

Project: Mustang  
Site: D Section 23  
Well: Guttersen State D23-731  
Wellbore: Wellbore #1  
Design: Plan #1

# Northern Region - DJ Basin

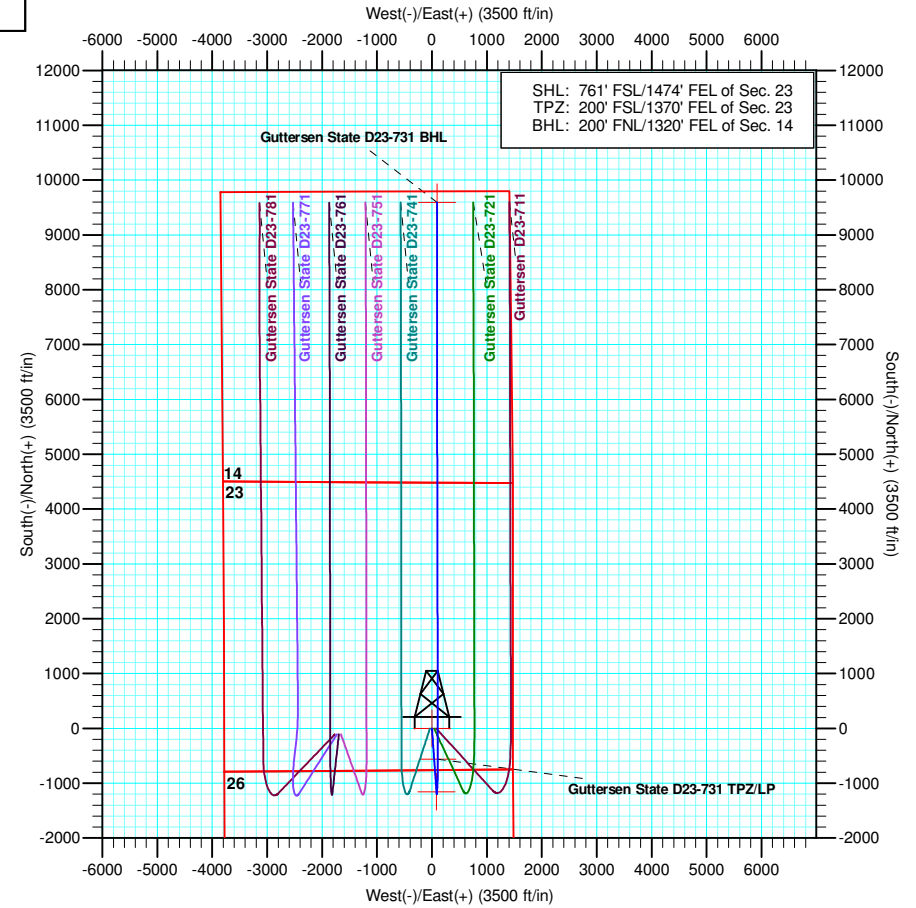
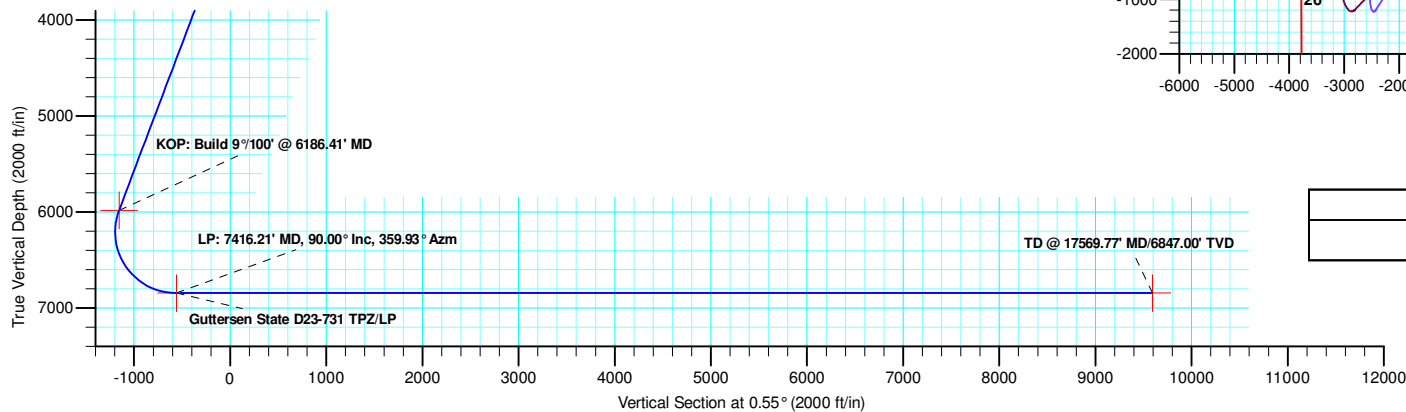
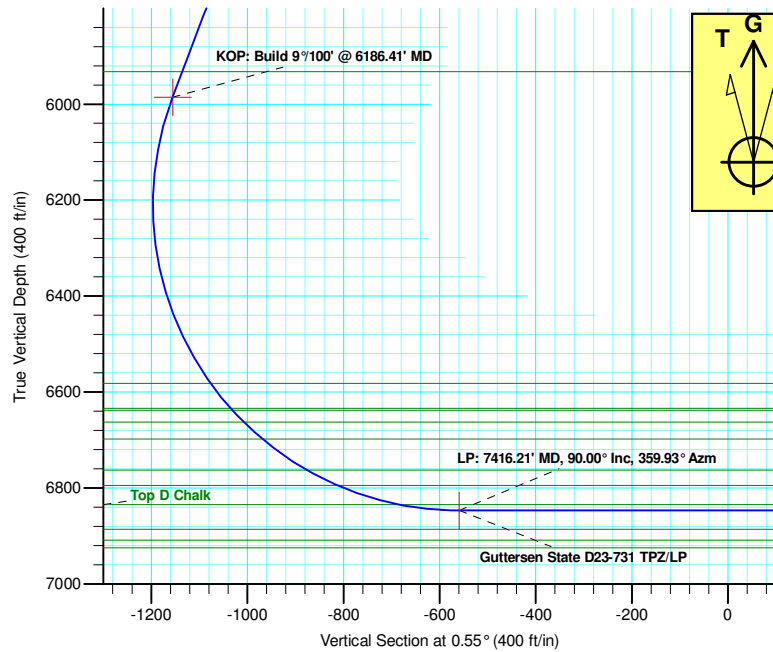
Geodetic System: US State Plane 1983  
Datum: North American Datum 1983  
Ellipsoid: GRS 1980  
Zone: Colorado Northern Zone  
System Datum: Mean Sea Level

SECTION DETAILS

| Sec | MD       | Inc   | Azi    | TVD     | +N/-S    | +E/-W  | Dleg | TFace   | Vsect    | Target                         |
|-----|----------|-------|--------|---------|----------|--------|------|---------|----------|--------------------------------|
| 1   | 0.00     | 0.00  | 0.00   | 0.00    | 0.00     | 0.00   | 0.00 | 0.00    | 0.00     |                                |
| 2   | 2400.00  | 0.00  | 0.00   | 2400.00 | 0.00     | 0.00   | 0.00 | 0.00    | 0.00     |                                |
| 3   | 3436.72  | 20.73 | 175.95 | 3414.24 | -185.09  | 13.10  | 2.00 | 175.95  | -184.95  |                                |
| 4   | 6186.41  | 20.73 | 175.95 | 5985.84 | -1156.15 | 81.83  | 0.00 | 0.00    | -1155.32 |                                |
| 5   | 7416.21  | 90.00 | 359.93 | 6847.00 | -560.53  | 103.72 | 9.00 | -175.75 | -559.52  | Guttersen State D23-731 TPZ/LP |
| 6   | 17569.77 | 90.00 | 359.93 | 6847.00 | 9593.02  | 91.33  | 0.00 | 0.00    | 9593.46  | Guttersen State D23-731 BHL    |

WELL DETAILS: Guttersen State D23-731

| +N/-S | +E/-W | Northing   | Ground Level:<br>Easting | 4809.00<br>Latitude | Longitude    | Slot |
|-------|-------|------------|--------------------------|---------------------|--------------|------|
| 0.00  | 0.00  | 1319304.33 | 3275271.50               | 40.2056882          | -104.5144337 |      |



Plan: Plan #1 (Guttersen State D23-731/Wellbore #1)

Created By: Keith Noack Date: 15:30, August 15 2018

# **Northern Region - DJ Basin**

**Mustang**

**D Section 23**

**Guttersen State D23-731**

**Wellbore #1**

**Plan: Plan #1**

## **Standard Planning Report**

**15 August, 2018**

# Noble Energy, Inc.

## Planning Report

|                  |                            |                                     |                              |
|------------------|----------------------------|-------------------------------------|------------------------------|
| <b>Database:</b> | EDMP                       | <b>Local Co-ordinate Reference:</b> | Well Guttersen State D23-731 |
| <b>Company:</b>  | Northern Region - DJ Basin | <b>TVD Reference:</b>               | KB @ 4839.00ft               |
| <b>Project:</b>  | Mustang                    | <b>MD Reference:</b>                | KB @ 4839.00ft               |
| <b>Site:</b>     | D Section 23               | <b>North Reference:</b>             | Grid                         |
| <b>Well:</b>     | Guttersen State D23-731    | <b>Survey Calculation Method:</b>   | Minimum Curvature            |
| <b>Wellbore:</b> | Wellbore #1                |                                     |                              |
| <b>Design:</b>   | Plan #1                    |                                     |                              |

|                    |                               |                      |                |
|--------------------|-------------------------------|----------------------|----------------|
| <b>Project</b>     | Mustang, Weld County Colorado |                      |                |
| <b>Map System:</b> | US State Plane 1983           | <b>System Datum:</b> | Mean Sea Level |
| <b>Geo Datum:</b>  | North American Datum 1983     |                      |                |
| <b>Map Zone:</b>   | Colorado Northern Zone        |                      |                |

| Site                  |          | D Section 23 |                   |                   |              |
|-----------------------|----------|--------------|-------------------|-------------------|--------------|
| Site Position:        |          | Northing:    | 1,319,071.18 usft | Latitude:         | 40.2050590   |
| From:                 | Lat/Long | Easting:     | 3,274,917.86 usft | Longitude:        | -104.5157090 |
| Position Uncertainty: | 0.00 ft  | Slot Radius: | 13.200 in         | Grid Convergence: | 0.64 °       |

| Well                 | Guttersen State D23-731 |           |                     |                   |               |              |
|----------------------|-------------------------|-----------|---------------------|-------------------|---------------|--------------|
| Well Position        | +N/-S                   | 233.15 ft | Northing:           | 1,319,304.33 usft | Latitude:     | 40.2056882   |
|                      | +E/-W                   | 353.64 ft | Easting:            | 3,275,271.50 usft | Longitude:    | -104.5144337 |
| Position Uncertainty |                         | 0.00 ft   | Wellhead Elevation: |                   | Ground Level: | 4,809.00 ft  |

|                  |                   |                    |                        |                      |                            |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| <b>Wellbore</b>  | Wellbore #1       |                    |                        |                      |                            |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination (°)</b> | <b>Dip Angle (°)</b> | <b>Field Strength (nT)</b> |
|                  | IGRF2015          | 4/16/2018          | 7.97                   | 66.72                | 52,222.80872410            |

|                          |                              |                   |                      |                      |
|--------------------------|------------------------------|-------------------|----------------------|----------------------|
| <b>Design</b>            | Plan #1                      |                   |                      |                      |
| <b>Audit Notes:</b>      |                              |                   |                      |                      |
| <b>Version:</b>          | <b>Phase:</b>                | PLAN              | <b>Tie On Depth:</b> | 0.00                 |
| <b>Vertical Section:</b> | <b>Depth From (TVD) (ft)</b> | <b>+N/-S (ft)</b> | <b>+E/-W (ft)</b>    | <b>Direction (°)</b> |
|                          | 0.00                         | 0.00              | 0.00                 | 0.55                 |

| <b>Plan Sections</b> |                 |             |                     |            |            |                       |                      |                     |         |                    |
|----------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|----------------------|---------------------|---------|--------------------|
| 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    |                    |
| 2,400.00             | 0.00            | 0.00        | 2,400.00            | 0.00       | 0.00       | 0.00                  | 0.00                 | 0.00                | 0.00    |                    |
| 3,436.72             | 20.73           | 175.95      | 3,414.24            | -185.09    | 13.10      | 2.00                  | 2.00                 | 0.00                | 175.95  |                    |
| 6,186.41             | 20.73           | 175.95      | 5,985.84            | -1,156.15  | 81.83      | 0.00                  | 0.00                 | 0.00                | 0.00    |                    |
| 7,416.21             | 90.00           | 359.93      | 6,847.00            | -560.53    | 103.72     | 9.00                  | 5.63                 | -14.31              | -175.75 | Guttersen State D2 |
| 17,569.77            | 90.00           | 359.93      | 6,847.00            | 9,593.02   | 91.33      | 0.00                  | 0.00                 | 0.00                | 0.00    | Guttersen State D2 |

# Noble Energy, Inc.

## Planning Report

**Database:** EDMP  
**Company:** Northern Region - DJ Basin  
**Project:** Mustang  
**Site:** D Section 23  
**Well:** Gutttersen State D23-731  
**Wellbore:** Wellbore #1  
**Design:** Plan #1

