,290.07	149.346	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	6,950.00	3,844.01	7,213.35	7,179.20	211.224	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	6,750.00	3,007.01	7,229.11	7,199.33	242.766	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	5,595.58	5,544.86	110.309	ES
Moser, Wesley E. G. U. B1 (PA) - Original Drilling - Origin	7,450.00	6,968.64	6,892.90	6,735.61	43.824	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 #2	**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
H Section 35						
Cannon Farms 01-35C - Original Drilling - Original Drilling	11,346.75	7,032.17	3,524.05	3,451.56	48.614	CC, ES
Cannon Farms 01-35C - Original Drilling - Original Drilling	11,885.88	7,045.41	3,565.03	3,489.42	47.155	SF
Cannon H35-03D - Original Drilling - Original Drilling - As	10,864.59	6,836.08	5,956.04	5,888.89	88.692	CC
Cannon H35-03D - Original Drilling - Original Drilling - As	10,900.00	6,836.72	5,956.15	5,888.73	88.342	ES
Cannon H35-03D - Original Drilling - Original Drilling - As	11,885.88	6,853.83	6,042.93	5,968.58	81.282	SF
Cannon H35-09 - Original Drilling - Original Drilling - As D	10,412.01	6,919.49	3,158.97	3,092.13	47.264	CC, ES
Cannon H35-09 - Original Drilling - Original Drilling - As D	11,000.00	6,906.97	3,213.20	3,143.62	46.183	SF
Cannon H35-10 - Original Drilling - Original Drilling - As D	10,539.97	7,051.22	4,398.57	4,333.29	67.382	CC
Cannon H35-10 - Original Drilling - Original Drilling - As D	10,600.00	7,051.42	4,398.98	4,333.28	66.965	ES
Cannon H35-10 - Original Drilling - Original Drilling - As D	11,800.00	7,055.49	4,575.48	4,502.99	63.117	SF
Cannon H35-11 - Original Drilling - Original Drilling - As D	10,438.98	6,846.71	5,466.96	5,403.54	86.210	CC
Cannon H35-11 - Original Drilling - Original Drilling - As D	10,500.00	6,847.09	5,467.30	5,403.44	85.620	ES
Cannon H35-11 - Original Drilling - Original Drilling - As D	11,885.88	6,856.34	5,655.18	5,582.48	77.790	SF
Cannon H35-12 - Original Drilling - Original Drilling - As D	10,568.32	7,034.58	6,933.14	6,867.71	105.956	CC
Cannon H35-12 - Original Drilling - Original Drilling - As D	10,600.00	7,034.82	6,933.22	6,867.54	105.567	ES
Cannon H35-12 - Original Drilling - Original Drilling - As D	11,885.88	7,044.29	7,057.22	6,982.29	94.184	SF
Cannon H35-13 - Wellbore #1 - Wellbore #1 - As Drilled	11,759.63	7,050.50	6,975.18	6,898.88	91.417	CC
Cannon H35-13 - Wellbore #1 - Wellbore #1 - As Drilled	11,800.00	7,049.31	6,975.30	6,898.68	91.044	ES
Cannon H35-13 - Wellbore #1 - Wellbore #1 - As Drilled	11,885.88	7,046.77	6,976.32	6,899.05	90.277	SF
Cannon H35-14 - Original Drilling - Original Drilling - As D	11,771.11	6,995.30	5,581.51	5,498.99	67.636	CC
Cannon H35-14 - Original Drilling - Original Drilling - As D	11,800.00	6,995.12	5,581.59	5,498.85	67.462	ES
Cannon H35-14 - Original Drilling - Original Drilling - As D	11,885.88	6,994.58	5,582.69	5,499.33	66.967	SF
Cannon H35-15 (PA) - Original Drilling - Original Drilling -	11,787.04	6,984.00	4,364.71	4,172.99	22.767	CC
Cannon H35-15 (PA) - Original Drilling - Original Drilling -	11,800.00	6,984.00	4,364.73	4,172.92	22.756	ES
Cannon H35-15 (PA) - Original Drilling - Original Drilling -	11,885.88	6,984.00	4,365.83	4,173.42	22.691	SF
Cannon H35-20 - Original Drilling - Original Drilling - As D	2,100.02	2,100.00	6,158.75	6,146.94	521.169	CC
Cannon H35-20 - Original Drilling - Original Drilling - As D	2,200.00	2,164.27	6,159.03	6,146.77	502.282	ES
Cannon H35-20 - Original Drilling - Original Drilling - As D	11,885.88	6,852.20	6,626.58	6,554.62	92.090	SF
Cannon H35-21 - Original Drilling - Original Drilling - As D	10,016.05	7,033.46	4,921.75	4,861.15	81.222	CC, ES
