

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENTFORM APPROVED  
OMB NO. 1004-0135  
Expires: July 31, 2010

SEP 06 2016

## SUNDRY NOTICES AND REPORTS

Do not use this form for proposals to drill or to re-enter abandoned well. Use form 3160-3 (APD) for such proposals.

5. Lease Serial No.  
NMNM94094

Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

8. Well Name and No.  
STEALTH FEDERAL COM 4H9. API Well No.  
30-025-43338-00-X110. Field and Pool, or Exploratory  
LUSK11. County or Parish, and State  
LEA COUNTY, NM

## 12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| TYPE OF SUBMISSION                                   | TYPE OF ACTION                                |                                           |                                                    |                                           |
|------------------------------------------------------|-----------------------------------------------|-------------------------------------------|----------------------------------------------------|-------------------------------------------|
| <input checked="" type="checkbox"/> Notice of Intent | <input type="checkbox"/> Acidize              | <input type="checkbox"/> Deepen           | <input type="checkbox"/> Production (Start/Resume) | <input type="checkbox"/> Water Shut-Off   |
| <input type="checkbox"/> Subsequent Report           | <input type="checkbox"/> Alter Casing         | <input type="checkbox"/> Fracture Treat   | <input type="checkbox"/> Reclamation               | <input type="checkbox"/> Well Integrity   |
| <input type="checkbox"/> Final Abandonment Notice    | <input type="checkbox"/> Casing Repair        | <input type="checkbox"/> New Construction | <input type="checkbox"/> Recomplete                | <input checked="" type="checkbox"/> Other |
|                                                      | <input type="checkbox"/> Change Plans         | <input type="checkbox"/> Plug and Abandon | <input type="checkbox"/> Temporarily Abandon       | Change to Original A                      |
|                                                      | <input type="checkbox"/> Convert to Injection | <input type="checkbox"/> Plug Back        | <input type="checkbox"/> Water Disposal            | PD                                        |

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomple horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

COG Operating LLC, respectfully requests approval for the following changes to the original approved APD.

BHL  
From: 330' FNL & 330' FEL  
To: 50' FNL & 330' FEL  
C102 attached.

Drilling Changes  
New total depth = 14342? MD

New production cement volumes are:

SEE ATTACHED FOR  
CONDITIONS OF APPROVAL

|                                                                                                                                                                                                         |                          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| 14. I hereby certify that the foregoing is true and correct.                                                                                                                                            |                          |
| Electronic Submission #347935 verified by the BLM Well Information System<br>For COG PRODUCTION LLC, sent to the Hobbs<br>Committed to AFMSS for processing by MUSTAFA HAQUE on 09/01/2016 (16MH0022SE) |                          |
| Name (Printed/Typed) MAYTE X REYES                                                                                                                                                                      | Title REGULATORY ANALYST |
| Signature (Electronic Submission)                                                                                                                                                                       | Date 08/16/2016          |

## THIS SPACE FOR FEDERAL OR STATE OFFICE USE

|                                                                                                                                                                                                                                                           |                                 |                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-----------------|
| Approved By (BLM Approver Not Specified) <u>Mustafa Haque</u>                                                                                                                                                                                             | Title <u>PETROLEUM ENGINEER</u> | Date 09/01/2016 |
| Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. |                                 |                 |
| Office Hobbs                                                                                                                                                                                                                                              |                                 |                 |

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

\*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\*

REQUIRES ADMEN ORDER NSL

**Additional data for EC transaction #347935 that would not fit on the form**

**32. Additional remarks, continued**

880 sks 11.0 ppg (3.2 ft<sup>3</sup>/sk) lead.  
NEOCEM TM 2 lbm/sk kol-seal

1300 sks 13.2 ppg (1.41 ft<sup>3</sup>/sk) tail  
NEOCEM TM

See attached.



Haque, Mustafa &lt;mhaque@blm.gov&gt;

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**FW: [External] EC Document Submitted - Stealth Federal Com #4H**

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**Melanie Wilson** <MWilson@concho.com>

Thu, Sep 1, 2016 at 8:38 AM

To: "Haque, Mustafa" &lt;mhaque@blm.gov&gt;, Mayte Reyes &lt;MReyes1@concho.com&gt;

Hey Haque,

The proposed FTP is 330' FSL &amp; 330' FEL, proposed LTP is 100' FNL &amp; 330' FEL.

Let me know if you need anything further!

Thanks!!

Melanie

**From:** Haque, Mustafa [mailto:[mhaque@blm.gov](mailto:mhaque@blm.gov)]**Sent:** Thursday, September 01, 2016 7:24 AM**To:** Mayte Reyes; Melanie Wilson**Subject:** Re: FW: [External] EC Document Submitted - Stealth Federal Com #4H

[Quoted text hidden]



**PECOS DISTRICT  
CONDITIONS OF APPROVAL**

|                       |                                    |
|-----------------------|------------------------------------|
| OPERATOR'S NAME:      | COG Production, LLC                |
| LEASE NO.:            | NMNM94094                          |
| WELL NAME & NO.:      | 4H-Stealth Federal Com             |
| SURFACE HOLE FOOTAGE: | 317'/S & 940'/E                    |
| BOTTOM HOLE FOOTAGE   | 50'/N & 330'/E                     |
| LOCATION:             | Section 17, T.19 S., R.32 E., NMPM |
| COUNTY:               | Lea County, New Mexico             |

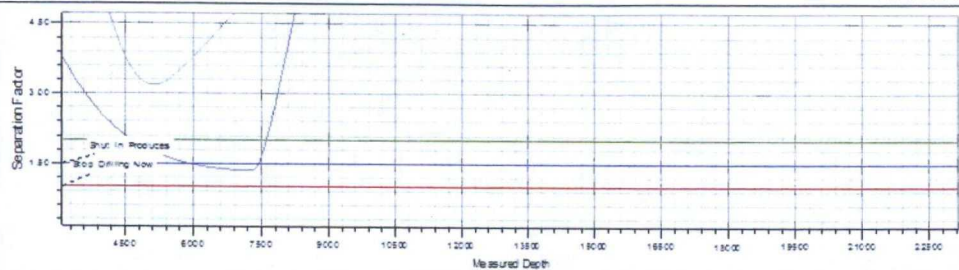
**All previous COAs still apply.**

**MHH 09012016**



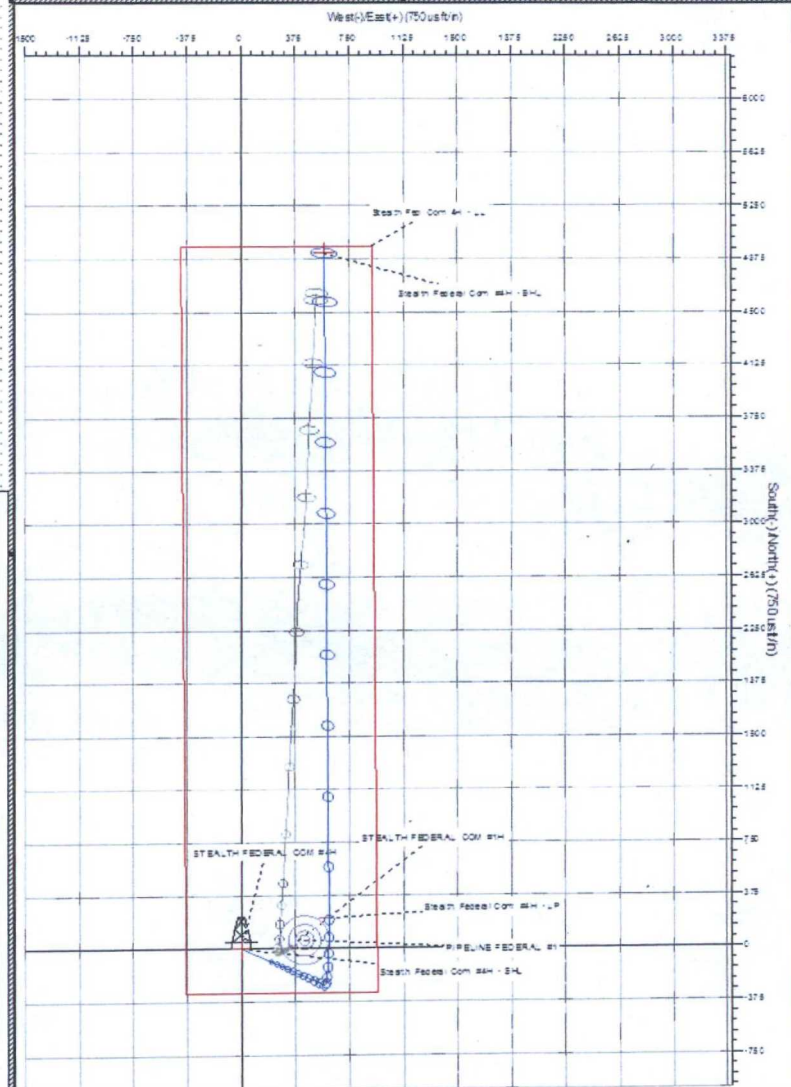
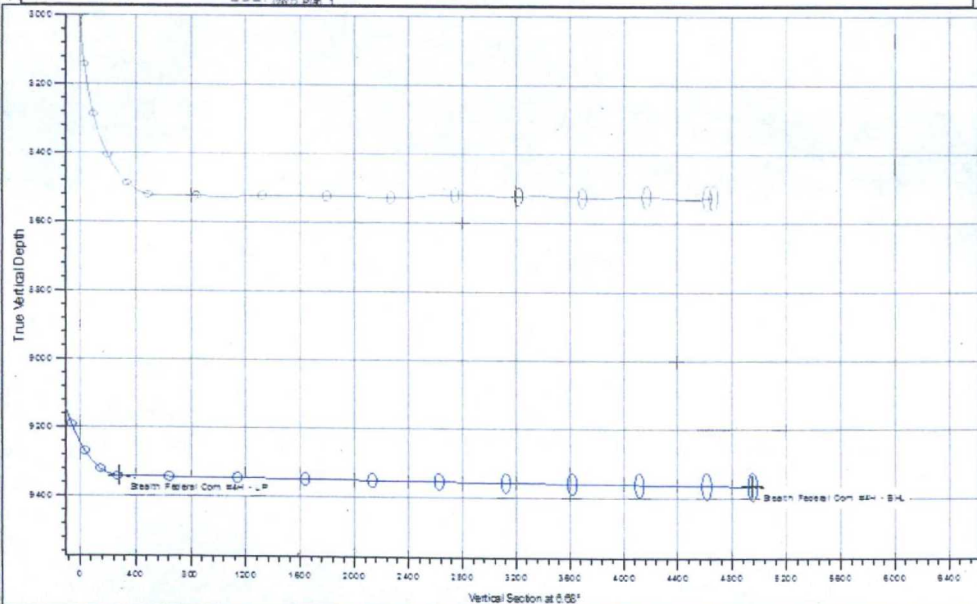


Project: LEA COUNTY, NM  
 Site: LUSK BSS  
 Well: STEALTH FEDERAL COM #4H  
 Wellbore: OWS  
 Design: DWD Plan 1



#### LEGEND

--- STEALTH FEDERAL COM #1H STEALTH FEDERAL COM #1H STEALTH FEDERAL COM #1H V0  
 --- PIPELINE FEDERAL #1 OWS ACTUAL WELLBOTH V0  
 --- DWD Plan 1



**HOBBS OCD**

**SEP 06 2016**

**RECEIVED**

# **COG OPERATING, LLC**

**LEA COUNTY, NM**

**LUSK BSS**

**STEALTH FEDERAL COM #4H**

**OWB**

**Plan: DWD Plan 1**

## **Standard Planning Report**

**11 August, 2016**



# COG Operating LLC

## Planning Report

|           |                         |                             |                                                |
|-----------|-------------------------|-----------------------------|------------------------------------------------|
| Database: | COG OPERATING, LLC      | Local Co-ordinate Reference | Well STEALTH FEDERAL COM #4H                   |
| Company:  | COG OPERATING, LLC      | TVD Reference:              | 3592 + 20 = 3612' RKB @ 3612.0usft (PATRIOT 2) |
| Project:  | LEA COUNTY, NM          | MD Reference:               | 3592 + 20 = 3612' RKB @ 3612.0usft (PATRIOT 2) |
| Site:     | LUSK BSS                | North Reference:            | Grid                                           |
| Well:     | STEALTH FEDERAL COM #4H | 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 | Spot Radius: | 13-3/16 "       | Grid Convergence: | 0.15 °           |

|                      |                         |               |                     |                 |               |                   |
|----------------------|-------------------------|---------------|---------------------|-----------------|---------------|-------------------|
| Well                 | STEALTH FEDERAL COM #4H |               |                     |                 |               |                   |
| Well Position        | +N/-S                   | 55,450.1 usft | Northing:           | 602,059.80 usft | Latitude:     | 32° 39' 14.236 N  |
|                      | +E/-W                   | 86,268.9 usft | Easting:            | 669,581.10 usft | Longitude:    | 103° 46' 56.443 W |
| Position Uncertainty |                         | 0.0 usft      | Wellhead Elevation: | 3,498.7 usft    | Ground Level: | 3,592.0 usft      |

|           |            |             |                 |               |                     |
|-----------|------------|-------------|-----------------|---------------|---------------------|
| Wellbore  | OWB        |             |                 |               |                     |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
|           | WMM2015    | 8/11/2016   | 7.19            | 60.42         | 48,249              |

|                   |                            |                 |                 |                  |
|-------------------|----------------------------|-----------------|-----------------|------------------|
| 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             | 6.68             |

| Plan Sections         |                 |             |                       |              |              |                         |                        |                       |         |                 |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|------------------------|-----------------------|---------|-----------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | TFO (°) | Target          |
| 0.0                   | 0.00            | 0.00        | 0.0                   | 0.0          | 0.0          | 0.00                    | 0.00                   | 0.00                  | 0.00    |                 |
| 1,000.0               | 0.00            | 0.00        | 1,000.0               | 0.0          | 0.0          | 0.00                    | 0.00                   | 0.00                  | 0.00    |                 |
| 1,233.7               | 4.67            | 114.43      | 1,233.4               | -3.9         | 8.7          | 2.00                    | 2.00                   | 0.00                  | 114.43  |                 |
| 8,875.2               | 4.67            | 114.43      | 8,849.5               | -261.4       | 575.6        | 0.00                    | 0.00                   | 0.00                  | 0.00    |                 |
| 9,639.1               | 89.70           | 359.60      | 9,342.0               | 213.5        | 608.6        | 12.00                   | 11.13                  | -15.03                | -114.78 | Stealth Federal |
| 14,341.9              | 89.70           | 359.60      | 9,366.6               | 4,916.2      | 575.7        | 0.00                    | 0.00                   | 0.00                  | 0.00    | Stealth Federal |



# COG Operating LLC

## Planning Report

|           |                         |                             |                                                |
|-----------|-------------------------|-----------------------------|------------------------------------------------|
| Database: | COG OPERATING, LLC      | Local Co-ordinate Reference | Well STEALTH FEDERAL COM #4H                   |
| Company:  | COG OPERATING, LLC      | TVD Reference:              | 3592 + 20 = 3612' RKB @ 3612.0usft (PATRIOT 2) |
| Project:  | LEA COUNTY, NM          | MD Reference:               | 3592 + 20 = 3612' RKB @ 3612.0usft (PATRIOT 2) |
| Site:     | LUSK BSS                | North Reference:            | Grid                                           |
| Well:     | STEALTH FEDERAL COM #4H | 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                  |
| 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               | 2.00            | 114.43      | 1,100.0               | -0.7         | 1.6          | -0.5                    | 2.00                    | 2.00                   | 0.00                  |
| 1,200.0               | 4.00            | 114.43      | 1,199.8               | -2.9         | 6.4          | -2.1                    | 2.00                    | 2.00                   | 0.00                  |
| 1,233.7               | 4.67            | 114.43      | 1,233.4               | -3.9         | 8.7          | -2.9                    | 2.00                    | 2.00                   | 0.00                  |
| 1,300.0               | 4.67            | 114.43      | 1,299.5               | -6.2         | 13.6         | -4.6                    | 0.00                    | 0.00                   | 0.00                  |
| 1,400.0               | 4.67            | 114.43      | 1,399.2               | -9.5         | 21.0         | -7.0                    | 0.00                    | 0.00                   | 0.00                  |
| 1,500.0               | 4.67            | 114.43      | 1,498.9               | -12.9        | 28.4         | -9.5                    | 0.00                    | 0.00                   | 0.00                  |
| 1,600.0               | 4.67            | 114.43      | 1,598.5               | -16.3        | 35.9         | -12.0                   | 0.00                    | 0.00                   | 0.00                  |
| 1,700.0               | 4.67            | 114.43      | 1,698.2               | -19.7        | 43.3         | -14.5                   | 0.00                    | 0.00                   | 0.00                  |
| 1,800.0               | 4.67            | 114.43      | 1,797.9               | -23.0        | 50.7         | -17.0                   | 0.00                    | 0.00                   | 0.00                  |
| 1,900.0               | 4.67            | 114.43      | 1,897.5               | -26.4        | 58.1         | -19.5                   | 0.00                    | 0.00                   | 0.00                  |
| 2,000.0               | 4.67            | 114.43      | 1,997.2               | -29.8        | 65.5         | -21.9                   | 0.00                    | 0.00                   | 0.00                  |
| 2,100.0               | 4.67            | 114.43      | 2,096.9               | -33.1        | 72.9         | -24.4                   | 0.00                    | 0.00                   | 0.00                  |
| 2,200.0               | 4.67            | 114.43      | 2,196.5               | -36.5        | 80.4         | -26.9                   | 0.00                    | 0.00                   | 0.00                  |
| 2,300.0               | 4.67            | 114.43      | 2,296.2               | -39.9        | 87.8         | -29.4                   | 0.00                    | 0.00                   | 0.00                  |
| 2,400.0               | 4.67            | 114.43      | 2,395.9               | -43.2        | 95.2         | -31.9                   | 0.00                    | 0.00                   | 0.00                  |
| 2,500.0               | 4.67            | 114.43      | 2,495.5               | -46.6        | 102.6        | -34.4                   | 0.00                    | 0.00                   | 0.00                  |
| 2,600.0               | 4.67            | 114.43      | 2,595.2               | -50.0        | 110.0        | -36.8                   | 0.00                    | 0.00                   | 0.00                  |
| 2,700.0               | 4.67            | 114.43      | 2,694.9               | -53.3        | 117.5        | -39.3                   | 0.00                    | 0.00                   | 0.00                  |
| 2,800.0               | 4.67            | 114.43      | 2,794.5               | -56.7        | 124.9        | -41.8                   | 0.00                    | 0.00                   | 0.00                  |
| 2,900.0               | 4.67            | 114.43      | 2,894.2               | -60.1        | 132.3        | -44.3                   | 0.00                    | 0.00                   | 0.00                  |
| 3,000.0               | 4.67            | 114.43      | 2,993.9               | -63.5        | 139.7        | -46.8                   | 0.00                    | 0.00                   | 0.00                  |
| 3,100.0               | 4.67            | 114.43      | 3,093.5               | -66.8        | 147.1        | -49.3                   | 0.00                    | 0.00                   | 0.00                  |
| 3,200.0               | 4.67            | 114.43      | 3,193.2               | -70.2        | 154.6        | -51.7                   | 0.00                    | 0.00                   | 0.00                  |
| 3,300.0               | 4.67            | 114.43      | 3,292.9               | -73.6        | 162.0        | -54.2                   | 0.00                    | 0.00                   | 0.00                  |
| 3,400.0               | 4.67            | 114.43      | 3,392.5               | -76.9        | 169.4        | -56.7                   | 0.00                    | 0.00                   | 0.00                  |
| 3,500.0               | 4.67            | 114.43      | 3,492.2               | -80.3        | 176.8        | -59.2                   | 0.00                    | 0.00                   | 0.00                  |
| 3,600.0               | 4.67            | 114.43      | 3,591.9               | -83.7        | 184.2        | -61.7                   | 0.00                    | 0.00                   | 0.00                  |
| 3,700.0               | 4.67            | 114.43      | 3,691.5               | -87.0        | 191.7        | -64.2                   | 0.00                    | 0.00                   | 0.00                  |
| 3,800.0               | 4.67            | 114.43      | 3,791.2               | -90.4        | 199.1        | -66.6                   | 0.00                    | 0.00                   | 0.00                  |
| 3,900.0               | 4.67            | 114.43      | 3,890.9               | -93.8        | 206.5        | -69.1                   | 0.00                    | 0.00                   | 0.00                  |
| 4,000.0               | 4.67            | 114.43      | 3,990.5               | -97.1        | 213.9        | -71.6                   | 0.00                    | 0.00                   | 0.00                  |
| 4,100.0               | 4.67            | 114.43      | 4,090.2               | -100.5       | 221.3        | -74.1                   | 0.00                    | 0.00                   | 0.00                  |
| 4,200.0               | 4.67            | 114.43      | 4,189.9               | -103.9       | 228.7        | -76.6                   | 0.00                    | 0.00                   | 0.00                  |
| 4,300.0               | 4.67            | 114.43      | 4,289.5               | -107.3       | 236.2        | -79.1                   | 0.00                    | 0.00                   | 0.00                  |
| 4,400.0               | 4.67            | 114.43      | 4,389.2               | -110.6       | 243.6        | -81.5                   | 0.00                    | 0.00                   | 0.00                  |
| 4,500.0               | 4.67            | 114.43      | 4,488.9               | -114.0       | 251.0        | -84.0                   | 0.00                    | 0.00                   | 0.00                  |
| 4,600.0               | 4.67            | 114.43      | 4,588.5               | -117.4       | 258.4        | -86.5                   | 0.00                    | 0.00                   | 0.00                  |
| 4,700.0               | 4.67            | 114.43      | 4,688.2               | -120.7       | 265.8        | -89.0                   | 0.00                    | 0.00                   | 0.00                  |
| 4,800.0               | 4.67            | 114.43      | 4,787.9               | -124.1       | 273.3        | -91.5                   | 0.00                    | 0.00                   | 0.00                  |
| 4,900.0               | 4.67            | 114.43      | 4,887.5               | -127.5       | 280.7        | -94.0                   | 0.00                    | 0.00                   | 0.00                  |



