



**McVAY DRILLING COMPANY**  
P.O. Box 2450  
Hobbs, New Mexico 88241  
(575) 397-3311  
FAX: 39-DRILL

**HOBBS OCD**

**MAR 02 2016**

**RECEIVED**

Well Name and Num: Gunner 8 Federal Com # 7H ✓  
Location: Sec 8, T26S, R34E ✓  
Operator: COG ✓  
Drilling Contractor: McVay Drilling Company

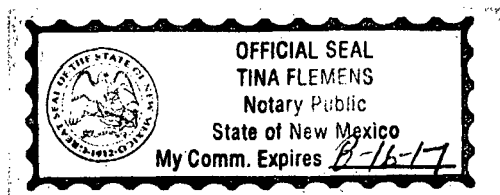
The undersigned certifies that he is an authorized representative of the drilling contractor who drilled the above described well and that he has conducted deviation tests and obtained the following results:

| <u>Degrees @</u> | <u>Depth</u> | <u>Degrees @</u> | <u>Depth</u> | <u>Degrees @</u> | <u>Depth</u> | <u>Degrees @</u> | <u>Depth</u> |
|------------------|--------------|------------------|--------------|------------------|--------------|------------------|--------------|
| 1.90             | 3766         | 29.00            | 9682         | 13.60            | 9817         |                  |              |
| 2.60             | 4144         | 51.90            | 9887         | 12.00            | 10072        |                  |              |
| 3.00             | 4522         | 88.00            | 10247        | 90.30            | 17511        |                  |              |
| 2.60             | 4990         | 90.40            | 10624        | 90.80            | 16567        |                  |              |
| 1.60             | 5277         | 89.20            | 11002        | 88.90            | 16945        |                  |              |
| 1.20             | 5461         | 91.50            | 11473        | 90.60            | 17228        |                  |              |
| 2.30             | 5841         | 90.40            | 11945        | 91.00            | 16530        |                  |              |
| 1.90             | 6030         | 92.00            | 12134        | 90.40            | 15907        |                  |              |
| 2.30             | 6408         | 91.80            | 12417        | 92.40            | 16190        |                  |              |
| 2.30             | 6974         | 90.80            | 12700        | 91.00            | 17982        |                  |              |
| 2.30             | 7352         | 90.40            | 13078        | 89.70            | 18360        |                  |              |
| 1.90             | 7729         | 91.30            | 13170        | 91.70            | 18831        |                  |              |
| 1.80             | 8107         | 90.10            | 13830        | 90.80            | 19209        |                  |              |
| 2.10             | 8484         | 91.30            | 14207        | 91.00            | 19523        |                  |              |
| 1.90             | 8862         | 91.90            | 14680        |                  |              |                  |              |
| 1.60             | 9021         | 89.40            | 15058        |                  |              |                  |              |
| 11.40            | 9399         | 91.50            | 15341        |                  |              |                  |              |

By: Mario A. Bance

Subscribed and sworn to before me this 12th day of August, 2015

Tina Flemens  
Notary Public, Lea County, New Mexico



APR 12 2016

*Handwritten signature/initials*



HOBBS OCD

MAR 02 2016

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## **COG Operating, LLC**

Lea County, NM

Sec 8, T26S, R34E

Gunner 8 Federal Com #7H

Wellbore #1

Design: Wellbore #1

## **Survey Report - Geographic**

10 August, 2015





HP  
Survey Report - Geographic



|           |                          |                              |                               |
|-----------|--------------------------|------------------------------|-------------------------------|
| Company:  | COG Operating, LLC       | Local Co-ordinate Reference: | Well Gunner 8 Federal Com #7H |
| Project:  | Lea County, NM           | TVD Reference:               | Well @ 3379.0usft (McVay 8)   |
| Site:     | Sec 8, T26S, R34E        | MD Reference:                | Well @ 3379.0usft (McVay 8)   |
| Well:     | Gunner 8 Federal Com #7H | North Reference:             | Grid                          |
| Wellbore: | Wellbore #1              | Survey Calculation Method:   | Minimum Curvature             |
| Design:   | Wellbore #1              | Database:                    | Compass                       |

|                          |                                      |               |                |
|--------------------------|--------------------------------------|---------------|----------------|
| 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                  |          | Sec 8, T26S, R34E |                 |                   |                   |
| Site Position:        |          | Northing:         | 383,330.50 usft | Latitude:         | 32° 3' 3.943 N    |
| From:                 | Map      | Easting:          | 760,820.40 usft | Longitude:        | 103° 29' 29.432 W |
| Position Uncertainty: | 0.0 usft | Slot Radius:      | 13-3/16 "       | Grid Convergence: | 0.45 °            |

|                      |                          |          |                     |                 |               |                   |
|----------------------|--------------------------|----------|---------------------|-----------------|---------------|-------------------|
| Well:                | Gunner 8 Federal Com #7H |          |                     |                 |               |                   |
| Well Position        | +N/-S                    | 0.0 usft | Northing:           | 383,330.70 usft | Latitude:     | 32° 3' 3.942 N    |
|                      | +E/-W                    | 0.0 usft | Easting:            | 760,860.30 usft | Longitude:    | 103° 29' 28.969 W |
| Position Uncertainty |                          | 0.0 usft | Wellhead Elevation: | 0.0 usft        | Ground Level: | 3,353.0 usft      |

|           |            |             |                    |                  |                        |
|-----------|------------|-------------|--------------------|------------------|------------------------|
| Wellbore: |            | Wellbore #1 |                    |                  |                        |
| Magnetics | Model Name | Sample Date | Declination<br>(°) | Dip Angle<br>(°) | Field Strength<br>(nT) |
|           | IGRF2015   | 7/13/2015   | 7.11               | 59.94            | 48,042                 |

|                   |  |                  |  |        |             |        |        |               |           |     |  |
|-------------------|--|------------------|--|--------|-------------|--------|--------|---------------|-----------|-----|--|
| Design            |  |                  |  |        | Wellbore #1 |        |        |               |           |     |  |
| Audit Notes:      |  |                  |  |        |             |        |        |               |           |     |  |
| Version:          |  | 1.0              |  | Phase: |             | ACTUAL |        | Tie On Depth: |           | 0.0 |  |
| Vertical Section: |  | Depth From (TVD) |  |        | +N/-S       |        | +E/-W  |               | Direction |     |  |
|                   |  | (usft)           |  |        | (usft)      |        | (usft) |               | (°)       |     |  |
|                   |  | 0.0              |  |        | 0.0         |        | 0.0    |               | 1.30      |     |  |

| Survey Program |              | Date                      | 8/10/2015   |                |
|----------------|--------------|---------------------------|-------------|----------------|
| From<br>(usft) | To<br>(usft) | Survey (Wellbore)         | Tool Name   | Description    |
| 200.0          | 800.0        | NOV Surveys (Wellbore #1) | Good_gyro   | Good Gyro      |
| 850.0          | 19,734.0     | MWD (Wellbore #1)         | MWD default | MWD - Standard |

|                                     |             |         |          |        |        |            |            |                |                   |  |
|-------------------------------------|-------------|---------|----------|--------|--------|------------|------------|----------------|-------------------|--|
| Survey                              |             |         |          |        |        |            |            |                |                   |  |
| Measured                            | Inclination | Azimuth | Vertical | +N/-S  | +E/-W  | Map        | Map        |                |                   |  |
| Depth                               | (°)         | (°)     | Depth    | (usft) | (usft) | Northing   | Easting    | Latitude       | Longitude         |  |
| (usft)                              |             |         | (usft)   |        |        | (usft)     | (usft)     |                |                   |  |
| 0.0                                 | 0.00        | 0.00    | 0.0      | 0.0    | 0.0    | 383,330.70 | 760,860.30 | 32° 3' 3.942 N | 103° 29' 28.969 W |  |
| 200.0                               | 0.10        | 111.00  | 200.0    | -0.1   | 0.2    | 383,330.64 | 760,860.46 | 32° 3' 3.941 N | 103° 29' 28.967 W |  |
| 340.0                               | 0.10        | 99.00   | 340.0    | -0.1   | 0.4    | 383,330.57 | 760,860.69 | 32° 3' 3.940 N | 103° 29' 28.964 W |  |
| 590.0                               | 0.10        | 24.00   | 590.0    | 0.0    | 0.7    | 383,330.74 | 760,861.00 | 32° 3' 3.942 N | 103° 29' 28.960 W |  |
| 770.0                               | 0.40        | 314.00  | 770.0    | 0.6    | 0.3    | 383,331.32 | 760,860.61 | 32° 3' 3.948 N | 103° 29' 28.965 W |  |
| 800.0                               | 0.60        | 303.00  | 800.0    | 0.8    | 0.1    | 383,331.48 | 760,860.40 | 32° 3' 3.949 N | 103° 29' 28.967 W |  |
| Tie In To GYRO @ 800' MD / 800' TVD |             |         |          |        |        |            |            |                |                   |  |
| 850.0                               | 0.30        | 302.70  | 850.0    | 1.0    | -0.2   | 383,331.69 | 760,860.07 | 32° 3' 3.951 N | 103° 29' 28.971 W |  |
| 1,035.0                             | 1.80        | 104.40  | 1,035.0  | 0.5    | 2.2    | 383,331.23 | 760,862.48 | 32° 3' 3.947 N | 103° 29' 28.943 W |  |
| 1,220.0                             | 1.10        | 107.60  | 1,219.9  | -0.7   | 6.7    | 383,329.97 | 760,866.99 | 32° 3' 3.934 N | 103° 29' 28.891 W |  |
| 1,407.0                             | 2.10        | 86.10   | 1,406.8  | -1.0   | 11.8   | 383,329.66 | 760,872.12 | 32° 3' 3.930 N | 103° 29' 28.831 W |  |