Cannon H35-21 - Original Drilling - Original Drilling - As D	11,700.00	7,039.15	5,201.85	5,131.43	73.861	SF
Cannon H35-22 - Original Drilling - Original Drilling - As D	9,958.55	7,050.73	3,991.78	3,931.48	66.194	CC, ES
Cannon H35-22 - Original Drilling - Original Drilling - As D	11,000.00	7,036.82	4,135.86	4,070.01	62.805	SF
Cannon H35-24 - Original Drilling - Original Drilling - As D	11,203.19	6,800.01	5,100.67	5,030.67	72.865	CC, ES
Cannon H35-24 - Original Drilling - Original Drilling - As D	11,885.88	6,815.86	5,146.11	5,071.40	68.879	SF
Cannon X02-27 - Original Drilling - Original Drilling - As D	11,885.88	6,988.03	3,953.95	3,876.14	50.810	CC, ES, SF
Cannon X02-28 - Original Drilling - Original Drilling - As D	11,885.88	6,891.63	5,124.59	5,047.61	66.570	CC, ES, SF
Cannon X02-29 - Original Drilling - Original Drilling - As D	11,885.88	7,169.39	6,451.62	6,372.99	82.048	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	11,885.88	6,900.01	7,422.18	7,355.39	111.126	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	3,408.49	3,357.36	66.663	ES
Foster UPRR 31-35 #1 (PA) - Original Drilling - Original D	8,400.00	6,996.01	4,491.02	4,328.87	27.697	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	7,011.45	4,758.47	4,697.56	78.124	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	8,700.00	6,993.13	3,197.70	3,140.60	56.001	SF
Foster UPRR 42-35 #2 - Original Drilling - Original Drilling	0.00	0.00	3,079.02			
Foster UPRR 42-35 #2 - Original Drilling - Original Drilling	9,100.00	7,089.47	3,106.47	3,053.28	58.401	ES
Foster UPRR 42-35 #2 - Original Drilling - Original Drilling	9,800.00	7,105.74	3,186.53	3,130.13	56.496	SF
HSR Foster 03-35 - Original Drilling - Original Drilling - As	0.00	0.00	4,696.39			

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 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 #2	**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
H Section 35						
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	6,606.51	6,529.13	85.376	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	11,885.88	6,709.88	8,427.63	8,362.34	129.082	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	11,885.88	6,658.19	7,531.23	7,461.66	108.258	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	11,300.00	7,028.03	6,096.87	6,030.83	92.319	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	2,204.80	2,206.53	3,126.95	3,114.60	253.214	ES
UPRR 53 Pan Am Unit P1 - Original Drilling - Original Dri	9,700.00	6,971.97	3,803.18	3,749.26	70.526	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	6,800.01	6,891.33	6,828.48	109.645	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 #2	**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
H Section 36						
Dechant 07-36 - Original Drilling - Original Drilling - As Dr	9,291.61	6,944.56	585.79	531.66	10.823	CC
Dechant 07-36 - Original Drilling - Original Drilling - As Dr	9,300.00	6,944.60	585.85	531.53	10.787	ES
Dechant 07-36 - Original Drilling - Original Drilling - As Dr	9,400.00	6,944.99	595.73	539.52	10.598	SF
Dechant 13N-1HZ - Production Hole - Production Hole - A	11,885.88	6,739.00	2,023.15	1,948.71	27.179	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	11,885.88	600.00	6,470.01	6,428.88	157.295	SF
Dechant 14C-1HZ - Production Hole - Production Hole - A	11,885.88	6,788.29	745.40	678.34	11.116	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	11,885.88	610.00	6,448.62	6,407.45	156.615	SF
Dechant 15-36 - Original Drilling - Original Drilling - As Dr	11,766.19	6,962.10	638.14	544.77	6.835	CC, ES