# COG Operating LLC

## Planning Report

|           |                         |                             |                                                |
|-----------|-------------------------|-----------------------------|------------------------------------------------|
| Database: | COG OPERATING, LLC      | Local Co-ordinate Reference | Well STEALTH FEDERAL COM #4H                   |
| Company:  | COG OPERATING, LLC      | TVD Reference:              | 3592 + 20 = 3612' RKB @ 3612.0usft (PATRIOT 2) |
| Project:  | LEA COUNTY, NM          | MD Reference:               | 3592 + 20 = 3612' RKB @ 3612.0usft (PATRIOT 2) |
| Site:     | LUSK BSS                | North Reference:            | Grid                                           |
| Well:     | STEALTH FEDERAL COM #4H | 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) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 5,000.0               | 4.67            | 114.43      | 4,987.2               | -130.8       | 288.1        | -96.4                   | 0.00                    | 0.00                   | 0.00                  |
| 5,100.0               | 4.67            | 114.43      | 5,086.9               | -134.2       | 295.5        | -98.9                   | 0.00                    | 0.00                   | 0.00                  |
| 5,200.0               | 4.67            | 114.43      | 5,186.6               | -137.6       | 302.9        | -101.4                  | 0.00                    | 0.00                   | 0.00                  |
| 5,300.0               | 4.67            | 114.43      | 5,286.2               | -141.0       | 310.4        | -103.9                  | 0.00                    | 0.00                   | 0.00                  |
| 5,400.0               | 4.67            | 114.43      | 5,385.9               | -144.3       | 317.8        | -106.4                  | 0.00                    | 0.00                   | 0.00                  |
| 5,500.0               | 4.67            | 114.43      | 5,485.6               | -147.7       | 325.2        | -108.9                  | 0.00                    | 0.00                   | 0.00                  |
| 5,600.0               | 4.67            | 114.43      | 5,585.2               | -151.1       | 332.6        | -111.3                  | 0.00                    | 0.00                   | 0.00                  |
| 5,700.0               | 4.67            | 114.43      | 5,684.9               | -154.4       | 340.0        | -113.8                  | 0.00                    | 0.00                   | 0.00                  |
| 5,800.0               | 4.67            | 114.43      | 5,784.6               | -157.8       | 347.5        | -116.3                  | 0.00                    | 0.00                   | 0.00                  |
| 5,900.0               | 4.67            | 114.43      | 5,884.2               | -161.2       | 354.9        | -118.8                  | 0.00                    | 0.00                   | 0.00                  |
| 6,000.0               | 4.67            | 114.43      | 5,983.9               | -164.5       | 362.3        | -121.3                  | 0.00                    | 0.00                   | 0.00                  |
| 6,100.0               | 4.67            | 114.43      | 6,083.6               | -167.9       | 369.7        | -123.8                  | 0.00                    | 0.00                   | 0.00                  |
| 6,200.0               | 4.67            | 114.43      | 6,183.2               | -171.3       | 377.1        | -126.2                  | 0.00                    | 0.00                   | 0.00                  |
| 6,300.0               | 4.67            | 114.43      | 6,282.9               | -174.6       | 384.6        | -128.7                  | 0.00                    | 0.00                   | 0.00                  |
| 6,400.0               | 4.67            | 114.43      | 6,382.6               | -178.0       | 392.0        | -131.2                  | 0.00                    | 0.00                   | 0.00                  |
| 6,500.0               | 4.67            | 114.43      | 6,482.2               | -181.4       | 399.4        | -133.7                  | 0.00                    | 0.00                   | 0.00                  |
| 6,600.0               | 4.67            | 114.43      | 6,581.9               | -184.8       | 406.8        | -136.2                  | 0.00                    | 0.00                   | 0.00                  |
| 6,700.0               | 4.67            | 114.43      | 6,681.6               | -188.1       | 414.2        | -138.7                  | 0.00                    | 0.00                   | 0.00                  |
| 6,800.0               | 4.67            | 114.43      | 6,781.2               | -191.5       | 421.6        | -141.1                  | 0.00                    | 0.00                   | 0.00                  |
| 6,900.0               | 4.67            | 114.43      | 6,880.9               | -194.9       | 429.1        | -143.6                  | 0.00                    | 0.00                   | 0.00                  |
| 7,000.0               | 4.67            | 114.43      | 6,980.6               | -198.2       | 436.5        | -146.1                  | 0.00                    | 0.00                   | 0.00                  |
| 7,100.0               | 4.67            | 114.43      | 7,080.2               | -201.6       | 443.9        | -148.6                  | 0.00                    | 0.00                   | 0.00                  |
| 7,200.0               | 4.67            | 114.43      | 7,179.9               | -205.0       | 451.3        | -151.1                  | 0.00                    | 0.00                   | 0.00                  |
| 7,300.0               | 4.67            | 114.43      | 7,279.6               | -208.3       | 458.7        | -153.6                  | 0.00                    | 0.00                   | 0.00                  |
| 7,400.0               | 4.67            | 114.43      | 7,379.2               | -211.7       | 466.2        | -156.0                  | 0.00                    | 0.00                   | 0.00                  |
| 7,500.0               | 4.67            | 114.43      | 7,478.9               | -215.1       | 473.6        | -158.5                  | 0.00                    | 0.00                   | 0.00                  |
| 7,600.0               | 4.67            | 114.43      | 7,578.6               | -218.4       | 481.0        | -161.0                  | 0.00                    | 0.00                   | 0.00                  |
| 7,700.0               | 4.67            | 114.43      | 7,678.2               | -221.8       | 488.4        | -163.5                  | 0.00                    | 0.00                   | 0.00                  |
| 7,800.0               | 4.67            | 114.43      | 7,777.9               | -225.2       | 495.8        | -166.0                  | 0.00                    | 0.00                   | 0.00                  |
| 7,900.0               | 4.67            | 114.43      | 7,877.6               | -228.6       | 503.3        | -168.5                  | 0.00                    | 0.00                   | 0.00                  |
| 8,000.0               | 4.67            | 114.43      | 7,977.2               | -231.9       | 510.7        | -170.9                  | 0.00                    | 0.00                   | 0.00                  |
| 8,100.0               | 4.67            | 114.43      | 8,076.9               | -235.3       | 518.1        | -173.4                  | 0.00                    | 0.00                   | 0.00                  |
| 8,200.0               | 4.67            | 114.43      | 8,176.6               | -238.7       | 525.5        | -175.9                  | 0.00                    | 0.00                   | 0.00                  |
| 8,300.0               | 4.67            | 114.43      | 8,276.2               | -242.0       | 532.9        | -178.4                  | 0.00                    | 0.00                   | 0.00                  |
| 8,400.0               | 4.67            | 114.43      | 8,375.9               | -245.4       | 540.4        | -180.9                  | 0.00                    | 0.00                   | 0.00                  |
| 8,500.0               | 4.67            | 114.43      | 8,475.6               | -248.8       | 547.8        | -183.4                  | 0.00                    | 0.00                   | 0.00                  |
| 8,600.0               | 4.67            | 114.43      | 8,575.2               | -252.1       | 555.2        | -185.8                  | 0.00                    | 0.00                   | 0.00                  |
| 8,700.0               | 4.67            | 114.43      | 8,674.9               | -255.5       | 562.6        | -188.3                  | 0.00                    | 0.00                   | 0.00                  |
| 8,800.0               | 4.67            | 114.43      | 8,774.6               | -258.9       | 570.0        | -190.8                  | 0.00                    | 0.00                   | 0.00                  |
| 8,875.2               | 4.67            | 114.43      | 8,849.5               | -261.4       | 575.6        | -192.7                  | 0.00                    | 0.00                   | 0.00                  |
| 8,900.0               | 4.36            | 76.15       | 8,874.3               | -261.6       | 577.4        | -192.7                  | 12.00                   | -1.26                  | -154.43               |
| 9,000.0               | 13.67           | 17.33       | 8,973.1               | -249.4       | 584.7        | -179.7                  | 12.00                   | 9.31                   | -58.82                |
| 9,100.0               | 25.35           | 8.59        | 9,067.2               | -216.8       | 591.4        | -146.5                  | 12.00                   | 11.67                  | -8.74                 |
| 9,200.0               | 37.22           | 5.18        | 9,152.5               | -165.3       | 597.4        | -94.7                   | 12.00                   | 11.87                  | -3.41                 |
| 9,300.0               | 49.15           | 3.26        | 9,225.3               | -97.2        | 602.3        | -26.5                   | 12.00                   | 11.93                  | -1.93                 |
| 9,400.0               | 61.10           | 1.92        | 9,282.4               | -15.4        | 605.9        | 55.2                    | 12.00                   | 11.95                  | -1.33                 |
| 9,500.0               | 73.06           | 0.87        | 9,321.2               | 76.5         | 608.1        | 146.7                   | 12.00                   | 11.96                  | -1.05                 |
| 9,600.0               | 85.03           | 359.95      | 9,340.2               | 174.5        | 608.8        | 244.1                   | 12.00                   | 11.97                  | -0.92                 |
| 9,639.1               | 89.70           | 359.60      | 9,342.0               | 213.5        | 608.6        | 282.9                   | 12.00                   | 11.97                  | -0.89                 |
| 9,700.0               | 89.70           | 359.60      | 9,342.3               | 274.5        | 608.2        | 343.3                   | 0.00                    | 0.00                   | 0.00                  |
| 9,800.0               | 89.70           | 359.60      | 9,342.8               | 374.5        | 607.5        | 442.6                   | 0.00                    | 0.00                   | 0.00                  |



# COG Operating LLC

## Planning Report

|           |                         |                             |                                                |
|-----------|-------------------------|-----------------------------|------------------------------------------------|
| Database: | COG OPERATING, LLC      | Local Co-ordinate Reference | Well STEALTH FEDERAL COM #4H                   |
| Company:  | COG OPERATING, LLC      | TVD Reference:              | 3592 + 20 = 3612' RKB @ 3612.0usft (PATRIOT 2) |
| Project:  | LEA COUNTY, NM          | MD Reference:               | 3592 + 20 = 3612' RKB @ 3612.0usft (PATRIOT 2) |
| Site:     | LUSK BSS                | North Reference:            | Grid                                           |
| Well:     | STEALTH FEDERAL COM #4H | 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) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 9,900.0               | 89.70           | 359.60      | 9,343.4               | 474.4        | 606.8        | 541.8                   | 0.00                    | 0.00                   | 0.00                  |
| 10,000.0              | 89.70           | 359.60      | 9,343.9               | 574.4        | 606.1        | 641.1                   | 0.00                    | 0.00                   | 0.00                  |
| 10,100.0              | 89.70           | 359.60      | 9,344.4               | 674.4        | 605.4        | 740.3                   | 0.00                    | 0.00                   | 0.00                  |
| 10,200.0              | 89.70           | 359.60      | 9,344.9               | 774.4        | 604.7        | 839.5                   | 0.00                    | 0.00                   | 0.00                  |
| 10,300.0              | 89.70           | 359.60      | 9,345.5               | 874.4        | 604.0        | 938.8                   | 0.00                    | 0.00                   | 0.00                  |
| 10,400.0              | 89.70           | 359.60      | 9,346.0               | 974.4        | 603.3        | 1,038.0                 | 0.00                    | 0.00                   | 0.00                  |
| 10,500.0              | 89.70           | 359.60      | 9,346.5               | 1,074.4      | 602.6        | 1,137.2                 | 0.00                    | 0.00                   | 0.00                  |
| 10,600.0              | 89.70           | 359.60      | 9,347.0               | 1,174.4      | 601.9        | 1,236.5                 | 0.00                    | 0.00                   | 0.00                  |
| 10,700.0              | 89.70           | 359.60      | 9,347.6               | 1,274.4      | 601.2        | 1,335.7                 | 0.00                    | 0.00                   | 0.00                  |
| 10,800.0              | 89.70           | 359.60      | 9,348.1               | 1,374.4      | 600.5        | 1,434.9                 | 0.00                    | 0.00                   | 0.00                  |
| 10,900.0              | 89.70           | 359.60      | 9,348.6               | 1,474.4      | 599.8        | 1,534.2                 | 0.00                    | 0.00                   | 0.00                  |
| 11,000.0              | 89.70           | 359.60      | 9,349.1               | 1,574.4      | 599.1        | 1,633.4                 | 0.00                    | 0.00                   | 0.00                  |
| 11,100.0              | 89.70           | 359.60      | 9,349.6               | 1,674.4      | 598.4        | 1,732.6                 | 0.00                    | 0.00                   | 0.00                  |
| 11,200.0              | 89.70           | 359.60      | 9,350.2               | 1,774.4      | 597.7        | 1,831.9                 | 0.00                    | 0.00                   | 0.00                  |
| 11,300.0              | 89.70           | 359.60      | 9,350.7               | 1,874.4      | 597.0        | 1,931.1                 | 0.00                    | 0.00                   | 0.00                  |
| 11,400.0              | 89.70           | 359.60      | 9,351.2               | 1,974.4      | 596.3        | 2,030.4                 | 0.00                    | 0.00                   | 0.00                  |
| 11,500.0              | 89.70           | 359.60      | 9,351.7               | 2,074.4      | 595.6        | 2,129.6                 | 0.00                    | 0.00                   | 0.00                  |
| 11,600.0              | 89.70           | 359.60      | 9,352.3               | 2,174.4      | 594.9        | 2,228.8                 | 0.00                    | 0.00                   | 0.00                  |
| 11,700.0              | 89.70           | 359.60      | 9,352.8               | 2,274.4      | 594.2        | 2,328.1                 | 0.00                    | 0.00                   | 0.00                  |
| 11,800.0              | 89.70           | 359.60      | 9,353.3               | 2,374.4      | 593.5        | 2,427.3                 | 0.00                    | 0.00                   | 0.00                  |
| 11,900.0              | 89.70           | 359.60      | 9,353.8               | 2,474.4      | 592.8        | 2,526.5                 | 0.00                    | 0.00                   | 0.00                  |
| 12,000.0              | 89.70           | 359.60      | 9,354.4               | 2,574.4      | 592.1        | 2,625.8                 | 0.00                    | 0.00                   | 0.00                  |
| 12,100.0              | 89.70           | 359.60      | 9,354.9               | 2,674.4      | 591.4        | 2,725.0                 | 0.00                    | 0.00                   | 0.00                  |
| 12,200.0              | 89.70           | 359.60      | 9,355.4               | 2,774.4      | 590.7        | 2,824.2                 | 0.00                    | 0.00                   | 0.00                  |
| 12,300.0              | 89.70           | 359.60      | 9,355.9               | 2,874.4      | 590.0        | 2,923.5                 | 0.00                    | 0.00                   | 0.00                  |
| 12,400.0              | 89.70           | 359.60      | 9,356.5               | 2,974.4      | 589.3        | 3,022.7                 | 0.00                    | 0.00                   | 0.00                  |
| 12,500.0              | 89.70           | 359.60      | 9,357.0               | 3,074.3      | 588.6        | 3,121.9                 | 0.00                    | 0.00                   | 0.00                  |
| 12,600.0              | 89.70           | 359.60      | 9,357.5               | 3,174.3      | 587.9        | 3,221.2                 | 0.00                    | 0.00                   | 0.00                  |
| 12,700.0              | 89.70           | 359.60      | 9,358.0               | 3,274.3      | 587.2        | 3,320.4                 | 0.00                    | 0.00                   | 0.00                  |
| 12,800.0              | 89.70           | 359.60      | 9,358.6               | 3,374.3      | 586.5        | 3,419.7                 | 0.00                    | 0.00                   | 0.00                  |
| 12,900.0              | 89.70           | 359.60      | 9,359.1               | 3,474.3      | 585.8        | 3,518.9                 | 0.00                    | 0.00                   | 0.00                  |
| 13,000.0              | 89.70           | 359.60      | 9,359.6               | 3,574.3      | 585.1        | 3,618.1                 | 0.00                    | 0.00                   | 0.00                  |
| 13,100.0              | 89.70           | 359.60      | 9,360.1               | 3,674.3      | 584.4        | 3,717.4                 | 0.00                    | 0.00                   | 0.00                  |
| 13,200.0              | 89.70           | 359.60      | 9,360.6               | 3,774.3      | 583.7        | 3,816.6                 | 0.00                    | 0.00                   | 0.00                  |
| 13,300.0              | 89.70           | 359.60      | 9,361.2               | 3,874.3      | 583.0        | 3,915.8                 | 0.00                    | 0.00                   | 0.00                  |
| 13,400.0              | 89.70           | 359.60      | 9,361.7               | 3,974.3      | 582.3        | 4,015.1                 | 0.00                    | 0.00                   | 0.00                  |
| 13,500.0              | 89.70           | 359.60      | 9,362.2               | 4,074.3      | 581.6        | 4,114.3                 | 0.00                    | 0.00                   | 0.00                  |
| 13,600.0              | 89.70           | 359.60      | 9,362.7               | 4,174.3      | 580.9        | 4,213.5                 | 0.00                    | 0.00                   | 0.00                  |
| 13,700.0              | 89.70           | 359.60      | 9,363.3               | 4,274.3      | 580.2        | 4,312.8                 | 0.00                    | 0.00                   | 0.00                  |
| 13,800.0              | 89.70           | 359.60      | 9,363.8               | 4,374.3      | 579.5        | 4,412.0                 | 0.00                    | 0.00                   | 0.00                  |
| 13,900.0              | 89.70           | 359.60      | 9,364.3               | 4,474.3      | 578.8        | 4,511.3                 | 0.00                    | 0.00                   | 0.00                  |
| 14,000.0              | 89.70           | 359.60      | 9,364.8               | 4,574.3      | 578.1        | 4,610.5                 | 0.00                    | 0.00                   | 0.00                  |
| 14,100.0              | 89.70           | 359.60      | 9,365.4               | 4,674.3      | 577.4        | 4,709.7                 | 0.00                    | 0.00                   | 0.00                  |
| 14,200.0              | 89.70           | 359.60      | 9,365.9               | 4,774.3      | 576.7        | 4,809.0                 | 0.00                    | 0.00                   | 0.00                  |
| 14,300.0              | 89.70           | 359.60      | 9,366.4               | 4,874.3      | 576.0        | 4,908.2                 | 0.00                    | 0.00                   | 0.00                  |
| 14,341.9              | 89.70           | 359.60      | 9,366.6               | 4,916.2      | 575.7        | 4,949.8                 | 0.00                    | 0.00                   | 0.00                  |



