

15-43882

### Nervous Purvis State #9H

|         | Hole<br>Size | Casing | Wt   | Depth  | Cmt  | TOC   |
|---------|--------------|--------|------|--------|------|-------|
| Surface | 17.5         | 13 3/8 | 54.5 | 1000'  | 790  | 0     |
| Intrmd  | 12.25        | 9 5/8  | 40   | 2900'  | 840  | 0     |
| Prod    | 8.75         | 5.5    | 17   | 13938' | 1970 | 2400' |

Plan to drill a 17.5" hole to 1000' with fresh water. Run 13 3/8", 54.5# J-55 csg and cmt to surface. Drill a 12.25" hole to 2900' with brine, and run 9 5/8" 40# J55 and cement to surface in one stage. Drill out 8.75" intermediate, kick off and drill an 8.75" curve and lateral to 13938' with cut brine. Run 5-1/2" 17# P110 production string and cement to 2400'.

### Well Control

| Type       | Pressure | Test | Manufacture |
|------------|----------|------|-------------|
| Double Ram | 5000     | 5000 | Cameron     |

# **COG OPERATING, LLC**

**LEA COUNTY, NM**

**LUSK BSS**

**NERVOUS PURVIS STATE #9H**

**OWB**

**DWD Plan 1**

## **Anticollision Report**

**05 August, 2016**

# COG Operating LLC

## Anticollision Report

|                           |                         |                                     |                                           |
|---------------------------|-------------------------|-------------------------------------|-------------------------------------------|
| <b>Company:</b>           | COG OPERATING, LLC      | <b>Local Co-ordinate Reference:</b> | Well NERVOUS PERVIS STATE #9H             |
| <b>Project:</b>           | LEA COUNTY, NM          | <b>TVD Reference:</b>               | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| <b>Reference Site:</b>    | LUSK BSS                | <b>MD Reference:</b>                | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| <b>Site Error:</b>        | 0.0 usft                | <b>North Reference:</b>             | Grid                                      |
| <b>Reference Well:</b>    | NERVOUS PRVIS STATE #9H | <b>Survey Calculation Method:</b>   | Minimum Curvature                         |
| <b>Well Error:</b>        | 0.0 usft                | <b>Output errors are at</b>         | 2.00 sigma                                |
| <b>Reference Wellbore</b> | OWB                     | <b>Database:</b>                    | EDM_Users                                 |
| <b>Reference Design:</b>  | DWD Plan 1              | <b>Offset TVD Reference:</b>        | Offset Datum                              |

|                              |                                                                     |                |                     |
|------------------------------|---------------------------------------------------------------------|----------------|---------------------|
| Reference                    | DWD 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 10,000.0 usft                     | Error Surface: | Circular Conic      |
| Warning Levels Evaluated at: | 2.00 Sigma                                                          | Casing Method: | Not applied         |

|                     |           |                   |           |                     |
|---------------------|-----------|-------------------|-----------|---------------------|
| Survey Tool Program |           | Date: 8/5/2016    |           |                     |
| From (usft)         | To (usft) | Survey (Wellbore) | Tool Name | Description         |
| 0.0                 | 13,937.2  | DWD Plan 1 (OWB)  | MWD       | OWSG MWD - Standard |

| Summary                                      |                                 |                              |                                 |                                  |                   |                            |
|----------------------------------------------|---------------------------------|------------------------------|---------------------------------|----------------------------------|-------------------|----------------------------|
| Site Name                                    | Reference Measured Depth (usft) | Offset Measured Depth (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Separation Factor | Warning                    |
| LUSK BSS                                     |                                 |                              |                                 |                                  |                   |                            |
| CHICKEN DINNER 36 STATE COM #1H - OWB - ACTU | 13,337.1                        | 9,047.2                      | 19.1                            | -93.2                            | 0.170             | Stop Drilling Now, CC, ES, |
| HIGHTOWER #2 - OWB - ACTUAL WELLPATH         | 4,246.2                         | 4,250.2                      | 2,188.7                         | 2,064.1                          | 17.560            | CC                         |
| HIGHTOWER #2 - OWB - ACTUAL WELLPATH         | 4,300.0                         | 4,266.0                      | 2,189.0                         | 2,063.8                          | 17.478            | ES                         |
| HIGHTOWER #2 - OWB - ACTUAL WELLPATH         | 4,400.0                         | 4,266.0                      | 2,193.1                         | 2,067.5                          | 17.460            | SF                         |
| STATE #1 - OWB - ACTUAL WELLPATH             | 3,601.9                         | 3,601.9                      | 2,159.2                         | 2,053.6                          | 20.451            | CC                         |
| STATE #1 - OWB - ACTUAL WELLPATH             | 3,700.0                         | 3,634.0                      | 2,160.2                         | 2,053.4                          | 20.234            | ES                         |
| STATE #1 - OWB - ACTUAL WELLPATH             | 3,800.0                         | 3,634.0                      | 2,165.6                         | 2,058.4                          | 20.217            | SF                         |
| STATE #2 - OWB - ACTUAL WELLPATH             | 3,100.0                         | 3,102.0                      | 2,808.6                         | 2,717.8                          | 30.911            | CC                         |
| STATE #2 - OWB - ACTUAL WELLPATH             | 3,200.0                         | 3,134.0                      | 2,809.5                         | 2,717.4                          | 30.523            | ES                         |
| STATE #2 - OWB - ACTUAL WELLPATH             | 3,400.0                         | 3,134.0                      | 2,821.4                         | 2,728.6                          | 30.416            | SF                         |
| STATE #3 - OWB - ACTUAL WELLPATH             | 3,151.0                         | 3,151.0                      | 2,309.2                         | 2,216.9                          | 25.016            | CC                         |
| STATE #3 - OWB - ACTUAL WELLPATH             | 3,200.0                         | 3,168.0                      | 2,309.4                         | 2,216.5                          | 24.853            | ES                         |
| STATE #3 - OWB - ACTUAL WELLPATH             | 3,400.0                         | 3,168.0                      | 2,320.8                         | 2,227.2                          | 24.785            | SF                         |
| STATE A #1 - OWB - ACTUAL WELLPATH           | 4,257.3                         | 4,249.3                      | 954.4                           | 829.8                            | 7.656             | CC                         |
| STATE A #1 - OWB - ACTUAL WELLPATH           | 4,300.0                         | 4,270.0                      | 954.7                           | 829.4                            | 7.616             | ES, SF                     |

| Offset Design                                                      |                       |                       |                       |                  |               |                       |                                    |                                    |                        |                         |                   |           |
|--------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|------------------------------------|------------------------------------|------------------------|-------------------------|-------------------|-----------|
| LUSK BSS - CHICKEN DINNER 36 STATE COM #1H - OWB - ACTUAL WELLPATH |                       |                       |                       |                  |               |                       |                                    |                                    |                        |                         |                   |           |
| Survey Program: 100-MWD                                            |                       |                       |                       |                  |               |                       |                                    |                                    |                        |                         |                   |           |
| Reference                                                          | Offset                | Semi Major Axis       |                       |                  | Distance      |                       |                                    | Minimum Separation                 |                        |                         | Warning           |           |
| Measured Depth (usft)                                              | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N-S (usft) | Offset Wellbore Centre -E-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Separation Factor | Warning   |
| 0.0                                                                | 0.0                   | 12.6                  | 12.6                  | 0.0              | 3.0           | -0.27                 | 4,468.9                            | -21.1                              | 4,469.0                |                         |                   |           |
| 100.0                                                              | 100.0                 | 123.3                 | 123.3                 | 0.1              | 3.0           | -0.27                 | 4,468.6                            | -21.0                              | 4,468.7                | 4,465.5                 | 3.15              | 1,417.259 |
| 154.3                                                              | 154.3                 | 164.3                 | 164.3                 | 0.3              | 3.0           | -0.27                 | 4,468.6                            | -20.8                              | 4,468.6                | 4,465.3                 | 3.36              | 1,328.837 |
| 200.0                                                              | 200.0                 | 200.0                 | 200.0                 | 0.5              | 3.0           | -0.27                 | 4,468.6                            | -20.7                              | 4,468.7                | 4,465.1                 | 3.54              | 1,260.578 |
| 300.0                                                              | 300.0                 | 303.3                 | 303.3                 | 0.9              | 3.1           | -0.26                 | 4,468.8                            | -20.1                              | 4,468.9                | 4,464.9                 | 3.99              | 1,121.121 |
| 400.0                                                              | 400.0                 | 410.5                 | 410.5                 | 1.2              | 3.3           | -0.25                 | 4,468.9                            | -19.5                              | 4,469.0                | 4,464.5                 | 4.47              | 999.279   |
| 500.0                                                              | 500.0                 | 528.9                 | 528.9                 | 1.6              | 3.4           | -0.24                 | 4,468.6                            | -19.1                              | 4,468.6                | 4,463.6                 | 5.01              | 891.464   |
| 600.0                                                              | 600.0                 | 620.8                 | 620.8                 | 1.9              | 3.6           | -0.25                 | 4,468.3                            | -19.4                              | 4,468.3                | 4,462.8                 | 5.54              | 807.230   |
| 700.0                                                              | 700.0                 | 724.5                 | 724.5                 | 2.3              | 3.8           | -0.25                 | 4,468.0                            | -19.6                              | 4,468.0                | 4,461.9                 | 6.10              | 731.955   |
| 800.0                                                              | 800.0                 | 822.3                 | 822.3                 | 2.7              | 4.0           | -0.25                 | 4,467.7                            | -19.5                              | 4,467.7                | 4,461.1                 | 6.69              | 668.299   |
| 900.0                                                              | 900.0                 | 917.9                 | 917.9                 | 3.0              | 4.3           | -0.25                 | 4,467.5                            | -19.2                              | 4,467.5                | 4,460.2                 | 7.28              | 613.761   |
| 1,000.0                                                            | 1,000.0               | 1,013.8               | 1,013.8               | 3.4              | 4.5           | -0.24                 | 4,467.4                            | -18.9                              | 4,467.4                | 4,459.5                 | 7.89              | 566.450   |
| 1,100.0                                                            | 1,100.0               | 1,119.4               | 1,119.4               | 3.7              | 4.8           | -0.24                 | 4,467.2                            | -18.6                              | 4,467.3                | 4,458.7                 | 8.53              | 523.523   |

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

# COG Operating LLC

## Anticollision Report

|                    |                          |                              |                                           |
|--------------------|--------------------------|------------------------------|-------------------------------------------|
| Company:           | COG OPERATING, LLC       | Local Co-ordinate Reference: | Well NERVOUS PERVIS STATE #9H             |
| Project:           | LEA COUNTY, NM           | TVD Reference:               | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| Reference Site:    | LUSK BSS                 | MD Reference:                | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| Site Error:        | 0.0 usft                 | North Reference:             | Grid                                      |
| Reference Well:    | NERVOUS PURVIS STATE #9H | Survey Calculation Method:   | Minimum Curvature                         |
| Well Error:        | 0.0 usft                 | Output errors are at         | 2.00 sigma                                |
| Reference Wellbore | OWB                      | Database:                    | EDM_Users                                 |
| Reference Design:  | DWD Plan 1               | Offset TVD Reference:        | Offset Datum                              |

| Offset Design LUSK BSS - CHICKEN DINNER 36 STATE COM #1H - OWB - ACTUAL WELLPATH |                       |                       |                       |                  |               |                       |                                    |             |                        |                         |                           | Offset Site Error: | 0.0 usft |
|----------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|------------------------------------|-------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 100-MWD                                                          |                       |                       |                       |                  |               |                       |                                    |             |                        |                         |                           | Offset Well Error: | 3.0 usft |
| Reference                                                                        |                       | Offset                |                       | Semi Major Axis  |               | Distance              |                                    |             |                        |                         |                           |                    |          |
| Measured Depth (usft)                                                            | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N-S (usft) | +E-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor  | Warning  |
| 1,200.0                                                                          | 1,200.0               | 1,227.3               | 1,227.3               | 4.1              | 5.1           | -0.23                 | 4,466.9                            | -18.2       | 4,466.9                | 4,457.7                 | 9.20                      | 485.615            |          |
| 1,300.0                                                                          | 1,300.0               | 1,329.0               | 1,329.0               | 4.4              | 5.4           | -0.23                 | 4,466.5                            | -17.9       | 4,466.5                | 4,456.7                 | 9.86                      | 453.206            |          |
| 1,400.0                                                                          | 1,400.0               | 1,431.1               | 1,431.1               | 4.8              | 5.7           | -0.23                 | 4,466.0                            | -17.6       | 4,466.1                | 4,455.6                 | 10.52                     | 424.477            |          |
| 1,500.0                                                                          | 1,500.0               | 1,534.5               | 1,534.5               | 5.2              | 6.0           | -0.22                 | 4,465.5                            | -17.1       | 4,465.6                | 4,454.4                 | 11.20                     | 398.788            |          |
| 1,600.0                                                                          | 1,600.0               | 1,632.8               | 1,632.8               | 5.5              | 6.3           | -0.21                 | 4,464.9                            | -16.4       | 4,465.0                | 4,453.1                 | 11.86                     | 376.348            |          |
| 1,700.0                                                                          | 1,700.0               | 1,720.8               | 1,720.8               | 5.9              | 6.6           | -0.20                 | 4,464.6                            | -15.8       | 4,464.6                | 4,452.1                 | 12.50                     | 357.141            |          |
| 1,788.9                                                                          | 1,788.9               | 1,798.9               | 1,798.9               | 6.2              | 6.9           | -0.20                 | 4,464.5                            | -15.2       | 4,464.5                | 4,451.5                 | 13.07                     | 341.639            |          |
| 1,800.0                                                                          | 1,800.0               | 1,808.7               | 1,808.7               | 6.2              | 6.9           | -0.19                 | 4,464.5                            | -15.1       | 4,464.5                | 4,451.4                 | 13.14                     | 339.795            |          |
| 1,900.0                                                                          | 1,900.0               | 1,900.0               | 1,900.0               | 6.6              | 7.2           | -0.18                 | 4,464.7                            | -14.3       | 4,464.7                | 4,450.9                 | 13.79                     | 323.755            |          |
| 2,000.0                                                                          | 2,000.0               | 1,962.2               | 1,962.2               | 7.0              | 7.4           | -0.17                 | 4,465.1                            | -13.6       | 4,465.4                | 4,451.0                 | 14.35                     | 311.255            |          |
| 2,100.0                                                                          | 2,100.0               | 2,036.5               | 2,036.5               | 7.3              | 7.6           | -0.16                 | 4,466.2                            | -12.7       | 4,466.8                | 4,451.8                 | 14.94                     | 298.951            |          |
| 2,200.0                                                                          | 2,200.0               | 2,127.9               | 2,127.8               | 7.7              | 7.9           | -0.14                 | 4,467.8                            | -11.0       | 4,468.6                | 4,453.0                 | 15.59                     | 286.572            |          |
| 2,300.0                                                                          | 2,300.0               | 2,232.1               | 2,231.9               | 8.0              | 8.3           | -0.10                 | 4,469.7                            | -7.9        | 4,470.4                | 4,454.1                 | 16.29                     | 274.401            |          |
| 2,400.0                                                                          | 2,400.0               | 2,344.7               | 2,344.5               | 8.4              | 8.6           | -0.05                 | 4,471.5                            | -4.0        | 4,472.0                | 4,455.0                 | 17.02                     | 262.718            |          |
| 2,500.0                                                                          | 2,500.0               | 2,448.3               | 2,448.0               | 8.7              | 9.0           | 0.00                  | 4,472.9                            | -0.1        | 4,473.4                | 4,455.6                 | 17.73                     | 252.365            |          |
| 2,600.0                                                                          | 2,600.0               | 2,546.1               | 2,545.8               | 9.1              | 9.3           | 0.03                  | 4,474.3                            | 2.5         | 4,474.8                | 4,456.4                 | 18.41                     | 243.069            |          |
| 2,700.0                                                                          | 2,700.0               | 2,647.6               | 2,647.2               | 9.5              | 9.6           | 0.05                  | 4,475.8                            | 3.9         | 4,476.2                | 4,457.1                 | 19.10                     | 234.315            |          |
| 2,800.0                                                                          | 2,800.0               | 2,758.3               | 2,758.0               | 9.8              | 10.0          | 0.05                  | 4,477.2                            | 4.2         | 4,477.5                | 4,457.7                 | 19.83                     | 225.844            |          |
| 2,900.0                                                                          | 2,900.0               | 2,863.8               | 2,863.4               | 10.2             | 10.3          | 0.05                  | 4,478.3                            | 3.9         | 4,478.6                | 4,458.1                 | 20.53                     | 218.170            |          |
| 3,000.0                                                                          | 3,000.0               | 2,961.2               | 2,960.8               | 10.5             | 10.7          | 0.04                  | 4,479.4                            | 3.5         | 4,479.7                | 4,458.5                 | 21.20                     | 211.262            |          |
| 3,100.0                                                                          | 3,100.0               | 3,062.8               | 3,062.4               | 10.9             | 11.0          | 0.04                  | 4,480.5                            | 2.8         | 4,480.8                | 4,458.9                 | 21.89                     | 204.651            |          |
| 3,200.0                                                                          | 3,200.0               | 3,167.2               | 3,166.7               | 11.3             | 11.3          | 0.02                  | 4,481.6                            | 1.3         | 4,481.8                | 4,459.2                 | 22.59                     | 198.356            |          |
| 3,300.0                                                                          | 3,300.0               | 3,281.4               | 3,281.0               | 11.6             | 11.7          | -0.02                 | 4,482.5                            | -1.4        | 4,482.6                | 4,459.3                 | 23.33                     | 192.167            |          |
| 3,400.0                                                                          | 3,400.0               | 3,406.4               | 3,405.9               | 12.0             | 12.1          | -0.06                 | 4,483.0                            | -5.1        | 4,483.0                | 4,458.9                 | 24.10                     | 186.053            |          |
| 3,500.0                                                                          | 3,500.0               | 3,500.0               | 3,499.4               | 12.3             | 12.4          | -0.10                 | 4,483.1                            | -8.0        | 4,483.1                | 4,458.3                 | 24.76                     | 181.045            |          |
| 3,600.0                                                                          | 3,600.0               | 3,594.1               | 3,593.5               | 12.7             | 12.7          | -0.14                 | 4,483.3                            | -11.0       | 4,483.4                | 4,458.0                 | 25.43                     | 176.283            |          |
| 3,700.0                                                                          | 3,700.0               | 3,695.4               | 3,694.7               | 13.0             | 13.1          | -0.18                 | 4,483.7                            | -13.8       | 4,483.7                | 4,457.6                 | 26.13                     | 171.602            |          |
| 3,800.0                                                                          | 3,800.0               | 3,796.5               | 3,795.8               | 13.4             | 13.4          | -0.21                 | 4,484.0                            | -16.1       | 4,484.1                | 4,457.2                 | 26.83                     | 167.154            |          |
| 3,900.0                                                                          | 3,900.0               | 3,897.6               | 3,896.9               | 13.8             | 13.8          | -0.23                 | 4,484.3                            | -18.2       | 4,484.4                | 4,456.9                 | 27.52                     | 162.928            |          |
| 4,000.0                                                                          | 4,000.0               | 3,999.3               | 3,998.5               | 14.1             | 14.1          | -0.26                 | 4,484.6                            | -20.3       | 4,484.7                | 4,456.4                 | 28.22                     | 158.890            |          |
| 4,100.0                                                                          | 4,100.0               | 4,087.7               | 4,087.0               | 14.5             | 14.4          | -0.28                 | 4,484.9                            | -22.2       | 4,485.0                | 4,456.2                 | 28.88                     | 155.285            |          |
| 4,200.0                                                                          | 4,200.0               | 4,180.5               | 4,179.8               | 14.8             | 14.7          | -0.31                 | 4,485.5                            | -23.9       | 4,485.6                | 4,456.1                 | 29.56                     | 151.767            |          |
| 4,300.0                                                                          | 4,300.0               | 4,300.9               | 4,300.1               | 15.2             | 15.1          | -0.33                 | 4,486.1                            | -25.7       | 4,486.1                | 4,455.8                 | 30.32                     | 147.941            |          |
| 4,400.0                                                                          | 4,400.0               | 4,412.7               | 4,412.0               | 15.6             | 15.5          | -0.34                 | 4,486.1                            | -26.8       | 4,486.2                | 4,455.2                 | 31.06                     | 144.420            |          |
| 4,500.0                                                                          | 4,500.0               | 4,513.5               | 4,512.8               | 15.9             | 15.9          | -0.35                 | 4,486.1                            | -27.8       | 4,486.2                | 4,454.4                 | 31.77                     | 141.224            |          |
| 4,600.0                                                                          | 4,600.0               | 4,616.8               | 4,616.0               | 16.3             | 16.2          | -0.37                 | 4,486.0                            | -29.0       | 4,486.1                | 4,453.6                 | 32.48                     | 138.126            |          |
| 4,700.0                                                                          | 4,700.0               | 4,722.1               | 4,721.3               | 16.6             | 16.6          | -0.38                 | 4,485.8                            | -30.1       | 4,485.9                | 4,452.7                 | 33.20                     | 135.127            |          |
| 4,800.0                                                                          | 4,800.0               | 4,825.3               | 4,824.5               | 17.0             | 16.9          | -0.39                 | 4,485.5                            | -30.9       | 4,485.6                | 4,451.7                 | 33.91                     | 132.279            |          |
| 4,900.0                                                                          | 4,900.0               | 4,930.4               | 4,929.6               | 17.4             | 17.3          | -0.40                 | 4,485.0                            | -31.2       | 4,485.2                | 4,450.5                 | 34.63                     | 129.520            |          |
| 5,000.0                                                                          | 5,000.0               | 5,023.3               | 5,022.5               | 17.7             | 17.6          | -0.40                 | 4,484.7                            | -31.1       | 4,484.8                | 4,449.5                 | 35.31                     | 127.025            |          |
| 5,100.0                                                                          | 5,100.0               | 5,116.3               | 5,115.4               | 18.1             | 17.9          | -0.40                 | 4,484.5                            | -31.2       | 4,484.6                | 4,448.6                 | 35.98                     | 124.624            |          |
| 5,131.4                                                                          | 5,131.4               | 5,142.2               | 5,141.4               | 18.2             | 18.0          | -0.40                 | 4,484.5                            | -31.3       | 4,484.6                | 4,448.4                 | 36.19                     | 123.929            |          |
| 5,200.0                                                                          | 5,200.0               | 5,200.0               | 5,199.2               | 18.4             | 18.2          | -0.40                 | 4,484.6                            | -31.4       | 4,484.7                | 4,448.0                 | 36.63                     | 122.425            |          |
| 5,300.0                                                                          | 5,300.0               | 5,319.8               | 5,319.0               | 18.8             | 18.6          | -0.41                 | 4,484.6                            | -31.9       | 4,484.7                | 4,447.3                 | 37.40                     | 119.899            |          |
| 5,400.0                                                                          | 5,400.0               | 5,434.0               | 5,433.2               | 19.1             | 19.0          | -0.41                 | 4,484.1                            | -32.1       | 4,484.3                | 4,446.1                 | 38.16                     | 117.524            |          |
| 5,500.0                                                                          | 5,500.0               | 5,533.0               | 5,532.2               | 19.5             | 19.4          | -0.41                 | 4,483.6                            | -32.0       | 4,483.8                | 4,444.9                 | 38.86                     | 115.394            |          |
| 5,600.0                                                                          | 5,600.0               | 5,632.5               | 5,631.7               | 19.9             | 19.7          | -0.41                 | 4,483.2                            | -31.8       | 4,483.3                | 4,443.8                 | 39.56                     | 113.336            |          |
| 5,700.0                                                                          | 5,700.0               | 5,735.8               | 5,735.0               | 20.2             | 20.1          | -0.40                 | 4,482.6                            | -31.4       | 4,482.8                | 4,442.5                 | 40.27                     | 111.311            |          |
| 5,800.0                                                                          | 5,800.0               | 5,833.7               | 5,832.9               | 20.6             | 20.4          | -0.39                 | 4,482.1                            | -30.8       | 4,482.2                | 4,441.3                 | 40.97                     | 109.405            |          |
| 5,900.0                                                                          | 5,900.0               | 5,925.3               | 5,924.5               | 20.9             | 20.7          | -0.39                 | 4,481.7                            | -30.2       | 4,481.8                | 4,440.2                 | 41.64                     | 107.622            |          |
| 6,000.0                                                                          | 6,000.0               | 6,021.1               | 6,020.3               | 21.3             | 21.0          | -0.38                 | 4,481.5                            | -29.7       | 4,481.6                | 4,439.2                 | 42.33                     | 105.862            |          |
| 6,100.0                                                                          | 6,100.0               | 6,128.8               | 6,128.0               | 21.7             | 21.4          | -0.37                 | 4,481.1                            | -28.9       | 4,481.3                | 4,438.2                 | 43.07                     | 104.058            |          |

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

# COG Operating LLC

## Anticollision Report

|                     |                          |                              |                                           |
|---------------------|--------------------------|------------------------------|-------------------------------------------|
| Company:            | COG OPERATING, LLC       | Local Co-ordinate Reference: | Well NERVOUS PERVIS STATE #9H             |
| Project:            | LEA COUNTY, NM           | TVD Reference:               | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| Reference Site:     | LUSK BSS                 | MD Reference:                | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| Site Error:         | 0.0 usft                 | North Reference:             | Grid                                      |
| Reference Well:     | NERVOUS PURVIS STATE #9H | Survey Calculation Method:   | Minimum Curvature                         |
| Well Error:         | 0.0 usft                 | Output errors are at:        | 2.00 sigma                                |
| Reference Wellbore: | OWB                      | Database:                    | EDM_Users                                 |
| Reference Design:   | DWD Plan 1               | Offset TVD Reference:        | Offset Datum                              |

| Offset Design LUSK BSS - CHICKEN DINNER 36 STATE COM #1H - OWB - ACTUAL WELLPATH |                       |                       |                       |                  |               |                        |                       |                                   |                                   |                        |                         |                           |                   | Offset Site Error: | 0.0 usft |
|----------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|------------------------|-----------------------|-----------------------------------|-----------------------------------|------------------------|-------------------------|---------------------------|-------------------|--------------------|----------|
| Survey Program: 100-MWD                                                          |                       |                       |                       |                  |               |                        |                       |                                   |                                   |                        |                         |                           |                   | Offset Well Error: | 3.0 usft |
| Measured Depth (usft)                                                            | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Semi Major Axis (usft) | Highside Toolface (°) | Offset Wellbore Centre N-S (usft) | Offset Wellbore Centre E-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning            |          |
| 6,200.0                                                                          | 6,200.0               | 6,253.7               | 6,252.9               | 22.0             | 21.8          | -0.35                  |                       | 4,480.4                           | -27.5                             | 4,480.7                | 4,436.8                 | 43.86                     | 102.167           |                    |          |
| 6,300.0                                                                          | 6,300.0               | 6,360.5               | 6,359.6               | 22.4             | 22.2          | -0.34                  |                       | 4,479.1                           | -26.7                             | 4,479.5                | 4,434.9                 | 44.59                     | 100.470           |                    |          |
| 6,400.0                                                                          | 6,400.0               | 6,448.6               | 6,447.8               | 22.7             | 22.5          | -0.34                  |                       | 4,478.3                           | -26.8                             | 4,478.5                | 4,433.3                 | 45.25                     | 98.973            |                    |          |
| 6,500.0                                                                          | 6,500.0               | 6,525.7               | 6,524.9               | 23.1             | 22.8          | -0.35                  |                       | 4,477.8                           | -27.4                             | 4,477.9                | 4,432.0                 | 45.88                     | 97.609            |                    |          |
| 6,530.0                                                                          | 6,530.0               | 6,544.3               | 6,543.4               | 23.2             | 22.9          | -0.35                  |                       | 4,477.7                           | -27.5                             | 4,477.8                | 4,431.8                 | 46.05                     | 97.244            |                    |          |
| 6,600.0                                                                          | 6,600.0               | 6,600.0               | 6,599.1               | 23.4             | 23.0          | -0.35                  |                       | 4,477.9                           | -27.7                             | 4,478.0                | 4,431.5                 | 46.49                     | 96.321            |                    |          |
| 6,700.0                                                                          | 6,700.0               | 6,663.0               | 6,662.2               | 23.8             | 23.3          | -0.36                  |                       | 4,478.4                           | -27.8                             | 4,478.8                | 4,431.7                 | 47.07                     | 95.161            |                    |          |
| 6,800.0                                                                          | 6,800.0               | 6,746.9               | 6,746.0               | 24.2             | 23.6          | -0.36                  |                       | 4,478.5                           | -28.3                             | 4,480.1                | 4,432.3                 | 47.71                     | 93.896            |                    |          |
| 6,900.0                                                                          | 6,900.0               | 6,835.0               | 6,834.1               | 24.5             | 23.9          | -0.38                  |                       | 4,480.9                           | -29.5                             | 4,481.6                | 4,433.2                 | 48.38                     | 92.643            |                    |          |
| 7,000.0                                                                          | 7,000.0               | 6,922.8               | 6,921.9               | 24.9             | 24.2          | -0.40                  |                       | 4,482.5                           | -31.0                             | 4,483.4                | 4,434.4                 | 49.04                     | 91.430            |                    |          |
| 7,100.0                                                                          | 7,100.0               | 7,012.7               | 7,011.7               | 25.2             | 24.5          | -0.42                  |                       | 4,484.4                           | -32.9                             | 4,485.6                | 4,435.8                 | 49.71                     | 90.241            |                    |          |
| 7,200.0                                                                          | 7,200.0               | 7,128.3               | 7,127.3               | 25.6             | 24.9          | -0.45                  |                       | 4,486.7                           | -35.1                             | 4,487.6                | 4,437.1                 | 50.47                     | 88.924            |                    |          |
| 7,300.0                                                                          | 7,300.0               | 7,244.1               | 7,243.1               | 26.0             | 25.3          | -0.47                  |                       | 4,488.6                           | -36.8                             | 4,489.2                | 4,438.0                 | 51.22                     | 87.637            |                    |          |
| 7,400.0                                                                          | 7,400.0               | 7,386.8               | 7,385.7               | 26.3             | 25.8          | -0.50                  |                       | 4,490.2                           | -39.4                             | 4,490.4                | 4,438.3                 | 52.08                     | 86.223            |                    |          |
| 7,500.0                                                                          | 7,500.0               | 7,584.3               | 7,583.2               | 26.7             | 26.5          | -0.59                  |                       | 4,489.2                           | -46.0                             | 4,490.0                | 4,436.9                 | 53.13                     | 84.518            |                    |          |
| 7,600.0                                                                          | 7,600.0               | 7,753.1               | 7,751.7               | 27.0             | 27.0          | -0.67                  |                       | 4,484.7                           | -52.4                             | 4,487.3                | 4,433.2                 | 54.07                     | 82.987            |                    |          |
| 7,700.0                                                                          | 7,700.0               | 7,856.0               | 7,854.6               | 27.4             | 27.4          | -0.72                  |                       | 4,481.4                           | -56.0                             | 4,484.1                | 4,429.3                 | 54.79                     | 81.841            |                    |          |
| 7,800.0                                                                          | 7,800.0               | 7,954.8               | 7,953.3               | 27.7             | 27.7          | -0.76                  |                       | 4,478.2                           | -59.1                             | 4,480.8                | 4,425.4                 | 55.49                     | 80.745            |                    |          |
| 7,900.0                                                                          | 7,900.0               | 8,073.4               | 8,071.7               | 28.1             | 28.2          | -0.80                  |                       | 4,474.2                           | -62.5                             | 4,477.6                | 4,421.3                 | 56.27                     | 79.578            |                    |          |
| 8,000.0                                                                          | 8,000.0               | 8,204.7               | 8,202.9               | 28.5             | 28.6          | -0.84                  |                       | 4,468.9                           | -65.4                             | 4,473.6                | 4,416.5                 | 57.08                     | 78.368            |                    |          |
| 8,100.0                                                                          | 8,100.0               | 8,310.7               | 8,308.7               | 28.8             | 29.0          | -0.87                  |                       | 4,464.3                           | -67.4                             | 4,469.2                | 4,411.4                 | 57.81                     | 77.303            |                    |          |
| 8,200.0                                                                          | 8,200.0               | 8,413.1               | 8,411.0               | 29.2             | 29.4          | -0.89                  |                       | 4,459.6                           | -69.6                             | 4,464.7                | 4,406.2                 | 58.53                     | 76.279            |                    |          |
| 8,300.0                                                                          | 8,300.0               | 8,500.0               | 8,497.8               | 29.5             | 29.7          | -0.92                  |                       | 4,455.8                           | -71.8                             | 4,460.4                | 4,401.2                 | 59.20                     | 75.350            |                    |          |
| 8,400.0                                                                          | 8,400.0               | 8,575.9               | 8,573.6               | 29.9             | 29.9          | -0.95                  |                       | 4,452.8                           | -74.2                             | 4,456.5                | 4,396.6                 | 59.82                     | 74.497            |                    |          |
| 8,500.0                                                                          | 8,500.0               | 8,656.7               | 8,654.3               | 30.3             | 30.2          | -0.99                  |                       | 4,450.0                           | -77.1                             | 4,453.0                | 4,392.6                 | 60.46                     | 73.647            |                    |          |
| 8,600.0                                                                          | 8,600.0               | 8,738.9               | 8,736.4               | 30.6             | 30.5          | -1.03                  |                       | 4,447.5                           | -80.3                             | 4,450.0                | 4,388.9                 | 61.11                     | 72.816            |                    |          |
| 8,622.6                                                                          | 8,622.6               | 8,757.6               | 8,755.1               | 30.7             | 30.6          | -1.04                  |                       | 4,446.9                           | -81.1                             | 4,449.4                | 4,388.1                 | 61.26                     | 72.630            |                    |          |
| 8,625.0                                                                          | 8,625.0               | 8,759.6               | 8,757.1               | 30.7             | 30.6          | -0.11                  |                       | 4,446.9                           | -81.2                             | 4,449.3                | 4,388.0                 | 61.28                     | 72.611            |                    |          |
| 8,650.0                                                                          | 8,650.0               | 8,780.4               | 8,777.8               | 30.8             | 30.6          | -0.12                  |                       | 4,446.3                           | -82.0                             | 4,447.8                | 4,386.4                 | 61.44                     | 72.395            |                    |          |
| 8,675.0                                                                          | 8,674.9               | 8,801.0               | 8,798.5               | 30.9             | 30.7          | -0.13                  |                       | 4,445.7                           | -82.8                             | 4,445.1                | 4,383.5                 | 61.60                     | 72.159            |                    |          |
| 8,700.0                                                                          | 8,699.7               | 8,821.5               | 8,819.0               | 31.0             | 30.8          | -0.14                  |                       | 4,445.2                           | -83.6                             | 4,441.1                | 4,379.3                 | 61.76                     | 71.905            |                    |          |
| 8,725.0                                                                          | 8,724.2               | 8,841.9               | 8,839.3               | 31.1             | 30.9          | -0.15                  |                       | 4,444.7                           | -84.4                             | 4,435.8                | 4,373.9                 | 61.92                     | 71.635            |                    |          |
| 8,750.0                                                                          | 8,748.5               | 8,861.9               | 8,859.3               | 31.1             | 30.9          | -0.16                  |                       | 4,444.2                           | -85.1                             | 4,429.3                | 4,367.2                 | 62.08                     | 71.348            |                    |          |
| 8,775.0                                                                          | 8,772.4               | 8,881.7               | 8,879.1               | 31.2             | 31.0          | -0.18                  |                       | 4,443.8                           | -85.9                             | 4,421.5                | 4,359.3                 | 62.24                     | 71.046            |                    |          |
| 8,800.0                                                                          | 8,795.9               | 8,900.0               | 8,897.3               | 31.3             | 31.1          | -0.19                  |                       | 4,443.4                           | -86.6                             | 4,412.6                | 4,350.2                 | 62.38                     | 70.734            |                    |          |
| 8,825.0                                                                          | 8,819.0               | 8,921.4               | 8,918.7               | 31.4             | 31.1          | -0.21                  |                       | 4,442.9                           | -87.4                             | 4,402.4                | 4,339.9                 | 62.54                     | 70.396            |                    |          |
| 8,850.0                                                                          | 8,841.5               | 8,941.1               | 8,938.3               | 31.5             | 31.2          | -0.23                  |                       | 4,442.5                           | -88.1                             | 4,391.1                | 4,328.4                 | 62.69                     | 70.047            |                    |          |
| 8,875.0                                                                          | 8,863.4               | 8,960.2               | 8,957.5               | 31.6             | 31.3          | -0.24                  |                       | 4,442.1                           | -88.8                             | 4,378.6                | 4,315.8                 | 62.84                     | 69.684            |                    |          |
| 8,900.0                                                                          | 8,884.7               | 8,978.8               | 8,976.0               | 31.6             | 31.3          | -0.26                  |                       | 4,441.7                           | -89.5                             | 4,365.1                | 4,302.1                 | 62.98                     | 69.308            |                    |          |
| 8,925.0                                                                          | 8,905.2               | 9,000.0               | 8,997.2               | 31.7             | 31.4          | -0.29                  |                       | 4,441.3                           | -90.3                             | 4,350.4                | 4,287.3                 | 63.13                     | 68.907            |                    |          |
| 8,950.0                                                                          | 8,924.9               | 9,014.4               | 9,011.7               | 31.8             | 31.5          | -0.31                  |                       | 4,441.1                           | -90.8                             | 4,334.8                | 4,271.5                 | 63.26                     | 68.518            |                    |          |
| 8,975.0                                                                          | 8,943.9               | 9,031.5               | 9,028.8               | 31.9             | 31.5          | -0.34                  |                       | 4,440.8                           | -91.4                             | 4,318.1                | 4,254.7                 | 63.40                     | 68.106            |                    |          |
| 9,000.0                                                                          | 8,961.9               | 9,047.8               | 9,045.0               | 31.9             | 31.6          | -0.37                  |                       | 4,440.5                           | -91.9                             | 4,300.5                | 4,237.0                 | 63.54                     | 67.683            |                    |          |
| 9,025.0                                                                          | 8,979.0               | 9,063.3               | 9,060.5               | 32.0             | 31.6          | -0.40                  |                       | 4,440.2                           | -92.5                             | 4,282.0                | 4,218.3                 | 63.67                     | 67.252            |                    |          |
| 9,050.0                                                                          | 8,995.2               | 9,077.8               | 9,075.0               | 32.1             | 31.7          | -0.44                  |                       | 4,439.9                           | -93.0                             | 4,262.6                | 4,198.8                 | 63.80                     | 66.812            |                    |          |
| 9,075.0                                                                          | 9,010.3               | 9,091.4               | 9,088.6               | 32.2             | 31.7          | -0.49                  |                       | 4,439.7                           | -93.5                             | 4,242.5                | 4,178.6                 | 63.93                     | 66.364            |                    |          |
| 9,100.0                                                                          | 9,024.3               | 9,104.2               | 9,101.4               | 32.3             | 31.8          | -0.54                  |                       | 4,439.5                           | -93.9                             | 4,221.6                | 4,157.5                 | 64.05                     | 65.909            |                    |          |
| 9,125.0                                                                          | 9,037.3               | 9,116.5               | 9,113.6               | 32.3             | 31.8          | -0.61                  |                       | 4,439.3                           | -94.3                             | 4,200.0                | 4,135.8                 | 64.18                     | 65.446            |                    |          |
| 9,150.0                                                                          | 9,049.1               | 9,127.6               | 9,124.7               | 32.4             | 31.9          | -0.69                  |                       | 4,439.1                           | -94.7                             | 4,177.8                | 4,113.5                 | 64.30                     | 64.978            |                    |          |
| 9,175.0                                                                          | 9,059.8               | 9,137.6               | 9,134.7               | 32.5             | 31.9          | -0.79                  |                       | 4,439.0                           | -95.0                             | 4,155.0                | 4,090.6                 | 64.41                     | 64.506            |                    |          |
| 9,200.0                                                                          | 9,069.2               | 9,146.4               | 9,143.5               | 32.6             | 31.9          | -0.92                  |                       | 4,438.8                           | -95.3                             | 4,131.7                | 4,067.2                 | 64.53                     | 64.031            |                    |          |
| 9,225.0                                                                          | 9,077.4               | 9,154.0               | 9,151.1               | 32.7             | 32.0          | -1.10                  |                       | 4,438.7                           | -95.6                             | 4,108.0                | 4,043.4                 | 64.64                     | 63.553            |                    |          |