Dechant 15-36 - Original Drilling - Original Drilling - As Dr	11,800.00	6,962.24	639.04	544.94	6.791	SF
Dechant 24-36 - Original Drilling - Original Drilling - As Dr	9,590.23	7,069.72	1,291.73	1,233.05	22.012	CC
Dechant 24-36 - Original Drilling - Original Drilling - As Dr	9,600.00	7,069.73	1,291.77	1,232.88	21.935	ES
Dechant 24-36 - Original Drilling - Original Drilling - As Dr	10,000.00	7,069.96	1,353.01	1,286.59	20.372	SF
Dechant 35N-E1HZ - Production Hole - Production Hole -	11,885.88	6,727.34	1,003.56	934.53	14.538	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	11,885.88	612.00	6,449.73	6,408.57	156.686	SF
Dechant 35N-W1HZ - Original Drilling - Original Drilling -	11,885.88	6,693.29	1,412.26	1,340.49	19.677	CC, ES, SF
Dechant 36N-W1HZ - Original Drilling - Original Drilling -	11,885.88	6,750.01	567.99	509.84	9.767	CC, ES, SF
Dechant 37N-E1HZ - Production Hole - Production Hole -	11,885.88	6,807.26	1,932.71	1,858.09	25.901	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	11,885.88	648.00	6,331.07	6,288.61	149.090	SF
Dechant 37N-W1HZ - Production Hole - Production Hole	11,885.88	7,192.52	1,177.97	1,100.53	15.212	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	11,885.88	655.00	6,325.91	6,283.41	148.844	SF
Dechant State 15C-1HZ - Wellbore #1 - As Drilled	7,494.73	7,032.57	663.42	622.51	16.218	CC
Dechant State 15C-1HZ - Wellbore #1 - As Drilled	7,500.00	7,035.80	663.43	622.49	16.204	ES
Dechant State 15C-1HZ - Wellbore #1 - As Drilled	11,885.88	11,431.71	782.28	675.55	7.330	SF
Dechant State 16C-1HZ - Original Drilling - Original Drillin	7,387.36	7,018.34	1,848.97	1,806.14	43.172	CC
Dechant State 16C-1HZ - Original Drilling - Original Drillin	7,400.00	7,026.75	1,849.02	1,806.12	43.095	ES
Dechant State 16C-1HZ - Original Drilling - Original Drillin	11,885.88	11,686.50	2,054.04	1,914.73	14.744	SF
Dechant State 36N-E1HZ - Wellbore #1 - Wellbore #1	8,074.54	7,500.16	313.72	268.42	6.926	CC
Dechant State 36N-E1HZ - Wellbore #1 - Wellbore #1	8,100.00	7,523.43	313.81	268.23	6.885	ES
Dechant State 36N-E1HZ - Wellbore #1 - Wellbore #1	11,885.88	11,289.80	427.24	318.99	3.947	SF
Dechant State 37N-E36HZ - Wellbore #1 - As Drilled	7,451.67	7,045.00	1,619.83	1,578.85	39.532	CC, ES
Dechant State 37N-E36HZ - Wellbore #1 - As Drilled	11,885.88	11,469.22	1,778.09	1,668.74	16.260	SF
Dechant State 37N-W36HZ - Wellbore #1 - As Drilled	7,735.75	7,363.72	1,113.72	1,070.35	25.679	CC, ES
Dechant State 37N-W36HZ - Wellbore #1 - As Drilled	11,885.88	11,472.14	1,236.79	1,127.42	11.308	SF
Dechant State 38N-1HZ - Wellbore #1 - As Drilled	7,484.29	7,066.87	2,341.44	2,300.55	57.258	CC
Dechant State 38N-1HZ - Wellbore #1 - As Drilled	7,500.00	7,080.00	2,341.51	2,300.52	57.118	ES
Dechant State 38N-1HZ - Wellbore #1 - As Drilled	11,885.88	11,372.06	2,508.26	2,399.18	22.995	SF
Dechant State H36-11D - Original Drilling - Original Drillin	10,500.00	6,972.56	538.87	473.88	8.291	SF
Dechant State H36-11D - Original Drilling - Original Drillin	10,520.65	6,972.04	538.47	473.61	8.301	CC, ES
Dechant State H36-18D - Dechant State H36-18D Gyros	8,400.00	7,149.82	92.67	14.05	1.179	Level 2, ES, SF
Dechant State H36-18D - Dechant State H36-18D Gyros	8,462.85	7,152.24	68.15	18.51	1.373	Level 3, CC
Dechant State H36-18D - Dechant State H36-18D OH - A	8,400.00	7,162.82	92.62	14.00	1.178	Level 2, ES, SF
Dechant State H36-18D - Dechant State H36-18D OH - A	8,462.81	7,165.24	68.11	18.47	1.372	Level 3, CC
Dechant State H36-19 - Original Drilling - Original Drilling	8,186.25	6,865.07	1,465.62	1,420.18	32.256	CC, ES

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

Noble Energy, Inc.