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Survey Report - Geographic



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| Site:     | Sec 8, T26S, R34E        | MD Reference:                | Well @ 3379.0usft (McVay 8)   |
| Well:     | Gunner 8 Federal Com #7H | North Reference:             | Grid                          |
| Wellbore: | Wellbore #1              | Survey Calculation Method:   | Minimum Curvature             |
| Design:   | Wellbore #1              | Database:                    | Compass                       |

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Map Northing (usft) | Map Easting (usft) | Latitude       | Longitude         |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|---------------------|--------------------|----------------|-------------------|
| 1,596.0               | 2.10            | 90.00       | 1,595.7               | -0.8         | 18.7         | 383,329.90          | 760,879.03         | 32° 3' 3.932 N | 103° 29' 28.751 W |
| 1,785.0               | 1.80            | 105.50      | 1,784.6               | -1.6         | 25.1         | 383,329.10          | 760,885.36         | 32° 3' 3.924 N | 103° 29' 28.678 W |
| 1,974.0               | 2.30            | 81.90       | 1,973.5               | -1.9         | 31.7         | 383,328.84          | 760,891.97         | 32° 3' 3.921 N | 103° 29' 28.601 W |
| 2,163.0               | 1.80            | 85.80       | 2,162.4               | -1.1         | 38.4         | 383,329.59          | 760,898.69         | 32° 3' 3.928 N | 103° 29' 28.523 W |
| 2,351.0               | 1.20            | 95.60       | 2,350.3               | -1.1         | 43.3         | 383,329.62          | 760,903.59         | 32° 3' 3.928 N | 103° 29' 28.466 W |
| 2,540.0               | 2.30            | 79.10       | 2,539.2               | -0.6         | 49.0         | 383,330.14          | 760,909.29         | 32° 3' 3.932 N | 103° 29' 28.399 W |
| 2,729.0               | 1.80            | 76.60       | 2,728.1               | 0.8          | 55.6         | 383,331.55          | 760,915.90         | 32° 3' 3.946 N | 103° 29' 28.323 W |
| 2,917.0               | 1.60            | 71.00       | 2,916.0               | 2.4          | 61.0         | 383,333.09          | 760,921.25         | 32° 3' 3.961 N | 103° 29' 28.260 W |
| 3,106.0               | 1.20            | 67.50       | 3,104.9               | 4.0          | 65.3         | 383,334.70          | 760,925.57         | 32° 3' 3.976 N | 103° 29' 28.210 W |
| 3,200.0               | 2.80            | 84.70       | 3,198.9               | 4.6          | 68.5         | 383,335.29          | 760,928.77         | 32° 3' 3.982 N | 103° 29' 28.173 W |
| 3,389.0               | 3.30            | 94.90       | 3,387.6               | 4.6          | 78.5         | 383,335.25          | 760,938.79         | 32° 3' 3.981 N | 103° 29' 28.056 W |
| 3,578.0               | 2.30            | 97.00       | 3,576.4               | 3.6          | 87.7         | 383,334.33          | 760,947.97         | 32° 3' 3.971 N | 103° 29' 27.950 W |
| 3,766.0               | 1.90            | 97.70       | 3,764.3               | 2.8          | 94.5         | 383,333.45          | 760,954.80         | 32° 3' 3.962 N | 103° 29' 27.870 W |
| 3,955.0               | 1.20            | 89.30       | 3,953.2               | 2.4          | 99.6         | 383,333.05          | 760,959.89         | 32° 3' 3.957 N | 103° 29' 27.811 W |
| 4,144.0               | 2.60            | 70.70       | 4,142.1               | 3.8          | 105.6        | 383,334.50          | 760,965.91         | 32° 3' 3.971 N | 103° 29' 27.741 W |
| 4,333.0               | 3.30            | 88.90       | 4,330.8               | 5.3          | 115.1        | 383,336.02          | 760,975.40         | 32° 3' 3.985 N | 103° 29' 27.631 W |
| 4,522.0               | 3.00            | 99.10       | 4,519.6               | 4.6          | 125.4        | 383,335.34          | 760,985.72         | 32° 3' 3.978 N | 103° 29' 27.511 W |
| 4,711.0               | 2.50            | 94.20       | 4,708.3               | 3.6          | 134.4        | 383,334.25          | 760,994.72         | 32° 3' 3.966 N | 103° 29' 27.407 W |
| 4,900.0               | 2.60            | 94.60       | 4,897.1               | 2.9          | 142.8        | 383,333.61          | 761,003.10         | 32° 3' 3.959 N | 103° 29' 27.309 W |
| 5,088.0               | 2.80            | 108.30      | 5,084.9               | 1.1          | 151.4        | 383,331.82          | 761,011.71         | 32° 3' 3.941 N | 103° 29' 27.209 W |
| 5,277.0               | 1.60            | 82.60       | 5,273.8               | 0.0          | 158.4        | 383,330.72          | 761,018.71         | 32° 3' 3.930 N | 103° 29' 27.128 W |
| 5,464.0               | 1.20            | 67.10       | 5,460.7               | 1.1          | 162.8        | 383,331.81          | 761,023.10         | 32° 3' 3.940 N | 103° 29' 27.077 W |
| 5,653.0               | 2.10            | 92.80       | 5,649.7               | 1.7          | 168.1        | 383,332.41          | 761,028.38         | 32° 3' 3.946 N | 103° 29' 27.016 W |
| 5,841.0               | 2.30            | 94.90       | 5,837.5               | 1.2          | 175.3        | 383,331.92          | 761,035.58         | 32° 3' 3.940 N | 103° 29' 26.932 W |
| 6,030.0               | 1.90            | 98.10       | 6,026.4               | 0.5          | 182.2        | 383,331.16          | 761,042.46         | 32° 3' 3.932 N | 103° 29' 26.852 W |
| 6,219.0               | 2.10            | 101.20      | 6,215.3               | -0.7         | 188.7        | 383,330.04          | 761,048.96         | 32° 3' 3.921 N | 103° 29' 26.777 W |
| 6,408.0               | 1.90            | 103.30      | 6,404.2               | -2.0         | 195.1        | 383,328.65          | 761,055.41         | 32° 3' 3.906 N | 103° 29' 26.702 W |
| 6,596.0               | 2.10            | 101.90      | 6,592.1               | -3.5         | 201.5        | 383,327.22          | 761,061.81         | 32° 3' 3.892 N | 103° 29' 26.628 W |
| 6,785.0               | 2.10            | 108.60      | 6,780.9               | -5.3         | 208.2        | 383,325.41          | 761,068.48         | 32° 3' 3.873 N | 103° 29' 26.550 W |
| 6,974.0               | 2.30            | 91.40       | 6,969.8               | -6.5         | 215.3        | 383,324.21          | 761,075.56         | 32° 3' 3.861 N | 103° 29' 26.468 W |
| 7,163.0               | 2.30            | 100.20      | 7,158.6               | -7.3         | 222.8        | 383,323.44          | 761,083.08         | 32° 3' 3.853 N | 103° 29' 26.381 W |
| 7,352.0               | 2.30            | 96.00       | 7,347.5               | -8.3         | 230.3        | 383,322.38          | 761,090.58         | 32° 3' 3.841 N | 103° 29' 26.294 W |
| 7,541.0               | 1.90            | 82.60       | 7,536.4               | -8.3         | 237.2        | 383,322.38          | 761,097.46         | 32° 3' 3.841 N | 103° 29' 26.214 W |
| 7,729.0               | 1.90            | 95.30       | 7,724.3               | -8.2         | 243.4        | 383,322.50          | 761,103.66         | 32° 3' 3.842 N | 103° 29' 26.142 W |
| 7,918.0               | 1.80            | 100.50      | 7,913.2               | -9.0         | 249.4        | 383,321.67          | 761,109.69         | 32° 3' 3.833 N | 103° 29' 26.072 W |
| 8,107.0               | 1.80            | 84.70       | 8,102.1               | -9.3         | 255.3        | 383,321.40          | 761,115.57         | 32° 3' 3.830 N | 103° 29' 26.004 W |
| 8,296.0               | 1.60            | 101.20      | 8,291.0               | -9.5         | 260.8        | 383,321.16          | 761,121.11         | 32° 3' 3.827 N | 103° 29' 25.939 W |
| 8,484.0               | 2.10            | 83.70       | 8,478.9               | -9.7         | 266.8        | 383,321.03          | 761,127.11         | 32° 3' 3.825 N | 103° 29' 25.870 W |
| 8,673.0               | 2.50            | 79.80       | 8,667.7               | -8.6         | 274.3        | 383,322.14          | 761,134.61         | 32° 3' 3.836 N | 103° 29' 25.782 W |
| 8,862.0               | 1.90            | 100.90      | 8,856.6               | -8.4         | 281.4        | 383,322.28          | 761,141.74         | 32° 3' 3.837 N | 103° 29' 25.699 W |
| 9,021.0               | 1.60            | 82.30       | 9,015.5               | -8.6         | 286.2        | 383,322.08          | 761,146.53         | 32° 3' 3.834 N | 103° 29' 25.644 W |
| 9,210.0               | 1.20            | 88.60       | 9,204.5               | -8.2         | 290.8        | 383,322.48          | 761,151.13         | 32° 3' 3.838 N | 103° 29' 25.590 W |
| 9,257.0               | 1.10            | 82.30       | 9,251.5               | -8.1         | 291.8        | 383,322.55          | 761,152.06         | 32° 3' 3.838 N | 103° 29' 25.579 W |
| 9,304.0               | 3.00            | 26.40       | 9,298.4               | -7.0         | 292.8        | 383,323.71          | 761,153.06         | 32° 3' 3.850 N | 103° 29' 25.568 W |
| 9,351.0               | 7.20            | 8.80        | 9,345.2               | -3.0         | 293.8        | 383,327.73          | 761,154.06         | 32° 3' 3.890 N | 103° 29' 25.556 W |
| 9,399.0               | 11.40           | 5.30        | 9,392.6               | 4.7          | 294.7        | 383,335.43          | 761,154.96         | 32° 3' 3.966 N | 103° 29' 25.545 W |
| 9,446.0               | 15.10           | 0.70        | 9,438.3               | 15.5         | 295.2        | 383,346.18          | 761,155.46         | 32° 3' 4.072 N | 103° 29' 25.538 W |
| 9,493.0               | 18.30           | 359.30      | 9,483.4               | 29.0         | 295.1        | 383,359.68          | 761,155.44         | 32° 3' 4.206 N | 103° 29' 25.537 W |
| 9,540.0               | 21.10           | 3.50        | 9,527.6               | 44.8         | 295.6        | 383,375.51          | 761,155.87         | 32° 3' 4.362 N | 103° 29' 25.530 W |
| 9,587.0               | 24.80           | 4.60        | 9,570.9               | 63.1         | 296.9        | 383,393.78          | 761,157.18         | 32° 3' 4.543 N | 103° 29' 25.514 W |
| 9,634.0               | 27.30           | 4.90        | 9,613.1               | 83.7         | 298.6        | 383,414.35          | 761,158.89         | 32° 3' 4.746 N | 103° 29' 25.492 W |
| 9,682.0               | 29.00           | 6.00        | 9,655.4               | 106.2        | 300.7        | 383,436.89          | 761,161.05         | 32° 3' 4.969 N | 103° 29' 25.465 W |
| 9,698.0               | 30.30           | 5.30        | 9,669.3               | 114.1        | 301.5        | 383,444.77          | 761,161.82         | 32° 3' 5.047 N | 103° 29' 25.455 W |
| 9,746.0               | 34.30           | 2.10        | 9,709.9               | 139.7        | 303.1        | 383,470.35          | 761,163.44         | 32° 3' 5.300 N | 103° 29' 25.434 W |
| 9,793.0               | 39.20           | 0.00        | 9,747.5               | 167.8        | 303.6        | 383,498.46          | 761,163.92         | 32° 3' 5.578 N | 103° 29' 25.426 W |