# COG Operating LLC

## Planning Report

|           |                         |                             |                                                |
|-----------|-------------------------|-----------------------------|------------------------------------------------|
| Database: | COG OPERATING, LLC      | Local Co-ordinate Reference | Well STEALTH FEDERAL COM #4H                   |
| Company:  | COG OPERATING, LLC      | TVD Reference:              | 3592 + 20 = 3612' RKB @ 3612.0usft (PATRIOT 2) |
| Project:  | LEA COUNTY, NM          | MD Reference:               | 3592 + 20 = 3612' RKB @ 3612.0usft (PATRIOT 2) |
| Site:     | LUSK BSS                | North Reference:            | Grid                                           |
| Well:     | STEALTH FEDERAL COM #4H | Survey Calculation Method:  | Minimum Curvature                              |
| Wellbore: | OWB                     |                             |                                                |
| Design:   | DWD Plan 1              |                             |                                                |

| Design Targets                                                                                                             |                  |                 |               |                 |                 |                    |                   |                  |                   |
|----------------------------------------------------------------------------------------------------------------------------|------------------|-----------------|---------------|-----------------|-----------------|--------------------|-------------------|------------------|-------------------|
| Target Name<br>- hit/miss target<br>- Shape                                                                                | Dip Angle<br>(°) | Dip Dir.<br>(°) | TVD<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Northing<br>(usft) | Easting<br>(usft) | Latitude         | Longitude         |
| Stealth Federal Com<br>- plan hits target center<br>- Point                                                                | 0.00             | 0.00            | 0.0           | 0.0             | 0.0             | 602,059.80         | 669,581.10        | 32° 39' 14.236 N | 103° 46' 56.443 W |
| Stealth Federal Com<br>- plan hits target center<br>- Point                                                                | 0.00             | 0.00            | 9,342.0       | 213.5           | 608.6           | 602,273.32         | 670,189.74        | 32° 39' 16.318 N | 103° 46' 49.311 W |
| Stealth Federal Com<br>- plan misses target center by 1.6usft at 14341.9usft MD (9366.6 TVD, 4916.2 N, 575.7 E)<br>- Point | 0.00             | 0.00            | 9,365.0       | 4,916.2         | 575.7           | 606,976.00         | 670,156.80        | 32° 40' 2.853 N  | 103° 46' 49.410 W |

# **COG OPERATING, LLC**

**LEA COUNTY, NM**

**LUSK BSS**

**STEALTH FEDERAL COM #4H**

**OWB**

**DWD Plan 1**

**HOBBS OCD**

**SEP 06 2016**

**RECEIVED**

## **Anticollision Report**

**11 August, 2016**



# COG Operating LLC

## Anticollision Report

|                    |                         |                             |                                                |
|--------------------|-------------------------|-----------------------------|------------------------------------------------|
| Company:           | COG OPERATING, LLC      | Local Co-ordinate Reference | Well STEALTH FEDERAL COM #4H                   |
| Project:           | LEA COUNTY, NM          | TVD Reference:              | 3592 + 20 = 3612' RKB @ 3612.0usft (PATRIOT 2) |
| Reference Site:    | LUSK BSS                | MD Reference:               | 3592 + 20 = 3612' RKB @ 3612.0usft (PATRIOT 2) |
| Site Error:        | 0.0 usft                | North Reference:            | Grid                                           |
| Reference Well:    | STEALTH FEDERAL COM #4H | 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                    | 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 8/11/2016 |                   |           |                     |
| From (usft)         | To (usft)      | Survey (Wellbore) | Tool Name | Description         |
| 0.0                 | 14,341.9       | DWD Plan 1 (OWB)  | MWD       | OWSG MWD - Standard |

| Summary                                     |                   |                 |                                 |                                  |                              |         |
|---------------------------------------------|-------------------|-----------------|---------------------------------|----------------------------------|------------------------------|---------|
| Site Name                                   | Reference Measure | Offset Measured | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Separation                   | Warning |
| Offset Well - Wellbore - Design             |                   |                 |                                 |                                  |                              |         |
| DEEP BSS                                    |                   |                 |                                 |                                  |                              |         |
| STEALTH FEDERAL COM #1H - STEALTH FEDERAL   | 4,895.4           | 4,887.5         | 114.1                           | 79.0                             | 3.252 CC                     |         |
| STEALTH FEDERAL COM #1H - STEALTH FEDERAL   | 5,000.0           | 4,991.2         | 114.8                           | 78.9                             | 3.200 ES                     |         |
| STEALTH FEDERAL COM #1H - STEALTH FEDERAL   | 5,100.0           | 5,090.7         | 116.4                           | 79.8                             | 3.181 SF                     |         |
| LUSK BSS                                    |                   |                 |                                 |                                  |                              |         |
| PIPELINE FEDERAL #1 - OWB - ACTUAL WELLPATH | 5,712.2           | 5,694.5         | 234.0                           | 82.5                             | 1.544 Advise and Monitor, CC |         |
| PIPELINE FEDERAL #1 - OWB - ACTUAL WELLPATH | 6,900.0           | 6,878.5         | 253.3                           | 67.7                             | 1.365 Shut in Produces, ES   |         |
| PIPELINE FEDERAL #1 - OWB - ACTUAL WELLPATH | 7,300.0           | 7,277.2         | 267.4                           | 69.1                             | 1.348 Shut in Produces, SF   |         |

| Offset Design DEEP BSS - STEALTH FEDERAL COM #1H - STEALTH FEDERAL COM #1H - STEALTH FEDERAL COM |                       |                       |                       |                  |               |                       |                                     |              |                        |                         |                           |                   | Offset Site Error: | 0.0 usft |
|--------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|-------------------|--------------------|----------|
| Survey Program: 100-MWD                                                                          |                       |                       |                       |                  |               |                       |                                     |              |                        |                         |                           |                   | 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                   | 1.0                   | 1.0                   | 0.0              | 3.0           | 87.69                 | 13.7                                | 340.3        | 340.6                  |                         |                           |                   |                    |          |
| 100.0                                                                                            | 100.0                 | 100.0                 | 100.0                 | 0.1              | 3.0           | 87.81                 | 13.0                                | 340.5        | 340.8                  | 337.6                   | 3.15                      | 108.271           |                    |          |
| 200.0                                                                                            | 200.0                 | 201.6                 | 201.6                 | 0.5              | 3.0           | 87.98                 | 12.0                                | 340.7        | 340.9                  | 337.4                   | 3.55                      | 96.153            |                    |          |
| 300.0                                                                                            | 300.0                 | 302.0                 | 302.0                 | 0.9              | 3.1           | 88.10                 | 11.3                                | 340.5        | 340.7                  | 336.7                   | 3.98                      | 85.504            |                    |          |
| 400.0                                                                                            | 400.0                 | 403.1                 | 403.1                 | 1.2              | 3.2           | 88.25                 | 10.4                                | 340.0        | 340.2                  | 335.8                   | 4.46                      | 76.244            |                    |          |
| 500.0                                                                                            | 500.0                 | 503.4                 | 503.4                 | 1.6              | 3.4           | 88.38                 | 9.6                                 | 339.4        | 339.5                  | 334.6                   | 4.97                      | 68.276            |                    |          |
| 600.0                                                                                            | 600.0                 | 603.2                 | 603.2                 | 1.9              | 3.6           | 88.52                 | 8.8                                 | 338.8        | 338.9                  | 333.4                   | 5.51                      | 61.472            |                    |          |
| 700.0                                                                                            | 700.0                 | 707.4                 | 707.3                 | 2.3              | 3.8           | 88.64                 | 8.0                                 | 337.4        | 337.6                  | 331.5                   | 6.09                      | 55.472            |                    |          |
| 800.0                                                                                            | 800.0                 | 809.3                 | 809.2                 | 2.7              | 4.0           | 88.77                 | 7.2                                 | 335.2        | 335.4                  | 328.7                   | 6.68                      | 50.239            |                    |          |
| 900.0                                                                                            | 900.0                 | 908.5                 | 908.4                 | 3.0              | 4.3           | 88.92                 | 6.3                                 | 332.9        | 333.0                  | 325.8                   | 7.28                      | 45.756            |                    |          |
| 1,000.0                                                                                          | 1,000.0               | 1,005.8               | 1,005.6               | 3.4              | 4.5           | 89.04                 | 5.5                                 | 331.2        | 331.2                  | 323.3                   | 7.89                      | 41.977            |                    |          |
| 1,100.0                                                                                          | 1,100.0               | 1,104.1               | 1,103.9               | 3.7              | 4.8           | -25.44                | 5.0                                 | 330.0        | 328.5                  | 320.0                   | 8.51                      | 38.621            |                    |          |
| 1,200.0                                                                                          | 1,199.8               | 1,203.6               | 1,203.5               | 4.1              | 5.1           | -25.81                | 4.5                                 | 329.2        | 322.9                  | 313.8                   | 9.13                      | 35.380            |                    |          |
| 1,233.7                                                                                          | 1,233.4               | 1,236.6               | 1,236.5               | 4.2              | 5.2           | -26.02                | 4.5                                 | 329.0        | 320.4                  | 311.1                   | 9.34                      | 34.307            |                    |          |
| 1,300.0                                                                                          | 1,299.5               | 1,301.6               | 1,301.5               | 4.4              | 5.4           | -26.42                | 4.3                                 | 328.7        | 315.2                  | 305.5                   | 9.76                      | 32.300            |                    |          |
| 1,400.0                                                                                          | 1,399.2               | 1,400.3               | 1,400.2               | 4.8              | 5.7           | -27.07                | 4.2                                 | 328.5        | 307.8                  | 297.4                   | 10.40                     | 29.590            |                    |          |