**Local Co-ordinate Reference:** Well Gutttersen State D23-731  
**TVD Reference:** KB @ 4839.00ft  
**MD Reference:** KB @ 4839.00ft  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature

| 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                |
| 532.00                        | 0.00            | 0.00        | 532.00              | 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                |
| 734.00                        | 0.00            | 0.00        | 734.00              | 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                |
| 1,622.00                      | 0.00            | 0.00        | 1,622.00            | 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                |
| 2,300.00                      | 0.00            | 0.00        | 2,300.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 2,400.00                      | 0.00            | 0.00        | 2,400.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| Build: 2°/100'                |                 |             |                     |            |            |                       |                       |                      |                     |
| 2,500.00                      | 2.00            | 175.95      | 2,499.98            | -1.74      | 0.12       | -1.74                 | 2.00                  | 2.00                 | 0.00                |
| 2,600.00                      | 4.00            | 175.95      | 2,599.84            | -6.96      | 0.49       | -6.96                 | 2.00                  | 2.00                 | 0.00                |
| 2,700.00                      | 6.00            | 175.95      | 2,699.45            | -15.65     | 1.11       | -15.64                | 2.00                  | 2.00                 | 0.00                |
| 2,800.00                      | 8.00            | 175.95      | 2,798.70            | -27.81     | 1.97       | -27.79                | 2.00                  | 2.00                 | 0.00                |
| 2,900.00                      | 10.00           | 175.95      | 2,897.47            | -43.41     | 3.07       | -43.38                | 2.00                  | 2.00                 | 0.00                |
| 3,000.00                      | 12.00           | 175.95      | 2,995.62            | -62.45     | 4.42       | -62.40                | 2.00                  | 2.00                 | 0.00                |
| 3,100.00                      | 14.00           | 175.95      | 3,093.06            | -84.88     | 6.01       | -84.82                | 2.00                  | 2.00                 | 0.00                |
| 3,200.00                      | 16.00           | 175.95      | 3,189.64            | -110.70    | 7.83       | -110.62               | 2.00                  | 2.00                 | 0.00                |
| 3,300.00                      | 18.00           | 175.95      | 3,285.27            | -139.86    | 9.90       | -139.76               | 2.00                  | 2.00                 | 0.00                |
| 3,400.00                      | 20.00           | 175.95      | 3,379.82            | -172.34    | 12.20      | -172.21               | 2.00                  | 2.00                 | 0.00                |
| 3,436.72                      | 20.73           | 175.95      | 3,414.24            | -185.09    | 13.10      | -184.95               | 2.00                  | 2.00                 | 0.00                |
| Hold: 20.73° Inc, 175.95° Azm |                 |             |                     |            |            |                       |                       |                      |                     |
| 3,500.00                      | 20.73           | 175.95      | 3,473.42            | -207.43    | 14.68      | -207.28               | 0.00                  | 0.00                 | 0.00                |
| 3,600.00                      | 20.73           | 175.95      | 3,566.94            | -242.75    | 17.18      | -242.57               | 0.00                  | 0.00                 | 0.00                |
| 3,700.00                      | 20.73           | 175.95      | 3,660.47            | -278.06    | 19.68      | -277.86               | 0.00                  | 0.00                 | 0.00                |
| 3,761.52                      | 20.73           | 175.95      | 3,718.00            | -299.79    | 21.22      | -299.57               | 0.00                  | 0.00                 | 0.00                |
| Parkman                       |                 |             |                     |            |            |                       |                       |                      |                     |
| 3,800.00                      | 20.73           | 175.95      | 3,753.99            | -313.38    | 22.18      | -313.15               | 0.00                  | 0.00                 | 0.00                |
| 3,900.00                      | 20.73           | 175.95      | 3,847.51            | -348.69    | 24.68      | -348.44               | 0.00                  | 0.00                 | 0.00                |
| 4,000.00                      | 20.73           | 175.95      | 3,941.04            | -384.01    | 27.18      | -383.73               | 0.00                  | 0.00                 | 0.00                |
| 4,100.00                      | 20.73           | 175.95      | 4,034.56            | -419.32    | 29.68      | -419.02               | 0.00                  | 0.00                 | 0.00                |

# Noble Energy, Inc.

## Planning Report

|                  |                            |                                     |                               |
|------------------|----------------------------|-------------------------------------|-------------------------------|
| <b>Database:</b> | EDMP                       | <b>Local Co-ordinate Reference:</b> | Well Gutttersen State D23-731 |
| <b>Company:</b>  | Northern Region - DJ Basin | <b>TVD Reference:</b>               | KB @ 4839.00ft                |
| <b>Project:</b>  | Mustang                    | <b>MD Reference:</b>                | KB @ 4839.00ft                |
| <b>Site:</b>     | D Section 23               | <b>North Reference:</b>             | Grid                          |
| <b>Well:</b>     | Gutttersen State D23-731   | <b>Survey Calculation Method:</b>   | Minimum Curvature             |
| <b>Wellbore:</b> | Wellbore #1                |                                     |                               |
| <b>Design:</b>   | Plan #1                    |                                     |                               |

| Planned Survey                          |                 |             |                     |            |            |                       |                       |                      |                     |
|---|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| Measured Depth (ft)                     | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
| 4,187.08                                | 20.73           | 175.95      | 4,116.00            | -450.08    | 31.85      | -449.75               | 0.00                  | 0.00                 | 0.00                |
| <b>Sussex</b>                           |                 |             |                     |            |            |                       |                       |                      |                     |
| 4,200.00                                | 20.73           | 175.95      | 4,128.08            | -454.64    | 32.18      | -454.31               | 0.00                  | 0.00                 | 0.00                |
| 4,300.00                                | 20.73           | 175.95      | 4,221.61            | -489.96    | 34.68      | -489.60               | 0.00                  | 0.00                 | 0.00                |
| 4,400.00                                | 20.73           | 175.95      | 4,315.13            | -525.27    | 37.18      | -524.89               | 0.00                  | 0.00                 | 0.00                |
| 4,500.00                                | 20.73           | 175.95      | 4,408.65            | -560.59    | 39.68      | -560.18               | 0.00                  | 0.00                 | 0.00                |
| 4,600.00                                | 20.73           | 175.95      | 4,502.18            | -595.90    | 42.17      | -595.47               | 0.00                  | 0.00                 | 0.00                |
| 4,700.00                                | 20.73           | 175.95      | 4,595.70            | -631.22    | 44.67      | -630.76               | 0.00                  | 0.00                 | 0.00                |
| 4,800.00                                | 20.73           | 175.95      | 4,689.22            | -666.53    | 47.17      | -666.05               | 0.00                  | 0.00                 | 0.00                |
| 4,900.00                                | 20.73           | 175.95      | 4,782.75            | -701.85    | 49.67      | -701.34               | 0.00                  | 0.00                 | 0.00                |
| 4,987.95                                | 20.73           | 175.95      | 4,865.00            | -732.91    | 51.87      | -732.38               | 0.00                  | 0.00                 | 0.00                |
| <b>Shannon</b>                          |                 |             |                     |            |            |                       |                       |                      |                     |
| 5,000.00                                | 20.73           | 175.95      | 4,876.27            | -737.16    | 52.17      | -736.63               | 0.00                  | 0.00                 | 0.00                |
| 5,100.00                                | 20.73           | 175.95      | 4,969.79            | -772.48    | 54.67      | -771.92               | 0.00                  | 0.00                 | 0.00                |
| 5,200.00                                | 20.73           | 175.95      | 5,063.31            | -807.79    | 57.17      | -807.21               | 0.00                  | 0.00                 | 0.00                |
| 5,300.00                                | 20.73           | 175.95      | 5,156.84            | -843.11    | 59.67      | -842.50               | 0.00                  | 0.00                 | 0.00                |
| 5,400.00                                | 20.73           | 175.95      | 5,250.36            | -878.42    | 62.17      | -877.79               | 0.00                  | 0.00                 | 0.00                |
| 5,500.00                                | 20.73           | 175.95      | 5,343.88            | -913.74    | 64.67      | -913.08               | 0.00                  | 0.00                 | 0.00                |
| 5,600.00                                | 20.73           | 175.95      | 5,437.41            | -949.06    | 67.17      | -948.37               | 0.00                  | 0.00                 | 0.00                |
| 5,700.00                                | 20.73           | 175.95      | 5,530.93            | -984.37    | 69.67      | -983.66               | 0.00                  | 0.00                 | 0.00                |
| 5,800.00                                | 20.73           | 175.95      | 5,624.45            | -1,019.69  | 72.17      | -1,018.95             | 0.00                  | 0.00                 | 0.00                |
| 5,900.00                                | 20.73           | 175.95      | 5,717.98            | -1,055.00  | 74.67      | -1,054.24             | 0.00                  | 0.00                 | 0.00                |
| 6,000.00                                | 20.73           | 175.95      | 5,811.50            | -1,090.32  | 77.17      | -1,089.53             | 0.00                  | 0.00                 | 0.00                |
| 6,100.00                                | 20.73           | 175.95      | 5,905.02            | -1,125.63  | 79.67      | -1,124.82             | 0.00                  | 0.00                 | 0.00                |
| 6,128.85                                | 20.73           | 175.95      | 5,932.00            | -1,135.82  | 80.39      | -1,135.00             | 0.00                  | 0.00                 | 0.00                |
| <b>Teepee Buttes</b>                    |                 |             |                     |            |            |                       |                       |                      |                     |
| 6,186.41                                | 20.73           | 175.95      | 5,985.84            | -1,156.15  | 81.83      | -1,155.32             | 0.00                  | 0.00                 | 0.00                |
| <b>KOP: Build 9°/100' @ 6186.41' MD</b> |                 |             |                     |            |            |                       |                       |                      |                     |
| 6,200.00                                | 19.52           | 175.68      | 5,998.60            | -1,160.81  | 82.17      | -1,159.98             | 9.00                  | -8.97                | -2.00               |
| 6,250.00                                | 15.03           | 174.32      | 6,046.33            | -1,175.60  | 83.44      | -1,174.75             | 9.00                  | -8.96                | -2.72               |
| 6,300.00                                | 10.57           | 171.84      | 6,095.07            | -1,186.59  | 84.73      | -1,185.73             | 9.00                  | -8.93                | -4.96               |
| 6,350.00                                | 6.15            | 165.81      | 6,144.53            | -1,193.73  | 86.04      | -1,192.86             | 9.00                  | -8.84                | -12.05              |
| 6,400.00                                | 2.10            | 134.06      | 6,194.40            | -1,196.96  | 87.35      | -1,196.08             | 9.00                  | -8.10                | -63.49              |
| 6,450.00                                | 3.39            | 26.23       | 6,244.36            | -1,196.27  | 88.67      | -1,195.37             | 9.00                  | 2.59                 | -215.67             |
| 6,500.00                                | 7.69            | 11.15       | 6,294.12            | -1,191.66  | 89.97      | -1,190.75             | 9.00                  | 8.59                 | -30.17              |
| 6,550.00                                | 12.13           | 6.95        | 6,343.36            | -1,183.16  | 91.25      | -1,182.24             | 9.00                  | 8.89                 | -8.40               |
| 6,600.00                                | 16.61           | 4.98        | 6,391.79            | -1,170.82  | 92.51      | -1,169.88             | 9.00                  | 8.95                 | -3.93               |
| 6,650.00                                | 21.09           | 3.83        | 6,439.09            | -1,154.71  | 93.73      | -1,153.77             | 9.00                  | 8.97                 | -2.30               |
| 6,700.00                                | 25.58           | 3.08        | 6,484.99            | -1,134.95  | 94.91      | -1,133.99             | 9.00                  | 8.98                 | -1.52               |
| 6,750.00                                | 30.07           | 2.53        | 6,529.20            | -1,111.64  | 96.04      | -1,110.68             | 9.00                  | 8.99                 | -1.09               |
| 6,800.00                                | 34.57           | 2.11        | 6,571.44            | -1,084.94  | 97.12      | -1,083.96             | 9.00                  | 8.99                 | -0.83               |
| 6,812.92                                | 35.73           | 2.02        | 6,582.00            | -1,077.50  | 97.39      | -1,076.53             | 9.00                  | 8.99                 | -0.71               |
| <b>Sharon Springs</b>                   |                 |             |                     |            |            |                       |                       |                      |                     |
| 6,850.00                                | 39.07           | 1.78        | 6,611.46            | -1,055.00  | 98.13      | -1,054.02             | 9.00                  | 8.99                 | -0.64               |
| 6,879.61                                | 41.73           | 1.62        | 6,634.00            | -1,035.82  | 98.70      | -1,034.83             | 9.00                  | 8.99                 | -0.56               |
| <b>Top A Chalk</b>                      |                 |             |                     |            |            |                       |                       |                      |                     |
| 6,884.99                                | 42.21           | 1.59        | 6,638.00            | -1,032.23  | 98.80      | -1,031.24             | 9.00                  | 8.99                 | -0.53               |
| <b>Top A Marl</b>                       |                 |             |                     |            |            |                       |                       |                      |                     |
| 6,900.00                                | 43.56           | 1.51        | 6,649.00            | -1,022.01  | 99.08      | -1,021.02             | 9.00                  | 8.99                 | -0.51               |
| 6,919.61                                | 45.33           | 1.42        | 6,663.00            | -1,008.29  | 99.43      | -1,007.29             | 9.00                  | 8.99                 | -0.48               |
| <b>Top B Chalk</b>                      |                 |             |                     |            |            |                       |                       |                      |                     |
| 6,950.00                                | 48.06           | 1.28        | 6,683.84            | -986.18    | 99.95      | -985.18               | 9.00                  | 8.99                 | -0.45               |
| 6,971.59                                | 50.00           | 1.19        | 6,698.00            | -969.88    | 100.30     | -968.88               | 9.00                  | 8.99                 | -0.41               |