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Survey Report - Geographic



|           |                          |                              |                               |
|-----------|--------------------------|------------------------------|-------------------------------|
| Company:  | COG Operating, LLC       | Local Co-ordinate Reference: | Well Gunner 8 Federal Com #7H |
| Project:  | Lea County, NM           | TVD Reference:               | Well @ 3379.0usft (McVay 8)   |
| Site:     | Sec 8, T26S, R34E        | MD Reference:                | Well @ 3379.0usft (McVay 8)   |
| Well:     | Gunner 8 Federal Com #7H | North Reference:             | Grid                          |
| Wellbore: | Wellbore #1              | Survey Calculation Method:   | Minimum Curvature             |
| Design:   | Wellbore #1              | Database:                    | Compass                       |

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Map Northing (usft) | Map Easting (usft) | Latitude        | Longitude         |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|---------------------|--------------------|-----------------|-------------------|
| 9,840.0               | 45.80           | 0.30        | 9,782.2               | 199.5        | 303.7        | 383,530.19          | 761,164.01         | 32° 3' 5.892 N  | 103° 29' 25.422 W |
| 9,887.0               | 51.90           | 357.90      | 9,813.1               | 234.9        | 303.1        | 383,565.56          | 761,163.42         | 32° 3' 6.242 N  | 103° 29' 25.425 W |
| 9,934.0               | 58.60           | 357.20      | 9,839.9               | 273.4        | 301.5        | 383,604.12          | 761,161.76         | 32° 3' 6.624 N  | 103° 29' 25.441 W |
| 9,981.0               | 64.80           | 357.50      | 9,862.1               | 314.7        | 299.6        | 383,645.43          | 761,159.85         | 32° 3' 7.033 N  | 103° 29' 25.460 W |
| 10,029.0              | 72.00           | 358.60      | 9,879.8               | 359.3        | 298.1        | 383,690.01          | 761,158.35         | 32° 3' 7.474 N  | 103° 29' 25.473 W |
| 10,076.0              | 79.90           | 359.30      | 9,891.2               | 404.9        | 297.2        | 383,735.56          | 761,157.52         | 32° 3' 7.925 N  | 103° 29' 25.479 W |
| 10,105.0              | 85.30           | 358.90      | 9,894.9               | 433.6        | 296.8        | 383,764.30          | 761,157.07         | 32° 3' 8.209 N  | 103° 29' 25.481 W |
| 10,152.0              | 88.00           | 358.60      | 9,897.7               | 480.5        | 295.7        | 383,811.21          | 761,156.04         | 32° 3' 8.674 N  | 103° 29' 25.489 W |
| 10,247.0              | 88.00           | 358.60      | 9,901.0               | 575.4        | 293.4        | 383,906.12          | 761,153.72         | 32° 3' 9.613 N  | 103° 29' 25.507 W |
| 10,341.0              | 88.70           | 0.00        | 9,903.7               | 669.4        | 292.3        | 384,000.07          | 761,152.57         | 32° 3' 10.543 N | 103° 29' 25.512 W |
| 10,435.0              | 90.10           | 0.00        | 9,904.7               | 763.4        | 292.3        | 384,094.06          | 761,152.57         | 32° 3' 11.473 N | 103° 29' 25.504 W |
| 10,530.0              | 90.40           | 0.30        | 9,904.3               | 858.4        | 292.5        | 384,189.06          | 761,152.82         | 32° 3' 12.413 N | 103° 29' 25.492 W |
| 10,624.0              | 90.40           | 0.70        | 9,903.6               | 952.4        | 293.3        | 384,283.06          | 761,153.64         | 32° 3' 13.343 N | 103° 29' 25.474 W |
| 10,718.0              | 90.60           | 1.40        | 9,902.8               | 1,046.3      | 295.1        | 384,377.04          | 761,155.37         | 32° 3' 14.273 N | 103° 29' 25.445 W |
| 10,813.0              | 90.10           | 1.80        | 9,902.2               | 1,141.3      | 297.7        | 384,472.00          | 761,158.02         | 32° 3' 15.212 N | 103° 29' 25.406 W |
| 10,907.0              | 90.30           | 1.80        | 9,901.9               | 1,235.3      | 300.7        | 384,565.95          | 761,160.97         | 32° 3' 16.142 N | 103° 29' 25.363 W |
| 11,002.0              | 89.20           | 0.00        | 9,902.3               | 1,330.2      | 302.2        | 384,660.93          | 761,162.46         | 32° 3' 17.082 N | 103° 29' 25.337 W |
| 11,096.0              | 90.10           | 0.30        | 9,902.9               | 1,424.2      | 302.4        | 384,754.93          | 761,162.71         | 32° 3' 18.012 N | 103° 29' 25.326 W |
| 11,191.0              | 90.10           | 1.00        | 9,902.7               | 1,519.2      | 303.5        | 384,849.92          | 761,163.79         | 32° 3' 18.952 N | 103° 29' 25.305 W |
| 11,285.0              | 91.50           | 0.30        | 9,901.4               | 1,613.2      | 304.6        | 384,943.90          | 761,164.85         | 32° 3' 19.882 N | 103° 29' 25.284 W |
| 11,379.0              | 91.70           | 0.30        | 9,898.8               | 1,707.2      | 305.0        | 385,037.86          | 761,165.34         | 32° 3' 20.811 N | 103° 29' 25.270 W |
| 11,473.0              | 91.50           | 0.70        | 9,896.1               | 1,801.1      | 305.9        | 385,131.82          | 761,166.16         | 32° 3' 21.741 N | 103° 29' 25.252 W |
| 11,568.0              | 90.60           | 358.90      | 9,894.4               | 1,896.1      | 305.5        | 385,226.80          | 761,165.83         | 32° 3' 22.681 N | 103° 29' 25.247 W |
| 11,662.0              | 90.30           | 358.60      | 9,893.7               | 1,990.1      | 303.5        | 385,320.78          | 761,163.78         | 32° 3' 23.611 N | 103° 29' 25.262 W |
| 11,756.0              | 89.90           | 358.20      | 9,893.5               | 2,084.0      | 300.9        | 385,414.74          | 761,161.16         | 32° 3' 24.541 N | 103° 29' 25.284 W |
| 11,851.0              | 90.40           | 358.60      | 9,893.2               | 2,179.0      | 298.2        | 385,509.70          | 761,158.51         | 32° 3' 25.481 N | 103° 29' 25.306 W |
| 11,945.0              | 90.30           | 358.60      | 9,892.7               | 2,273.0      | 295.9        | 385,603.67          | 761,156.21         | 32° 3' 26.411 N | 103° 29' 25.324 W |
| 12,040.0              | 89.70           | 358.60      | 9,892.7               | 2,367.9      | 293.6        | 385,698.64          | 761,153.89         | 32° 3' 27.351 N | 103° 29' 25.343 W |
| 12,134.0              | 92.00           | 0.00        | 9,891.3               | 2,461.9      | 292.4        | 385,792.62          | 761,152.74         | 32° 3' 28.281 N | 103° 29' 25.348 W |
| 12,228.0              | 92.20           | 0.00        | 9,887.8               | 2,555.9      | 292.4        | 385,886.55          | 761,152.74         | 32° 3' 29.211 N | 103° 29' 25.339 W |
| 12,323.0              | 91.80           | 0.00        | 9,884.5               | 2,650.8      | 292.4        | 385,981.50          | 761,152.74         | 32° 3' 30.150 N | 103° 29' 25.330 W |
| 12,417.0              | 91.80           | 359.60      | 9,881.6               | 2,744.8      | 292.1        | 386,075.45          | 761,152.41         | 32° 3' 31.080 N | 103° 29' 25.326 W |
| 12,512.0              | 91.00           | 0.00        | 9,879.2               | 2,839.7      | 291.8        | 386,170.42          | 761,152.08         | 32° 3' 32.020 N | 103° 29' 25.321 W |
| 12,606.0              | 90.60           | 0.30        | 9,877.9               | 2,933.7      | 292.0        | 386,264.41          | 761,152.33         | 32° 3' 32.950 N | 103° 29' 25.310 W |
| 12,700.0              | 90.80           | 0.30        | 9,876.8               | 3,027.7      | 292.5        | 386,358.40          | 761,152.82         | 32° 3' 33.880 N | 103° 29' 25.295 W |
| 12,794.0              | 89.70           | 0.30        | 9,876.4               | 3,121.7      | 293.0        | 386,452.40          | 761,153.31         | 32° 3' 34.810 N | 103° 29' 25.281 W |
| 12,889.0              | 90.10           | 359.30      | 9,876.5               | 3,216.7      | 292.7        | 386,547.40          | 761,152.98         | 32° 3' 35.750 N | 103° 29' 25.276 W |
| 12,983.0              | 89.70           | 359.30      | 9,876.7               | 3,310.7      | 291.5        | 386,641.39          | 761,151.83         | 32° 3' 36.680 N | 103° 29' 25.281 W |
| 13,078.0              | 90.40           | 0.00        | 9,876.6               | 3,405.7      | 291.0        | 386,736.39          | 761,151.25         | 32° 3' 37.620 N | 103° 29' 25.279 W |
| 13,170.0              | 91.00           | 0.30        | 9,875.5               | 3,497.7      | 291.2        | 386,828.38          | 761,151.49         | 32° 3' 38.531 N | 103° 29' 25.268 W |
| 13,264.0              | 91.30           | 359.60      | 9,873.6               | 3,591.7      | 291.1        | 386,922.36          | 761,151.41         | 32° 3' 39.461 N | 103° 29' 25.260 W |
| 13,358.0              | 90.40           | 359.60      | 9,872.2               | 3,685.6      | 290.5        | 387,016.34          | 761,150.75         | 32° 3' 40.391 N | 103° 29' 25.260 W |
| 13,453.0              | 91.50           | 359.30      | 9,870.6               | 3,780.6      | 289.5        | 387,111.33          | 761,149.84         | 32° 3' 41.331 N | 103° 29' 25.262 W |
| 13,547.0              | 91.30           | 359.30      | 9,868.3               | 3,874.6      | 288.4        | 387,205.29          | 761,148.69         | 32° 3' 42.261 N | 103° 29' 25.266 W |
| 13,641.0              | 91.10           | 359.30      | 9,866.4               | 3,968.6      | 287.2        | 387,299.26          | 761,147.54         | 32° 3' 43.191 N | 103° 29' 25.271 W |
| 13,735.0              | 90.60           | 359.60      | 9,865.0               | 4,062.5      | 286.3        | 387,393.25          | 761,146.64         | 32° 3' 44.121 N | 103° 29' 25.273 W |
| 13,830.0              | 90.10           | 358.60      | 9,864.4               | 4,157.5      | 284.9        | 387,488.23          | 761,145.15         | 32° 3' 45.061 N | 103° 29' 25.282 W |
| 13,925.0              | 89.90           | 358.20      | 9,864.4               | 4,252.5      | 282.2        | 387,583.20          | 761,142.50         | 32° 3' 46.001 N | 103° 29' 25.304 W |
| 14,019.0              | 90.40           | 357.20      | 9,864.2               | 4,346.4      | 278.4        | 387,677.12          | 761,138.73         | 32° 3' 46.930 N | 103° 29' 25.339 W |
| 14,113.0              | 90.80           | 357.50      | 9,863.2               | 4,440.3      | 274.1        | 387,771.01          | 761,134.38         | 32° 3' 47.860 N | 103° 29' 25.381 W |
| 14,207.0              | 91.30           | 359.30      | 9,861.4               | 4,534.3      | 271.5        | 387,864.95          | 761,131.76         | 32° 3' 48.790 N | 103° 29' 25.403 W |
| 14,302.0              | 89.40           | 358.90      | 9,860.9               | 4,629.2      | 270.0        | 387,959.94          | 761,130.26         | 32° 3' 49.730 N | 103° 29' 25.412 W |
| 14,396.0              | 90.30           | 359.30      | 9,861.1               | 4,723.2      | 268.5        | 388,053.92          | 761,128.79         | 32° 3' 50.660 N | 103° 29' 25.421 W |
| 14,491.0              | 89.70           | 359.60      | 9,861.1               | 4,818.2      | 267.6        | 388,148.92          | 761,127.88         | 32° 3' 51.600 N | 103° 29' 25.423 W |
| 14,585.0              | 91.30           | 0.30        | 9,860.3               | 4,912.2      | 267.5        | 388,242.91          | 761,127.79         | 32° 3' 52.530 N | 103° 29' 25.415 W |