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 STEALTH FEDERAL COM #4H                   |
| Project:           | LEA COUNTY, NM          | TVD Reference:              | 3592 + 20 = 3612' RKB @ 3612.0usft (PATRIOT 2) |
| Reference Site:    | LUSK BSS                | MD Reference:               | 3592 + 20 = 3612' RKB @ 3612.0usft (PATRIOT 2) |
| Site Error:        | 0.0 usft                | North Reference:            | Grid                                           |
| Reference Well:    | STEALTH FEDERAL COM #4H | 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 DEEP BSS - STEALTH FEDERAL COM #1H - STEALTH FEDERAL COM #1H - STEALTH FEDERAL COM |                       |                       |                       |                  |               |                       |                                     |              |                        |                         |                           |                   | Offset Site Error: | 0.0 usft |
|--------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|-------------------|--------------------|----------|
| Survey Program: 100-MWD                                                                          |                       |                       |                       |                  |               |                       |                                     |              |                        |                         |                           |                   | 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) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor |                    |          |
| 1,500.0                                                                                          | 1,498.9               | 1,500.0               | 1,499.9               | 5.1              | 5.9           | -27.78                | 4.2                                 | 328.5        | 300.6                  | 289.5                   | 11.06                     | 27.183            |                    |          |
| 1,600.0                                                                                          | 1,598.5               | 1,599.2               | 1,599.1               | 5.5              | 6.2           | -28.52                | 4.3                                 | 328.6        | 293.4                  | 281.7                   | 11.71                     | 25.058            |                    |          |
| 1,700.0                                                                                          | 1,698.2               | 1,697.1               | 1,696.9               | 5.8              | 6.5           | -29.36                | 4.7                                 | 329.0        | 286.8                  | 274.4                   | 12.36                     | 23.206            |                    |          |
| 1,800.0                                                                                          | 1,797.9               | 1,794.3               | 1,794.2               | 6.2              | 6.8           | -30.34                | 5.7                                 | 330.1        | 280.9                  | 267.9                   | 13.01                     | 21.591            |                    |          |
| 1,900.0                                                                                          | 1,897.5               | 1,891.8               | 1,891.6               | 6.6              | 7.1           | -31.44                | 7.2                                 | 332.0        | 276.0                  | 262.3                   | 13.67                     | 20.187            |                    |          |
| 2,000.0                                                                                          | 1,997.2               | 1,992.1               | 1,991.8               | 6.9              | 7.4           | -32.69                | 9.1                                 | 334.2        | 271.5                  | 257.2                   | 14.35                     | 18.925            |                    |          |
| 2,100.0                                                                                          | 2,096.9               | 2,091.9               | 2,091.6               | 7.3              | 7.7           | -34.04                | 11.3                                | 336.2        | 267.1                  | 252.0                   | 15.03                     | 17.769            |                    |          |
| 2,200.0                                                                                          | 2,196.5               | 2,191.6               | 2,191.3               | 7.7              | 8.0           | -35.40                | 13.4                                | 338.2        | 262.7                  | 247.0                   | 15.72                     | 16.716            |                    |          |
| 2,300.0                                                                                          | 2,296.2               | 2,291.3               | 2,291.0               | 8.0              | 8.4           | -36.80                | 15.4                                | 340.2        | 258.5                  | 242.1                   | 16.41                     | 15.756            |                    |          |
| 2,400.0                                                                                          | 2,395.9               | 2,390.9               | 2,390.5               | 8.4              | 8.7           | -38.24                | 17.4                                | 342.3        | 254.5                  | 237.4                   | 17.10                     | 14.881            |                    |          |
| 2,500.0                                                                                          | 2,495.5               | 2,492.8               | 2,492.4               | 8.8              | 9.0           | -39.70                | 19.1                                | 344.1        | 250.3                  | 232.5                   | 17.81                     | 14.054            |                    |          |
| 2,600.0                                                                                          | 2,595.2               | 2,594.8               | 2,594.4               | 9.2              | 9.4           | -41.08                | 20.0                                | 345.1        | 245.2                  | 226.7                   | 18.52                     | 13.245            |                    |          |
| 2,700.0                                                                                          | 2,694.9               | 2,696.9               | 2,696.5               | 9.5              | 9.7           | -42.28                | 19.7                                | 345.5        | 239.4                  | 220.2                   | 19.23                     | 12.451            |                    |          |
| 2,800.0                                                                                          | 2,794.5               | 2,796.5               | 2,796.1               | 9.9              | 10.0          | -43.38                | 18.6                                | 345.5        | 233.2                  | 213.2                   | 19.93                     | 11.696            |                    |          |
| 2,900.0                                                                                          | 2,894.2               | 2,896.8               | 2,896.4               | 10.3             | 10.4          | -44.44                | 17.2                                | 345.6        | 226.9                  | 206.3                   | 20.65                     | 10.990            |                    |          |
| 3,000.0                                                                                          | 2,993.9               | 2,997.6               | 2,997.1               | 10.7             | 10.7          | -45.51                | 15.4                                | 345.5        | 220.4                  | 199.0                   | 21.36                     | 10.316            |                    |          |
| 3,100.0                                                                                          | 3,093.5               | 3,098.3               | 3,097.8               | 11.0             | 11.0          | -46.71                | 13.6                                | 344.8        | 213.4                  | 191.3                   | 22.08                     | 9.666             |                    |          |
| 3,200.0                                                                                          | 3,193.2               | 3,198.3               | 3,197.8               | 11.4             | 11.4          | -48.08                | 12.0                                | 343.7        | 206.3                  | 183.5                   | 22.80                     | 9.048             |                    |          |
| 3,300.0                                                                                          | 3,292.9               | 3,298.1               | 3,297.6               | 11.8             | 11.7          | -49.63                | 10.7                                | 342.3        | 199.1                  | 175.6                   | 23.51                     | 8.467             |                    |          |
| 3,400.0                                                                                          | 3,392.5               | 3,398.4               | 3,397.8               | 12.2             | 12.1          | -51.36                | 9.4                                 | 340.6        | 191.8                  | 167.6                   | 24.23                     | 7.916             |                    |          |
| 3,500.0                                                                                          | 3,492.2               | 3,497.5               | 3,497.0               | 12.6             | 12.4          | -53.20                | 8.1                                 | 338.9        | 184.7                  | 159.7                   | 24.95                     | 7.402             |                    |          |
| 3,600.0                                                                                          | 3,591.9               | 3,598.1               | 3,597.5               | 12.9             | 12.7          | -55.22                | 6.7                                 | 337.0        | 177.6                  | 151.9                   | 25.68                     | 6.917             |                    |          |
| 3,700.0                                                                                          | 3,691.5               | 3,698.2               | 3,697.6               | 13.3             | 13.1          | -57.48                | 5.3                                 | 334.6        | 170.3                  | 143.9                   | 26.40                     | 6.450             |                    |          |
| 3,800.0                                                                                          | 3,791.2               | 3,797.7               | 3,797.0               | 13.7             | 13.4          | -59.96                | 3.9                                 | 332.1        | 163.1                  | 136.0                   | 27.12                     | 6.013             |                    |          |
| 3,900.0                                                                                          | 3,890.9               | 3,896.9               | 3,896.2               | 14.1             | 13.8          | -62.67                | 2.5                                 | 329.5        | 156.3                  | 128.5                   | 27.85                     | 5.613             |                    |          |
| 4,000.0                                                                                          | 3,990.5               | 3,996.7               | 3,996.0               | 14.4             | 14.1          | -65.57                | 1.0                                 | 327.1        | 149.9                  | 121.3                   | 28.57                     | 5.247             |                    |          |
| 4,100.0                                                                                          | 4,090.2               | 4,096.5               | 4,095.7               | 14.8             | 14.5          | -68.62                | -0.8                                | 324.6        | 143.7                  | 114.4                   | 29.30                     | 4.904             |                    |          |
| 4,200.0                                                                                          | 4,189.9               | 4,196.4               | 4,195.6               | 15.2             | 14.8          | -71.96                | -2.7                                | 322.0        | 137.7                  | 107.6                   | 30.03                     | 4.584             |                    |          |
| 4,300.0                                                                                          | 4,289.5               | 4,295.9               | 4,295.0               | 15.6             | 15.2          | -75.60                | -4.8                                | 319.2        | 132.0                  | 101.2                   | 30.75                     | 4.291             |                    |          |
| 4,400.0                                                                                          | 4,389.2               | 4,395.4               | 4,394.4               | 16.0             | 15.5          | -79.54                | -6.9                                | 316.4        | 126.8                  | 95.4                    | 31.48                     | 4.029             |                    |          |
| 4,500.0                                                                                          | 4,488.9               | 4,494.6               | 4,493.6               | 16.3             | 15.9          | -83.85                | -8.8                                | 313.6        | 122.4                  | 90.2                    | 32.21                     | 3.801             |                    |          |
| 4,600.0                                                                                          | 4,588.5               | 4,594.1               | 4,593.0               | 16.7             | 16.2          | -88.55                | -10.5                               | 310.6        | 118.9                  | 86.0                    | 32.94                     | 3.610             |                    |          |
| 4,700.0                                                                                          | 4,688.2               | 4,693.3               | 4,692.2               | 17.1             | 16.6          | -93.53                | -12.2                               | 307.5        | 116.3                  | 82.6                    | 33.67                     | 3.454             |                    |          |
| 4,800.0                                                                                          | 4,787.9               | 4,792.9               | 4,791.7               | 17.5             | 16.9          | -98.75                | -13.7                               | 304.4        | 114.7                  | 80.3                    | 34.40                     | 3.334             |                    |          |
| 4,895.4                                                                                          | 4,883.0               | 4,887.5               | 4,886.2               | 17.8             | 17.2          | -103.69               | -15.2                               | 301.7        | 114.1                  | 79.0                    | 35.10                     | 3.252 CC          |                    |          |
| 4,900.0                                                                                          | 4,887.5               | 4,892.0               | 4,890.7               | 17.9             | 17.3          | -103.92               | -15.3                               | 301.6        | 114.1                  | 79.0                    | 35.13                     | 3.249             |                    |          |
| 5,000.0                                                                                          | 4,987.2               | 4,991.2               | 4,989.9               | 18.2             | 17.6          | -108.93               | -16.6                               | 299.1        | 114.8                  | 78.9                    | 35.86                     | 3.200 ES          |                    |          |
| 5,100.0                                                                                          | 5,086.9               | 5,090.7               | 5,089.4               | 18.6             | 18.0          | -113.74               | -17.8                               | 296.9        | 116.4                  | 79.8                    | 36.59                     | 3.181 SF          |                    |          |
| 5,200.0                                                                                          | 5,186.6               | 5,190.3               | 5,189.0               | 19.0             | 18.3          | -118.28               | -19.1                               | 294.9        | 118.8                  | 81.4                    | 37.32                     | 3.182             |                    |          |
| 5,300.0                                                                                          | 5,286.2               | 5,289.1               | 5,287.7               | 19.4             | 18.7          | -122.43               | -20.1                               | 293.2        | 122.1                  | 84.0                    | 38.05                     | 3.207             |                    |          |
| 5,400.0                                                                                          | 5,385.9               | 5,388.3               | 5,386.9               | 19.8             | 19.0          | -126.22               | -20.6                               | 291.7        | 126.5                  | 87.7                    | 38.78                     | 3.261             |                    |          |
| 5,500.0                                                                                          | 5,485.6               | 5,487.7               | 5,486.3               | 20.1             | 19.4          | -129.70               | -20.8                               | 290.3        | 131.6                  | 92.1                    | 39.51                     | 3.330             |                    |          |
| 5,600.0                                                                                          | 5,585.2               | 5,587.2               | 5,585.8               | 20.5             | 19.7          | -132.78               | -20.9                               | 289.2        | 137.2                  | 97.0                    | 40.24                     | 3.410             |                    |          |
| 5,700.0                                                                                          | 5,684.9               | 5,686.8               | 5,685.3               | 20.9             | 20.1          | -135.59               | -20.9                               | 288.1        | 143.3                  | 102.3                   | 40.97                     | 3.497             |                    |          |
| 5,800.0                                                                                          | 5,784.6               | 5,786.2               | 5,784.7               | 21.3             | 20.4          | -138.25               | -21.0                               | 286.7        | 149.7                  | 108.0                   | 41.70                     | 3.589             |                    |          |
| 5,900.0                                                                                          | 5,884.2               | 5,885.5               | 5,884.0               | 21.7             | 20.8          | -140.75               | -21.0                               | 285.2        | 156.6                  | 114.1                   | 42.43                     | 3.689             |                    |          |
| 6,000.0                                                                                          | 5,983.9               | 5,985.5               | 5,984.0               | 22.1             | 21.1          | -143.03               | -21.0                               | 283.7        | 163.7                  | 120.5                   | 43.17                     | 3.791             |                    |          |
| 6,100.0                                                                                          | 6,083.6               | 6,085.1               | 6,083.6               | 22.4             | 21.5          | -145.14               | -21.3                               | 282.2        | 170.8                  | 126.9                   | 43.90                     | 3.890             |                    |          |
| 6,200.0                                                                                          | 6,183.2               | 6,184.3               | 6,182.8               | 22.8             | 21.8          | -147.11               | -21.5                               | 280.6        | 178.2                  | 133.6                   | 44.63                     | 3.993             |                    |          |

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 STEALTH FEDERAL COM #4H                   |
| Project:           | LEA COUNTY, NM          | TVD Reference:              | 3592 + 20 = 3612' RKB @ 3612.0usft (PATRIOT 2) |
| Reference Site:    | LUSK BSS                | MD Reference:               | 3592 + 20 = 3612' RKB @ 3612.0usft (PATRIOT 2) |
| Site Error:        | 0.0 usft                | North Reference:            | Grid                                           |
| Reference Well:    | STEALTH FEDERAL COM #4H | 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 DEEP BSS - STEALTH FEDERAL COM #1H - STEALTH FEDERAL COM #1H - STEALTH FEDERAL COM |                       |                       |                       |                  |               |                       |                                     |              |                        |                         |                           |                   | Offset Site Error: | 0.0 usft |
|--------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|-------------------|--------------------|----------|
| Survey Program: 100-MWD                                                                          |                       |                       |                       |                  |               |                       |                                     |              |                        |                         |                           |                   | 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) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor |                    |          |
| 6,300.0                                                                                          | 6,282.9               | 6,284.1               | 6,282.6               | 23.2             | 22.2          | -148.93               | -21.6                               | 279.0        | 185.9                  | 140.5                   | 45.36                     | 4.098             |                    |          |
| 6,400.0                                                                                          | 6,382.6               | 6,383.2               | 6,381.7               | 23.6             | 22.5          | -150.56               | -21.8                               | 277.4        | 193.8                  | 147.7                   | 46.09                     | 4.204             |                    |          |
| 6,500.0                                                                                          | 6,482.2               | 6,482.9               | 6,481.3               | 24.0             | 22.9          | -152.05               | -21.7                               | 275.9        | 201.9                  | 155.1                   | 46.83                     | 4.312             |                    |          |
| 6,600.0                                                                                          | 6,581.9               | 6,582.1               | 6,580.6               | 24.3             | 23.2          | -153.42               | -21.7                               | 274.3        | 210.1                  | 162.6                   | 47.56                     | 4.419             |                    |          |
| 6,700.0                                                                                          | 6,681.6               | 6,682.3               | 6,680.7               | 24.7             | 23.6          | -154.69               | -21.6                               | 272.8        | 218.5                  | 170.2                   | 48.29                     | 4.524             |                    |          |
| 6,800.0                                                                                          | 6,781.2               | 6,782.0               | 6,780.4               | 25.1             | 23.9          | -155.91               | -21.9                               | 271.2        | 226.7                  | 177.7                   | 49.03                     | 4.624             |                    |          |
| 6,900.0                                                                                          | 6,880.9               | 6,880.4               | 6,878.9               | 25.5             | 24.3          | -157.02               | -22.0                               | 269.6        | 235.2                  | 185.4                   | 49.76                     | 4.726             |                    |          |
| 7,000.0                                                                                          | 6,980.6               | 6,979.2               | 6,977.6               | 25.9             | 24.6          | -157.97               | -21.5                               | 268.0        | 244.2                  | 193.7                   | 50.49                     | 4.837             |                    |          |
| 7,100.0                                                                                          | 7,080.2               | 7,079.3               | 7,077.7               | 26.2             | 25.0          | -158.81               | -20.9                               | 266.5        | 253.3                  | 202.1                   | 51.22                     | 4.946             |                    |          |
| 7,200.0                                                                                          | 7,179.9               | 7,179.7               | 7,178.1               | 26.6             | 25.3          | -159.65               | -20.6                               | 265.0        | 262.2                  | 210.2                   | 51.96                     | 5.046             |                    |          |
| 7,300.0                                                                                          | 7,279.6               | 7,280.1               | 7,278.4               | 27.0             | 25.7          | -160.48               | -20.7                               | 263.6        | 270.7                  | 218.0                   | 52.69                     | 5.138             |                    |          |
| 7,400.0                                                                                          | 7,379.2               | 7,379.6               | 7,378.0               | 27.4             | 26.0          | -161.26               | -21.0                               | 262.3        | 279.2                  | 225.8                   | 53.43                     | 5.226             |                    |          |
| 7,500.0                                                                                          | 7,478.9               | 7,478.5               | 7,476.9               | 27.8             | 26.4          | -161.95               | -21.0                               | 261.0        | 287.9                  | 233.7                   | 54.16                     | 5.315             |                    |          |
| 7,600.0                                                                                          | 7,578.6               | 7,578.8               | 7,575.2               | 28.2             | 26.7          | -162.61               | -20.8                               | 259.5        | 296.9                  | 242.0                   | 54.89                     | 5.409             |                    |          |
| 7,700.0                                                                                          | 7,678.2               | 7,676.1               | 7,674.5               | 28.5             | 27.1          | -163.31               | -20.8                               | 257.5        | 306.2                  | 250.6                   | 55.62                     | 5.505             |                    |          |
| 7,800.0                                                                                          | 7,777.9               | 7,774.5               | 7,772.8               | 28.9             | 27.4          | -164.05               | -21.0                               | 255.1        | 315.7                  | 259.4                   | 56.35                     | 5.603             |                    |          |
| 7,900.0                                                                                          | 7,877.6               | 7,876.1               | 7,874.3               | 29.3             | 27.8          | -164.80               | -21.4                               | 252.5        | 325.3                  | 268.2                   | 57.10                     | 5.698             |                    |          |
| 8,000.0                                                                                          | 7,977.2               | 7,977.2               | 7,975.4               | 29.7             | 28.2          | -165.64               | -22.8                               | 250.0        | 334.2                  | 276.4                   | 57.84                     | 5.778             |                    |          |
| 8,100.0                                                                                          | 8,076.9               | 8,046.1               | 8,044.2               | 30.1             | 28.4          | -165.81               | -20.9                               | 248.1        | 346.4                  | 287.9                   | 58.46                     | 5.925             |                    |          |
| 8,200.0                                                                                          | 8,176.6               | 8,125.7               | 8,121.9               | 30.4             | 28.7          | -163.89               | -3.8                                | 248.5        | 367.4                  | 308.3                   | 59.10                     | 6.217             |                    |          |
| 8,300.0                                                                                          | 8,276.2               | 8,212.0               | 8,203.1               | 30.8             | 28.9          | -160.14               | 24.0                                | 256.7        | 390.6                  | 330.8                   | 59.75                     | 6.537             |                    |          |
| 8,400.0                                                                                          | 8,375.9               | 8,266.4               | 8,253.0               | 31.2             | 29.1          | -157.70               | 45.0                                | 261.0        | 421.6                  | 361.3                   | 60.30                     | 6.992             |                    |          |
| 8,500.0                                                                                          | 8,475.6               | 8,308.0               | 8,289.5               | 31.6             | 29.2          | -155.75               | 65.1                                | 262.8        | 463.4                  | 402.6                   | 60.81                     | 7.620             |                    |          |
| 8,600.0                                                                                          | 8,575.2               | 8,353.3               | 8,327.0               | 32.0             | 29.4          | -153.58               | 90.4                                | 263.9        | 514.1                  | 452.8                   | 61.33                     | 8.383             |                    |          |
| 8,700.0                                                                                          | 8,674.9               | 8,389.4               | 8,354.9               | 32.3             | 29.5          | -151.79               | 113.2                               | 264.6        | 572.6                  | 510.7                   | 61.82                     | 9.261             |                    |          |
| 8,800.0                                                                                          | 8,774.6               | 8,422.7               | 8,378.8               | 32.7             | 29.6          | -150.12               | 136.3                               | 265.4        | 637.5                  | 575.2                   | 62.31                     | 10.231            |                    |          |
| 8,875.2                                                                                          | 8,849.5               | 8,448.3               | 8,396.1               | 33.0             | 29.7          | -148.82               | 155.2                               | 266.3        | 689.7                  | 627.1                   | 62.68                     | 11.004            |                    |          |
| 8,900.0                                                                                          | 8,874.3               | 8,457.2               | 8,402.0               | 33.1             | 29.7          | -108.64               | 161.9                               | 266.7        | 707.1                  | 644.3                   | 62.80                     | 11.259            |                    |          |
| 8,925.0                                                                                          | 8,899.2               | 8,467.0               | 8,408.3               | 33.2             | 29.7          | -76.87                | 169.4                               | 267.1        | 724.0                  | 661.1                   | 62.92                     | 11.507            |                    |          |
| 8,950.0                                                                                          | 8,924.0               | 8,475.3               | 8,413.5               | 33.3             | 29.7          | -59.90                | 175.8                               | 267.6        | 740.4                  | 677.3                   | 63.03                     | 11.746            |                    |          |
| 8,975.0                                                                                          | 8,948.6               | 8,484.3               | 8,419.1               | 33.4             | 29.8          | -50.28                | 182.9                               | 268.1        | 756.1                  | 693.0                   | 63.14                     | 11.975            |                    |          |
| 9,000.0                                                                                          | 8,973.1               | 8,499.0               | 8,428.0               | 33.4             | 29.8          | -43.96                | 194.5                               | 269.0        | 771.3                  | 708.0                   | 63.27                     | 12.191            |                    |          |
| 9,025.0                                                                                          | 8,997.2               | 8,499.0               | 8,428.0               | 33.5             | 29.8          | -39.87                | 194.5                               | 269.0        | 785.8                  | 722.4                   | 63.34                     | 12.405            |                    |          |
| 9,050.0                                                                                          | 9,021.0               | 8,509.6               | 8,434.1               | 33.6             | 29.9          | -36.57                | 203.1                               | 269.8        | 799.6                  | 736.1                   | 63.45                     | 12.602            |                    |          |
| 9,075.0                                                                                          | 9,044.3               | 8,517.2               | 8,438.4               | 33.7             | 29.9          | -34.03                | 209.4                               | 270.4        | 812.8                  | 749.3                   | 63.54                     | 12.792            |                    |          |
| 9,100.0                                                                                          | 9,067.2               | 8,530.0               | 8,445.4               | 33.7             | 29.9          | -31.88                | 220.1                               | 271.3        | 825.4                  | 761.7                   | 63.65                     | 12.968            |                    |          |
| 9,125.0                                                                                          | 9,089.5               | 8,530.0               | 8,445.4               | 33.8             | 29.9          | -30.31                | 220.1                               | 271.3        | 837.2                  | 773.5                   | 63.70                     | 13.142            |                    |          |
| 9,150.0                                                                                          | 9,111.2               | 8,542.4               | 8,451.8               | 33.8             | 30.0          | -28.79                | 230.7                               | 272.3        | 848.3                  | 784.5                   | 63.80                     | 13.296            |                    |          |
| 9,175.0                                                                                          | 9,132.2               | 8,551.7               | 8,456.5               | 33.9             | 30.0          | -27.53                | 238.7                               | 273.1        | 858.7                  | 794.8                   | 63.88                     | 13.442            |                    |          |
| 9,200.0                                                                                          | 9,152.5               | 8,562.0               | 8,461.5               | 33.9             | 30.0          | -26.44                | 247.6                               | 273.9        | 868.3                  | 804.3                   | 63.96                     | 13.576            |                    |          |
| 9,225.0                                                                                          | 9,172.0               | 8,562.0               | 8,461.5               | 34.0             | 30.0          | -25.62                | 247.6                               | 273.9        | 877.3                  | 813.3                   | 64.00                     | 13.707            |                    |          |
| 9,250.0                                                                                          | 9,190.7               | 8,579.9               | 8,469.8               | 34.0             | 30.1          | -24.71                | 263.3                               | 275.3        | 885.2                  | 821.1                   | 64.10                     | 13.810            |                    |          |
| 9,275.0                                                                                          | 9,208.4               | 8,594.0               | 8,476.1               | 34.0             | 30.2          | -23.96                | 276.0                               | 276.5        | 892.5                  | 828.3                   | 64.18                     | 13.907            |                    |          |
| 9,300.0                                                                                          | 9,225.3               | 8,594.0               | 8,476.1               | 34.0             | 30.2          | -23.44                | 276.0                               | 276.5        | 899.0                  | 834.8                   | 64.21                     | 14.002            |                    |          |
| 9,325.0                                                                                          | 9,241.1               | 8,606.4               | 8,481.2               | 34.1             | 30.2          | -22.89                | 287.2                               | 277.5        | 904.7                  | 840.4                   | 64.27                     | 14.075            |                    |          |
| 9,350.0                                                                                          | 9,256.0               | 8,614.6               | 8,484.5               | 34.1             | 30.2          | -22.44                | 294.7                               | 278.1        | 909.6                  | 845.3                   | 64.32                     | 14.141            |                    |          |
| 9,375.0                                                                                          | 9,269.7               | 8,626.0               | 8,488.7               | 34.1             | 30.3          | -22.03                | 305.2                               | 279.0        | 913.7                  | 849.4                   | 64.38                     | 14.193            |                    |          |
| 9,400.0                                                                                          | 9,282.4               | 8,626.0               | 8,488.7               | 34.1             | 30.3          | -21.76                | 305.2                               | 279.0        | 917.1                  | 852.7                   | 64.39                     | 14.243            |                    |          |
| 9,425.0                                                                                          | 9,293.9               | 8,637.5               | 8,492.7               | 34.1             | 30.3          | -21.48                | 316.0                               | 279.9        | 919.7                  | 855.2                   | 64.44                     | 14.272            |                    |          |