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

# COG Operating LLC

## Anticollision Report

|                           |                          |                                     |                                           |
|---------------------------|--------------------------|-------------------------------------|-------------------------------------------|
| <b>Company:</b>           | COG OPERATING, LLC       | <b>Local Co-ordinate Reference:</b> | Well NERVOUS PERVIS STATE #9H             |
| <b>Project:</b>           | LEA COUNTY, NM           | <b>TVD Reference:</b>               | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| <b>Reference Site:</b>    | LUSK BSS                 | <b>MD Reference:</b>                | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| <b>Site Error:</b>        | 0.0 usft                 | <b>North Reference:</b>             | Grid                                      |
| <b>Reference Well:</b>    | NERVOUS PURVIS STATE #9H | <b>Survey Calculation Method:</b>   | Minimum Curvature                         |
| <b>Well Error:</b>        | 0.0 usft                 | <b>Output errors are at</b>         | 2.00 sigma                                |
| <b>Reference Wellbore</b> | OWB                      | <b>Database:</b>                    | EDM_Users                                 |
| <b>Reference Design:</b>  | DWD Plan 1               | <b>Offset TVD Reference:</b>        | Offset Datum                              |

| Offset Design LUSK BSS - CHICKEN DINNER 36 STATE COM #1H - OWB - ACTUAL WELLPATH |                       |                       |                       |                  |               |                       |                        |             |                        |                         |                           | Offset Site Error: | 0.0 usft                      |
|----------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|------------------------|-------------|------------------------|-------------------------|---------------------------|--------------------|-------------------------------|
| Survey Program: 100-MWD                                                          |                       |                       |                       |                  |               |                       |                        |             |                        |                         |                           | Offset Well Error: | 3.0 usft                      |
| Reference                                                                        |                       | Offset                |                       | Semi Major Axis  |               | Highside Toolface (°) | Offset Wellbore Centre |             | Distance               |                         | Minimum Separation (usft) | Separation Factor  | Warning                       |
| Measured Depth (usft)                                                            | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) |                       | +N-S (usft)            | +E-W (usft) | Between Centres (usft) | Between Ellipses (usft) |                           |                    |                               |
| 9,250.0                                                                          | 9,084.4               | 9,160.4               | 9,157.5               | 32.8             | 32.0          | -1.35                 | 4,438.6                | -95.8       | 4,083.9                | 4,019.2                 | 64.75                     | 63.075             |                               |
| 9,275.0                                                                          | 9,090.1               | 9,165.6               | 9,162.7               | 32.8             | 32.0          | -1.74                 | 4,438.5                | -96.0       | 4,059.5                | 3,994.6                 | 64.85                     | 62.596             |                               |
| 9,300.0                                                                          | 9,094.6               | 9,169.5               | 9,166.6               | 32.9             | 32.0          | -2.43                 | 4,438.4                | -96.1       | 4,034.8                | 3,969.9                 | 64.95                     | 62.118             |                               |
| 9,325.0                                                                          | 9,097.7               | 9,172.2               | 9,169.3               | 33.0             | 32.0          | -3.96                 | 4,438.4                | -96.2       | 4,010.0                | 3,944.9                 | 65.05                     | 61.642             |                               |
| 9,350.0                                                                          | 9,099.5               | 9,173.6               | 9,170.7               | 33.1             | 32.0          | -10.42                | 4,438.4                | -96.3       | 3,985.0                | 3,919.9                 | 65.15                     | 61.169             |                               |
| 9,375.0                                                                          | 9,100.1               | 9,173.7               | 9,170.8               | 33.2             | 32.0          | -163.80               | 4,438.4                | -96.3       | 3,960.0                | 3,894.8                 | 65.24                     | 60.700             |                               |
| 9,380.4                                                                          | 9,100.0               | 9,173.6               | 9,170.7               | 33.2             | 32.0          | -169.43               | 4,438.4                | -96.3       | 3,954.6                | 3,889.3                 | 65.26                     | 60.599             |                               |
| 9,400.0                                                                          | 9,099.7               | 9,173.0               | 9,170.1               | 33.3             | 32.0          | -169.39               | 4,438.4                | -96.2       | 3,935.0                | 3,869.7                 | 65.33                     | 60.232             |                               |
| 9,500.0                                                                          | 9,098.0               | 9,169.9               | 9,167.0               | 33.7             | 32.0          | -169.17               | 4,438.4                | -96.1       | 3,835.1                | 3,769.3                 | 65.75                     | 58.328             |                               |
| 9,600.0                                                                          | 9,096.4               | 9,166.8               | 9,163.9               | 34.2             | 32.0          | -168.94               | 4,438.5                | -96.0       | 3,735.1                | 3,668.9                 | 66.25                     | 56.382             |                               |
| 9,700.0                                                                          | 9,094.8               | 9,163.6               | 9,160.8               | 34.8             | 32.0          | -168.70               | 4,438.5                | -95.9       | 3,635.2                | 3,568.4                 | 66.82                     | 54.405             |                               |
| 9,800.0                                                                          | 9,093.1               | 9,160.5               | 9,157.6               | 35.5             | 32.0          | -168.45               | 4,438.6                | -95.8       | 3,535.2                | 3,467.8                 | 67.46                     | 52.408             |                               |
| 9,900.0                                                                          | 9,091.5               | 9,157.4               | 9,154.5               | 36.2             | 32.0          | -168.18               | 4,438.6                | -95.7       | 3,435.3                | 3,367.1                 | 68.16                     | 50.398             |                               |
| 10,000.0                                                                         | 9,089.8               | 9,154.3               | 9,151.4               | 37.0             | 32.0          | -167.90               | 4,438.7                | -95.6       | 3,335.3                | 3,266.4                 | 68.93                     | 48.386             |                               |
| 10,100.0                                                                         | 9,088.2               | 9,151.1               | 9,148.3               | 37.8             | 32.0          | -167.60               | 4,438.7                | -95.5       | 3,235.4                | 3,165.6                 | 69.76                     | 46.380             |                               |
| 10,200.0                                                                         | 9,086.6               | 9,148.0               | 9,145.1               | 38.7             | 31.9          | -167.28               | 4,438.8                | -95.4       | 3,135.5                | 3,064.8                 | 70.64                     | 44.386             |                               |
| 10,300.0                                                                         | 9,084.9               | 9,144.8               | 9,142.0               | 39.6             | 31.9          | -166.95               | 4,438.8                | -95.3       | 3,035.5                | 2,963.9                 | 71.57                     | 42.411             |                               |
| 10,400.0                                                                         | 9,083.3               | 9,141.7               | 9,138.8               | 40.6             | 31.9          | -166.59               | 4,438.9                | -95.2       | 2,935.6                | 2,863.0                 | 72.55                     | 40.461             |                               |
| 10,500.0                                                                         | 9,081.6               | 9,138.5               | 9,135.7               | 41.7             | 31.9          | -166.20               | 4,438.9                | -95.1       | 2,835.6                | 2,762.0                 | 73.58                     | 38.539             |                               |
| 10,600.0                                                                         | 9,080.0               | 9,135.4               | 9,132.5               | 42.7             | 31.9          | -165.79               | 4,439.0                | -95.0       | 2,735.7                | 2,661.0                 | 74.64                     | 36.650             |                               |
| 10,700.0                                                                         | 9,078.4               | 9,132.2               | 9,129.4               | 43.9             | 31.9          | -165.35               | 4,439.0                | -94.9       | 2,635.7                | 2,560.0                 | 75.75                     | 34.797             |                               |
| 10,800.0                                                                         | 9,076.7               | 9,129.1               | 9,126.2               | 45.0             | 31.9          | -164.88               | 4,439.1                | -94.8       | 2,535.8                | 2,458.9                 | 76.88                     | 32.982             |                               |
| 10,900.0                                                                         | 9,075.1               | 9,125.9               | 9,123.0               | 46.2             | 31.9          | -164.37               | 4,439.1                | -94.6       | 2,435.8                | 2,357.8                 | 78.06                     | 31.207             |                               |
| 11,000.0                                                                         | 9,073.4               | 9,122.7               | 9,119.9               | 47.4             | 31.9          | -163.81               | 4,439.2                | -94.5       | 2,335.9                | 2,256.6                 | 79.26                     | 29.473             |                               |
| 11,100.0                                                                         | 9,071.8               | 9,119.5               | 9,116.7               | 48.6             | 31.8          | -163.22               | 4,439.3                | -94.4       | 2,235.9                | 2,155.5                 | 80.48                     | 27.781             |                               |
| 11,200.0                                                                         | 9,070.1               | 9,116.4               | 9,113.5               | 49.9             | 31.8          | -162.57               | 4,439.3                | -94.3       | 2,136.0                | 2,054.3                 | 81.74                     | 26.132             |                               |
| 11,300.0                                                                         | 9,068.5               | 9,113.2               | 9,110.3               | 51.2             | 31.8          | -161.86               | 4,439.4                | -94.2       | 2,036.1                | 1,953.0                 | 83.02                     | 24.526             |                               |
| 11,400.0                                                                         | 9,066.9               | 9,110.0               | 9,107.1               | 52.5             | 31.8          | -161.08               | 4,439.4                | -94.1       | 1,936.1                | 1,851.8                 | 84.32                     | 22.963             |                               |
| 11,500.0                                                                         | 9,065.2               | 9,106.8               | 9,103.9               | 53.8             | 31.8          | -160.23               | 4,439.5                | -94.0       | 1,836.2                | 1,750.5                 | 85.64                     | 21.442             |                               |
| 11,600.0                                                                         | 9,063.6               | 9,103.6               | 9,100.7               | 55.2             | 31.8          | -159.29               | 4,439.5                | -93.9       | 1,736.2                | 1,649.3                 | 86.97                     | 19.962             |                               |
| 11,700.0                                                                         | 9,061.9               | 9,100.0               | 9,097.2               | 56.6             | 31.8          | -158.12               | 4,439.6                | -93.8       | 1,636.3                | 1,548.0                 | 88.33                     | 18.525             |                               |
| 11,800.0                                                                         | 9,060.3               | 9,097.2               | 9,094.4               | 57.9             | 31.8          | -157.10               | 4,439.6                | -93.7       | 1,536.4                | 1,446.6                 | 89.71                     | 17.127             |                               |
| 11,900.0                                                                         | 9,058.7               | 9,094.1               | 9,091.2               | 59.3             | 31.8          | -155.82               | 4,439.7                | -93.5       | 1,436.4                | 1,345.3                 | 91.09                     | 15.769             |                               |
| 12,000.0                                                                         | 9,057.0               | 9,090.9               | 9,088.1               | 60.8             | 31.7          | -154.38               | 4,439.7                | -93.4       | 1,336.5                | 1,244.0                 | 92.50                     | 14.449             |                               |
| 12,100.0                                                                         | 9,055.4               | 9,087.7               | 9,084.9               | 62.2             | 31.7          | -152.75               | 4,439.8                | -93.3       | 1,236.5                | 1,142.6                 | 93.91                     | 13.167             |                               |
| 12,200.0                                                                         | 9,053.7               | 9,084.5               | 9,081.7               | 63.6             | 31.7          | -150.88               | 4,439.8                | -93.2       | 1,136.6                | 1,041.3                 | 95.34                     | 11.922             |                               |
| 12,300.0                                                                         | 9,052.1               | 9,081.3               | 9,078.5               | 65.1             | 31.7          | -148.74               | 4,439.9                | -93.1       | 1,036.7                | 939.9                   | 96.78                     | 10.712             |                               |
| 12,400.0                                                                         | 9,050.5               | 9,078.1               | 9,075.2               | 66.5             | 31.7          | -146.25               | 4,439.9                | -93.0       | 936.7                  | 838.5                   | 98.23                     | 9.536              |                               |
| 12,500.0                                                                         | 9,048.8               | 9,074.8               | 9,072.0               | 68.0             | 31.7          | -143.34               | 4,440.0                | -92.9       | 836.8                  | 737.1                   | 99.69                     | 8.394              |                               |
| 12,600.0                                                                         | 9,047.2               | 9,071.6               | 9,068.8               | 69.5             | 31.7          | -139.92               | 4,440.1                | -92.8       | 736.9                  | 635.8                   | 101.16                    | 7.285              |                               |
| 12,700.0                                                                         | 9,045.5               | 9,068.3               | 9,065.5               | 71.0             | 31.7          | -135.86               | 4,440.1                | -92.7       | 637.0                  | 534.4                   | 102.64                    | 6.206              |                               |
| 12,800.0                                                                         | 9,043.9               | 9,065.0               | 9,062.2               | 72.5             | 31.7          | -131.03               | 4,440.2                | -92.5       | 537.1                  | 433.0                   | 104.12                    | 5.158              |                               |
| 12,900.0                                                                         | 9,042.3               | 9,061.7               | 9,058.9               | 74.0             | 31.6          | -125.28               | 4,440.2                | -92.4       | 437.2                  | 331.6                   | 105.62                    | 4.140              |                               |
| 13,000.0                                                                         | 9,040.6               | 9,058.4               | 9,055.6               | 75.5             | 31.6          | -118.46               | 4,440.3                | -92.3       | 337.4                  | 230.3                   | 107.12                    | 3.150              |                               |
| 13,100.0                                                                         | 9,039.0               | 9,055.1               | 9,052.3               | 77.0             | 31.6          | -110.51               | 4,440.3                | -92.2       | 237.7                  | 129.1                   | 108.63                    | 2.188              |                               |
| 13,200.0                                                                         | 9,037.3               | 9,051.8               | 9,049.0               | 78.5             | 31.6          | -101.49               | 4,440.4                | -92.1       | 138.3                  | 28.2                    | 110.14                    | 1.256              | Shut in Produces              |
| 13,300.0                                                                         | 9,035.7               | 9,048.5               | 9,045.7               | 80.1             | 31.6          | -91.70                | 4,440.5                | -92.0       | 41.7                   | -70.0                   | 111.66                    | 0.373              | Stop Drilling Now             |
| 13,337.1                                                                         | 9,035.1               | 9,047.2               | 9,044.4               | 80.6             | 31.6          | -87.97                | 4,440.5                | -91.9       | 19.1                   | -93.2                   | 112.23                    | 0.170              | Stop Drilling Now, CC, ES, SF |
| 13,400.0                                                                         | 9,034.1               | 9,045.1               | 9,042.3               | 81.6             | 31.6          | -81.65                | 4,440.5                | -91.8       | 65.7                   | -47.5                   | 113.19                    | 0.581              | Stop Drilling Now             |
| 13,500.0                                                                         | 9,032.4               | 9,041.7               | 9,038.9               | 83.2             | 31.6          | -71.93                | 4,440.6                | -91.7       | 163.9                  | 49.2                    | 114.72                    | 1.429              | Shut in Produces              |
| 13,600.0                                                                         | 9,030.8               | 9,038.3               | 9,035.6               | 84.7             | 31.6          | -63.03                | 4,440.6                | -91.6       | 263.5                  | 147.2                   | 116.26                    | 2.266              |                               |
| 13,700.0                                                                         | 9,029.1               | 9,034.9               | 9,032.2               | 86.3             | 31.5          | -55.22                | 4,440.7                | -91.5       | 363.2                  | 245.4                   | 117.80                    | 3.083              |                               |

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

# COG Operating LLC

## Anticollision Report

|                           |                          |                                     |                                           |
|---------------------------|--------------------------|-------------------------------------|-------------------------------------------|
| <b>Company:</b>           | COG OPERATING, LLC       | <b>Local Co-ordinate Reference:</b> | Well NERVOUS PERVIS STATE #9H             |
| <b>Project:</b>           | LEA COUNTY, NM           | <b>TVD Reference:</b>               | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| <b>Reference Site:</b>    | LUSK BSS                 | <b>MD Reference:</b>                | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| <b>Site Error:</b>        | 0.0 usft                 | <b>North Reference:</b>             | Grid                                      |
| <b>Reference Well:</b>    | NERVOUS PURVIS STATE #9H | <b>Survey Calculation Method:</b>   | Minimum Curvature                         |
| <b>Well Error:</b>        | 0.0 usft                 | <b>Output errors are at</b>         | 2.00 sigma                                |
| <b>Reference Wellbore</b> | OWB                      | <b>Database:</b>                    | EDM_Users                                 |
| <b>Reference Design:</b>  | DWD Plan 1               | <b>Offset TVD Reference:</b>        | Offset Datum                              |

|                                                                    |                       |                       |                       |                  |               |                       |                                    |             |                        |                         |                           |                   |
|--------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|------------------------------------|-------------|------------------------|-------------------------|---------------------------|-------------------|
| <b>Offset Design</b>                                               |                       |                       |                       |                  |               |                       |                                    |             |                        |                         |                           |                   |
| LUSK BSS - CHICKEN DINNER 36 STATE COM #1H - OWB - ACTUAL WELLPATH |                       |                       |                       |                  |               |                       |                                    |             |                        |                         |                           |                   |
| Survey Program: 100-MWD                                            |                       |                       |                       |                  |               |                       |                                    |             |                        |                         |                           |                   |
| Reference                                                          |                       |                       |                       |                  |               |                       |                                    |             |                        |                         |                           |                   |
| Offset                                                             |                       |                       |                       |                  |               |                       |                                    |             |                        |                         |                           |                   |
| Semi Major Axis                                                    |                       |                       |                       |                  |               |                       |                                    |             |                        |                         |                           |                   |
| Distance                                                           |                       |                       |                       |                  |               |                       |                                    |             |                        |                         |                           |                   |
| Measured Depth (usft)                                              | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (") | Offset Wellbore Centre +N-S (usft) | +E-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor |
| 13,800.0                                                           | 9,027.5               | 9,031.5               | 9,028.7               | 87.8             | 31.5          | -48.55                | 4,440.8                            | -91.4       | 463.1                  | 343.7                   | 119.35                    | 3.880             |
| 13,900.0                                                           | 9,025.9               | 9,028.1               | 9,025.3               | 89.4             | 31.5          | -42.92                | 4,440.8                            | -91.2       | 562.9                  | 442.0                   | 120.90                    | 4.656             |
| 13,937.9                                                           | 9,025.2               | 9,026.8               | 9,024.0               | 90.0             | 31.5          | -41.03                | 4,440.8                            | -91.2       | 600.8                  | 479.3                   | 121.49                    | 4.946             |

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

# COG Operating LLC

## Anticollision Report

|                           |                          |                                     |                                           |
|---------------------------|--------------------------|-------------------------------------|-------------------------------------------|
| <b>Company:</b>           | COG OPERATING, LLC       | <b>Local Co-ordinate Reference:</b> | Well NERVOUS PERVIS STATE #9H             |
| <b>Project:</b>           | LEA COUNTY, NM           | <b>TVD Reference:</b>               | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| <b>Reference Site:</b>    | LUSK BSS                 | <b>MD Reference:</b>                | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| <b>Site Error:</b>        | 0.0 usft                 | <b>North Reference:</b>             | Grid                                      |
| <b>Reference Well:</b>    | NERVOUS PURVIS STATE #9H | <b>Survey Calculation Method:</b>   | Minimum Curvature                         |
| <b>Well Error:</b>        | 0.0 usft                 | <b>Output errors are at</b>         | 2.00 sigma                                |
| <b>Reference Wellbore</b> | OWB                      | <b>Database:</b>                    | EDM_Users                                 |
| <b>Reference Design:</b>  | DWD Plan 1               | <b>Offset TVD Reference:</b>        | Offset Datum                              |

| Offset Design LUSK BSS - HIGHTOWER #2 - OWB - ACTUAL WELLPATH |                       |                       |                       |                  |               |                       |                                    |             |                        |                         | Offset Site Error:        | 0.0 usft          |
|---------------------------------------------------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|------------------------------------|-------------|------------------------|-------------------------|---------------------------|-------------------|
| Survey Program: 4266-INC-ONLY                                 |                       |                       |                       |                  |               |                       |                                    |             |                        |                         | Offset Well Error:        | 3.0 usft          |
| Reference                                                     | Offset                | Semi Major Axis       |                       | Distance         |               | Minimum Separation    |                                    | Warning     |                        |                         |                           |                   |
| Measured Depth (usft)                                         | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Footface (") | Offset Wellbore Centre +N-S (usft) | +E-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor |
| 0.0                                                           | 0.0                   | 4.0                   | 4.0                   | 0.0              | 3.0           | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                |                         |                           |                   |
| 100.0                                                         | 100.0                 | 104.0                 | 104.0                 | 0.1              | 4.0           | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,184.5                 | 4.17                      | 525.210           |
| 200.0                                                         | 200.0                 | 204.0                 | 204.0                 | 0.5              | 6.1           | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,182.2                 | 6.56                      | 333.768           |
| 300.0                                                         | 300.0                 | 304.0                 | 304.0                 | 0.9              | 8.4           | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,179.5                 | 9.25                      | 236.520           |
| 400.0                                                         | 400.0                 | 404.0                 | 404.0                 | 1.2              | 10.8          | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,176.7                 | 12.06                     | 181.488           |
| 500.0                                                         | 500.0                 | 504.0                 | 504.0                 | 1.6              | 13.3          | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,173.8                 | 14.92                     | 146.742           |
| 600.0                                                         | 600.0                 | 604.0                 | 604.0                 | 1.9              | 15.9          | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,170.9                 | 17.80                     | 122.982           |
| 700.0                                                         | 700.0                 | 704.0                 | 704.0                 | 2.3              | 18.4          | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,168.0                 | 20.69                     | 105.766           |
| 800.0                                                         | 800.0                 | 804.0                 | 804.0                 | 2.7              | 20.9          | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,165.1                 | 23.60                     | 92.739            |
| 900.0                                                         | 900.0                 | 904.0                 | 904.0                 | 3.0              | 23.5          | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,162.2                 | 26.51                     | 82.549            |
| 1,000.0                                                       | 1,000.0               | 1,004.0               | 1,004.0               | 3.4              | 26.1          | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,159.3                 | 29.43                     | 74.364            |
| 1,100.0                                                       | 1,100.0               | 1,104.0               | 1,104.0               | 3.7              | 28.6          | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,156.4                 | 32.35                     | 67.649            |
| 1,200.0                                                       | 1,200.0               | 1,204.0               | 1,204.0               | 4.1              | 31.2          | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,153.4                 | 35.28                     | 62.042            |
| 1,300.0                                                       | 1,300.0               | 1,304.0               | 1,304.0               | 4.4              | 33.8          | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,150.5                 | 38.20                     | 57.290            |
| 1,400.0                                                       | 1,400.0               | 1,404.0               | 1,404.0               | 4.8              | 36.3          | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,147.6                 | 41.13                     | 53.212            |
| 1,500.0                                                       | 1,500.0               | 1,504.0               | 1,504.0               | 5.2              | 38.9          | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,144.7                 | 44.06                     | 49.675            |
| 1,600.0                                                       | 1,600.0               | 1,604.0               | 1,604.0               | 5.5              | 41.5          | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,141.7                 | 46.99                     | 46.578            |
| 1,700.0                                                       | 1,700.0               | 1,704.0               | 1,704.0               | 5.9              | 44.0          | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,138.8                 | 49.92                     | 43.843            |
| 1,800.0                                                       | 1,800.0               | 1,804.0               | 1,804.0               | 6.2              | 46.6          | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,135.9                 | 52.85                     | 41.412            |
| 1,900.0                                                       | 1,900.0               | 1,904.0               | 1,904.0               | 6.6              | 49.2          | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,132.9                 | 55.78                     | 39.235            |
| 2,000.0                                                       | 2,000.0               | 2,004.0               | 2,004.0               | 7.0              | 51.8          | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,130.0                 | 58.72                     | 37.276            |
| 2,100.0                                                       | 2,100.0               | 2,104.0               | 2,104.0               | 7.3              | 54.3          | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,127.1                 | 61.65                     | 35.502            |
| 2,200.0                                                       | 2,200.0               | 2,204.0               | 2,204.0               | 7.7              | 56.9          | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,124.1                 | 64.58                     | 33.890            |
| 2,300.0                                                       | 2,300.0               | 2,304.0               | 2,304.0               | 8.0              | 59.5          | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,121.2                 | 67.52                     | 32.417            |
| 2,400.0                                                       | 2,400.0               | 2,404.0               | 2,404.0               | 8.4              | 62.1          | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,118.3                 | 70.45                     | 31.067            |
| 2,500.0                                                       | 2,500.0               | 2,504.0               | 2,504.0               | 8.7              | 64.6          | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,115.3                 | 73.39                     | 29.825            |
| 2,600.0                                                       | 2,600.0               | 2,604.0               | 2,604.0               | 9.1              | 67.2          | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,112.4                 | 76.32                     | 28.678            |
| 2,700.0                                                       | 2,700.0               | 2,704.0               | 2,704.0               | 9.5              | 69.8          | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,109.5                 | 79.25                     | 27.616            |
| 2,800.0                                                       | 2,800.0               | 2,804.0               | 2,804.0               | 9.8              | 72.4          | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,106.5                 | 82.19                     | 26.630            |
| 2,900.0                                                       | 2,900.0               | 2,904.0               | 2,904.0               | 10.2             | 74.9          | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,103.6                 | 85.12                     | 25.712            |
| 3,000.0                                                       | 3,000.0               | 3,004.0               | 3,004.0               | 10.5             | 77.5          | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,100.7                 | 88.06                     | 24.855            |
| 3,100.0                                                       | 3,100.0               | 3,104.0               | 3,104.0               | 10.9             | 80.1          | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,097.7                 | 90.99                     | 24.053            |
| 3,200.0                                                       | 3,200.0               | 3,204.0               | 3,204.0               | 11.3             | 82.7          | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,094.8                 | 93.93                     | 23.302            |
| 3,300.0                                                       | 3,300.0               | 3,304.0               | 3,304.0               | 11.6             | 85.3          | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,091.8                 | 96.87                     | 22.595            |
| 3,400.0                                                       | 3,400.0               | 3,404.0               | 3,404.0               | 12.0             | 87.8          | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,088.9                 | 99.80                     | 21.931            |
| 3,500.0                                                       | 3,500.0               | 3,504.0               | 3,504.0               | 12.3             | 90.4          | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,086.0                 | 102.74                    | 21.304            |
| 3,600.0                                                       | 3,600.0               | 3,604.0               | 3,604.0               | 12.7             | 93.0          | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,083.0                 | 105.67                    | 20.712            |
| 3,700.0                                                       | 3,700.0               | 3,704.0               | 3,704.0               | 13.0             | 95.6          | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,080.1                 | 108.61                    | 20.152            |
| 3,800.0                                                       | 3,800.0               | 3,804.0               | 3,804.0               | 13.4             | 98.1          | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,077.2                 | 111.54                    | 19.622            |
| 3,900.0                                                       | 3,900.0               | 3,904.0               | 3,904.0               | 13.8             | 100.7         | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,074.2                 | 114.48                    | 19.119            |
| 4,000.0                                                       | 4,000.0               | 4,004.0               | 4,004.0               | 14.1             | 103.3         | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,071.3                 | 117.42                    | 18.641            |
| 4,100.0                                                       | 4,100.0               | 4,104.0               | 4,104.0               | 14.5             | 105.9         | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,068.4                 | 120.35                    | 18.186            |
| 4,200.0                                                       | 4,200.0               | 4,204.0               | 4,204.0               | 14.8             | 108.4         | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,065.4                 | 123.29                    | 17.753            |
| 4,246.2                                                       | 4,246.2               | 4,250.2               | 4,250.2               | 15.0             | 109.6         | 12.46                 | 2,137.1                            | 472.3       | 2,188.7                | 2,064.1                 | 124.65                    | 17.560 CC         |
| 4,300.0                                                       | 4,300.0               | 4,266.0               | 4,266.0               | 15.2             | 110.0         | 12.46                 | 2,137.1                            | 472.3       | 2,189.0                | 2,063.8                 | 125.24                    | 17.478 ES         |
| 4,400.0                                                       | 4,400.0               | 4,266.0               | 4,266.0               | 15.6             | 110.0         | 12.46                 | 2,137.1                            | 472.3       | 2,193.1                | 2,067.5                 | 125.60                    | 17.460 SF         |
| 4,500.0                                                       | 4,500.0               | 4,266.0               | 4,266.0               | 15.9             | 110.0         | 12.46                 | 2,137.1                            | 472.3       | 2,201.6                | 2,075.7                 | 125.96                    | 17.478            |
| 4,600.0                                                       | 4,600.0               | 4,266.0               | 4,266.0               | 16.3             | 110.0         | 12.46                 | 2,137.1                            | 472.3       | 2,214.7                | 2,088.3                 | 126.32                    | 17.532            |
| 4,700.0                                                       | 4,700.0               | 4,266.0               | 4,266.0               | 16.6             | 110.0         | 12.46                 | 2,137.1                            | 472.3       | 2,232.1                | 2,105.4                 | 126.68                    | 17.620            |
| 4,800.0                                                       | 4,800.0               | 4,266.0               | 4,266.0               | 17.0             | 110.0         | 12.46                 | 2,137.1                            | 472.3       | 2,253.9                | 2,126.8                 | 127.04                    | 17.742            |
| 4,900.0                                                       | 4,900.0               | 4,266.0               | 4,266.0               | 17.4             | 110.0         | 12.46                 | 2,137.1                            | 472.3       | 2,279.8                | 2,152.4                 | 127.40                    | 17.896            |
| 5,000.0                                                       | 5,000.0               | 4,266.0               | 4,266.0               | 17.7             | 110.0         | 12.46                 | 2,137.1                            | 472.3       | 2,309.8                | 2,182.0                 | 127.75                    | 18.080            |

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

# COG Operating LLC

## Anticollision Report

|                            |                          |                                     |                                           |
|----------------------------|--------------------------|-------------------------------------|-------------------------------------------|
| <b>Company:</b>            | COG OPERATING, LLC       | <b>Local Co-ordinate Reference:</b> | Well NERVOUS PERVIS STATE #9H             |
| <b>Project:</b>            | LEA COUNTY, NM           | <b>TVD Reference:</b>               | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| <b>Reference Site:</b>     | LUSK BSS                 | <b>MD Reference:</b>                | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| <b>Site Error:</b>         | 0.0 usft                 | <b>North Reference:</b>             | Grid                                      |
| <b>Reference Well:</b>     | NERVOUS PURVIS STATE #9H | <b>Survey Calculation Method:</b>   | Minimum Curvature                         |
| <b>Well Error:</b>         | 0.0 usft                 | <b>Output errors are at</b>         | 2.00 sigma                                |
| <b>Reference Wellbore:</b> | OWB                      | <b>Database:</b>                    | EDM_Users                                 |
| <b>Reference Design:</b>   | DWD Plan 1               | <b>Offset TVD Reference:</b>        | Offset Datum                              |

| Offset Design LUSK BSS - HIGHTOWER #2 - OWB - ACTUAL WELLPATH |                       |                       |                       |                  |               |                       |                                     |                                     |                        |                         |                           | Offset Site Error: | 0.0 usft |
|---------------------------------------------------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|-------------------------------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 4266-INC-ONLY                                 |                       |                       |                       |                  |               |                       |                                     |                                     |                        |                         |                           | Offset Well Error: | 3.0 usft |
| Reference                                                     | Offset                | Semi Major Axis       |                       | Distance         |               | Minimum Separation    |                                     | Warning                             |                        |                         |                           |                    |          |
| Measured Depth (usft)                                         | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor  | Warning  |
| 5,100.0                                                       | 5,100.0               | 4,266.0               | 4,266.0               | 18.1             | 110.0         | 12.46                 | 2,137.1                             | 472.3                               | 2,343.7                | 2,215.5                 | 128.11                    | 18.294             |          |
| 5,200.0                                                       | 5,200.0               | 4,266.0               | 4,266.0               | 18.4             | 110.0         | 12.46                 | 2,137.1                             | 472.3                               | 2,381.2                | 2,252.8                 | 128.47                    | 18.535             |          |
| 5,300.0                                                       | 5,300.0               | 4,266.0               | 4,266.0               | 18.8             | 110.0         | 12.46                 | 2,137.1                             | 472.3                               | 2,422.4                | 2,293.5                 | 128.83                    | 18.803             |          |
| 5,400.0                                                       | 5,400.0               | 4,266.0               | 4,266.0               | 19.1             | 110.0         | 12.46                 | 2,137.1                             | 472.3                               | 2,466.9                | 2,337.7                 | 129.19                    | 19.095             |          |
| 5,500.0                                                       | 5,500.0               | 4,266.0               | 4,266.0               | 19.5             | 110.0         | 12.46                 | 2,137.1                             | 472.3                               | 2,514.6                | 2,385.0                 | 129.55                    | 19.411             |          |
| 5,600.0                                                       | 5,600.0               | 4,266.0               | 4,266.0               | 19.9             | 110.0         | 12.46                 | 2,137.1                             | 472.3                               | 2,565.3                | 2,435.4                 | 129.90                    | 19.747             |          |
| 5,700.0                                                       | 5,700.0               | 4,266.0               | 4,266.0               | 20.2             | 110.0         | 12.46                 | 2,137.1                             | 472.3                               | 2,618.8                | 2,488.6                 | 130.26                    | 20.104             |          |
| 5,800.0                                                       | 5,800.0               | 4,266.0               | 4,266.0               | 20.6             | 110.0         | 12.46                 | 2,137.1                             | 472.3                               | 2,675.1                | 2,544.4                 | 130.62                    | 20.479             |          |
| 5,900.0                                                       | 5,900.0               | 4,266.0               | 4,266.0               | 20.9             | 110.0         | 12.46                 | 2,137.1                             | 472.3                               | 2,733.8                | 2,602.8                 | 130.98                    | 20.872             |          |
| 6,000.0                                                       | 6,000.0               | 4,266.0               | 4,266.0               | 21.3             | 110.0         | 12.46                 | 2,137.1                             | 472.3                               | 2,794.8                | 2,663.5                 | 131.34                    | 21.280             |          |
| 6,100.0                                                       | 6,100.0               | 4,266.0               | 4,266.0               | 21.7             | 110.0         | 12.46                 | 2,137.1                             | 472.3                               | 2,858.1                | 2,726.4                 | 131.70                    | 21.702             |          |
| 6,200.0                                                       | 6,200.0               | 4,266.0               | 4,266.0               | 22.0             | 110.0         | 12.46                 | 2,137.1                             | 472.3                               | 2,923.4                | 2,791.3                 | 132.06                    | 22.138             |          |
| 6,300.0                                                       | 6,300.0               | 4,266.0               | 4,266.0               | 22.4             | 110.0         | 12.46                 | 2,137.1                             | 472.3                               | 2,990.6                | 2,858.2                 | 132.41                    | 22.586             |          |
| 6,400.0                                                       | 6,400.0               | 4,266.0               | 4,266.0               | 22.7             | 110.0         | 12.46                 | 2,137.1                             | 472.3                               | 3,059.7                | 2,926.9                 | 132.77                    | 23.044             |          |
| 6,500.0                                                       | 6,500.0               | 4,266.0               | 4,266.0               | 23.1             | 110.0         | 12.46                 | 2,137.1                             | 472.3                               | 3,130.4                | 2,997.2                 | 133.13                    | 23.513             |          |
| 6,600.0                                                       | 6,600.0               | 4,266.0               | 4,266.0               | 23.4             | 110.0         | 12.46                 | 2,137.1                             | 472.3                               | 3,202.6                | 3,069.1                 | 133.49                    | 23.992             |          |
| 6,700.0                                                       | 6,700.0               | 4,266.0               | 4,266.0               | 23.8             | 110.0         | 12.46                 | 2,137.1                             | 472.3                               | 3,276.3                | 3,142.5                 | 133.85                    | 24.478             |          |
| 6,800.0                                                       | 6,800.0               | 4,266.0               | 4,266.0               | 24.2             | 110.0         | 12.46                 | 2,137.1                             | 472.3                               | 3,351.4                | 3,217.2                 | 134.21                    | 24.972             |          |
| 6,900.0                                                       | 6,900.0               | 4,266.0               | 4,266.0               | 24.5             | 110.0         | 12.46                 | 2,137.1                             | 472.3                               | 3,427.8                | 3,293.2                 | 134.56                    | 25.473             |          |
| 7,000.0                                                       | 7,000.0               | 4,266.0               | 4,266.0               | 24.9             | 110.0         | 12.46                 | 2,137.1                             | 472.3                               | 3,505.3                | 3,370.4                 | 134.92                    | 25.980             |          |
| 7,100.0                                                       | 7,100.0               | 4,266.0               | 4,266.0               | 25.2             | 110.0         | 12.46                 | 2,137.1                             | 472.3                               | 3,584.0                | 3,448.7                 | 135.28                    | 26.493             |          |
| 7,200.0                                                       | 7,200.0               | 4,266.0               | 4,266.0               | 25.6             | 110.0         | 12.46                 | 2,137.1                             | 472.3                               | 3,663.6                | 3,528.0                 | 135.64                    | 27.010             |          |
| 7,300.0                                                       | 7,300.0               | 4,266.0               | 4,266.0               | 26.0             | 110.0         | 12.46                 | 2,137.1                             | 472.3                               | 3,744.3                | 3,608.3                 | 136.00                    | 27.532             |          |
| 7,400.0                                                       | 7,400.0               | 4,266.0               | 4,266.0               | 26.3             | 110.0         | 12.46                 | 2,137.1                             | 472.3                               | 3,825.9                | 3,689.5                 | 136.36                    | 28.058             |          |
| 7,500.0                                                       | 7,500.0               | 4,266.0               | 4,266.0               | 26.7             | 110.0         | 12.46                 | 2,137.1                             | 472.3                               | 3,908.3                | 3,771.6                 | 136.72                    | 28.587             |          |
| 7,600.0                                                       | 7,600.0               | 4,266.0               | 4,266.0               | 27.0             | 110.0         | 12.46                 | 2,137.1                             | 472.3                               | 3,991.6                | 3,854.5                 | 137.07                    | 29.120             |          |
| 7,700.0                                                       | 7,700.0               | 4,266.0               | 4,266.0               | 27.4             | 110.0         | 12.46                 | 2,137.1                             | 472.3                               | 4,075.6                | 3,938.1                 | 137.43                    | 29.655             |          |
| 7,800.0                                                       | 7,800.0               | 4,266.0               | 4,266.0               | 27.7             | 110.0         | 12.46                 | 2,137.1                             | 472.3                               | 4,160.3                | 4,022.5                 | 137.79                    | 30.193             |          |
| 7,900.0                                                       | 7,900.0               | 4,266.0               | 4,266.0               | 28.1             | 110.0         | 12.46                 | 2,137.1                             | 472.3                               | 4,245.6                | 4,107.5                 | 138.15                    | 30.732             |          |
| 8,000.0                                                       | 8,000.0               | 4,266.0               | 4,266.0               | 28.5             | 110.0         | 12.46                 | 2,137.1                             | 472.3                               | 4,331.6                | 4,193.1                 | 138.51                    | 31.274             |          |
| 8,100.0                                                       | 8,100.0               | 4,266.0               | 4,266.0               | 28.8             | 110.0         | 12.46                 | 2,137.1                             | 472.3                               | 4,418.2                | 4,279.4                 | 138.87                    | 31.816             |          |
| 8,200.0                                                       | 8,200.0               | 4,266.0               | 4,266.0               | 29.2             | 110.0         | 12.46                 | 2,137.1                             | 472.3                               | 4,505.4                | 4,366.1                 | 139.22                    | 32.360             |          |
| 8,300.0                                                       | 8,300.0               | 4,266.0               | 4,266.0               | 29.5             | 110.0         | 12.46                 | 2,137.1                             | 472.3                               | 4,593.0                | 4,453.4                 | 139.58                    | 32.905             |          |
| 8,400.0                                                       | 8,400.0               | 4,266.0               | 4,266.0               | 29.9             | 110.0         | 12.46                 | 2,137.1                             | 472.3                               | 4,681.2                | 4,541.2                 | 139.94                    | 33.451             |          |
| 8,500.0                                                       | 8,500.0               | 4,266.0               | 4,266.0               | 30.3             | 110.0         | 12.46                 | 2,137.1                             | 472.3                               | 4,769.8                | 4,629.5                 | 140.30                    | 33.997             |          |
| 8,600.0                                                       | 8,600.0               | 4,266.0               | 4,266.0               | 30.6             | 110.0         | 12.46                 | 2,137.1                             | 472.3                               | 4,858.9                | 4,718.2                 | 140.66                    | 34.544             |          |
| 8,622.6                                                       | 8,622.6               | 4,266.0               | 4,266.0               | 30.7             | 110.0         | 12.46                 | 2,137.1                             | 472.3                               | 4,879.1                | 4,738.3                 | 140.74                    | 34.667             |          |
| 8,625.0                                                       | 8,625.0               | 4,266.0               | 4,266.0               | 30.7             | 110.0         | 13.27                 | 2,137.1                             | 472.3                               | 4,881.2                | 4,740.5                 | 140.75                    | 34.680             |          |
| 8,650.0                                                       | 8,650.0               | 4,266.0               | 4,266.0               | 30.8             | 110.0         | 12.05                 | 2,137.1                             | 472.3                               | 4,903.2                | 4,762.4                 | 140.84                    | 34.815             |          |
| 8,675.0                                                       | 8,674.9               | 4,266.0               | 4,266.0               | 30.9             | 110.0         | 11.05                 | 2,137.1                             | 472.3                               | 4,924.6                | 4,783.7                 | 140.93                    | 34.944             |          |
| 8,700.0                                                       | 8,699.7               | 4,266.0               | 4,266.0               | 31.0             | 110.0         | 10.23                 | 2,137.1                             | 472.3                               | 4,945.4                | 4,804.4                 | 141.02                    | 35.069             |          |
| 8,725.0                                                       | 8,724.2               | 4,266.0               | 4,266.0               | 31.1             | 110.0         | 9.54                  | 2,137.1                             | 472.3                               | 4,965.4                | 4,824.3                 | 141.10                    | 35.190             |          |
| 8,750.0                                                       | 8,748.5               | 4,266.0               | 4,266.0               | 31.1             | 110.0         | 8.95                  | 2,137.1                             | 472.3                               | 4,984.7                | 4,843.5                 | 141.19                    | 35.305             |          |
| 8,775.0                                                       | 8,772.4               | 4,266.0               | 4,266.0               | 31.2             | 110.0         | 8.45                  | 2,137.1                             | 472.3                               | 5,003.2                | 4,862.0                 | 141.28                    | 35.414             |          |
| 8,800.0                                                       | 8,795.9               | 4,266.0               | 4,266.0               | 31.3             | 110.0         | 8.02                  | 2,137.1                             | 472.3                               | 5,020.9                | 4,879.5                 | 141.36                    | 35.519             |          |
| 8,825.0                                                       | 8,819.0               | 4,266.0               | 4,266.0               | 31.4             | 110.0         | 7.65                  | 2,137.1                             | 472.3                               | 5,037.7                | 4,896.3                 | 141.44                    | 35.617             |          |
| 8,850.0                                                       | 8,841.5               | 4,266.0               | 4,266.0               | 31.5             | 110.0         | 7.33                  | 2,137.1                             | 472.3                               | 5,053.6                | 4,912.1                 | 141.52                    | 35.710             |          |
| 8,875.0                                                       | 8,863.4               | 4,266.0               | 4,266.0               | 31.6             | 110.0         | 7.05                  | 2,137.1                             | 472.3                               | 5,068.5                | 4,926.9                 | 141.60                    | 35.795             |          |
| 8,900.0                                                       | 8,884.7               | 4,266.0               | 4,266.0               | 31.6             | 110.0         | 6.80                  | 2,137.1                             | 472.3                               | 5,082.5                | 4,940.8                 | 141.68                    | 35.873             |          |
| 8,925.0                                                       | 8,905.2               | 4,266.0               | 4,266.0               | 31.7             | 110.0         | 6.59                  | 2,137.1                             | 472.3                               | 5,095.5                | 4,953.7                 | 141.76                    | 35.945             |          |
| 8,950.0                                                       | 8,924.9               | 4,266.0               | 4,266.0               | 31.8             | 110.0         | 6.41                  | 2,137.1                             | 472.3                               | 5,107.4                | 4,965.6                 | 141.84                    | 36.009             |          |
| 8,975.0                                                       | 8,943.9               | 4,266.0               | 4,266.0               | 31.9             | 110.0         | 6.25                  | 2,137.1                             | 472.3                               | 5,118.3                | 4,976.4                 | 141.91                    | 36.066             |          |