HP  
Survey Report - Geographic



|           |                          |                              |                               |
|-----------|--------------------------|------------------------------|-------------------------------|
| Company:  | COG Operating, LLC       | Local Co-ordinate Reference: | Well Gunner 8 Federal Com #7H |
| Project:  | Lea County, NM           | TVD Reference:               | Well @ 3379.0usft (McVay 8)   |
| Site:     | Sec 8, T26S, R34E        | MD Reference:                | Well @ 3379.0usft (McVay 8)   |
| Well:     | Gunner-8 Federal Com #7H | North Reference:             | Grid                          |
| Wellbore: | Wellbore #1              | Survey Calculation Method:   | Minimum Curvature             |
| Design:   | Wellbore #1              | Database:                    | Compass                       |

| Survey                                         |                    |                |                             |                 |                 |                           |                          |                 |                   |  |
|------------------------------------------------|--------------------|----------------|-----------------------------|-----------------|-----------------|---------------------------|--------------------------|-----------------|-------------------|--|
| Measured<br>Depth<br>(usft)                    | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Map<br>Northing<br>(usft) | Map<br>Easting<br>(usft) | Latitude        | Longitude         |  |
| 14,680.0                                       | 91.10              | 0.70           | 9,858.3                     | 5,007.2         | 268.3           | 388,337.89                | 761,128.62               | 32° 3' 53.470 N | 103° 29' 25.397 W |  |
| 14,774.0                                       | 91.00              | 1.00           | 9,856.6                     | 5,101.2         | 269.7           | 388,431.86                | 761,130.02               | 32° 3' 54.400 N | 103° 29' 25.372 W |  |
| 14,869.0                                       | 90.10              | 1.00           | 9,855.7                     | 5,196.1         | 271.4           | 388,526.84                | 761,131.67               | 32° 3' 55.339 N | 103° 29' 25.344 W |  |
| 14,963.0                                       | 89.60              | 0.30           | 9,855.9                     | 5,290.1         | 272.4           | 388,620.83                | 761,132.74               | 32° 3' 56.269 N | 103° 29' 25.323 W |  |
| 15,058.0                                       | 89.40              | 359.60         | 9,856.7                     | 5,385.1         | 272.4           | 388,715.83                | 761,132.66               | 32° 3' 57.210 N | 103° 29' 25.316 W |  |
| 15,152.0                                       | 90.10              | 358.90         | 9,857.2                     | 5,479.1         | 271.1           | 388,809.82                | 761,131.43               | 32° 3' 58.140 N | 103° 29' 25.321 W |  |
| 15,247.0                                       | 91.70              | 358.60         | 9,855.7                     | 5,574.1         | 269.1           | 388,904.78                | 761,129.35               | 32° 3' 59.080 N | 103° 29' 25.337 W |  |
| 15,341.0                                       | 91.50              | 358.60         | 9,853.0                     | 5,668.0         | 266.8           | 388,998.72                | 761,127.06               | 32° 4' 0.009 N  | 103° 29' 25.355 W |  |
| 15,435.0                                       | 91.50              | 358.60         | 9,850.6                     | 5,762.0         | 264.5           | 389,092.66                | 761,124.76               | 32° 4' 0.939 N  | 103° 29' 25.373 W |  |
| 15,530.0                                       | 91.00              | 358.90         | 9,848.5                     | 5,856.9         | 262.4           | 389,187.61                | 761,122.69               | 32° 4' 1.879 N  | 103° 29' 25.389 W |  |
| 15,624.0                                       | 91.10              | 359.30         | 9,846.8                     | 5,950.9         | 260.9           | 389,281.58                | 761,121.22               | 32° 4' 2.809 N  | 103° 29' 25.397 W |  |
| 15,719.0                                       | 91.10              | 358.90         | 9,845.0                     | 6,045.9         | 259.4           | 389,376.55                | 761,119.72               | 32° 4' 3.749 N  | 103° 29' 25.406 W |  |
| 15,813.0                                       | 90.60              | 358.90         | 9,843.6                     | 6,139.8         | 257.6           | 389,470.53                | 761,117.92               | 32° 4' 4.679 N  | 103° 29' 25.418 W |  |
| 15,907.0                                       | 90.40              | 359.30         | 9,842.7                     | 6,233.8         | 256.1           | 389,564.51                | 761,116.44               | 32° 4' 5.609 N  | 103° 29' 25.427 W |  |
| 16,002.0                                       | 90.10              | 359.60         | 9,842.3                     | 6,328.8         | 255.2           | 389,659.51                | 761,115.53               | 32° 4' 6.549 N  | 103° 29' 25.429 W |  |
| 16,096.0                                       | 92.40              | 0.30           | 9,840.3                     | 6,422.8         | 255.2           | 389,753.48                | 761,115.45               | 32° 4' 7.479 N  | 103° 29' 25.421 W |  |
| 16,190.0                                       | 92.40              | 0.70           | 9,836.3                     | 6,516.7         | 256.0           | 389,847.39                | 761,116.27               | 32° 4' 8.408 N  | 103° 29' 25.403 W |  |
| 16,285.0                                       | 90.60              | 359.60         | 9,833.9                     | 6,611.7         | 256.2           | 389,942.35                | 761,116.52               | 32° 4' 9.348 N  | 103° 29' 25.392 W |  |
| 16,379.0                                       | 91.00              | 0.30           | 9,832.5                     | 6,705.6         | 256.1           | 390,036.34                | 761,116.43               | 32° 4' 10.278 N | 103° 29' 25.384 W |  |
| 16,473.0                                       | 90.80              | 359.60         | 9,831.1                     | 6,799.6         | 256.1           | 390,130.33                | 761,116.35               | 32° 4' 11.208 N | 103° 29' 25.377 W |  |
| 16,567.0                                       | 90.80              | 359.60         | 9,829.8                     | 6,893.6         | 255.4           | 390,224.32                | 761,115.70               | 32° 4' 12.138 N | 103° 29' 25.376 W |  |
| 16,662.0                                       | 91.00              | 359.30         | 9,828.3                     | 6,988.6         | 254.5           | 390,319.30                | 761,114.78               | 32° 4' 13.078 N | 103° 29' 25.378 W |  |
| 16,756.0                                       | 91.00              | 359.60         | 9,826.6                     | 7,082.6         | 253.6           | 390,413.28                | 761,113.88               | 32° 4' 14.008 N | 103° 29' 25.380 W |  |
| 16,850.0                                       | 89.40              | 359.60         | 9,826.3                     | 7,176.6         | 252.9           | 390,507.28                | 761,113.23               | 32° 4' 14.938 N | 103° 29' 25.379 W |  |
| 16,945.0                                       | 88.90              | 359.30         | 9,827.7                     | 7,271.6         | 252.0           | 390,602.26                | 761,112.31               | 32° 4' 15.878 N | 103° 29' 25.381 W |  |
| 17,039.0                                       | 89.90              | 359.60         | 9,828.7                     | 7,365.6         | 251.1           | 390,696.25                | 761,111.41               | 32° 4' 16.809 N | 103° 29' 25.383 W |  |
| 17,133.0                                       | 90.40              | 359.30         | 9,828.4                     | 7,459.5         | 250.2           | 390,790.25                | 761,110.51               | 32° 4' 17.739 N | 103° 29' 25.385 W |  |
| 17,228.0                                       | 90.60              | 359.60         | 9,827.6                     | 7,554.5         | 249.3           | 390,885.24                | 761,109.60               | 32° 4' 18.679 N | 103° 29' 25.387 W |  |
| 17,322.0                                       | 91.00              | 359.60         | 9,826.3                     | 7,648.5         | 248.6           | 390,979.23                | 761,108.94               | 32° 4' 19.609 N | 103° 29' 25.386 W |  |
| 17,416.0                                       | 91.30              | 0.00           | 9,824.4                     | 7,742.5         | 248.3           | 391,073.21                | 761,108.61               | 32° 4' 20.539 N | 103° 29' 25.381 W |  |
| 17,511.0                                       | 91.30              | 0.00           | 9,822.3                     | 7,837.5         | 248.3           | 391,168.18                | 761,108.61               | 32° 4' 21.479 N | 103° 29' 25.372 W |  |
| 17,605.0                                       | 91.80              | 359.60         | 9,819.7                     | 7,931.4         | 248.0           | 391,262.15                | 761,108.29               | 32° 4' 22.409 N | 103° 29' 25.368 W |  |