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 STEALTH FEDERAL COM #4H                   |
| Project:           | LEA COUNTY, NM          | TVD Reference:              | 3592 + 20 = 3612' RKB @ 3612.0usft (PATRIOT 2) |
| Reference Site:    | LUSK BSS                | MD Reference:               | 3592 + 20 = 3612' RKB @ 3612.0usft (PATRIOT 2) |
| Site Error:        | 0.0 usft                | North Reference:            | Grid                                           |
| Reference Well:    | STEALTH FEDERAL COM #4H | 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 DEEP BSS - STEALTH FEDERAL COM #1H - STEALTH FEDERAL COM #1H - STEALTH FEDERAL COM |                       |                       |                       |                  |               |                       |                                     |              |                        |                         |                           |                   |         | 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) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |                    |          |
| 9,450.0                                                                                          | 9,304.2               | 8,644.6               | 8,495.0               | 34.1             | 30.3          | -21.26                | 322.7                               | 280.5        | 921.5                  | 857.0                   | 64.47                     | 14.293            |         |                    |          |
| 9,475.0                                                                                          | 9,313.3               | 8,657.0               | 8,498.6               | 34.1             | 30.4          | -21.07                | 334.5                               | 281.5        | 922.6                  | 858.1                   | 64.52                     | 14.299            |         |                    |          |
| 9,500.0                                                                                          | 9,321.2               | 8,657.0               | 8,498.6               | 34.1             | 30.4          | -20.99                | 334.5                               | 281.5        | 922.8                  | 858.3                   | 64.52                     | 14.302            |         |                    |          |
| 9,525.0                                                                                          | 9,327.9               | 8,671.1               | 8,502.4               | 34.1             | 30.4          | -20.89                | 348.1                               | 282.6        | 922.2                  | 857.6                   | 64.58                     | 14.281            |         |                    |          |
| 9,550.0                                                                                          | 9,333.3               | 8,689.0               | 8,506.8               | 34.1             | 30.5          | -20.83                | 365.3                               | 284.0        | 920.8                  | 856.2                   | 64.65                     | 14.243            |         |                    |          |
| 9,575.0                                                                                          | 9,337.4               | 8,695.5               | 8,508.3               | 34.1             | 30.5          | -20.86                | 371.7                               | 284.5        | 918.4                  | 853.7                   | 64.68                     | 14.199            |         |                    |          |
| 9,600.0                                                                                          | 9,340.2               | 8,711.1               | 8,511.8               | 34.2             | 30.6          | -20.92                | 386.8                               | 285.7        | 915.1                  | 850.3                   | 64.76                     | 14.131            |         |                    |          |
| 9,625.0                                                                                          | 9,341.7               | 8,721.0               | 8,513.9               | 34.2             | 30.6          | -21.04                | 396.4                               | 286.5        | 910.8                  | 846.0                   | 64.82                     | 14.052            |         |                    |          |
| 9,639.1                                                                                          | 9,342.0               | 8,721.0               | 8,513.9               | 34.2             | 30.6          | -21.13                | 396.4                               | 286.5        | 908.1                  | 843.3                   | 64.83                     | 14.006            |         |                    |          |
| 9,700.0                                                                                          | 9,342.3               | 8,753.0               | 8,519.6               | 34.3             | 30.8          | -21.11                | 427.8                               | 288.8        | 896.7                  | 831.6                   | 65.07                     | 13.780            |         |                    |          |
| 9,800.0                                                                                          | 9,342.8               | 8,785.0               | 8,523.0               | 34.6             | 30.9          | -21.05                | 459.6                               | 290.8        | 883.9                  | 818.4                   | 65.50                     | 13.494            |         |                    |          |
| 9,900.0                                                                                          | 9,343.4               | 8,838.2               | 8,525.3               | 35.0             | 31.1          | -20.88                | 512.6                               | 294.0        | 877.6                  | 811.5                   | 66.14                     | 13.270            |         |                    |          |
| 10,000.0                                                                                         | 9,343.9               | 8,911.6               | 8,526.2               | 35.5             | 31.5          | -20.66                | 585.9                               | 297.3        | 875.0                  | 808.1                   | 66.98                     | 13.064            |         |                    |          |
| 10,043.6                                                                                         | 9,344.1               | 8,947.0               | 8,525.9               | 35.7             | 31.7          | -20.55                | 621.3                               | 298.7        | 874.9                  | 807.5                   | 67.39                     | 12.982            |         |                    |          |
| 10,100.0                                                                                         | 9,344.4               | 9,002.3               | 8,525.1               | 36.0             | 32.0          | -20.36                | 676.6                               | 301.0        | 875.0                  | 806.9                   | 68.02                     | 12.863            |         |                    |          |
| 10,200.0                                                                                         | 9,344.9               | 9,141.5               | 8,525.2               | 36.7             | 32.8          | -19.78                | 815.5                               | 309.2        | 873.3                  | 803.8                   | 69.51                     | 12.564            |         |                    |          |
| 10,300.0                                                                                         | 9,345.5               | 9,232.0               | 8,527.4               | 37.3             | 33.5          | -19.42                | 905.8                               | 314.9        | 869.2                  | 798.3                   | 70.83                     | 12.271            |         |                    |          |
| 10,400.0                                                                                         | 9,346.0               | 9,317.8               | 8,528.4               | 38.1             | 34.1          | -19.08                | 991.4                               | 320.0        | 866.4                  | 794.2                   | 72.23                     | 11.995            |         |                    |          |
| 10,500.0                                                                                         | 9,346.5               | 9,405.3               | 8,527.8               | 38.9             | 34.9          | -18.71                | 1,078.8                             | 324.9        | 865.5                  | 791.7                   | 73.74                     | 11.737            |         |                    |          |
| 10,519.7                                                                                         | 9,346.6               | 9,423.0               | 8,527.6               | 39.1             | 35.0          | -18.65                | 1,096.5                             | 325.7        | 865.4                  | 791.4                   | 74.05                     | 11.687            |         |                    |          |
| 10,600.0                                                                                         | 9,347.0               | 9,496.6               | 8,526.5               | 39.7             | 35.6          | -18.39                | 1,170.0                             | 328.8        | 865.8                  | 790.4                   | 75.39                     | 11.485            |         |                    |          |
| 10,700.0                                                                                         | 9,347.6               | 9,604.7               | 8,524.7               | 40.6             | 36.6          | -18.01                | 1,278.0                             | 333.3        | 866.3                  | 789.0                   | 77.28                     | 11.210            |         |                    |          |
| 10,800.0                                                                                         | 9,348.1               | 9,723.9               | 8,524.8               | 41.6             | 37.8          | -17.56                | 1,397.1                             | 339.5        | 864.9                  | 785.5                   | 79.40                     | 10.894            |         |                    |          |
| 10,900.0                                                                                         | 9,348.6               | 9,822.8               | 8,525.7               | 42.6             | 38.8          | -17.18                | 1,495.8                             | 344.9        | 862.7                  | 781.3                   | 81.40                     | 10.598            |         |                    |          |
| 11,000.0                                                                                         | 9,349.1               | 9,918.8               | 8,525.8               | 43.6             | 39.8          | -16.67                | 1,591.5                             | 352.1        | 860.7                  | 777.2                   | 83.45                     | 10.314            |         |                    |          |
| 11,100.0                                                                                         | 9,349.6               | 10,014.3              | 8,525.4               | 44.7             | 40.9          | -16.16                | 1,686.7                             | 359.1        | 859.4                  | 773.8                   | 85.57                     | 10.043            |         |                    |          |
| 11,200.0                                                                                         | 9,350.2               | 10,114.8              | 8,525.0               | 45.8             | 42.0          | -15.67                | 1,787.0                             | 365.9        | 858.2                  | 770.4                   | 87.82                     | 9.772             |         |                    |          |
| 11,300.0                                                                                         | 9,350.7               | 10,218.1              | 8,525.0               | 46.9             | 43.2          | -15.24                | 1,890.2                             | 371.6        | 857.1                  | 766.9                   | 90.17                     | 9.505             |         |                    |          |
| 11,400.0                                                                                         | 9,351.2               | 10,325.8              | 8,526.1               | 48.1             | 44.5          | -14.82                | 1,997.7                             | 377.5        | 854.9                  | 762.3                   | 92.63                     | 9.229             |         |                    |          |
| 11,500.0                                                                                         | 9,351.7               | 10,422.6              | 8,527.8               | 49.3             | 45.7          | -14.57                | 2,094.4                             | 381.1        | 852.6                  | 757.6                   | 95.03                     | 8.972             |         |                    |          |
| 11,600.0                                                                                         | 9,352.3               | 10,519.1              | 8,529.2               | 50.5             | 46.9          | -14.37                | 2,190.9                             | 383.7        | 850.9                  | 753.4                   | 97.47                     | 8.729             |         |                    |          |
| 11,700.0                                                                                         | 9,352.8               | 10,610.1              | 8,530.1               | 51.8             | 48.1          | -14.15                | 2,281.8                             | 386.5        | 849.6                  | 749.7                   | 99.89                     | 8.505             |         |                    |          |
| 11,727.2                                                                                         | 9,352.9               | 10,632.8              | 8,530.0               | 52.1             | 48.4          | -14.07                | 2,304.4                             | 387.5        | 849.5                  | 749.0                   | 100.53                    | 8.450             |         |                    |          |
| 11,800.0                                                                                         | 9,353.3               | 10,691.9              | 8,529.0               | 53.1             | 49.2          | -13.83                | 2,363.5                             | 390.4        | 850.0                  | 747.8                   | 102.23                    | 8.315             |         |                    |          |
| 11,900.0                                                                                         | 9,353.8               | 10,777.0              | 8,525.8               | 54.4             | 50.3          | -13.45                | 2,448.4                             | 394.7        | 852.8                  | 748.2                   | 104.65                    | 8.149             |         |                    |          |
| 12,000.0                                                                                         | 9,354.4               | 10,896.7              | 8,521.0               | 55.7             | 51.9          | -12.76                | 2,567.7                             | 403.2        | 855.5                  | 748.0                   | 107.56                    | 7.954             |         |                    |          |
| 12,100.0                                                                                         | 9,354.9               | 11,018.1              | 8,519.9               | 57.0             | 53.5          | -12.04                | 2,688.7                             | 413.0        | 855.0                  | 744.4                   | 110.54                    | 7.735             |         |                    |          |
| 12,200.0                                                                                         | 9,355.4               | 11,134.2              | 8,521.4               | 58.4             | 55.1          | -11.53                | 2,804.6                             | 420.2        | 852.8                  | 739.3                   | 113.48                    | 7.515             |         |                    |          |
| 12,300.0                                                                                         | 9,355.9               | 11,224.8              | 8,522.2               | 59.7             | 56.4          | -10.83                | 2,894.6                             | 430.2        | 850.2                  | 734.1                   | 116.09                    | 7.323             |         |                    |          |
| 12,400.0                                                                                         | 9,356.5               | 11,328.0              | 8,523.3               | 61.1             | 57.8          | -10.07                | 2,997.2                             | 441.0        | 847.6                  | 728.7                   | 118.91                    | 7.128             |         |                    |          |
| 12,500.0                                                                                         | 9,357.0               | 11,423.0              | 8,524.5               | 62.5             | 59.1          | -9.54                 | 3,091.9                             | 448.5        | 845.4                  | 723.7                   | 121.64                    | 6.950             |         |                    |          |
| 12,574.1                                                                                         | 9,357.4               | 11,483.7              | 8,524.5               | 63.5             | 60.0          | -9.25                 | 3,152.5                             | 452.3        | 844.9                  | 721.3                   | 123.55                    | 6.838             |         |                    |          |
| 12,600.0                                                                                         | 9,357.5               | 11,506.5              | 8,524.3               | 63.9             | 60.3          | -9.15                 | 3,175.2                             | 453.5        | 844.9                  | 720.7                   | 124.24                    | 6.801             |         |                    |          |
| 12,700.0                                                                                         | 9,358.0               | 11,599.0              | 8,523.3               | 65.3             | 61.7          | -8.80                 | 3,267.7                             | 457.8        | 845.7                  | 718.7                   | 126.99                    | 6.659             |         |                    |          |
| 12,800.0                                                                                         | 9,358.6               | 11,720.6              | 8,523.1               | 66.8             | 63.4          | -8.42                 | 3,389.2                             | 462.5        | 845.8                  | 715.6                   | 130.19                    | 6.496             |         |                    |          |
| 12,900.0                                                                                         | 9,359.1               | 11,822.0              | 8,524.5               | 68.2             | 64.9          | -8.16                 | 3,490.5                             | 465.8        | 844.3                  | 711.2                   | 133.12                    | 6.342             |         |                    |          |
| 13,000.0                                                                                         | 9,359.6               | 11,925.5              | 8,526.0               | 69.7             | 66.4          | -7.93                 | 3,594.0                             | 468.6        | 842.9                  | 706.8                   | 136.09                    | 6.194             |         |                    |          |
| 13,100.0                                                                                         | 9,360.1               | 12,033.4              | 8,529.2               | 71.1             | 68.0          | -7.60                 | 3,701.7                             | 473.2        | 839.7                  | 700.6                   | 139.15                    | 6.035             |         |                    |          |
| 13,200.0                                                                                         | 9,360.6               | 12,110.4              | 8,530.3               | 72.6             | 69.2          | -7.32                 | 3,778.5                             | 477.0        | 838.2                  | 696.4                   | 141.77                    | 5.912             |         |                    |          |

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 STEALTH FEDERAL COM #4H                   |
| Project:           | LEA COUNTY, NM          | TVD Reference:              | 3592 + 20 = 3612' RKB @ 3612.0usft (PATRIOT 2) |
| Reference Site:    | LUSK BSS                | MD Reference:               | 3592 + 20 = 3612' RKB @ 3612.0usft (PATRIOT 2) |
| Site Error:        | 0.0 usft                | North Reference:            | Grid                                           |
| Reference Well:    | STEALTH FEDERAL COM #4H | 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 DEEP BSS - STEALTH FEDERAL COM #1H - STEALTH FEDERAL COM #1H - STEALTH FEDERAL COM |                       |                       |                       |                  |               |                        |                       |                                     |                                     |                        |                         |                           | 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  |
| 13,202.0                                                                                         | 9,360.7               | 12,111.8              | 8,530.3               | 72.6             | 69.2          | -7.31                  |                       | 3,780.0                             | 477.0                               | 838.2                  | 696.3                   | 141.82                    | 5.910              |          |
| 13,300.0                                                                                         | 9,361.2               | 12,186.0              | 8,528.5               | 74.1             | 70.3          | -6.88                  |                       | 3,854.0                             | 482.6                               | 839.9                  | 695.6                   | 144.37                    | 5.818              |          |
| 13,400.0                                                                                         | 9,361.7               | 12,294.2              | 8,524.8               | 75.6             | 71.9          | -6.21                  |                       | 3,961.7                             | 491.2                               | 842.9                  | 695.5                   | 147.48                    | 5.716              |          |
| 13,500.0                                                                                         | 9,362.2               | 12,414.2              | 8,524.1               | 77.1             | 73.7          | -5.74                  |                       | 4,081.6                             | 497.2                               | 843.4                  | 692.6                   | 150.78                    | 5.594              |          |
| 13,600.0                                                                                         | 9,362.7               | 12,531.7              | 8,525.6               | 78.6             | 75.5          | -5.46                  |                       | 4,199.0                             | 500.6                               | 842.3                  | 688.3                   | 154.06                    | 5.468              |          |
| 13,700.0                                                                                         | 9,363.3               | 12,641.0              | 8,529.3               | 80.1             | 77.1          | -5.07                  |                       | 4,308.1                             | 505.8                               | 839.0                  | 681.7                   | 157.23                    | 5.336              |          |
| 13,800.0                                                                                         | 9,363.8               | 12,725.7              | 8,531.8               | 81.6             | 78.4          | -4.78                  |                       | 4,392.7                             | 509.7                               | 836.1                  | 676.1                   | 160.04                    | 5.224              |          |
| 13,872.4                                                                                         | 9,364.2               | 12,783.7              | 8,532.4               | 82.7             | 79.3          | -4.57                  |                       | 4,450.6                             | 512.5                               | 835.5                  | 673.4                   | 162.02                    | 5.156              |          |
| 13,900.0                                                                                         | 9,364.3               | 12,805.6              | 8,532.3               | 83.1             | 79.7          | -4.48                  |                       | 4,472.5                             | 513.5                               | 835.6                  | 672.8                   | 162.78                    | 5.133              |          |
| 14,000.0                                                                                         | 9,364.8               | 12,883.8              | 8,530.9               | 84.7             | 80.9          | -4.16                  |                       | 4,550.6                             | 517.5                               | 837.5                  | 672.0                   | 165.51                    | 5.060              |          |
| 14,100.0                                                                                         | 9,365.4               | 12,968.0              | 8,527.3               | 86.2             | 82.1          | -3.82                  |                       | 4,634.6                             | 521.7                               | 841.8                  | 673.5                   | 168.33                    | 5.001              |          |
| 14,200.0                                                                                         | 9,365.9               | 12,968.0              | 8,527.3               | 87.7             | 82.1          | -3.82                  |                       | 4,634.6                             | 521.7                               | 852.9                  | 683.0                   | 169.87                    | 5.021              |          |
| 14,300.0                                                                                         | 9,366.4               | 12,968.0              | 8,527.3               | 89.3             | 82.1          | -3.82                  |                       | 4,634.6                             | 521.7                               | 875.3                  | 703.9                   | 171.42                    | 5.106              |          |
| 14,341.9                                                                                         | 9,366.6               | 12,968.0              | 8,527.3               | 89.9             | 82.1          | -3.82                  |                       | 4,634.6                             | 521.7                               | 887.9                  | 715.8                   | 172.07                    | 5.160              |          |

