

**McVAY DRILLING COMPANY**

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

**NM OIL CONSERVATION**

ARTESIA DISTRICT

FEB 06 2015

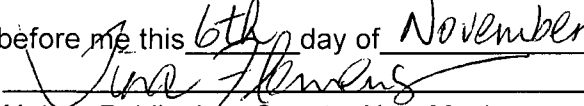
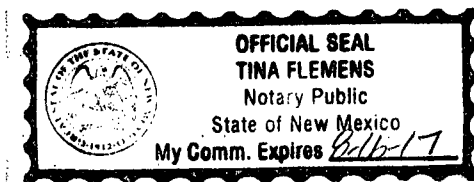
RECEIVED

Well Name and Num: Darthrow State #4H  
Location: Sec 19, T20S, R30E  
Operator: COG  
Drilling Contractor: McVay Drilling Company

15-42719

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> |
|------------------|--------------|------------------|--------------|------------------|--------------|
| 1.19             | 257          | 1.60             | 5116         | 90.40            | 11034        |
| 0.70             | 432          | 0.70             | 5585         | 88.60            | 11222        |
| 0.60             | 646          | 1.00             | 5961         | 89.60            | 11410        |
| 1.90             | 715          | 0.70             | 6432         | 89.50            | 11880        |
| 4.60             | 935          | 0.40             | 6997         | 88.10            | 12259        |
| 3.40             | 1311         | 1.10             | 7372         | 89.50            | 12542        |
| 1.80             | 1561         | 6.90             | 7783         | 89.30            | 12636        |
| 2.20             | 1687         | 12.50            | 7846         | 89.00            | 12730        |
| 1.80             | 1873         | 41.30            | 8191         |                  |              |
| 0.40             | 2217         | 49.00            | 8286         |                  |              |
| 2.40             | 2688         | 81.00            | 8695         |                  |              |
| 1.00             | 2781         | 88.00            | 8806         |                  |              |
| 1.00             | 3065         | 87.90            | 9151         |                  |              |
| 1.20             | 3441         | 88.20            | 9675         |                  |              |
| 1.00             | 3705         | 87.60            | 10185        |                  |              |
| 1.30             | 4271         | 90.60            | 10469        |                  |              |
| 1.30             | 4647         | 89.40            | 10563        |                  |              |

By: Subscribed and sworn to before me this 6th day of November, 2014  
Notary Public, Lea County, New Mexico

**NM OIL CONSERVATION**  
ARTESIA DISTRICT

FEB 06 2015

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# **COG OPERATING, LLC**

Eddy County, NM  
Darthrow State 4H  
4H

Lateral

Design: Surveys

## **Standard Survey Report**

03 November, 2014

# Archer

## Survey Report

|                  |                    |                                     |                                       |
|------------------|--------------------|-------------------------------------|---------------------------------------|
| <b>Company:</b>  | COG OPERATING, LLC | <b>Local Co-ordinate Reference:</b> | Well 4H                               |
| <b>Project:</b>  | Eddy County, NM    | <b>TVD Reference:</b>               | 3314'GL+19'KB @ 3333.00usft (McVay 6) |
| <b>Site:</b>     | Darthrow State 4H  | <b>MD Reference:</b>                | 3314'GL+19'KB @ 3333.00usft (McVay 6) |
| <b>Well:</b>     | 4H                 | <b>North Reference:</b>             | Grid                                  |
| <b>Wellbore:</b> | Lateral            | <b>Survey Calculation Method:</b>   | Minimum Curvature                     |
| <b>Design:</b>   | Surveys            | <b>Database:</b>                    | EDM R5000.1 MULTI                     |

|                    |                                      |                      |                |
|--------------------|--------------------------------------|----------------------|----------------|
| <b>Project</b>     | Eddy County, NM                      |                      |                |
| <b>Map System:</b> | US State Plane 1927 (Exact solution) | <b>System Datum:</b> | Mean Sea Level |
| <b>Geo Datum:</b>  | NAD 1927 (NADCON CONUS)              |                      |                |
| <b>Map Zone:</b>   | New Mexico East 3001                 |                      |                |

|                              |                   |                          |                 |
|------------------------------|-------------------|--------------------------|-----------------|
| <b>Site</b>                  | Darthrow State 4H |                          |                 |
| <b>Site Position:</b>        |                   | <b>Northing:</b>         | 569,537.40 usft |
| <b>From:</b>                 | Map               | <b>Easting:</b>          | 598,338.90 usft |
| <b>Position Uncertainty:</b> | 0.00 usft         | <b>Slot Radius:</b>      | 13.200 in       |
|                              |                   | <b>Latitude:</b>         | 32° 33' 55.30 N |
|                              |                   | <b>Longitude:</b>        | 104° 0' 50.88 W |
|                              |                   | <b>Grid Convergence:</b> | 0.17 °          |