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

# COG Operating LLC

## Anticollision Report

|                            |                          |                                     |                                           |
|----------------------------|--------------------------|-------------------------------------|-------------------------------------------|
| <b>Company:</b>            | COG OPERATING, LLC       | <b>Local Co-ordinate Reference:</b> | Well NERVOUS PERVIS STATE #9H             |
| <b>Project:</b>            | LEA COUNTY, NM           | <b>TVD Reference:</b>               | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| <b>Reference Site:</b>     | LUSK BSS                 | <b>MD Reference:</b>                | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| <b>Site Error:</b>         | 0.0 usft                 | <b>North Reference:</b>             | Grid                                      |
| <b>Reference Well:</b>     | NERVOUS PURVIS STATE #9H | <b>Survey Calculation Method:</b>   | Minimum Curvature                         |
| <b>Well Error:</b>         | 0.0 usft                 | <b>Output errors are at:</b>        | 2.00 sigma                                |
| <b>Reference Wellbore:</b> | OWB                      | <b>Database:</b>                    | EDM_Users                                 |
| <b>Reference Design:</b>   | DWD Plan 1               | <b>Offset TVD Reference:</b>        | Offset Datum                              |

| Offset Design LUSK BSS - HIGHTOWER #2 - OWB - ACTUAL WELLPATH |                       |                       |                       |                  |               |                       |                                    |                                    |                        |                         |                           |                   | Offset Site Error: | 0.0 usft |
|---------------------------------------------------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|------------------------------------|------------------------------------|------------------------|-------------------------|---------------------------|-------------------|--------------------|----------|
| Survey Program: 4266-INC-ONLY                                 |                       |                       |                       |                  |               |                       |                                    |                                    |                        |                         |                           |                   | Offset Well Error: | 3.0 usft |
| Reference                                                     | Offset                | Semi Major Axis       |                       | Distance         |               | Minimum               |                                    | Separation                         |                        | Warning                 |                           |                   |                    |          |
| Measured Depth (usft)                                         | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N-S (usft) | Offset Wellbore Centre +E-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor |                    |          |
| 9,000.0                                                       | 8,961.9               | 4,266.0               | 4,266.0               | 31.9             | 110.0         | 6.11                  | 2,137.1                            | 472.3                              | 5,128.1                | 4,986.1                 | 141.99                    | 36.115            |                    |          |
| 9,025.0                                                       | 8,979.0               | 4,266.0               | 4,266.0               | 32.0             | 110.0         | 5.99                  | 2,137.1                            | 472.3                              | 5,136.7                | 4,994.7                 | 142.07                    | 36.156            |                    |          |
| 9,050.0                                                       | 8,995.2               | 4,266.0               | 4,266.0               | 32.1             | 110.0         | 5.90                  | 2,137.1                            | 472.3                              | 5,144.3                | 5,002.1                 | 142.15                    | 36.189            |                    |          |
| 9,075.0                                                       | 9,010.3               | 4,266.0               | 4,266.0               | 32.2             | 110.0         | 5.81                  | 2,137.1                            | 472.3                              | 5,150.7                | 5,008.5                 | 142.23                    | 36.214            |                    |          |
| 9,100.0                                                       | 9,024.3               | 4,266.0               | 4,266.0               | 32.3             | 110.0         | 5.75                  | 2,137.1                            | 472.3                              | 5,156.0                | 5,013.7                 | 142.31                    | 36.231            |                    |          |
| 9,125.0                                                       | 9,037.3               | 4,266.0               | 4,266.0               | 32.3             | 110.0         | 5.70                  | 2,137.1                            | 472.3                              | 5,160.1                | 5,017.7                 | 142.39                    | 36.240            |                    |          |
| 9,150.0                                                       | 9,049.1               | 4,266.0               | 4,266.0               | 32.4             | 110.0         | 5.66                  | 2,137.1                            | 472.3                              | 5,163.0                | 5,020.5                 | 142.47                    | 36.240            |                    |          |
| 9,175.0                                                       | 9,059.8               | 4,266.0               | 4,266.0               | 32.5             | 110.0         | 5.64                  | 2,137.1                            | 472.3                              | 5,164.8                | 5,022.2                 | 142.55                    | 36.231            |                    |          |
| 9,200.0                                                       | 9,069.2               | 4,266.0               | 4,266.0               | 32.6             | 110.0         | 5.64                  | 2,137.1                            | 472.3                              | 5,165.3                | 5,022.7                 | 142.63                    | 36.214            |                    |          |
| 9,225.0                                                       | 9,077.4               | 4,266.0               | 4,266.0               | 32.7             | 110.0         | 5.64                  | 2,137.1                            | 472.3                              | 5,164.7                | 5,022.0                 | 142.72                    | 36.189            |                    |          |
| 9,250.0                                                       | 9,084.4               | 4,266.0               | 4,266.0               | 32.8             | 110.0         | 5.66                  | 2,137.1                            | 472.3                              | 5,163.0                | 5,020.2                 | 142.80                    | 36.154            |                    |          |
| 9,275.0                                                       | 9,090.1               | 4,266.0               | 4,266.0               | 32.8             | 110.0         | 5.70                  | 2,137.1                            | 472.3                              | 5,160.0                | 5,017.1                 | 142.89                    | 36.112            |                    |          |
| 9,300.0                                                       | 9,094.6               | 4,266.0               | 4,266.0               | 32.9             | 110.0         | 5.75                  | 2,137.1                            | 472.3                              | 5,155.9                | 5,012.9                 | 142.98                    | 36.061            |                    |          |
| 9,325.0                                                       | 9,097.7               | 4,266.0               | 4,266.0               | 33.0             | 110.0         | 5.82                  | 2,137.1                            | 472.3                              | 5,150.6                | 5,007.5                 | 143.07                    | 36.001            |                    |          |
| 9,350.0                                                       | 9,099.5               | 4,266.0               | 4,266.0               | 33.1             | 110.0         | 5.90                  | 2,137.1                            | 472.3                              | 5,144.1                | 5,001.0                 | 143.16                    | 35.934            |                    |          |
| 9,375.0                                                       | 9,100.1               | 4,266.0               | 4,266.0               | 33.2             | 110.0         | 6.00                  | 2,137.1                            | 472.3                              | 5,136.6                | 4,993.3                 | 143.25                    | 35.858            |                    |          |
| 9,380.4                                                       | 9,100.0               | 4,266.0               | 4,266.0               | 33.2             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 5,134.8                | 4,991.5                 | 143.27                    | 35.840            |                    |          |
| 9,400.0                                                       | 9,099.7               | 4,266.0               | 4,266.0               | 33.3             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 5,128.2                | 4,984.9                 | 143.34                    | 35.776            |                    |          |
| 9,500.0                                                       | 9,098.0               | 4,266.0               | 4,266.0               | 33.7             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 5,095.9                | 4,952.1                 | 143.77                    | 35.444            |                    |          |
| 9,600.0                                                       | 9,096.4               | 4,266.0               | 4,266.0               | 34.2             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 5,065.3                | 4,921.0                 | 144.28                    | 35.107            |                    |          |
| 9,700.0                                                       | 9,094.8               | 4,266.0               | 4,266.0               | 34.8             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 5,036.5                | 4,891.7                 | 144.86                    | 34.768            |                    |          |
| 9,800.0                                                       | 9,093.1               | 4,266.0               | 4,266.0               | 35.5             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 5,009.6                | 4,864.1                 | 145.51                    | 34.427            |                    |          |
| 9,900.0                                                       | 9,091.5               | 4,266.0               | 4,266.0               | 36.2             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 4,984.5                | 4,838.3                 | 146.23                    | 34.087            |                    |          |
| 10,000.0                                                      | 9,089.8               | 4,266.0               | 4,266.0               | 37.0             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 4,961.3                | 4,814.3                 | 147.01                    | 33.748            |                    |          |
| 10,100.0                                                      | 9,088.2               | 4,266.0               | 4,266.0               | 37.8             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 4,940.0                | 4,792.2                 | 147.85                    | 33.413            |                    |          |
| 10,200.0                                                      | 9,086.6               | 4,266.0               | 4,266.0               | 38.7             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 4,920.7                | 4,772.0                 | 148.74                    | 33.082            |                    |          |
| 10,300.0                                                      | 9,084.9               | 4,266.0               | 4,266.0               | 39.6             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 4,903.3                | 4,753.6                 | 149.68                    | 32.758            |                    |          |
| 10,400.0                                                      | 9,083.3               | 4,266.0               | 4,266.0               | 40.6             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 4,887.9                | 4,737.3                 | 150.68                    | 32.440            |                    |          |
| 10,500.0                                                      | 9,081.6               | 4,266.0               | 4,266.0               | 41.7             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 4,874.5                | 4,722.8                 | 151.71                    | 32.130            |                    |          |
| 10,600.0                                                      | 9,080.0               | 4,266.0               | 4,266.0               | 42.7             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 4,863.2                | 4,710.4                 | 152.79                    | 31.830            |                    |          |
| 10,700.0                                                      | 9,078.4               | 4,266.0               | 4,266.0               | 43.9             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 4,853.8                | 4,699.9                 | 153.90                    | 31.539            |                    |          |
| 10,800.0                                                      | 9,076.7               | 4,266.0               | 4,266.0               | 45.0             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 4,846.6                | 4,691.5                 | 155.05                    | 31.258            |                    |          |
| 10,900.0                                                      | 9,075.1               | 4,266.0               | 4,266.0               | 46.2             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 4,841.3                | 4,685.1                 | 156.23                    | 30.988            |                    |          |
| 11,000.0                                                      | 9,073.4               | 4,266.0               | 4,266.0               | 47.4             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 4,838.2                | 4,680.7                 | 157.45                    | 30.729            |                    |          |
| 11,100.0                                                      | 9,071.8               | 4,266.0               | 4,266.0               | 48.6             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 4,837.1                | 4,678.4                 | 158.68                    | 30.482            |                    |          |
| 11,103.4                                                      | 9,071.7               | 4,266.0               | 4,266.0               | 48.7             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 4,837.1                | 4,678.3                 | 158.73                    | 30.474            |                    |          |
| 11,200.0                                                      | 9,070.1               | 4,266.0               | 4,266.0               | 49.9             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 4,838.0                | 4,678.1                 | 159.95                    | 30.247            |                    |          |
| 11,300.0                                                      | 9,068.5               | 4,266.0               | 4,266.0               | 51.2             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 4,841.1                | 4,679.8                 | 161.24                    | 30.024            |                    |          |
| 11,400.0                                                      | 9,066.9               | 4,266.0               | 4,266.0               | 52.5             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 4,846.1                | 4,683.6                 | 162.55                    | 29.813            |                    |          |
| 11,500.0                                                      | 9,065.2               | 4,266.0               | 4,266.0               | 53.8             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 4,853.3                | 4,689.4                 | 163.88                    | 29.615            |                    |          |
| 11,600.0                                                      | 9,063.6               | 4,266.0               | 4,266.0               | 55.2             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 4,862.5                | 4,697.3                 | 165.23                    | 29.428            |                    |          |
| 11,700.0                                                      | 9,061.9               | 4,266.0               | 4,266.0               | 56.6             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 4,873.7                | 4,707.1                 | 166.60                    | 29.254            |                    |          |
| 11,800.0                                                      | 9,060.3               | 4,266.0               | 4,266.0               | 57.9             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 4,887.0                | 4,719.0                 | 167.98                    | 29.092            |                    |          |
| 11,900.0                                                      | 9,058.7               | 4,266.0               | 4,266.0               | 59.3             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 4,902.2                | 4,732.8                 | 169.38                    | 28.941            |                    |          |
| 12,000.0                                                      | 9,057.0               | 4,266.0               | 4,266.0               | 60.8             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 4,919.5                | 4,748.7                 | 170.80                    | 28.803            |                    |          |
| 12,100.0                                                      | 9,055.4               | 4,266.0               | 4,266.0               | 62.2             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 4,938.7                | 4,766.4                 | 172.23                    | 28.676            |                    |          |
| 12,200.0                                                      | 9,053.7               | 4,266.0               | 4,266.0               | 63.6             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 4,959.8                | 4,786.1                 | 173.66                    | 28.560            |                    |          |
| 12,300.0                                                      | 9,052.1               | 4,266.0               | 4,266.0               | 65.1             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 4,982.9                | 4,807.8                 | 175.12                    | 28.455            |                    |          |
| 12,400.0                                                      | 9,050.5               | 4,266.0               | 4,266.0               | 66.5             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 5,007.8                | 4,831.2                 | 176.58                    | 28.361            |                    |          |
| 12,500.0                                                      | 9,048.8               | 4,266.0               | 4,266.0               | 68.0             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 5,034.6                | 4,856.6                 | 178.05                    | 28.277            |                    |          |
| 12,600.0                                                      | 9,047.2               | 4,266.0               | 4,266.0               | 69.5             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 5,063.3                | 4,883.8                 | 179.53                    | 28.203            |                    |          |
| 12,700.0                                                      | 9,045.5               | 4,266.0               | 4,266.0               | 71.0             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 5,093.7                | 4,912.7                 | 181.02                    | 28.139            |                    |          |

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

# COG Operating LLC

## Anticollision Report

|                            |                          |                                     |                                           |
|----------------------------|--------------------------|-------------------------------------|-------------------------------------------|
| <b>Company:</b>            | COG OPERATING, LLC       | <b>Local Co-ordinate Reference:</b> | Well NERVOUS PERVIS STATE #9H             |
| <b>Project:</b>            | LEA COUNTY, NM           | <b>TVD Reference:</b>               | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| <b>Reference Site:</b>     | LUSK BSS                 | <b>MD Reference:</b>                | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| <b>Site Error:</b>         | 0.0 usft                 | <b>North Reference:</b>             | Grid                                      |
| <b>Reference Well:</b>     | NERVOUS PURVIS STATE #9H | <b>Survey Calculation Method:</b>   | Minimum Curvature                         |
| <b>Well Error:</b>         | 0.0 usft                 | <b>Output errors are at:</b>        | 2.00 sigma                                |
| <b>Reference Wellbore:</b> | OWB                      | <b>Database:</b>                    | EDM_Users                                 |
| <b>Reference Design:</b>   | DWD Plan 1               | <b>Offset TVD Reference:</b>        | Offset Datum                              |

| Offset Design LUSK BSS - HIGHTOWER #2 - OWB - ACTUAL WELLPATH |                       |                       |                       |                  |               |                       |                                    |                                    |                        |                         |                           | Offset Site Error: | 0.0 usft |
|---------------------------------------------------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|------------------------------------|------------------------------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 4268-INC-ONLY                                 |                       |                       |                       |                  |               |                       |                                    |                                    |                        |                         |                           | Offset Well Error: | 3.0 usft |
| Reference                                                     | Offset                | Semi Major Axis       |                       | Distance         |               | Minimum Separation    |                                    | Separation Factor                  |                        | Warning                 |                           |                    |          |
| Measured Depth (usft)                                         | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N-S (usft) | Offset Wellbore Centre +E-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor  | Warning  |
| 12,800.0                                                      | 9,043.9               | 4,266.0               | 4,266.0               | 72.5             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 5,126.0                | 4,943.5                 | 182.52                    | 28.085             |          |
| 12,900.0                                                      | 9,042.3               | 4,266.0               | 4,266.0               | 74.0             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 5,159.9                | 4,975.9                 | 184.02                    | 28.040             |          |
| 13,000.0                                                      | 9,040.6               | 4,266.0               | 4,266.0               | 75.5             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 5,195.6                | 5,010.1                 | 185.54                    | 28.003             |          |
| 13,100.0                                                      | 9,039.0               | 4,266.0               | 4,266.0               | 77.0             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 5,232.9                | 5,045.9                 | 187.06                    | 27.975             |          |
| 13,200.0                                                      | 9,037.3               | 4,266.0               | 4,266.0               | 78.5             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 5,271.9                | 5,083.3                 | 188.58                    | 27.955             |          |
| 13,300.0                                                      | 9,035.7               | 4,266.0               | 4,266.0               | 80.1             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 5,312.5                | 5,122.3                 | 190.11                    | 27.943             |          |
| 13,400.0                                                      | 9,034.1               | 4,266.0               | 4,266.0               | 81.6             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 5,354.6                | 5,162.9                 | 191.65                    | 27.939             |          |
| 13,500.0                                                      | 9,032.4               | 4,266.0               | 4,266.0               | 83.2             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 5,398.2                | 5,205.0                 | 193.20                    | 27.942             |          |
| 13,600.0                                                      | 9,030.8               | 4,266.0               | 4,266.0               | 84.7             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 5,443.4                | 5,248.6                 | 194.75                    | 27.951             |          |
| 13,700.0                                                      | 9,029.1               | 4,266.0               | 4,266.0               | 86.3             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 5,489.9                | 5,293.6                 | 196.30                    | 27.967             |          |
| 13,800.0                                                      | 9,027.5               | 4,266.0               | 4,266.0               | 87.8             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 5,537.9                | 5,340.1                 | 197.86                    | 27.989             |          |
| 13,900.0                                                      | 9,025.9               | 4,266.0               | 4,266.0               | 89.4             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 5,587.3                | 5,387.9                 | 199.42                    | 28.018             |          |
| 13,937.9                                                      | 9,025.2               | 4,266.0               | 4,266.0               | 90.0             | 110.0         | 6.02                  | 2,137.1                            | 472.3                              | 5,606.4                | 5,406.4                 | 200.01                    | 28.030             |          |

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

# COG Operating LLC

## Anticollision Report

|                    |                          |                              |                                           |
|--------------------|--------------------------|------------------------------|-------------------------------------------|
| Company:           | COG OPERATING, LLC       | Local Co-ordinate Reference: | Well NERVOUS PERVIS STATE #9H             |
| Project:           | LEA COUNTY, NM           | TVD Reference:               | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| Reference Site:    | LUSK BSS                 | MD Reference:                | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| Site Error:        | 0.0 usft                 | North Reference:             | Grid                                      |
| Reference Well:    | NERVOUS PURVIS STATE #9H | Survey Calculation Method:   | Minimum Curvature                         |
| Well Error:        | 0.0 usft                 | Output errors are at         | 2.00 sigma                                |
| Reference Wellbore | OWB                      | Database:                    | EDM_Users                                 |
| Reference Design:  | DWD Plan 1               | Offset TVD Reference:        | Offset Datum                              |

| Offset Design LUSK BSS - STATE #1 - OWB - ACTUAL WELLPATH |                             |                                       |                             |                                        |                  |                             |                                          |                |                                          |                               |                                 | Offset Site Error:   | 0.0 usft |
|-----------------------------------------------------------|-----------------------------|---------------------------------------|-----------------------------|----------------------------------------|------------------|-----------------------------|------------------------------------------|----------------|------------------------------------------|-------------------------------|---------------------------------|----------------------|----------|
| Survey Program: 3634-INC-ONLY                             |                             |                                       |                             |                                        |                  |                             |                                          |                |                                          |                               |                                 | Offset Well Error:   | 3.0 usft |
| Reference<br>Measured<br>Depth<br>(usft)                  | Vertical<br>Depth<br>(usft) | Offset<br>Measured<br>Depth<br>(usft) | Vertical<br>Depth<br>(usft) | Semi Major Axis<br>Reference<br>(usft) | Offset<br>(usft) | Highside<br>Toolface<br>(°) | Offset Wellbore Centre<br>+N-S<br>(usft) | +E-W<br>(usft) | Distance<br>Between<br>Centres<br>(usft) | Between<br>Ellipses<br>(usft) | Minimum<br>Separation<br>(usft) | Separation<br>Factor | Warning  |
| 0.0                                                       | 0.0                         | 0.0                                   | 0.0                         | 0.0                                    | 3.0              | -4.98                       | 2,151.0                                  | -187.6         | 2,159.2                                  |                               |                                 |                      |          |
| 100.0                                                     | 100.0                       | 100.0                                 | 100.0                       | 0.1                                    | 4.0              | -4.98                       | 2,151.0                                  | -187.6         | 2,159.2                                  | 2,155.1                       | 4.10                            | 526.824              |          |
| 200.0                                                     | 200.0                       | 200.0                                 | 200.0                       | 0.5                                    | 6.0              | -4.98                       | 2,151.0                                  | -187.6         | 2,159.2                                  | 2,152.7                       | 6.47                            | 333.927              |          |
| 300.0                                                     | 300.0                       | 300.0                                 | 300.0                       | 0.9                                    | 8.3              | -4.98                       | 2,151.0                                  | -187.6         | 2,159.2                                  | 2,150.0                       | 9.15                            | 235.873              |          |
| 400.0                                                     | 400.0                       | 400.0                                 | 400.0                       | 1.2                                    | 10.7             | -4.98                       | 2,151.0                                  | -187.6         | 2,159.2                                  | 2,147.2                       | 11.96                           | 180.596              |          |
| 500.0                                                     | 500.0                       | 500.0                                 | 500.0                       | 1.6                                    | 13.2             | -4.98                       | 2,151.0                                  | -187.6         | 2,159.2                                  | 2,144.4                       | 14.81                           | 145.805              |          |
| 600.0                                                     | 600.0                       | 600.0                                 | 600.0                       | 1.9                                    | 15.8             | -4.98                       | 2,151.0                                  | -187.6         | 2,159.2                                  | 2,141.5                       | 17.69                           | 122.069              |          |
| 700.0                                                     | 700.0                       | 700.0                                 | 700.0                       | 2.3                                    | 18.3             | -4.98                       | 2,151.0                                  | -187.6         | 2,159.2                                  | 2,138.6                       | 20.58                           | 104.899              |          |
| 800.0                                                     | 800.0                       | 800.0                                 | 800.0                       | 2.7                                    | 20.8             | -4.98                       | 2,151.0                                  | -187.6         | 2,159.2                                  | 2,135.7                       | 23.49                           | 91.924               |          |
| 900.0                                                     | 900.0                       | 900.0                                 | 900.0                       | 3.0                                    | 23.4             | -4.98                       | 2,151.0                                  | -187.6         | 2,159.2                                  | 2,132.8                       | 26.40                           | 81.785               |          |
| 1,000.0                                                   | 1,000.0                     | 1,000.0                               | 1,000.0                     | 3.4                                    | 25.9             | -4.98                       | 2,151.0                                  | -187.6         | 2,159.2                                  | 2,129.9                       | 29.32                           | 73.649               |          |
| 1,100.0                                                   | 1,100.0                     | 1,100.0                               | 1,100.0                     | 3.7                                    | 28.5             | -4.98                       | 2,151.0                                  | -187.6         | 2,159.2                                  | 2,126.9                       | 32.24                           | 66.978               |          |
| 1,200.0                                                   | 1,200.0                     | 1,200.0                               | 1,200.0                     | 4.1                                    | 31.1             | -4.98                       | 2,151.0                                  | -187.6         | 2,159.2                                  | 2,124.0                       | 35.16                           | 61.410               |          |
| 1,300.0                                                   | 1,300.0                     | 1,300.0                               | 1,300.0                     | 4.4                                    | 33.6             | -4.98                       | 2,151.0                                  | -187.6         | 2,159.2                                  | 2,121.1                       | 38.08                           | 56.694               |          |
| 1,400.0                                                   | 1,400.0                     | 1,400.0                               | 1,400.0                     | 4.8                                    | 36.2             | -4.98                       | 2,151.0                                  | -187.6         | 2,159.2                                  | 2,118.2                       | 41.01                           | 52.649               |          |
| 1,500.0                                                   | 1,500.0                     | 1,500.0                               | 1,500.0                     | 5.2                                    | 38.8             | -4.98                       | 2,151.0                                  | -187.6         | 2,159.2                                  | 2,115.2                       | 43.94                           | 49.141               |          |
| 1,600.0                                                   | 1,600.0                     | 1,600.0                               | 1,600.0                     | 5.5                                    | 41.3             | -4.98                       | 2,151.0                                  | -187.6         | 2,159.2                                  | 2,112.3                       | 46.87                           | 46.070               |          |
| 1,700.0                                                   | 1,700.0                     | 1,700.0                               | 1,700.0                     | 5.9                                    | 43.9             | -4.98                       | 2,151.0                                  | -187.6         | 2,159.2                                  | 2,109.4                       | 49.80                           | 43.360               |          |
| 1,800.0                                                   | 1,800.0                     | 1,800.0                               | 1,800.0                     | 6.2                                    | 46.5             | -4.98                       | 2,151.0                                  | -187.6         | 2,159.2                                  | 2,106.5                       | 52.73                           | 40.950               |          |
| 1,900.0                                                   | 1,900.0                     | 1,900.0                               | 1,900.0                     | 6.6                                    | 49.1             | -4.98                       | 2,151.0                                  | -187.6         | 2,159.2                                  | 2,103.5                       | 55.66                           | 38.794               |          |
| 2,000.0                                                   | 2,000.0                     | 2,000.0                               | 2,000.0                     | 7.0                                    | 51.6             | -4.98                       | 2,151.0                                  | -187.6         | 2,159.2                                  | 2,100.6                       | 58.59                           | 36.853               |          |
| 2,100.0                                                   | 2,100.0                     | 2,100.0                               | 2,100.0                     | 7.3                                    | 54.2             | -4.98                       | 2,151.0                                  | -187.6         | 2,159.2                                  | 2,097.7                       | 61.52                           | 35.097               |          |
| 2,200.0                                                   | 2,200.0                     | 2,200.0                               | 2,200.0                     | 7.7                                    | 56.8             | -4.98                       | 2,151.0                                  | -187.6         | 2,159.2                                  | 2,094.7                       | 64.45                           | 33.500               |          |
| 2,300.0                                                   | 2,300.0                     | 2,300.0                               | 2,300.0                     | 8.0                                    | 59.4             | -4.98                       | 2,151.0                                  | -187.6         | 2,159.2                                  | 2,091.8                       | 67.38                           | 32.042               |          |
| 2,400.0                                                   | 2,400.0                     | 2,400.0                               | 2,400.0                     | 8.4                                    | 61.9             | -4.98                       | 2,151.0                                  | -187.6         | 2,159.2                                  | 2,088.9                       | 70.32                           | 30.706               |          |
| 2,500.0                                                   | 2,500.0                     | 2,500.0                               | 2,500.0                     | 8.7                                    | 64.5             | -4.98                       | 2,151.0                                  | -187.6         | 2,159.2                                  | 2,085.9                       | 73.25                           | 29.477               |          |
| 2,600.0                                                   | 2,600.0                     | 2,600.0                               | 2,600.0                     | 9.1                                    | 67.1             | -4.98                       | 2,151.0                                  | -187.6         | 2,159.2                                  | 2,083.0                       | 76.18                           | 28.342               |          |
| 2,700.0                                                   | 2,700.0                     | 2,700.0                               | 2,700.0                     | 9.5                                    | 69.7             | -4.98                       | 2,151.0                                  | -187.6         | 2,159.2                                  | 2,080.1                       | 79.12                           | 27.291               |          |
| 2,800.0                                                   | 2,800.0                     | 2,800.0                               | 2,800.0                     | 9.8                                    | 72.2             | -4.98                       | 2,151.0                                  | -187.6         | 2,159.2                                  | 2,077.1                       | 82.05                           | 26.315               |          |
| 2,900.0                                                   | 2,900.0                     | 2,900.0                               | 2,900.0                     | 10.2                                   | 74.8             | -4.98                       | 2,151.0                                  | -187.6         | 2,159.2                                  | 2,074.2                       | 84.98                           | 25.407               |          |
| 3,000.0                                                   | 3,000.0                     | 3,000.0                               | 3,000.0                     | 10.5                                   | 77.4             | -4.98                       | 2,151.0                                  | -187.6         | 2,159.2                                  | 2,071.3                       | 87.92                           | 24.559               |          |
| 3,100.0                                                   | 3,100.0                     | 3,100.0                               | 3,100.0                     | 10.9                                   | 80.0             | -4.98                       | 2,151.0                                  | -187.6         | 2,159.2                                  | 2,068.3                       | 90.85                           | 23.766               |          |
| 3,200.0                                                   | 3,200.0                     | 3,200.0                               | 3,200.0                     | 11.3                                   | 82.5             | -4.98                       | 2,151.0                                  | -187.6         | 2,159.2                                  | 2,065.4                       | 93.79                           | 23.022               |          |
| 3,300.0                                                   | 3,300.0                     | 3,300.0                               | 3,300.0                     | 11.6                                   | 85.1             | -4.98                       | 2,151.0                                  | -187.6         | 2,159.2                                  | 2,062.5                       | 96.72                           | 22.324               |          |
| 3,400.0                                                   | 3,400.0                     | 3,400.0                               | 3,400.0                     | 12.0                                   | 87.7             | -4.98                       | 2,151.0                                  | -187.6         | 2,159.2                                  | 2,059.5                       | 99.65                           | 21.667               |          |
| 3,500.0                                                   | 3,500.0                     | 3,500.0                               | 3,500.0                     | 12.3                                   | 90.3             | -4.98                       | 2,151.0                                  | -187.6         | 2,159.2                                  | 2,056.6                       | 102.59                          | 21.047               |          |
| 3,600.0                                                   | 3,600.0                     | 3,600.0                               | 3,600.0                     | 12.7                                   | 92.8             | -4.98                       | 2,151.0                                  | -187.6         | 2,159.2                                  | 2,053.7                       | 105.52                          | 20.462               |          |
| 3,601.9                                                   | 3,601.9                     | 3,601.9                               | 3,601.9                     | 12.7                                   | 92.9             | -4.98                       | 2,151.0                                  | -187.6         | 2,159.2                                  | 2,053.6                       | 105.58                          | 20.451 CC            |          |
| 3,700.0                                                   | 3,700.0                     | 3,634.0                               | 3,634.0                     | 13.0                                   | 93.7             | -4.98                       | 2,151.0                                  | -187.6         | 2,160.2                                  | 2,053.4                       | 106.76                          | 20.234 ES            |          |
| 3,800.0                                                   | 3,800.0                     | 3,634.0                               | 3,634.0                     | 13.4                                   | 93.7             | -4.98                       | 2,151.0                                  | -187.6         | 2,165.6                                  | 2,058.4                       | 107.12                          | 20.217 SF            |          |
| 3,900.0                                                   | 3,900.0                     | 3,634.0                               | 3,634.0                     | 13.8                                   | 93.7             | -4.98                       | 2,151.0                                  | -187.6         | 2,175.5                                  | 2,068.0                       | 107.47                          | 20.242               |          |
| 4,000.0                                                   | 4,000.0                     | 3,634.0                               | 3,634.0                     | 14.1                                   | 93.7             | -4.98                       | 2,151.0                                  | -187.6         | 2,190.0                                  | 2,082.1                       | 107.83                          | 20.309               |          |
| 4,100.0                                                   | 4,100.0                     | 3,634.0                               | 3,634.0                     | 14.5                                   | 93.7             | -4.98                       | 2,151.0                                  | -187.6         | 2,208.9                                  | 2,100.7                       | 108.19                          | 20.417               |          |
| 4,200.0                                                   | 4,200.0                     | 3,634.0                               | 3,634.0                     | 14.8                                   | 93.7             | -4.98                       | 2,151.0                                  | -187.6         | 2,232.1                                  | 2,123.6                       | 108.55                          | 20.563               |          |
| 4,300.0                                                   | 4,300.0                     | 3,634.0                               | 3,634.0                     | 15.2                                   | 93.7             | -4.98                       | 2,151.0                                  | -187.6         | 2,259.6                                  | 2,150.7                       | 108.91                          | 20.747               |          |
| 4,400.0                                                   | 4,400.0                     | 3,634.0                               | 3,634.0                     | 15.5                                   | 93.7             | -4.98                       | 2,151.0                                  | -187.6         | 2,291.0                                  | 2,181.8                       | 109.27                          | 20.967               |          |
| 4,500.0                                                   | 4,500.0                     | 3,634.0                               | 3,634.0                     | 15.9                                   | 93.7             | -4.98                       | 2,151.0                                  | -187.6         | 2,326.4                                  | 2,216.7                       | 109.63                          | 21.221               |          |
| 4,600.0                                                   | 4,600.0                     | 3,634.0                               | 3,634.0                     | 16.3                                   | 93.7             | -4.98                       | 2,151.0                                  | -187.6         | 2,365.4                                  | 2,255.4                       | 109.98                          | 21.507               |          |
| 4,700.0                                                   | 4,700.0                     | 3,634.0                               | 3,634.0                     | 16.6                                   | 93.7             | -4.98                       | 2,151.0                                  | -187.6         | 2,408.0                                  | 2,297.6                       | 110.34                          | 21.823               |          |
| 4,800.0                                                   | 4,800.0                     | 3,634.0                               | 3,634.0                     | 17.0                                   | 93.7             | -4.98                       | 2,151.0                                  | -187.6         | 2,453.9                                  | 2,343.2                       | 110.70                          | 22.167               |          |
| 4,900.0                                                   | 4,900.0                     | 3,634.0                               | 3,634.0                     | 17.4                                   | 93.7             | -4.98                       | 2,151.0                                  | -187.6         | 2,503.0                                  | 2,391.9                       | 111.06                          | 22.537               |          |
| 5,000.0                                                   | 5,000.0                     | 3,634.0                               | 3,634.0                     | 17.7                                   | 93.7             | -4.98                       | 2,151.0                                  | -187.6         | 2,555.0                                  | 2,443.6                       | 111.42                          | 22.932               |          |

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

# COG Operating LLC

## Anticollision Report

|                    |                          |                              |                                           |
|--------------------|--------------------------|------------------------------|-------------------------------------------|
| Company:           | COG OPERATING, LLC       | Local Co-ordinate Reference: | Well NERVOUS PERVIS STATE #9H             |
| Project:           | LEA COUNTY, NM           | TVD Reference:               | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| Reference Site:    | LUSK BSS                 | MD Reference:                | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| Site Error:        | 0.0 usft                 | North Reference:             | Grid                                      |
| Reference Well:    | NERVOUS PURVIS STATE #9H | Survey Calculation Method:   | Minimum Curvature                         |
| Well Error:        | 0.0 usft                 | Output errors are at         | 2.00 sigma                                |
| Reference Wellbore | OWB                      | Database:                    | EDM_Users                                 |
| Reference Design:  | DWD Plan 1               | Offset TVD Reference:        | Offset Datum                              |