| 17,699.0                                       | 89.70              | 359.30         | 9,818.5                     | 8,025.4         | 247.1           | 391,356.13                | 761,107.38               | 32° 4' 23.339 N | 103° 29' 25.370 W |  |
| 17,793.0                                       | 89.70              | 359.30         | 9,819.0                     | 8,119.4         | 245.9           | 391,450.12                | 761,106.23               | 32° 4' 24.269 N | 103° 29' 25.374 W |  |
| 17,888.0                                       | 90.30              | 359.60         | 9,819.0                     | 8,214.4         | 245.0           | 391,545.12                | 761,105.32               | 32° 4' 25.209 N | 103° 29' 25.376 W |  |
| 17,982.0                                       | 91.00              | 0.00           | 9,817.9                     | 8,308.4         | 244.7           | 391,639.11                | 761,104.99               | 32° 4' 26.139 N | 103° 29' 25.372 W |  |
| 18,076.0                                       | 88.90              | 0.00           | 9,818.0                     | 8,402.4         | 244.7           | 391,733.10                | 761,104.99               | 32° 4' 27.069 N | 103° 29' 25.363 W |  |
| 18,171.0                                       | 88.90              | 0.30           | 9,819.8                     | 8,497.4         | 244.9           | 391,828.08                | 761,105.24               | 32° 4' 28.009 N | 103° 29' 25.352 W |  |
| 18,265.0                                       | 88.70              | 0.00           | 9,821.8                     | 8,591.4         | 245.2           | 391,922.06                | 761,105.49               | 32° 4' 28.939 N | 103° 29' 25.340 W |  |
| 18,360.0                                       | 89.70              | 0.00           | 9,823.1                     | 8,686.4         | 245.2           | 392,017.05                | 761,105.49               | 32° 4' 29.879 N | 103° 29' 25.332 W |  |
| 18,454.0                                       | 89.90              | 359.60         | 9,823.4                     | 8,780.4         | 244.9           | 392,111.05                | 761,105.16               | 32° 4' 30.809 N | 103° 29' 25.327 W |  |
| 18,548.0                                       | 90.30              | 358.90         | 9,823.3                     | 8,874.3         | 243.6           | 392,205.04                | 761,103.93               | 32° 4' 31.739 N | 103° 29' 25.333 W |  |
| 18,643.0                                       | 90.60              | 358.20         | 9,822.5                     | 8,969.3         | 241.2           | 392,300.01                | 761,101.53               | 32° 4' 32.679 N | 103° 29' 25.352 W |  |
| 18,737.0                                       | 91.00              | 358.20         | 9,821.2                     | 9,063.3         | 238.3           | 392,393.95                | 761,098.57               | 32° 4' 33.609 N | 103° 29' 25.378 W |  |
| 18,831.0                                       | 91.70              | 358.20         | 9,819.0                     | 9,157.2         | 235.3           | 392,487.88                | 761,095.62               | 32° 4' 34.539 N | 103° 29' 25.404 W |  |
| 18,926.0                                       | 90.40              | 358.90         | 9,817.3                     | 9,252.1         | 232.9           | 392,582.83                | 761,093.22               | 32° 4' 35.479 N | 103° 29' 25.423 W |  |
| 19,020.0                                       | 90.80              | 358.60         | 9,816.3                     | 9,346.1         | 230.9           | 392,676.80                | 761,091.17               | 32° 4' 36.409 N | 103° 29' 25.438 W |  |
| 19,115.0                                       | 90.30              | 359.30         | 9,815.4                     | 9,441.1         | 229.1           | 392,771.78                | 761,089.43               | 32° 4' 37.349 N | 103° 29' 25.450 W |  |
| 19,209.0                                       | 90.80              | 358.90         | 9,814.5                     | 9,535.1         | 227.7           | 392,865.77                | 761,087.95               | 32° 4' 38.279 N | 103° 29' 25.458 W |  |
| 19,303.0                                       | 89.00              | 359.30         | 9,814.6                     | 9,629.1         | 226.2           | 392,959.75                | 761,086.48               | 32° 4' 39.209 N | 103° 29' 25.467 W |  |
| 19,397.0                                       | 90.30              | 359.30         | 9,815.2                     | 9,723.0         | 225.0           | 393,053.74                | 761,085.33               | 32° 4' 40.139 N | 103° 29' 25.472 W |  |
| 19,492.0                                       | 90.80              | 359.30         | 9,814.3                     | 9,818.0         | 223.9           | 393,148.73                | 761,084.17               | 32° 4' 41.079 N | 103° 29' 25.477 W |  |
| 19,523.0                                       | 91.00              | 359.30         | 9,813.8                     | 9,849.0         | 223.5           | 393,179.72                | 761,083.79               | 32° 4' 41.386 N | 103° 29' 25.478 W |  |
| 19,719.8                                       | 91.00              | 359.30         | 9,810.4                     | 10,045.8        | 221.1           | 393,376.48                | 761,081.38               | 32° 4' 43.333 N | 103° 29' 25.488 W |  |
| Crossed 330' Hard Line @ 19720' MD / 9810' TVD |                    |                |                             |                 |                 |                           |                          |                 |                   |  |



HP  
Survey Report - Geographic



|           |                          |                              |                               |
|-----------|--------------------------|------------------------------|-------------------------------|
| Company:  | COG Operating, LLC       | Local Co-ordinate Reference: | Well Gunner 8 Federal Com #7H |
| Project:  | Lea County, NM           | TVD Reference:               | Well @ 3379.0usft (McVay 8)   |
| Site:     | Sec 8, T26S, R34E        | MD Reference:                | Well @ 3379.0usft (McVay 8)   |
| Well:     | Gunner 8 Federal Com #7H | North Reference:             | Grid                          |
| Wellbore: | Wellbore #1              | Survey Calculation Method:   | Minimum Curvature             |
| Design:   | Wellbore #1              | Database:                    | Compass                       |

| Survey                     |                 |             |                       |              |              |                     |                    |                 |                   |  |
|----------------------------|-----------------|-------------|-----------------------|--------------|--------------|---------------------|--------------------|-----------------|-------------------|--|
| Measured Depth (usft)      | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Map Northing (usft) | Map Easting (usft) | Latitude        | Longitude         |  |
| 19,734.0                   | 91.00           | 359.30      | 9,810.1               | 10,060.0     | 220.9        | 393,390.67          | 761,081.21         | 32° 4' 43.474 N | 103° 29' 25.489 W |  |
| TD @ 19734' MD / 9810' TVD |                 |             |                       |              |              |                     |                    |                 |                   |  |

| Design Annotations    |                       |                   |              |                                                |  |
|-----------------------|-----------------------|-------------------|--------------|------------------------------------------------|--|
| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates |              |                                                |  |
|                       |                       | +N/-S (usft)      | +E/-W (usft) | Comment                                        |  |
| 800.0                 | 800.0                 | 0.8               | 0.1          | Tie In To GYRO @ 800' MD / 800' TVD            |  |
| 19,719.8              | 9,810.4               | 10,045.8          | 221.1        | Crossed 330' Hard Line @ 19720' MD / 9810' TVD |  |
| 19,734.0              | 9,810.1               | 10,060.0          | 220.9        | TD @ 19734' MD / 9810' TVD                     |  |

|                   |                    |             |
|-------------------|--------------------|-------------|
| Checked By: _____ | Approved By: _____ | Date: _____ |
|-------------------|--------------------|-------------|



|                        |                      |
|------------------------|----------------------|
| Date                   | 1/15/2016            |
| Pressure test          | 9500                 |
| Well Name/number       | Gunner 8 Fed Com #7H |
| Casing 1 size          | 5 1/2                |
| Capacity-bbls/lin. ft. | 0.0232               |
| Top of Casing          | 0                    |
| TD of casing           | 19,688               |
| TVD                    | 9858                 |
| AFE                    | 1893                 |
| Shallowest Plug        | 10,154               |