# Noble Energy, Inc.

## Planning Report

|                  |                            |                                     |                              |
|------------------|----------------------------|-------------------------------------|------------------------------|
| <b>Database:</b> | EDMP                       | <b>Local Co-ordinate Reference:</b> | Well Guttersen State D23-731 |
| <b>Company:</b>  | Northern Region - DJ Basin | <b>TVD Reference:</b>               | KB @ 4839.00ft               |
| <b>Project:</b>  | Mustang                    | <b>MD Reference:</b>                | KB @ 4839.00ft               |
| <b>Site:</b>     | D Section 23               | <b>North Reference:</b>             | Grid                         |
| <b>Well:</b>     | Guttersen State D23-731    | <b>Survey Calculation Method:</b>   | Minimum Curvature            |
| <b>Wellbore:</b> | Wellbore #1                |                                     |                              |
| <b>Design:</b>   | Plan #1                    |                                     |                              |

| Planned Survey                                  |                 |             |                     |            |            |                       |                       |                      |                     |
|---|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| Measured Depth (ft)                             | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
| <b>Top B Marl</b>                               |                 |             |                     |            |            |                       |                       |                      |                     |
| 7,000.00  | 52.56           | 1.08        | 6,715.77            | -947.72    | 100.74     | -946.72               | 9.00                  | 8.99                 | -0.39               |
| 7,050.00  | 57.05           | 0.91        | 6,744.58            | -906.88    | 101.45     | -905.87               | 9.00                  | 9.00                 | -0.35               |
| 7,085.40  | 60.24           | 0.79        | 6,763.00            | -876.65    | 101.90     | -875.64               | 9.00                  | 9.00                 | -0.32               |
| <b>Top C Chalk</b>                              |                 |             |                     |            |            |                       |                       |                      |                     |
| 7,100.00  | 61.55           | 0.75        | 6,770.10            | -863.90    | 102.07     | -862.89               | 9.00                  | 9.00                 | -0.31               |
| 7,150.00  | 66.05           | 0.60        | 6,792.17            | -819.05    | 102.59     | -818.04               | 9.00                  | 9.00                 | -0.29               |
| 7,157.06  | 66.69           | 0.58        | 6,795.00            | -812.58    | 102.66     | -811.57               | 9.00                  | 9.00                 | -0.28               |
| <b>Top C Marl</b>                               |                 |             |                     |            |            |                       |                       |                      |                     |
| 7,200.00  | 70.55           | 0.46        | 6,810.65            | -772.61    | 103.02     | -771.60               | 9.00                  | 9.00                 | -0.27               |
| 7,250.00  | 75.05           | 0.33        | 6,825.44            | -724.86    | 103.35     | -723.84               | 9.00                  | 9.00                 | -0.26               |
| 7,292.37  | 78.86           | 0.23        | 6,835.00            | -683.59    | 103.55     | -682.58               | 9.00                  | 9.00                 | -0.25               |
| <b>Top D Chalk</b>                              |                 |             |                     |            |            |                       |                       |                      |                     |
| 7,300.00  | 79.54           | 0.21        | 6,836.43            | -676.10    | 103.58     | -675.08               | 9.00                  | 9.00                 | -0.24               |
| 7,350.00  | 84.04           | 0.09        | 6,843.57            | -626.62    | 103.71     | -625.61               | 9.00                  | 9.00                 | -0.24               |
| 7,400.00  | 88.54           | 359.97      | 6,846.80            | -576.74    | 103.73     | -575.73               | 9.00                  | 9.00                 | -0.24               |
| 7,416.21  | 90.00           | 359.93      | 6,847.00            | -560.53    | 103.72     | -559.52               | 9.00                  | 9.00                 | -0.24               |
| <b>LP: 7416.21' MD, 90.00° Inc, 359.93° Azm</b> |                 |             |                     |            |            |                       |                       |                      |                     |
| 7,500.00  | 90.00           | 359.93      | 6,847.00            | -476.74    | 103.61     | -475.73               | 0.00                  | 0.00                 | 0.00                |
| 7,600.00  | 90.00           | 359.93      | 6,847.00            | -376.74    | 103.49     | -375.74               | 0.00                  | 0.00                 | 0.00                |
| 7,700.00  | 90.00           | 359.93      | 6,847.00            | -276.74    | 103.37     | -275.75               | 0.00                  | 0.00                 | 0.00                |
| 7,800.00  | 90.00           | 359.93      | 6,847.00            | -176.74    | 103.25     | -175.75               | 0.00                  | 0.00                 | 0.00                |
| 7,900.00  | 90.00           | 359.93      | 6,847.00            | -76.74     | 103.13     | -75.76                | 0.00                  | 0.00                 | 0.00                |
| 8,000.00  | 90.00           | 359.93      | 6,847.00            | 23.26      | 103.00     | 24.24                 | 0.00                  | 0.00                 | 0.00                |
| 8,100.00  | 90.00           | 359.93      | 6,847.00            | 123.26     | 102.88     | 124.23                | 0.00                  | 0.00                 | 0.00                |
| 8,200.00  | 90.00           | 359.93      | 6,847.00            | 223.26     | 102.76     | 224.22                | 0.00                  | 0.00                 | 0.00                |
| 8,300.00  | 90.00           | 359.93      | 6,847.00            | 323.26     | 102.64     | 324.22                | 0.00                  | 0.00                 | 0.00                |
| 8,400.00  | 90.00           | 359.93      | 6,847.00            | 423.26     | 102.52     | 424.21                | 0.00                  | 0.00                 | 0.00                |
| 8,500.00  | 90.00           | 359.93      | 6,847.00            | 523.26     | 102.39     | 524.21                | 0.00                  | 0.00                 | 0.00                |
| 8,600.00  | 90.00           | 359.93      | 6,847.00            | 623.26     | 102.27     | 624.20                | 0.00                  | 0.00                 | 0.00                |
| 8,700.00  | 90.00           | 359.93      | 6,847.00            | 723.26     | 102.15     | 724.20                | 0.00                  | 0.00                 | 0.00                |
| 8,800.00  | 90.00           | 359.93      | 6,847.00            | 823.26     | 102.03     | 824.19                | 0.00                  | 0.00                 | 0.00                |
| 8,900.00  | 90.00           | 359.93      | 6,847.00            | 923.26     | 101.91     | 924.18                | 0.00                  | 0.00                 | 0.00                |
| 9,000.00  | 90.00           | 359.93      | 6,847.00            | 1,023.26   | 101.78     | 1,024.18              | 0.00                  | 0.00                 | 0.00                |
| 9,100.00  | 90.00           | 359.93      | 6,847.00            | 1,123.26   | 101.66     | 1,124.17              | 0.00                  | 0.00                 | 0.00                |
| 9,200.00  | 90.00           | 359.93      | 6,847.00            | 1,223.26   | 101.54     | 1,224.17              | 0.00                  | 0.00                 | 0.00                |
| 9,300.00  | 90.00           | 359.93      | 6,847.00            | 1,323.26   | 101.42     | 1,324.16              | 0.00                  | 0.00                 | 0.00                |
| 9,400.00  | 90.00           | 359.93      | 6,847.00            | 1,423.26   | 101.30     | 1,424.16              | 0.00                  | 0.00                 | 0.00                |
| 9,500.00  | 90.00           | 359.93      | 6,847.00            | 1,523.26   | 101.17     | 1,524.15              | 0.00                  | 0.00                 | 0.00                |
| 9,600.00  | 90.00           | 359.93      | 6,847.00            | 1,623.26   | 101.05     | 1,624.14              | 0.00                  | 0.00                 | 0.00                |
| 9,700.00  | 90.00           | 359.93      | 6,847.00            | 1,723.26   | 100.93     | 1,724.14              | 0.00                  | 0.00                 | 0.00                |
| 9,800.00  | 90.00           | 359.93      | 6,847.00            | 1,823.26   | 100.81     | 1,824.13              | 0.00                  | 0.00                 | 0.00                |
| 9,900.00  | 90.00           | 359.93      | 6,847.00            | 1,923.26   | 100.69     | 1,924.13              | 0.00                  | 0.00                 | 0.00                |
| 10,000.00                                       | 90.00           | 359.93      | 6,847.00            | 2,023.26   | 100.56     | 2,024.12              | 0.00                  | 0.00                 | 0.00                |
| 10,100.00                                       | 90.00           | 359.93      | 6,847.00            | 2,123.26   | 100.44     | 2,124.12              | 0.00                  | 0.00                 | 0.00                |
| 10,200.00                                       | 90.00           | 359.93      | 6,847.00            | 2,223.26   | 100.32     | 2,224.11              | 0.00                  | 0.00                 | 0.00                |
| 10,300.00                                       | 90.00           | 359.93      | 6,847.00            | 2,323.26   | 100.20     | 2,324.10              | 0.00                  | 0.00                 | 0.00                |
| 10,400.00                                       | 90.00           | 359.93      | 6,847.00            | 2,423.26   | 100.08     | 2,424.10              | 0.00                  | 0.00                 | 0.00                |
| 10,500.00                                       | 90.00           | 359.93      | 6,847.00            | 2,523.26   | 99.95      | 2,524.09              | 0.00                  | 0.00                 | 0.00                |
| 10,600.00                                       | 90.00           | 359.93      | 6,847.00            | 2,623.26   | 99.83      | 2,624.09              | 0.00                  | 0.00                 | 0.00                |
| 10,700.00                                       | 90.00           | 359.93      | 6,847.00            | 2,723.26   | 99.71      | 2,724.08              | 0.00                  | 0.00                 | 0.00                |
| 10,800.00                                       | 90.00           | 359.93      | 6,847.00            | 2,823.25   | 99.59      | 2,824.08              | 0.00                  | 0.00                 | 0.00                |
| 10,900.00                                       | 90.00           | 359.93      | 6,847.00            | 2,923.25   | 99.47      | 2,924.07              | 0.00                  | 0.00                 | 0.00                |

# Noble Energy, Inc.

## Planning Report

|                  |                            |                                     |                              |
|------------------|----------------------------|-------------------------------------|------------------------------|
| <b>Database:</b> | EDMP                       | <b>Local Co-ordinate Reference:</b> | Well Guttersen State D23-731 |
| <b>Company:</b>  | Northern Region - DJ Basin | <b>TVD Reference:</b>               | KB @ 4839.00ft               |
| <b>Project:</b>  | Mustang                    | <b>MD Reference:</b>                | KB @ 4839.00ft               |
| <b>Site:</b>     | D Section 23               | <b>North Reference:</b>             | Grid                         |
| <b>Well:</b>     | Guttersen State D23-731    | <b>Survey Calculation Method:</b>   | Minimum Curvature            |
| <b>Wellbore:</b> | Wellbore #1                |                                     |                              |
| <b>Design:</b>   | Plan #1                    |                                     |                              |

| Planned Survey      |                 |             |                     |            |            |                       |                       |                      |                     |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
| 11,000.00           | 90.00           | 359.93      | 6,847.00            | 3,023.25   | 99.34      | 3,024.06              | 0.00                  | 0.00                 | 0.00                |
| 11,100.00           | 90.00           | 359.93      | 6,847.00            | 3,123.25   | 99.22      | 3,124.06              | 0.00                  | 0.00                 | 0.00                |
| 11,200.00           | 90.00           | 359.93      | 6,847.00            | 3,223.25   | 99.10      | 3,224.05              | 0.00                  | 0.00                 | 0.00                |
| 11,300.00           | 90.00           | 359.93      | 6,847.00            | 3,323.25   | 98.98      | 3,324.05              | 0.00                  | 0.00                 | 0.00                |
| 11,400.00           | 90.00           | 359.93      | 6,847.00            | 3,423.25   | 98.86      | 3,424.04              | 0.00                  | 0.00                 | 0.00                |
| 11,500.00           | 90.00           | 359.93      | 6,847.00            | 3,523.25   | 98.73      | 3,524.03              | 0.00                  | 0.00                 | 0.00                |
| 11,600.00           | 90.00           | 359.93      | 6,847.00            | 3,623.25   | 98.61      | 3,624.03              | 0.00                  | 0.00                 | 0.00                |
| 11,700.00           | 90.00           | 359.93      | 6,847.00            | 3,723.25   | 98.49      | 3,724.02              | 0.00                  | 0.00                 | 0.00                |
| 11,800.00           | 90.00           | 359.93      | 6,847.00            | 3,823.25   | 98.37      | 3,824.02              | 0.00                  | 0.00                 | 0.00                |
| 11,900.00           | 90.00           | 359.93      | 6,847.00            | 3,923.25   | 98.24      | 3,924.01              | 0.00                  | 0.00                 | 0.00                |
| 12,000.00           | 90.00           | 359.93      | 6,847.00            | 4,023.25   | 98.12      | 4,024.01              | 0.00                  | 0.00                 | 0.00                |
| 12,100.00           | 90.00           | 359.93      | 6,847.00            | 4,123.25   | 98.00      | 4,124.00              | 0.00                  | 0.00                 | 0.00                |
| 12,200.00           | 90.00           | 359.93      | 6,847.00            | 4,223.25   | 97.88      | 4,223.99              | 0.00                  | 0.00                 | 0.00                |
| 12,300.00           | 90.00           | 359.93      | 6,847.00            | 4,323.25   | 97.76      | 4,323.99              | 0.00                  | 0.00                 | 0.00                |
| 12,400.00           | 90.00           | 359.93      | 6,847.00            | 4,423.25   | 97.63      | 4,423.98              | 0.00                  | 0.00                 | 0.00                |
| 12,500.00           | 90.00           | 359.93      | 6,847.00            | 4,523.25   | 97.51      | 4,523.98              | 0.00                  | 0.00                 | 0.00                |
| 12,600.00           | 90.00           | 359.93      | 6,847.00            | 4,623.25   | 97.39      | 4,623.97              | 0.00                  | 0.00                 | 0.00                |
| 12,700.00           | 90.00           | 359.93      | 6,847.00            | 4,723.25   | 97.27      | 4,723.97              | 0.00                  | 0.00                 | 0.00                |
| 12,800.00           | 90.00           | 359.93      | 6,847.00            | 4,823.25   | 97.15      | 4,823.96              | 0.00                  | 0.00                 | 0.00                |
| 12,900.00           | 90.00           | 359.93      | 6,847.00            | 4,923.25   | 97.02      | 4,923.95              | 0.00                  | 0.00                 | 0.00                |
| 13,000.00           | 90.00           | 359.93      | 6,847.00            | 5,023.25   | 96.90      | 5,023.95              | 0.00                  | 0.00                 | 0.00                |
| 13,100.00           | 90.00           | 359.93      | 6,847.00            | 5,123.25   | 96.78      | 5,123.94              | 0.00                  | 0.00                 | 0.00                |
| 13,200.00           | 90.00           | 359.93      | 6,847.00            | 5,223.25   | 96.66      | 5,223.94              | 0.00                  | 0.00                 | 0.00                |
| 13,300.00           | 90.00           | 359.93      | 6,847.00            | 5,323.25   | 96.54      | 5,323.93              | 0.00                  | 0.00                 | 0.00                |
| 13,400.00           | 90.00           | 359.93      | 6,847.00            | 5,423.25   | 96.41      | 5,423.93              | 0.00                  | 0.00                 | 0.00                |
| 13,500.00           | 90.00           | 359.93      | 6,847.00            | 5,523.25   | 96.29      | 5,523.92              | 0.00                  | 0.00                 | 0.00                |
| 13,600.00           | 90.00           | 359.93      | 6,847.00            | 5,623.25   | 96.17      | 5,623.91              | 0.00                  | 0.00                 | 0.00                |
| 13,700.00           | 90.00           | 359.93      | 6,847.00            | 5,723.25   | 96.05      | 5,723.91              | 0.00                  | 0.00                 | 0.00                |
| 13,800.00           | 90.00           | 359.93      | 6,847.00            | 5,823.25   | 95.93      | 5,823.90              | 0.00                  | 0.00                 | 0.00                |
| 13,900.00           | 90.00           | 359.93      | 6,847.00            | 5,923.25   | 95.80      | 5,923.90              | 0.00                  | 0.00                 | 0.00                |
| 14,000.00           | 90.00           | 359.93      | 6,847.00            | 6,023.25   | 95.68      | 6,023.89              | 0.00                  | 0.00                 | 0.00                |
| 14,100.00           | 90.00           | 359.93      | 6,847.00            | 6,123.25   | 95.56      | 6,123.88              | 0.00                  | 0.00                 | 0.00                |
| 14,200.00           | 90.00           | 359.93      | 6,847.00            | 6,223.25   | 95.44      | 6,223.88              | 0.00                  | 0.00                 | 0.00                |
| 14,300.00           | 90.00           | 359.93      | 6,847.00            | 6,323.25   | 95.32      | 6,323.87              | 0.00                  | 0.00                 | 0.00                |
| 14,400.00           | 90.00           | 359.93      | 6,847.00            | 6,423.25   | 95.19      | 6,423.87              | 0.00                  | 0.00                 | 0.00                |
| 14,500.00           | 90.00           | 359.93      | 6,847.00            | 6,523.25   | 95.07      | 6,523.86              | 0.00                  | 0.00                 | 0.00                |
| 14,600.00           | 90.00           | 359.93      | 6,847.00            | 6,623.25   | 94.95      | 6,623.86              | 0.00                  | 0.00                 | 0.00                |
| 14,700.00           | 90.00           | 359.93      | 6,847.00            | 6,723.25   | 94.83      | 6,723.85              | 0.00                  | 0.00                 | 0.00                |
| 14,800.00           | 90.00           | 359.93      | 6,847.00            | 6,823.25   | 94.71      | 6,823.84              | 0.00                  | 0.00                 | 0.00                |
| 14,900.00           | 90.00           | 359.93      | 6,847.00            | 6,923.25   | 94.58      | 6,923.84              | 0.00                  | 0.00                 | 0.00                |
| 15,000.00           | 90.00           | 359.93      | 6,847.00            | 7,023.25   | 94.46      | 7,023.83              | 0.00                  | 0.00                 | 0.00                |
| 15,100.00           | 90.00           | 359.93      | 6,847.00            | 7,123.25   | 94.34      | 7,123.83              | 0.00                  | 0.00                 | 0.00                |
| 15,200.00           | 90.00           | 359.93      | 6,847.00            | 7,223.25   | 94.22      | 7,223.82              | 0.00                  | 0.00                 | 0.00                |
| 15,300.00           | 90.00           | 359.93      | 6,847.00            | 7,323.25   | 94.10      | 7,323.82              | 0.00                  | 0.00                 | 0.00                |
| 15,400.00           | 90.00           | 359.93      | 6,847.00            | 7,423.25   | 93.97      | 7,423.81              | 0.00                  | 0.00                 | 0.00                |
| 15,500.00           | 90.00           | 359.93      | 6,847.00            | 7,523.25   | 93.85      | 7,523.80              | 0.00                  | 0.00                 | 0.00                |
| 15,600.00           | 90.00           | 359.93      | 6,847.00            | 7,623.25   | 93.73      | 7,623.80              | 0.00                  | 0.00                 | 0.00                |
| 15,700.00           | 90.00           | 359.93      | 6,847.00            | 7,723.25   | 93.61      | 7,723.79              | 0.00                  | 0.00                 | 0.00                |
| 15,800.00           | 90.00           | 359.93      | 6,847.00            | 7,823.25   | 93.49      | 7,823.79              | 0.00                  | 0.00                 | 0.00                |
| 15,900.00           | 90.00           | 359.93      | 6,847.00            | 7,923.25   | 93.36      | 7,923.78              | 0.00                  | 0.00                 | 0.00                |
| 16,000.00           | 90.00           | 359.93      | 6,847.00            | 8,023.25   | 93.24      | 8,023.78              | 0.00                  | 0.00                 | 0.00                |
| 16,100.00           | 90.00           | 359.93      | 6,847.00            | 8,123.25   | 93.12      | 8,123.77              | 0.00                  | 0.00                 | 0.00                |
| 16,200.00           | 90.00           | 359.93      | 6,847.00            | 8,223.25   | 93.00      | 8,223.76              | 0.00                  | 0.00                 | 0.00                |
| 16,300.00           | 90.00           | 359.93      | 6,847.00            | 8,323.25   | 92.87      | 8,323.76              | 0.00                  | 0.00                 | 0.00                |