|                             |           |                            |                                  |
|-----------------------------|-----------|----------------------------|----------------------------------|
| <b>Well</b>                 | 4H        |                            |                                  |
| <b>Well Position</b>        | +N/-S     | 0.00 usft                  | <b>Northing:</b> 569,537.40 usft |
|                             | +E/-W     | 0.00 usft                  | <b>Easting:</b> 598,338.90 usft  |
| <b>Position Uncertainty</b> | 0.00 usft | <b>Wellhead Elevation:</b> | 0.00 usft                        |
|                             |           | <b>Latitude:</b>           | 32° 33' 55.30 N                  |
|                             |           | <b>Longitude:</b>          | 104° 0' 50.88 W                  |
|                             |           | <b>Ground Level:</b>       | 3,314.00 usft                    |

|                  |                   |                    |                       |
|------------------|-------------------|--------------------|-----------------------|
| <b>Wellbore</b>  | Lateral           |                    |                       |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination</b>    |
|                  |                   |                    | (°)                   |
|                  | HDGM              | 10/15/2014         | 7.68                  |
|                  |                   |                    | <b>Dip Angle</b>      |
|                  |                   |                    | (°)                   |
|                  |                   |                    | 60.47                 |
|                  |                   |                    | <b>Field Strength</b> |
|                  |                   |                    | (nT)                  |
|                  |                   |                    | 48,492                |

|                          |                         |                      |                  |
|--------------------------|-------------------------|----------------------|------------------|
| <b>Design</b>            | Surveys                 |                      |                  |
| <b>Audit Notes:</b>      |                         |                      |                  |
| <b>Version:</b>          | 1.0                     | <b>Phase:</b>        | ACTUAL           |
|                          |                         | <b>Tie On Depth:</b> | 0.00             |
| <b>Vertical Section:</b> | <b>Depth From (TVD)</b> | <b>+N/-S</b>         | <b>+E/-W</b>     |
|                          | (usft)                  | (usft)               | (usft)           |
|                          | 0.00                    | 0.00                 | 0.00             |
|                          |                         |                      | <b>Direction</b> |
|                          |                         |                      | (°)              |
|                          |                         |                      | 172.36           |

|                       |             |                          |                  |                    |
|-----------------------|-------------|--------------------------|------------------|--------------------|
| <b>Survey Program</b> | <b>Date</b> | 11/3/2014                |                  |                    |
| <b>From</b>           | <b>To</b>   | <b>Survey (Wellbore)</b> | <b>Tool Name</b> | <b>Description</b> |
| (usft)                | (usft)      |                          |                  |                    |
| 362.00                | 12,730.00   | Survey #1 (Lateral)      | MWD+HDGM         | OWSG MWD + HDGM    |
| 12,829.00             | 12,829.00   | Survey #2 (Lateral)      | Project          | Projection         |

|                 |                    |                |                 |               |               |                 |                    |                    |                    |
|-----------------|--------------------|----------------|-----------------|---------------|---------------|-----------------|--------------------|--------------------|--------------------|
| <b>Survey</b>   |                    |                |                 |               |               |                 |                    |                    |                    |
| <b>Measured</b> | <b>Inclination</b> | <b>Azimuth</b> | <b>Vertical</b> | <b>+N/-S</b>  | <b>+E/-W</b>  | <b>Vertical</b> | <b>Dogleg</b>      | <b>Build</b>       | <b>Turn</b>        |
| <b>Depth</b>    | <b>(°)</b>         | <b>(°)</b>     | <b>Depth</b>    | <b>(usft)</b> | <b>(usft)</b> | <b>Section</b>  | <b>Rate</b>        | <b>Rate</b>        | <b>Rate</b>        |
| <b>(usft)</b>   |                    |                | <b>(usft)</b>   |               |               | <b>(usft)</b>   | <b>(°/100usft)</b> | <b>(°/100usft)</b> | <b>(°/100usft)</b> |
| 0.00            | 0.00               | 0.00           | 0.00            | 0.00          | 0.00          | 0.00            | 0.00               | 0.00               | 0.00               |
| 362.00          | 0.70               | 28.90          | 361.99          | 1.94          | 1.07          | -1.78           | 0.19               | 0.19               | 0.00               |
| 432.00          | 0.70               | 36.60          | 431.99          | 2.65          | 1.53          | -2.43           | 0.13               | 0.00               | 11.00              |
| 517.00          | 0.00               | 173.30         | 516.98          | 3.07          | 1.84          | -2.80           | 0.82               | -0.82              | 0.00               |
| 566.00          | 0.40               | 284.20         | 565.98          | 3.11          | 1.67          | -2.86           | 0.82               | 0.82               | 0.00               |
| 646.00          | 0.60               | 192.90         | 645.98          | 2.77          | 1.31          | -2.57           | 0.91               | 0.25               | -114.13            |
| 715.00          | 1.90               | 175.20         | 714.96          | 1.28          | 1.32          | -1.09           | 1.94               | 1.88               | -25.65             |
| 747.00          | 2.50               | 174.20         | 746.94          | 0.06          | 1.44          | 0.13            | 1.88               | 1.88               | -3.13              |
| 778.00          | 3.00               | 178.40         | 777.90          | -1.43         | 1.53          | 1.62            | 1.74               | 1.61               | 13.55              |
| 809.00          | 3.70               | 169.20         | 808.85          | -3.22         | 1.74          | 3.42            | 2.84               | 2.26               | -29.68             |