# COG Operating LLC

## Anticollision Report

|                    |                         |                             |                                                |
|--------------------|-------------------------|-----------------------------|------------------------------------------------|
| Company:           | COG OPERATING, LLC      | Local Co-ordinate Reference | Well STEALTH FEDERAL COM #4H                   |
| Project:           | LEA COUNTY, NM          | TVD Reference:              | 3592 + 20 = 3612' RKB @ 3612.0usft (PATRIOT 2) |
| Reference Site:    | LUSK BSS                | MD Reference:               | 3592 + 20 = 3612' RKB @ 3612.0usft (PATRIOT 2) |
| Site Error:        | 0.0 usft                | North Reference:            | Grid                                           |
| Reference Well:    | STEALTH FEDERAL COM #4H | 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 - PIPELINE FEDERAL #1 - OWB - ACTUAL WELLPATH |                       |                       |                       |                  |               |                       |                                     |              |                        |                         |                           |                          | Offset Site Error: | 0.0 usft |
|----------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------------|--------------------|----------|
| Survey Program: 283-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) | +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           | 82.42                 | 58.3                                | 437.7        | 441.6                  |                         |                           |                          |                    |          |
| 100.0                                                                | 100.0                 | 97.0                  | 97.0                  | 0.1              | 3.2           | 82.42                 | 58.3                                | 437.7        | 441.6                  | 438.3                   | 3.30                      | 133.797                  |                    |          |
| 200.0                                                                | 200.0                 | 197.0                 | 197.0                 | 0.5              | 3.6           | 82.42                 | 58.3                                | 437.7        | 441.6                  | 437.5                   | 4.11                      | 107.557                  |                    |          |
| 300.0                                                                | 300.0                 | 297.0                 | 297.0                 | 0.9              | 4.4           | 82.42                 | 58.3                                | 437.7        | 441.6                  | 436.4                   | 5.22                      | 84.563                   |                    |          |
| 400.0                                                                | 400.0                 | 397.0                 | 397.0                 | 1.2              | 6.1           | 82.42                 | 58.3                                | 437.7        | 441.6                  | 434.3                   | 7.30                      | 60.467                   |                    |          |
| 500.0                                                                | 500.0                 | 497.0                 | 497.0                 | 1.6              | 8.0           | 82.42                 | 58.3                                | 437.7        | 441.6                  | 432.0                   | 9.58                      | 46.091                   |                    |          |
| 600.0                                                                | 600.0                 | 597.0                 | 597.0                 | 1.9              | 10.1          | 82.42                 | 58.3                                | 437.7        | 441.6                  | 429.6                   | 12.00                     | 36.813                   |                    |          |
| 700.0                                                                | 700.0                 | 697.0                 | 697.0                 | 2.3              | 12.4          | 82.42                 | 58.3                                | 437.7        | 441.6                  | 426.9                   | 14.67                     | 30.110                   |                    |          |
| 800.0                                                                | 800.0                 | 797.0                 | 797.0                 | 2.7              | 14.7          | 82.42                 | 58.3                                | 437.7        | 441.6                  | 424.2                   | 17.36                     | 25.431                   |                    |          |
| 900.0                                                                | 900.0                 | 897.0                 | 897.0                 | 3.0              | 17.4          | 82.42                 | 58.3                                | 437.7        | 441.6                  | 421.2                   | 20.37                     | 21.679                   |                    |          |
| 1,000.0                                                              | 1,000.0               | 997.0                 | 997.0                 | 3.4              | 20.0          | 82.42                 | 58.3                                | 437.7        | 441.6                  | 418.2                   | 23.40                     | 18.867                   |                    |          |
| 1,100.0                                                              | 1,100.0               | 1,097.1               | 1,097.0               | 3.7              | 22.7          | -32.14                | 58.3                                | 437.7        | 440.1                  | 413.7                   | 26.42                     | 16.657                   |                    |          |
| 1,200.0                                                              | 1,199.8               | 1,196.9               | 1,196.8               | 4.1              | 25.0          | -32.56                | 58.3                                | 437.7        | 435.7                  | 406.6                   | 29.05                     | 14.995                   |                    |          |
| 1,233.7                                                              | 1,233.4               | 1,230.5               | 1,230.4               | 4.2              | 25.8          | -32.76                | 58.3                                | 437.7        | 433.5                  | 403.6                   | 29.94                     | 14.479                   |                    |          |
| 1,300.0                                                              | 1,299.5               | 1,296.6               | 1,296.5               | 4.4              | 27.3          | -33.15                | 58.3                                | 437.7        | 429.0                  | 397.3                   | 31.69                     | 13.536                   |                    |          |
| 1,400.0                                                              | 1,399.2               | 1,396.3               | 1,396.2               | 4.8              | 29.6          | -33.75                | 58.3                                | 437.7        | 422.2                  | 387.8                   | 34.34                     | 12.295                   |                    |          |
| 1,500.0                                                              | 1,498.9               | 1,495.9               | 1,495.9               | 5.1              | 31.9          | -34.38                | 58.3                                | 437.7        | 415.4                  | 378.4                   | 36.99                     | 11.230                   |                    |          |
| 1,600.0                                                              | 1,598.5               | 1,595.6               | 1,595.5               | 5.5              | 34.2          | -35.02                | 58.3                                | 437.7        | 408.7                  | 369.1                   | 39.65                     | 10.308                   |                    |          |
| 1,700.0                                                              | 1,698.2               | 1,695.3               | 1,695.2               | 5.8              | 36.5          | -35.69                | 58.3                                | 437.7        | 402.1                  | 359.8                   | 42.31                     | 9.503                    |                    |          |
| 1,800.0                                                              | 1,797.9               | 1,795.0               | 1,794.9               | 6.2              | 38.7          | -36.38                | 58.3                                | 437.7        | 395.5                  | 350.6                   | 44.90                     | 8.808                    |                    |          |
| 1,900.0                                                              | 1,897.5               | 1,894.7               | 1,894.5               | 6.6              | 40.9          | -37.09                | 58.3                                | 437.7        | 388.9                  | 341.5                   | 47.46                     | 8.194                    |                    |          |
| 2,000.0                                                              | 1,997.2               | 1,994.4               | 1,994.2               | 6.9              | 43.1          | -37.82                | 58.3                                | 437.7        | 382.5                  | 332.4                   | 50.04                     | 7.644                    |                    |          |
| 2,100.0                                                              | 2,096.9               | 2,094.0               | 2,093.9               | 7.3              | 45.3          | -38.58                | 58.3                                | 437.7        | 376.0                  | 323.4                   | 52.61                     | 7.148                    |                    |          |
| 2,200.0                                                              | 2,196.5               | 2,193.7               | 2,193.5               | 7.7              | 47.5          | -39.37                | 58.3                                | 437.7        | 369.7                  | 314.5                   | 55.18                     | 6.700                    |                    |          |
| 2,300.0                                                              | 2,296.2               | 2,293.4               | 2,293.2               | 8.0              | 49.9          | -40.18                | 58.3                                | 437.7        | 363.4                  | 305.5                   | 57.93                     | 6.273                    |                    |          |
| 2,400.0                                                              | 2,395.9               | 2,393.0               | 2,392.9               | 8.4              | 53.0          | -41.03                | 58.3                                | 437.7        | 357.2                  | 295.8                   | 61.42                     | 5.816                    |                    |          |
| 2,500.0                                                              | 2,495.5               | 2,492.7               | 2,492.5               | 8.8              | 56.2          | -41.90                | 58.3                                | 437.7        | 351.1                  | 286.2                   | 64.95                     | 5.406                    |                    |          |
| 2,600.0                                                              | 2,595.2               | 2,592.4               | 2,592.2               | 9.2              | 59.1          | -42.80                | 58.3                                | 437.7        | 345.1                  | 276.8                   | 68.28                     | 5.054                    |                    |          |
| 2,700.0                                                              | 2,694.9               | 2,692.1               | 2,691.9               | 9.5              | 61.9          | -43.73                | 58.3                                | 437.7        | 339.1                  | 267.7                   | 71.40                     | 4.750                    |                    |          |
| 2,800.0                                                              | 2,794.5               | 2,791.8               | 2,791.5               | 9.9              | 64.6          | -44.70                | 58.3                                | 437.7        | 333.3                  | 258.8                   | 74.50                     | 4.474                    |                    |          |
| 2,900.0                                                              | 2,894.2               | 2,891.5               | 2,891.2               | 10.3             | 67.0          | -45.70                | 58.3                                | 437.7        | 327.5                  | 250.2                   | 77.31                     | 4.237                    |                    |          |
| 3,000.0                                                              | 2,993.9               | 2,991.1               | 2,990.9               | 10.7             | 69.4          | -46.74                | 58.3                                | 437.7        | 321.9                  | 241.8                   | 80.10                     | 4.019                    |                    |          |
| 3,100.0                                                              | 3,093.5               | 3,090.8               | 3,090.5               | 11.0             | 71.7          | -47.81                | 58.3                                | 437.7        | 316.4                  | 233.6                   | 82.79                     | 3.821                    |                    |          |
| 3,200.0                                                              | 3,193.2               | 3,190.5               | 3,190.2               | 11.4             | 73.9          | -48.92                | 58.3                                | 437.7        | 310.9                  | 225.6                   | 85.36                     | 3.643                    |                    |          |
| 3,300.0                                                              | 3,292.9               | 3,290.2               | 3,289.9               | 11.8             | 76.1          | -50.07                | 58.3                                | 437.7        | 305.6                  | 217.7                   | 87.94                     | 3.476                    |                    |          |
| 3,400.0                                                              | 3,392.5               | 3,389.8               | 3,389.5               | 12.2             | 78.3          | -51.26                | 58.3                                | 437.7        | 300.5                  | 209.9                   | 90.51                     | 3.319                    |                    |          |
| 3,500.0                                                              | 3,492.2               | 3,489.5               | 3,489.2               | 12.6             | 80.5          | -52.49                | 58.3                                | 437.7        | 295.4                  | 202.3                   | 93.09                     | 3.173                    |                    |          |
| 3,600.0                                                              | 3,591.9               | 3,589.2               | 3,588.9               | 12.9             | 82.8          | -53.76                | 58.3                                | 437.7        | 290.5                  | 194.7                   | 95.77                     | 3.033                    |                    |          |
| 3,700.0                                                              | 3,691.5               | 3,688.8               | 3,688.5               | 13.3             | 85.2          | -55.08                | 58.3                                | 437.7        | 285.8                  | 187.2                   | 98.56                     | 2.899                    |                    |          |
| 3,800.0                                                              | 3,791.2               | 3,788.5               | 3,788.2               | 13.7             | 87.7          | -56.43                | 58.3                                | 437.7        | 281.2                  | 179.8                   | 101.35                    | 2.774                    |                    |          |
| 3,900.0                                                              | 3,890.9               | 3,888.2               | 3,887.9               | 14.1             | 90.1          | -57.84                | 58.3                                | 437.7        | 276.7                  | 172.6                   | 104.14                    | 2.657                    |                    |          |
| 4,000.0                                                              | 3,990.5               | 3,987.9               | 3,987.5               | 14.4             | 92.5          | -59.28                | 58.3                                | 437.7        | 272.5                  | 165.5                   | 106.92                    | 2.548                    |                    |          |
| 4,100.0                                                              | 4,090.2               | 4,087.6               | 4,087.2               | 14.8             | 94.9          | -60.78                | 58.3                                | 437.7        | 268.4                  | 158.7                   | 109.71                    | 2.446                    |                    |          |
| 4,200.0                                                              | 4,189.9               | 4,187.3               | 4,186.9               | 15.2             | 97.3          | -62.31                | 58.3                                | 437.7        | 264.5                  | 152.0                   | 112.50                    | 2.351                    |                    |          |
| 4,300.0                                                              | 4,289.5               | 4,286.9               | 4,286.5               | 15.6             | 99.7          | -63.89                | 58.3                                | 437.7        | 260.8                  | 145.5                   | 115.29                    | 2.262                    |                    |          |
| 4,400.0                                                              | 4,389.2               | 4,386.6               | 4,386.2               | 16.0             | 102.1         | -65.52                | 58.3                                | 437.7        | 257.3                  | 139.2                   | 118.08                    | 2.179                    |                    |          |
| 4,500.0                                                              | 4,488.9               | 4,486.3               | 4,485.9               | 16.3             | 104.5         | -67.19                | 58.3                                | 437.7        | 254.0                  | 133.2                   | 120.87                    | 2.102                    |                    |          |
| 4,600.0                                                              | 4,588.5               | 4,586.0               | 4,585.5               | 16.7             | 106.8         | -68.90                | 58.3                                | 437.7        | 251.0                  | 127.4                   | 123.57                    | 2.031                    |                    |          |
| 4,700.0                                                              | 4,688.2               | 4,685.6               | 4,685.2               | 17.1             | 109.2         | -70.65                | 58.3                                | 437.7        | 248.1                  | 121.9                   | 126.26                    | 1.965 Advise and Monitor |                    |          |