### Fluid Database

|    |                     |
|----|---------------------|
| 1  | Treated Water       |
| 2  | 7.5 % Acid          |
| 3  | Slickwater          |
| 4  | Water Frac G -R(11) |
| 5  |                     |
| 6  |                     |
| 7  |                     |
| 8  |                     |
| 9  |                     |
| 10 |                     |
| 11 |                     |
| 12 |                     |

### Proppant Database

|   |             |
|---|-------------|
| 1 | 100 Mesh    |
| 2 | 40/70 White |
| 3 |             |
| 4 |             |
| 5 |             |
| 6 |             |
| 7 |             |
| 8 |             |

### Chemical Database

|    |              |
|----|--------------|
| 1  | BE-9         |
| 2  | Losurf-360   |
| 3  | Clay Web     |
| 4  | HPH Breaker  |
| 5  | FR-66        |
| 6  | Optikleen-WF |
| 7  | Optiflo H TE |
| 8  | Scaletrol    |
| 9  | Parasorb     |
| 10 | Scalesorb.12 |

|                    | Stage 1      | Distance Between Perfs | Shots       | Stage 2      | Distance Between Perfs | Shots       | Stage 3      | Distance Between Perfs | Shots       | Stage 4      | Distance Between Perfs | Shots       | Stage 5      | Distance Between Perfs | Shots       |
|--------------------|--------------|------------------------|-------------|--------------|------------------------|-------------|--------------|------------------------|-------------|--------------|------------------------|-------------|--------------|------------------------|-------------|
| From Bottom to Top | 19,585       | 50                     | 14          | 19,435       | 50                     | 14          | 19,285       | 50                     | 14          | 19,137       | 48                     | 14          | 18,985       | 50                     | 14          |
|                    | 19,535       | 50                     | 12          | 19,385       | 50                     | 12          | 19,235       | 50                     | 12          | 19,085       | 50                     | 12          | 18,935       | 50                     | 12          |
|                    | 19,485       |                        | 10          | 19,335       |                        | 10          | 19,185       |                        | 10          | 19,035       |                        | 10          | 18,885       |                        | 10          |
|                    |              |                        |             |              |                        |             |              |                        |             |              |                        |             |              |                        |             |
|                    |              |                        |             |              |                        |             |              |                        |             |              |                        |             |              |                        |             |
|                    |              |                        |             |              |                        |             |              |                        |             |              |                        |             |              |                        |             |
|                    | Plug to Plug | 145                    | 36          | Plug to Plug | 146                    | 36          | Plug to Plug | 154                    | 36          | Plug to Plug | 146                    | 36          | Plug to Plug | 154                    | 36          |
|                    | Frac Plug    | 19,605                 | Total Shots | Frac Plug    | 19,460                 | Total Shots | Frac Plug    | 19,314                 | Total Shots | Frac Plug    | 19,160                 | Total Shots | Frac Plug    | 19,014                 | Total Shots |

|                    | Stage 6      | Distance Between Perfs | Shots       | Stage 7      | Distance Between Perfs | Shots       | Stage 8      | Distance Between Perfs | Shots       | Stage 9      | Distance Between Perfs | Shots       | Stage 10     | Distance Between Perfs | Shots       |
|--------------------|--------------|------------------------|-------------|--------------|------------------------|-------------|--------------|------------------------|-------------|--------------|------------------------|-------------|--------------|------------------------|-------------|
| From Bottom to Top | 18,838       | 47                     | 14          | 18,684       | 50                     | 14          | 18,532       | 52                     | 14          | 18,384       | 48                     | 14          | 18,234       | 50                     | 14          |
|                    | 18,783       | 49                     | 12          | 18,634       | 50                     | 12          | 18,486       | 54                     | 12          | 18,334       | 50                     | 12          | 18,189       | 55                     | 12          |
|                    | 18,734       |                        | 10          | 18,584       |                        | 10          | 18,432       |                        | 10          | 18,284       |                        | 10          | 18,134       |                        | 10          |
|                    |              |                        |             |              |                        |             |              |                        |             |              |                        |             |              |                        |             |
|                    |              |                        |             |              |                        |             |              |                        |             |              |                        |             |              |                        |             |
|                    |              |                        |             |              |                        |             |              |                        |             |              |                        |             |              |                        |             |
|                    | Plug to Plug | 151                    | 36          | Plug to Plug | 150                    | 36          | Plug to Plug | 150                    | 36          | Plug to Plug | 153                    | 36          | Plug to Plug | 146                    | 36          |
|                    | Frac Plug    | 18,860                 | Total Shots | Frac Plug    | 18,709                 | Total Shots | Frac Plug    | 18,559                 | Total Shots | Frac Plug    | 18,409                 | Total Shots | Frac Plug    | 18,256                 | Total Shots |

|                    | Stage 11     | Distance Between Perfs | Shots       | Stage 12     | Distance Between Perfs | Shots       | Stage 13     | Distance Between Perfs | Shots       | Stage 14     | Distance Between Perfs | Shots       | Stage 15     | Distance Between Perfs | Shots       |
|--------------------|--------------|------------------------|-------------|--------------|------------------------|-------------|--------------|------------------------|-------------|--------------|------------------------|-------------|--------------|------------------------|-------------|
| From Bottom to Top | 18,084       | 50                     | 14          | 17,930       | 54                     | 14          | 17,778       | 56                     | 14          | 17,634       | 52                     | 14          | 17,484       | 50                     | 14          |
|                    | 18,034       | 50                     | 12          | 17,884       | 50                     | 12          | 17,732       | 46                     | 12          | 17,584       | 50                     | 12          | 17,434       | 50                     | 12          |
|                    | 17,984       |                        | 10          | 17,834       |                        | 10          | 17,686       |                        | 10          | 17,534       |                        | 10          | 17,384       |                        | 10          |
|                    |              |                        |             |              |                        |             |              |                        |             |              |                        |             |              |                        |             |
|                    |              |                        |             |              |                        |             |              |                        |             |              |                        |             |              |                        |             |
|                    |              |                        |             |              |                        |             |              |                        |             |              |                        |             |              |                        |             |
|                    | Plug to Plug | 151                    | 36          | Plug to Plug | 167                    | 36          | Plug to Plug | 133                    | 36          | Plug to Plug | 160                    | 36          | Plug to Plug | 140                    | 36          |
|                    | Frac Plug    | 18,110                 | Total Shots | Frac Plug    | 17,959                 | Total Shots | Frac Plug    | 17,792                 | Total Shots | Frac Plug    | 17,659                 | Total Shots | Frac Plug    | 17,499                 | Total Shots |

|                    | Stage 16     | Distance Between Perfs | Shots       | Stage 17     | Distance Between Perfs | Shots       | Stage 18     | Distance Between Perfs | Shots       | Stage 19     | Distance Between Perfs | Shots       | Stage 20     | Distance Between Perfs | Shots       |
|--------------------|--------------|------------------------|-------------|--------------|------------------------|-------------|--------------|------------------------|-------------|--------------|------------------------|-------------|--------------|------------------------|-------------|
| From Bottom to Top | 17,329       | 55                     | 14          | 17,184       | 50                     | 14          | 17,033       | 50                     | 14          | 16,884       | 49                     | 14          | 16,733       | 50                     | 14          |
|                    | 17,284       | 50                     | 12          | 17,138       | 55                     | 12          | 16,983       | 50                     | 12          | 16,833       | 50                     | 12          | 16,683       | 50                     | 12          |
|                    | 17,234       |                        | 10          | 17,083       |                        | 10          | 16,933       |                        | 10          | 16,783       |                        | 10          | 16,633       |                        | 10          |
|                    |              |                        |             |              |                        |             |              |                        |             |              |                        |             |              |                        |             |
|                    |              |                        |             |              |                        |             |              |                        |             |              |                        |             |              |                        |             |
|                    |              |                        |             |              |                        |             |              |                        |             |              |                        |             |              |                        |             |
|                    | Plug to Plug | 159                    | 36          | Plug to Plug | 142                    | 36          | Plug to Plug | 150                    | 36          | Plug to Plug | 143                    | 36          | Plug to Plug | 157                    | 36          |
|                    | Frac Plug    | 17,359                 | Total Shots | Frac Plug    | 17,200                 | Total Shots | Frac Plug    | 17,058                 | Total Shots | Frac Plug    | 16,908                 | Total Shots | Frac Plug    | 16,765                 | Total Shots |

|                    | Stage 21     | Distance Between Perfs | Shots       | Stage 22     | Distance Between Perfs | Shots       | Stage 23     | Distance Between Perfs | Shots       | Stage 24     | Distance Between Perfs | Shots       | Stage 25     | Distance Between Perfs | Shots       |
|--------------------|--------------|------------------------|-------------|--------------|------------------------|-------------|--------------|------------------------|-------------|--------------|------------------------|-------------|--------------|------------------------|-------------|
| From Bottom to Top | 16,585       | 48                     | 14          | 16,433       | 50                     | 14          | 16,266       | 71                     | 14          | 16,133       | 50                     | 14          | 15,983       | 45                     | 14          |
|                    | 16,535       | 50                     | 12          | 16,383       | 46                     | 12          | 16,225       | 42                     | 12          | 16,083       | 55                     | 12          | 15,933       | 50                     | 12          |
|                    | 16,483       |                        | 10          | 16,337       |                        | 10          | 16,183       |                        | 10          | 16,028       |                        | 10          | 15,883       |                        | 10          |
|                    |              |                        |             |              |                        |             |              |                        |             |              |                        |             |              |                        |             |
|                    |              |                        |             |              |                        |             |              |                        |             |              |                        |             |              |                        |             |
|                    |              |                        |             |              |                        |             |              |                        |             |              |                        |             |              |                        |             |
|                    | Plug to Plug | 158                    | 36          | Plug to Plug | 170                    | 36          | Plug to Plug | 126                    | 36          | Plug to Plug | 146                    | 36          | Plug to Plug | 152                    | 36          |
|                    | Frac Plug    | 16,608                 | Total Shots | Frac Plug    | 16,450                 | Total Shots | Frac Plug    | 16,280                 | Total Shots | Frac Plug    | 16,154                 | Total Shots | Frac Plug    | 16,008                 | Total Shots |