| Offset Design LUSK BSS - STATE #1 - OWB - ACTUAL WELLPATH |                       |                       |                       |                  |               |                       |                                     |                                     |                        |                         |                           |         | Offset Site Error: |
|-----------------------------------------------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|-------------------------------------|------------------------|-------------------------|---------------------------|---------|--------------------|
| Survey Program: 3634-INC-ONLY                             |                       |                       |                       |                  |               |                       |                                     |                                     |                        |                         |                           |         | 0.0 usft           |
| Reference                                                 | Offset                | Semi Major Axis       |                       | Distance         |               | Minimum               |                                     | Separation                          |                        | Warning                 |                           | Warning | Offset Well Error: |
| Measured Depth (usft)                                     | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) |         |                    |
| 5,100.0                                                   | 5,100.0               | 3,634.0               | 3,634.0               | 18.1             | 93.7          | -4.98                 | 2,151.0                             | -187.6                              | 2,609.8                | 2,498.1                 | 111.78                    | 23.349  | 3.0 usft           |
| 5,200.0                                                   | 5,200.0               | 3,634.0               | 3,634.0               | 18.4             | 93.7          | -4.98                 | 2,151.0                             | -187.6                              | 2,667.3                | 2,555.2                 | 112.13                    | 23.786  |                    |
| 5,300.0                                                   | 5,300.0               | 3,634.0               | 3,634.0               | 18.8             | 93.7          | -4.98                 | 2,151.0                             | -187.6                              | 2,727.2                | 2,614.7                 | 112.49                    | 24.243  | 3.0 usft           |
| 5,400.0                                                   | 5,400.0               | 3,634.0               | 3,634.0               | 19.1             | 93.7          | -4.98                 | 2,151.0                             | -187.6                              | 2,789.4                | 2,678.6                 | 112.85                    | 24.717  |                    |
| 5,500.0                                                   | 5,500.0               | 3,634.0               | 3,634.0               | 19.5             | 93.7          | -4.98                 | 2,151.0                             | -187.6                              | 2,853.8                | 2,740.6                 | 113.21                    | 25.208  | 3.0 usft           |
| 5,600.0                                                   | 5,600.0               | 3,634.0               | 3,634.0               | 19.9             | 93.7          | -4.98                 | 2,151.0                             | -187.6                              | 2,920.1                | 2,806.6                 | 113.57                    | 25.713  |                    |
| 5,700.0                                                   | 5,700.0               | 3,634.0               | 3,634.0               | 20.2             | 93.7          | -4.98                 | 2,151.0                             | -187.6                              | 2,988.4                | 2,874.5                 | 113.93                    | 26.231  | 3.0 usft           |
| 5,800.0                                                   | 5,800.0               | 3,634.0               | 3,634.0               | 20.6             | 93.7          | -4.98                 | 2,151.0                             | -187.6                              | 3,058.4                | 2,944.1                 | 114.29                    | 26.761  |                    |
| 5,900.0                                                   | 5,900.0               | 3,634.0               | 3,634.0               | 20.9             | 93.7          | -4.98                 | 2,151.0                             | -187.6                              | 3,130.0                | 3,015.3                 | 114.64                    | 27.302  | 3.0 usft           |
| 6,000.0                                                   | 6,000.0               | 3,634.0               | 3,634.0               | 21.3             | 93.7          | -4.98                 | 2,151.0                             | -187.6                              | 3,203.1                | 3,088.1                 | 115.00                    | 27.853  |                    |
| 6,100.0                                                   | 6,100.0               | 3,634.0               | 3,634.0               | 21.7             | 93.7          | -4.98                 | 2,151.0                             | -187.6                              | 3,277.7                | 3,162.3                 | 115.36                    | 28.412  | 3.0 usft           |
| 6,200.0                                                   | 6,200.0               | 3,634.0               | 3,634.0               | 22.0             | 93.7          | -4.98                 | 2,151.0                             | -187.6                              | 3,353.6                | 3,237.8                 | 115.72                    | 28.980  |                    |
| 6,300.0                                                   | 6,300.0               | 3,634.0               | 3,634.0               | 22.4             | 93.7          | -4.98                 | 2,151.0                             | -187.6                              | 3,430.7                | 3,314.6                 | 116.08                    | 29.555  | 3.0 usft           |
| 6,400.0                                                   | 6,400.0               | 3,634.0               | 3,634.0               | 22.7             | 93.7          | -4.98                 | 2,151.0                             | -187.6                              | 3,509.0                | 3,392.5                 | 116.44                    | 30.136  |                    |
| 6,500.0                                                   | 6,500.0               | 3,634.0               | 3,634.0               | 23.1             | 93.7          | -4.98                 | 2,151.0                             | -187.6                              | 3,588.3                | 3,471.5                 | 116.79                    | 30.723  | 3.0 usft           |
| 6,600.0                                                   | 6,600.0               | 3,634.0               | 3,634.0               | 23.4             | 93.7          | -4.98                 | 2,151.0                             | -187.6                              | 3,668.7                | 3,551.5                 | 117.15                    | 31.315  |                    |
| 6,700.0                                                   | 6,700.0               | 3,634.0               | 3,634.0               | 23.8             | 93.7          | -4.98                 | 2,151.0                             | -187.6                              | 3,750.0                | 3,632.5                 | 117.51                    | 31.912  | 3.0 usft           |
| 6,800.0                                                   | 6,800.0               | 3,634.0               | 3,634.0               | 24.2             | 93.7          | -4.98                 | 2,151.0                             | -187.6                              | 3,832.2                | 3,714.3                 | 117.87                    | 32.512  |                    |
| 6,900.0                                                   | 6,900.0               | 3,634.0               | 3,634.0               | 24.5             | 93.7          | -4.98                 | 2,151.0                             | -187.6                              | 3,915.2                | 3,797.0                 | 118.23                    | 33.115  | 3.0 usft           |
| 7,000.0                                                   | 7,000.0               | 3,634.0               | 3,634.0               | 24.9             | 93.7          | -4.98                 | 2,151.0                             | -187.6                              | 3,999.0                | 3,880.4                 | 118.59                    | 33.722  |                    |
| 7,100.0                                                   | 7,100.0               | 3,634.0               | 3,634.0               | 25.2             | 93.7          | -4.98                 | 2,151.0                             | -187.6                              | 4,083.5                | 3,964.6                 | 118.95                    | 34.331  | 3.0 usft           |
| 7,200.0                                                   | 7,200.0               | 3,634.0               | 3,634.0               | 25.6             | 93.7          | -4.98                 | 2,151.0                             | -187.6                              | 4,168.7                | 4,049.4                 | 119.30                    | 34.942  |                    |
| 7,300.0                                                   | 7,300.0               | 3,634.0               | 3,634.0               | 26.0             | 93.7          | -4.98                 | 2,151.0                             | -187.6                              | 4,254.6                | 4,134.9                 | 119.66                    | 35.555  | 3.0 usft           |
| 7,400.0                                                   | 7,400.0               | 3,634.0               | 3,634.0               | 26.3             | 93.7          | -4.98                 | 2,151.0                             | -187.6                              | 4,341.1                | 4,221.0                 | 120.02                    | 36.169  |                    |
| 7,500.0                                                   | 7,500.0               | 3,634.0               | 3,634.0               | 26.7             | 93.7          | -4.98                 | 2,151.0                             | -187.6                              | 4,428.1                | 4,307.7                 | 120.38                    | 36.784  | 3.0 usft           |
| 7,600.0                                                   | 7,600.0               | 3,634.0               | 3,634.0               | 27.0             | 93.7          | -4.98                 | 2,151.0                             | -187.6                              | 4,515.7                | 4,394.9                 | 120.74                    | 37.400  |                    |
| 7,700.0                                                   | 7,700.0               | 3,634.0               | 3,634.0               | 27.4             | 93.7          | -4.98                 | 2,151.0                             | -187.6                              | 4,603.7                | 4,482.6                 | 121.10                    | 38.017  | 3.0 usft           |
| 7,800.0                                                   | 7,800.0               | 3,634.0               | 3,634.0               | 27.7             | 93.7          | -4.98                 | 2,151.0                             | -187.6                              | 4,692.3                | 4,570.8                 | 121.46                    | 38.634  |                    |
| 7,900.0                                                   | 7,900.0               | 3,634.0               | 3,634.0               | 28.1             | 93.7          | -4.98                 | 2,151.0                             | -187.6                              | 4,781.3                | 4,659.5                 | 121.81                    | 39.251  | 3.0 usft           |
| 8,000.0                                                   | 8,000.0               | 3,634.0               | 3,634.0               | 28.5             | 93.7          | -4.98                 | 2,151.0                             | -187.6                              | 4,870.7                | 4,748.6                 | 122.17                    | 39.868  |                    |
| 8,100.0                                                   | 8,100.0               | 3,634.0               | 3,634.0               | 28.8             | 93.7          | -4.98                 | 2,151.0                             | -187.6                              | 4,960.6                | 4,838.0                 | 122.53                    | 40.484  | 3.0 usft           |
| 8,200.0                                                   | 8,200.0               | 3,634.0               | 3,634.0               | 29.2             | 93.7          | -4.98                 | 2,151.0                             | -187.6                              | 5,050.8                | 4,927.9                 | 122.89                    | 41.100  |                    |
| 8,300.0                                                   | 8,300.0               | 3,634.0               | 3,634.0               | 29.5             | 93.7          | -4.98                 | 2,151.0                             | -187.6                              | 5,141.4                | 5,018.1                 | 123.25                    | 41.716  | 3.0 usft           |
| 8,400.0                                                   | 8,400.0               | 3,634.0               | 3,634.0               | 29.9             | 93.7          | -4.98                 | 2,151.0                             | -187.6                              | 5,232.3                | 5,108.7                 | 123.61                    | 42.330  |                    |
| 8,500.0                                                   | 8,500.0               | 3,634.0               | 3,634.0               | 30.3             | 93.7          | -4.98                 | 2,151.0                             | -187.6                              | 5,323.5                | 5,199.6                 | 123.96                    | 42.944  | 3.0 usft           |
| 8,600.0                                                   | 8,600.0               | 3,634.0               | 3,634.0               | 30.6             | 93.7          | -4.98                 | 2,151.0                             | -187.6                              | 5,415.1                | 5,290.8                 | 124.32                    | 43.557  |                    |
| 8,622.6                                                   | 8,622.6               | 3,634.0               | 3,634.0               | 30.7             | 93.7          | -4.98                 | 2,151.0                             | -187.6                              | 5,435.8                | 5,311.4                 | 124.40                    | 43.695  | 3.0 usft           |
| 8,625.0                                                   | 8,625.0               | 3,634.0               | 3,634.0               | 30.7             | 93.7          | -4.00                 | 2,151.0                             | -187.6                              | 5,438.0                | 5,313.6                 | 124.41                    | 43.710  |                    |
| 8,650.0                                                   | 8,650.0               | 3,634.0               | 3,634.0               | 30.8             | 93.7          | -3.58                 | 2,151.0                             | -187.6                              | 5,460.7                | 5,336.2                 | 124.50                    | 43.860  | 3.0 usft           |
| 8,675.0                                                   | 8,674.9               | 3,634.0               | 3,634.0               | 30.9             | 93.7          | -3.24                 | 2,151.0                             | -187.6                              | 5,482.7                | 5,358.1                 | 124.59                    | 44.006  |                    |
| 8,700.0                                                   | 8,699.7               | 3,634.0               | 3,634.0               | 31.0             | 93.7          | -2.97                 | 2,151.0                             | -187.6                              | 5,504.2                | 5,379.5                 | 124.68                    | 44.146  | 3.0 usft           |
| 8,725.0                                                   | 8,724.2               | 3,634.0               | 3,634.0               | 31.1             | 93.7          | -2.74                 | 2,151.0                             | -187.6                              | 5,525.0                | 5,400.2                 | 124.77                    | 44.282  |                    |
| 8,750.0                                                   | 8,748.5               | 3,634.0               | 3,634.0               | 31.1             | 93.7          | -2.56                 | 2,151.0                             | -187.6                              | 5,545.1                | 5,420.2                 | 124.86                    | 44.412  | 3.0 usft           |
| 8,775.0                                                   | 8,772.4               | 3,634.0               | 3,634.0               | 31.2             | 93.7          | -2.40                 | 2,151.0                             | -187.6                              | 5,564.4                | 5,439.4                 | 124.94                    | 44.536  |                    |
| 8,800.0                                                   | 8,795.9               | 3,634.0               | 3,634.0               | 31.3             | 93.7          | -2.27                 | 2,151.0                             | -187.6                              | 5,582.9                | 5,457.9                 | 125.02                    | 44.655  | 3.0 usft           |
| 8,825.0                                                   | 8,819.0               | 3,634.0               | 3,634.0               | 31.4             | 93.7          | -2.15                 | 2,151.0                             | -187.6                              | 5,600.5                | 5,475.4                 | 125.10                    | 44.767  |                    |
| 8,850.0                                                   | 8,841.5               | 3,634.0               | 3,634.0               | 31.5             | 93.7          | -2.05                 | 2,151.0                             | -187.6                              | 5,617.3                | 5,492.1                 | 125.18                    | 44.873  | 3.0 usft           |
| 8,875.0                                                   | 8,863.4               | 3,634.0               | 3,634.0               | 31.6             | 93.7          | -1.96                 | 2,151.0                             | -187.6                              | 5,633.1                | 5,507.9                 | 125.26                    | 44.970  |                    |
| 8,900.0                                                   | 8,894.7               | 3,634.0               | 3,634.0               | 31.6             | 93.7          | -1.89                 | 2,151.0                             | -187.6                              | 5,648.0                | 5,522.7                 | 125.34                    | 45.060  | 3.0 usft           |
| 8,925.0                                                   | 8,905.2               | 3,634.0               | 3,634.0               | 31.7             | 93.7          | -1.82                 | 2,151.0                             | -187.6                              | 5,661.9                | 5,536.5                 | 125.42                    | 45.143  |                    |
| 8,950.0                                                   | 8,924.9               | 3,634.0               | 3,634.0               | 31.8             | 93.7          | -1.77                 | 2,151.0                             | -187.6                              | 5,674.8                | 5,549.3                 | 125.50                    | 45.217  | 3.0 usft           |
| 8,975.0                                                   | 8,943.9               | 3,634.0               | 3,634.0               | 31.9             | 93.7          | -1.72                 | 2,151.0                             | -187.6                              | 5,686.6                | 5,561.0                 | 125.58                    | 45.283  |                    |

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

# COG Operating LLC

## Anticollision Report

|                           |                          |                                     |                                           |
|---------------------------|--------------------------|-------------------------------------|-------------------------------------------|
| <b>Company:</b>           | COG OPERATING, LLC       | <b>Local Co-ordinate Reference:</b> | Well NERVOUS PERVIS STATE #9H             |
| <b>Project:</b>           | LEA COUNTY, NM           | <b>TVD Reference:</b>               | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| <b>Reference Site:</b>    | LUSK BSS                 | <b>MD Reference:</b>                | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| <b>Site Error:</b>        | 0.0 usft                 | <b>North Reference:</b>             | Grid                                      |
| <b>Reference Well:</b>    | NERVOUS PURVIS STATE #9H | <b>Survey Calculation Method:</b>   | Minimum Curvature                         |
| <b>Well Error:</b>        | 0.0 usft                 | <b>Output errors are at</b>         | 2.00 sigma                                |
| <b>Reference Wellbore</b> | OWB                      | <b>Database:</b>                    | EDM_Users                                 |
| <b>Reference Design:</b>  | DWD Plan 1               | <b>Offset TVD Reference:</b>        | Offset Datum                              |

| Offset Design LUSK BSS - STATE #1 - OWB - ACTUAL WELLPATH |                       |                       |                       |                  |               |                        |                       |                                    |                                    |                        |                         |                           | Offset Site Error: | 0.0 usft |
|-----------------------------------------------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|------------------------|-----------------------|------------------------------------|------------------------------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 3834-INC-ONLY                             |                       |                       |                       |                  |               |                        |                       |                                    |                                    |                        |                         |                           | Offset Well Error: | 3.0 usft |
| Measured Depth (usft)                                     | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Semi Major Axis (usft) | Highside Toolface (°) | Offset Wellbore Centre +N-S (usft) | Offset Wellbore Centre +E-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor  | Warning  |
| 9,000.0                                                   | 8,961.9               | 3,634.0               | 3,634.0               | 31.9             | 93.7          | -1.68                  |                       | 2,151.0                            | -187.6                             | 5,697.3                | 5,571.6                 | 125.66                    | 45.340             |          |
| 9,025.0                                                   | 8,979.0               | 3,634.0               | 3,634.0               | 32.0             | 93.7          | -1.64                  |                       | 2,151.0                            | -187.6                             | 5,706.9                | 5,581.2                 | 125.74                    | 45.388             |          |
| 9,050.0                                                   | 8,995.2               | 3,634.0               | 3,634.0               | 32.1             | 93.7          | -1.61                  |                       | 2,151.0                            | -187.6                             | 5,715.4                | 5,589.6                 | 125.81                    | 45.428             |          |
| 9,075.0                                                   | 9,010.3               | 3,634.0               | 3,634.0               | 32.2             | 93.7          | -1.58                  |                       | 2,151.0                            | -187.6                             | 5,722.7                | 5,596.9                 | 125.89                    | 45.458             |          |
| 9,100.0                                                   | 9,024.3               | 3,634.0               | 3,634.0               | 32.3             | 93.7          | -1.56                  |                       | 2,151.0                            | -187.6                             | 5,728.9                | 5,603.0                 | 125.97                    | 45.478             |          |
| 9,125.0                                                   | 9,037.3               | 3,634.0               | 3,634.0               | 32.3             | 93.7          | -1.55                  |                       | 2,151.0                            | -187.6                             | 5,734.0                | 5,607.9                 | 126.05                    | 45.489             |          |
| 9,150.0                                                   | 9,049.1               | 3,634.0               | 3,634.0               | 32.4             | 93.7          | -1.53                  |                       | 2,151.0                            | -187.6                             | 5,737.8                | 5,611.7                 | 126.13                    | 45.490             |          |
| 9,175.0                                                   | 9,059.8               | 3,634.0               | 3,634.0               | 32.5             | 93.7          | -1.53                  |                       | 2,151.0                            | -187.6                             | 5,740.4                | 5,614.2                 | 126.21                    | 45.482             |          |
| 9,200.0                                                   | 9,069.2               | 3,634.0               | 3,634.0               | 32.6             | 93.7          | -1.52                  |                       | 2,151.0                            | -187.6                             | 5,741.9                | 5,615.6                 | 126.30                    | 45.463             |          |
| 9,225.0                                                   | 9,077.4               | 3,634.0               | 3,634.0               | 32.7             | 93.7          | -1.52                  |                       | 2,151.0                            | -187.6                             | 5,742.2                | 5,615.8                 | 126.38                    | 45.435             |          |
| 9,250.0                                                   | 9,084.4               | 3,634.0               | 3,634.0               | 32.8             | 93.7          | -1.52                  |                       | 2,151.0                            | -187.6                             | 5,741.2                | 5,614.7                 | 126.47                    | 45.397             |          |
| 9,275.0                                                   | 9,090.1               | 3,634.0               | 3,634.0               | 32.8             | 93.7          | -1.53                  |                       | 2,151.0                            | -187.6                             | 5,739.1                | 5,612.5                 | 126.55                    | 45.349             |          |
| 9,300.0                                                   | 9,094.6               | 3,634.0               | 3,634.0               | 32.9             | 93.7          | -1.54                  |                       | 2,151.0                            | -187.6                             | 5,735.7                | 5,609.1                 | 126.64                    | 45.291             |          |
| 9,325.0                                                   | 9,097.7               | 3,634.0               | 3,634.0               | 33.0             | 93.7          | -1.56                  |                       | 2,151.0                            | -187.6                             | 5,731.2                | 5,604.5                 | 126.73                    | 45.223             |          |
| 9,350.0                                                   | 9,099.5               | 3,634.0               | 3,634.0               | 33.1             | 93.7          | -1.57                  |                       | 2,151.0                            | -187.6                             | 5,725.5                | 5,598.7                 | 126.82                    | 45.146             |          |
| 9,375.0                                                   | 9,100.1               | 3,634.0               | 3,634.0               | 33.2             | 93.7          | -1.60                  |                       | 2,151.0                            | -187.6                             | 5,718.7                | 5,591.7                 | 126.91                    | 45.060             |          |
| 9,380.4                                                   | 9,100.0               | 3,634.0               | 3,634.0               | 33.2             | 93.7          | -1.60                  |                       | 2,151.0                            | -187.6                             | 5,717.0                | 5,590.1                 | 126.93                    | 45.040             |          |
| 9,400.0                                                   | 9,099.7               | 3,634.0               | 3,634.0               | 33.3             | 93.7          | -1.60                  |                       | 2,151.0                            | -187.6                             | 5,711.0                | 5,584.0                 | 127.01                    | 44.966             |          |
| 9,500.0                                                   | 9,098.0               | 3,634.0               | 3,634.0               | 33.7             | 93.7          | -1.60                  |                       | 2,151.0                            | -187.6                             | 5,681.4                | 5,554.0                 | 127.44                    | 44.582             |          |
| 9,600.0                                                   | 9,096.4               | 3,634.0               | 3,634.0               | 34.2             | 93.7          | -1.60                  |                       | 2,151.0                            | -187.6                             | 5,653.4                | 5,525.4                 | 127.94                    | 44.186             |          |
| 9,700.0                                                   | 9,094.8               | 3,634.0               | 3,634.0               | 34.8             | 93.7          | -1.60                  |                       | 2,151.0                            | -187.6                             | 5,627.0                | 5,498.4                 | 128.53                    | 43.781             |          |
| 9,800.0                                                   | 9,093.1               | 3,634.0               | 3,634.0               | 35.5             | 93.7          | -1.60                  |                       | 2,151.0                            | -187.6                             | 5,602.2                | 5,473.1                 | 129.18                    | 43.369             |          |
| 9,900.0                                                   | 9,091.5               | 3,634.0               | 3,634.0               | 36.2             | 93.7          | -1.60                  |                       | 2,151.0                            | -187.6                             | 5,579.2                | 5,449.3                 | 129.89                    | 42.952             |          |
| 10,000.0                                                  | 9,089.8               | 3,634.0               | 3,634.0               | 37.0             | 93.7          | -1.60                  |                       | 2,151.0                            | -187.6                             | 5,557.9                | 5,427.2                 | 130.67                    | 42.532             |          |
| 10,100.0                                                  | 9,088.2               | 3,634.0               | 3,634.0               | 37.8             | 93.7          | -1.60                  |                       | 2,151.0                            | -187.6                             | 5,538.2                | 5,406.7                 | 131.51                    | 42.112             |          |
| 10,200.0                                                  | 9,086.6               | 3,634.0               | 3,634.0               | 38.7             | 93.7          | -1.60                  |                       | 2,151.0                            | -187.6                             | 5,520.4                | 5,388.0                 | 132.40                    | 41.693             |          |
| 10,300.0                                                  | 9,084.9               | 3,634.0               | 3,634.0               | 39.6             | 93.7          | -1.60                  |                       | 2,151.0                            | -187.6                             | 5,504.2                | 5,370.9                 | 133.35                    | 41.277             |          |
| 10,400.0                                                  | 9,083.3               | 3,634.0               | 3,634.0               | 40.6             | 93.7          | -1.60                  |                       | 2,151.0                            | -187.6                             | 5,489.9                | 5,355.6                 | 134.34                    | 40.866             |          |
| 10,500.0                                                  | 9,081.6               | 3,634.0               | 3,634.0               | 41.7             | 93.7          | -1.60                  |                       | 2,151.0                            | -187.6                             | 5,477.4                | 5,342.0                 | 135.38                    | 40.460             |          |
| 10,600.0                                                  | 9,080.0               | 3,634.0               | 3,634.0               | 42.7             | 93.7          | -1.60                  |                       | 2,151.0                            | -187.6                             | 5,466.6                | 5,330.1                 | 136.45                    | 40.062             |          |
| 10,700.0                                                  | 9,078.4               | 3,634.0               | 3,634.0               | 43.9             | 93.7          | -1.60                  |                       | 2,151.0                            | -187.6                             | 5,457.7                | 5,320.1                 | 137.57                    | 39.673             |          |
| 10,800.0                                                  | 9,076.7               | 3,634.0               | 3,634.0               | 45.0             | 93.7          | -1.60                  |                       | 2,151.0                            | -187.6                             | 5,450.5                | 5,311.8                 | 138.72                    | 39.293             |          |
| 10,900.0                                                  | 9,075.1               | 3,634.0               | 3,634.0               | 46.2             | 93.7          | -1.60                  |                       | 2,151.0                            | -187.6                             | 5,445.2                | 5,305.3                 | 139.90                    | 38.923             |          |
| 11,000.0                                                  | 9,073.4               | 3,634.0               | 3,634.0               | 47.4             | 93.7          | -1.60                  |                       | 2,151.0                            | -187.6                             | 5,441.8                | 5,300.7                 | 141.11                    | 38.564             |          |
| 11,100.0                                                  | 9,071.8               | 3,634.0               | 3,634.0               | 48.6             | 93.7          | -1.60                  |                       | 2,151.0                            | -187.6                             | 5,440.2                | 5,297.8                 | 142.35                    | 38.217             |          |
| 11,138.4                                                  | 9,071.2               | 3,634.0               | 3,634.0               | 49.1             | 93.7          | -1.60                  |                       | 2,151.0                            | -187.6                             | 5,440.0                | 5,297.2                 | 142.83                    | 38.086             |          |
| 11,200.0                                                  | 9,070.1               | 3,634.0               | 3,634.0               | 49.9             | 93.7          | -1.60                  |                       | 2,151.0                            | -187.6                             | 5,440.4                | 5,296.8                 | 143.61                    | 37.882             |          |
| 11,300.0                                                  | 9,068.5               | 3,634.0               | 3,634.0               | 51.2             | 93.7          | -1.60                  |                       | 2,151.0                            | -187.6                             | 5,442.4                | 5,297.5                 | 144.90                    | 37.559             |          |
| 11,400.0                                                  | 9,066.9               | 3,634.0               | 3,634.0               | 52.5             | 93.7          | -1.60                  |                       | 2,151.0                            | -187.6                             | 5,446.3                | 5,300.1                 | 146.21                    | 37.249             |          |
| 11,500.0                                                  | 9,065.2               | 3,634.0               | 3,634.0               | 53.8             | 93.7          | -1.60                  |                       | 2,151.0                            | -187.6                             | 5,452.0                | 5,304.5                 | 147.55                    | 36.951             |          |
| 11,600.0                                                  | 9,063.6               | 3,634.0               | 3,634.0               | 55.2             | 93.7          | -1.60                  |                       | 2,151.0                            | -187.6                             | 5,459.6                | 5,310.7                 | 148.90                    | 36.667             |          |
| 11,700.0                                                  | 9,061.9               | 3,634.0               | 3,634.0               | 56.6             | 93.7          | -1.60                  |                       | 2,151.0                            | -187.6                             | 5,468.9                | 5,318.7                 | 150.26                    | 36.395             |          |
| 11,800.0                                                  | 9,060.3               | 3,634.0               | 3,634.0               | 57.9             | 93.7          | -1.60                  |                       | 2,151.0                            | -187.6                             | 5,480.1                | 5,328.5                 | 151.65                    | 36.137             |          |
| 11,900.0                                                  | 9,058.7               | 3,634.0               | 3,634.0               | 59.3             | 93.7          | -1.60                  |                       | 2,151.0                            | -187.6                             | 5,493.1                | 5,340.0                 | 153.05                    | 35.891             |          |
| 12,000.0                                                  | 9,057.0               | 3,634.0               | 3,634.0               | 60.8             | 93.7          | -1.60                  |                       | 2,151.0                            | -187.6                             | 5,507.8                | 5,353.4                 | 154.48                    | 35.658             |          |
| 12,100.0                                                  | 9,055.4               | 3,634.0               | 3,634.0               | 62.2             | 93.7          | -1.60                  |                       | 2,151.0                            | -187.6                             | 5,524.4                | 5,368.5                 | 155.89                    | 35.438             |          |
| 12,200.0                                                  | 9,053.7               | 3,634.0               | 3,634.0               | 63.6             | 93.7          | -1.60                  |                       | 2,151.0                            | -187.6                             | 5,542.6                | 5,385.3                 | 157.33                    | 35.230             |          |
| 12,300.0                                                  | 9,052.1               | 3,634.0               | 3,634.0               | 65.1             | 93.7          | -1.60                  |                       | 2,151.0                            | -187.6                             | 5,562.7                | 5,403.9                 | 158.78                    | 35.034             |          |
| 12,400.0                                                  | 9,050.5               | 3,634.0               | 3,634.0               | 66.5             | 93.7          | -1.60                  |                       | 2,151.0                            | -187.6                             | 5,584.4                | 5,424.2                 | 160.24                    | 34.850             |          |
| 12,500.0                                                  | 9,048.8               | 3,634.0               | 3,634.0               | 68.0             | 93.7          | -1.60                  |                       | 2,151.0                            | -187.6                             | 5,607.8                | 5,446.1                 | 161.71                    | 34.678             |          |
| 12,600.0                                                  | 9,047.2               | 3,634.0               | 3,634.0               | 69.5             | 93.7          | -1.60                  |                       | 2,151.0                            | -187.6                             | 5,633.0                | 5,469.8                 | 163.19                    | 34.517             |          |
| 12,700.0                                                  | 9,045.5               | 3,634.0               | 3,634.0               | 71.0             | 93.7          | -1.60                  |                       | 2,151.0                            | -187.6                             | 5,659.7                | 5,495.0                 | 164.68                    | 34.367             |          |

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

# COG Operating LLC

## Anticollision Report

|                    |                          |                              |                                           |
|--------------------|--------------------------|------------------------------|-------------------------------------------|
| Company:           | COG OPERATING, LLC       | Local Co-ordinate Reference: | Well NERVOUS PERVIS STATE #9H             |
| Project:           | LEA COUNTY, NM           | TVD Reference:               | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| Reference Site:    | LUSK BSS                 | MD Reference:                | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| Site Error:        | 0.0 usft                 | North Reference:             | Grid                                      |
| Reference Well:    | NERVOUS PURVIS STATE #9H | Survey Calculation Method:   | Minimum Curvature                         |
| Well Error:        | 0.0 usft                 | Output errors are at         | 2.00 sigma                                |
| Reference Wellbore | OWB                      | Database:                    | EDM_Users                                 |
| Reference Design:  | DWD Plan 1               | Offset TVD Reference:        | Offset Datum                              |

| Offset Design LUSK BSS - STATE #1 - OWB - ACTUAL WELLPATH |                       |                       |                       |                  |               |                       |                                     |                                     |                        |                         |                           |                   | Offset Site Error: | 0.0 usft |
|-----------------------------------------------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|-------------------------------------|------------------------|-------------------------|---------------------------|-------------------|--------------------|----------|
| Survey Program: 3634-INC-ONLY                             |                       |                       |                       |                  |               |                       |                                     |                                     |                        |                         |                           |                   | Offset Well Error: | 3.0 usft |
| Reference                                                 | Offset                | Semi Major Axis       |                       | Distance         |               | Minimum Separation    |                                     | Separation Factor                   |                        | Warning                 |                           |                   |                    |          |
| Measured Depth (usft)                                     | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor |                    |          |
| 12,800.0                                                  | 9,043.9               | 3,634.0               | 3,634.0               | 72.5             | 93.7          | -1.60                 | 2,151.0                             | -187.6                              | 5,688.1                | 5,521.9                 | 166.18                    | 34.228            |                    |          |
| 12,900.0                                                  | 9,042.3               | 3,634.0               | 3,634.0               | 74.0             | 93.7          | -1.60                 | 2,151.0                             | -187.6                              | 5,718.1                | 5,550.5                 | 167.69                    | 34.100            |                    |          |
| 13,000.0                                                  | 9,040.6               | 3,634.0               | 3,634.0               | 75.5             | 93.7          | -1.60                 | 2,151.0                             | -187.6                              | 5,749.7                | 5,580.5                 | 169.20                    | 33.982            |                    |          |
| 13,100.0                                                  | 9,039.0               | 3,634.0               | 3,634.0               | 77.0             | 93.7          | -1.60                 | 2,151.0                             | -187.6                              | 5,782.9                | 5,612.2                 | 170.72                    | 33.873            |                    |          |
| 13,200.0                                                  | 9,037.3               | 3,634.0               | 3,634.0               | 78.5             | 93.7          | -1.60                 | 2,151.0                             | -187.6                              | 5,817.6                | 5,645.3                 | 172.25                    | 33.775            |                    |          |
| 13,300.0                                                  | 9,035.7               | 3,634.0               | 3,634.0               | 80.1             | 93.7          | -1.60                 | 2,151.0                             | -187.6                              | 5,853.8                | 5,680.0                 | 173.78                    | 33.685            |                    |          |
| 13,400.0                                                  | 9,034.1               | 3,634.0               | 3,634.0               | 81.6             | 93.7          | -1.60                 | 2,151.0                             | -187.6                              | 5,891.4                | 5,716.1                 | 175.32                    | 33.604            |                    |          |
| 13,500.0                                                  | 9,032.4               | 3,634.0               | 3,634.0               | 83.2             | 93.7          | -1.60                 | 2,151.0                             | -187.6                              | 5,930.5                | 5,753.7                 | 176.86                    | 33.532            |                    |          |
| 13,600.0                                                  | 9,030.8               | 3,634.0               | 3,634.0               | 84.7             | 93.7          | -1.60                 | 2,151.0                             | -187.6                              | 5,971.0                | 5,792.6                 | 178.41                    | 33.468            |                    |          |
| 13,700.0                                                  | 9,029.1               | 3,634.0               | 3,634.0               | 86.3             | 93.7          | -1.60                 | 2,151.0                             | -187.6                              | 6,013.0                | 5,833.0                 | 179.96                    | 33.412            |                    |          |
| 13,800.0                                                  | 9,027.5               | 3,634.0               | 3,634.0               | 87.8             | 93.7          | -1.60                 | 2,151.0                             | -187.6                              | 6,056.2                | 5,874.7                 | 181.52                    | 33.364            |                    |          |
| 13,900.0                                                  | 9,025.9               | 3,634.0               | 3,634.0               | 89.4             | 93.7          | -1.60                 | 2,151.0                             | -187.6                              | 6,100.9                | 5,917.8                 | 183.09                    | 33.322            |                    |          |
| 13,937.9                                                  | 9,025.2               | 3,634.0               | 3,634.0               | 90.0             | 93.7          | -1.60                 | 2,151.0                             | -187.6                              | 6,118.1                | 5,934.4                 | 183.68                    | 33.309            |                    |          |

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

# COG Operating LLC

## Anticollision Report

|                            |                          |                                     |                                           |
|----------------------------|--------------------------|-------------------------------------|-------------------------------------------|
| <b>Company:</b>            | COG OPERATING, LLC       | <b>Local Co-ordinate Reference:</b> | Well NERVOUS PERVIS STATE #9H             |
| <b>Project:</b>            | LEA COUNTY, NM           | <b>TVD Reference:</b>               | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| <b>Reference Site:</b>     | LUSK BSS                 | <b>MD Reference:</b>                | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| <b>Site Error:</b>         | 0.0 usft                 | <b>North Reference:</b>             | Grid                                      |
| <b>Reference Well:</b>     | NERVOUS PURVIS STATE #9H | <b>Survey Calculation Method:</b>   | Minimum Curvature                         |
| <b>Well Error:</b>         | 0.0 usft                 | <b>Output errors are at:</b>        | 2.00 sigma                                |
| <b>Reference Wellbore:</b> | OWB                      | <b>Database:</b>                    | EDM_Users                                 |
| <b>Reference Design:</b>   | DWD Plan 1               | <b>Offset TVD Reference:</b>        | Offset Datum                              |

| Offset Design LUSK BSS - STATE #2 - OWB - ACTUAL WELLPATH |                       |                       |                       |                  |               |                       |                                   |                                   |                                 |                           | Offset Site Error: | 0.0 usft  |
|-----------------------------------------------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-----------------------------------|-----------------------------------|---------------------------------|---------------------------|--------------------|-----------|
| Survey Program: 3134-INC-ONLY                             |                       |                       |                       |                  |               |                       |                                   |                                   |                                 |                           | Offset Well Error: | 3.0 usft  |
| Measured Depth (usft)                                     | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre N-S (usft) | Offset Wellbore Centre E-W (usft) | Distance Between Centres (usft) | Minimum Separation (usft) | Warning            |           |
| 0.0                                                       | 0.0                   | 2.0                   | 2.0                   | 0.0              | 3.0           | -3.62                 | 2,803.0                           | -177.6                            | 2,808.6                         |                           |                    |           |
| 100.0                                                     | 100.0                 | 102.0                 | 102.0                 | 0.1              | 4.0           | -3.62                 | 2,803.0                           | -177.6                            | 2,808.6                         | 2,804.5                   | 4.13               | 679.834   |
| 200.0                                                     | 200.0                 | 202.0                 | 202.0                 | 0.5              | 6.0           | -3.62                 | 2,803.0                           | -177.6                            | 2,808.6                         | 2,802.1                   | 6.51               | 431.550   |
| 300.0                                                     | 300.0                 | 302.0                 | 302.0                 | 0.9              | 8.3           | -3.62                 | 2,803.0                           | -177.6                            | 2,808.6                         | 2,799.4                   | 9.20               | 305.344   |
| 400.0                                                     | 400.0                 | 402.0                 | 402.0                 | 1.2              | 10.8          | -3.62                 | 2,803.0                           | -177.6                            | 2,808.6                         | 2,796.6                   | 12.00              | 234.050   |
| 500.0                                                     | 500.0                 | 502.0                 | 502.0                 | 1.6              | 13.3          | -3.62                 | 2,803.0                           | -177.6                            | 2,808.6                         | 2,793.8                   | 14.85              | 189.105   |
| 600.0                                                     | 600.0                 | 602.0                 | 602.0                 | 1.9              | 15.8          | -3.62                 | 2,803.0                           | -177.6                            | 2,808.6                         | 2,790.9                   | 17.73              | 158.404   |
| 700.0                                                     | 700.0                 | 702.0                 | 702.0                 | 2.3              | 18.3          | -3.62                 | 2,803.0                           | -177.6                            | 2,808.6                         | 2,788.0                   | 20.62              | 136.177   |
| 800.0                                                     | 800.0                 | 802.0                 | 802.0                 | 2.7              | 20.9          | -3.62                 | 2,803.0                           | -177.6                            | 2,808.6                         | 2,785.1                   | 23.53              | 119.369   |
| 900.0                                                     | 900.0                 | 902.0                 | 902.0                 | 3.0              | 23.4          | -3.62                 | 2,803.0                           | -177.6                            | 2,808.6                         | 2,782.2                   | 26.44              | 106.228   |
| 1,000.0                                                   | 1,000.0               | 1,002.0               | 1,002.0               | 3.4              | 26.0          | -3.62                 | 2,803.0                           | -177.6                            | 2,808.6                         | 2,779.3                   | 29.35              | 95.678    |
| 1,100.0                                                   | 1,100.0               | 1,102.0               | 1,102.0               | 3.7              | 28.5          | -3.62                 | 2,803.0                           | -177.6                            | 2,808.6                         | 2,776.4                   | 32.27              | 87.025    |
| 1,200.0                                                   | 1,200.0               | 1,202.0               | 1,202.0               | 4.1              | 31.1          | -3.62                 | 2,803.0                           | -177.6                            | 2,808.6                         | 2,773.4                   | 35.20              | 79.802    |
| 1,300.0                                                   | 1,300.0               | 1,302.0               | 1,302.0               | 4.4              | 33.7          | -3.62                 | 2,803.0                           | -177.6                            | 2,808.6                         | 2,770.5                   | 38.12              | 73.682    |
| 1,400.0                                                   | 1,400.0               | 1,402.0               | 1,402.0               | 4.8              | 36.2          | -3.62                 | 2,803.0                           | -177.6                            | 2,808.6                         | 2,767.6                   | 41.04              | 68.431    |
| 1,500.0                                                   | 1,500.0               | 1,502.0               | 1,502.0               | 5.2              | 38.8          | -3.62                 | 2,803.0                           | -177.6                            | 2,808.6                         | 2,764.7                   | 43.97              | 63.877    |
| 1,600.0                                                   | 1,600.0               | 1,602.0               | 1,602.0               | 5.5              | 41.4          | -3.62                 | 2,803.0                           | -177.6                            | 2,808.6                         | 2,761.7                   | 46.90              | 59.889    |
| 1,700.0                                                   | 1,700.0               | 1,702.0               | 1,702.0               | 5.9              | 43.9          | -3.62                 | 2,803.0                           | -177.6                            | 2,808.6                         | 2,758.8                   | 49.83              | 56.370    |
| 1,800.0                                                   | 1,800.0               | 1,802.0               | 1,802.0               | 6.2              | 46.5          | -3.62                 | 2,803.0                           | -177.6                            | 2,808.6                         | 2,755.9                   | 52.75              | 53.240    |
| 1,900.0                                                   | 1,900.0               | 1,902.0               | 1,902.0               | 6.6              | 49.1          | -3.62                 | 2,803.0                           | -177.6                            | 2,808.6                         | 2,753.0                   | 55.68              | 50.439    |
| 2,000.0                                                   | 2,000.0               | 2,002.0               | 2,002.0               | 7.0              | 51.7          | -3.62                 | 2,803.0                           | -177.6                            | 2,808.6                         | 2,750.0                   | 58.61              | 47.918    |
| 2,100.0                                                   | 2,100.0               | 2,102.0               | 2,102.0               | 7.3              | 54.2          | -3.62                 | 2,803.0                           | -177.6                            | 2,808.6                         | 2,747.1                   | 61.54              | 45.637    |
| 2,200.0                                                   | 2,200.0               | 2,202.0               | 2,202.0               | 7.7              | 56.8          | -3.62                 | 2,803.0                           | -177.6                            | 2,808.6                         | 2,744.2                   | 64.47              | 43.562    |
| 2,300.0                                                   | 2,300.0               | 2,302.0               | 2,302.0               | 8.0              | 59.4          | -3.62                 | 2,803.0                           | -177.6                            | 2,808.6                         | 2,741.2                   | 67.41              | 41.668    |
| 2,400.0                                                   | 2,400.0               | 2,402.0               | 2,402.0               | 8.4              | 61.9          | -3.62                 | 2,803.0                           | -177.6                            | 2,808.6                         | 2,738.3                   | 70.34              | 39.931    |
| 2,500.0                                                   | 2,500.0               | 2,502.0               | 2,502.0               | 8.7              | 64.5          | -3.62                 | 2,803.0                           | -177.6                            | 2,808.6                         | 2,735.4                   | 73.27              | 38.334    |
| 2,600.0                                                   | 2,600.0               | 2,602.0               | 2,602.0               | 9.1              | 67.1          | -3.62                 | 2,803.0                           | -177.6                            | 2,808.6                         | 2,732.4                   | 76.20              | 36.859    |
| 2,700.0                                                   | 2,700.0               | 2,702.0               | 2,702.0               | 9.5              | 69.7          | -3.62                 | 2,803.0                           | -177.6                            | 2,808.6                         | 2,729.5                   | 79.13              | 35.493    |
| 2,800.0                                                   | 2,800.0               | 2,802.0               | 2,802.0               | 9.8              | 72.2          | -3.62                 | 2,803.0                           | -177.6                            | 2,808.6                         | 2,726.6                   | 82.06              | 34.225    |
| 2,900.0                                                   | 2,900.0               | 2,902.0               | 2,902.0               | 10.2             | 74.8          | -3.62                 | 2,803.0                           | -177.6                            | 2,808.6                         | 2,723.6                   | 85.00              | 33.044    |
| 3,000.0                                                   | 3,000.0               | 3,002.0               | 3,002.0               | 10.5             | 77.4          | -3.62                 | 2,803.0                           | -177.6                            | 2,808.6                         | 2,720.7                   | 87.93              | 31.942    |
| 3,100.0                                                   | 3,100.0               | 3,102.0               | 3,102.0               | 10.9             | 80.0          | -3.62                 | 2,803.0                           | -177.6                            | 2,808.6                         | 2,717.8                   | 90.86              | 30.911 CC |
| 3,200.0                                                   | 3,200.0               | 3,134.0               | 3,134.0               | 11.3             | 80.8          | -3.62                 | 2,803.0                           | -177.6                            | 2,809.5                         | 2,717.4                   | 92.04              | 30.523 ES |
| 3,300.0                                                   | 3,300.0               | 3,134.0               | 3,134.0               | 11.6             | 80.8          | -3.62                 | 2,803.0                           | -177.6                            | 2,813.7                         | 2,721.3                   | 92.40              | 30.450    |
| 3,400.0                                                   | 3,400.0               | 3,134.0               | 3,134.0               | 12.0             | 80.8          | -3.62                 | 2,803.0                           | -177.6                            | 2,821.4                         | 2,728.6                   | 92.76              | 30.416 SF |
| 3,500.0                                                   | 3,500.0               | 3,134.0               | 3,134.0               | 12.3             | 80.8          | -3.62                 | 2,803.0                           | -177.6                            | 2,832.6                         | 2,739.5                   | 93.12              | 30.420    |
| 3,600.0                                                   | 3,600.0               | 3,134.0               | 3,134.0               | 12.7             | 80.8          | -3.62                 | 2,803.0                           | -177.6                            | 2,847.4                         | 2,753.9                   | 93.48              | 30.460    |
| 3,700.0                                                   | 3,700.0               | 3,134.0               | 3,134.0               | 13.0             | 80.8          | -3.62                 | 2,803.0                           | -177.6                            | 2,865.5                         | 2,771.7                   | 93.84              | 30.537    |
| 3,800.0                                                   | 3,800.0               | 3,134.0               | 3,134.0               | 13.4             | 80.8          | -3.62                 | 2,803.0                           | -177.6                            | 2,887.0                         | 2,792.8                   | 94.19              | 30.649    |
| 3,900.0                                                   | 3,900.0               | 3,134.0               | 3,134.0               | 13.8             | 80.8          | -3.62                 | 2,803.0                           | -177.6                            | 2,911.7                         | 2,817.2                   | 94.55              | 30.795    |
| 4,000.0                                                   | 4,000.0               | 3,134.0               | 3,134.0               | 14.1             | 80.8          | -3.62                 | 2,803.0                           | -177.6                            | 2,939.7                         | 2,844.8                   | 94.91              | 30.973    |
| 4,100.0                                                   | 4,100.0               | 3,134.0               | 3,134.0               | 14.5             | 80.8          | -3.62                 | 2,803.0                           | -177.6                            | 2,970.8                         | 2,875.5                   | 95.27              | 31.183    |
| 4,200.0                                                   | 4,200.0               | 3,134.0               | 3,134.0               | 14.8             | 80.8          | -3.62                 | 2,803.0                           | -177.6                            | 3,004.8                         | 2,909.2                   | 95.63              | 31.422    |
| 4,300.0                                                   | 4,300.0               | 3,134.0               | 3,134.0               | 15.2             | 80.8          | -3.62                 | 2,803.0                           | -177.6                            | 3,041.8                         | 2,945.8                   | 95.99              | 31.690    |
| 4,400.0                                                   | 4,400.0               | 3,134.0               | 3,134.0               | 15.6             | 80.8          | -3.62                 | 2,803.0                           | -177.6                            | 3,081.6                         | 2,985.3                   | 96.35              | 31.985    |
| 4,500.0                                                   | 4,500.0               | 3,134.0               | 3,134.0               | 15.9             | 80.8          | -3.62                 | 2,803.0                           | -177.6                            | 3,124.1                         | 3,027.4                   | 96.70              | 32.306    |
| 4,600.0                                                   | 4,600.0               | 3,134.0               | 3,134.0               | 16.3             | 80.8          | -3.62                 | 2,803.0                           | -177.6                            | 3,169.1                         | 3,072.1                   | 97.06              | 32.651    |
| 4,700.0                                                   | 4,700.0               | 3,134.0               | 3,134.0               | 16.6             | 80.8          | -3.62                 | 2,803.0                           | -177.6                            | 3,216.7                         | 3,119.3                   | 97.42              | 33.018    |
| 4,800.0                                                   | 4,800.0               | 3,134.0               | 3,134.0               | 17.0             | 80.8          | -3.62                 | 2,803.0                           | -177.6                            | 3,266.6                         | 3,168.8                   | 97.78              | 33.408    |
| 4,900.0                                                   | 4,900.0               | 3,134.0               | 3,134.0               | 17.4             | 80.8          | -3.62                 | 2,803.0                           | -177.6                            | 3,318.8                         | 3,220.6                   | 98.14              | 33.818    |
| 5,000.0                                                   | 5,000.0               | 3,134.0               | 3,134.0               | 17.7             | 80.8          | -3.62                 | 2,803.0                           | -177.6                            | 3,373.1                         | 3,274.6                   | 98.50              | 34.246    |
| 5,100.0                                                   | 5,100.0               | 3,134.0               | 3,134.0               | 18.1             | 80.8          | -3.62                 | 2,803.0                           | -177.6                            | 3,429.5                         | 3,330.6                   | 98.85              | 34.692    |