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 STEALTH FEDERAL COM #4H                   |
| Project:           | LEA COUNTY, NM          | TVD Reference:              | 3592 + 20 = 3612' RKB @ 3612.0usft (PATRIOT 2) |
| Reference Site:    | LUSK BSS                | MD Reference:               | 3592 + 20 = 3612' RKB @ 3612.0usft (PATRIOT 2) |
| Site Error:        | 0.0 usft                | North Reference:            | Grid                                           |
| Reference Well:    | STEALTH FEDERAL COM #4H | 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 - PIPELINE FEDERAL #1 - OWB - ACTUAL WELLPATH |                       |                       |                       |                 |               |                       |                                     |              |                        |                         |                           |                   | Offset Site Error: 0.0 usft |  |
|----------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|-------------------|-----------------------------|--|
| Survey Program: 283-INC-ONLY                                         |                       |                       |                       |                 |               |                       |                                     |              |                        |                         |                           |                   | Offset Well Error: 3.0 usft |  |
| Reference                                                            |                       | Offset                |                       | Semi Major Axis |               | Highside Toolface (") | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Distance               |                         | Minimum Separation (usft) | Separation Factor | Warning                     |  |
| Measured Depth (usft)                                                | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference       | Offset (usft) |                       |                                     |              | Between Centres (usft) | Between Ellipses (usft) |                           |                   |                             |  |
| 4,800.0                                                              | 4,787.9               | 4,785.3               | 4,784.9               | 17.5            | 111.5         | -72.44                | 58.3                                | 437.7        | 245.6                  | 116.6                   | 128.94                    | 1.904             | Advise and Monitor          |  |
| 4,900.0                                                              | 4,887.5               | 4,885.0               | 4,884.5               | 17.9            | 113.5         | -74.26                | 58.3                                | 437.7        | 243.2                  | 111.9                   | 131.33                    | 1.852             | Advise and Monitor          |  |
| 5,000.0                                                              | 4,987.2               | 4,984.7               | 4,984.2               | 18.2            | 115.5         | -76.12                | 58.3                                | 437.7        | 241.1                  | 107.4                   | 133.71                    | 1.803             | Advise and Monitor          |  |
| 5,100.0                                                              | 5,086.9               | 5,084.3               | 5,083.9               | 18.6            | 117.5         | -78.01                | 58.3                                | 437.7        | 239.3                  | 103.2                   | 136.09                    | 1.758             | Advise and Monitor          |  |
| 5,200.0                                                              | 5,186.6               | 5,184.0               | 5,183.6               | 19.0            | 119.5         | -79.92                | 58.3                                | 437.7        | 237.7                  | 99.3                    | 138.47                    | 1.717             | Advise and Monitor          |  |
| 5,300.0                                                              | 5,286.2               | 5,283.7               | 5,283.2               | 19.4            | 121.5         | -81.86                | 58.3                                | 437.7        | 236.4                  | 95.6                    | 140.84                    | 1.679             | Advise and Monitor          |  |
| 5,400.0                                                              | 5,385.9               | 5,383.4               | 5,382.9               | 19.8            | 123.7         | -83.82                | 58.3                                | 437.7        | 235.4                  | 92.0                    | 143.42                    | 1.642             | Advise and Monitor          |  |
| 5,500.0                                                              | 5,485.6               | 5,483.0               | 5,482.6               | 20.1            | 125.9         | -85.79                | 58.3                                | 437.7        | 234.7                  | 88.7                    | 146.00                    | 1.607             | Advise and Monitor          |  |
| 5,600.0                                                              | 5,585.2               | 5,582.7               | 5,582.2               | 20.5            | 128.1         | -87.77                | 58.3                                | 437.7        | 234.2                  | 85.6                    | 148.59                    | 1.576             | Advise and Monitor          |  |
| 5,700.0                                                              | 5,684.9               | 5,682.4               | 5,681.9               | 20.9            | 130.3         | -89.76                | 58.3                                | 437.7        | 234.0                  | 82.8                    | 151.23                    | 1.548             | Advise and Monitor          |  |
| 5,712.2                                                              | 5,697.0               | 5,694.5               | 5,694.0               | 21.0            | 130.6         | -90.00                | 58.3                                | 437.7        | 234.0                  | 82.5                    | 151.57                    | 1.544             | Advise and Monitor, CC      |  |
| 5,800.0                                                              | 5,784.6               | 5,782.1               | 5,781.6               | 21.3            | 132.7         | -91.75                | 58.3                                | 437.7        | 234.2                  | 80.1                    | 154.02                    | 1.520             | Advise and Monitor          |  |
| 5,900.0                                                              | 5,884.2               | 5,881.7               | 5,881.2               | 21.7            | 135.1         | -93.73                | 58.3                                | 437.7        | 234.5                  | 77.7                    | 156.81                    | 1.496             | Shut in Produces            |  |
| 6,000.0                                                              | 5,983.9               | 5,981.4               | 5,980.9               | 22.1            | 137.5         | -95.70                | 58.3                                | 437.7        | 235.2                  | 75.6                    | 159.60                    | 1.474             | Shut in Produces            |  |
| 6,100.0                                                              | 6,083.6               | 6,081.1               | 6,080.6               | 22.4            | 140.0         | -97.66                | 58.3                                | 437.7        | 236.2                  | 73.8                    | 162.39                    | 1.454             | Shut in Produces            |  |
| 6,200.0                                                              | 6,183.2               | 6,180.8               | 6,180.2               | 22.8            | 142.4         | -99.61                | 58.3                                | 437.7        | 237.4                  | 72.2                    | 165.18                    | 1.437             | Shut in Produces            |  |
| 6,300.0                                                              | 6,282.9               | 6,280.5               | 6,279.9               | 23.2            | 144.8         | -101.53               | 58.3                                | 437.7        | 238.9                  | 70.9                    | 167.97                    | 1.422             | Shut in Produces            |  |
| 6,400.0                                                              | 6,382.6               | 6,380.1               | 6,379.6               | 23.6            | 147.2         | -103.42               | 58.3                                | 437.7        | 240.7                  | 69.9                    | 170.76                    | 1.409             | Shut in Produces            |  |
| 6,500.0                                                              | 6,482.2               | 6,479.8               | 6,479.2               | 24.0            | 149.6         | -105.29               | 58.3                                | 437.7        | 242.7                  | 69.1                    | 173.55                    | 1.398             | Shut in Produces            |  |
| 6,600.0                                                              | 6,581.9               | 6,579.5               | 6,578.9               | 24.3            | 152.0         | -107.12               | 58.3                                | 437.7        | 245.0                  | 68.6                    | 176.34                    | 1.389             | Shut in Produces            |  |
| 6,700.0                                                              | 6,681.6               | 6,679.1               | 6,678.6               | 24.7            | 154.4         | -108.92               | 58.3                                | 437.7        | 247.5                  | 68.4                    | 179.13                    | 1.382             | Shut in Produces            |  |
| 6,800.0                                                              | 6,781.2               | 6,778.8               | 6,778.2               | 25.1            | 157.2         | -110.68               | 58.3                                | 437.7        | 250.3                  | 67.9                    | 182.34                    | 1.373             | Shut in Produces            |  |
| 6,900.0                                                              | 6,880.9               | 6,878.5               | 6,877.9               | 25.5            | 160.1         | -112.40               | 58.3                                | 437.7        | 253.3                  | 67.7                    | 185.54                    | 1.365             | Shut in Produces, ES        |  |
| 7,000.0                                                              | 6,980.6               | 6,978.2               | 6,977.6               | 25.9            | 162.9         | -114.08               | 58.3                                | 437.7        | 256.5                  | 67.7                    | 188.75                    | 1.359             | Shut in Produces            |  |
| 7,100.0                                                              | 7,080.2               | 7,077.8               | 7,077.2               | 26.2            | 165.7         | -115.71               | 58.3                                | 437.7        | 259.9                  | 68.0                    | 191.95                    | 1.354             | Shut in Produces            |  |
| 7,200.0                                                              | 7,179.9               | 7,177.5               | 7,176.9               | 26.6            | 168.5         | -117.31               | 58.3                                | 437.7        | 263.6                  | 68.4                    | 195.15                    | 1.351             | Shut in Produces            |  |
| 7,300.0                                                              | 7,279.6               | 7,277.2               | 7,276.6               | 27.0            | 171.4         | -118.85               | 58.3                                | 437.7        | 267.4                  | 69.1                    | 198.36                    | 1.348             | Shut in Produces, SF        |  |
| 7,400.0                                                              | 7,379.2               | 7,300.0               | 7,299.3               | 27.4            | 172.0         | -119.20               | 58.3                                | 437.7        | 282.2                  | 82.8                    | 199.39                    | 1.415             | Shut in Produces            |  |
| 7,500.0                                                              | 7,478.9               | 7,300.0               | 7,299.3               | 27.8            | 172.0         | -119.20               | 58.3                                | 437.7        | 327.4                  | 127.6                   | 199.77                    | 1.639             | Advise and Monitor          |  |
| 7,600.0                                                              | 7,578.6               | 7,300.0               | 7,299.3               | 28.2            | 172.0         | -119.20               | 58.3                                | 437.7        | 393.4                  | 193.2                   | 200.15                    | 1.966             | Advise and Monitor          |  |
| 7,700.0                                                              | 7,678.2               | 7,300.0               | 7,299.3               | 28.5            | 172.0         | -119.20               | 58.3                                | 437.7        | 471.5                  | 271.0                   | 200.53                    | 2.351             |                             |  |
| 7,800.0                                                              | 7,777.9               | 7,300.0               | 7,299.3               | 28.9            | 172.0         | -119.20               | 58.3                                | 437.7        | 556.7                  | 355.8                   | 200.91                    | 2.771             |                             |  |
| 7,900.0                                                              | 7,877.6               | 7,300.0               | 7,299.3               | 29.3            | 172.0         | -119.20               | 58.3                                | 437.7        | 646.1                  | 444.8                   | 201.29                    | 3.210             |                             |  |
| 8,000.0                                                              | 7,977.2               | 7,300.0               | 7,299.3               | 29.7            | 172.0         | -119.20               | 58.3                                | 437.7        | 738.3                  | 536.6                   | 201.68                    | 3.661             |                             |  |
| 8,100.0                                                              | 8,076.9               | 7,300.0               | 7,299.3               | 30.1            | 172.0         | -119.20               | 58.3                                | 437.7        | 832.3                  | 630.2                   | 202.06                    | 4.119             |                             |  |
| 8,200.0                                                              | 8,176.6               | 7,300.0               | 7,299.3               | 30.4            | 172.0         | -119.20               | 58.3                                | 437.7        | 927.5                  | 725.0                   | 202.44                    | 4.582             |                             |  |
| 8,300.0                                                              | 8,276.2               | 7,300.0               | 7,299.3               | 30.8            | 172.0         | -119.20               | 58.3                                | 437.7        | 1,023.6                | 820.8                   | 202.82                    | 5.047             |                             |  |
| 8,400.0                                                              | 8,375.9               | 7,300.0               | 7,299.3               | 31.2            | 172.0         | -119.20               | 58.3                                | 437.7        | 1,120.4                | 917.2                   | 203.20                    | 5.514             |                             |  |
| 8,500.0                                                              | 8,475.6               | 7,300.0               | 7,299.3               | 31.6            | 172.0         | -119.20               | 58.3                                | 437.7        | 1,217.8                | 1,014.2                 | 203.58                    | 5.982             |                             |  |
| 8,600.0                                                              | 8,575.2               | 7,300.0               | 7,299.3               | 32.0            | 172.0         | -119.20               | 58.3                                | 437.7        | 1,315.5                | 1,111.5                 | 203.97                    | 6.450             |                             |  |
| 8,700.0                                                              | 8,674.9               | 7,300.0               | 7,299.3               | 32.3            | 172.0         | -119.20               | 58.3                                | 437.7        | 1,413.5                | 1,209.2                 | 204.35                    | 6.917             |                             |  |
| 8,800.0                                                              | 8,774.6               | 7,300.0               | 7,299.3               | 32.7            | 172.0         | -119.20               | 58.3                                | 437.7        | 1,511.8                | 1,307.1                 | 204.73                    | 7.385             |                             |  |
| 8,875.2                                                              | 8,849.5               | 7,300.0               | 7,299.3               | 33.0            | 172.0         | -119.20               | 58.3                                | 437.7        | 1,585.9                | 1,380.9                 | 205.02                    | 7.736             |                             |  |
| 8,900.0                                                              | 8,874.3               | 7,300.0               | 7,299.3               | 33.1            | 172.0         | -80.01                | 58.3                                | 437.7        | 1,610.2                | 1,405.1                 | 205.11                    | 7.851             |                             |  |
| 8,925.0                                                              | 8,899.2               | 7,300.0               | 7,299.3               | 33.2            | 172.0         | -49.43                | 58.3                                | 437.7        | 1,634.5                | 1,429.3                 | 205.20                    | 7.966             |                             |  |
| 8,950.0                                                              | 8,924.0               | 7,300.0               | 7,299.3               | 33.3            | 172.0         | -33.59                | 58.3                                | 437.7        | 1,658.5                | 1,453.2                 | 205.28                    | 8.079             |                             |  |
| 8,975.0                                                              | 8,948.6               | 7,300.0               | 7,299.3               | 33.4            | 172.0         | -25.10                | 58.3                                | 437.7        | 1,682.0                | 1,476.7                 | 205.36                    | 8.190             |                             |  |
| 9,000.0                                                              | 8,973.1               | 7,300.0               | 7,299.3               | 33.4            | 172.0         | -19.98                | 58.3                                | 437.7        | 1,705.2                | 1,499.7                 | 205.44                    | 8.300             |                             |  |
| 9,025.0                                                              | 8,997.2               | 7,300.0               | 7,299.3               | 33.5            | 172.0         | -16.61                | 58.3                                | 437.7        | 1,727.9                | 1,522.4                 | 205.51                    | 8.408             |                             |  |

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 STEALTH FEDERAL COM #4H                   |
| Project:           | LEA COUNTY, NM          | TVD Reference:              | 3592 + 20 = 3612' RKB @ 3612.0usft (PATRIOT 2) |
| Reference Site:    | LUSK BSS                | MD Reference:               | 3592 + 20 = 3612' RKB @ 3612.0usft (PATRIOT 2) |
| Site Error:        | 0.0 usft                | North Reference:            | Grid                                           |
| Reference Well:    | STEALTH FEDERAL COM #4H | 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 - PIPELINE FEDERAL #1 - OWB - ACTUAL WELLPATH |                       |                       |                       |                  |               |                       |                                     |              |                        |                         |                           |                   | Offset Site Error: | 0.0 usft |
|----------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|-------------------|--------------------|----------|
| Survey Program: 283-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) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor |                    |          |
| 9,050.0                                                              | 9,021.0               | 7,300.0               | 7,299.3               | 33.6             | 172.0         | -14.24                | 58.3                                | 437.7        | 1,750.1                | 1,544.5                 | 205.58                    | 8.513             |                    |          |
| 9,075.0                                                              | 9,044.3               | 7,300.0               | 7,299.3               | 33.7             | 172.0         | -12.48                | 58.3                                | 437.7        | 1,771.7                | 1,566.1                 | 205.65                    | 8.615             |                    |          |
| 9,100.0                                                              | 9,067.2               | 7,300.0               | 7,299.3               | 33.7             | 172.0         | -11.14                | 58.3                                | 437.7        | 1,792.8                | 1,587.1                 | 205.71                    | 8.715             |                    |          |
| 9,125.0                                                              | 9,089.5               | 7,300.0               | 7,299.3               | 33.8             | 172.0         | -10.08                | 58.3                                | 437.7        | 1,813.2                | 1,607.4                 | 205.77                    | 8.812             |                    |          |
| 9,150.0                                                              | 9,111.2               | 7,300.0               | 7,299.3               | 33.8             | 172.0         | -9.22                 | 58.3                                | 437.7        | 1,833.0                | 1,627.2                 | 205.82                    | 8.906             |                    |          |
| 9,175.0                                                              | 9,132.2               | 7,300.0               | 7,299.3               | 33.9             | 172.0         | -8.52                 | 58.3                                | 437.7        | 1,852.1                | 1,646.2                 | 205.87                    | 8.996             |                    |          |
| 9,200.0                                                              | 9,152.5               | 7,300.0               | 7,299.3               | 33.9             | 172.0         | -7.94                 | 58.3                                | 437.7        | 1,870.5                | 1,664.6                 | 205.91                    | 9.084             |                    |          |
| 9,225.0                                                              | 9,172.0               | 7,300.0               | 7,299.3               | 34.0             | 172.0         | -7.45                 | 58.3                                | 437.7        | 1,888.1                | 1,682.1                 | 205.95                    | 9.168             |                    |          |
| 9,250.0                                                              | 9,190.7               | 7,300.0               | 7,299.3               | 34.0             | 172.0         | -7.03                 | 58.3                                | 437.7        | 1,905.0                | 1,699.0                 | 205.99                    | 9.248             |                    |          |
| 9,275.0                                                              | 9,208.4               | 7,300.0               | 7,299.3               | 34.0             | 172.0         | -6.68                 | 58.3                                | 437.7        | 1,921.0                | 1,715.0                 | 206.02                    | 9.324             |                    |          |
| 9,300.0                                                              | 9,225.3               | 7,300.0               | 7,299.3               | 34.0             | 172.0         | -6.37                 | 58.3                                | 437.7        | 1,936.3                | 1,730.2                 | 206.05                    | 9.397             |                    |          |
| 9,325.0                                                              | 9,241.1               | 7,300.0               | 7,299.3               | 34.1             | 172.0         | -6.11                 | 58.3                                | 437.7        | 1,950.6                | 1,744.6                 | 206.07                    | 9.466             |                    |          |
| 9,350.0                                                              | 9,256.0               | 7,300.0               | 7,299.3               | 34.1             | 172.0         | -5.88                 | 58.3                                | 437.7        | 1,964.2                | 1,758.1                 | 206.09                    | 9.531             |                    |          |
| 9,375.0                                                              | 9,269.7               | 7,300.0               | 7,299.3               | 34.1             | 172.0         | -5.69                 | 58.3                                | 437.7        | 1,976.8                | 1,770.7                 | 206.10                    | 9.591             |                    |          |
| 9,400.0                                                              | 9,282.4               | 7,300.0               | 7,299.3               | 34.1             | 172.0         | -5.52                 | 58.3                                | 437.7        | 1,988.5                | 1,782.4                 | 206.11                    | 9.648             |                    |          |
| 9,425.0                                                              | 9,293.9               | 7,300.0               | 7,299.3               | 34.1             | 172.0         | -5.37                 | 58.3                                | 437.7        | 1,999.4                | 1,793.2                 | 206.12                    | 9.700             |                    |          |
| 9,450.0                                                              | 9,304.2               | 7,300.0               | 7,299.3               | 34.1             | 172.0         | -5.24                 | 58.3                                | 437.7        | 2,009.3                | 1,803.1                 | 206.12                    | 9.748             |                    |          |
| 9,475.0                                                              | 9,313.3               | 7,300.0               | 7,299.3               | 34.1             | 172.0         | -5.14                 | 58.3                                | 437.7        | 2,018.2                | 1,812.1                 | 206.13                    | 9.791             |                    |          |
| 9,500.0                                                              | 9,321.2               | 7,300.0               | 7,299.3               | 34.1             | 172.0         | -5.05                 | 58.3                                | 437.7        | 2,026.2                | 1,820.1                 | 206.13                    | 9.830             |                    |          |
| 9,525.0                                                              | 9,327.9               | 7,300.0               | 7,299.3               | 34.1             | 172.0         | -4.98                 | 58.3                                | 437.7        | 2,033.2                | 1,827.1                 | 206.13                    | 9.864             |                    |          |
| 9,550.0                                                              | 9,333.3               | 7,300.0               | 7,299.3               | 34.1             | 172.0         | -4.92                 | 58.3                                | 437.7        | 2,039.2                | 1,833.1                 | 206.14                    | 9.893             |                    |          |
| 9,575.0                                                              | 9,337.4               | 7,300.0               | 7,299.3               | 34.1             | 172.0         | -4.87                 | 58.3                                | 437.7        | 2,044.3                | 1,838.2                 | 206.15                    | 9.917             |                    |          |
| 9,600.0                                                              | 9,340.2               | 7,300.0               | 7,299.3               | 34.2             | 172.0         | -4.84                 | 58.3                                | 437.7        | 2,048.4                | 1,842.2                 | 206.16                    | 9.936             |                    |          |
| 9,625.0                                                              | 9,341.7               | 7,300.0               | 7,299.3               | 34.2             | 172.0         | -4.83                 | 58.3                                | 437.7        | 2,051.4                | 1,845.3                 | 206.18                    | 9.950             |                    |          |
| 9,639.1                                                              | 9,342.0               | 7,300.0               | 7,299.3               | 34.2             | 172.0         | -4.82                 | 58.3                                | 437.7        | 2,052.7                | 1,846.5                 | 206.20                    | 9.955             |                    |          |
| 9,700.0                                                              | 9,342.3               | 7,300.0               | 7,299.3               | 34.3             | 172.0         | -4.82                 | 58.3                                | 437.7        | 2,058.5                | 1,852.2                 | 206.30                    | 9.978             |                    |          |
| 9,800.0                                                              | 9,342.8               | 7,300.0               | 7,299.3               | 34.6             | 172.0         | -4.82                 | 58.3                                | 437.7        | 2,071.9                | 1,865.3                 | 206.60                    | 10.028            |                    |          |
| 9,900.0                                                              | 9,343.4               | 7,300.0               | 7,299.3               | 35.0             | 172.0         | -4.82                 | 58.3                                | 437.7        | 2,089.9                | 1,882.9                 | 207.00                    | 10.096            |                    |          |
| 10,000.0                                                             | 9,343.9               | 7,300.0               | 7,299.3               | 35.5             | 172.0         | -4.82                 | 58.3                                | 437.7        | 2,112.6                | 1,905.1                 | 207.49                    | 10.182            |                    |          |
| 10,100.0                                                             | 9,344.4               | 7,300.0               | 7,299.3               | 36.0             | 172.0         | -4.82                 | 58.3                                | 437.7        | 2,139.6                | 1,931.6                 | 208.04                    | 10.285            |                    |          |
| 10,200.0                                                             | 9,344.9               | 7,300.0               | 7,299.3               | 36.7             | 172.0         | -4.82                 | 58.3                                | 437.7        | 2,171.0                | 1,962.3                 | 208.66                    | 10.404            |                    |          |
| 10,300.0                                                             | 9,345.5               | 7,300.0               | 7,299.3               | 37.3             | 172.0         | -4.82                 | 58.3                                | 437.7        | 2,206.4                | 1,997.1                 | 209.34                    | 10.540            |                    |          |
| 10,400.0                                                             | 9,346.0               | 7,300.0               | 7,299.3               | 38.1             | 172.0         | -4.82                 | 58.3                                | 437.7        | 2,245.8                | 2,035.7                 | 210.09                    | 10.690            |                    |          |
| 10,500.0                                                             | 9,346.5               | 7,300.0               | 7,299.3               | 38.9             | 172.0         | -4.82                 | 58.3                                | 437.7        | 2,288.8                | 2,077.9                 | 210.89                    | 10.853            |                    |          |
| 10,600.0                                                             | 9,347.0               | 7,300.0               | 7,299.3               | 39.7             | 172.0         | -4.82                 | 58.3                                | 437.7        | 2,335.3                | 2,123.6                 | 211.74                    | 11.029            |                    |          |
| 10,700.0                                                             | 9,347.6               | 7,300.0               | 7,299.3               | 40.6             | 172.0         | -4.82                 | 58.3                                | 437.7        | 2,385.1                | 2,172.5                 | 212.64                    | 11.217            |                    |          |
| 10,800.0                                                             | 9,348.1               | 7,300.0               | 7,299.3               | 41.6             | 172.0         | -4.82                 | 58.3                                | 437.7        | 2,438.0                | 2,224.4                 | 213.59                    | 11.415            |                    |          |
| 10,900.0                                                             | 9,348.6               | 7,300.0               | 7,299.3               | 42.6             | 172.0         | -4.82                 | 58.3                                | 437.7        | 2,493.8                | 2,279.2                 | 214.58                    | 11.622            |                    |          |
| 11,000.0                                                             | 9,349.1               | 7,300.0               | 7,299.3               | 43.6             | 172.0         | -4.82                 | 58.3                                | 437.7        | 2,552.3                | 2,336.7                 | 215.62                    | 11.837            |                    |          |
| 11,100.0                                                             | 9,349.6               | 7,300.0               | 7,299.3               | 44.7             | 172.0         | -4.82                 | 58.3                                | 437.7        | 2,613.3                | 2,396.6                 | 216.69                    | 12.060            |                    |          |
| 11,200.0                                                             | 9,350.2               | 7,300.0               | 7,299.3               | 45.8             | 172.0         | -4.82                 | 58.3                                | 437.7        | 2,676.7                | 2,458.9                 | 217.79                    | 12.290            |                    |          |
| 11,300.0                                                             | 9,350.7               | 7,300.0               | 7,299.3               | 46.9             | 172.0         | -4.82                 | 58.3                                | 437.7        | 2,742.2                | 2,523.3                 | 218.93                    | 12.525            |                    |          |
| 11,400.0                                                             | 9,351.2               | 7,300.0               | 7,299.3               | 48.1             | 172.0         | -4.82                 | 58.3                                | 437.7        | 2,809.8                | 2,589.7                 | 220.11                    | 12.766            |                    |          |
| 11,500.0                                                             | 9,351.7               | 7,300.0               | 7,299.3               | 49.3             | 172.0         | -4.82                 | 58.3                                | 437.7        | 2,879.2                | 2,657.9                 | 221.30                    | 13.010            |                    |          |
| 11,600.0                                                             | 9,352.3               | 7,300.0               | 7,299.3               | 50.5             | 172.0         | -4.82                 | 58.3                                | 437.7        | 2,950.4                | 2,727.9                 | 222.53                    | 13.259            |                    |          |
| 11,700.0                                                             | 9,352.8               | 7,300.0               | 7,299.3               | 51.8             | 172.0         | -4.82                 | 58.3                                | 437.7        | 3,023.3                | 2,799.5                 | 223.78                    | 13.510            |                    |          |
| 11,800.0                                                             | 9,353.3               | 7,300.0               | 7,299.3               | 53.1             | 172.0         | -4.82                 | 58.3                                | 437.7        | 3,097.6                | 2,872.6                 | 225.06                    | 13.764            |                    |          |
| 11,900.0                                                             | 9,353.8               | 7,300.0               | 7,299.3               | 54.4             | 172.0         | -4.82                 | 58.3                                | 437.7        | 3,173.4                | 2,947.0                 | 226.35                    | 14.020            |                    |          |
| 12,000.0                                                             | 9,354.4               | 7,300.0               | 7,299.3               | 55.7             | 172.0         | -4.82                 | 58.3                                | 437.7        | 3,250.5                | 3,022.8                 | 227.67                    | 14.277            |                    |          |