# Archer

## Survey Report

|                  |                    |                                     |                                       |
|------------------|--------------------|-------------------------------------|---------------------------------------|
| <b>Company:</b>  | COG OPERATING, LLC | <b>Local Co-ordinate Reference:</b> | Well 4H                               |
| <b>Project:</b>  | Eddy County, NM    | <b>TVD Reference:</b>               | 3314'GL+19'KB @ 3333.00usft (McVay 6) |
| <b>Site:</b>     | Darthrow State 4H  | <b>MD Reference:</b>                | 3314'GL+19'KB @ 3333.00usft (McVay 6) |
| <b>Well:</b>     | 4H                 | <b>North Reference:</b>             | Grid                                  |
| <b>Wellbore:</b> | Lateral            | <b>Survey Calculation Method:</b>   | Minimum Curvature                     |
| <b>Design:</b>   | Surveys            | <b>Database:</b>                    | EDM R5000.1 MULTI                     |

| Survey                |                 |             |                       |              |              |                         |                         |                        |                       |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| 841.00                | 3.90            | 170.40      | 840.78                | -5.31        | 2.12         | 5.54                    | 0.67                    | 0.63                   | 3.75                  |
| 872.00                | 4.30            | 169.30      | 871.70                | -7.49        | 2.51         | 7.76                    | 1.31                    | 1.29                   | -3.55                 |
| 903.00                | 4.50            | 164.80      | 902.61                | -9.80        | 3.04         | 10.12                   | 1.29                    | 0.65                   | -14.52                |
| 935.00                | 4.60            | 160.40      | 934.51                | -12.22       | 3.80         | 12.62                   | 1.13                    | 0.31                   | -13.75                |
| 967.00                | 4.70            | 156.10      | 966.40                | -14.63       | 4.76         | 15.13                   | 1.13                    | 0.31                   | -13.44                |
| 998.00                | 4.80            | 152.40      | 997.30                | -16.94       | 5.88         | 17.57                   | 1.04                    | 0.32                   | -11.94                |
| 1,029.00              | 4.70            | 147.90      | 1,028.19              | -19.17       | 7.15         | 19.95                   | 1.24                    | -0.32                  | -14.52                |
| 1,060.00              | 4.80            | 144.30      | 1,059.08              | -21.30       | 8.59         | 22.25                   | 1.01                    | 0.32                   | -11.61                |
| 1,091.00              | 4.90            | 140.90      | 1,089.97              | -23.38       | 10.18        | 24.52                   | 0.98                    | 0.32                   | -10.97                |
| 1,123.00              | 4.90            | 136.10      | 1,121.86              | -25.42       | 11.99        | 26.79                   | 1.28                    | 0.00                   | -15.00                |
| 1,154.00              | 4.60            | 130.70      | 1,152.75              | -27.19       | 13.85        | 28.79                   | 1.74                    | -0.97                  | -17.42                |
| 1,185.00              | 4.10            | 124.00      | 1,183.66              | -28.62       | 15.71        | 30.45                   | 2.30                    | -1.61                  | -21.61                |
| 1,217.00              | 3.90            | 118.90      | 1,215.58              | -29.78       | 17.61        | 31.86                   | 1.27                    | -0.63                  | -15.94                |
| 1,248.00              | 3.90            | 113.20      | 1,246.51              | -30.71       | 19.50        | 33.03                   | 1.25                    | 0.00                   | -18.39                |
| 1,279.00              | 3.80            | 107.00      | 1,277.44              | -31.42       | 21.45        | 34.00                   | 1.38                    | -0.32                  | -20.00                |
| 1,311.00              | 3.40            | 97.40       | 1,309.38              | -31.86       | 23.41        | 34.69                   | 2.26                    | -1.25                  | -30.00                |
| 1,342.00              | 3.10            | 90.10       | 1,340.33              | -31.98       | 25.16        | 35.04                   | 1.65                    | -0.97                  | -23.55                |
| 1,373.00              | 3.00            | 79.10       | 1,371.29              | -31.82       | 26.79        | 35.10                   | 1.91                    | -0.32                  | -35.48                |
| 1,405.00              | 2.50            | 68.20       | 1,403.25              | -31.41       | 28.26        | 34.89                   | 2.25                    | -1.56                  | -34.06                |