Anticollision Summary Report

Company:	Northern Region - DJ Basin	**Local Co-ordinate Reference:**	Well 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 #2	**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
H Section 36						
Dechant State H36-19 - Original Drilling - Original Drilling	8,300.00	6,867.86	1,470.02	1,424.40	32.220	SF
Dechant State H36-20D - Dechant State H36-20D Gyros	9,938.08	7,038.15	1,178.72	1,114.65	18.398	CC, ES
Dechant State H36-20D - Dechant State H36-20D Gyros	10,200.00	7,042.40	1,211.55	1,143.89	17.906	SF
Dechant State H36-20D - Dechant State H36-20D OH - A	9,938.09	7,051.15	1,178.72	1,114.65	18.398	CC, ES
Dechant State H36-20D - Dechant State H36-20D OH - A	10,200.00	7,055.40	1,211.54	1,143.88	17.906	SF
Dechant State H36-21D - Dechant State H36-21D Gyros	9,885.67	7,034.94	30.06	-35.74	0.457	Level 1, CC, ES, SF
Dechant State H36-21D - Dechant State H36-21D OH - A	9,885.69	7,047.94	30.04	-35.77	0.456	Level 1, CC, ES, SF
Dechant State H36-24 - Original Drilling - Original Drilling	11,084.06	7,125.24	114.46	43.09	1.604	CC
Dechant State H36-24 - Original Drilling - Original Drilling	11,100.00	7,125.10	115.57	42.91	1.591	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	9,200.00	7,147.39	2,531.05	2,477.89	47.610	SF
Dechant State H36-32D - Dechant State H36-32D Gyros	9,844.73	6,950.00	2,413.11	2,349.19	37.754	CC, ES
Dechant State H36-32D - Dechant State H36-32D Gyros	9,900.00	6,950.00	2,413.78	2,349.79	37.721	SF
Dechant State H36-32D - Dechant State H36-32D OH - A	9,845.79	7,033.81	2,412.31	2,348.10	37.572	CC, ES
Dechant State H36-32D - Dechant State H36-32D OH - A	9,900.00	7,035.22	2,412.95	2,348.67	37.535	SF
Dechant State H36-33 - Dechant State H36-33D Gyros -	10,974.46	7,052.44	2,338.15	2,269.48	34.052	CC, ES
Dechant State H36-33 - Dechant State H36-33D Gyros -	11,885.88	7,049.73	2,509.50	2,433.25	32.909	SF
Dechant State H36-33 - Dechant State H36-33D OH - As	10,974.48	7,065.44	2,338.14	2,269.47	34.052	CC, ES
Dechant State H36-33 - Dechant State H36-33D OH - As	11,885.88	7,062.73	2,509.49	2,433.23	32.909	SF
HSR Dechant State 01-36 - Wellbore #1 - As Drillied	7,495.79	6,926.00	2,161.77	2,119.10	50.659	CC
HSR Dechant State 01-36 - Wellbore #1 - As Drillied	7,500.00	6,926.12	2,161.78	2,119.08	50.632	ES
HSR Dechant State 01-36 - Wellbore #1 - As Drillied	8,300.00	6,929.59	2,312.77	2,264.09	47.512	SF
HSR Dechant State 02-36 - Original Drilling - Original Dri	7,544.59	6,942.79	446.20	403.34	10.411	CC, ES
HSR Dechant State 02-36 - Original Drilling - Original Dri	7,600.00	6,943.88	449.62	406.05	10.320	SF
HSR Dechant/State 07-36 (PA) - Original Drilling - Origina	8,703.21	6,949.00	1,094.70	930.26	6.657	CC, ES
HSR Dechant/State 07-36 (PA) - Original Drilling - Origina	8,800.00	6,949.00	1,098.97	933.19	6.629	SF
Spike State GWS H36-03 - Original Drilling - Original Dril	7,700.00	6,948.38	466.16	422.33	10.636	SF
Spike State GWS H36-03 - Original Drilling - Original Dril	7,737.86	6,950.12	464.63	420.95	10.639	CC, ES
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	1,180.62	1,167.79	91.978	ES
Spike State GWS H36-04 - Original Drilling - Original Dril	7,800.00	6,918.94	1,976.96	1,925.80	38.647	SF
Spike State GWS H36-13 - Original Drilling - Original Dril	11,719.34	7,444.00	1,825.04	1,745.77	23.025	CC, ES