# Noble Energy, Inc.

## Planning Report

|                  |                            |                                     |                              |
|------------------|----------------------------|-------------------------------------|------------------------------|
| <b>Database:</b> | EDMP                       | <b>Local Co-ordinate Reference:</b> | Well Guttersen State D23-731 |
| <b>Company:</b>  | Northern Region - DJ Basin | <b>TVD Reference:</b>               | KB @ 4839.00ft               |
| <b>Project:</b>  | Mustang                    | <b>MD Reference:</b>                | KB @ 4839.00ft               |
| <b>Site:</b>     | D Section 23               | <b>North Reference:</b>             | Grid                         |
| <b>Well:</b>     | Guttersen State D23-731    | <b>Survey Calculation Method:</b>   | Minimum Curvature            |
| <b>Wellbore:</b> | Wellbore #1                |                                     |                              |
| <b>Design:</b>   | Plan #1                    |                                     |                              |

| Planned Survey                 |                 |             |                     |            |            |                       |                       |                      |                     |
|--------------------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| Measured Depth (ft)            | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
| 16,400.00                      | 90.00           | 359.93      | 6,847.00            | 8,423.25   | 92.75      | 8,423.75              | 0.00                  | 0.00                 | 0.00                |
| 16,500.00                      | 90.00           | 359.93      | 6,847.00            | 8,523.25   | 92.63      | 8,523.75              | 0.00                  | 0.00                 | 0.00                |
| 16,600.00                      | 90.00           | 359.93      | 6,847.00            | 8,623.25   | 92.51      | 8,623.74              | 0.00                  | 0.00                 | 0.00                |
| 16,700.00                      | 90.00           | 359.93      | 6,847.00            | 8,723.25   | 92.39      | 8,723.73              | 0.00                  | 0.00                 | 0.00                |
| 16,800.00                      | 90.00           | 359.93      | 6,847.00            | 8,823.25   | 92.26      | 8,823.73              | 0.00                  | 0.00                 | 0.00                |
| 16,900.00                      | 90.00           | 359.93      | 6,847.00            | 8,923.25   | 92.14      | 8,923.72              | 0.00                  | 0.00                 | 0.00                |
| 17,000.00                      | 90.00           | 359.93      | 6,847.00            | 9,023.25   | 92.02      | 9,023.72              | 0.00                  | 0.00                 | 0.00                |
| 17,100.00                      | 90.00           | 359.93      | 6,847.00            | 9,123.25   | 91.90      | 9,123.71              | 0.00                  | 0.00                 | 0.00                |
| 17,200.00                      | 90.00           | 359.93      | 6,847.00            | 9,223.25   | 91.78      | 9,223.71              | 0.00                  | 0.00                 | 0.00                |
| 17,300.00                      | 90.00           | 359.93      | 6,847.00            | 9,323.25   | 91.65      | 9,323.70              | 0.00                  | 0.00                 | 0.00                |
| 17,400.00                      | 90.00           | 359.93      | 6,847.00            | 9,423.25   | 91.53      | 9,423.69              | 0.00                  | 0.00                 | 0.00                |
| 17,500.00                      | 90.00           | 359.93      | 6,847.00            | 9,523.25   | 91.41      | 9,523.69              | 0.00                  | 0.00                 | 0.00                |
| 17,569.77                      | 90.00           | 359.93      | 6,847.00            | 9,593.02   | 91.33      | 9,593.46              | 0.00                  | 0.00                 | 0.00                |
| TD @ 17569.77' MD/6847.00' TVD |                 |             |                     |            |            |                       |                       |                      |                     |

| Design Targets  |               |              |          |            |            |                 |                |            |              |
|---|---------------|--------------|----------|------------|------------|-----------------|----------------|------------|--------------|
| Target Name   | Dip Angle (°) | Dip Dir. (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (usft) | Easting (usft) | Latitude   | Longitude    |
| Guttersen State D23-<br>- hit/miss target<br>- Shape<br>- Point   | 0.00          | 0.00         | 0.00     | 0.00       | 0.00       | 1,319,304.33    | 3,275,271.50   | 40.2056882 | -104.5144337 |
| Guttersen State D23-<br>- plan hits target center<br>- Point  | 0.00          | 0.00         | 5,985.92 | -1,155.74  | 81.91      | 1,318,148.59    | 3,275,353.41   | 40.2025133 | -104.5141864 |
| Guttersen State D23-<br>- plan misses target center by 0.42ft at 6186.35ft MD (5985.78 TVD, -1156.13 N, 81.82 E)<br>- Point | 0.00          | 0.00         | 6,847.00 | -560.53    | 103.72     | 1,318,743.80    | 3,275,375.22   | 40.2041464 | -104.5140847 |
| Guttersen State D23-<br>- plan hits target center<br>- Point  | 0.00          | 0.00         | 6,847.00 | 9,593.02   | 91.33      | 1,328,897.33    | 3,275,362.83   | 40.2320176 | -104.5137247 |



# Noble Energy, Inc.

## Planning Report

|                  |                            |                                     |                               |
|------------------|----------------------------|-------------------------------------|-------------------------------|
| <b>Database:</b> | EDMP                       | <b>Local Co-ordinate Reference:</b> | Well Gutttersen State D23-731 |
| <b>Company:</b>  | Northern Region - DJ Basin | <b>TVD Reference:</b>               | KB @ 4839.00ft                |
| <b>Project:</b>  | Mustang                    | <b>MD Reference:</b>                | KB @ 4839.00ft                |
| <b>Site:</b>     | D Section 23               | <b>North Reference:</b>             | Grid                          |
| <b>Well:</b>     | Gutttersen State D23-731   | <b>Survey Calculation Method:</b>   | Minimum Curvature             |
| <b>Wellbore:</b> | Wellbore #1                |                                     |                               |
| <b>Design:</b>   | Plan #1                    |                                     |                               |

| Formations          |                     |                           |           |         |                   |  |
|---------------------|---------------------|---------------------------|-----------|---------|-------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Name                      | Lithology | Dip (°) | Dip Direction (°) |  |
| 532.00              | 532.00              | Pierre                    |           |         |                   |  |
| 734.00              | 734.00              | Upper Pierre Aquifer Top  |           |         |                   |  |
| 1,622.00            | 1,622.00            | Upper Pierre Aquifer Base |           |         |                   |  |
| 3,761.52            | 3,718.00            | Parkman                   |           |         |                   |  |
| 4,187.08            | 4,116.00            | Sussex                    |           |         |                   |  |
| 4,987.95            | 4,865.00            | Shannon                   |           |         |                   |  |
| 6,128.85            | 5,932.00            | Teepee Buttes             |           |         |                   |  |
| 6,812.92            | 6,582.00            | Sharon Springs            |           |         |                   |  |
| 6,879.61            | 6,634.00            | Top A Chalk               |           |         |                   |  |
| 6,884.99            | 6,638.00            | Top A Marl                |           |         |                   |  |
| 6,919.61            | 6,663.00            | Top B Chalk               |           |         |                   |  |
| 6,971.59            | 6,698.00            | Top B Marl                |           |         |                   |  |
| 7,085.40            | 6,763.00            | Top C Chalk               |           |         |                   |  |
| 7,157.06            | 6,795.00            | Top C Marl                |           |         |                   |  |
| 7,292.37            | 6,835.00            | Top D Chalk               |           |         |                   |  |

| Plan Annotations    |                     |                   |            |  |  |
|---------------------|---------------------|-------------------|------------|--|--|
| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates |            |  |  |
|                     |                     | +N/-S (ft)        | +E/-W (ft) | Comment                                  |  |
| 2,400.00            | 2,400.00            | 0.00              | 0.00       | Build: 2°/100'                           |  |
| 3,436.72            | 3,414.24            | -185.09           | 13.10      | Hold: 20.73° Inc, 175.95° Azm            |  |
| 6,186.41            | 5,985.84            | -1,156.15         | 81.83      | KOP: Build 9°/100' @ 6186.41' MD         |  |
| 7,416.21            | 6,847.00            | -560.53           | 103.72     | LP: 7416.21' MD, 90.00° Inc, 359.93° Azm |  |
| 17,569.77           | 6,847.00            | 9,593.02          | 91.33      | TD @ 17569.77' MD/6847.00' TVD           |  |

# **Northern Region - DJ Basin**

**Mustang**

**D Section 23**

**Guttersen State D23-731**

**Wellbore #1**

**Plan #1**

## **Anticollision Summary Report**

**15 August, 2018**

# Noble Energy, Inc.

## Anticollision Summary Report

|                           |                            |                                     |                               |
|---------------------------|----------------------------|-------------------------------------|-------------------------------|
| <b>Company:</b>           | Northern Region - DJ Basin | <b>Local Co-ordinate Reference:</b> | Well Gutttersen State D23-731 |
| <b>Project:</b>           | Mustang                    | <b>TVD Reference:</b>               | KB @ 4839.00ft                |
| <b>Reference Site:</b>    | D Section 23               | <b>MD Reference:</b>                | KB @ 4839.00ft                |
| <b>Site Error:</b>        | 0.00 ft                    | <b>North Reference:</b>             | Grid                          |
| <b>Reference Well:</b>    | Gutttersen State D23-731   | <b>Survey Calculation Method:</b>   | Minimum Curvature             |
| <b>Well Error:</b>        | 0.00 ft                    | <b>Output errors are at</b>         | 2.00 sigma                    |
| <b>Reference Wellbore</b> | Wellbore #1                | <b>Database:</b>                    | EDMP                          |
| <b>Reference Design:</b>  | Plan #1                    | <b>Offset TVD Reference:</b>        | Offset Datum                  |