| 1,436.00              | 2.30            | 51.40       | 1,434.22              | -30.77       | 29.38        | 34.40                   | 2.35                    | -0.65                  | -54.19                |
| 1,468.00              | 2.20            | 38.10       | 1,466.20              | -29.88       | 30.26        | 33.64                   | 1.66                    | -0.31                  | -41.56                |
| 1,499.00              | 2.10            | 24.20       | 1,497.18              | -28.90       | 30.86        | 32.74                   | 1.71                    | -0.32                  | -44.84                |
| 1,530.00              | 1.90            | 5.60        | 1,528.16              | -27.87       | 31.14        | 31.76                   | 2.18                    | -0.65                  | -60.00                |
| 1,561.00              | 1.80            | 7.00        | 1,559.14              | -26.87       | 31.25        | 30.79                   | 0.35                    | -0.32                  | 4.52                  |
| 1,593.00              | 2.10            | 2.40        | 1,591.12              | -25.79       | 31.34        | 29.73                   | 1.06                    | 0.94                   | -14.38                |
| 1,624.00              | 2.10            | 0.70        | 1,622.10              | -24.65       | 31.37        | 28.60                   | 0.20                    | 0.00                   | -5.48                 |
| 1,656.00              | 2.20            | 3.30        | 1,654.08              | -23.45       | 31.41        | 27.42                   | 0.44                    | 0.31                   | 8.13                  |
| 1,687.00              | 2.20            | 7.80        | 1,685.06              | -22.27       | 31.52        | 26.26                   | 0.56                    | 0.00                   | 14.52                 |
| 1,873.00              | 1.80            | 37.50       | 1,870.95              | -16.41       | 33.79        | 20.76                   | 0.59                    | -0.22                  | 15.97                 |
| 1,936.00              | 1.90            | 39.80       | 1,933.92              | -14.83       | 35.06        | 19.36                   | 0.20                    | 0.16                   | 3.65                  |
| 2,030.00              | 2.20            | 53.30       | 2,027.86              | -12.55       | 37.50        | 17.43                   | 0.60                    | 0.32                   | 14.36                 |
| 2,123.00              | 2.50            | 64.80       | 2,120.78              | -10.62       | 40.77        | 15.95                   | 0.60                    | 0.32                   | 12.37                 |
| 2,217.00              | 0.40            | 83.80       | 2,214.74              | -9.71        | 42.95        | 15.34                   | 2.26                    | -2.23                  | 20.21                 |
| 2,311.00              | 0.20            | 249.00      | 2,308.74              | -9.74        | 43.12        | 15.38                   | 0.63                    | -0.21                  | 175.74                |
| 2,405.00              | 0.50            | 261.90      | 2,402.74              | -9.85        | 42.56        | 15.42                   | 0.33                    | 0.32                   | 13.72                 |
| 2,500.00              | 1.10            | 262.70      | 2,497.73              | -10.03       | 41.25        | 15.42                   | 0.63                    | 0.63                   | 0.84                  |
| 2,593.00              | 1.80            | 278.90      | 2,590.70              | -9.91        | 38.92        | 15.00                   | 0.87                    | 0.75                   | 17.42                 |
| 2,688.00              | 2.40            | 289.80      | 2,685.64              | -9.01        | 35.58        | 13.66                   | 0.76                    | 0.63                   | 11.47                 |
| 2,782.00              | 1.00            | 282.30      | 2,779.59              | -8.17        | 32.92        | 12.47                   | 1.50                    | -1.49                  | -7.98                 |
| 2,877.00              | 0.80            | 258.90      | 2,874.58              | -8.12        | 31.46        | 12.23                   | 0.44                    | -0.21                  | -24.63                |
| 2,971.00              | 0.80            | 278.80      | 2,968.57              | -8.15        | 30.17        | 12.08                   | 0.29                    | 0.00                   | 21.17                 |
| 3,065.00              | 1.00            | 280.10      | 3,062.56              | -7.90        | 28.71        | 11.65                   | 0.21                    | 0.21                   | 1.38                  |
| 3,159.00              | 1.10            | 264.90      | 3,156.55              | -7.84        | 27.01        | 11.36                   | 0.31                    | 0.11                   | -16.17                |