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

# COG Operating LLC

## Anticollision Report

|                    |                          |                              |                                           |
|--------------------|--------------------------|------------------------------|-------------------------------------------|
| Company:           | COG OPERATING, LLC       | Local Co-ordinate Reference: | Well NERVOUS PERVIS STATE #9H             |
| Project:           | LEA COUNTY, NM           | TVD Reference:               | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| Reference Site:    | LUSK BSS                 | MD Reference:                | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| Site Error:        | 0.0 usft                 | North Reference:             | Grid                                      |
| Reference Well:    | NERVOUS PURVIS STATE #9H | Survey Calculation Method:   | Minimum Curvature                         |
| Well Error:        | 0.0 usft                 | Output errors are at         | 2.00 sigma                                |
| Reference Wellbore | OWB                      | Database:                    | EDM_Users                                 |
| Reference Design:  | DWD Plan 1               | Offset TVD Reference:        | Offset Datum                              |

| Offset Design LUSK BSS - STATE #2 - OWB - ACTUAL WELLPATH |                       |                       |                       |                  |               |                       |                                    |             |                        |                         |                           | Offset Site Error: | 0.0 usft |
|-----------------------------------------------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|------------------------------------|-------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 3134-INC-ONLY                             |                       |                       |                       |                  |               |                       |                                    |             |                        |                         |                           | Offset Well Error: | 3.0 usft |
| Reference                                                 |                       | Offset                |                       | Semi Major Axis  |               | Highside Toolface (°) | Distance                           |             | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor  | Warning  |
| Measured Depth (usft)                                     | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) |                       | Offset Wellbore Centre +N-S (usft) | +E-W (usft) |                        |                         |                           |                    |          |
| 5,200.0                                                   | 5,200.0               | 3,134.0               | 3,134.0               | 18.4             | 80.8          | -3.62                 | 2,803.0                            | -177.6      | 3,487.8                | 3,388.6                 | 99.21                     | 35.155             |          |
| 5,300.0                                                   | 5,300.0               | 3,134.0               | 3,134.0               | 18.8             | 80.8          | -3.62                 | 2,803.0                            | -177.6      | 3,548.0                | 3,448.5                 | 99.57                     | 35.633             |          |
| 5,400.0                                                   | 5,400.0               | 3,134.0               | 3,134.0               | 19.1             | 80.8          | -3.62                 | 2,803.0                            | -177.6      | 3,610.0                | 3,510.1                 | 99.93                     | 36.125             |          |
| 5,500.0                                                   | 5,500.0               | 3,134.0               | 3,134.0               | 19.5             | 80.8          | -3.62                 | 2,803.0                            | -177.6      | 3,673.7                | 3,573.4                 | 100.29                    | 36.631             |          |
| 5,600.0                                                   | 5,600.0               | 3,134.0               | 3,134.0               | 19.9             | 80.8          | -3.62                 | 2,803.0                            | -177.6      | 3,738.9                | 3,638.3                 | 100.65                    | 37.149             |          |
| 5,700.0                                                   | 5,700.0               | 3,134.0               | 3,134.0               | 20.2             | 80.8          | -3.62                 | 2,803.0                            | -177.6      | 3,805.7                | 3,704.7                 | 101.01                    | 37.678             |          |
| 5,800.0                                                   | 5,800.0               | 3,134.0               | 3,134.0               | 20.6             | 80.8          | -3.62                 | 2,803.0                            | -177.6      | 3,873.8                | 3,772.5                 | 101.36                    | 38.217             |          |
| 5,900.0                                                   | 5,900.0               | 3,134.0               | 3,134.0               | 20.9             | 80.8          | -3.62                 | 2,803.0                            | -177.6      | 3,943.4                | 3,841.7                 | 101.72                    | 38.766             |          |
| 6,000.0                                                   | 6,000.0               | 3,134.0               | 3,134.0               | 21.3             | 80.8          | -3.62                 | 2,803.0                            | -177.6      | 4,014.2                | 3,912.1                 | 102.08                    | 39.324             |          |
| 6,100.0                                                   | 6,100.0               | 3,134.0               | 3,134.0               | 21.7             | 80.8          | -3.62                 | 2,803.0                            | -177.6      | 4,086.3                | 3,983.8                 | 102.44                    | 39.889             |          |
| 6,200.0                                                   | 6,200.0               | 3,134.0               | 3,134.0               | 22.0             | 80.8          | -3.62                 | 2,803.0                            | -177.6      | 4,159.5                | 4,056.7                 | 102.80                    | 40.462             |          |
| 6,300.0                                                   | 6,300.0               | 3,134.0               | 3,134.0               | 22.4             | 80.8          | -3.62                 | 2,803.0                            | -177.6      | 4,233.8                | 4,130.6                 | 103.16                    | 41.042             |          |
| 6,400.0                                                   | 6,400.0               | 3,134.0               | 3,134.0               | 22.7             | 80.8          | -3.62                 | 2,803.0                            | -177.6      | 4,309.1                | 4,205.6                 | 103.51                    | 41.628             |          |
| 6,500.0                                                   | 6,500.0               | 3,134.0               | 3,134.0               | 23.1             | 80.8          | -3.62                 | 2,803.0                            | -177.6      | 4,385.4                | 4,281.5                 | 103.87                    | 42.219             |          |
| 6,600.0                                                   | 6,600.0               | 3,134.0               | 3,134.0               | 23.4             | 80.8          | -3.62                 | 2,803.0                            | -177.6      | 4,462.7                | 4,358.4                 | 104.23                    | 42.815             |          |
| 6,700.0                                                   | 6,700.0               | 3,134.0               | 3,134.0               | 23.8             | 80.8          | -3.62                 | 2,803.0                            | -177.6      | 4,540.8                | 4,436.2                 | 104.59                    | 43.415             |          |
| 6,800.0                                                   | 6,800.0               | 3,134.0               | 3,134.0               | 24.2             | 80.8          | -3.62                 | 2,803.0                            | -177.6      | 4,619.8                | 4,514.9                 | 104.95                    | 44.020             |          |
| 6,900.0                                                   | 6,900.0               | 3,134.0               | 3,134.0               | 24.5             | 80.8          | -3.62                 | 2,803.0                            | -177.6      | 4,699.6                | 4,594.3                 | 105.31                    | 44.628             |          |
| 7,000.0                                                   | 7,000.0               | 3,134.0               | 3,134.0               | 24.9             | 80.8          | -3.62                 | 2,803.0                            | -177.6      | 4,780.2                | 4,674.5                 | 105.67                    | 45.238             |          |
| 7,100.0                                                   | 7,100.0               | 3,134.0               | 3,134.0               | 25.2             | 80.8          | -3.62                 | 2,803.0                            | -177.6      | 4,861.4                | 4,755.4                 | 106.02                    | 45.852             |          |
| 7,200.0                                                   | 7,200.0               | 3,134.0               | 3,134.0               | 25.6             | 80.8          | -3.62                 | 2,803.0                            | -177.6      | 4,943.4                | 4,837.0                 | 106.38                    | 46.468             |          |
| 7,300.0                                                   | 7,300.0               | 3,134.0               | 3,134.0               | 26.0             | 80.8          | -3.62                 | 2,803.0                            | -177.6      | 5,026.0                | 4,919.3                 | 106.74                    | 47.086             |          |
| 7,400.0                                                   | 7,400.0               | 3,134.0               | 3,134.0               | 26.3             | 80.8          | -3.62                 | 2,803.0                            | -177.6      | 5,109.2                | 5,002.1                 | 107.10                    | 47.705             |          |
| 7,500.0                                                   | 7,500.0               | 3,134.0               | 3,134.0               | 26.7             | 80.8          | -3.62                 | 2,803.0                            | -177.6      | 5,193.1                | 5,085.6                 | 107.46                    | 48.326             |          |
| 7,600.0                                                   | 7,600.0               | 3,134.0               | 3,134.0               | 27.0             | 80.8          | -3.62                 | 2,803.0                            | -177.6      | 5,277.4                | 5,169.6                 | 107.82                    | 48.948             |          |
| 7,700.0                                                   | 7,700.0               | 3,134.0               | 3,134.0               | 27.4             | 80.8          | -3.62                 | 2,803.0                            | -177.6      | 5,362.4                | 5,254.2                 | 108.17                    | 49.571             |          |
| 7,800.0                                                   | 7,800.0               | 3,134.0               | 3,134.0               | 27.7             | 80.8          | -3.62                 | 2,803.0                            | -177.6      | 5,447.8                | 5,339.3                 | 108.53                    | 50.195             |          |
| 7,900.0                                                   | 7,900.0               | 3,134.0               | 3,134.0               | 28.1             | 80.8          | -3.62                 | 2,803.0                            | -177.6      | 5,533.7                | 5,424.8                 | 108.89                    | 50.819             |          |
| 8,000.0                                                   | 8,000.0               | 3,134.0               | 3,134.0               | 28.5             | 80.8          | -3.62                 | 2,803.0                            | -177.6      | 5,620.1                | 5,510.9                 | 109.25                    | 51.443             |          |
| 8,100.0                                                   | 8,100.0               | 3,134.0               | 3,134.0               | 28.8             | 80.8          | -3.62                 | 2,803.0                            | -177.6      | 5,707.0                | 5,597.4                 | 109.61                    | 52.067             |          |
| 8,200.0                                                   | 8,200.0               | 3,134.0               | 3,134.0               | 29.2             | 80.8          | -3.62                 | 2,803.0                            | -177.6      | 5,794.2                | 5,684.3                 | 109.97                    | 52.690             |          |
| 8,300.0                                                   | 8,300.0               | 3,134.0               | 3,134.0               | 29.5             | 80.8          | -3.62                 | 2,803.0                            | -177.6      | 5,881.9                | 5,771.6                 | 110.33                    | 53.314             |          |
| 8,400.0                                                   | 8,400.0               | 3,134.0               | 3,134.0               | 29.9             | 80.8          | -3.62                 | 2,803.0                            | -177.6      | 5,969.9                | 5,859.3                 | 110.68                    | 53.937             |          |
| 8,500.0                                                   | 8,500.0               | 3,134.0               | 3,134.0               | 30.3             | 80.8          | -3.62                 | 2,803.0                            | -177.6      | 6,058.4                | 5,947.3                 | 111.04                    | 54.559             |          |
| 8,600.0                                                   | 8,600.0               | 3,134.0               | 3,134.0               | 30.6             | 80.8          | -3.62                 | 2,803.0                            | -177.6      | 6,147.1                | 6,035.7                 | 111.40                    | 55.180             |          |
| 8,622.6                                                   | 8,622.6               | 3,134.0               | 3,134.0               | 30.7             | 80.8          | -3.62                 | 2,803.0                            | -177.6      | 6,167.3                | 6,055.8                 | 111.48                    | 55.321             |          |
| 8,625.0                                                   | 8,625.0               | 3,134.0               | 3,134.0               | 30.7             | 80.8          | -2.66                 | 2,803.0                            | -177.6      | 6,169.4                | 6,057.9                 | 111.49                    | 55.335             |          |
| 8,650.0                                                   | 8,650.0               | 3,134.0               | 3,134.0               | 30.8             | 80.8          | -2.42                 | 2,803.0                            | -177.6      | 6,191.3                | 6,079.7                 | 111.58                    | 55.487             |          |
| 8,675.0                                                   | 8,674.9               | 3,134.0               | 3,134.0               | 30.9             | 80.8          | -2.22                 | 2,803.0                            | -177.6      | 6,212.6                | 6,100.9                 | 111.67                    | 55.633             |          |
| 8,700.0                                                   | 8,699.7               | 3,134.0               | 3,134.0               | 31.0             | 80.8          | -2.06                 | 2,803.0                            | -177.6      | 6,233.2                | 6,121.4                 | 111.76                    | 55.773             |          |
| 8,725.0                                                   | 8,724.2               | 3,134.0               | 3,134.0               | 31.1             | 80.8          | -1.92                 | 2,803.0                            | -177.6      | 6,253.0                | 6,141.2                 | 111.85                    | 55.907             |          |
| 8,750.0                                                   | 8,748.5               | 3,134.0               | 3,134.0               | 31.1             | 80.8          | -1.81                 | 2,803.0                            | -177.6      | 6,272.1                | 6,160.1                 | 111.93                    | 56.034             |          |
| 8,775.0                                                   | 8,772.4               | 3,134.0               | 3,134.0               | 31.2             | 80.8          | -1.71                 | 2,803.0                            | -177.6      | 6,290.3                | 6,178.3                 | 112.02                    | 56.154             |          |
| 8,800.0                                                   | 8,795.9               | 3,134.0               | 3,134.0               | 31.3             | 80.8          | -1.62                 | 2,803.0                            | -177.6      | 6,307.7                | 6,195.6                 | 112.10                    | 56.268             |          |
| 8,825.0                                                   | 8,819.0               | 3,134.0               | 3,134.0               | 31.4             | 80.8          | -1.55                 | 2,803.0                            | -177.6      | 6,324.2                | 6,212.0                 | 112.18                    | 56.374             |          |
| 8,850.0                                                   | 8,841.5               | 3,134.0               | 3,134.0               | 31.5             | 80.8          | -1.49                 | 2,803.0                            | -177.6      | 6,339.7                | 6,227.4                 | 112.26                    | 56.472             |          |
| 8,875.0                                                   | 8,863.4               | 3,134.0               | 3,134.0               | 31.6             | 80.8          | -1.43                 | 2,803.0                            | -177.6      | 6,354.2                | 6,241.9                 | 112.34                    | 56.561             |          |
| 8,900.0                                                   | 8,884.7               | 3,134.0               | 3,134.0               | 31.6             | 80.8          | -1.39                 | 2,803.0                            | -177.6      | 6,367.7                | 6,255.3                 | 112.42                    | 56.642             |          |
| 8,925.0                                                   | 8,905.2               | 3,134.0               | 3,134.0               | 31.7             | 80.8          | -1.34                 | 2,803.0                            | -177.6      | 6,380.2                | 6,267.7                 | 112.50                    | 56.713             |          |
| 8,950.0                                                   | 8,924.9               | 3,134.0               | 3,134.0               | 31.8             | 80.8          | -1.31                 | 2,803.0                            | -177.6      | 6,391.6                | 6,279.0                 | 112.58                    | 56.774             |          |
| 8,975.0                                                   | 8,943.9               | 3,134.0               | 3,134.0               | 31.9             | 80.8          | -1.28                 | 2,803.0                            | -177.6      | 6,401.9                | 6,289.3                 | 112.66                    | 56.826             |          |
| 9,000.0                                                   | 8,961.9               | 3,134.0               | 3,134.0               | 31.9             | 80.8          | -1.25                 | 2,803.0                            | -177.6      | 6,411.1                | 6,298.4                 | 112.74                    | 56.869             |          |

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

# COG Operating LLC

## Anticollision Report

|                           |                          |                                     |                                           |
|---------------------------|--------------------------|-------------------------------------|-------------------------------------------|
| <b>Company:</b>           | COG OPERATING, LLC       | <b>Local Co-ordinate Reference:</b> | Well NERVOUS PERVIS STATE #9H             |
| <b>Project:</b>           | LEA COUNTY, NM           | <b>TVD Reference:</b>               | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| <b>Reference Site:</b>    | LUSK BSS                 | <b>MD Reference:</b>                | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| <b>Site Error:</b>        | 0.0 usft                 | <b>North Reference:</b>             | Grid                                      |
| <b>Reference Well:</b>    | NERVOUS PURVIS STATE #9H | <b>Survey Calculation Method:</b>   | Minimum Curvature                         |
| <b>Well Error:</b>        | 0.0 usft                 | <b>Output errors are at</b>         | 2.00 sigma                                |
| <b>Reference Wellbore</b> | OWB                      | <b>Database:</b>                    | EDM_Users                                 |
| <b>Reference Design:</b>  | DWD Plan 1               | <b>Offset TVD Reference:</b>        | Offset Datum                              |

| Offset Design LUSK BSS - STATE #2 - OWB - ACTUAL WELLPATH |              |                       |              |                  |        |              |                        |             |                |                 |                   | Offset Site Error: | 0.0 usft |
|-----------------------------------------------------------|--------------|-----------------------|--------------|------------------|--------|--------------|------------------------|-------------|----------------|-----------------|-------------------|--------------------|----------|
| Survey Program: 3134-INC-ONLY                             |              |                       |              |                  |        |              |                        |             |                |                 |                   | Offset Well Error: | 3.0 usft |
| Reference                                                 | Vertical     | Offset                | Vertical     | Semi Major Axis  | Offset | Highside     | Offset Wellbore Centre | Distance    | Between        | Between         | Minimum           | Separation         | Warning  |
| Measured Depth (usft)                                     | Depth (usft) | Measured Depth (usft) | Depth (usft) | Reference (usft) | (usft) | Toolface (°) | +N-S (usft)            | +E-W (usft) | Centres (usft) | Ellipses (usft) | Separation (usft) | Factor             |          |
| 9,025.0                                                   | 8,979.0      | 3,134.0               | 3,134.0      | 32.0             | 80.8   | -1.23        | 2,803.0                | -177.6      | 6,419.1        | 6,306.3         | 112.81            | 56.900             |          |
| 9,050.0                                                   | 8,995.2      | 3,134.0               | 3,134.0      | 32.1             | 80.8   | -1.21        | 2,803.0                | -177.6      | 6,426.0        | 6,313.1         | 112.89            | 56.922             |          |
| 9,075.0                                                   | 9,010.3      | 3,134.0               | 3,134.0      | 32.2             | 80.8   | -1.20        | 2,803.0                | -177.6      | 6,431.7        | 6,318.7         | 112.97            | 56.933             |          |
| 9,100.0                                                   | 9,024.3      | 3,134.0               | 3,134.0      | 32.3             | 80.8   | -1.19        | 2,803.0                | -177.6      | 6,436.2        | 6,323.2         | 113.05            | 56.933             |          |
| 9,125.0                                                   | 9,037.3      | 3,134.0               | 3,134.0      | 32.3             | 80.8   | -1.18        | 2,803.0                | -177.6      | 6,439.5        | 6,326.4         | 113.13            | 56.922             |          |
| 9,150.0                                                   | 9,049.1      | 3,134.0               | 3,134.0      | 32.4             | 80.8   | -1.17        | 2,803.0                | -177.6      | 6,441.7        | 6,328.4         | 113.21            | 56.900             |          |
| 9,175.0                                                   | 9,059.8      | 3,134.0               | 3,134.0      | 32.5             | 80.8   | -1.17        | 2,803.0                | -177.6      | 6,442.6        | 6,329.3         | 113.29            | 56.866             |          |
| 9,200.0                                                   | 9,069.2      | 3,134.0               | 3,134.0      | 32.6             | 80.8   | -1.17        | 2,803.0                | -177.6      | 6,442.2        | 6,328.9         | 113.38            | 56.822             |          |
| 9,225.0                                                   | 9,077.4      | 3,134.0               | 3,134.0      | 32.7             | 80.8   | -1.17        | 2,803.0                | -177.6      | 6,440.7        | 6,327.3         | 113.46            | 56.766             |          |
| 9,250.0                                                   | 9,084.4      | 3,134.0               | 3,134.0      | 32.8             | 80.8   | -1.18        | 2,803.0                | -177.6      | 6,438.0        | 6,324.5         | 113.55            | 56.700             |          |
| 9,275.0                                                   | 9,090.1      | 3,134.0               | 3,134.0      | 32.8             | 80.8   | -1.19        | 2,803.0                | -177.6      | 6,434.1        | 6,320.4         | 113.63            | 56.622             |          |
| 9,300.0                                                   | 9,094.6      | 3,134.0               | 3,134.0      | 32.9             | 80.8   | -1.20        | 2,803.0                | -177.6      | 6,428.9        | 6,315.2         | 113.72            | 56.533             |          |
| 9,325.0                                                   | 9,097.7      | 3,134.0               | 3,134.0      | 33.0             | 80.8   | -1.22        | 2,803.0                | -177.6      | 6,422.6        | 6,308.8         | 113.81            | 56.433             |          |
| 9,350.0                                                   | 9,099.5      | 3,134.0               | 3,134.0      | 33.1             | 80.8   | -1.24        | 2,803.0                | -177.6      | 6,415.2        | 6,301.3         | 113.90            | 56.323             |          |
| 9,375.0                                                   | 9,100.1      | 3,134.0               | 3,134.0      | 33.2             | 80.8   | -1.27        | 2,803.0                | -177.6      | 6,406.5        | 6,292.6         | 113.99            | 56.203             |          |
| 9,380.4                                                   | 9,100.0      | 3,134.0               | 3,134.0      | 33.2             | 80.8   | -1.27        | 2,803.0                | -177.6      | 6,404.5        | 6,290.5         | 114.01            | 56.175             |          |
| 9,400.0                                                   | 9,099.7      | 3,134.0               | 3,134.0      | 33.3             | 80.8   | -1.27        | 2,803.0                | -177.6      | 6,397.2        | 6,283.1         | 114.09            | 56.073             |          |
| 9,500.0                                                   | 9,088.0      | 3,134.0               | 3,134.0      | 33.7             | 80.8   | -1.27        | 2,803.0                | -177.6      | 6,360.3        | 6,245.8         | 114.52            | 55.541             |          |
| 9,600.0                                                   | 9,096.4      | 3,134.0               | 3,134.0      | 34.2             | 80.8   | -1.27        | 2,803.0                | -177.6      | 6,324.9        | 6,209.9         | 115.02            | 54.988             |          |
| 9,700.0                                                   | 9,094.8      | 3,134.0               | 3,134.0      | 34.8             | 80.8   | -1.27        | 2,803.0                | -177.6      | 6,290.8        | 6,175.2         | 115.60            | 54.417             |          |
| 9,800.0                                                   | 9,093.1      | 3,134.0               | 3,134.0      | 35.5             | 80.8   | -1.27        | 2,803.0                | -177.6      | 6,258.2        | 6,141.9         | 116.26            | 53.832             |          |
| 9,900.0                                                   | 9,091.5      | 3,134.0               | 3,134.0      | 36.2             | 80.8   | -1.27        | 2,803.0                | -177.6      | 6,227.0        | 6,110.0         | 116.97            | 53.235             |          |
| 10,000.0                                                  | 9,089.8      | 3,134.0               | 3,134.0      | 37.0             | 80.8   | -1.27        | 2,803.0                | -177.6      | 6,197.2        | 6,079.5         | 117.75            | 52.630             |          |
| 10,100.0                                                  | 9,088.2      | 3,134.0               | 3,134.0      | 37.8             | 80.8   | -1.27        | 2,803.0                | -177.6      | 6,169.0        | 6,050.4         | 118.59            | 52.019             |          |
| 10,200.0                                                  | 9,086.6      | 3,134.0               | 3,134.0      | 38.7             | 80.8   | -1.27        | 2,803.0                | -177.6      | 6,142.2        | 6,022.7         | 119.48            | 51.406             |          |
| 10,300.0                                                  | 9,084.9      | 3,134.0               | 3,134.0      | 39.6             | 80.8   | -1.27        | 2,803.0                | -177.6      | 6,116.9        | 5,996.5         | 120.43            | 50.794             |          |
| 10,400.0                                                  | 9,083.3      | 3,134.0               | 3,134.0      | 40.6             | 80.8   | -1.27        | 2,803.0                | -177.6      | 6,093.2        | 5,971.8         | 121.42            | 50.183             |          |
| 10,500.0                                                  | 9,081.6      | 3,134.0               | 3,134.0      | 41.7             | 80.8   | -1.27        | 2,803.0                | -177.6      | 6,071.0        | 5,948.6         | 122.45            | 49.578             |          |
| 10,600.0                                                  | 9,080.0      | 3,134.0               | 3,134.0      | 42.7             | 80.8   | -1.27        | 2,803.0                | -177.6      | 6,050.4        | 5,926.9         | 123.53            | 48.979             |          |
| 10,700.0                                                  | 9,078.4      | 3,134.0               | 3,134.0      | 43.9             | 80.8   | -1.27        | 2,803.0                | -177.6      | 6,031.4        | 5,906.8         | 124.64            | 48.389             |          |
| 10,800.0                                                  | 9,076.7      | 3,134.0               | 3,134.0      | 45.0             | 80.8   | -1.27        | 2,803.0                | -177.6      | 6,014.0        | 5,888.2         | 125.79            | 47.808             |          |
| 10,900.0                                                  | 9,075.1      | 3,134.0               | 3,134.0      | 46.2             | 80.8   | -1.27        | 2,803.0                | -177.6      | 5,998.2        | 5,871.3         | 126.98            | 47.239             |          |
| 11,000.0                                                  | 9,073.4      | 3,134.0               | 3,134.0      | 47.4             | 80.8   | -1.27        | 2,803.0                | -177.6      | 5,984.1        | 5,855.9         | 128.19            | 46.682             |          |
| 11,100.0                                                  | 9,071.8      | 3,134.0               | 3,134.0      | 48.6             | 80.8   | -1.27        | 2,803.0                | -177.6      | 5,971.5        | 5,842.1         | 129.43            | 46.138             |          |
| 11,200.0                                                  | 9,070.1      | 3,134.0               | 3,134.0      | 49.9             | 80.8   | -1.27        | 2,803.0                | -177.6      | 5,960.7        | 5,830.0         | 130.69            | 45.609             |          |
| 11,300.0                                                  | 9,068.5      | 3,134.0               | 3,134.0      | 51.2             | 80.8   | -1.27        | 2,803.0                | -177.6      | 5,951.5        | 5,819.5         | 131.98            | 45.093             |          |
| 11,400.0                                                  | 9,066.9      | 3,134.0               | 3,134.0      | 52.5             | 80.8   | -1.27        | 2,803.0                | -177.6      | 5,944.0        | 5,810.7         | 133.29            | 44.593             |          |
| 11,500.0                                                  | 9,065.2      | 3,134.0               | 3,134.0      | 53.8             | 80.8   | -1.27        | 2,803.0                | -177.6      | 5,938.1        | 5,803.5         | 134.62            | 44.109             |          |
| 11,600.0                                                  | 9,063.6      | 3,134.0               | 3,134.0      | 55.2             | 80.8   | -1.27        | 2,803.0                | -177.6      | 5,933.9        | 5,797.9         | 135.97            | 43.640             |          |
| 11,700.0                                                  | 9,061.9      | 3,134.0               | 3,134.0      | 56.6             | 80.8   | -1.27        | 2,803.0                | -177.6      | 5,931.4        | 5,794.1         | 137.34            | 43.187             |          |
| 11,788.3                                                  | 9,060.3      | 3,134.0               | 3,134.0      | 57.9             | 80.8   | -1.27        | 2,803.0                | -177.6      | 5,930.6        | 5,791.9         | 138.70            | 42.757             |          |
| 11,800.0                                                  | 9,060.3      | 3,134.0               | 3,134.0      | 57.9             | 80.8   | -1.27        | 2,803.0                | -177.6      | 5,930.6        | 5,791.9         | 138.73            | 42.750             |          |
| 11,900.0                                                  | 9,058.7      | 3,134.0               | 3,134.0      | 59.3             | 80.8   | -1.27        | 2,803.0                | -177.6      | 5,931.5        | 5,791.3         | 140.13            | 42.329             |          |
| 12,000.0                                                  | 9,057.0      | 3,134.0               | 3,134.0      | 60.8             | 80.8   | -1.27        | 2,803.0                | -177.6      | 5,934.0        | 5,792.5         | 141.54            | 41.925             |          |
| 12,100.0                                                  | 9,055.4      | 3,134.0               | 3,134.0      | 62.2             | 80.8   | -1.27        | 2,803.0                | -177.6      | 5,938.3        | 5,795.3         | 142.97            | 41.536             |          |
| 12,200.0                                                  | 9,053.7      | 3,134.0               | 3,134.0      | 63.6             | 80.8   | -1.27        | 2,803.0                | -177.6      | 5,944.2        | 5,799.8         | 144.41            | 41.163             |          |
| 12,300.0                                                  | 9,052.1      | 3,134.0               | 3,134.0      | 65.1             | 80.8   | -1.27        | 2,803.0                | -177.6      | 5,951.8        | 5,805.9         | 145.86            | 40.805             |          |
| 12,400.0                                                  | 9,050.5      | 3,134.0               | 3,134.0      | 66.5             | 80.8   | -1.27        | 2,803.0                | -177.6      | 5,961.0        | 5,813.7         | 147.32            | 40.463             |          |
| 12,500.0                                                  | 9,048.8      | 3,134.0               | 3,134.0      | 68.0             | 80.8   | -1.27        | 2,803.0                | -177.6      | 5,972.0        | 5,823.2         | 148.79            | 40.137             |          |
| 12,600.0                                                  | 9,047.2      | 3,134.0               | 3,134.0      | 69.5             | 80.8   | -1.27        | 2,803.0                | -177.6      | 5,984.5        | 5,834.3         | 150.27            | 39.825             |          |
| 12,700.0                                                  | 9,045.5      | 3,134.0               | 3,134.0      | 71.0             | 80.8   | -1.27        | 2,803.0                | -177.6      | 5,998.8        | 5,847.0         | 151.76            | 39.527             |          |
| 12,800.0                                                  | 9,043.9      | 3,134.0               | 3,134.0      | 72.5             | 80.8   | -1.27        | 2,803.0                | -177.6      | 6,014.6        | 5,861.3         | 153.26            | 39.245             |          |

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

# COG Operating LLC

## Anticollision Report

|                     |                          |                              |                                           |
|---------------------|--------------------------|------------------------------|-------------------------------------------|
| Company:            | COG OPERATING, LLC       | Local Co-ordinate Reference: | Well NERVOUS PERVIS STATE #9H             |
| Project:            | LEA COUNTY, NM           | TVD Reference:               | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| Reference Site:     | LUSK BSS                 | MD Reference:                | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| Site Error:         | 0.0 usft                 | North Reference:             | Grid                                      |
| Reference Well:     | NERVOUS PURVIS STATE #9H | Survey Calculation Method:   | Minimum Curvature                         |
| Well Error:         | 0.0 usft                 | Output errors are at:        | 2.00 sigma                                |
| Reference Wellbore: | OWB                      | Database:                    | EDM_Users                                 |
| Reference Design:   | DWD Plan 1               | Offset TVD Reference:        | Offset Datum                              |

| Offset Design LUSK BSS - STATE #2 - OWB - ACTUAL WELLPATH |                       |                       |                       |                                  |               |                       |                                    |             |                        |                         |                           |                   | Offset Site Error: | 0.0 usft |
|-----------------------------------------------------------|-----------------------|-----------------------|-----------------------|----------------------------------|---------------|-----------------------|------------------------------------|-------------|------------------------|-------------------------|---------------------------|-------------------|--------------------|----------|
| Survey Program: 3134-INC-ONLY                             |                       |                       |                       |                                  |               |                       |                                    |             |                        |                         |                           |                   | Offset Well Error: | 3.0 usft |
| Reference                                                 | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Semi Major Axis Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N-S (usft) | +E-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning            |          |
| 12,900.0                                                  | 9,042.3               | 3,134.0               | 3,134.0               | 74.0                             | 80.8          | -1.27                 | 2,803.0                            | -177.6      | 6,032.1                | 5,877.3                 | 154.77                    | 38.975            |                    |          |
| 13,000.0                                                  | 9,040.6               | 3,134.0               | 3,134.0               | 75.5                             | 80.8          | -1.27                 | 2,803.0                            | -177.6      | 6,051.1                | 5,894.8                 | 156.28                    | 38.720            |                    |          |
| 13,100.0                                                  | 9,039.0               | 3,134.0               | 3,134.0               | 77.0                             | 80.8          | -1.27                 | 2,803.0                            | -177.6      | 6,071.8                | 5,914.0                 | 157.80                    | 38.478            |                    |          |
| 13,200.0                                                  | 9,037.3               | 3,134.0               | 3,134.0               | 78.5                             | 80.8          | -1.27                 | 2,803.0                            | -177.6      | 6,094.0                | 5,934.7                 | 159.32                    | 38.249            |                    |          |
| 13,300.0                                                  | 9,035.7               | 3,134.0               | 3,134.0               | 80.1                             | 80.8          | -1.27                 | 2,803.0                            | -177.6      | 6,117.6                | 5,956.9                 | 160.86                    | 38.032            |                    |          |
| 13,400.0                                                  | 9,034.1               | 3,134.0               | 3,134.0               | 81.6                             | 80.8          | -1.27                 | 2,803.0                            | -177.6      | 6,143.1                | 5,980.7                 | 162.40                    | 37.828            |                    |          |
| 13,500.0                                                  | 9,032.4               | 3,134.0               | 3,134.0               | 83.2                             | 80.8          | -1.27                 | 2,803.0                            | -177.6      | 6,169.9                | 6,006.0                 | 163.94                    | 37.635            |                    |          |
| 13,600.0                                                  | 9,030.8               | 3,134.0               | 3,134.0               | 84.7                             | 80.8          | -1.27                 | 2,803.0                            | -177.6      | 6,196.2                | 6,032.7                 | 165.49                    | 37.454            |                    |          |
| 13,700.0                                                  | 9,029.1               | 3,134.0               | 3,134.0               | 86.3                             | 80.8          | -1.27                 | 2,803.0                            | -177.6      | 6,228.0                | 6,061.0                 | 167.04                    | 37.284            |                    |          |
| 13,800.0                                                  | 9,027.5               | 3,134.0               | 3,134.0               | 87.8                             | 80.8          | -1.27                 | 2,803.0                            | -177.6      | 6,259.3                | 6,090.7                 | 168.60                    | 37.125            |                    |          |
| 13,900.0                                                  | 9,025.9               | 3,134.0               | 3,134.0               | 89.4                             | 80.8          | -1.27                 | 2,803.0                            | -177.6      | 6,292.0                | 6,121.8                 | 170.16                    | 36.975            |                    |          |
| 13,937.9                                                  | 9,025.2               | 3,134.0               | 3,134.0               | 90.0                             | 80.8          | -1.27                 | 2,803.0                            | -177.6      | 6,304.8                | 6,134.0                 | 170.76                    | 36.922            |                    |          |

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

# COG Operating LLC

## Anticollision Report

|                    |                          |                              |                                           |
|--------------------|--------------------------|------------------------------|-------------------------------------------|
| Company:           | COG OPERATING, LLC       | Local Co-ordinate Reference: | Well NERVOUS PURVIS STATE #9H             |
| Project:           | LEA COUNTY, NM           | TVD Reference:               | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| Reference Site:    | LUSK BSS                 | MD Reference:                | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| Site Error:        | 0.0 usft                 | North Reference:             | Grid                                      |
| Reference Well:    | NERVOUS PURVIS STATE #9H | Survey Calculation Method:   | Minimum Curvature                         |
| Well Error:        | 0.0 usft                 | Output errors are at         | 2.00 sigma                                |
| Reference Wellbore | OWB                      | Database:                    | EDM_Users                                 |
| Reference Design:  | DWD Plan 1               | Offset TVD Reference:        | Offset Datum                              |