|                    | Stage 26     | Distance Between Perfs | Shots       | Stage 27     | Distance Between Perfs | Shots       | Stage 28     | Distance Between Perfs | Shots       | Stage 29     | Distance Between Perfs | Shots       | Stage 30     | Distance Between Perfs | Shots       |
|--------------------|--------------|------------------------|-------------|--------------|------------------------|-------------|--------------|------------------------|-------------|--------------|------------------------|-------------|--------------|------------------------|-------------|
| From Bottom to Top | 15,833       | 50                     | 14          | 15,683       | 50                     | 14          | 15,532       | 46                     | 14          | 15,382       | 50                     | 14          | 15,232       | 50                     | 14          |
|                    | 15,780       | 47                     | 12          | 15,633       | 55                     | 12          | 15,482       | 50                     | 12          | 15,327       | 45                     | 12          | 15,182       | 47                     | 12          |
|                    | 15,733       |                        | 10          | 15,578       |                        | 10          | 15,432       |                        | 10          | 15,282       |                        | 10          | 15,135       |                        | 10          |
|                    |              |                        |             |              |                        |             |              |                        |             |              |                        |             |              |                        |             |
|                    |              |                        |             |              |                        |             |              |                        |             |              |                        |             |              |                        |             |
|                    |              |                        |             |              |                        |             |              |                        |             |              |                        |             |              |                        |             |
|                    | Plug to Plug | 148                    | 36          | Plug to Plug | 150                    | 36          | Plug to Plug | 154                    | 36          | Plug to Plug | 146                    | 36          | Plug to Plug | 151                    | 36          |
|                    | Frac Plug    | 15,856                 | Total Shots | Frac Plug    | 15,708                 | Total Shots | Frac Plug    | 15,558                 | Total Shots | Frac Plug    | 15,404                 | Total Shots | Frac Plug    | 15,258                 | Total Shots |

|                    | Stage 31     | Distance Between Perfs | Shots       | Stage 32     | Distance Between Perfs | Shots       | Stage 33     | Distance Between Perfs | Shots       | Stage 34     | Distance Between Perfs | Shots       | Stage 35     | Distance Between Perfs | Shots       |
|--------------------|--------------|------------------------|-------------|--------------|------------------------|-------------|--------------|------------------------|-------------|--------------|------------------------|-------------|--------------|------------------------|-------------|
| From Bottom to Top | 15,082       | 53                     | 14          | 14,932       | 50                     | 14          | 14,782       | 50                     | 14          | 14,631       | 51                     | 14          | 14,482       | 50                     | 14          |
|                    | 15,032       | 50                     | 12          | 14,885       | 53                     | 12          | 14,732       | 50                     | 12          | 14,582       | 50                     | 12          | 14,435       | 53                     | 12          |
|                    | 14,982       |                        | 10          | 14,832       |                        | 10          | 14,682       |                        | 10          | 14,532       |                        | 10          | 14,382       |                        | 10          |
|                    |              |                        |             |              |                        |             |              |                        |             |              |                        |             |              |                        |             |
|                    |              |                        |             |              |                        |             |              |                        |             |              |                        |             |              |                        |             |
|                    |              |                        |             |              |                        |             |              |                        |             |              |                        |             |              |                        |             |
|                    | Plug to Plug | 152                    | 36          | Plug to Plug | 147                    | 36          | Plug to Plug | 151                    | 36          | Plug to Plug | 157                    | 36          | Plug to Plug | 140                    | 36          |
|                    | Frac Plug    | 15,107                 | Total Shots | Frac Plug    | 14,955                 | Total Shots | Frac Plug    | 14,808                 | Total Shots | Frac Plug    | 14,657                 | Total Shots | Frac Plug    | 14,500                 | Total Shots |



|                      |              |                           |             |              |                           |             |              |                           |             |              |                           |             |              |                           |             |
|----------------------|--------------|---------------------------|-------------|--------------|---------------------------|-------------|--------------|---------------------------|-------------|--------------|---------------------------|-------------|--------------|---------------------------|-------------|
| Spot<br>Acid<br>Bbls | Stage 36     | Distance<br>Between Perfs | Shots       | Stage 37     | Distance<br>Between Perfs | Shots       | Stage 38     | Distance<br>Between Perfs | Shots       | Stage 39     | Distance<br>Between Perfs | Shots       | Stage 40     | Distance<br>Between Perfs | Shots       |
|                      | 14,332       | 50                        | 14          | 14,182       | 50                        | 14          | 14,032       | 50                        | 14          | 13,980       | 53                        | 14          | 13,732       | 49                        | 14          |
|                      | 14,282       | 50                        | 12          | 14,132       | 50                        | 12          | 13,982       | 49                        | 12          | 13,831       | 50                        | 12          | 13,680       | 50                        | 12          |
|                      | 14,232       |                           | 10          | 14,082       |                           | 10          | 13,933       |                           | 10          | 13,781       |                           | 10          | 13,630       |                           | 10          |
|                      |              |                           |             |              |                           |             |              |                           |             |              |                           |             |              |                           |             |
|                      |              |                           |             |              |                           |             |              |                           |             |              |                           |             |              |                           |             |
|                      | Plug to Plug | 153                       | 36          | Plug to Plug | 159                       | 36          | Plug to Plug | 142                       | 36          | Plug to Plug | 150                       | 36          | Plug to Plug | 150                       | 36          |
|                      | Frac Plug    | 14,360                    | Total Shots | Frac Plug    | 14,207                    | Total Shots | Frac Plug    | 14,048                    | Total Shots | Frac Plug    | 13,906                    | Total Shots | Frac Plug    | 13,756                    | Total Shots |

|                          |              |                           |             |              |                           |             |              |                           |             |              |                           |             |              |                           |             |
|--------------------------|--------------|---------------------------|-------------|--------------|---------------------------|-------------|--------------|---------------------------|-------------|--------------|---------------------------|-------------|--------------|---------------------------|-------------|
| From<br>Bottom<br>to Top | Stage 41     | Distance<br>Between Perfs | Shots       | Stage 42     | Distance<br>Between Perfs | Shots       | Stage 43     | Distance<br>Between Perfs | Shots       | Stage 44     | Distance<br>Between Perfs | Shots       | Stage 45     | Distance<br>Between Perfs | Shots       |
|                          | 13,581       | 49                        | 14          | 13,427       | 54                        | 14          | 13,281       | 50                        | 14          | 13,127       | 54                        | 14          | 12,981       | 50                        | 14          |
|                          | 13,531       | 50                        | 12          | 13,381       | 50                        | 12          | 13,231       | 50                        | 12          | 13,081       | 50                        | 12          | 12,931       | 50                        | 12          |
|                          | 13,481       |                           | 10          | 13,331       |                           | 10          | 13,181       |                           | 10          | 13,031       |                           | 10          | 12,881       |                           | 10          |
|                          |              |                           |             |              |                           |             |              |                           |             |              |                           |             |              |                           |             |
|                          |              |                           |             |              |                           |             |              |                           |             |              |                           |             |              |                           |             |
|                          | Plug to Plug | 150                       | 36          | Plug to Plug | 160                       | 36          | Plug to Plug | 140                       | 36          | Plug to Plug | 143                       | 36          | Plug to Plug | 157                       | 36          |
|                          | Frac Plug    | 13,606                    | Total Shots | Frac Plug    | 13,456                    | Total Shots | Frac Plug    | 13,296                    | Total Shots | Frac Plug    | 13,156                    | Total Shots | Frac Plug    | 13,013                    | Total Shots |

|                          |              |                           |             |              |                           |             |              |                           |             |              |                           |             |              |                           |             |
|--------------------------|--------------|---------------------------|-------------|--------------|---------------------------|-------------|--------------|---------------------------|-------------|--------------|---------------------------|-------------|--------------|---------------------------|-------------|
| From<br>Bottom<br>to Top | Stage 46     | Distance<br>Between Perfs | Shots       | Stage 47     | Distance<br>Between Perfs | Shots       | Stage 48     | Distance<br>Between Perfs | Shots       | Stage 49     | Distance<br>Between Perfs | Shots       | Stage 50     | Distance<br>Between Perfs | Shots       |
|                          | 12,835       | 46                        | 14          | 12,681       | 50                        | 14          | 12,528       | 53                        | 14          | 12,381       | 50                        | 14          | 12,230       | 50                        | 14          |
|                          | 12,781       | 50                        | 12          | 12,631       | 50                        | 12          | 12,481       | 50                        | 12          | 12,331       | 51                        | 12          | 12,180       | 47                        | 12          |
|                          | 12,731       |                           | 10          | 12,581       |                           | 10          | 12,431       |                           | 10          | 12,280       |                           | 10          | 12,133       |                           | 10          |
|                          |              |                           |             |              |                           |             |              |                           |             |              |                           |             |              |                           |             |
|                          |              |                           |             |              |                           |             |              |                           |             |              |                           |             |              |                           |             |
|                          | Plug to Plug | 144                       | 36          | Plug to Plug | 156                       | 36          | Plug to Plug | 142                       | 36          | Plug to Plug | 152                       | 36          | Plug to Plug | 157                       | 36          |
|                          | Frac Plug    | 12,856                    | Total Shots | Frac Plug    | 12,712                    | Total Shots | Frac Plug    | 12,556                    | Total Shots | Frac Plug    | 12,414                    | Total Shots | Frac Plug    | 12,262                    | Total Shots |