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

| Survey Tool Program |           | Date                  | 8/1/2018      |  |  |
|---------------------|-----------|-----------------------|---------------|--|--|
| From (ft)           | To (ft)   | Survey (Wellbore)     | Tool Name     | Description                              |  |
| 0.00                | 17,569.77 | Plan #1 (Wellbore #1) | 2_MWD+IFR1+MS | A008Mb: IFR dec & multi-station analysis |  |

| Summary   |  |                                     |  |   |                      |                     |
|---|--|-------------------------------------|--|---|----------------------|---------------------|
| Site Name<br>Offset Well - Wellbore - Design              | Reference<br>Measured<br>Depth<br>(ft) | Offset<br>Measured<br>Depth<br>(ft) | Distance<br>Between<br>Centres<br>(ft) | Distance<br>Between<br>Ellipses<br>(ft) | Separation<br>Factor | Warning             |
| D Section 14  |  |                                     |  |   |                      |                     |
| Spike D 14-09 (SI) - Wellbore #1 - Gyro Surveys           | 14,652.94                              | 6,757.66                            | 866.55                                 | 777.17                                  | 9.695                | CC, ES              |
| Spike D 14-09 (SI) - Wellbore #1 - Gyro Surveys           | 14,700.00                              | 6,757.64                            | 867.83                                 | 778.15                                  | 9.677                | SF                  |
| Spike State D 14-13 (SI) - Wellbore #1 - Gyro Surveys     | 13,034.03                              | 6,861.38                            | 3,279.88                               | 3,202.21                                | 42.228               | CC, ES              |
| Spike State D 14-13 (SI) - Wellbore #1 - Gyro Surveys     | 13,700.00                              | 6,862.57                            | 3,346.81                               | 3,265.27                                | 41.047               | SF                  |
| Dalbey D 14-1 (SI) - Wellbore #1 - Gyro Surveys           | 17,075.04                              | 6,762.06                            | 576.12                                 | 467.99                                  | 5.328                | CC, ES              |
| Dalbey D 14-1 (SI) - Wellbore #1 - Gyro Surveys           | 17,100.00                              | 6,762.02                            | 576.66                                 | 468.39                                  | 5.326                | SF                  |
| Dalbey D 14-2 (SI) - Wellbore #1 - Gyro Surveys           | 16,828.22                              | 6,762.70                            | 338.66                                 | 232.47                                  | 3.189                | CC, ES, SF          |
| Dalbey D 14-3 (SI) - Wellbore #1 - Gyro Surveys           | 17,042.28                              | 6,806.08                            | 1,773.23                               | 1,665.21                                | 16.417               | CC, ES              |
| Dalbey D 14-3 (SI) - Wellbore #1 - Gyro Surveys           | 17,200.00                              | 6,805.72                            | 1,780.23                               | 1,671.31                                | 16.345               | SF                  |
| Dalbey D 14-6 (SI) - Wellbore #1 - Gyro Surveys           | 15,877.21                              | 6,799.76                            | 1,979.95                               | 1,881.04                                | 20.018               | CC                  |
| Dalbey D 14-6 (SI) - Wellbore #1 - Gyro Surveys           | 15,900.00                              | 6,799.73                            | 1,980.08                               | 1,881.01                                | 19.985               | ES                  |
| Dalbey D 14-6 (SI) - Wellbore #1 - Gyro Surveys           | 16,100.00                              | 6,799.48                            | 1,992.45                               | 1,892.27                                | 19.890               | SF                  |
| Dalbey D 14-7 (SI) - Wellbore #1 - Gyro Surveys           | 15,746.98                              | 6,781.17                            | 720.98                                 | 623.12                                  | 7.368                | CC, ES, SF          |
| Dalbey D 14-8 (SI) - Wellbore #1 - Gyro Surveys           | 15,788.91                              | 6,755.15                            | 531.03                                 | 432.94                                  | 5.414                | CC, ES              |
| Dalbey D 14-8 (SI) - Wellbore #1 - Gyro Surveys           | 15,800.00                              | 6,755.20                            | 531.14                                 | 432.97                                  | 5.410                | SF                  |
| Gutttersen State D 14-23 (SI) - Wellbore #1 - Gyro Survey | 13,710.99                              | 6,782.51                            | 82.15                                  | -0.26                                   | 0.997                | Level 1, CC, ES, SF |
| Gutttersen State D 14-24 (PR) - Wellbore #1 - Gyro Surve  | 13,824.13                              | 6,802.67                            | 1,382.55                               | 1,299.25                                | 16.597               | CC, ES              |
| Gutttersen State D 14-24 (PR) - Wellbore #1 - Gyro Surve  | 13,900.00                              | 6,802.12                            | 1,384.63                               | 1,300.86                                | 16.527               | SF                  |
| Gutttersen State D 14-33 (PR) - Wellbore #1 - Gyro Surve  | 13,889.22                              | 6,916.07                            | 3,641.73                               | 3,557.57                                | 43.273               | CC                  |
| Gutttersen State D 14-33 (PR) - Wellbore #1 - Gyro Surve  | 13,900.00                              | 6,916.00                            | 3,641.75                               | 3,557.51                                | 43.233               | ES                  |
| Gutttersen State D 14-33 (PR) - Wellbore #1 - Gyro Surve  | 14,600.00                              | 6,911.27                            | 3,710.44                               | 3,622.06                                | 41.982               | SF                  |
| HSR-Gutttersen State 4-14 (PA) - Wellbore #1 - Gyro Sur   | 17,012.09                              | 6,823.79                            | 3,247.41                               | 3,140.24                                | 30.304               | CC, ES              |
| HSR-Gutttersen State 4-14 (PA) - Wellbore #1 - Gyro Sur   | 17,500.00                              | 6,821.90                            | 3,283.85                               | 3,173.79                                | 29.836               | SF                  |
| HSR-Gutttersen State 5-14 (PA) - Wellbore #1 - Gyro Sur   | 15,816.27                              | 6,801.67                            | 3,216.23                               | 3,118.66                                | 32.962               | CC, ES              |
| HSR-Gutttersen State 5-14 (PA) - Wellbore #1 - Gyro Sur   | 16,300.00                              | 6,800.46                            | 3,252.41                               | 3,151.90                                | 32.358               | SF                  |
| Spike D 14-16 (SI) - Wellbore #1 - Gyro Surveys           | 13,020.27                              | 6,778.21                            | 815.22                                 | 737.89                                  | 10.542               | CC, ES              |
| Spike D 14-16 (SI) - Wellbore #1 - Gyro Surveys           | 13,100.00                              | 6,777.94                            | 819.11                                 | 741.37                                  | 10.537               | SF                  |
| Spike State D 14-11 (PR) - Wellbore #1 - Gyro Surveys     | 14,652.05                              | 6,820.43                            | 1,751.85                               | 1,662.35                                | 19.573               | CC, ES              |
| Spike State D 14-11 (PR) - Wellbore #1 - Gyro Surveys     | 14,800.00                              | 6,818.64                            | 1,758.09                               | 1,667.68                                | 19.447               | SF                  |
| Spike State D 14-12 (PR) - Wellbore #1 - Gyro Surveys     | 14,610.76                              | 6,825.21                            | 3,281.59                               | 3,192.26                                | 36.735               | CC, ES              |
| Spike State D 14-12 (PR) - Wellbore #1 - Gyro Surveys     | 15,200.00                              | 6,825.49                            | 3,334.08                               | 3,241.26                                | 35.922               | SF                  |
| Spike State D 14-14 (SI) - Wellbore #1 - Gyro Surveys     | 12,958.67                              | 6,827.83                            | 1,784.07                               | 1,707.04                                | 23.159               | CC, ES              |
| Spike State D 14-14 (SI) - Wellbore #1 - Gyro Surveys     | 13,100.00                              | 6,828.53                            | 1,789.66                               | 1,711.75                                | 22.971               | SF                  |
| Spike State D 14-15 (SI) - Wellbore #1 - Gyro Surveys     | 13,068.76                              | 6,833.72                            | 457.94                                 | 380.13                                  | 5.885                | CC, ES, SF          |
| Spike State D14-13J (SI) - Wellbore #1 - Gyro Surveys     | 13,823.44                              | 6,843.78                            | 2,826.72                               | 2,743.19                                | 33.844               | CC, ES              |
| Spike State D14-13J (SI) - Wellbore #1 - Gyro Surveys     | 14,300.00                              | 6,844.06                            | 2,866.61                               | 2,780.30                                | 33.214               | SF                  |
| Spike State GWS D 14-10 (SI) - Wellbore #1 - Gyro Surv    | 14,310.40                              | 6,792.10                            | 572.80                                 | 485.87                                  | 6.590                | CC, ES, SF          |

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

**Noble Energy, Inc.**  
Anticollision Summary Report

|                           |                            |                                     |                              |
|---------------------------|----------------------------|-------------------------------------|------------------------------|
| <b>Company:</b>           | Northern Region - DJ Basin | <b>Local Co-ordinate Reference:</b> | Well Guttersen State D23-731 |
| <b>Project:</b>           | Mustang                    | <b>TVD Reference:</b>               | KB @ 4839.00ft               |
| <b>Reference Site:</b>    | D Section 23               | <b>MD Reference:</b>                | KB @ 4839.00ft               |
| <b>Site Error:</b>        | 0.00 ft                    | <b>North Reference:</b>             | Grid                         |
| <b>Reference Well:</b>    | Guttersen State D23-731    | <b>Survey Calculation Method:</b>   | Minimum Curvature            |
| <b>Well Error:</b>        | 0.00 ft                    | <b>Output errors are at</b>         | 2.00 sigma                   |
| <b>Reference Wellbore</b> | Wellbore #1                | <b>Database:</b>                    | EDMP                         |
| <b>Reference Design:</b>  | Plan #1                    | <b>Offset TVD Reference:</b>        | 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 |                               |                            |                               |                                |                   |         |

# Noble Energy, Inc.

## Anticollision Summary Report

|                           |                            |                                     |                               |
|---------------------------|----------------------------|-------------------------------------|-------------------------------|
| <b>Company:</b>           | Northern Region - DJ Basin | <b>Local Co-ordinate Reference:</b> | Well Guttersten State D23-731 |
| <b>Project:</b>           | Mustang                    | <b>TVD Reference:</b>               | KB @ 4839.00ft                |
| <b>Reference Site:</b>    | D Section 23               | <b>MD Reference:</b>                | KB @ 4839.00ft                |
| <b>Site Error:</b>        | 0.00 ft                    | <b>North Reference:</b>             | Grid                          |
| <b>Reference Well:</b>    | Guttersten State D23-731   | <b>Survey Calculation Method:</b>   | Minimum Curvature             |
| <b>Well Error:</b>        | 0.00 ft                    | <b>Output errors are at</b>         | 2.00 sigma                    |
| <b>Reference Wellbore</b> | Wellbore #1                | <b>Database:</b>                    | EDMP                          |
| <b>Reference Design:</b>  | Plan #1                    | <b>Offset TVD Reference:</b>        | Offset Datum                  |