| Offset Design LUSK BSS - STATE #3 - OWB - ACTUAL WELLPATH |                       |                       |                       |                  |               |                       |                                    |                                    |                        |                         | Offset Site Error: 0.0 usft |           |                   |
|-----------------------------------------------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|------------------------------------|------------------------------------|------------------------|-------------------------|-----------------------------|-----------|-------------------|
| Survey Program: 3188-INC-ONLY                             |                       |                       |                       |                  |               |                       |                                    |                                    |                        |                         | Offset Well Error: 3.0 usft |           |                   |
| Reference                                                 |                       | Offset                |                       | Semi Major Axis  |               |                       | Distance                           |                                    |                        |                         |                             | Warning   |                   |
| Measured Depth (usft)                                     | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N-S (usft) | Offset Wellbore Centre +E-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft)   |           | Separation Factor |
| 0.0                                                       | 0.0                   | 0.0                   | 0.0                   | 0.0              | 3.0           | -21.12                | 2,154.1                            | -832.1                             | 2,309.2                |                         |                             |           |                   |
| 100.0                                                     | 100.0                 | 100.0                 | 100.0                 | 0.1              | 4.0           | -21.12                | 2,154.1                            | -832.1                             | 2,309.2                | 2,305.1                 | 4.10                        | 563.536   |                   |
| 200.0                                                     | 200.0                 | 200.0                 | 200.0                 | 0.5              | 6.0           | -21.12                | 2,154.1                            | -832.1                             | 2,309.2                | 2,302.7                 | 6.46                        | 357.246   |                   |
| 300.0                                                     | 300.0                 | 300.0                 | 300.0                 | 0.9              | 8.3           | -21.12                | 2,154.1                            | -832.1                             | 2,309.2                | 2,300.0                 | 9.15                        | 252.356   |                   |
| 400.0                                                     | 400.0                 | 400.0                 | 400.0                 | 1.2              | 10.7          | -21.12                | 2,154.1                            | -832.1                             | 2,309.2                | 2,297.2                 | 11.95                       | 193.220   |                   |
| 500.0                                                     | 500.0                 | 500.0                 | 500.0                 | 1.6              | 13.2          | -21.12                | 2,154.1                            | -832.1                             | 2,309.2                | 2,294.4                 | 14.80                       | 155.999   |                   |
| 600.0                                                     | 600.0                 | 600.0                 | 600.0                 | 1.9              | 15.7          | -21.12                | 2,154.1                            | -832.1                             | 2,309.2                | 2,291.5                 | 17.68                       | 130.604   |                   |
| 700.0                                                     | 700.0                 | 700.0                 | 700.0                 | 2.3              | 18.3          | -21.12                | 2,154.1                            | -832.1                             | 2,309.2                | 2,288.6                 | 20.57                       | 112.234   |                   |
| 800.0                                                     | 800.0                 | 800.0                 | 800.0                 | 2.7              | 20.8          | -21.12                | 2,154.1                            | -832.1                             | 2,309.2                | 2,285.7                 | 23.48                       | 98.352    |                   |
| 900.0                                                     | 900.0                 | 900.0                 | 900.0                 | 3.0              | 23.4          | -21.12                | 2,154.1                            | -832.1                             | 2,309.2                | 2,282.8                 | 26.39                       | 87.504    |                   |
| 1,000.0                                                   | 1,000.0               | 1,000.0               | 1,000.0               | 3.4              | 25.9          | -21.12                | 2,154.1                            | -832.1                             | 2,309.2                | 2,279.9                 | 29.30                       | 78.799    |                   |
| 1,100.0                                                   | 1,100.0               | 1,100.0               | 1,100.0               | 3.7              | 28.5          | -21.12                | 2,154.1                            | -832.1                             | 2,309.2                | 2,277.0                 | 32.22                       | 71.661    |                   |
| 1,200.0                                                   | 1,200.0               | 1,200.0               | 1,200.0               | 4.1              | 31.1          | -21.12                | 2,154.1                            | -832.1                             | 2,309.2                | 2,274.0                 | 35.15                       | 65.704    |                   |
| 1,300.0                                                   | 1,300.0               | 1,300.0               | 1,300.0               | 4.4              | 33.6          | -21.12                | 2,154.1                            | -832.1                             | 2,309.2                | 2,271.1                 | 38.07                       | 60.659    |                   |
| 1,400.0                                                   | 1,400.0               | 1,400.0               | 1,400.0               | 4.8              | 36.2          | -21.12                | 2,154.1                            | -832.1                             | 2,309.2                | 2,268.2                 | 40.99                       | 56.330    |                   |
| 1,500.0                                                   | 1,500.0               | 1,500.0               | 1,500.0               | 5.2              | 38.8          | -21.12                | 2,154.1                            | -832.1                             | 2,309.2                | 2,265.3                 | 43.92                       | 52.577    |                   |
| 1,600.0                                                   | 1,600.0               | 1,600.0               | 1,600.0               | 5.5              | 41.3          | -21.12                | 2,154.1                            | -832.1                             | 2,309.2                | 2,262.3                 | 46.85                       | 49.292    |                   |
| 1,700.0                                                   | 1,700.0               | 1,700.0               | 1,700.0               | 5.9              | 43.9          | -21.12                | 2,154.1                            | -832.1                             | 2,309.2                | 2,259.4                 | 49.78                       | 46.392    |                   |
| 1,800.0                                                   | 1,800.0               | 1,800.0               | 1,800.0               | 6.2              | 46.5          | -21.12                | 2,154.1                            | -832.1                             | 2,309.2                | 2,256.5                 | 52.70                       | 43.814    |                   |
| 1,900.0                                                   | 1,900.0               | 1,900.0               | 1,900.0               | 6.6              | 49.0          | -21.12                | 2,154.1                            | -832.1                             | 2,309.2                | 2,253.6                 | 55.63                       | 41.507    |                   |
| 2,000.0                                                   | 2,000.0               | 2,000.0               | 2,000.0               | 7.0              | 51.6          | -21.12                | 2,154.1                            | -832.1                             | 2,309.2                | 2,250.6                 | 58.56                       | 39.430    |                   |
| 2,100.0                                                   | 2,100.0               | 2,100.0               | 2,100.0               | 7.3              | 54.2          | -21.12                | 2,154.1                            | -832.1                             | 2,309.2                | 2,247.7                 | 61.49                       | 37.551    |                   |
| 2,200.0                                                   | 2,200.0               | 2,200.0               | 2,200.0               | 7.7              | 56.8          | -21.12                | 2,154.1                            | -832.1                             | 2,309.2                | 2,244.8                 | 64.43                       | 35.843    |                   |
| 2,300.0                                                   | 2,300.0               | 2,300.0               | 2,300.0               | 8.0              | 59.3          | -21.12                | 2,154.1                            | -832.1                             | 2,309.2                | 2,241.8                 | 67.36                       | 34.283    |                   |
| 2,400.0                                                   | 2,400.0               | 2,400.0               | 2,400.0               | 8.4              | 61.9          | -21.12                | 2,154.1                            | -832.1                             | 2,309.2                | 2,238.9                 | 70.29                       | 32.853    |                   |
| 2,500.0                                                   | 2,500.0               | 2,500.0               | 2,500.0               | 8.7              | 64.5          | -21.12                | 2,154.1                            | -832.1                             | 2,309.2                | 2,236.0                 | 73.22                       | 31.538    |                   |
| 2,600.0                                                   | 2,600.0               | 2,600.0               | 2,600.0               | 9.1              | 67.0          | -21.12                | 2,154.1                            | -832.1                             | 2,309.2                | 2,233.0                 | 76.15                       | 30.324    |                   |
| 2,700.0                                                   | 2,700.0               | 2,700.0               | 2,700.0               | 9.5              | 69.6          | -21.12                | 2,154.1                            | -832.1                             | 2,309.2                | 2,230.1                 | 79.08                       | 29.199    |                   |
| 2,800.0                                                   | 2,800.0               | 2,800.0               | 2,800.0               | 9.8              | 72.2          | -21.12                | 2,154.1                            | -832.1                             | 2,309.2                | 2,227.2                 | 82.02                       | 28.155    |                   |
| 2,900.0                                                   | 2,900.0               | 2,900.0               | 2,900.0               | 10.2             | 74.8          | -21.12                | 2,154.1                            | -832.1                             | 2,309.2                | 2,224.2                 | 84.95                       | 27.184    |                   |
| 3,000.0                                                   | 3,000.0               | 3,000.0               | 3,000.0               | 10.5             | 77.3          | -21.12                | 2,154.1                            | -832.1                             | 2,309.2                | 2,221.3                 | 87.88                       | 26.276    |                   |
| 3,100.0                                                   | 3,100.0               | 3,100.0               | 3,100.0               | 10.9             | 79.9          | -21.12                | 2,154.1                            | -832.1                             | 2,309.2                | 2,218.4                 | 90.81                       | 25.428    |                   |
| 3,151.0                                                   | 3,151.0               | 3,151.0               | 3,151.0               | 11.1             | 81.2          | -21.12                | 2,154.1                            | -832.1                             | 2,309.2                | 2,216.9                 | 92.31                       | 25.016 CC |                   |
| 3,200.0                                                   | 3,200.0               | 3,168.0               | 3,168.0               | 11.3             | 81.7          | -21.12                | 2,154.1                            | -832.1                             | 2,309.4                | 2,216.5                 | 92.92                       | 24.653 ES |                   |
| 3,300.0                                                   | 3,300.0               | 3,168.0               | 3,168.0               | 11.6             | 81.7          | -21.12                | 2,154.1                            | -832.1                             | 2,313.0                | 2,219.7                 | 93.28                       | 24.796    |                   |
| 3,400.0                                                   | 3,400.0               | 3,168.0               | 3,168.0               | 12.0             | 81.7          | -21.12                | 2,154.1                            | -832.1                             | 2,320.8                | 2,227.2                 | 93.64                       | 24.785 SF |                   |
| 3,500.0                                                   | 3,500.0               | 3,168.0               | 3,168.0               | 12.3             | 81.7          | -21.12                | 2,154.1                            | -832.1                             | 2,332.9                | 2,238.9                 | 94.00                       | 24.819    |                   |
| 3,600.0                                                   | 3,600.0               | 3,168.0               | 3,168.0               | 12.7             | 81.7          | -21.12                | 2,154.1                            | -832.1                             | 2,349.2                | 2,254.9                 | 94.36                       | 24.898    |                   |
| 3,700.0                                                   | 3,700.0               | 3,168.0               | 3,168.0               | 13.0             | 81.7          | -21.12                | 2,154.1                            | -832.1                             | 2,369.7                | 2,275.0                 | 94.71                       | 25.019    |                   |
| 3,800.0                                                   | 3,800.0               | 3,168.0               | 3,168.0               | 13.4             | 81.7          | -21.12                | 2,154.1                            | -832.1                             | 2,394.1                | 2,299.0                 | 95.07                       | 25.182    |                   |
| 3,900.0                                                   | 3,900.0               | 3,168.0               | 3,168.0               | 13.8             | 81.7          | -21.12                | 2,154.1                            | -832.1                             | 2,422.4                | 2,327.0                 | 95.43                       | 25.384    |                   |
| 4,000.0                                                   | 4,000.0               | 3,168.0               | 3,168.0               | 14.1             | 81.7          | -21.12                | 2,154.1                            | -832.1                             | 2,454.5                | 2,358.7                 | 95.79                       | 25.624    |                   |
| 4,100.0                                                   | 4,100.0               | 3,168.0               | 3,168.0               | 14.5             | 81.7          | -21.12                | 2,154.1                            | -832.1                             | 2,490.2                | 2,394.0                 | 96.15                       | 25.899    |                   |
| 4,200.0                                                   | 4,200.0               | 3,168.0               | 3,168.0               | 14.8             | 81.7          | -21.12                | 2,154.1                            | -832.1                             | 2,529.3                | 2,432.8                 | 96.51                       | 26.208    |                   |
| 4,300.0                                                   | 4,300.0               | 3,168.0               | 3,168.0               | 15.2             | 81.7          | -21.12                | 2,154.1                            | -832.1                             | 2,571.7                | 2,474.9                 | 96.87                       | 26.549    |                   |
| 4,400.0                                                   | 4,400.0               | 3,168.0               | 3,168.0               | 15.6             | 81.7          | -21.12                | 2,154.1                            | -832.1                             | 2,617.3                | 2,520.1                 | 97.22                       | 26.920    |                   |
| 4,500.0                                                   | 4,500.0               | 3,168.0               | 3,168.0               | 15.9             | 81.7          | -21.12                | 2,154.1                            | -832.1                             | 2,665.8                | 2,568.2                 | 97.58                       | 27.319    |                   |
| 4,600.0                                                   | 4,600.0               | 3,168.0               | 3,168.0               | 16.3             | 81.7          | -21.12                | 2,154.1                            | -832.1                             | 2,717.2                | 2,619.2                 | 97.94                       | 27.743    |                   |
| 4,700.0                                                   | 4,700.0               | 3,168.0               | 3,168.0               | 16.6             | 81.7          | -21.12                | 2,154.1                            | -832.1                             | 2,771.2                | 2,672.9                 | 98.30                       | 28.191    |                   |
| 4,800.0                                                   | 4,800.0               | 3,168.0               | 3,168.0               | 17.0             | 81.7          | -21.12                | 2,154.1                            | -832.1                             | 2,827.7                | 2,729.0                 | 98.66                       | 28.661    |                   |
| 4,900.0                                                   | 4,900.0               | 3,168.0               | 3,168.0               | 17.4             | 81.7          | -21.12                | 2,154.1                            | -832.1                             | 2,886.5                | 2,787.5                 | 99.02                       | 29.152    |                   |
| 5,000.0                                                   | 5,000.0               | 3,168.0               | 3,168.0               | 17.7             | 81.7          | -21.12                | 2,154.1                            | -832.1                             | 2,947.6                | 2,848.3                 | 99.37                       | 29.662    |                   |

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

# COG Operating LLC

## Anticollision Report

|                           |                          |                                     |                                           |
|---------------------------|--------------------------|-------------------------------------|-------------------------------------------|
| <b>Company:</b>           | COG OPERATING, LLC       | <b>Local Co-ordinate Reference:</b> | Well NERVOUS PERVIS STATE #9H             |
| <b>Project:</b>           | LEA COUNTY, NM           | <b>TVD Reference:</b>               | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| <b>Reference Site:</b>    | LUSK BSS                 | <b>MD Reference:</b>                | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| <b>Site Error:</b>        | 0.0 usft                 | <b>North Reference:</b>             | Grid                                      |
| <b>Reference Well:</b>    | NERVOUS PURVIS STATE #9H | <b>Survey Calculation Method:</b>   | Minimum Curvature                         |
| <b>Well Error:</b>        | 0.0 usft                 | <b>Output errors are at</b>         | 2.00 sigma                                |
| <b>Reference Wellbore</b> | OWB                      | <b>Database:</b>                    | EDM_Users                                 |
| <b>Reference Design:</b>  | DWD Plan 1               | <b>Offset TVD Reference:</b>        | Offset Datum                              |

| Offset Design LUSK BSS - STATE #3 - OWB - ACTUAL WELLPATH |          |          |          |                 |        |          |                        |                        |         |          |            |            | Offset Site Error: |
|-----------------------------------------------------------|----------|----------|----------|-----------------|--------|----------|------------------------|------------------------|---------|----------|------------|------------|--------------------|
| Survey Program: 3165-INC-ONLY                             |          |          |          |                 |        |          |                        |                        |         |          |            |            | Offset Well Error: |
| Reference                                                 | Vertical | Measured | Vertical | Semi Major Axis |        |          | Distance               |                        | Between | Between  | Minimum    | Separation | Warning            |
| Depth                                                     | Depth    | Depth    | Depth    | Reference       | Offset | Highside | Offset Wellbore Centre | Offset Wellbore Centre | Centres | Ellipses | Separation | Factor     |                    |
| (usft)                                                    | (usft)   | (usft)   | (usft)   | (usft)          | (usft) | (usft)   | +N-S                   | +E-W                   | (usft)  | (usft)   | (usft)     |            |                    |
| 5,100.0                                                   | 5,100.0  | 3,168.0  | 3,168.0  | 18.1            | 81.7   | -21.12   | 2,154.1                | -832.1                 | 3,010.8 | 2,911.1  | 99.73      | 30.189     |                    |
| 5,200.0                                                   | 5,200.0  | 3,168.0  | 3,168.0  | 18.4            | 81.7   | -21.12   | 2,154.1                | -832.1                 | 3,075.9 | 2,975.8  | 100.09     | 30.731     |                    |
| 5,300.0                                                   | 5,300.0  | 3,168.0  | 3,168.0  | 18.8            | 81.7   | -21.12   | 2,154.1                | -832.1                 | 3,142.9 | 3,042.4  | 100.45     | 31.288     |                    |
| 5,400.0                                                   | 5,400.0  | 3,168.0  | 3,168.0  | 19.1            | 81.7   | -21.12   | 2,154.1                | -832.1                 | 3,211.6 | 3,110.8  | 100.81     | 31.858     |                    |
| 5,500.0                                                   | 5,500.0  | 3,168.0  | 3,168.0  | 19.5            | 81.7   | -21.12   | 2,154.1                | -832.1                 | 3,281.9 | 3,180.7  | 101.17     | 32.440     |                    |
| 5,600.0                                                   | 5,600.0  | 3,168.0  | 3,168.0  | 19.9            | 81.7   | -21.12   | 2,154.1                | -832.1                 | 3,353.6 | 3,252.1  | 101.53     | 33.033     |                    |
| 5,700.0                                                   | 5,700.0  | 3,168.0  | 3,168.0  | 20.2            | 81.7   | -21.12   | 2,154.1                | -832.1                 | 3,426.9 | 3,325.0  | 101.88     | 33.635     |                    |
| 5,800.0                                                   | 5,800.0  | 3,168.0  | 3,168.0  | 20.6            | 81.7   | -21.12   | 2,154.1                | -832.1                 | 3,501.4 | 3,399.2  | 102.24     | 34.246     |                    |
| 5,900.0                                                   | 5,900.0  | 3,168.0  | 3,168.0  | 20.9            | 81.7   | -21.12   | 2,154.1                | -832.1                 | 3,577.2 | 3,474.6  | 102.60     | 34.865     |                    |
| 6,000.0                                                   | 6,000.0  | 3,168.0  | 3,168.0  | 21.3            | 81.7   | -21.12   | 2,154.1                | -832.1                 | 3,654.1 | 3,551.2  | 102.96     | 35.491     |                    |
| 6,100.0                                                   | 6,100.0  | 3,168.0  | 3,168.0  | 21.7            | 81.7   | -21.12   | 2,154.1                | -832.1                 | 3,732.2 | 3,628.8  | 103.32     | 36.123     |                    |
| 6,200.0                                                   | 6,200.0  | 3,168.0  | 3,168.0  | 22.0            | 81.7   | -21.12   | 2,154.1                | -832.1                 | 3,811.2 | 3,707.5  | 103.68     | 36.761     |                    |
| 6,300.0                                                   | 6,300.0  | 3,168.0  | 3,168.0  | 22.4            | 81.7   | -21.12   | 2,154.1                | -832.1                 | 3,891.2 | 3,787.2  | 104.03     | 37.403     |                    |
| 6,400.0                                                   | 6,400.0  | 3,168.0  | 3,168.0  | 22.7            | 81.7   | -21.12   | 2,154.1                | -832.1                 | 3,972.2 | 3,867.8  | 104.39     | 38.050     |                    |
| 6,500.0                                                   | 6,500.0  | 3,168.0  | 3,168.0  | 23.1            | 81.7   | -21.12   | 2,154.1                | -832.1                 | 4,054.0 | 3,949.2  | 104.75     | 38.701     |                    |
| 6,600.0                                                   | 6,600.0  | 3,168.0  | 3,168.0  | 23.4            | 81.7   | -21.12   | 2,154.1                | -832.1                 | 4,136.5 | 4,031.4  | 105.11     | 39.354     |                    |
| 6,700.0                                                   | 6,700.0  | 3,168.0  | 3,168.0  | 23.8            | 81.7   | -21.12   | 2,154.1                | -832.1                 | 4,219.9 | 4,114.4  | 105.47     | 40.011     |                    |
| 6,800.0                                                   | 6,800.0  | 3,168.0  | 3,168.0  | 24.2            | 81.7   | -21.12   | 2,154.1                | -832.1                 | 4,303.9 | 4,198.1  | 105.83     | 40.669     |                    |
| 6,900.0                                                   | 6,900.0  | 3,168.0  | 3,168.0  | 24.5            | 81.7   | -21.12   | 2,154.1                | -832.1                 | 4,388.6 | 4,282.5  | 106.19     | 41.330     |                    |
| 7,000.0                                                   | 7,000.0  | 3,168.0  | 3,168.0  | 24.9            | 81.7   | -21.12   | 2,154.1                | -832.1                 | 4,474.0 | 4,367.4  | 106.54     | 41.992     |                    |
| 7,100.0                                                   | 7,100.0  | 3,168.0  | 3,168.0  | 25.2            | 81.7   | -21.12   | 2,154.1                | -832.1                 | 4,559.9 | 4,453.0  | 106.90     | 42.655     |                    |
| 7,200.0                                                   | 7,200.0  | 3,168.0  | 3,168.0  | 25.6            | 81.7   | -21.12   | 2,154.1                | -832.1                 | 4,646.4 | 4,539.2  | 107.26     | 43.319     |                    |
| 7,300.0                                                   | 7,300.0  | 3,168.0  | 3,168.0  | 26.0            | 81.7   | -21.12   | 2,154.1                | -832.1                 | 4,733.5 | 4,625.9  | 107.62     | 43.983     |                    |
| 7,400.0                                                   | 7,400.0  | 3,168.0  | 3,168.0  | 26.3            | 81.7   | -21.12   | 2,154.1                | -832.1                 | 4,821.0 | 4,713.0  | 107.98     | 44.648     |                    |
| 7,500.0                                                   | 7,500.0  | 3,168.0  | 3,168.0  | 26.7            | 81.7   | -21.12   | 2,154.1                | -832.1                 | 4,909.0 | 4,800.7  | 108.34     | 45.313     |                    |
| 7,600.0                                                   | 7,600.0  | 3,168.0  | 3,168.0  | 27.0            | 81.7   | -21.12   | 2,154.1                | -832.1                 | 4,997.5 | 4,888.8  | 108.70     | 45.977     |                    |
| 7,700.0                                                   | 7,700.0  | 3,168.0  | 3,168.0  | 27.4            | 81.7   | -21.12   | 2,154.1                | -832.1                 | 5,086.4 | 4,977.3  | 109.05     | 46.641     |                    |
| 7,800.0                                                   | 7,800.0  | 3,168.0  | 3,168.0  | 27.7            | 81.7   | -21.12   | 2,154.1                | -832.1                 | 5,175.7 | 5,066.3  | 109.41     | 47.305     |                    |
| 7,900.0                                                   | 7,900.0  | 3,168.0  | 3,168.0  | 28.1            | 81.7   | -21.12   | 2,154.1                | -832.1                 | 5,265.4 | 5,155.6  | 109.77     | 47.967     |                    |
| 8,000.0                                                   | 8,000.0  | 3,168.0  | 3,168.0  | 28.5            | 81.7   | -21.12   | 2,154.1                | -832.1                 | 5,355.4 | 5,245.3  | 110.13     | 48.629     |                    |
| 8,100.0                                                   | 8,100.0  | 3,168.0  | 3,168.0  | 28.8            | 81.7   | -21.12   | 2,154.1                | -832.1                 | 5,445.8 | 5,335.3  | 110.49     | 49.289     |                    |
| 8,200.0                                                   | 8,200.0  | 3,168.0  | 3,168.0  | 29.2            | 81.7   | -21.12   | 2,154.1                | -832.1                 | 5,536.5 | 5,425.7  | 110.85     | 49.948     |                    |
| 8,300.0                                                   | 8,300.0  | 3,168.0  | 3,168.0  | 29.5            | 81.7   | -21.12   | 2,154.1                | -832.1                 | 5,627.6 | 5,516.4  | 111.20     | 50.606     |                    |
| 8,400.0                                                   | 8,400.0  | 3,168.0  | 3,168.0  | 29.9            | 81.7   | -21.12   | 2,154.1                | -832.1                 | 5,718.9 | 5,607.4  | 111.56     | 51.262     |                    |
| 8,500.0                                                   | 8,500.0  | 3,168.0  | 3,168.0  | 30.3            | 81.7   | -21.12   | 2,154.1                | -832.1                 | 5,810.6 | 5,698.6  | 111.92     | 51.916     |                    |
| 8,600.0                                                   | 8,600.0  | 3,168.0  | 3,168.0  | 30.6            | 81.7   | -21.12   | 2,154.1                | -832.1                 | 5,902.5 | 5,790.2  | 112.28     | 52.569     |                    |
| 8,622.6                                                   | 8,622.6  | 3,168.0  | 3,168.0  | 30.7            | 81.7   | -21.12   | 2,154.1                | -832.1                 | 5,923.3 | 5,810.9  | 112.36     | 52.716     |                    |
| 8,625.0                                                   | 8,625.0  | 3,168.0  | 3,168.0  | 30.7            | 81.7   | -19.95   | 2,154.1                | -832.1                 | 5,925.5 | 5,813.1  | 112.37     | 52.732     |                    |
| 8,650.0                                                   | 8,650.0  | 3,168.0  | 3,168.0  | 30.8            | 81.7   | -17.83   | 2,154.1                | -832.1                 | 5,948.2 | 5,835.7  | 112.46     | 52.892     |                    |
| 8,675.0                                                   | 8,674.9  | 3,168.0  | 3,168.0  | 30.9            | 81.7   | -16.13   | 2,154.1                | -832.1                 | 5,970.4 | 5,857.9  | 112.55     | 53.047     |                    |
| 8,700.0                                                   | 8,699.7  | 3,168.0  | 3,168.0  | 31.0            | 81.7   | -14.75   | 2,154.1                | -832.1                 | 5,992.0 | 5,879.4  | 112.64     | 53.197     |                    |
| 8,725.0                                                   | 8,724.2  | 3,168.0  | 3,168.0  | 31.1            | 81.7   | -13.61   | 2,154.1                | -832.1                 | 6,013.0 | 5,900.3  | 112.73     | 53.342     |                    |
| 8,750.0                                                   | 8,748.5  | 3,168.0  | 3,168.0  | 31.1            | 81.7   | -12.66   | 2,154.1                | -832.1                 | 6,033.3 | 5,920.5  | 112.81     | 53.481     |                    |
| 8,775.0                                                   | 8,772.4  | 3,168.0  | 3,168.0  | 31.2            | 81.7   | -11.86   | 2,154.1                | -832.1                 | 6,052.9 | 5,940.0  | 112.90     | 53.614     |                    |
| 8,800.0                                                   | 8,795.9  | 3,168.0  | 3,168.0  | 31.3            | 81.7   | -11.18   | 2,154.1                | -832.1                 | 6,071.7 | 5,958.8  | 112.98     | 53.742     |                    |
| 8,825.0                                                   | 8,819.0  | 3,168.0  | 3,168.0  | 31.4            | 81.7   | -10.59   | 2,154.1                | -832.1                 | 6,089.7 | 5,976.7  | 113.06     | 53.862     |                    |
| 8,850.0                                                   | 8,841.5  | 3,168.0  | 3,168.0  | 31.5            | 81.7   | -10.08   | 2,154.1                | -832.1                 | 6,106.8 | 5,993.7  | 113.14     | 53.976     |                    |
| 8,875.0                                                   | 8,863.4  | 3,168.0  | 3,168.0  | 31.6            | 81.7   | -9.64    | 2,154.1                | -832.1                 | 6,123.1 | 6,009.8  | 113.22     | 54.081     |                    |
| 8,900.0                                                   | 8,884.7  | 3,168.0  | 3,168.0  | 31.6            | 81.7   | -9.26    | 2,154.1                | -832.1                 | 6,138.3 | 6,025.0  | 113.30     | 54.178     |                    |
| 8,925.0                                                   | 8,905.2  | 3,168.0  | 3,168.0  | 31.7            | 81.7   | -8.93    | 2,154.1                | -832.1                 | 6,152.6 | 6,039.2  | 113.38     | 54.266     |                    |
| 8,950.0                                                   | 8,924.9  | 3,168.0  | 3,168.0  | 31.8            | 81.7   | -8.65    | 2,154.1                | -832.1                 | 6,165.9 | 6,052.5  | 113.46     | 54.345     |                    |
| 8,975.0                                                   | 8,943.9  | 3,168.0  | 3,168.0  | 31.9            | 81.7   | -8.40    | 2,154.1                | -832.1                 | 6,178.2 | 6,064.6  | 113.54     | 54.416     |                    |

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

# COG Operating LLC

## Anticollision Report

|                    |                          |                              |                                           |
|--------------------|--------------------------|------------------------------|-------------------------------------------|
| Company:           | COG OPERATING, LLC       | Local Co-ordinate Reference: | Well NERVOUS PERVIS STATE #9H             |
| Project:           | LEA COUNTY, NM           | TVD Reference:               | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| Reference Site:    | LUSK BSS                 | MD Reference:                | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| Site Error:        | 0.0 usft                 | North Reference:             | Grid                                      |
| Reference Well:    | NERVOUS PURVIS STATE #9H | Survey Calculation Method:   | Minimum Curvature                         |
| Well Error:        | 0.0 usft                 | Output errors are at         | 2.00 sigma                                |
| Reference Wellbore | OWB                      | Database:                    | EDM_Users                                 |
| Reference Design:  | DWD Plan 1               | Offset TVD Reference:        | Offset Datum                              |

| Offset Design LUSK BSS - STATE #3 - OWB - ACTUAL WELLPATH |          |          |          |           |        |          |                        |         |         |          |            |        |  | Offset Site Error: | 0.0 usft |
|-----------------------------------------------------------|----------|----------|----------|-----------|--------|----------|------------------------|---------|---------|----------|------------|--------|--|--------------------|----------|
| Survey Program: 3168-INC-ONLY                             |          |          |          |           |        |          |                        |         |         |          |            |        |  | Offset Well Error: | 3.0 usft |
| Reference                                                 | Vertical | Measured | Vertical | Reference | Offset | Highside | Offset Wellbore Centre | Between | Between | Minimum  | Separation |        |  |                    |          |
| Measured                                                  | Depth    | Depth    | Depth    | Reference | Offset | Tooface  | +N-S                   | +E-W    | Centres | Ellipses | Separation | Factor |  |                    |          |
| (usft)                                                    | (usft)   | (usft)   | (usft)   | (usft)    | (usft) | (°)      | (usft)                 | (usft)  | (usft)  | (usft)   | (usft)     |        |  |                    |          |
| 9,000.0                                                   | 8,961.9  | 3,168.0  | 3,168.0  | 31.9      | 81.7   | -8.18    | 2,154.1                | -832.1  | 6,189.4 | 6,075.7  | 113.61     | 54.477 |  |                    |          |
| 9,025.0                                                   | 8,979.0  | 3,168.0  | 3,168.0  | 32.0      | 81.7   | -7.99    | 2,154.1                | -832.1  | 6,199.5 | 6,085.8  | 113.69     | 54.529 |  |                    |          |
| 9,050.0                                                   | 8,995.2  | 3,168.0  | 3,168.0  | 32.1      | 81.7   | -7.83    | 2,154.1                | -832.1  | 6,208.5 | 6,094.7  | 113.77     | 54.570 |  |                    |          |
| 9,075.0                                                   | 9,010.3  | 3,168.0  | 3,168.0  | 32.2      | 81.7   | -7.70    | 2,154.1                | -832.1  | 6,216.3 | 6,102.5  | 113.85     | 54.601 |  |                    |          |
| 9,100.0                                                   | 9,024.3  | 3,168.0  | 3,168.0  | 32.3      | 81.7   | -7.59    | 2,154.1                | -832.1  | 6,223.0 | 6,109.1  | 113.93     | 54.622 |  |                    |          |
| 9,125.0                                                   | 9,037.3  | 3,168.0  | 3,168.0  | 32.3      | 81.7   | -7.50    | 2,154.1                | -832.1  | 6,228.6 | 6,114.6  | 114.01     | 54.633 |  |                    |          |
| 9,150.0                                                   | 9,049.1  | 3,168.0  | 3,168.0  | 32.4      | 81.7   | -7.43    | 2,154.1                | -832.1  | 6,232.9 | 6,118.8  | 114.09     | 54.632 |  |                    |          |
| 9,175.0                                                   | 9,059.8  | 3,168.0  | 3,168.0  | 32.5      | 81.7   | -7.38    | 2,154.1                | -832.1  | 6,236.1 | 6,122.0  | 114.17     | 54.621 |  |                    |          |
| 9,200.0                                                   | 9,069.2  | 3,168.0  | 3,168.0  | 32.6      | 81.7   | -7.35    | 2,154.1                | -832.1  | 6,238.1 | 6,123.9  | 114.25     | 54.598 |  |                    |          |
| 9,225.0                                                   | 9,077.4  | 3,168.0  | 3,168.0  | 32.7      | 81.7   | -7.34    | 2,154.1                | -832.1  | 6,238.9 | 6,124.6  | 114.34     | 54.565 |  |                    |          |
| 9,250.0                                                   | 9,084.4  | 3,168.0  | 3,168.0  | 32.8      | 81.7   | -7.34    | 2,154.1                | -832.1  | 6,238.5 | 6,124.1  | 114.42     | 54.521 |  |                    |          |
| 9,275.0                                                   | 9,090.1  | 3,168.0  | 3,168.0  | 32.8      | 81.7   | -7.37    | 2,154.1                | -832.1  | 6,236.9 | 6,122.4  | 114.51     | 54.466 |  |                    |          |
| 9,300.0                                                   | 9,094.6  | 3,168.0  | 3,168.0  | 32.9      | 81.7   | -7.41    | 2,154.1                | -832.1  | 6,234.1 | 6,119.5  | 114.60     | 54.399 |  |                    |          |
| 9,325.0                                                   | 9,097.7  | 3,168.0  | 3,168.0  | 33.0      | 81.7   | -7.47    | 2,154.1                | -832.1  | 6,230.1 | 6,115.5  | 114.69     | 54.323 |  |                    |          |
| 9,350.0                                                   | 9,099.5  | 3,168.0  | 3,168.0  | 33.1      | 81.7   | -7.56    | 2,154.1                | -832.1  | 6,225.0 | 6,110.2  | 114.78     | 54.235 |  |                    |          |
| 9,375.0                                                   | 9,100.1  | 3,168.0  | 3,168.0  | 33.2      | 81.7   | -7.66    | 2,154.1                | -832.1  | 6,218.7 | 6,103.8  | 114.87     | 54.137 |  |                    |          |
| 9,380.4                                                   | 9,100.0  | 3,168.0  | 3,168.0  | 33.2      | 81.7   | -7.69    | 2,154.1                | -832.1  | 6,217.1 | 6,102.2  | 114.89     | 54.114 |  |                    |          |
| 9,400.0                                                   | 9,099.7  | 3,168.0  | 3,168.0  | 33.3      | 81.7   | -7.69    | 2,154.1                | -832.1  | 6,211.6 | 6,096.6  | 114.96     | 54.031 |  |                    |          |
| 9,500.0                                                   | 9,088.0  | 3,168.0  | 3,168.0  | 33.7      | 81.7   | -7.69    | 2,154.1                | -832.1  | 6,184.0 | 6,068.6  | 115.39     | 53.590 |  |                    |          |
| 9,600.0                                                   | 9,086.4  | 3,168.0  | 3,168.0  | 34.2      | 81.7   | -7.69    | 2,154.1                | -832.1  | 6,157.9 | 6,042.0  | 115.90     | 53.130 |  |                    |          |
| 9,700.0                                                   | 9,084.8  | 3,168.0  | 3,168.0  | 34.8      | 81.7   | -7.69    | 2,154.1                | -832.1  | 6,133.3 | 6,016.8  | 116.48     | 52.654 |  |                    |          |
| 9,800.0                                                   | 9,093.1  | 3,168.0  | 3,168.0  | 35.5      | 81.7   | -7.69    | 2,154.1                | -832.1  | 6,110.3 | 5,993.2  | 117.13     | 52.165 |  |                    |          |
| 9,900.0                                                   | 9,091.5  | 3,168.0  | 3,168.0  | 36.2      | 81.7   | -7.69    | 2,154.1                | -832.1  | 6,088.8 | 5,971.0  | 117.85     | 51.666 |  |                    |          |
| 10,000.0                                                  | 9,089.8  | 3,168.0  | 3,168.0  | 37.0      | 81.7   | -7.69    | 2,154.1                | -832.1  | 6,068.9 | 5,950.3  | 118.63     | 51.158 |  |                    |          |
| 10,100.0                                                  | 9,088.2  | 3,168.0  | 3,168.0  | 37.8      | 81.7   | -7.69    | 2,154.1                | -832.1  | 6,050.6 | 5,931.2  | 119.47     | 50.646 |  |                    |          |
| 10,200.0                                                  | 9,086.6  | 3,168.0  | 3,168.0  | 38.7      | 81.7   | -7.69    | 2,154.1                | -832.1  | 6,033.9 | 5,913.6  | 120.36     | 50.131 |  |                    |          |
| 10,300.0                                                  | 9,084.9  | 3,168.0  | 3,168.0  | 39.6      | 81.7   | -7.69    | 2,154.1                | -832.1  | 6,018.8 | 5,897.5  | 121.31     | 49.617 |  |                    |          |
| 10,400.0                                                  | 9,083.3  | 3,168.0  | 3,168.0  | 40.6      | 81.7   | -7.69    | 2,154.1                | -832.1  | 6,005.4 | 5,883.1  | 122.30     | 49.105 |  |                    |          |
| 10,500.0                                                  | 9,081.6  | 3,168.0  | 3,168.0  | 41.7      | 81.7   | -7.69    | 2,154.1                | -832.1  | 5,993.5 | 5,870.2  | 123.33     | 48.596 |  |                    |          |
| 10,600.0                                                  | 9,080.0  | 3,168.0  | 3,168.0  | 42.7      | 81.7   | -7.69    | 2,154.1                | -832.1  | 5,983.3 | 5,858.9  | 124.41     | 48.094 |  |                    |          |
| 10,700.0                                                  | 9,078.4  | 3,168.0  | 3,168.0  | 43.9      | 81.7   | -7.69    | 2,154.1                | -832.1  | 5,974.8 | 5,849.3  | 125.52     | 47.599 |  |                    |          |
| 10,800.0                                                  | 9,076.7  | 3,168.0  | 3,168.0  | 45.0      | 81.7   | -7.69    | 2,154.1                | -832.1  | 5,968.0 | 5,841.3  | 126.67     | 47.113 |  |                    |          |
| 10,900.0                                                  | 9,075.1  | 3,168.0  | 3,168.0  | 46.2      | 81.7   | -7.69    | 2,154.1                | -832.1  | 5,962.8 | 5,834.9  | 127.85     | 46.637 |  |                    |          |
| 11,000.0                                                  | 9,073.4  | 3,168.0  | 3,168.0  | 47.4      | 81.7   | -7.69    | 2,154.1                | -832.1  | 5,959.3 | 5,830.2  | 129.07     | 46.172 |  |                    |          |
| 11,100.0                                                  | 9,071.8  | 3,168.0  | 3,168.0  | 48.6      | 81.7   | -7.69    | 2,154.1                | -832.1  | 5,957.4 | 5,827.1  | 130.31     | 45.719 |  |                    |          |
| 11,159.6                                                  | 9,070.8  | 3,168.0  | 3,168.0  | 49.4      | 81.7   | -7.69    | 2,154.1                | -832.1  | 5,957.1 | 5,826.1  | 131.06     | 45.453 |  |                    |          |
| 11,200.0                                                  | 9,070.1  | 3,168.0  | 3,168.0  | 49.9      | 81.7   | -7.69    | 2,154.1                | -832.1  | 5,957.3 | 5,825.7  | 131.57     | 45.278 |  |                    |          |
| 11,300.0                                                  | 9,068.5  | 3,168.0  | 3,168.0  | 51.2      | 81.7   | -7.69    | 2,154.1                | -832.1  | 5,958.8 | 5,825.9  | 132.86     | 44.850 |  |                    |          |
| 11,400.0                                                  | 9,066.9  | 3,168.0  | 3,168.0  | 52.5      | 81.7   | -7.69    | 2,154.1                | -832.1  | 5,962.0 | 5,827.8  | 134.17     | 44.435 |  |                    |          |
| 11,500.0                                                  | 9,065.2  | 3,168.0  | 3,168.0  | 53.8      | 81.7   | -7.69    | 2,154.1                | -832.1  | 5,966.8 | 5,831.3  | 135.50     | 44.035 |  |                    |          |
| 11,600.0                                                  | 9,063.6  | 3,168.0  | 3,168.0  | 55.2      | 81.7   | -7.69    | 2,154.1                | -832.1  | 5,973.4 | 5,836.5  | 136.85     | 43.648 |  |                    |          |
| 11,700.0                                                  | 9,061.9  | 3,168.0  | 3,168.0  | 56.6      | 81.7   | -7.69    | 2,154.1                | -832.1  | 5,981.6 | 5,843.3  | 138.22     | 43.275 |  |                    |          |
| 11,800.0                                                  | 9,060.3  | 3,168.0  | 3,168.0  | 57.9      | 81.7   | -7.69    | 2,154.1                | -832.1  | 5,991.4 | 5,851.8  | 139.61     | 42.917 |  |                    |          |
| 11,900.0                                                  | 9,058.7  | 3,168.0  | 3,168.0  | 59.3      | 81.7   | -7.69    | 2,154.1                | -832.1  | 6,002.9 | 5,861.9  | 141.01     | 42.572 |  |                    |          |
| 12,000.0                                                  | 9,057.0  | 3,168.0  | 3,168.0  | 60.8      | 81.7   | -7.69    | 2,154.1                | -832.1  | 6,016.1 | 5,873.7  | 142.42     | 42.242 |  |                    |          |
| 12,100.0                                                  | 9,055.4  | 3,168.0  | 3,168.0  | 62.2      | 81.7   | -7.69    | 2,154.1                | -832.1  | 6,030.9 | 5,887.0  | 143.85     | 41.925 |  |                    |          |
| 12,200.0                                                  | 9,053.7  | 3,168.0  | 3,168.0  | 63.6      | 81.7   | -7.69    | 2,154.1                | -832.1  | 6,047.3 | 5,902.0  | 145.29     | 41.623 |  |                    |          |
| 12,300.0                                                  | 9,052.1  | 3,168.0  | 3,168.0  | 65.1      | 81.7   | -7.69    | 2,154.1                | -832.1  | 6,065.3 | 5,918.5  | 146.74     | 41.335 |  |                    |          |
| 12,400.0                                                  | 9,050.5  | 3,168.0  | 3,168.0  | 66.5      | 81.7   | -7.69    | 2,154.1                | -832.1  | 6,084.9 | 5,936.7  | 148.20     | 41.059 |  |                    |          |
| 12,500.0                                                  | 9,048.8  | 3,168.0  | 3,168.0  | 68.0      | 81.7   | -7.69    | 2,154.1                | -832.1  | 6,106.0 | 5,956.4  | 149.67     | 40.797 |  |                    |          |
| 12,600.0                                                  | 9,047.2  | 3,168.0  | 3,168.0  | 69.5      | 81.7   | -7.69    | 2,154.1                | -832.1  | 6,128.8 | 5,977.6  | 151.15     | 40.548 |  |                    |          |
| 12,700.0                                                  | 9,045.5  | 3,168.0  | 3,168.0  | 71.0      | 81.7   | -7.69    | 2,154.1                | -832.1  | 6,153.0 | 6,000.4  | 152.64     | 40.311 |  |                    |          |

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

# COG Operating LLC

## Anticollision Report

|                     |                          |                              |                                           |
|---------------------|--------------------------|------------------------------|-------------------------------------------|
| Company:            | COG OPERATING, LLC       | Local Co-ordinate Reference: | Well NERVOUS PERVIS STATE #9H             |
| Project:            | LEA COUNTY, NM           | TVD Reference:               | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| Reference Site:     | LUSK BSS                 | MD Reference:                | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| Site Error:         | 0.0 usft                 | North Reference:             | Grid                                      |
| Reference Well:     | NERVOUS PURVIS STATE #9H | Survey Calculation Method:   | Minimum Curvature                         |
| Well Error:         | 0.0 usft                 | Output errors are at         | 2.00 sigma                                |
| Reference Wellbore: | OWB                      | Database:                    | EDM_Users                                 |
| Reference Design:   | DWD Plan 1               | Offset TVD Reference:        | Offset Datum                              |

| Offset Design: LUSK BSS - STATE #3 - OWB - ACTUAL WELLPATH |          |         |          |                 |        |          |                        |        |          |          |            |            |         | Offset Site Error: |
|------------------------------------------------------------|----------|---------|----------|-----------------|--------|----------|------------------------|--------|----------|----------|------------|------------|---------|--------------------|
| Survey Program: 3168-INC-ONLY                              |          |         |          |                 |        |          |                        |        |          |          |            |            |         | Offset Well Error: |
| Reference                                                  | Vertical | Offset  | Vertical | Semi Major Axis |        | Highside | Offset Wellbore Centre |        | Distance |          | Minimum    | Separation | Warning |                    |
| Depth                                                      | Depth    | Depth   | Depth    | Reference       | Offset | Toolface | +N-S                   | +E-W   | Between  | Between  | Separation | Factor     |         |                    |
| (usft)                                                     | (usft)   | (usft)  | (usft)   | (usft)          | (usft) | (°)      | (usft)                 | (usft) | Centres  | Ellipses | (usft)     |            |         |                    |
| 12,800.0                                                   | 9,043.9  | 3,168.0 | 3,168.0  | 72.5            | 81.7   | -7.69    | 2,154.1                | -832.1 | 6,178.8  | 6,024.7  | 154.14     | 40.086     |         |                    |
| 12,900.0                                                   | 9,042.3  | 3,168.0 | 3,168.0  | 74.0            | 81.7   | -7.69    | 2,154.1                | -832.1 | 6,206.1  | 6,050.5  | 155.64     | 39.874     |         |                    |
| 13,000.0                                                   | 9,040.6  | 3,168.0 | 3,168.0  | 75.5            | 81.7   | -7.69    | 2,154.1                | -832.1 | 6,234.9  | 6,077.8  | 157.16     | 39.673     |         |                    |
| 13,100.0                                                   | 9,039.0  | 3,168.0 | 3,168.0  | 77.0            | 81.7   | -7.69    | 2,154.1                | -832.1 | 6,265.2  | 6,106.5  | 158.68     | 39.484     |         |                    |
| 13,200.0                                                   | 9,037.3  | 3,168.0 | 3,168.0  | 78.5            | 81.7   | -7.69    | 2,154.1                | -832.1 | 6,296.8  | 6,136.6  | 160.20     | 39.305     |         |                    |
| 13,300.0                                                   | 9,035.7  | 3,168.0 | 3,168.0  | 80.1            | 81.7   | -7.69    | 2,154.1                | -832.1 | 6,330.0  | 6,168.2  | 161.74     | 39.138     |         |                    |
| 13,400.0                                                   | 9,034.1  | 3,168.0 | 3,168.0  | 81.6            | 81.7   | -7.69    | 2,154.1                | -832.1 | 6,364.5  | 6,201.2  | 163.27     | 38.980     |         |                    |
| 13,500.0                                                   | 9,032.4  | 3,168.0 | 3,168.0  | 83.2            | 81.7   | -7.69    | 2,154.1                | -832.1 | 6,400.3  | 6,235.5  | 164.82     | 38.833     |         |                    |
| 13,600.0                                                   | 9,030.8  | 3,168.0 | 3,168.0  | 84.7            | 81.7   | -7.69    | 2,154.1                | -832.1 | 6,437.6  | 6,271.2  | 166.37     | 38.695     |         |                    |
| 13,700.0                                                   | 9,029.1  | 3,168.0 | 3,168.0  | 86.3            | 81.7   | -7.69    | 2,154.1                | -832.1 | 6,476.2  | 6,308.2  | 167.92     | 38.567     |         |                    |
| 13,800.0                                                   | 9,027.5  | 3,168.0 | 3,168.0  | 87.8            | 81.7   | -7.69    | 2,154.1                | -832.1 | 6,516.0  | 6,346.6  | 169.48     | 38.447     |         |                    |
| 13,900.0                                                   | 9,025.9  | 3,168.0 | 3,168.0  | 89.4            | 81.7   | -7.69    | 2,154.1                | -832.1 | 6,557.2  | 6,386.1  | 171.04     | 38.337     |         |                    |
| 13,937.9                                                   | 9,025.2  | 3,168.0 | 3,168.0  | 90.0            | 81.7   | -7.69    | 2,154.1                | -832.1 | 6,573.1  | 6,401.5  | 171.64     | 38.297     |         |                    |