|                          |              |                           |             |              |                           |             |              |                           |             |              |                           |             |              |                           |             |
|--------------------------|--------------|---------------------------|-------------|--------------|---------------------------|-------------|--------------|---------------------------|-------------|--------------|---------------------------|-------------|--------------|---------------------------|-------------|
| From<br>Bottom<br>to Top | Stage 51     | Distance<br>Between Perfs | Shots       | Stage 52     | Distance<br>Between Perfs | Shots       | Stage 53     | Distance<br>Between Perfs | Shots       | Stage 54     | Distance<br>Between Perfs | Shots       | Stage 55     | Distance<br>Between Perfs | Shots       |
|                          | 12,084       | 49                        | 14          | 11,930       | 50                        | 14          | 11,781       | 49                        | 14          | 11,630       | 50                        | 14          | 11,480       | 50                        | 14          |
|                          | 12,030       | 50                        | 12          | 11,880       | 50                        | 12          | 11,730       | 50                        | 12          | 11,580       | 50                        | 12          | 11,430       | 50                        | 12          |
|                          | 11,980       |                           | 10          | 11,830       |                           | 10          | 11,680       |                           | 10          | 11,530       |                           | 10          | 11,380       |                           | 10          |
|                          |              |                           |             |              |                           |             |              |                           |             |              |                           |             |              |                           |             |
|                          |              |                           |             |              |                           |             |              |                           |             |              |                           |             |              |                           |             |
|                          | Plug to Plug | 146                       | 36          | Plug to Plug | 154                       | 36          | Plug to Plug | 146                       | 36          | Plug to Plug | 154                       | 36          | Plug to Plug | 154                       | 36          |
|                          | Frac Plug    | 12,105                    | Total Shots | Frac Plug    | 11,959                    | Total Shots | Frac Plug    | 11,805                    | Total Shots | Frac Plug    | 11,659                    | Total Shots | Frac Plug    | 11,505                    | Total Shots |

|                          |              |                           |             |              |                           |             |              |                           |             |              |                           |             |              |                           |             |
|--------------------------|--------------|---------------------------|-------------|--------------|---------------------------|-------------|--------------|---------------------------|-------------|--------------|---------------------------|-------------|--------------|---------------------------|-------------|
| From<br>Bottom<br>to Top | Stage 56     | Distance<br>Between Perfs | Shots       | Stage 57     | Distance<br>Between Perfs | Shots       | Stage 58     | Distance<br>Between Perfs | Shots       | Stage 59     | Distance<br>Between Perfs | Shots       | Stage 60     | Distance<br>Between Perfs | Shots       |
|                          | 11,330       | 50                        | 14          | 11,180       | 55                        | 14          | 11,030       | 50                        | 14          | 10,880       | 55                        | 14          | 10,730       | 50                        | 14          |
|                          | 11,280       | 45                        | 12          | 11,130       | 50                        | 12          | 10,980       | 45                        | 12          | 10,830       | 50                        | 12          | 10,679       | 46                        | 12          |
|                          | 11,235       |                           | 10          | 11,080       |                           | 10          | 10,935       |                           | 10          | 10,780       |                           | 10          | 10,633       |                           | 10          |
|                          |              |                           |             |              |                           |             |              |                           |             |              |                           |             |              |                           |             |
|                          |              |                           |             |              |                           |             |              |                           |             |              |                           |             |              |                           |             |
|                          | Plug to Plug | 146                       | 36          | Plug to Plug | 156                       | 36          | Plug to Plug | 144                       | 36          | Plug to Plug | 155                       | 36          | Plug to Plug | 146                       | 36          |
|                          | Frac Plug    | 11,351                    | Total Shots | Frac Plug    | 11,205                    | Total Shots | Frac Plug    | 11,049                    | Total Shots | Frac Plug    | 10,905                    | Total Shots | Frac Plug    | 10,750                    | Total Shots |

|                          |              |                           |             |              |                           |             |              |                           |             |              |                           |             |              |                           |             |
|--------------------------|--------------|---------------------------|-------------|--------------|---------------------------|-------------|--------------|---------------------------|-------------|--------------|---------------------------|-------------|--------------|---------------------------|-------------|
| From<br>Bottom<br>to Top | Stage 61     | Distance<br>Between Perfs | Shots       | Stage 62     | Distance<br>Between Perfs | Shots       | Stage 63     | Distance<br>Between Perfs | Shots       | Stage 64     | Distance<br>Between Perfs | Shots       | Stage 65     | Distance<br>Between Perfs | Shots       |
|                          | 10,579       | 54                        | 14          | 10,431       | 48                        | 14          | 10,279       | 50                        | 14          | 10,128       | 51                        | 14          | 10029        |                           |             |
|                          | 10,529       | 50                        | 12          | 10,379       | 50                        | 12          | 10,229       | 50                        | 12          | 10,079       | 50                        | 12          |              |                           |             |
|                          | 10,479       |                           | 10          | 10,329       |                           | 10          | 10,179       |                           | 10          | 10,029       |                           | 10          |              |                           |             |
|                          |              |                           |             |              |                           |             |              |                           |             |              |                           |             |              |                           |             |
|                          |              |                           |             |              |                           |             |              |                           |             |              |                           |             |              |                           |             |
|                          | Plug to Plug | 150                       | 36          | Plug to Plug | 142                       | 36          | Plug to Plug | 158                       | 36          | Plug to Plug | 125                       | 36          | Plug to Plug | 0                         | 0           |
|                          | Frac Plug    | 10,604                    | Total Shots | Frac Plug    | 10,454                    | Total Shots | Frac Plug    | 10,312                    | Total Shots | Frac Plug    | 10,154                    | Total Shots | Frac Plug    |                           | Total Shots |

**Gunner 8 Federal Com #7H (30-025-41211)  
Sec 8-T26S-R34E**

| <u>Stages</u> | <u>7 1/2%<br/>Acid (Gals)</u> | <u>Proppant (#)</u> | <u>Clean Fluid<br/>(Gals)</u> |
|---------------|-------------------------------|---------------------|-------------------------------|
| 1             | 1500                          | 299725              | 273240                        |
| 2             | 3066                          | 300694              | 310968                        |
| 3             | 3024                          | 299947              | 308826                        |
| 4             | 3024                          | 300522              | 310296                        |
| 5             | 3000                          | 299608              | 304224                        |
| 6             | 3000                          | 209721              | 248609                        |
| 7             | 3024                          | 299594              | 291732                        |
| 8             | 2970                          | 301053              | 295584                        |
| 9             | 3066                          | 299789              | 291144                        |
| 10            | 3024                          | 301406              | 290850                        |
| 11            | 3000                          | 299778              | 293850                        |
| 12            | 3000                          | 299735              | 290826                        |
| 13            | 4536                          | 299562              | 301056                        |
| 14            | 3024                          | 300245              | 290766                        |
| 15            | 3012                          | 299692              | 289998                        |
| 16            | 3012                          | 299483              | 290124                        |
| 17            | 3024                          | 299795              | 288918                        |
| 18            | 3024                          | 300628              | 289548                        |
| 19            | 3024                          | 299247              | 289968                        |
| 20            | 2982                          | 302027              | 288900                        |
| 21            | 3012                          | 299886              | 286302                        |
| 22            | 3000                          | 301788              | 288558                        |
| 23            | 4494                          | 299732              | 308658                        |
| 24            | 3012                          | 301083              | 286596                        |
| 25            | 3012                          | 300381              | 287352                        |
| 26            | 3024                          | 300089              | 286986                        |
| 27            | 3024                          | 299989              | 286356                        |
| 28            | 3024                          | 304965              | 288330                        |
| 29            | 3000                          | 301032              | 286332                        |
| 30            | 3000                          | 300230              | 283909                        |
| 31            | 3066                          | 298777              | 277998                        |
| 32            | 3066                          | 299540              | 281442                        |
| 33            | 3012                          | 298419              | 306252                        |
| 34            | 3000                          | 300058              | 283686                        |
| 35            | 3066                          | 299917              | 280434                        |
| 36            | 3108                          | 300266              | 281694                        |
| 37            | 3096                          | 299777              | 284244                        |
| 38            | 3054                          | 300565              | 282438                        |
| 39            | 3012                          | 300877              | 282438                        |
| 40            | 3012                          | 300161              | 279918                        |
| 41            | 3150                          | 300391              | 282786                        |
| 42            | 3024                          | 301207              | 278292                        |
| 43            | 3012                          | 300306              | 278700                        |
| 44            | 3012                          | 301212              | 281136                        |
| 45            | 3012                          | 297928              | 277272                        |
| 46            | 3012                          | 299323              | 278196                        |
| 47            | 3024                          | 298853              | 273000                        |
| 48            | 3012                          | 300684              | 278322                        |
| 49            | 3000                          | 299757              | 278058                        |
| 50            | 3012                          | 298916              | 277986                        |
| 51            | 3066                          | 299626              | 274890                        |
| 52            | 3012                          | 300456              | 277356                        |
| 53            | 3012                          | 301027              | 294702                        |
| 54            | 3000                          | 300657              | 278100                        |
| 55            | 3000                          | 301222              | 278814                        |
| 56            | 3012                          | 298442              | 272568                        |
| 57            | 3024                          | 300613              | 273000                        |
| 58            | 3024                          | 299641              | 275142                        |
| 59            | 2982                          | 298550              | 274260                        |
| 60            | 3012                          | 301446              | 277210                        |
| 61            | 3012                          | 300062              | 275822                        |
| 62            | 3012                          | 300864              | 276830                        |
| 63            | 4536                          | 302111              | 280538                        |
| 64            | 3054                          | 306194              | 277818                        |