| Summary  |                               |                            |                               |                                |                   |            |
|--|-------------------------------|----------------------------|-------------------------------|--------------------------------|-------------------|------------|
| Site Name  | Reference Measured Depth (ft) | Offset Measured Depth (ft) | Distance Between Centres (ft) | Distance Between Ellipses (ft) | Separation Factor | Warning    |
| D Section 15   |                               |                            |                               |                                |                   |            |
| Cally Blue D 15-12 (PR) - Wellbore #1 - Gyro Surveys       | 14,565.77                     | 6,800.00                   | 8,652.91                      | 8,564.04                       | 97.368            | CC         |
| Cally Blue D 15-12 (PR) - Wellbore #1 - Gyro Surveys       | 14,600.00                     | 6,800.00                   | 8,652.98                      | 8,563.85                       | 97.088            | ES         |
| Cally Blue D 15-12 (PR) - Wellbore #1 - Gyro Surveys       | 17,569.77                     | 6,800.00                   | 9,159.52                      | 9,051.88                       | 85.094            | SF         |
| Cally Blue D 15-14 (PR) - Wellbore #1 - Gyro Surveys       | 12,987.00                     | 6,814.43                   | 7,109.40                      | 7,032.21                       | 92.107            | CC         |
| Cally Blue D 15-14 (PR) - Wellbore #1 - Gyro Surveys       | 13,000.00                     | 6,814.44                   | 7,109.41                      | 7,032.13                       | 91.995            | ES         |
| Cally Blue D 15-14 (PR) - Wellbore #1 - Gyro Surveys       | 15,700.00                     | 6,817.74                   | 7,609.46                      | 7,516.18                       | 81.578            | SF         |
| Cally Blue D15-04J - Wellbore #1 - Wellbore #1- As Drille  | 13,484.98                     | 6,951.25                   | 4,881.96                      | 4,800.64                       | 60.033            | CC         |
| Cally Blue D15-04J - Wellbore #1 - Wellbore #1- As Drille  | 13,500.00                     | 6,951.43                   | 4,881.99                      | 4,800.55                       | 59.952            | ES         |
| Cally Blue D15-04J - Wellbore #1 - Wellbore #1- As Drille  | 14,800.00                     | 6,967.54                   | 5,055.94                      | 4,966.74                       | 56.682            | SF         |
| Cally Blue D15-09 - Wellbore #1 - Wellbore #1- As Drille   | 14,363.79                     | 6,873.73                   | 4,677.78                      | 4,590.18                       | 53.394            | CC         |
| Cally Blue D15-09 - Wellbore #1 - Wellbore #1- As Drille   | 14,400.00                     | 6,873.72                   | 4,677.93                      | 4,590.05                       | 53.233            | ES         |
| Cally Blue D15-09 - Wellbore #1 - Wellbore #1- As Drille   | 15,500.00                     | 6,873.21                   | 4,813.80                      | 4,719.39                       | 50.988            | SF         |
| Cally Blue D15-10 - Wellbore #1 - Wellbore #1- As Drille   | 14,479.74                     | 6,845.37                   | 5,924.81                      | 5,836.43                       | 67.037            | CC         |
| Cally Blue D15-10 - Wellbore #1 - Wellbore #1- As Drille   | 14,500.00                     | 6,845.44                   | 5,924.85                      | 5,836.31                       | 66.922            | ES         |
| Cally Blue D15-10 - Wellbore #1 - Wellbore #1- As Drille   | 16,200.00                     | 6,851.28                   | 6,169.49                      | 6,070.71                       | 62.452            | SF         |
| Cally Blue D15-11 (PA) - Wellbore #1 - Gyro Surveys        | 14,614.92                     | 6,858.38                   | 7,136.55                      | 7,047.09                       | 79.782            | CC         |
| Cally Blue D15-11 (PA) - Wellbore #1 - Gyro Surveys        | 14,700.00                     | 6,858.00                   | 7,137.05                      | 7,046.97                       | 79.224            | ES         |
| Cally Blue D15-11 (PA) - Wellbore #1 - Gyro Surveys        | 17,000.00                     | 6,847.46                   | 7,524.54                      | 7,420.68                       | 72.449            | SF         |
| Cally Blue D15-15 - Wellbore #1 - Wellbore #1- As Drille   | 13,175.70                     | 6,798.50                   | 5,880.80                      | 5,802.27                       | 74.892            | CC         |
| Cally Blue D15-15 - Wellbore #1 - Wellbore #1- As Drille   | 13,200.00                     | 6,798.71                   | 5,880.85                      | 5,802.15                       | 74.725            | ES         |
| Cally Blue D15-15 - Wellbore #1 - Wellbore #1- As Drille   | 15,100.00                     | 6,812.06                   | 6,187.60                      | 6,097.64                       | 68.778            | SF         |
| Cally D15-02 - Wellbore #1 - Wellbore #1-As Drilled        | 17,113.08                     | 6,814.18                   | 5,860.51                      | 5,751.93                       | 53.972            | CC         |
| Cally D15-02 - Wellbore #1 - Wellbore #1-As Drilled        | 17,200.00                     | 6,814.04                   | 5,861.16                      | 5,751.91                       | 53.648            | ES         |
| Cally D15-02 - Wellbore #1 - Wellbore #1-As Drilled        | 17,569.77                     | 6,813.38                   | 5,878.28                      | 5,766.38                       | 52.530            | SF         |
| Cally White D15-01 - Wellbore #1 - Wellbore #1- As Drille  | 17,060.34                     | 6,846.15                   | 4,556.49                      | 4,448.19                       | 42.073            | CC         |
| Cally White D15-01 - Wellbore #1 - Wellbore #1- As Drille  | 17,100.00                     | 6,845.74                   | 4,556.66                      | 4,448.06                       | 41.957            | ES         |
| Cally White D15-01 - Wellbore #1 - Wellbore #1- As Drille  | 17,569.77                     | 6,840.98                   | 4,584.88                      | 4,473.13                       | 41.029            | SF         |
| Cally White D15-07 - Wellbore #1 - Wellbore #1- As Drille  | 15,801.94                     | 6,891.71                   | 5,999.12                      | 5,900.46                       | 60.808            | CC, ES     |
| Cally White D15-07 - Wellbore #1 - Wellbore #1- As Drille  | 17,400.00                     | 6,884.33                   | 6,208.32                      | 6,099.96                       | 57.296            | SF         |
| Cally White D15-08 - Wellbore #1 - Wellbore #1- As Drille  | 15,780.52                     | 6,861.51                   | 4,524.51                      | 4,426.10                       | 45.973            | CC         |
| Cally White D15-08 - Wellbore #1 - Wellbore #1- As Drille  | 15,800.00                     | 6,861.43                   | 4,524.55                      | 4,425.99                       | 45.904            | ES         |
| Cally White D15-08 - Wellbore #1 - Wellbore #1- As Drille  | 16,700.00                     | 6,857.94                   | 4,616.99                      | 4,512.98                       | 44.389            | SF         |
| Chandler State D15-72-1HN - Original Drilling - Original I | 14,001.07                     | 10,193.08                  | 4,229.33                      | 4,133.57                       | 44.168            | CC, ES     |
| Chandler State D15-72-1HN - Original Drilling - Original I | 17,569.77                     | 6,587.00                   | 4,284.01                      | 4,174.86                       | 39.248            | SF         |
| Chandler State D15-73-1HN - Original Drilling - Original I | 12,543.85                     | 11,629.00                  | 4,781.67                      | 4,686.36                       | 50.170            | CC         |
| Chandler State D15-73-1HN - Original Drilling - Original I | 12,600.00                     | 11,629.00                  | 4,782.00                      | 4,686.31                       | 49.976            | ES         |
| Chandler State D15-73-1HN - Original Drilling - Original I | 13,700.00                     | 13,700.00                  | 4,826.29                      | 4,709.47                       | 41.316            | SF         |
| Chandler State D15-74-1HN - Original Drilling - Original I | 13,500.00                     | 13,500.00                  | 5,534.69                      | 5,360.35                       | 31.746            | SF         |
| Chandler State D15-74-1HN - Original Drilling - Original I | 17,569.77                     | 5,642.00                   | 5,437.87                      | 5,330.79                       | 50.782            | CC, ES     |
| Chandler State D23-79HN - Original Drilling - Original Dr  | 7,700.00                      | 12,185.57                  | 3,824.01                      | 3,704.61                       | 32.028            | SF         |
| Chandler State D23-79HN - Original Drilling - Original Dr  | 8,700.00                      | 11,206.57                  | 3,808.23                      | 3,703.05                       | 36.206            | ES         |
| Chandler State D23-79HN - Original Drilling - Original Dr  | 12,661.92                     | 7,259.05                   | 3,789.69                      | 3,715.86                       | 51.332            | CC         |
| Duff D15-5 (PR) - Wellbore #1 - Gyro Surveys               | 15,754.84                     | 7,061.32                   | 8,585.70                      | 8,487.64                       | 87.551            | CC         |
| Duff D15-5 (PR) - Wellbore #1 - Gyro Surveys               | 15,800.00                     | 7,060.14                   | 8,585.82                      | 8,487.41                       | 87.246            | ES         |
| Duff D15-5 (PR) - Wellbore #1 - Gyro Surveys               | 17,569.77                     | 7,013.65                   | 8,775.30                      | 8,664.91                       | 79.488            | SF         |
| Guttersten D 15-21 (PR) - Wellbore #1 - Gyro Surveys       | 15,028.39                     | 6,854.41                   | 6,471.78                      | 6,379.30                       | 69.980            | CC         |
| Guttersten D 15-21 (PR) - Wellbore #1 - Gyro Surveys       | 15,100.00                     | 6,854.80                   | 6,472.18                      | 6,379.16                       | 69.578            | ES         |
| Guttersten D 15-21 (PR) - Wellbore #1 - Gyro Surveys       | 17,000.00                     | 6,865.33                   | 6,765.43                      | 6,661.02                       | 64.793            | SF         |
| Guttersten D 15-24 (PR) - Wellbore #1 - Gyro Surveys       | 13,808.54                     | 6,831.36                   | 6,571.04                      | 6,487.79                       | 78.934            | CC         |
| Guttersten D 15-24 (PR) - Wellbore #1 - Gyro Surveys       | 13,900.00                     | 6,831.60                   | 6,571.67                      | 6,487.75                       | 78.308            | ES         |
| Guttersten D 15-24 (PR) - Wellbore #1 - Gyro Surveys       | 16,000.00                     | 6,837.25                   | 6,926.83                      | 6,830.40                       | 71.834            | SF         |
| Guttersten D 15-29 (SI) - Wellbore #1 - Gyro Surveys       | 17,569.77                     | 6,759.99                   | 7,876.17                      | 7,764.18                       | 70.333            | CC, ES, SF |
| Guttersten D 22-28 (PR) - Wellbore #1 - Gyro Surveys       | 12,593.99                     | 6,845.85                   | 6,659.93                      | 6,585.44                       | 89.404            | CC         |

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

**Noble Energy, Inc.**  
Anticollision Summary Report

|                           |                            |                                     |                               |
|---------------------------|----------------------------|-------------------------------------|-------------------------------|
| <b>Company:</b>           | Northern Region - DJ Basin | <b>Local Co-ordinate Reference:</b> | Well Gutttersen State D23-731 |
| <b>Project:</b>           | Mustang                    | <b>TVD Reference:</b>               | KB @ 4839.00ft                |
| <b>Reference Site:</b>    | D Section 23               | <b>MD Reference:</b>                | KB @ 4839.00ft                |
| <b>Site Error:</b>        | 0.00 ft                    | <b>North Reference:</b>             | Grid                          |
| <b>Reference Well:</b>    | Gutttersen State D23-731   | <b>Survey Calculation Method:</b>   | Minimum Curvature             |
| <b>Well Error:</b>        | 0.00 ft                    | <b>Output errors are at</b>         | 2.00 sigma                    |
| <b>Reference Wellbore</b> | Wellbore #1                | <b>Database:</b>                    | EDMP                          |
| <b>Reference Design:</b>  | Plan #1                    | <b>Offset TVD Reference:</b>        | Offset Datum                  |

| Summary   |                               |                            |                               |                                |                   |                 |
|---|-------------------------------|----------------------------|-------------------------------|--------------------------------|-------------------|-----------------|
| Site Name   | Reference Measured Depth (ft) | Offset Measured Depth (ft) | Distance Between Centres (ft) | Distance Between Ellipses (ft) | Separation Factor | Warning         |
| D Section 15  |                               |                            |                               |                                |                   |                 |
| Gutttersen D 22-28 (PR) - Wellbore #1 - Gyro Surveys      | 12,600.00                     | 6,845.84                   | 6,659.94                      | 6,585.40                       | 89.353            | ES              |
| Gutttersen D 22-28 (PR) - Wellbore #1 - Gyro Surveys      | 15,100.00                     | 6,844.35                   | 7,115.81                      | 7,026.63                       | 79.784            | SF              |
| Gutttersen D14-32 - Wellbore #1 - Wellbore #1- As Drillec | 15,229.70                     | 6,855.46                   | 4,067.66                      | 3,973.55                       | 43.219            | CC, ES          |
| Gutttersen D14-32 - Wellbore #1 - Wellbore #1- As Drillec | 16,000.00                     | 6,862.15                   | 4,139.95                      | 4,041.11                       | 41.886            | SF              |
| Gutttersen D15-17 - Wellbore #1 - Wellbore #1- As Drillec | 16,507.33                     | 6,865.15                   | 5,235.21                      | 5,131.15                       | 50.310            | CC, ES          |
| Gutttersen D15-17 - Wellbore #1 - Wellbore #1- As Drillec | 17,569.77                     | 6,874.49                   | 5,341.92                      | 5,231.18                       | 48.235            | SF              |
| Gutttersen D15-18 (SI) - Wellbore #1 - Gyro Surveys       | 16,642.19                     | 6,865.69                   | 6,390.08                      | 6,285.02                       | 60.818            | CC              |
| Gutttersen D15-18 (SI) - Wellbore #1 - Gyro Surveys       | 16,700.00                     | 6,865.98                   | 6,390.35                      | 6,284.83                       | 60.564            | ES              |
| Gutttersen D15-18 (SI) - Wellbore #1 - Gyro Surveys       | 17,569.77                     | 6,870.33                   | 6,457.06                      | 6,345.59                       | 57.928            | SF              |
| Gutttersen D15-20 (PR) - Wellbore #1 - Gyro Surveys       | 15,189.83                     | 6,868.92                   | 7,943.31                      | 7,849.51                       | 84.680            | CC              |
| Gutttersen D15-20 (PR) - Wellbore #1 - Gyro Surveys       | 15,200.00                     | 6,868.92                   | 7,943.32                      | 7,849.44                       | 84.611            | ES              |
| Gutttersen D15-20 (PR) - Wellbore #1 - Gyro Surveys       | 17,569.77                     | 6,868.84                   | 8,292.18                      | 8,183.32                       | 76.171            | SF              |
| Gutttersen D15-22 - Wellbore #1 - Wellbore #1- As Drillec | 14,913.19                     | 6,902.37                   | 5,242.99                      | 5,151.10                       | 57.059            | CC, ES          |
| Gutttersen D15-22 - Wellbore #1 - Wellbore #1- As Drillec | 16,200.00                     | 6,907.36                   | 5,398.59                      | 5,298.86                       | 54.131            | SF              |
| Gutttersen D15-28 (SI) - Wellbore #1 - Gyro Surveys       | 17,569.77                     | 6,870.67                   | 6,576.91                      | 6,464.60                       | 58.562            | CC, ES, SF      |
| Gutttersen D15-30 (SI) - Wellbore #1 - Gyro Surveys       | 17,378.28                     | 6,785.41                   | 8,914.67                      | 8,804.10                       | 80.625            | CC              |
| Gutttersen D15-30 (SI) - Wellbore #1 - Gyro Surveys       | 17,400.00                     | 6,785.58                   | 8,914.70                      | 8,803.96                       | 80.501            | ES              |
| Gutttersen D15-30 (SI) - Wellbore #1 - Gyro Surveys       | 17,569.77                     | 6,786.85                   | 8,916.73                      | 8,804.67                       | 79.574            | SF              |
| Gutttersen D22-27 - Wellbore #1 - Wellbore #1- As Drillec | 12,685.51                     | 6,865.15                   | 5,272.15                      | 5,196.92                       | 70.077            | CC              |
| Gutttersen D22-27 - Wellbore #1 - Wellbore #1- As Drillec | 12,700.00                     | 6,865.07                   | 5,272.17                      | 5,196.84                       | 69.982            | ES              |
| Gutttersen D22-27 - Wellbore #1 - Wellbore #1- As Drillec | 14,300.00                     | 6,857.12                   | 5,513.81                      | 5,429.13                       | 65.113            | SF              |
| Gutttersen D23-69HN - Plan A - Plan A                     | 12,380.37                     | 10,606.73                  | 29.13                         | -46.95                         | 0.383             | Level 1, CC     |
| Gutttersen D23-69HN - Plan A - Plan A                     | 12,400.00                     | 10,606.57                  | 35.12                         | -74.20                         | 0.321             | Level 1, ES, SF |
| HSR Gutttersen 03-15 (SI) - Wellbore #1 - Gyro Surveys    | 17,090.33                     | 6,826.70                   | 7,230.89                      | 7,122.47                       | 66.691            | CC              |
| HSR Gutttersen 03-15 (SI) - Wellbore #1 - Gyro Surveys    | 17,100.00                     | 6,826.76                   | 7,230.90                      | 7,122.40                       | 66.645            | ES              |
| HSR Gutttersen 03-15 (SI) - Wellbore #1 - Gyro Surveys    | 17,569.77                     | 6,829.84                   | 7,246.77                      | 7,134.77                       | 64.702            | SF              |
| HSR Gutttersen 6-15 (SI) - Wellbore #1 - Gyro Surveys     | 15,636.39                     | 6,871.43                   | 7,055.58                      | 6,958.34                       | 72.560            | CC              |
| HSR Gutttersen 6-15 (SI) - Wellbore #1 - Gyro Surveys     | 15,700.00                     | 6,871.30                   | 7,055.86                      | 6,958.14                       | 72.203            | ES              |
| HSR Gutttersen 6-15 (SI) - Wellbore #1 - Gyro Surveys     | 17,569.77                     | 6,867.31                   | 7,315.68                      | 7,206.29                       | 66.877            | SF              |
| Mills UPRC D 15-04 (SI) - Wellbore #1 - Gyro Surveys      | 16,786.94                     | 6,813.01                   | 8,201.13                      | 8,095.09                       | 77.344            | CC              |
| Mills UPRC D 15-04 (SI) - Wellbore #1 - Gyro Surveys      | 16,900.00                     | 6,813.45                   | 8,201.91                      | 8,095.00                       | 76.718            | ES              |
| Mills UPRC D 15-04 (SI) - Wellbore #1 - Gyro Surveys      | 17,569.77                     | 6,816.41                   | 8,238.41                      | 8,126.61                       | 73.691            | SF              |
| Two E Ranch 1-15B (SI) - Wellbore #1 - Gyro Surveys       | 13,432.33                     | 6,765.65                   | 8,203.28                      | 8,123.28                       | 102.539           | CC              |
| Two E Ranch 1-15B (SI) - Wellbore #1 - Gyro Surveys       | 13,500.00                     | 6,765.61                   | 8,203.56                      | 8,123.07                       | 101.913           | ES              |
| Two E Ranch 1-15B (SI) - Wellbore #1 - Gyro Surveys       | 16,800.00                     | 6,763.63                   | 8,867.64                      | 8,767.54                       | 88.592            | SF              |