# COG Operating LLC

## Anticollision Report

|                           |                          |                                     |                                           |
|---------------------------|--------------------------|-------------------------------------|-------------------------------------------|
| <b>Company:</b>           | COG OPERATING, LLC       | <b>Local Co-ordinate Reference:</b> | Well NERVOUS PERVIS STATE #9H             |
| <b>Project:</b>           | LEA COUNTY, NM           | <b>TVD Reference:</b>               | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| <b>Reference Site:</b>    | LUSK BSS                 | <b>MD Reference:</b>                | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| <b>Site Error:</b>        | 0.0 usft                 | <b>North Reference:</b>             | Grid                                      |
| <b>Reference Well:</b>    | NERVOUS PURVIS STATE #9H | <b>Survey Calculation Method:</b>   | Minimum Curvature                         |
| <b>Well Error:</b>        | 0.0 usft                 | <b>Output errors are at</b>         | 2.00 sigma                                |
| <b>Reference Wellbore</b> | OWB                      | <b>Database:</b>                    | EDM_Users                                 |
| <b>Reference Design:</b>  | DWD Plan 1               | <b>Offset TVD Reference:</b>        | Offset Datum                              |

| Offset Design LUSK BSS - STATE A #1 - OWB - ACTUAL WELLPATH |                       |                       |                       |                  |               |                       |                                    |             |                        |                         | Offset Site Error:        | 0.0 usft          |
|-------------------------------------------------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|------------------------------------|-------------|------------------------|-------------------------|---------------------------|-------------------|
| Survey Program: 4270-INC-ONLY                               |                       |                       |                       |                  |               |                       |                                    |             |                        |                         | Offset Well Error:        | 3.0 usft          |
| Reference                                                   | Offset                | Semi Major Axis       |                       | Distance         |               | Minimum               |                                    | Separation  |                        | Warning                 |                           |                   |
| Measured Depth (usft)                                       | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N-S (usft) | +E-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor |
| 0.0                                                         | 0.0                   | 0.0                   | 0.0                   | 0.0              | 3.0           | -30.67                | 820.9                              | -486.9      | 954.5                  |                         |                           |                   |
| 100.0                                                       | 100.0                 | 92.0                  | 92.0                  | 0.1              | 3.8           | -30.67                | 820.9                              | -486.9      | 954.4                  | 950.5                   | 3.97                      | 240.534           |
| 200.0                                                       | 200.0                 | 192.0                 | 192.0                 | 0.5              | 5.8           | -30.67                | 820.9                              | -486.9      | 954.4                  | 948.2                   | 6.29                      | 151.721           |
| 300.0                                                       | 300.0                 | 292.0                 | 292.0                 | 0.9              | 8.1           | -30.67                | 820.9                              | -486.9      | 954.4                  | 945.5                   | 8.97                      | 106.457           |
| 400.0                                                       | 400.0                 | 392.0                 | 392.0                 | 1.2              | 10.5          | -30.67                | 820.9                              | -486.9      | 954.4                  | 942.7                   | 11.76                     | 81.141            |
| 500.0                                                       | 500.0                 | 492.0                 | 492.0                 | 1.6              | 13.0          | -30.67                | 820.9                              | -486.9      | 954.4                  | 939.8                   | 14.61                     | 65.310            |
| 600.0                                                       | 600.0                 | 592.0                 | 592.0                 | 1.9              | 15.6          | -30.67                | 820.9                              | -486.9      | 954.4                  | 937.0                   | 17.49                     | 54.561            |
| 700.0                                                       | 700.0                 | 692.0                 | 692.0                 | 2.3              | 18.1          | -30.67                | 820.9                              | -486.9      | 954.4                  | 934.1                   | 20.39                     | 46.812            |
| 800.0                                                       | 800.0                 | 792.0                 | 792.0                 | 2.7              | 20.6          | -30.67                | 820.9                              | -486.9      | 954.4                  | 931.2                   | 23.29                     | 40.973            |
| 900.0                                                       | 900.0                 | 892.0                 | 892.0                 | 3.0              | 23.2          | -30.67                | 820.9                              | -486.9      | 954.4                  | 928.2                   | 26.21                     | 36.419            |
| 1,000.0                                                     | 1,000.0               | 992.0                 | 992.0                 | 3.4              | 25.8          | -30.67                | 820.9                              | -486.9      | 954.4                  | 925.3                   | 29.13                     | 32.771            |
| 1,100.0                                                     | 1,100.0               | 1,092.0               | 1,092.0               | 3.7              | 28.3          | -30.67                | 820.9                              | -486.9      | 954.4                  | 922.4                   | 32.05                     | 29.784            |
| 1,200.0                                                     | 1,200.0               | 1,192.0               | 1,192.0               | 4.1              | 30.9          | -30.67                | 820.9                              | -486.9      | 954.4                  | 919.5                   | 34.97                     | 27.293            |
| 1,300.0                                                     | 1,300.0               | 1,292.0               | 1,292.0               | 4.4              | 33.5          | -30.67                | 820.9                              | -486.9      | 954.4                  | 916.6                   | 37.90                     | 25.186            |
| 1,400.0                                                     | 1,400.0               | 1,392.0               | 1,392.0               | 4.8              | 36.0          | -30.67                | 820.9                              | -486.9      | 954.4                  | 913.6                   | 40.82                     | 23.380            |
| 1,500.0                                                     | 1,500.0               | 1,492.0               | 1,492.0               | 5.2              | 38.6          | -30.67                | 820.9                              | -486.9      | 954.4                  | 910.7                   | 43.75                     | 21.815            |
| 1,600.0                                                     | 1,600.0               | 1,592.0               | 1,592.0               | 5.5              | 41.2          | -30.67                | 820.9                              | -486.9      | 954.4                  | 907.8                   | 46.68                     | 20.446            |
| 1,700.0                                                     | 1,700.0               | 1,692.0               | 1,692.0               | 5.9              | 43.7          | -30.67                | 820.9                              | -486.9      | 954.4                  | 904.8                   | 49.61                     | 19.238            |
| 1,800.0                                                     | 1,800.0               | 1,792.0               | 1,792.0               | 6.2              | 46.3          | -30.67                | 820.9                              | -486.9      | 954.4                  | 901.9                   | 52.54                     | 18.165            |
| 1,900.0                                                     | 1,900.0               | 1,892.0               | 1,892.0               | 6.6              | 48.9          | -30.67                | 820.9                              | -486.9      | 954.4                  | 899.0                   | 55.48                     | 17.205            |
| 2,000.0                                                     | 2,000.0               | 1,992.0               | 1,992.0               | 7.0              | 51.5          | -30.67                | 820.9                              | -486.9      | 954.4                  | 896.0                   | 58.41                     | 16.341            |
| 2,100.0                                                     | 2,100.0               | 2,092.0               | 2,092.0               | 7.3              | 54.0          | -30.67                | 820.9                              | -486.9      | 954.4                  | 893.1                   | 61.34                     | 15.560            |
| 2,200.0                                                     | 2,200.0               | 2,192.0               | 2,192.0               | 7.7              | 56.6          | -30.67                | 820.9                              | -486.9      | 954.4                  | 890.2                   | 64.27                     | 14.850            |
| 2,300.0                                                     | 2,300.0               | 2,292.0               | 2,292.0               | 8.0              | 59.2          | -30.67                | 820.9                              | -486.9      | 954.4                  | 887.2                   | 67.21                     | 14.201            |
| 2,400.0                                                     | 2,400.0               | 2,392.0               | 2,392.0               | 8.4              | 61.8          | -30.67                | 820.9                              | -486.9      | 954.4                  | 884.3                   | 70.14                     | 13.607            |
| 2,500.0                                                     | 2,500.0               | 2,492.0               | 2,492.0               | 8.7              | 64.3          | -30.67                | 820.9                              | -486.9      | 954.4                  | 881.4                   | 73.08                     | 13.061            |
| 2,600.0                                                     | 2,600.0               | 2,592.0               | 2,592.0               | 9.1              | 66.9          | -30.67                | 820.9                              | -486.9      | 954.4                  | 878.4                   | 76.01                     | 12.557            |
| 2,700.0                                                     | 2,700.0               | 2,692.0               | 2,692.0               | 9.5              | 69.5          | -30.67                | 820.9                              | -486.9      | 954.4                  | 875.5                   | 78.95                     | 12.090            |
| 2,800.0                                                     | 2,800.0               | 2,792.0               | 2,792.0               | 9.8              | 72.1          | -30.67                | 820.9                              | -486.9      | 954.4                  | 872.6                   | 81.88                     | 11.657            |
| 2,900.0                                                     | 2,900.0               | 2,892.0               | 2,892.0               | 10.2             | 74.6          | -30.67                | 820.9                              | -486.9      | 954.4                  | 869.6                   | 84.82                     | 11.253            |
| 3,000.0                                                     | 3,000.0               | 2,992.0               | 2,992.0               | 10.5             | 77.2          | -30.67                | 820.9                              | -486.9      | 954.4                  | 866.7                   | 87.75                     | 10.877            |
| 3,100.0                                                     | 3,100.0               | 3,092.0               | 3,092.0               | 10.9             | 79.8          | -30.67                | 820.9                              | -486.9      | 954.4                  | 863.8                   | 90.69                     | 10.525            |
| 3,200.0                                                     | 3,200.0               | 3,192.0               | 3,192.0               | 11.3             | 82.4          | -30.67                | 820.9                              | -486.9      | 954.4                  | 860.8                   | 93.62                     | 10.195            |
| 3,300.0                                                     | 3,300.0               | 3,292.0               | 3,292.0               | 11.6             | 84.9          | -30.67                | 820.9                              | -486.9      | 954.4                  | 857.9                   | 96.56                     | 9.885             |
| 3,400.0                                                     | 3,400.0               | 3,392.0               | 3,392.0               | 12.0             | 87.5          | -30.67                | 820.9                              | -486.9      | 954.4                  | 855.0                   | 99.49                     | 9.593             |
| 3,500.0                                                     | 3,500.0               | 3,492.0               | 3,492.0               | 12.3             | 90.1          | -30.67                | 820.9                              | -486.9      | 954.4                  | 852.0                   | 102.43                    | 9.318             |
| 3,600.0                                                     | 3,600.0               | 3,592.0               | 3,592.0               | 12.7             | 92.7          | -30.67                | 820.9                              | -486.9      | 954.4                  | 849.1                   | 105.36                    | 9.059             |
| 3,700.0                                                     | 3,700.0               | 3,692.0               | 3,692.0               | 13.0             | 95.3          | -30.67                | 820.9                              | -486.9      | 954.4                  | 846.2                   | 108.30                    | 8.813             |
| 3,800.0                                                     | 3,800.0               | 3,792.0               | 3,792.0               | 13.4             | 97.8          | -30.67                | 820.9                              | -486.9      | 954.4                  | 843.2                   | 111.23                    | 8.581             |
| 3,900.0                                                     | 3,900.0               | 3,892.0               | 3,892.0               | 13.8             | 100.4         | -30.67                | 820.9                              | -486.9      | 954.4                  | 840.3                   | 114.17                    | 8.360             |
| 4,000.0                                                     | 4,000.0               | 3,992.0               | 3,992.0               | 14.1             | 103.0         | -30.67                | 820.9                              | -486.9      | 954.4                  | 837.3                   | 117.11                    | 8.150             |
| 4,100.0                                                     | 4,100.0               | 4,092.0               | 4,092.0               | 14.5             | 105.6         | -30.67                | 820.9                              | -486.9      | 954.4                  | 834.4                   | 120.04                    | 7.951             |
| 4,200.0                                                     | 4,200.0               | 4,192.0               | 4,192.0               | 14.8             | 108.1         | -30.67                | 820.9                              | -486.9      | 954.4                  | 831.5                   | 122.98                    | 7.761             |
| 4,257.3                                                     | 4,257.3               | 4,249.3               | 4,249.3               | 15.0             | 109.6         | -30.67                | 820.9                              | -486.9      | 954.4                  | 829.8                   | 124.66                    | 7.656 CC          |
| 4,300.0                                                     | 4,300.0               | 4,270.0               | 4,270.0               | 15.2             | 110.1         | -30.67                | 820.9                              | -486.9      | 954.7                  | 829.4                   | 125.35                    | 7.616 ES, SF      |
| 4,400.0                                                     | 4,400.0               | 4,270.0               | 4,270.0               | 15.6             | 110.1         | -30.67                | 820.9                              | -486.9      | 962.2                  | 836.5                   | 125.71                    | 7.654             |
| 4,500.0                                                     | 4,500.0               | 4,270.0               | 4,270.0               | 15.9             | 110.1         | -30.67                | 820.9                              | -486.9      | 979.9                  | 853.9                   | 126.06                    | 7.773             |
| 4,600.0                                                     | 4,600.0               | 4,270.0               | 4,270.0               | 16.3             | 110.1         | -30.67                | 820.9                              | -486.9      | 1,007.3                | 880.9                   | 126.42                    | 7.968             |
| 4,700.0                                                     | 4,700.0               | 4,270.0               | 4,270.0               | 16.6             | 110.1         | -30.67                | 820.9                              | -486.9      | 1,043.6                | 916.8                   | 126.78                    | 8.231             |
| 4,800.0                                                     | 4,800.0               | 4,270.0               | 4,270.0               | 17.0             | 110.1         | -30.67                | 820.9                              | -486.9      | 1,087.9                | 960.7                   | 127.14                    | 8.556             |
| 4,900.0                                                     | 4,900.0               | 4,270.0               | 4,270.0               | 17.4             | 110.1         | -30.67                | 820.9                              | -486.9      | 1,139.2                | 1,011.7                 | 127.50                    | 8.935             |
| 5,000.0                                                     | 5,000.0               | 4,270.0               | 4,270.0               | 17.7             | 110.1         | -30.67                | 820.9                              | -486.9      | 1,196.8                | 1,068.9                 | 127.86                    | 9.360             |

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

# COG Operating LLC

## Anticollision Report

|                           |                          |                                     |                                           |
|---------------------------|--------------------------|-------------------------------------|-------------------------------------------|
| <b>Company:</b>           | COG OPERATING, LLC       | <b>Local Co-ordinate Reference:</b> | Well NERVOUS PERVIS STATE #9H             |
| <b>Project:</b>           | LEA COUNTY, NM           | <b>TVD Reference:</b>               | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| <b>Reference Site:</b>    | LUSK BSS                 | <b>MD Reference:</b>                | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| <b>Site Error:</b>        | 0.0 usft                 | <b>North Reference:</b>             | Grid                                      |
| <b>Reference Well:</b>    | NERVOUS PURVIS STATE #9H | <b>Survey Calculation Method:</b>   | Minimum Curvature                         |
| <b>Well Error:</b>        | 0.0 usft                 | <b>Output errors are at</b>         | 2.00 sigma                                |
| <b>Reference Wellbore</b> | OWB                      | <b>Database:</b>                    | EDM_Users                                 |
| <b>Reference Design:</b>  | DWD Plan 1               | <b>Offset TVD Reference:</b>        | Offset Datum                              |

| Offset Design LUSK BSS - STATE A #1 - OWB - ACTUAL WELLPATH |                       |                       |                       |                                  |               |                       |                                    |             |                        |                         |                           |                   |         | Offset Site Error: | 0.0 usft |
|-------------------------------------------------------------|-----------------------|-----------------------|-----------------------|----------------------------------|---------------|-----------------------|------------------------------------|-------------|------------------------|-------------------------|---------------------------|-------------------|---------|--------------------|----------|
| Survey Program: 4270-INC-ONLY                               |                       |                       |                       |                                  |               |                       |                                    |             |                        |                         |                           |                   |         | Offset Well Error: | 3.0 usft |
| Measured Depth (usft)                                       | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Semi Major Axis Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N-S (usft) | +E-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |                    |          |
| 5,100.0                                                     | 5,100.0               | 4,270.0               | 4,270.0               | 18.1                             | 110.1         | -30.67                | 820.9                              | -486.9      | 1,259.6                | 1,131.4                 | 128.22                    | 9.824             |         |                    |          |
| 5,200.0                                                     | 5,200.0               | 4,270.0               | 4,270.0               | 18.4                             | 110.1         | -30.67                | 820.9                              | -486.9      | 1,327.0                | 1,198.5                 | 128.57                    | 10.321            |         |                    |          |
| 5,300.0                                                     | 5,300.0               | 4,270.0               | 4,270.0               | 18.8                             | 110.1         | -30.67                | 820.9                              | -486.9      | 1,398.4                | 1,269.4                 | 128.93                    | 10.846            |         |                    |          |
| 5,400.0                                                     | 5,400.0               | 4,270.0               | 4,270.0               | 19.1                             | 110.1         | -30.67                | 820.9                              | -486.9      | 1,473.0                | 1,343.8                 | 129.29                    | 11.393            |         |                    |          |
| 5,500.0                                                     | 5,500.0               | 4,270.0               | 4,270.0               | 19.5                             | 110.1         | -30.67                | 820.9                              | -486.9      | 1,550.6                | 1,420.9                 | 129.65                    | 11.960            |         |                    |          |
| 5,600.0                                                     | 5,600.0               | 4,270.0               | 4,270.0               | 19.9                             | 110.1         | -30.67                | 820.9                              | -486.9      | 1,630.5                | 1,500.5                 | 130.01                    | 12.542            |         |                    |          |
| 5,700.0                                                     | 5,700.0               | 4,270.0               | 4,270.0               | 20.2                             | 110.1         | -30.67                | 820.9                              | -486.9      | 1,712.6                | 1,582.3                 | 130.37                    | 13.137            |         |                    |          |
| 5,800.0                                                     | 5,800.0               | 4,270.0               | 4,270.0               | 20.6                             | 110.1         | -30.67                | 820.9                              | -486.9      | 1,796.5                | 1,665.8                 | 130.72                    | 13.743            |         |                    |          |
| 5,900.0                                                     | 5,900.0               | 4,270.0               | 4,270.0               | 20.9                             | 110.1         | -30.67                | 820.9                              | -486.9      | 1,882.0                | 1,750.9                 | 131.08                    | 14.357            |         |                    |          |
| 6,000.0                                                     | 6,000.0               | 4,270.0               | 4,270.0               | 21.3                             | 110.1         | -30.67                | 820.9                              | -486.9      | 1,968.8                | 1,837.4                 | 131.44                    | 14.979            |         |                    |          |
| 6,100.0                                                     | 6,100.0               | 4,270.0               | 4,270.0               | 21.7                             | 110.1         | -30.67                | 820.9                              | -486.9      | 2,056.9                | 1,925.1                 | 131.80                    | 15.606            |         |                    |          |
| 6,200.0                                                     | 6,200.0               | 4,270.0               | 4,270.0               | 22.0                             | 110.1         | -30.67                | 820.9                              | -486.9      | 2,145.9                | 2,013.8                 | 132.16                    | 16.238            |         |                    |          |
| 6,300.0                                                     | 6,300.0               | 4,270.0               | 4,270.0               | 22.4                             | 110.1         | -30.67                | 820.9                              | -486.9      | 2,235.9                | 2,103.4                 | 132.52                    | 16.873            |         |                    |          |
| 6,400.0                                                     | 6,400.0               | 4,270.0               | 4,270.0               | 22.7                             | 110.1         | -30.67                | 820.9                              | -486.9      | 2,326.8                | 2,193.9                 | 132.88                    | 17.511            |         |                    |          |
| 6,500.0                                                     | 6,500.0               | 4,270.0               | 4,270.0               | 23.1                             | 110.1         | -30.67                | 820.9                              | -486.9      | 2,418.3                | 2,285.1                 | 133.23                    | 18.151            |         |                    |          |
| 6,600.0                                                     | 6,600.0               | 4,270.0               | 4,270.0               | 23.4                             | 110.1         | -30.67                | 820.9                              | -486.9      | 2,510.5                | 2,376.9                 | 133.59                    | 18.792            |         |                    |          |
| 6,700.0                                                     | 6,700.0               | 4,270.0               | 4,270.0               | 23.8                             | 110.1         | -30.67                | 820.9                              | -486.9      | 2,603.3                | 2,469.3                 | 133.95                    | 19.435            |         |                    |          |
| 6,800.0                                                     | 6,800.0               | 4,270.0               | 4,270.0               | 24.2                             | 110.1         | -30.67                | 820.9                              | -486.9      | 2,696.6                | 2,562.3                 | 134.31                    | 20.077            |         |                    |          |
| 6,900.0                                                     | 6,900.0               | 4,270.0               | 4,270.0               | 24.5                             | 110.1         | -30.67                | 820.9                              | -486.9      | 2,790.3                | 2,655.6                 | 134.67                    | 20.720            |         |                    |          |
| 7,000.0                                                     | 7,000.0               | 4,270.0               | 4,270.0               | 24.9                             | 110.1         | -30.67                | 820.9                              | -486.9      | 2,884.5                | 2,749.5                 | 135.03                    | 21.362            |         |                    |          |
| 7,100.0                                                     | 7,100.0               | 4,270.0               | 4,270.0               | 25.2                             | 110.1         | -30.67                | 820.9                              | -486.9      | 2,979.0                | 2,843.7                 | 135.38                    | 22.004            |         |                    |          |
| 7,200.0                                                     | 7,200.0               | 4,270.0               | 4,270.0               | 25.6                             | 110.1         | -30.67                | 820.9                              | -486.9      | 3,073.9                | 2,938.2                 | 135.74                    | 22.645            |         |                    |          |
| 7,300.0                                                     | 7,300.0               | 4,270.0               | 4,270.0               | 26.0                             | 110.1         | -30.67                | 820.9                              | -486.9      | 3,169.1                | 3,033.0                 | 136.10                    | 23.285            |         |                    |          |
| 7,400.0                                                     | 7,400.0               | 4,270.0               | 4,270.0               | 26.3                             | 110.1         | -30.67                | 820.9                              | -486.9      | 3,264.6                | 3,128.2                 | 136.46                    | 23.924            |         |                    |          |
| 7,500.0                                                     | 7,500.0               | 4,270.0               | 4,270.0               | 26.7                             | 110.1         | -30.67                | 820.9                              | -486.9      | 3,360.4                | 3,223.6                 | 136.82                    | 24.561            |         |                    |          |
| 7,600.0                                                     | 7,600.0               | 4,270.0               | 4,270.0               | 27.0                             | 110.1         | -30.67                | 820.9                              | -486.9      | 3,456.4                | 3,319.2                 | 137.18                    | 25.197            |         |                    |          |
| 7,700.0                                                     | 7,700.0               | 4,270.0               | 4,270.0               | 27.4                             | 110.1         | -30.67                | 820.9                              | -486.9      | 3,552.6                | 3,415.1                 | 137.54                    | 25.830            |         |                    |          |
| 7,800.0                                                     | 7,800.0               | 4,270.0               | 4,270.0               | 27.7                             | 110.1         | -30.67                | 820.9                              | -486.9      | 3,649.0                | 3,511.1                 | 137.89                    | 26.463            |         |                    |          |
| 7,900.0                                                     | 7,900.0               | 4,270.0               | 4,270.0               | 28.1                             | 110.1         | -30.67                | 820.9                              | -486.9      | 3,745.6                | 3,607.4                 | 138.25                    | 27.093            |         |                    |          |
| 8,000.0                                                     | 8,000.0               | 4,270.0               | 4,270.0               | 28.5                             | 110.1         | -30.67                | 820.9                              | -486.9      | 3,842.4                | 3,703.8                 | 138.61                    | 27.721            |         |                    |          |
| 8,100.0                                                     | 8,100.0               | 4,270.0               | 4,270.0               | 28.8                             | 110.1         | -30.67                | 820.9                              | -486.9      | 3,939.4                | 3,800.4                 | 138.97                    | 28.347            |         |                    |          |
| 8,200.0                                                     | 8,200.0               | 4,270.0               | 4,270.0               | 29.2                             | 110.1         | -30.67                | 820.9                              | -486.9      | 4,036.5                | 3,897.1                 | 139.33                    | 28.971            |         |                    |          |
| 8,300.0                                                     | 8,300.0               | 4,270.0               | 4,270.0               | 29.5                             | 110.1         | -30.67                | 820.9                              | -486.9      | 4,133.7                | 3,994.0                 | 139.69                    | 29.593            |         |                    |          |
| 8,400.0                                                     | 8,400.0               | 4,270.0               | 4,270.0               | 29.9                             | 110.1         | -30.67                | 820.9                              | -486.9      | 4,231.1                | 4,091.0                 | 140.05                    | 30.212            |         |                    |          |
| 8,500.0                                                     | 8,500.0               | 4,270.0               | 4,270.0               | 30.3                             | 110.1         | -30.67                | 820.9                              | -486.9      | 4,328.5                | 4,188.1                 | 140.40                    | 30.829            |         |                    |          |
| 8,600.0                                                     | 8,600.0               | 4,270.0               | 4,270.0               | 30.6                             | 110.1         | -30.67                | 820.9                              | -486.9      | 4,426.1                | 4,285.4                 | 140.76                    | 31.444            |         |                    |          |
| 8,622.5                                                     | 8,622.5               | 4,270.0               | 4,270.0               | 30.7                             | 110.1         | -30.67                | 820.9                              | -486.9      | 4,448.2                | 4,307.4                 | 140.84                    | 31.583            |         |                    |          |
| 8,625.0                                                     | 8,625.0               | 4,270.0               | 4,270.0               | 30.7                             | 110.1         | -29.10                | 820.9                              | -486.9      | 4,450.5                | 4,309.7                 | 140.85                    | 31.597            |         |                    |          |
| 8,650.0                                                     | 8,650.0               | 4,270.0               | 4,270.0               | 30.8                             | 110.1         | -23.72                | 820.9                              | -486.9      | 4,474.8                | 4,333.9                 | 140.94                    | 31.749            |         |                    |          |
| 8,675.0                                                     | 8,674.9               | 4,270.0               | 4,270.0               | 30.9                             | 110.1         | -19.97                | 820.9                              | -486.9      | 4,498.8                | 4,357.7                 | 141.03                    | 31.899            |         |                    |          |
| 8,700.0                                                     | 8,699.7               | 4,270.0               | 4,270.0               | 31.0                             | 110.1         | -17.24                | 820.9                              | -486.9      | 4,522.4                | 4,381.2                 | 141.12                    | 32.046            |         |                    |          |
| 8,725.0                                                     | 8,724.2               | 4,270.0               | 4,270.0               | 31.1                             | 110.1         | -15.17                | 820.9                              | -486.9      | 4,545.5                | 4,404.3                 | 141.21                    | 32.190            |         |                    |          |
| 8,750.0                                                     | 8,748.5               | 4,270.0               | 4,270.0               | 31.1                             | 110.1         | -13.57                | 820.9                              | -486.9      | 4,568.2                | 4,426.9                 | 141.30                    | 32.331            |         |                    |          |
| 8,775.0                                                     | 8,772.4               | 4,270.0               | 4,270.0               | 31.2                             | 110.1         | -12.28                | 820.9                              | -486.9      | 4,590.4                | 4,449.0                 | 141.38                    | 32.468            |         |                    |          |
| 8,800.0                                                     | 8,795.9               | 4,270.0               | 4,270.0               | 31.3                             | 110.1         | -11.24                | 820.9                              | -486.9      | 4,611.9                | 4,470.5                 | 141.46                    | 32.602            |         |                    |          |
| 8,825.0                                                     | 8,819.0               | 4,270.0               | 4,270.0               | 31.4                             | 110.1         | -10.38                | 820.9                              | -486.9      | 4,632.9                | 4,491.3                 | 141.54                    | 32.731            |         |                    |          |
| 8,850.0                                                     | 8,841.5               | 4,270.0               | 4,270.0               | 31.5                             | 110.1         | -9.66                 | 820.9                              | -486.9      | 4,653.1                | 4,511.5                 | 141.62                    | 32.856            |         |                    |          |
| 8,875.0                                                     | 8,863.4               | 4,270.0               | 4,270.0               | 31.6                             | 110.1         | -9.05                 | 820.9                              | -486.9      | 4,672.6                | 4,530.9                 | 141.70                    | 32.975            |         |                    |          |
| 8,900.0                                                     | 8,884.7               | 4,270.0               | 4,270.0               | 31.6                             | 110.1         | -8.53                 | 820.9                              | -486.9      | 4,691.3                | 4,549.5                 | 141.78                    | 33.088            |         |                    |          |
| 8,925.0                                                     | 8,905.2               | 4,270.0               | 4,270.0               | 31.7                             | 110.1         | -8.09                 | 820.9                              | -486.9      | 4,709.2                | 4,567.4                 | 141.86                    | 33.196            |         |                    |          |
| 8,950.0                                                     | 8,924.9               | 4,270.0               | 4,270.0               | 31.8                             | 110.1         | -7.70                 | 820.9                              | -486.9      | 4,726.3                | 4,584.3                 | 141.94                    | 33.298            |         |                    |          |
| 8,975.0                                                     | 8,943.9               | 4,270.0               | 4,270.0               | 31.9                             | 110.1         | -7.37                 | 820.9                              | -486.9      | 4,742.4                | 4,600.4                 | 142.02                    | 33.393            |         |                    |          |

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

# COG Operating LLC

## Anticollision Report

|                    |                          |                              |                                           |
|--------------------|--------------------------|------------------------------|-------------------------------------------|
| Company:           | COG OPERATING, LLC       | Local Co-ordinate Reference: | Well NERVOUS PERVIS STATE #9H             |
| Project:           | LEA COUNTY, NM           | TVD Reference:               | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| Reference Site:    | LUSK BSS                 | MD Reference:                | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| Site Error:        | 0.0 usft                 | North Reference:             | Grid                                      |
| Reference Well:    | NERVOUS PURVIS STATE #9H | Survey Calculation Method:   | Minimum Curvature                         |
| Well Error:        | 0.0 usft                 | Output errors are at         | 2.00 sigma                                |
| Reference Wellbore | OWB                      | Database:                    | EDM_Users                                 |
| Reference Design:  | DWD Plan 1               | Offset TVD Reference:        | Offset Datum                              |

| Offset Design LUSK BSS - STATE A #1 - OWB - ACTUAL WELLPATH |                       |                       |                       |                  |               |                        |                       |                                    |             |                        |                         |                           |                   | Offset Site Error: | 0.0 usft |
|-------------------------------------------------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|------------------------|-----------------------|------------------------------------|-------------|------------------------|-------------------------|---------------------------|-------------------|--------------------|----------|
| Survey Program: 4270-INC-ONLY                               |                       |                       |                       |                  |               |                        |                       |                                    |             |                        |                         |                           |                   | Offset Well Error: | 3.0 usft |
| Measured Depth (usft)                                       | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Semi Major Axis (usft) | Highside Toolface (°) | Offset Wellbore Centre +N-S (usft) | +E-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning            |          |
| 9,000.0                                                     | 8,961.9               | 4,270.0               | 4,270.0               | 31.9             | 110.1         | -7.08                  |                       | 820.9                              | -486.9      | 4,757.7                | 4,615.6                 | 142.10                    | 33.482            |                    |          |
| 9,025.0                                                     | 8,879.0               | 4,270.0               | 4,270.0               | 32.0             | 110.1         | -6.83                  |                       | 820.9                              | -486.9      | 4,771.9                | 4,629.8                 | 142.17                    | 33.564            |                    |          |
| 9,050.0                                                     | 8,895.2               | 4,270.0               | 4,270.0               | 32.1             | 110.1         | -6.61                  |                       | 820.9                              | -486.9      | 4,785.2                | 4,642.9                 | 142.25                    | 33.639            |                    |          |
| 9,075.0                                                     | 9,010.3               | 4,270.0               | 4,270.0               | 32.2             | 110.1         | -6.42                  |                       | 820.9                              | -486.9      | 4,797.4                | 4,655.1                 | 142.33                    | 33.706            |                    |          |
| 9,100.0                                                     | 9,024.3               | 4,270.0               | 4,270.0               | 32.3             | 110.1         | -6.25                  |                       | 820.9                              | -486.9      | 4,808.7                | 4,666.2                 | 142.41                    | 33.766            |                    |          |
| 9,125.0                                                     | 9,037.3               | 4,270.0               | 4,270.0               | 32.3             | 110.1         | -6.11                  |                       | 820.9                              | -486.9      | 4,818.8                | 4,676.3                 | 142.49                    | 33.818            |                    |          |
| 9,150.0                                                     | 9,049.1               | 4,270.0               | 4,270.0               | 32.4             | 110.1         | -5.98                  |                       | 820.9                              | -486.9      | 4,827.8                | 4,685.2                 | 142.57                    | 33.862            |                    |          |
| 9,175.0                                                     | 9,059.8               | 4,270.0               | 4,270.0               | 32.5             | 110.1         | -5.88                  |                       | 820.9                              | -486.9      | 4,835.8                | 4,693.1                 | 142.65                    | 33.899            |                    |          |
| 9,200.0                                                     | 9,069.2               | 4,270.0               | 4,270.0               | 32.6             | 110.1         | -5.79                  |                       | 820.9                              | -486.9      | 4,842.6                | 4,699.8                 | 142.74                    | 33.926            |                    |          |
| 9,225.0                                                     | 9,077.4               | 4,270.0               | 4,270.0               | 32.7             | 110.1         | -5.72                  |                       | 820.9                              | -486.9      | 4,848.2                | 4,705.4                 | 142.82                    | 33.946            |                    |          |
| 9,250.0                                                     | 9,084.4               | 4,270.0               | 4,270.0               | 32.8             | 110.1         | -5.67                  |                       | 820.9                              | -486.9      | 4,852.7                | 4,709.8                 | 142.91                    | 33.957            |                    |          |
| 9,275.0                                                     | 9,090.1               | 4,270.0               | 4,270.0               | 32.8             | 110.1         | -5.63                  |                       | 820.9                              | -486.9      | 4,856.1                | 4,713.1                 | 142.99                    | 33.960            |                    |          |
| 9,300.0                                                     | 9,094.6               | 4,270.0               | 4,270.0               | 32.9             | 110.1         | -5.60                  |                       | 820.9                              | -486.9      | 4,858.3                | 4,715.2                 | 143.08                    | 33.955            |                    |          |
| 9,325.0                                                     | 9,097.7               | 4,270.0               | 4,270.0               | 33.0             | 110.1         | -5.59                  |                       | 820.9                              | -486.9      | 4,859.3                | 4,716.1                 | 143.17                    | 33.941            |                    |          |
| 9,350.0                                                     | 9,099.5               | 4,270.0               | 4,270.0               | 33.1             | 110.1         | -5.59                  |                       | 820.9                              | -486.9      | 4,859.1                | 4,715.9                 | 143.26                    | 33.918            |                    |          |
| 9,375.0                                                     | 9,100.1               | 4,270.0               | 4,270.0               | 33.2             | 110.1         | -5.61                  |                       | 820.9                              | -486.9      | 4,857.8                | 4,714.4                 | 143.35                    | 33.887            |                    |          |
| 9,380.4                                                     | 9,100.0               | 4,270.0               | 4,270.0               | 33.2             | 110.1         | -5.61                  |                       | 820.9                              | -486.9      | 4,857.3                | 4,714.0                 | 143.37                    | 33.879            |                    |          |
| 9,400.0                                                     | 9,099.7               | 4,270.0               | 4,270.0               | 33.3             | 110.1         | -5.61                  |                       | 820.9                              | -486.9      | 4,855.7                | 4,712.2                 | 143.45                    | 33.850            |                    |          |
| 9,500.0                                                     | 9,098.0               | 4,270.0               | 4,270.0               | 33.7             | 110.1         | -5.61                  |                       | 820.9                              | -486.9      | 4,848.4                | 4,704.5                 | 143.88                    | 33.698            |                    |          |
| 9,600.0                                                     | 9,096.4               | 4,270.0               | 4,270.0               | 34.2             | 110.1         | -5.61                  |                       | 820.9                              | -486.9      | 4,843.2                | 4,698.8                 | 144.38                    | 33.544            |                    |          |
| 9,700.0                                                     | 9,094.8               | 4,270.0               | 4,270.0               | 34.8             | 110.1         | -5.61                  |                       | 820.9                              | -486.9      | 4,840.0                | 4,695.1                 | 144.96                    | 33.388            |                    |          |
| 9,800.0                                                     | 9,093.1               | 4,270.0               | 4,270.0               | 35.5             | 110.1         | -5.61                  |                       | 820.9                              | -486.9      | 4,838.9                | 4,693.3                 | 145.62                    | 33.231            |                    |          |
| 9,803.0                                                     | 9,093.1               | 4,270.0               | 4,270.0               | 35.5             | 110.1         | -5.61                  |                       | 820.9                              | -486.9      | 4,838.9                | 4,693.3                 | 145.64                    | 33.226            |                    |          |
| 9,900.0                                                     | 9,091.5               | 4,270.0               | 4,270.0               | 36.2             | 110.1         | -5.61                  |                       | 820.9                              | -486.9      | 4,839.9                | 4,693.6                 | 146.33                    | 33.074            |                    |          |
| 10,000.0                                                    | 9,089.8               | 4,270.0               | 4,270.0               | 37.0             | 110.1         | -5.61                  |                       | 820.9                              | -486.9      | 4,842.9                | 4,695.8                 | 147.11                    | 32.920            |                    |          |
| 10,100.0                                                    | 9,088.2               | 4,270.0               | 4,270.0               | 37.8             | 110.1         | -5.61                  |                       | 820.9                              | -486.9      | 4,846.0                | 4,700.1                 | 147.95                    | 32.768            |                    |          |
| 10,200.0                                                    | 9,086.6               | 4,270.0               | 4,270.0               | 38.7             | 110.1         | -5.61                  |                       | 820.9                              | -486.9      | 4,855.2                | 4,706.3                 | 148.84                    | 32.619            |                    |          |
| 10,300.0                                                    | 9,084.9               | 4,270.0               | 4,270.0               | 39.6             | 110.1         | -5.61                  |                       | 820.9                              | -486.9      | 4,864.4                | 4,714.6                 | 149.79                    | 32.475            |                    |          |
| 10,400.0                                                    | 9,083.3               | 4,270.0               | 4,270.0               | 40.6             | 110.1         | -5.61                  |                       | 820.9                              | -486.9      | 4,875.6                | 4,724.8                 | 150.78                    | 32.336            |                    |          |
| 10,500.0                                                    | 9,081.6               | 4,270.0               | 4,270.0               | 41.7             | 110.1         | -5.61                  |                       | 820.9                              | -486.9      | 4,888.9                | 4,737.1                 | 151.81                    | 32.203            |                    |          |
| 10,600.0                                                    | 9,080.0               | 4,270.0               | 4,270.0               | 42.7             | 110.1         | -5.61                  |                       | 820.9                              | -486.9      | 4,904.1                | 4,751.2                 | 152.89                    | 32.076            |                    |          |
| 10,700.0                                                    | 9,078.4               | 4,270.0               | 4,270.0               | 43.9             | 110.1         | -5.61                  |                       | 820.9                              | -486.9      | 4,921.4                | 4,767.4                 | 154.01                    | 31.956            |                    |          |
| 10,800.0                                                    | 9,076.7               | 4,270.0               | 4,270.0               | 45.0             | 110.1         | -5.61                  |                       | 820.9                              | -486.9      | 4,940.6                | 4,785.4                 | 155.16                    | 31.843            |                    |          |
| 10,900.0                                                    | 9,075.1               | 4,270.0               | 4,270.0               | 46.2             | 110.1         | -5.61                  |                       | 820.9                              | -486.9      | 4,961.7                | 4,805.4                 | 156.34                    | 31.737            |                    |          |
| 11,000.0                                                    | 9,073.4               | 4,270.0               | 4,270.0               | 47.4             | 110.1         | -5.61                  |                       | 820.9                              | -486.9      | 4,984.8                | 4,827.2                 | 157.55                    | 31.640            |                    |          |
| 11,100.0                                                    | 9,071.8               | 4,270.0               | 4,270.0               | 48.6             | 110.1         | -5.61                  |                       | 820.9                              | -486.9      | 5,009.7                | 4,850.9                 | 158.79                    | 31.550            |                    |          |
| 11,200.0                                                    | 9,070.1               | 4,270.0               | 4,270.0               | 49.9             | 110.1         | -5.61                  |                       | 820.9                              | -486.9      | 5,036.6                | 4,876.5                 | 160.05                    | 31.468            |                    |          |
| 11,300.0                                                    | 9,068.5               | 4,270.0               | 4,270.0               | 51.2             | 110.1         | -5.61                  |                       | 820.9                              | -486.9      | 5,065.2                | 4,903.9                 | 161.34                    | 31.394            |                    |          |
| 11,400.0                                                    | 9,066.9               | 4,270.0               | 4,270.0               | 52.5             | 110.1         | -5.61                  |                       | 820.9                              | -486.9      | 5,095.7                | 4,933.0                 | 162.65                    | 31.328            |                    |          |
| 11,500.0                                                    | 9,065.2               | 4,270.0               | 4,270.0               | 53.8             | 110.1         | -5.61                  |                       | 820.9                              | -486.9      | 5,127.9                | 4,963.9                 | 163.99                    | 31.270            |                    |          |
| 11,600.0                                                    | 9,063.6               | 4,270.0               | 4,270.0               | 55.2             | 110.1         | -5.61                  |                       | 820.9                              | -486.9      | 5,161.8                | 4,996.5                 | 165.34                    | 31.220            |                    |          |
| 11,700.0                                                    | 9,061.9               | 4,270.0               | 4,270.0               | 56.6             | 110.1         | -5.61                  |                       | 820.9                              | -486.9      | 5,197.5                | 5,030.8                 | 166.70                    | 31.178            |                    |          |
| 11,800.0                                                    | 9,060.3               | 4,270.0               | 4,270.0               | 57.9             | 110.1         | -5.61                  |                       | 820.9                              | -486.9      | 5,234.8                | 5,066.7                 | 168.09                    | 31.143            |                    |          |
| 11,900.0                                                    | 9,058.7               | 4,270.0               | 4,270.0               | 59.3             | 110.1         | -5.61                  |                       | 820.9                              | -486.9      | 5,273.8                | 5,104.3                 | 169.49                    | 31.116            |                    |          |
| 12,000.0                                                    | 9,057.0               | 4,270.0               | 4,270.0               | 60.8             | 110.1         | -5.61                  |                       | 820.9                              | -486.9      | 5,314.3                | 5,143.4                 | 170.90                    | 31.096            |                    |          |
| 12,100.0                                                    | 9,055.4               | 4,270.0               | 4,270.0               | 62.2             | 110.1         | -5.61                  |                       | 820.9                              | -486.9      | 5,356.4                | 5,184.1                 | 172.33                    | 31.083            |                    |          |
| 12,200.0                                                    | 9,053.7               | 4,270.0               | 4,270.0               | 63.6             | 110.1         | -5.61                  |                       | 820.9                              | -486.9      | 5,400.1                | 5,226.3                 | 173.77                    | 31.076            |                    |          |
| 12,300.0                                                    | 9,052.1               | 4,270.0               | 4,270.0               | 65.1             | 110.1         | -5.61                  |                       | 820.9                              | -486.9      | 5,445.2                | 5,270.0                 | 175.22                    | 31.077            |                    |          |
| 12,400.0                                                    | 9,050.5               | 4,270.0               | 4,270.0               | 66.5             | 110.1         | -5.61                  |                       | 820.9                              | -486.9      | 5,491.8                | 5,315.1                 | 176.68                    | 31.083            |                    |          |
| 12,500.0                                                    | 9,048.8               | 4,270.0               | 4,270.0               | 68.0             | 110.1         | -5.61                  |                       | 820.9                              | -486.9      | 5,539.8                | 5,361.6                 | 178.15                    | 31.096            |                    |          |
| 12,600.0                                                    | 9,047.2               | 4,270.0               | 4,270.0               | 69.5             | 110.1         | -5.61                  |                       | 820.9                              | -486.9      | 5,589.1                | 5,409.5                 | 179.63                    | 31.114            |                    |          |
| 12,700.0                                                    | 9,045.5               | 4,270.0               | 4,270.0               | 71.0             | 110.1         | -5.61                  |                       | 820.9                              | -486.9      | 5,639.8                | 5,458.7                 | 181.12                    | 31.138            |                    |          |