Spike State GWS H36-13 - Original Drilling - Original Dril	11,885.88	7,445.13	1,832.62	1,752.50	22.873	SF
Spike State GWS H36-14 - Original Drilling - Original Dril	11,872.78	6,975.74	258.47	181.33	3.351	CC, ES, SF
Spike State H36-02J - Original Drilling - Original Drilling -	8,829.72	6,967.17	962.19	878.43	11.488	CC, ES, SF
Spike State H36-05 - Original Drilling - Original Drilling - A	9,059.35	6,913.19	1,956.49	1,904.57	37.677	CC, ES
Spike State H36-05 - Original Drilling - Original Drilling - A	9,300.00	6,913.56	1,971.24	1,918.60	37.449	SF
Spike State H36-11J - Original Drilling - Original Drilling -	11,135.22	6,973.56	1,118.99	1,048.70	15.920	CC, ES, SF
Spike State H36-12 - Original Drilling - Original Drilling - A	10,259.82	6,969.07	2,014.96	1,952.52	32.275	CC, ES
Spike State H36-12 - Original Drilling - Original Drilling - A	10,500.00	6,966.19	2,029.22	1,965.94	32.067	SF
X Section 01						
Dechant USX X1-6 - Wellbore #1 - As Drilled	11,885.88	7,164.94	2,166.30	2,111.26	39.360	CC, ES, SF
Dechant USX X1-7 - Wellbore #1 - As Drilled	11,885.88	7,039.15	2,788.97	2,746.19	65.192	CC, ES, SF
Dechant X01-02 - Wellbore #1 - As Drilled	11,885.88	7,023.47	1,324.06	1,272.98	25.919	CC, ES, SF
Dechant X01-03 - Wellbore #1 - Wellbore #1	11,885.88	7,007.00	1,307.58	1,252.07	23.556	CC, ES, SF
Dechant X01-04 - Wellbore #1 - As Drilled	11,885.88	6,984.17	2,074.95	2,000.15	27.738	CC, ES, SF
Dechant X01-06 - Wellbore #1 - As Drilled	11,885.88	6,989.88	2,626.40	2,579.34	55.807	CC, ES, SF
Dechant X12-01 - Wellbore #1 - As Drilled	11,885.88	7,144.30	3,072.12	3,003.73	44.924	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 #2	**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
X Section 02						
Greenleaf 1C-2HZ - Original Hole - As-Drilled	11,885.88	12,178.00	3,059.78	2,930.04	23.584	CC, ES, SF
Greenleaf 1N-2HZ - Original Hole - As-Drilled	11,885.88	11,854.00	3,631.18	3,499.42	27.559	CC, ES, SF
Greenleaf 26N-2HZ - Original Hole - As-Drilled	11,885.88	11,967.00	2,830.18	2,704.02	22.433	CC, ES, SF
Greenleaf 27N-2HZ - Original Hole - As-Drilled	11,885.88	11,754.00	4,395.73	4,261.31	32.701	CC, ES, SF
Greenleaf 28C-2HZ - Original Hole - Original Hole	11,885.88	12,005.00	5,145.25	5,008.98	37.758	CC, ES, SF
Greenleaf 29C-2HZ - Original Hole - Original Hole	11,885.88	12,733.00	6,271.66	6,129.23	44.035	CC, ES, SF
Greenleaf 29N-2HZ - Original Hole - Original Hole	11,885.88	12,533.00	6,510.80	6,369.55	46.092	CC, ES, SF
Greenleaf 2N-2HZ - Original Hole - Original Hole	11,885.88	12,018.00	4,998.66	4,861.53	36.451	CC, ES, SF
Greenleaf 30N-2HZ - Original Hole - Original Hole	11,885.88	11,541.00	7,618.24	7,484.23	56.849	CC, ES, SF
Greenleaf 3N-2HZR - Original Hole - Original Hole	11,885.88	12,432.00	5,544.55	5,405.69	39.928	CC, ES, SF
Greenleaf 4N-2HZ - Original Hole - Original Hole	11,885.88	12,764.00	6,815.41	6,673.21	47.928	CC, ES, SF
Harkis 11-02 - Original Drilling - Original Drilling - As Drille	11,885.88	6,866.10	7,211.35	7,133.87	93.078	CC, ES, SF
Harkis 31-2 - Original Hole - As-Drilled	11,885.88	7,022.88	4,525.57	4,447.35	57.857	CC, ES, SF
Pioneer 1-2 - Original Hole - As-Drilled	11,885.88	7,212.34	3,156.81	3,047.11	28.776	CC, ES, SF
Pioneer 3-2 - Original Hole - Original Hole	11,885.88	7,262.59	5,760.55	5,640.62	48.031	CC, ES, SF
Pioneer 3-2 - Surface Gyros - Surface Gyros	11,885.88	7,245.59	5,760.62	5,638.99	47.360	CC, ES, SF