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 STEALTH FEDERAL COM #4H                   |
| Project:           | LEA COUNTY, NM          | TVD Reference:              | 3592 + 20 = 3612' RKB @ 3612.0usft (PATRIOT 2) |
| Reference Site:    | LUSK BSS                | MD Reference:               | 3592 + 20 = 3612' RKB @ 3612.0usft (PATRIOT 2) |
| Site Error:        | 0.0 usft                | North Reference:            | Grid                                           |
| Reference Well:    | STEALTH FEDERAL COM #4H | 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 - PIPELINE FEDERAL #1 - OWB - ACTUAL WELLPATH |                       |                       |                       |                  |               |                       |                        |              |                        |                         |                           |                   |  | Offset Site Error: | 0.0 usft |
|----------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|------------------------|--------------|------------------------|-------------------------|---------------------------|-------------------|--|--------------------|----------|
| Survey Program: 283-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 |              | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor |  |                    |          |
|                                                                      |                       |                       |                       |                  |               |                       | +N/-S (usft)           | +E/-W (usft) |                        |                         |                           |                   |  |                    |          |
| 12,100.0                                                             | 9,354.9               | 7,300.0               | 7,299.3               | 57.0             | 172.0         | -4.82                 | 58.3                   | 437.7        | 3,328.8                | 3,099.8                 | 229.00                    | 14.536            |  |                    |          |
| 12,200.0                                                             | 9,355.4               | 7,300.0               | 7,299.3               | 58.4             | 172.0         | -4.82                 | 58.3                   | 437.7        | 3,408.2                | 3,177.9                 | 230.35                    | 14.796            |  |                    |          |
| 12,300.0                                                             | 9,355.9               | 7,300.0               | 7,299.3               | 59.7             | 172.0         | -4.82                 | 58.3                   | 437.7        | 3,488.7                | 3,257.0                 | 231.72                    | 15.056            |  |                    |          |
| 12,400.0                                                             | 9,356.5               | 7,300.0               | 7,299.3               | 61.1             | 172.0         | -4.82                 | 58.3                   | 437.7        | 3,570.2                | 3,337.1                 | 233.10                    | 15.316            |  |                    |          |
| 12,500.0                                                             | 9,357.0               | 7,300.0               | 7,299.3               | 62.5             | 172.0         | -4.82                 | 58.3                   | 437.7        | 3,652.6                | 3,418.1                 | 234.50                    | 15.576            |  |                    |          |
| 12,600.0                                                             | 9,357.5               | 7,300.0               | 7,299.3               | 63.9             | 172.0         | -4.82                 | 58.3                   | 437.7        | 3,735.8                | 3,499.9                 | 235.91                    | 15.836            |  |                    |          |
| 12,700.0                                                             | 9,358.0               | 7,300.0               | 7,299.3               | 65.3             | 172.0         | -4.82                 | 58.3                   | 437.7        | 3,819.9                | 3,582.6                 | 237.33                    | 16.095            |  |                    |          |
| 12,800.0                                                             | 9,358.6               | 7,300.0               | 7,299.3               | 66.8             | 172.0         | -4.82                 | 58.3                   | 437.7        | 3,904.7                | 3,665.9                 | 238.77                    | 16.354            |  |                    |          |
| 12,900.0                                                             | 9,359.1               | 7,300.0               | 7,299.3               | 68.2             | 172.0         | -4.82                 | 58.3                   | 437.7        | 3,990.2                | 3,750.0                 | 240.21                    | 16.611            |  |                    |          |
| 13,000.0                                                             | 9,359.6               | 7,300.0               | 7,299.3               | 69.7             | 172.0         | -4.82                 | 58.3                   | 437.7        | 4,076.4                | 3,834.7                 | 241.66                    | 16.868            |  |                    |          |
| 13,100.0                                                             | 9,360.1               | 7,300.0               | 7,299.3               | 71.1             | 172.0         | -4.82                 | 58.3                   | 437.7        | 4,163.2                | 3,920.1                 | 243.13                    | 17.123            |  |                    |          |
| 13,200.0                                                             | 9,360.6               | 7,300.0               | 7,299.3               | 72.6             | 172.0         | -4.82                 | 58.3                   | 437.7        | 4,250.6                | 4,006.0                 | 244.60                    | 17.377            |  |                    |          |
| 13,300.0                                                             | 9,361.2               | 7,300.0               | 7,299.3               | 74.1             | 172.0         | -4.82                 | 58.3                   | 437.7        | 4,338.5                | 4,092.4                 | 246.08                    | 17.630            |  |                    |          |
| 13,400.0                                                             | 9,361.7               | 7,300.0               | 7,299.3               | 75.6             | 172.0         | -4.82                 | 58.3                   | 437.7        | 4,426.9                | 4,179.3                 | 247.57                    | 17.881            |  |                    |          |
| 13,500.0                                                             | 9,362.2               | 7,300.0               | 7,299.3               | 77.1             | 172.0         | -4.82                 | 58.3                   | 437.7        | 4,515.8                | 4,266.7                 | 249.07                    | 18.131            |  |                    |          |
| 13,600.0                                                             | 9,362.7               | 7,300.0               | 7,299.3               | 78.6             | 172.0         | -4.82                 | 58.3                   | 437.7        | 4,605.2                | 4,354.6                 | 250.58                    | 18.378            |  |                    |          |
| 13,700.0                                                             | 9,363.3               | 7,300.0               | 7,299.3               | 80.1             | 172.0         | -4.82                 | 58.3                   | 437.7        | 4,695.0                | 4,442.9                 | 252.09                    | 18.625            |  |                    |          |
| 13,800.0                                                             | 9,363.8               | 7,300.0               | 7,299.3               | 81.6             | 172.0         | -4.82                 | 58.3                   | 437.7        | 4,785.2                | 4,531.6                 | 253.60                    | 18.869            |  |                    |          |
| 13,900.0                                                             | 9,364.3               | 7,300.0               | 7,299.3               | 83.1             | 172.0         | -4.82                 | 58.3                   | 437.7        | 4,875.8                | 4,620.6                 | 255.13                    | 19.111            |  |                    |          |
| 14,000.0                                                             | 9,364.8               | 7,300.0               | 7,299.3               | 84.7             | 172.0         | -4.82                 | 58.3                   | 437.7        | 4,966.7                | 4,710.1                 | 256.66                    | 19.352            |  |                    |          |
| 14,100.0                                                             | 9,365.4               | 7,300.0               | 7,299.3               | 86.2             | 172.0         | -4.82                 | 58.3                   | 437.7        | 5,058.0                | 4,799.8                 | 258.19                    | 19.590            |  |                    |          |
| 14,200.0                                                             | 9,365.9               | 7,300.0               | 7,299.3               | 87.7             | 172.0         | -4.82                 | 58.3                   | 437.7        | 5,149.6                | 4,889.9                 | 259.73                    | 19.827            |  |                    |          |
| 14,300.0                                                             | 9,366.4               | 7,300.0               | 7,299.3               | 89.3             | 172.0         | -4.82                 | 58.3                   | 437.7        | 5,241.5                | 4,980.3                 | 261.27                    | 20.062            |  |                    |          |
| 14,341.9                                                             | 9,366.6               | 7,300.0               | 7,299.3               | 89.9             | 172.0         | -4.82                 | 58.3                   | 437.7        | 5,280.2                | 5,018.2                 | 261.92                    | 20.159            |  |                    |          |

# COG Operating LLC

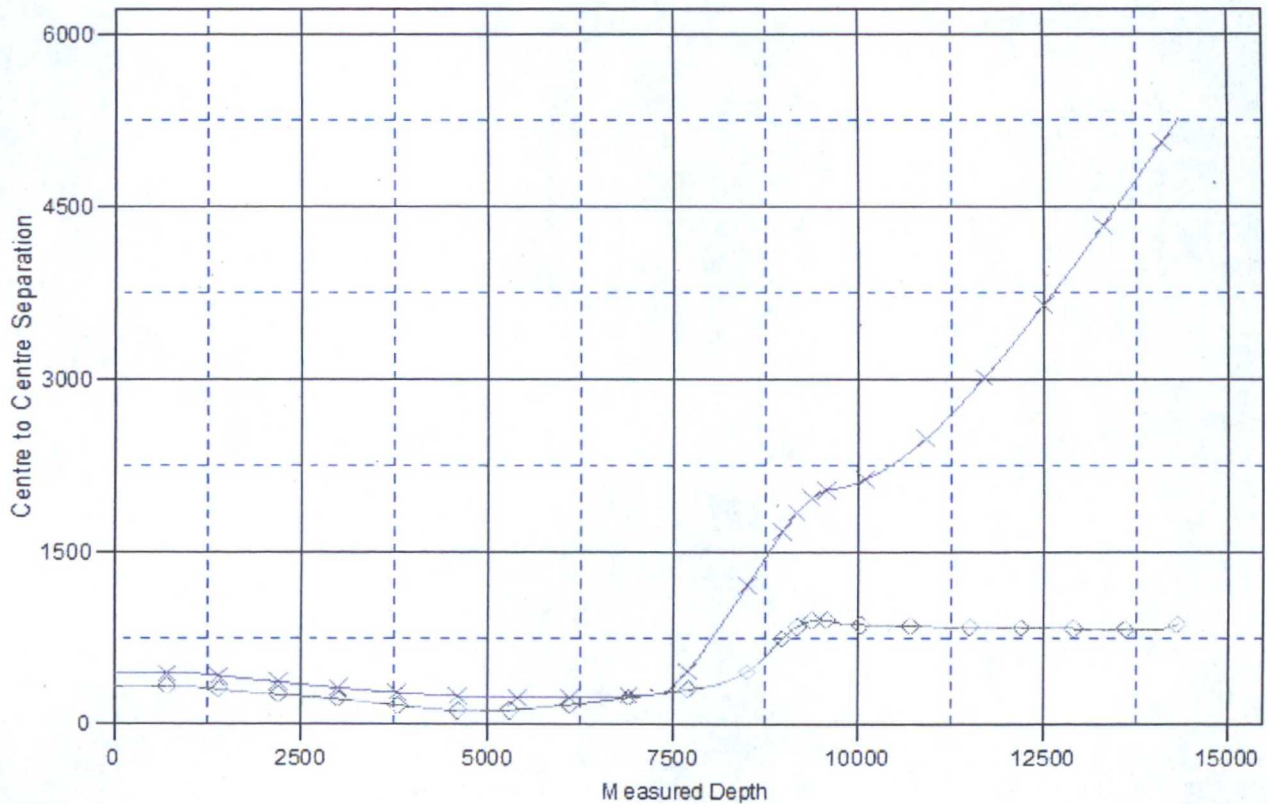
## Anticollision Report

|                    |                         |                             |                                                |
|--------------------|-------------------------|-----------------------------|------------------------------------------------|
| Company:           | COG OPERATING, LLC      | Local Co-ordinate Reference | Well STEALTH FEDERAL COM #4H                   |
| Project:           | LEA COUNTY, NM          | TVD Reference:              | 3592 + 20 = 3612' RKB @ 3612.0usft (PATRIOT 2) |
| Reference Site:    | LUSK BSS                | MD Reference:               | 3592 + 20 = 3612' RKB @ 3612.0usft (PATRIOT 2) |
| Site Error:        | 0.0 usft                | North Reference:            | Grid                                           |
| Reference Well:    | STEALTH FEDERAL COM #4H | 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 3592 + 20 = 3612' RKB @ 3612.0usft  
 Offset Depths are relative to Offset Datum  
 Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: STEALTH FEDERAL COM #4H  
 Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30  
 Grid Convergence at Surface is: 0.30°

### Ladder Plot



### LEGEND

H FEDERAL COM #1H V0 — x — PIPELINE FEDERAL #1, OWB, ACTUAL WELLPATH V0



# COG Operating LLC

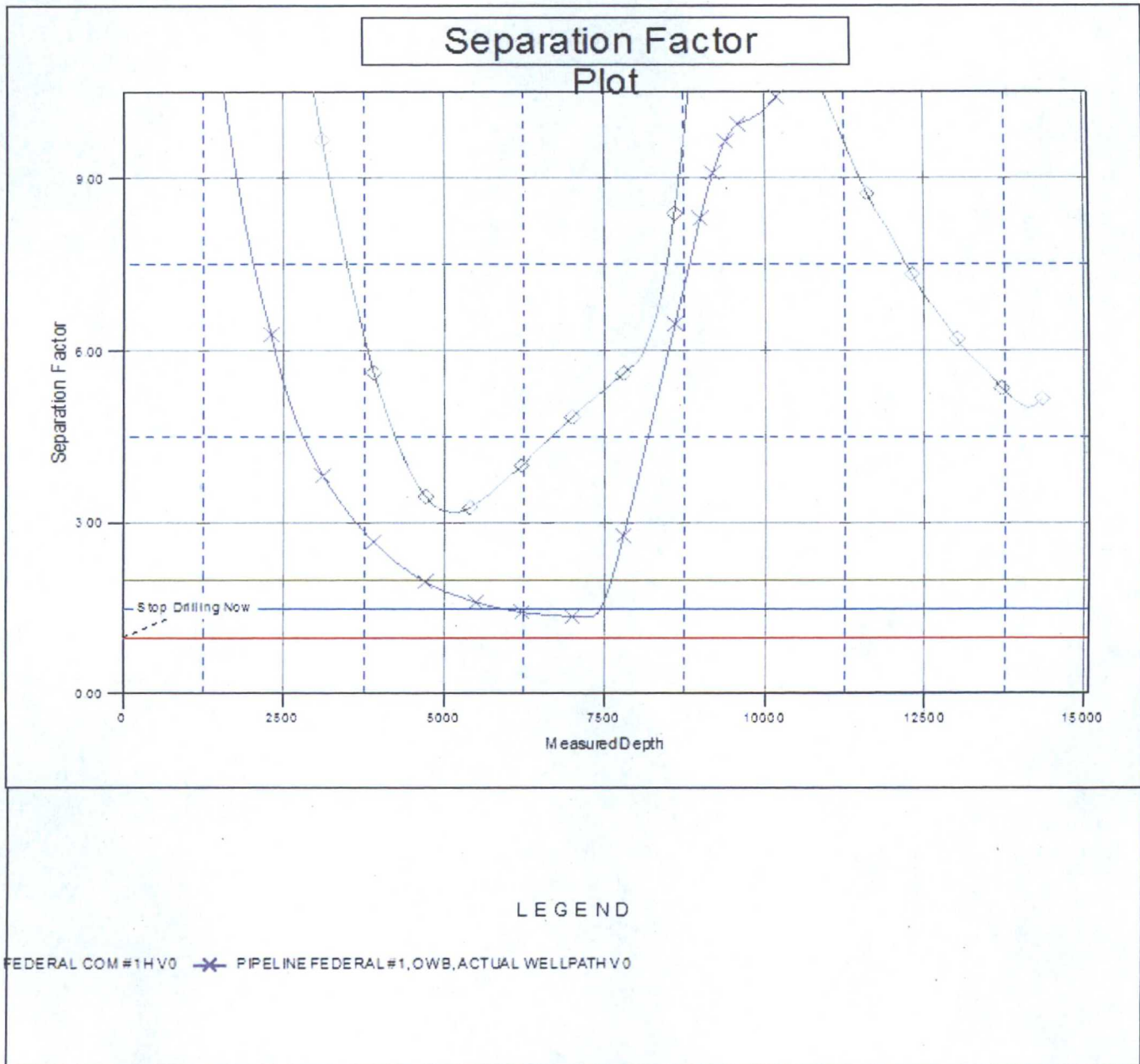
## Anticollision Report

Company: COG OPERATING, LLC  
 Project: LEA COUNTY, NM  
 Reference Site: LUSK BSS  
 Site Error: 0.0 usft  
 Reference Well: STEALTH FEDERAL COM #4H  
 Well Error: 0.0 usft  
 Reference Wellbore: OWB  
 Reference Design: DWD Plan 1

Local Co-ordinate Reference  
 TVD Reference: Well STEALTH FEDERAL COM #4H  
 3592 + 20 = 3612' RKB @ 3612.0usft (PATRIOT 2)  
 MD Reference: 3592 + 20 = 3612' RKB @ 3612.0usft (PATRIOT 2)  
 North Reference: Grid  
 Survey Calculation Method: Minimum Curvature  
 Output errors are at: 2.00 sigma  
 Database: EDM\_Users  
 Offset TVD Reference: Offset Datum

Reference Depths are relative to 3592 + 20 = 3612' RKB @ 3612.0usft  
 Offset Depths are relative to Offset Datum  
 Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: STEALTH FEDERAL COM #4H  
 Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30  
 Grid Convergence at Surface is: 0.30°



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