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

# COG Operating LLC

## Anticollision Report

|                     |                          |                              |                                           |
|---------------------|--------------------------|------------------------------|-------------------------------------------|
| Company:            | COG OPERATING, LLC       | Local Co-ordinate Reference: | Well NERVOUS PERVIS STATE #9H             |
| Project:            | LEA COUNTY, NM           | TVD Reference:               | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| Reference Site:     | LUSK BSS                 | MD Reference:                | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| Site Error:         | 0.0 usft                 | North Reference:             | Grid                                      |
| Reference Well:     | NERVOUS PURVIS STATE #9H | Survey Calculation Method:   | Minimum Curvature                         |
| Well Error:         | 0.0 usft                 | Output errors are at         | 2.00 sigma                                |
| Reference Wellbore: | OWB                      | Database:                    | EDM_Users                                 |
| Reference Design:   | DWD Plan 1               | Offset TVD Reference:        | Offset Datum                              |

| Offset Design LUSK BSS - STATE A #1 - OWB - ACTUAL WELLPATH |                             |                                       |                             |                                        |                  |                             |                                          |                |                                          |                               |                                 |                      | Offset Site Error: 0.0 usft |
|-------------------------------------------------------------|-----------------------------|---------------------------------------|-----------------------------|----------------------------------------|------------------|-----------------------------|------------------------------------------|----------------|------------------------------------------|-------------------------------|---------------------------------|----------------------|-----------------------------|
| Survey Program: 4270-INC-ONLY                               |                             |                                       |                             |                                        |                  |                             |                                          |                |                                          |                               |                                 |                      | Offset Well Error: 3.0 usft |
| Reference<br>Measured<br>Depth<br>(usft)                    | Vertical<br>Depth<br>(usft) | Offset<br>Measured<br>Depth<br>(usft) | Vertical<br>Depth<br>(usft) | Semi Major Axis<br>Reference<br>(usft) | Offset<br>(usft) | Highside<br>Toolface<br>(°) | Offset Wellbore Centre<br>+N-S<br>(usft) | +E-W<br>(usft) | Distance<br>Between<br>Centres<br>(usft) | Between<br>Ellipses<br>(usft) | Minimum<br>Separation<br>(usft) | Separation<br>Factor | Warning                     |
| 12,800.0                                                    | 9,043.9                     | 4,270.0                               | 4,270.0                     | 72.5                                   | 110.1            | -5.61                       | 820.9                                    | -486.9         | 5,691.9                                  | 5,509.2                       | 182.62                          | 31.168               |                             |
| 12,900.0                                                    | 9,042.3                     | 4,270.0                               | 4,270.0                     | 74.0                                   | 110.1            | -5.61                       | 820.9                                    | -486.9         | 5,745.1                                  | 5,561.0                       | 184.13                          | 31.202               |                             |
| 13,000.0                                                    | 9,040.6                     | 4,270.0                               | 4,270.0                     | 75.5                                   | 110.1            | -5.61                       | 820.9                                    | -486.9         | 5,799.7                                  | 5,614.0                       | 185.64                          | 31.242               |                             |
| 13,100.0                                                    | 9,039.0                     | 4,270.0                               | 4,270.0                     | 77.0                                   | 110.1            | -5.61                       | 820.9                                    | -486.9         | 5,855.4                                  | 5,668.2                       | 187.16                          | 31.286               |                             |
| 13,200.0                                                    | 9,037.3                     | 4,270.0                               | 4,270.0                     | 78.5                                   | 110.1            | -5.61                       | 820.9                                    | -486.9         | 5,912.3                                  | 5,723.6                       | 188.69                          | 31.334               |                             |
| 13,300.0                                                    | 9,035.7                     | 4,270.0                               | 4,270.0                     | 80.1                                   | 110.1            | -5.61                       | 820.9                                    | -486.9         | 5,970.3                                  | 5,780.1                       | 190.22                          | 31.386               |                             |
| 13,400.0                                                    | 9,034.1                     | 4,270.0                               | 4,270.0                     | 81.6                                   | 110.1            | -5.61                       | 820.9                                    | -486.9         | 6,029.4                                  | 5,837.6                       | 191.76                          | 31.443               |                             |
| 13,500.0                                                    | 9,032.4                     | 4,270.0                               | 4,270.0                     | 83.2                                   | 110.1            | -5.61                       | 820.9                                    | -486.9         | 6,089.6                                  | 5,896.3                       | 193.30                          | 31.503               |                             |
| 13,600.0                                                    | 9,030.8                     | 4,270.0                               | 4,270.0                     | 84.7                                   | 110.1            | -5.61                       | 820.9                                    | -486.9         | 6,150.8                                  | 5,956.0                       | 194.85                          | 31.567               |                             |
| 13,700.0                                                    | 9,029.1                     | 4,270.0                               | 4,270.0                     | 86.3                                   | 110.1            | -5.61                       | 820.9                                    | -486.9         | 6,213.0                                  | 6,016.6                       | 196.40                          | 31.634               |                             |
| 13,800.0                                                    | 9,027.5                     | 4,270.0                               | 4,270.0                     | 87.8                                   | 110.1            | -5.61                       | 820.9                                    | -486.9         | 6,276.3                                  | 6,078.3                       | 197.96                          | 31.704               |                             |
| 13,900.0                                                    | 9,025.9                     | 4,270.0                               | 4,270.0                     | 89.4                                   | 110.1            | -5.61                       | 820.9                                    | -486.9         | 6,340.4                                  | 6,140.9                       | 199.52                          | 31.778               |                             |
| 13,937.9                                                    | 9,025.2                     | 4,270.0                               | 4,270.0                     | 90.0                                   | 110.1            | -5.61                       | 820.9                                    | -486.9         | 6,365.0                                  | 6,164.9                       | 200.12                          | 31.806               |                             |

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

# COG Operating LLC

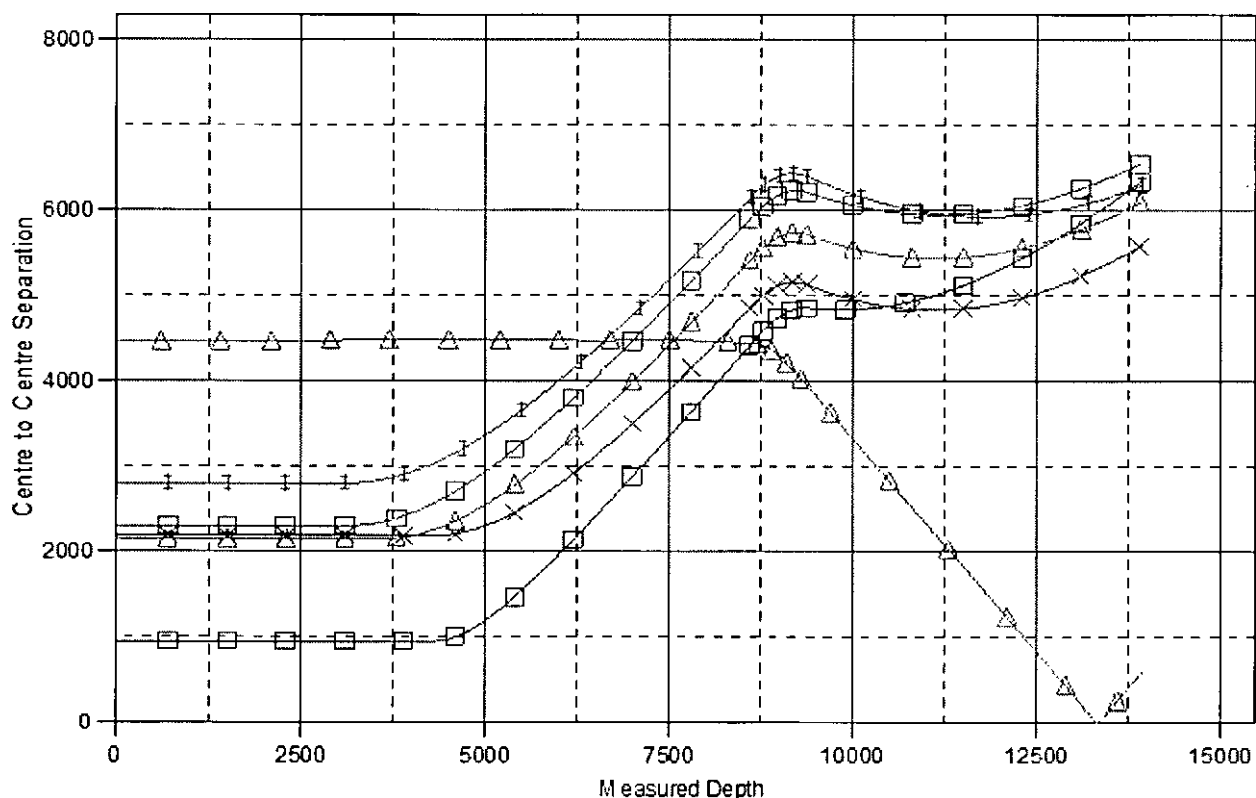
## Anticollision Report

|                            |                          |                                     |                                           |
|----------------------------|--------------------------|-------------------------------------|-------------------------------------------|
| <b>Company:</b>            | COG OPERATING, LLC       | <b>Local Co-ordinate Reference:</b> | Well NERVOUS PERVIS STATE #9H             |
| <b>Project:</b>            | LEA COUNTY, NM           | <b>TVD Reference:</b>               | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| <b>Reference Site:</b>     | LUSK BSS                 | <b>MD Reference:</b>                | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| <b>Site Error:</b>         | 0.0 usft                 | <b>North Reference:</b>             | Grid                                      |
| <b>Reference Well:</b>     | NERVOUS PURVIS STATE #9H | <b>Survey Calculation Method:</b>   | Minimum Curvature                         |
| <b>Well Error:</b>         | 0.0 usft                 | <b>Output errors are at</b>         | 2.00 sigma                                |
| <b>Reference Wellbore:</b> | OWB                      | <b>Database:</b>                    | EDM_Users                                 |
| <b>Reference Design:</b>   | DWD Plan 1               | <b>Offset TVD Reference:</b>        | Offset Datum                              |

Reference Depths are relative to 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2)  
 Offset Depths are relative to Offset Datum  
 Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: NERVOUS PERVIS STATE #9H  
 Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30  
 Grid Convergence at Surface is: 0.28°

### Ladder Plot



### LEGEND

STATE #1, OWB, ACTUAL WELLPATH V0    STATE #2, OWB, ACTUAL WELLPATH V0    STATE #3, OWB, ACTUAL WELLPATH V0  
 HIGHTOWER #2, OWB, ACTUAL WELLPATH V0

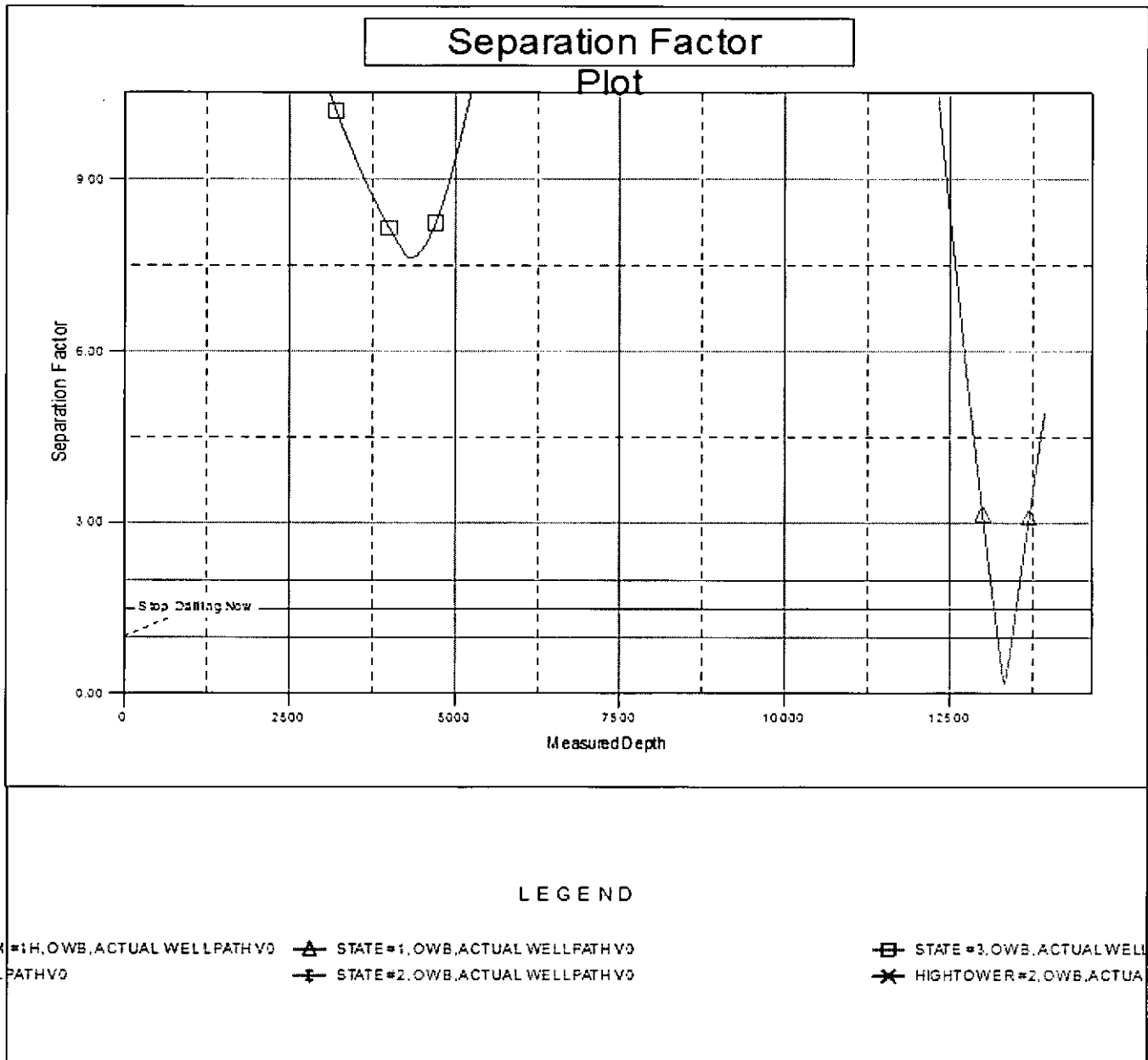
# COG Operating LLC

## Anticollision Report

|                     |                          |                              |                                           |
|---------------------|--------------------------|------------------------------|-------------------------------------------|
| Company:            | COG OPERATING, LLC       | Local Co-ordinate Reference: | Well NERVOUS PERVIS STATE #9H             |
| Project:            | LEA COUNTY, NM           | TVD Reference:               | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| Reference Site:     | LUSK BSS                 | MD Reference:                | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| Site Error:         | 0.0 usft                 | North Reference:             | Grid                                      |
| Reference Well:     | NERVOUS PURVIS STATE #9H | Survey Calculation Method:   | Minimum Curvature                         |
| Well Error:         | 0.0 usft                 | Output errors are at:        | 2.00 sigma                                |
| Reference Wellbore: | OWB                      | Database:                    | EDM_Users                                 |
| Reference Design:   | DWD Plan 1               | Offset TVD Reference:        | Offset Datum                              |

Reference Depths are relative to 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2)  
 Offset Depths are relative to Offset Datum  
 Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: NERVOUS PERVIS STATE #9H  
 Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30  
 Grid Convergence at Surface is: 0.28°



# **COG OPERATING, LLC**

**LEA COUNTY, NM**

**LUSK BSS**

**NERVOUS PURVIS STATE #9H**

**OWB**

**Plan: DWD Plan 1**

## **Standard Planning Report**

**04 August, 2016**

# COG Operating LLC

## Planning Report

|           |                          |                              |                                           |
|-----------|--------------------------|------------------------------|-------------------------------------------|
| Database: | COG OPERATING, LLC       | Local Co-ordinate Reference: | Well NERVOUS PERVIS STATE #9H             |
| Company:  | NEW MEXICO BASIN         | TVD Reference:               | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| Project:  | LEA COUNTY, NM           | MD Reference:                | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| Site:     | LUSK BSS                 | North Reference:             | Grid                                      |
| Well:     | NERVOUS PURVIS STATE #9H | Survey Calculation Method:   | Minimum Curvature                         |
| Wellbore: | OWB                      |                              |                                           |
| Design:   | DWD Plan 1               |                              |                                           |

|                         |                                      |               |                |
|-------------------------|--------------------------------------|---------------|----------------|
| Project: LEA COUNTY, NM |                                      |               |                |
| Map System:             | US State Plane 1927 (Exact solution) | System Datum: | Mean Sea Level |
| Geo Datum:              | NAD 1927 (NADCON CONUS)              |               |                |
| Map Zone:               | New Mexico East 3001                 |               |                |

|                       |     |           |                 |            |                   |        |
|-----------------------|-----|-----------|-----------------|------------|-------------------|--------|
| Site                  |     | LUSK BSS  |                 |            |                   |        |
| Site Position:        |     | Northing: | 546,609.70 usft | Latitude:  | 32° 30' 8.821 N   |        |
| From:                 | Map | Easting:  | 583,312.20 usft | Longitude: | 104° 3' 47.146 W  |        |
| Position Uncertainty: |     | 0.0 usft  | Slot Radius:    | 13-3/16 "  | Grid Convergence: | 0.15 ° |

|                      |                          |                     |              |                 |              |                   |
|----------------------|--------------------------|---------------------|--------------|-----------------|--------------|-------------------|
| Well                 | NERVOUS PURVIS STATE #9H |                     |              |                 |              |                   |
| Well Position        | +N/-S                    | 71,136.1 usft       | Northing:    | 617,745.80 usft | Latitude:    | 32° 41' 49.956 N  |
|                      | +E/-W                    | 76,169.8 usft       | Easting:     | 659,482.00 usft | Longitude:   | 103° 48' 53.670 W |
| Position Uncertainty | 0.0 usft                 | Wellhead Elevation: | 3,498.7 usft | Ground Level:   | 3,652.0 usft |                   |

|           |     |
|-----------|-----|
| Wellbore: | OWB |
|-----------|-----|

| Magnetics | Model Name | Sample Date | Declination<br>(°) | Dip Angle<br>(°) | Field Strength<br>(nT) |
|-----------|------------|-------------|--------------------|------------------|------------------------|
|           | WMM2015    | 8/4/2016    | 7.21               | 60.46            | 48,273                 |

|                   |                            |                 |                 |                  |
|-------------------|----------------------------|-----------------|-----------------|------------------|
| Design:           | DWD Plan 1                 |                 |                 |                  |
| Audit Notes:      |                            |                 |                 |                  |
| Version:          | Phase:                     | PROTOTYPE       | Tie On Depth:   | 0.0              |
| Vertical Section: | Depth From (TVD)<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Direction<br>(°) |
|                   | 0.0                        | 0.0             | 0.0             | 359.06           |

| Measured<br>Depth<br>(usft) | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Dogleg<br>Rate<br>(°/100usft) | Build<br>Rate<br>(°/100usft) | Turn<br>Rate<br>(°/100usft) | TFO<br>(°) | Target         |
|-----------------------------|--------------------|----------------|-----------------------------|-----------------|-----------------|-------------------------------|------------------------------|-----------------------------|------------|----------------|
| 0.0                         | 0.00               | 0.00           | 0.0                         | 0.0             | 0.0             | 0.00                          | 0.00                         | 0.00                        | 0.00       |                |
| 8,622.6                     | 0.00               | 0.00           | 8,622.6                     | 0.0             | 0.0             | 0.00                          | 0.00                         | 0.00                        | 0.00       |                |
| 9,380.4                     | 90.94              | 359.06         | 9,100.0                     | 485.2           | -8.0            | 12.00                         | 12.00                        | 0.00                        | 359.06     |                |
| 13,937.9                    | 90.94              | 359.06         | 9,025.2                     | 5,041.5         | -82.7           | 0.00                          | 0.00                         | 0.00                        | 0.00       | Nervous Pervis |

# COG Operating LLC

## Planning Report

|           |                          |                              |                                           |
|-----------|--------------------------|------------------------------|-------------------------------------------|
| Database: | COG OPERATING, LLC       | Local Co-ordinate Reference: | Well NERVOUS PERVIS STATE #9H             |
| Company:  | NEW MEXICO BASIN         | TVD Reference:               | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| Project:  | LEA COUNTY, NM           | MD Reference:                | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| Site:     | LUSK BSS                 | North Reference:             | Grid                                      |
| Well:     | NERVOUS PURVIS STATE #9H | Survey Calculation Method:   | Minimum Curvature                         |
| Wellbore: | OWB                      |                              |                                           |
| Design:   | DWD Plan 1               |                              |                                           |

### Planned Survey

| Measured Depth (usft)                 | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N-S (usft) | +E-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---------------------------------------|-----------------|-------------|-----------------------|-------------|-------------|-------------------------|-------------------------|------------------------|-----------------------|
| 0.0                                   | 0.00            | 0.00        | 0.0                   | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| <b>Nervous Pervis State #9H - SHL</b> |                 |             |                       |             |             |                         |                         |                        |                       |
| 100.0                                 | 0.00            | 0.00        | 100.0                 | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 200.0                                 | 0.00            | 0.00        | 200.0                 | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 300.0                                 | 0.00            | 0.00        | 300.0                 | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 400.0                                 | 0.00            | 0.00        | 400.0                 | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 500.0                                 | 0.00            | 0.00        | 500.0                 | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 600.0                                 | 0.00            | 0.00        | 600.0                 | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 700.0                                 | 0.00            | 0.00        | 700.0                 | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 800.0                                 | 0.00            | 0.00        | 800.0                 | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 900.0                                 | 0.00            | 0.00        | 900.0                 | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 1,000.0                               | 0.00            | 0.00        | 1,000.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 1,100.0                               | 0.00            | 0.00        | 1,100.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 1,200.0                               | 0.00            | 0.00        | 1,200.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 1,300.0                               | 0.00            | 0.00        | 1,300.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 1,400.0                               | 0.00            | 0.00        | 1,400.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 1,500.0                               | 0.00            | 0.00        | 1,500.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 1,600.0                               | 0.00            | 0.00        | 1,600.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 1,700.0                               | 0.00            | 0.00        | 1,700.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 1,800.0                               | 0.00            | 0.00        | 1,800.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 1,900.0                               | 0.00            | 0.00        | 1,900.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 2,000.0                               | 0.00            | 0.00        | 2,000.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 2,100.0                               | 0.00            | 0.00        | 2,100.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 2,200.0                               | 0.00            | 0.00        | 2,200.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 2,300.0                               | 0.00            | 0.00        | 2,300.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 2,400.0                               | 0.00            | 0.00        | 2,400.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 2,500.0                               | 0.00            | 0.00        | 2,500.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 2,600.0                               | 0.00            | 0.00        | 2,600.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 2,700.0                               | 0.00            | 0.00        | 2,700.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 2,800.0                               | 0.00            | 0.00        | 2,800.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 2,900.0                               | 0.00            | 0.00        | 2,900.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 3,000.0                               | 0.00            | 0.00        | 3,000.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 3,100.0                               | 0.00            | 0.00        | 3,100.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 3,200.0                               | 0.00            | 0.00        | 3,200.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 3,300.0                               | 0.00            | 0.00        | 3,300.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 3,400.0                               | 0.00            | 0.00        | 3,400.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 3,500.0                               | 0.00            | 0.00        | 3,500.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 3,600.0                               | 0.00            | 0.00        | 3,600.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 3,700.0                               | 0.00            | 0.00        | 3,700.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 3,800.0                               | 0.00            | 0.00        | 3,800.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 3,900.0                               | 0.00            | 0.00        | 3,900.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 4,000.0                               | 0.00            | 0.00        | 4,000.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 4,100.0                               | 0.00            | 0.00        | 4,100.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 4,200.0                               | 0.00            | 0.00        | 4,200.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 4,300.0                               | 0.00            | 0.00        | 4,300.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 4,400.0                               | 0.00            | 0.00        | 4,400.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 4,500.0                               | 0.00            | 0.00        | 4,500.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 4,600.0                               | 0.00            | 0.00        | 4,600.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 4,700.0                               | 0.00            | 0.00        | 4,700.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 4,800.0                               | 0.00            | 0.00        | 4,800.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 4,900.0                               | 0.00            | 0.00        | 4,900.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 5,000.0                               | 0.00            | 0.00        | 5,000.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 5,100.0                               | 0.00            | 0.00        | 5,100.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 5,200.0                               | 0.00            | 0.00        | 5,200.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |

# COG Operating LLC

## Planning Report

|           |                          |                              |                                           |
|-----------|--------------------------|------------------------------|-------------------------------------------|
| Database: | COG OPERATING, LLC       | Local Co-ordinate Reference: | Well NERVOUS PERVIS STATE #9H             |
| Company:  | NEW MEXICO BASIN         | TVD Reference:               | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| Project:  | LEA COUNTY, NM           | MD Reference:                | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| Site:     | LUSK BSS                 | North Reference:             | Grid                                      |
| Well:     | NERVOUS PURVIS STATE #9H | Survey Calculation Method:   | Minimum Curvature                         |
| Wellbore: | OWB                      |                              |                                           |
| Design:   | DWD Plan 1               |                              |                                           |

| Planned Survey        |                 |             |                       |             |             |                         |                         |                        |                       |  |
|-----------------------|-----------------|-------------|-----------------------|-------------|-------------|-------------------------|-------------------------|------------------------|-----------------------|--|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N-S (usft) | +E-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |  |
| 5,300.0               | 0.00            | 0.00        | 5,300.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 5,400.0               | 0.00            | 0.00        | 5,400.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 5,500.0               | 0.00            | 0.00        | 5,500.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 5,600.0               | 0.00            | 0.00        | 5,600.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 5,700.0               | 0.00            | 0.00        | 5,700.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 5,800.0               | 0.00            | 0.00        | 5,800.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 5,900.0               | 0.00            | 0.00        | 5,900.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 6,000.0               | 0.00            | 0.00        | 6,000.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 6,100.0               | 0.00            | 0.00        | 6,100.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 6,200.0               | 0.00            | 0.00        | 6,200.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 6,300.0               | 0.00            | 0.00        | 6,300.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 6,400.0               | 0.00            | 0.00        | 6,400.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 6,500.0               | 0.00            | 0.00        | 6,500.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 6,600.0               | 0.00            | 0.00        | 6,600.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 6,700.0               | 0.00            | 0.00        | 6,700.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 6,800.0               | 0.00            | 0.00        | 6,800.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 6,900.0               | 0.00            | 0.00        | 6,900.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 7,000.0               | 0.00            | 0.00        | 7,000.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 7,100.0               | 0.00            | 0.00        | 7,100.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 7,200.0               | 0.00            | 0.00        | 7,200.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 7,300.0               | 0.00            | 0.00        | 7,300.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 7,400.0               | 0.00            | 0.00        | 7,400.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 7,500.0               | 0.00            | 0.00        | 7,500.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 7,600.0               | 0.00            | 0.00        | 7,600.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 7,700.0               | 0.00            | 0.00        | 7,700.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 7,800.0               | 0.00            | 0.00        | 7,800.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 7,900.0               | 0.00            | 0.00        | 7,900.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 8,000.0               | 0.00            | 0.00        | 8,000.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 8,100.0               | 0.00            | 0.00        | 8,100.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 8,200.0               | 0.00            | 0.00        | 8,200.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 8,300.0               | 0.00            | 0.00        | 8,300.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 8,400.0               | 0.00            | 0.00        | 8,400.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 8,500.0               | 0.00            | 0.00        | 8,500.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 8,600.0               | 0.00            | 0.00        | 8,600.0               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 8,622.6               | 0.00            | 0.00        | 8,622.6               | 0.0         | 0.0         | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 8,700.0               | 9.29            | 359.06      | 8,699.7               | 6.3         | -0.1        | 6.3                     | 12.00                   | 12.00                  | 0.00                  |  |
| 8,800.0               | 21.29           | 359.06      | 8,795.9               | 32.6        | -0.5        | 32.6                    | 12.00                   | 12.00                  | 0.00                  |  |
| 8,900.0               | 33.29           | 359.06      | 8,884.7               | 78.3        | -1.3        | 78.3                    | 12.00                   | 12.00                  | 0.00                  |  |
| 9,000.0               | 45.29           | 359.06      | 8,961.9               | 141.5       | -2.3        | 141.5                   | 12.00                   | 12.00                  | 0.00                  |  |
| 9,100.0               | 57.29           | 359.06      | 9,024.3               | 219.4       | -3.6        | 219.4                   | 12.00                   | 12.00                  | 0.00                  |  |
| 9,200.0               | 69.29           | 359.06      | 9,069.2               | 308.6       | -5.1        | 308.6                   | 12.00                   | 12.00                  | 0.00                  |  |
| 9,300.0               | 81.29           | 359.06      | 9,094.6               | 405.1       | -6.6        | 405.1                   | 12.00                   | 12.00                  | 0.00                  |  |
| 9,380.4               | 90.94           | 359.06      | 9,100.0               | 485.2       | -8.0        | 485.3                   | 12.00                   | 12.00                  | 0.00                  |  |
| 9,400.0               | 90.94           | 359.06      | 9,099.7               | 504.8       | -8.3        | 504.9                   | 0.00                    | 0.00                   | 0.00                  |  |
| 9,500.0               | 90.94           | 359.06      | 9,098.0               | 604.8       | -9.9        | 604.8                   | 0.00                    | 0.00                   | 0.00                  |  |
| 9,600.0               | 90.94           | 359.06      | 9,096.4               | 704.7       | -11.6       | 704.8                   | 0.00                    | 0.00                   | 0.00                  |  |
| 9,700.0               | 90.94           | 359.06      | 9,094.8               | 804.7       | -13.2       | 804.8                   | 0.00                    | 0.00                   | 0.00                  |  |
| 9,800.0               | 90.94           | 359.06      | 9,093.1               | 904.7       | -14.8       | 904.8                   | 0.00                    | 0.00                   | 0.00                  |  |
| 9,900.0               | 90.94           | 359.06      | 9,091.5               | 1,004.7     | -16.5       | 1,004.8                 | 0.00                    | 0.00                   | 0.00                  |  |
| 10,000.0              | 90.94           | 359.06      | 9,089.8               | 1,104.6     | -18.1       | 1,104.8                 | 0.00                    | 0.00                   | 0.00                  |  |
| 10,100.0              | 90.94           | 359.06      | 9,088.2               | 1,204.6     | -19.8       | 1,204.8                 | 0.00                    | 0.00                   | 0.00                  |  |
| 10,200.0              | 90.94           | 359.06      | 9,086.6               | 1,304.6     | -21.4       | 1,304.8                 | 0.00                    | 0.00                   | 0.00                  |  |
| 10,300.0              | 90.94           | 359.06      | 9,084.9               | 1,404.6     | -23.0       | 1,404.7                 | 0.00                    | 0.00                   | 0.00                  |  |
| 10,400.0              | 90.94           | 359.06      | 9,083.3               | 1,504.5     | -24.7       | 1,504.7                 | 0.00                    | 0.00                   | 0.00                  |  |

# COG Operating LLC

## Planning Report

|           |                          |                              |                                           |
|-----------|--------------------------|------------------------------|-------------------------------------------|
| Database: | COG OPERATING, LLC       | Local Co-ordinate Reference: | Well NERVOUS PURVIS STATE #9H             |
| Company:  | NEW MEXICO BASIN         | TVD Reference:               | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| Project:  | LEA COUNTY, NM           | MD Reference:                | 3652 + 20 = 3672 @ 3672.0usft (PATRIOT 2) |
| Site:     | LUSK BSS                 | North Reference:             | Grid                                      |
| Well:     | NERVOUS PURVIS STATE #9H | Survey Calculation Method:   | Minimum Curvature                         |
| Wellbore: | OWB                      |                              |                                           |
| Design:   | DWD Plan 1               |                              |                                           |

### Planned Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 10,500.0              | 90.94           | 359.06      | 9,081.6               | 1,604.5      | -26.3        | 1,604.7                 | 0.00                    | 0.00                   | 0.00                  |
| 10,600.0              | 90.94           | 359.06      | 9,080.0               | 1,704.5      | -28.0        | 1,704.7                 | 0.00                    | 0.00                   | 0.00                  |
| 10,700.0              | 90.94           | 359.06      | 9,078.4               | 1,804.4      | -29.6        | 1,804.7                 | 0.00                    | 0.00                   | 0.00                  |
| 10,800.0              | 90.94           | 359.06      | 9,076.7               | 1,904.4      | -31.2        | 1,904.7                 | 0.00                    | 0.00                   | 0.00                  |
| 10,900.0              | 90.94           | 359.06      | 9,075.1               | 2,004.4      | -32.9        | 2,004.7                 | 0.00                    | 0.00                   | 0.00                  |
| 11,000.0              | 90.94           | 359.06      | 9,073.4               | 2,104.4      | -34.5        | 2,104.6                 | 0.00                    | 0.00                   | 0.00                  |
| 11,100.0              | 90.94           | 359.06      | 9,071.8               | 2,204.3      | -36.2        | 2,204.6                 | 0.00                    | 0.00                   | 0.00                  |
| 11,200.0              | 90.94           | 359.06      | 9,070.1               | 2,304.3      | -37.8        | 2,304.6                 | 0.00                    | 0.00                   | 0.00                  |
| 11,300.0              | 90.94           | 359.06      | 9,068.5               | 2,404.3      | -39.4        | 2,404.6                 | 0.00                    | 0.00                   | 0.00                  |
| 11,400.0              | 90.94           | 359.06      | 9,066.9               | 2,504.3      | -41.1        | 2,504.6                 | 0.00                    | 0.00                   | 0.00                  |
| 11,500.0              | 90.94           | 359.06      | 9,065.2               | 2,604.2      | -42.7        | 2,604.6                 | 0.00                    | 0.00                   | 0.00                  |
| 11,600.0              | 90.94           | 359.06      | 9,063.6               | 2,704.2      | -44.4        | 2,704.6                 | 0.00                    | 0.00                   | 0.00                  |
| 11,700.0              | 90.94           | 359.06      | 9,061.9               | 2,804.2      | -46.0        | 2,804.6                 | 0.00                    | 0.00                   | 0.00                  |
| 11,800.0              | 90.94           | 359.06      | 9,060.3               | 2,904.1      | -47.7        | 2,904.5                 | 0.00                    | 0.00                   | 0.00                  |
| 11,900.0              | 90.94           | 359.06      | 9,058.7               | 3,004.1      | -49.3        | 3,004.5                 | 0.00                    | 0.00                   | 0.00                  |
| 12,000.0              | 90.94           | 359.06      | 9,057.0               | 3,104.1      | -50.9        | 3,104.5                 | 0.00                    | 0.00                   | 0.00                  |
| 12,100.0              | 90.94           | 359.06      | 9,055.4               | 3,204.1      | -52.6        | 3,204.5                 | 0.00                    | 0.00                   | 0.00                  |
| 12,200.0              | 90.94           | 359.06      | 9,053.7               | 3,304.0      | -54.2        | 3,304.5                 | 0.00                    | 0.00                   | 0.00                  |
| 12,300.0              | 90.94           | 359.06      | 9,052.1               | 3,404.0      | -55.9        | 3,404.5                 | 0.00                    | 0.00                   | 0.00                  |
| 12,400.0              | 90.94           | 359.06      | 9,050.5               | 3,504.0      | -57.5        | 3,504.5                 | 0.00                    | 0.00                   | 0.00                  |
| 12,500.0              | 90.94           | 359.06      | 9,048.8               | 3,604.0      | -59.1        | 3,604.4                 | 0.00                    | 0.00                   | 0.00                  |
| 12,600.0              | 90.94           | 359.06      | 9,047.2               | 3,703.9      | -60.8        | 3,704.4                 | 0.00                    | 0.00                   | 0.00                  |
| 12,700.0              | 90.94           | 359.06      | 9,045.5               | 3,803.9      | -62.4        | 3,804.4                 | 0.00                    | 0.00                   | 0.00                  |
| 12,800.0              | 90.94           | 359.06      | 9,043.9               | 3,903.9      | -64.1        | 3,904.4                 | 0.00                    | 0.00                   | 0.00                  |
| 12,900.0              | 90.94           | 359.06      | 9,042.3               | 4,003.9      | -65.7        | 4,004.4                 | 0.00                    | 0.00                   | 0.00                  |
| 13,000.0              | 90.94           | 359.06      | 9,040.6               | 4,103.8      | -67.3        | 4,104.4                 | 0.00                    | 0.00                   | 0.00                  |
| 13,100.0              | 90.94           | 359.06      | 9,039.0               | 4,203.8      | -69.0        | 4,204.4                 | 0.00                    | 0.00                   | 0.00                  |
| 13,200.0              | 90.94           | 359.06      | 9,037.3               | 4,303.8      | -70.6        | 4,304.4                 | 0.00                    | 0.00                   | 0.00                  |
| 13,300.0              | 90.94           | 359.06      | 9,035.7               | 4,403.7      | -72.3        | 4,404.3                 | 0.00                    | 0.00                   | 0.00                  |
| 13,400.0              | 90.94           | 359.06      | 9,034.1               | 4,503.7      | -73.9        | 4,504.3                 | 0.00                    | 0.00                   | 0.00                  |
| 13,500.0              | 90.94           | 359.06      | 9,032.4               | 4,603.7      | -75.5        | 4,604.3                 | 0.00                    | 0.00                   | 0.00                  |
| 13,600.0              | 90.94           | 359.06      | 9,030.8               | 4,703.7      | -77.2        | 4,704.3                 | 0.00                    | 0.00                   | 0.00                  |
| 13,700.0              | 90.94           | 359.06      | 9,029.1               | 4,803.6      | -78.8        | 4,804.3                 | 0.00                    | 0.00                   | 0.00                  |
| 13,800.0              | 90.94           | 359.06      | 9,027.5               | 4,903.6      | -80.5        | 4,904.3                 | 0.00                    | 0.00                   | 0.00                  |
| 13,900.0              | 90.94           | 359.06      | 9,025.9               | 5,003.6      | -82.1        | 5,004.3                 | 0.00                    | 0.00                   | 0.00                  |
| 13,937.9              | 90.94           | 359.06      | 9,025.2               | 5,041.5      | -82.7        | 5,042.2                 | 0.00                    | 0.00                   | 0.00                  |

Nervous Purvis State #9H - BHL

### Design Targets

| Target Name                                                                              | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude         | Longitude         |
|------------------------------------------------------------------------------------------|---------------|--------------|------------|--------------|--------------|-----------------|----------------|------------------|-------------------|
| - hit/miss target                                                                        |               |              |            |              |              |                 |                |                  |                   |
| - Shape                                                                                  |               |              |            |              |              |                 |                |                  |                   |
| Nervous Purvis State                                                                     | 0.00          | 0.00         | 0.0        | 0.0          | 0.0          | 617,745.80      | 659,482.00     | 32° 41' 49.956 N | 103° 48' 53.670 W |
| - plan hits target center                                                                |               |              |            |              |              |                 |                |                  |                   |
| - Point                                                                                  |               |              |            |              |              |                 |                |                  |                   |
| Nervous Purvis State                                                                     | 0.00          | 0.00         | 9,025.0    | 5,041.5      | -83.1        | 622,787.30      | 659,398.90     | 32° 42' 39.847 N | 103° 48' 54.354 W |
| - plan misses target center by 0.4usft at 13937.9usft MD (9025.2 TVD, 5041.5 N, -82.7 E) |               |              |            |              |              |                 |                |                  |                   |
| - Point                                                                                  |               |              |            |              |              |                 |                |                  |                   |