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



# Noble Energy, Inc.

## Anticollision Summary Report

|                           |                            |                                     |                               |
|---------------------------|----------------------------|-------------------------------------|-------------------------------|
| <b>Company:</b>           | Northern Region - DJ Basin | <b>Local Co-ordinate Reference:</b> | Well Gutttersen State D23-731 |
| <b>Project:</b>           | Mustang                    | <b>TVD Reference:</b>               | KB @ 4839.00ft                |
| <b>Reference Site:</b>    | D Section 23               | <b>MD Reference:</b>                | KB @ 4839.00ft                |
| <b>Site Error:</b>        | 0.00 ft                    | <b>North Reference:</b>             | Grid                          |
| <b>Reference Well:</b>    | Gutttersen State D23-731   | <b>Survey Calculation Method:</b>   | Minimum Curvature             |
| <b>Well Error:</b>        | 0.00 ft                    | <b>Output errors are at</b>         | 2.00 sigma                    |
| <b>Reference Wellbore</b> | Wellbore #1                | <b>Database:</b>                    | EDMP                          |
| <b>Reference Design:</b>  | Plan #1                    | <b>Offset TVD Reference:</b>        | Offset Datum                  |

| Summary  |                               |                            |                               |                                |                   |                     |
|--|-------------------------------|----------------------------|-------------------------------|--------------------------------|-------------------|---------------------|
| Site Name  | Reference Measured Depth (ft) | Offset Measured Depth (ft) | Distance Between Centres (ft) | Distance Between Ellipses (ft) | Separation Factor | Warning             |
| D Section 23   |                               |                            |                               |                                |                   |                     |
| Gutttersen 23-20 (SI) - Wellbore #1 - Gyro Surveys       | 9,974.71                      | 6,861.69                   | 2,595.59                      | 2,537.96                       | 45.034            | CC                  |
| Gutttersen 23-20 (SI) - Wellbore #1 - Gyro Surveys       | 10,000.00                     | 6,861.57                   | 2,595.72                      | 2,537.95                       | 44.931            | ES                  |
| Gutttersen 23-20 (SI) - Wellbore #1 - Gyro Surveys       | 10,500.00                     | 6,859.30                   | 2,648.21                      | 2,588.04                       | 44.012            | SF                  |
| Gutttersen 23-32 (SI) - Wellbore #1 - Gyro Surveys       | 10,492.74                     | 6,818.02                   | 440.52                        | 380.08                         | 7.289             | CC, ES              |
| Gutttersen 23-32 (SI) - Wellbore #1 - Gyro Surveys       | 10,500.00                     | 6,818.00                   | 440.58                        | 380.11                         | 7.286             | SF                  |
| Gutttersen 23-41 (PR) - Wellbore #1 - Gyro Surveys       | 11,804.78                     | 6,758.70                   | 713.50                        | 644.90                         | 10.400            | CC, ES, SF          |
| Gutttersen 31-23 (PR) - Wellbore #1 - Gyro Surveys       | 11,788.29                     | 6,863.01                   | 627.35                        | 558.41                         | 9.100             | CC, ES              |
| Gutttersen 31-23 (PR) - Wellbore #1 - Gyro Surveys       | 11,800.00                     | 6,862.77                   | 627.46                        | 558.45                         | 9.093             | SF                  |
| Gutttersen 42-23 (PR) - Wellbore #1 - Gyro Surveys       | 10,467.95                     | 6,807.92                   | 691.60                        | 631.37                         | 11.481            | CC, ES              |
| Gutttersen 42-23 (PR) - Wellbore #1 - Gyro Surveys       | 10,500.00                     | 6,807.55                   | 692.35                        | 631.93                         | 11.459            | SF                  |
| Gutttersen D23-711 - Wellbore #1 - Plan #1               | 2,567.69                      | 2,568.60                   | 74.85                         | 56.95                          | 4.181             | CC                  |
| Gutttersen D23-711 - Wellbore #1 - Plan #1               | 2,600.00                      | 2,600.84                   | 74.88                         | 56.76                          | 4.132             | ES                  |
| Gutttersen D23-711 - Wellbore #1 - Plan #1               | 2,700.00                      | 2,698.41                   | 76.95                         | 58.18                          | 4.099             | SF                  |
| Gutttersen D35-720 - Wellbore #1 - Plan #1               | 2,485.00                      | 2,491.62                   | 151.58                        | 134.29                         | 8.766             | CC                  |
| Gutttersen D35-720 - Wellbore #1 - Plan #1               | 2,500.00                      | 2,506.77                   | 151.61                        | 134.22                         | 8.716             | ES                  |
| Gutttersen D35-720 - Wellbore #1 - Plan #1               | 2,700.00                      | 2,707.59                   | 158.51                        | 139.79                         | 8.464             | SF                  |
| Gutttersen D35-730 - Wellbore #1 - Plan #1               | 7,143.13                      | 7,062.40                   | 51.84                         | 1.73                           | 1.035             | Level 2, CC, ES, SF |
| Gutttersen D35-740 - Wellbore #1 - Plan #1               | 2,618.41                      | 2,630.23                   | 145.05                        | 126.91                         | 7.994             | CC, ES              |
| Gutttersen D35-740 - Wellbore #1 - Plan #1               | 2,800.00                      | 2,811.45                   | 150.86                        | 131.50                         | 7.792             | SF                  |
| Gutttersen D35-750 - Wellbore #1 - Plan #1               | 7,050.00                      | 7,208.56                   | 1,243.02                      | 1,192.50                       | 24.603            | SF                  |
| Gutttersen D35-750 - Wellbore #1 - Plan #1               | 7,087.46                      | 7,181.75                   | 1,242.75                      | 1,192.26                       | 24.613            | CC, ES              |
| Gutttersen D35-760 - Wellbore #1 - Plan #1               | 2,400.00                      | 2,420.00                   | 1,694.67                      | 1,677.86                       | 100.799           | CC                  |
| Gutttersen D35-760 - Wellbore #1 - Plan #1               | 2,500.00                      | 2,516.02                   | 1,694.95                      | 1,677.47                       | 96.987            | ES                  |
| Gutttersen D35-760 - Wellbore #1 - Plan #1               | 7,150.00                      | 6,896.08                   | 1,874.88                      | 1,825.60                       | 38.041            | SF                  |
| Gutttersen D35-770 - Wellbore #1 - Plan #1               | 2,308.33                      | 2,328.33                   | 1,732.15                      | 1,716.00                       | 107.220           | CC                  |
| Gutttersen D35-770 - Wellbore #1 - Plan #1               | 2,400.00                      | 2,413.16                   | 1,732.19                      | 1,715.41                       | 103.193           | ES                  |
| Gutttersen D35-770 - Wellbore #1 - Plan #1               | 7,416.21                      | 7,416.21                   | 2,578.60                      | 2,526.79                       | 49.778            | SF                  |
| Gutttersen D35-780 - Wellbore #1 - Plan #1               | 2,108.33                      | 2,128.33                   | 1,769.64                      | 1,754.92                       | 120.210           | CC                  |
| Gutttersen D35-780 - Wellbore #1 - Plan #1               | 2,200.00                      | 2,212.73                   | 1,769.68                      | 1,754.33                       | 115.284           | ES                  |
| Gutttersen D35-780 - Wellbore #1 - Plan #1               | 8,000.00                      | 6,142.57                   | 3,009.50                      | 2,961.93                       | 63.263            | SF                  |
| Gutttersen State D23-721 - Wellbore #1 - Plan #1         | 2,518.46                      | 2,518.42                   | 37.43                         | 19.87                          | 2.131             | CC                  |
| Gutttersen State D23-721 - Wellbore #1 - Plan #1         | 2,600.00                      | 2,599.84                   | 37.70                         | 19.59                          | 2.081             | ES, SF              |
| Gutttersen State D23-741 - Wellbore #1 - Plan #1         | 2,400.00                      | 2,401.00                   | 37.50                         | 20.76                          | 2.240             | CC                  |
| Gutttersen State D23-741 - Wellbore #1 - Plan #1         | 2,500.00                      | 2,500.98                   | 37.66                         | 20.21                          | 2.159             | ES                  |
| Gutttersen State D23-741 - Wellbore #1 - Plan #1         | 2,600.00                      | 2,600.84                   | 38.59                         | 20.47                          | 2.130             | SF                  |
| Gutttersen State D23-751 - Wellbore #1 - Plan #1         | 7,400.00                      | 7,422.53                   | 1,293.79                      | 1,243.02                       | 25.488            | CC                  |
| Gutttersen State D23-751 - Wellbore #1 - Plan #1         | 17,569.77                     | 17,576.36                  | 1,300.12                      | 1,122.74                       | 7.329             | ES, SF              |
| Gutttersen State D23-761 - Wellbore #1 - Plan #1         | 2,400.00                      | 2,419.00                   | 1,697.41                      | 1,680.60                       | 100.984           | CC                  |
| Gutttersen State D23-761 - Wellbore #1 - Plan #1         | 2,700.00                      | 2,707.88                   | 1,697.96                      | 1,679.15                       | 90.283            | ES                  |
| Gutttersen State D23-761 - Wellbore #1 - Plan #1         | 17,569.77                     | 17,485.18                  | 1,962.84                      | 1,785.62                       | 11.076            | SF                  |
| Gutttersen State D23-771 - Wellbore #1 - Plan #1         | 2,309.35                      | 2,327.35                   | 1,734.85                      | 1,718.69                       | 107.386           | CC                  |
| Gutttersen State D23-771 - Wellbore #1 - Plan #1         | 2,400.00                      | 2,413.27                   | 1,734.87                      | 1,718.09                       | 103.353           | ES                  |
| Gutttersen State D23-771 - Wellbore #1 - Plan #1         | 17,569.77                     | 17,647.22                  | 2,620.09                      | 2,443.33                       | 14.823            | SF                  |
| Gutttersen State D23-781 - Wellbore #1 - Plan #1         | 2,108.85                      | 2,127.85                   | 1,772.29                      | 1,757.57                       | 120.389           | CC                  |
| Gutttersen State D23-781 - Wellbore #1 - Plan #1         | 2,200.00                      | 2,213.06                   | 1,772.32                      | 1,756.97                       | 115.450           | ES                  |
| Gutttersen State D23-781 - Wellbore #1 - Plan #1         | 17,569.77                     | 17,667.28                  | 3,231.36                      | 3,054.42                       | 18.263            | SF                  |
| Gutttersen State D35-790 - Wellbore #1 - Plan #1         | 2,200.00                      | 2,204.00                   | 168.29                        | 152.97                         | 10.984            | CC                  |
| Gutttersen State D35-790 - Wellbore #1 - Plan #1         | 2,300.00                      | 2,303.31                   | 168.50                        | 152.47                         | 10.516            | ES                  |
| Gutttersen State D35-790 - Wellbore #1 - Plan #1         | 2,500.00                      | 2,501.07                   | 172.13                        | 154.75                         | 9.900             | SF                  |
| Gutttersen USX D 23-17 (PR) - Wellbore #1 - Gyro Surveys | 11,145.23                     | 6,874.46                   | 32.27                         | -32.34                         | 0.499             | Level 1, CC, ES, SF |
| Parker Blue D 23-09 (SI) - Wellbore #1 - Gyro Surveys    | 8,830.80                      | 6,788.86                   | 957.50                        | 905.65                         | 18.465            | CC, ES              |
| Parker Blue D 23-09 (SI) - Wellbore #1 - Gyro Surveys    | 8,900.00                      | 6,787.87                   | 960.00                        | 907.90                         | 18.426            | SF                  |
| Parker Blue D 23-10 (SI) - Wellbore #1 - Gyro Surveys    | 8,998.42                      | 6,815.34                   | 306.01                        | 253.30                         | 5.805             | CC                  |

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

**Noble Energy, Inc.**  
Anticollision Summary Report

|                           |                            |                                     |                               |
|---------------------------|----------------------------|-------------------------------------|-------------------------------|
| <b>Company:</b>           | Northern Region - DJ Basin | <b>Local Co-ordinate Reference:</b> | Well Gutttersen State D23-731 |
| <b>Project:</b>           | Mustang                    | <b>TVD Reference:</b>               | KB @ 4839.00ft                |
| <b>Reference Site:</b>    | D Section 23               | <b>MD Reference:</b>                | KB @ 4839.00ft                |
| <b>Site Error:</b>        | 0.00 ft                    | <b>North Reference:</b>             | Grid                          |
| <b>Reference Well:</b>    | Gutttersen State D23-731   | <b>Survey Calculation Method:</b>   | Minimum Curvature             |
| <b>Well Error:</b>        | 0.00 ft                    | <b>Output errors are at</b>         | 2.00 sigma                    |
| <b>Reference Wellbore</b> | Wellbore #1                | <b>Database:</b>                    | EDMP                          |
| <b>Reference Design:</b>  | Plan #1                    | <b>Offset TVD Reference:</b>        | 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 23  |                               |                            |                               |                                |                   |            |
| Parker Blue D 23-10 (SI) - Wellbore #1 - Gyro Surveys | 9,000.00                      | 6,815.34                   | 306.02                        | 253.30                         | 5.804             | ES, SF     |
| Parker Blue D 23-11 (SI) - Wellbore #1 - Gyro Surveys | 9,407.02                      | 6,851.57                   | 1,778.07                      | 1,723.35                       | 32.491            | CC, ES     |
| Parker Blue D 23-11 (SI) - Wellbore #1 - Gyro Surveys | 9,600.00                      | 6,850.20                   | 1,788.51                      | 1,732.95                       | 32.188            | SF         |
| Parker Blue D 23-13 (SI) - Wellbore #1 - Gyro Surveys | 0.00                          | 0.95                       | 3,181.33                      |                                |                   |            |
| Parker Blue D 23-13 (SI) - Wellbore #1 - Gyro Surveys | 1,200.00                      | 1,185.18                   | 3,184.99                      | 3,176.95                       | 396.258           | ES         |
| Parker Blue D 23-13 (SI) - Wellbore #1 - Gyro Surveys | 8,900.00                      | 6,831.36                   | 3,381.91                      | 3,329.68                       | 64.750            | SF         |
| Parker Blue D 23-14 (SI) - Wellbore #1 - Gyro Surveys | 0.00                          | 0.00                       | 1,674.31                      |                                |                   |            |
| Parker Blue D 23-14 (SI) - Wellbore #1 - Gyro Surveys | 2,000.00                      | 1,980.46                   | 1,679.82                      | 1,666.13                       | 122.663           | ES         |
| Parker Blue D 23-14 (SI) - Wellbore #1 - Gyro Surveys | 8,300.00                      | 6,847.95                   | 1,820.80                      | 1,770.31                       | 36.067            | SF         |
| Parker Blue D 23-15 (SI) - Wellbore #1 - Gyro Surveys | 3,531.19                      | 3,465.66                   | 390.97                        | 366.89                         | 16.235            | CC, ES     |
| Parker Blue D 23-15 (SI) - Wellbore #1 - Gyro Surveys | 7,700.00                      | 6,817.43                   | 525.71                        | 476.56                         | 10.698            | SF         |
| Parker Blue D 23-3J (SI) - Wellbore #1 - Gyro Surveys | 9,234.56                      | 6,884.59                   | 2,792.23                      | 2,734.78                       | 48.602            | CC, ES     |
| Parker Blue D 23-3J (SI) - Wellbore #1 - Gyro Surveys | 9,800.00                      | 6,887.01                   | 2,848.91                      | 2,789.04                       | 47.590            | SF         |
| Parker Red D 23-05 (PR) - Wellbore #1 - Gyro Surveys  | 10,446.27                     | 6,858.05                   | 3,241.46                      | 3,181.18                       | 53.773            | CC, ES     |
| Parker Red D 23-05 (PR) - Wellbore #1 - Gyro Surveys  | 11,200.00                     | 6,855.37                   | 3,327.93                      | 3,263.70                       | 51.810            | SF         |
| Parker Red D 23-2J (SI) - Wellbore #1 - Gyro Surveys  | 10,810.35                     | 6,772.61                   | 2,413.28                      | 2,351.09                       | 38.804            | CC, ES     |
| Parker Red D 23-2J (SI) - Wellbore #1 - Gyro Surveys  | 11,200.00                     | 6,778.59                   | 2,444.53                      | 2,380.17                       | 37.984            | SF         |
| Parker Red D 23-3 (PR) - Wellbore #1 - Gyro Surveys   | 11,798.14                     | 6,813.50                   | 1,937.28                      | 1,868.49                       | 28.161            | CC         |
| Parker Red D 23-3 (PR) - Wellbore #1 - Gyro Surveys   | 11,800.00                     | 6,813.48                   | 1,937.28                      | 1,868.48                       | 28.156            | ES         |
| Parker Red D 23-3 (PR) - Wellbore #1 - Gyro Surveys   | 12,000.00                     | 6,810.91                   | 1,947.77                      | 1,877.79                       | 27.835            | SF         |
| Parker Red D 23-4 (SI) - Wellbore #1 - Gyro Surveys   | 11,704.55                     | 6,843.77                   | 3,271.01                      | 3,202.69                       | 47.878            | CC, ES     |
| Parker Red D 23-4 (SI) - Wellbore #1 - Gyro Surveys   | 12,400.00                     | 6,850.01                   | 3,344.11                      | 3,271.81                       | 46.253            | SF         |
| Two E Ranch 1-23 (SI) - Wellbore #1 - Gyro Surveys    | 8,332.91                      | 6,815.10                   | 463.12                        | 412.62                         | 9.172             | CC, ES, SF |



# Noble Energy, Inc.

## Anticollision Summary Report

|                           |                            |                                     |                               |
|---------------------------|----------------------------|-------------------------------------|-------------------------------|
| <b>Company:</b>           | Northern Region - DJ Basin | <b>Local Co-ordinate Reference:</b> | Well Gutteresen State D23-731 |
| <b>Project:</b>           | Mustang                    | <b>TVD Reference:</b>               | KB @ 4839.00ft                |
| <b>Reference Site:</b>    | D Section 23               | <b>MD Reference:</b>                | KB @ 4839.00ft                |
| <b>Site Error:</b>        | 0.00 ft                    | <b>North Reference:</b>             | Grid                          |
| <b>Reference Well:</b>    | Gutteresen State D23-731   | <b>Survey Calculation Method:</b>   | Minimum Curvature             |
| <b>Well Error:</b>        | 0.00 ft                    | <b>Output errors are at</b>         | 2.00 sigma                    |
| <b>Reference Wellbore</b> | Wellbore #1                | <b>Database:</b>                    | EDMP                          |
| <b>Reference Design:</b>  | Plan #1                    | <b>Offset TVD Reference:</b>        | Offset Datum                  |

Reference Depths are relative to KB @ 4839.00ft

Offset Depths are relative to Offset Datum

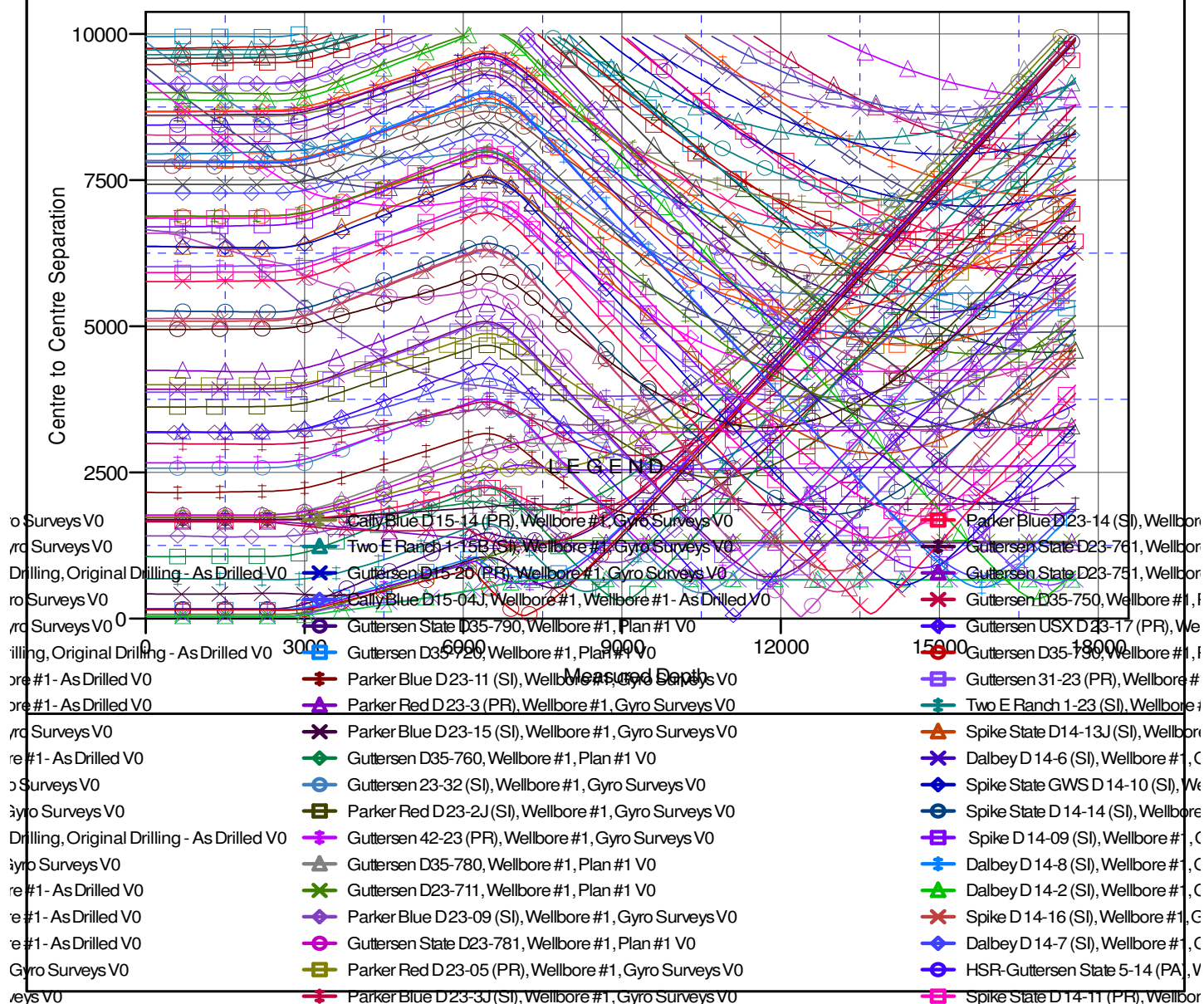
Central Meridian is -105.5000000

Coordinates are relative to: Gutteresen State D23-731

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.64°

### Ladder Plot



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

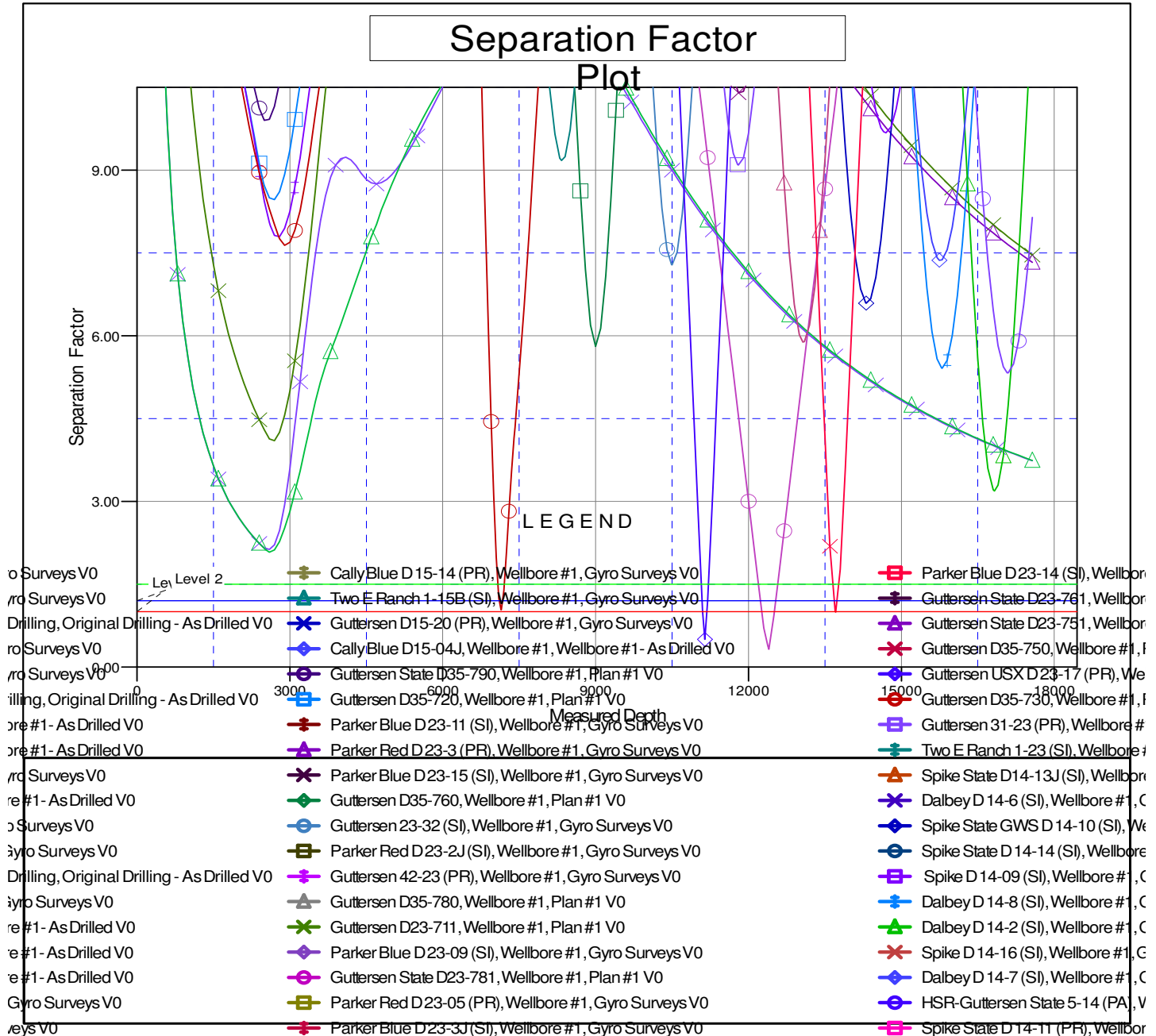
# Noble Energy, Inc.

## Anticollision Summary Report

|                           |                            |                                     |                               |
|---------------------------|----------------------------|-------------------------------------|-------------------------------|
| <b>Company:</b>           | Northern Region - DJ Basin | <b>Local Co-ordinate Reference:</b> | Well Gutteresen State D23-731 |
| <b>Project:</b>           | Mustang                    | <b>TVD Reference:</b>               | KB @ 4839.00ft                |
| <b>Reference Site:</b>    | D Section 23               | <b>MD Reference:</b>                | KB @ 4839.00ft                |
| <b>Site Error:</b>        | 0.00 ft                    | <b>North Reference:</b>             | Grid                          |
| <b>Reference Well:</b>    | Gutteresen State D23-731   | <b>Survey Calculation Method:</b>   | Minimum Curvature             |
| <b>Well Error:</b>        | 0.00 ft                    | <b>Output errors are at</b>         | 2.00 sigma                    |
| <b>Reference Wellbore</b> | Wellbore #1                | <b>Database:</b>                    | EDMP                          |
| <b>Reference Design:</b>  | Plan #1                    | <b>Offset TVD Reference:</b>        | Offset Datum                  |

Reference Depths are relative to KB @ 4839.00ft  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.5000000

Coordinates are relative to: Gutteresen State D23-731  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.64°



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