# Archer

## Survey Report

|                  |                    |                                     |                                       |
|------------------|--------------------|-------------------------------------|---------------------------------------|
| <b>Company:</b>  | COG OPERATING, LLC | <b>Local Co-ordinate Reference:</b> | Well 4H                               |
| <b>Project:</b>  | Eddy County, NM    | <b>TVD Reference:</b>               | 3314'GL+19'KB @ 3333.00usft (McVay 6) |
| <b>Site:</b>     | Darthrow State 4H  | <b>MD Reference:</b>                | 3314'GL+19'KB @ 3333.00usft (McVay 6) |
| <b>Well:</b>     | 4H                 | <b>North Reference:</b>             | Grid                                  |
| <b>Wellbore:</b> | Lateral            | <b>Survey Calculation Method:</b>   | Minimum Curvature                     |
| <b>Design:</b>   | Surveys            | <b>Database:</b>                    | EDM R5000.1 MULTI                     |

| Survey                      |                    |                |                             |                 |                 |                               |                               |                              |                             |  |
|-----------------------------|--------------------|----------------|-----------------------------|-----------------|-----------------|-------------------------------|-------------------------------|------------------------------|-----------------------------|--|
| Measured<br>Depth<br>(usft) | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Vertical<br>Section<br>(usft) | Dogleg<br>Rate<br>(°/100usft) | Build<br>Rate<br>(°/100usft) | Turn<br>Rate<br>(°/100usft) |  |
| 3,253.00                    | 1.10               | 264.30         | 3,250.53                    | -8.01           | 25.21           | 11.29                         | 0.01                          | 0.00                         | -0.64                       |  |
| 3,347.00                    | 1.10               | 269.90         | 3,344.51                    | -8.10           | 23.41           | 11.14                         | 0.11                          | 0.00                         | 5.96                        |  |
| 3,441.00                    | 1.20               | 254.90         | 3,438.49                    | -8.36           | 21.56           | 11.15                         | 0.34                          | 0.11                         | -15.96                      |  |
| 3,548.00                    | 0.90               | 254.50         | 3,545.47                    | -8.87           | 19.67           | 11.41                         | 0.28                          | -0.28                        | -0.37                       |  |
| 3,611.00                    | 1.20               | 249.20         | 3,608.46                    | -9.24           | 18.57           | 11.63                         | 0.50                          | 0.48                         | -8.41                       |  |
| 3,705.00                    | 1.00               | 262.40         | 3,702.45                    | -9.70           | 16.84           | 11.85                         | 0.34                          | -0.21                        | 14.04                       |  |
| 3,799.00                    | 1.30               | 270.20         | 3,796.43                    | -9.80           | 14.96           | 11.70                         | 0.36                          | 0.32                         | 8.30                        |  |
| 3,894.00                    | 1.40               | 258.50         | 3,891.40                    | -10.03          | 12.75           | 11.64                         | 0.31                          | 0.11                         | -12.32                      |  |
| 3,988.00                    | 1.30               | 278.90         | 3,985.38                    | -10.09          | 10.57           | 11.41                         | 0.52                          | -0.11                        | 21.70                       |  |
| 4,082.00                    | 1.50               | 267.50         | 4,079.35                    | -9.98           | 8.28            | 11.00                         | 0.36                          | 0.21                         | -12.13                      |  |
| 4,176.00                    | 1.40               | 275.50         | 4,173.32                    | -9.93           | 5.91            | 10.62                         | 0.24                          | -0.11                        | 8.51                        |  |
| 4,271.00                    | 1.30               | 275.20         | 4,268.29                    | -9.72           | 3.68            | 10.12                         | 0.11                          | -0.11                        | -0.32                       |  |
| 4,365.00                    | 1.10               | 266.00         | 4,362.27                    | -9.68           | 1.72            | 9.83                          | 0.29                          | -0.21                        | -9.79                       |  |
| 4,459.00                    | 1.20               | 264.60         | 4,456.25                    | -9.84           | -0.16           | 9.73                          | 0.11                          | 0.11                         | -1.49                       |  |
| 4,553.00                    | 1.50               | 267.90         | 4,550.23                    | -9.98           | -2.37           | 9.57                          | 0.33                          | 0.32                         | 3.51                        |  |
| 4,647.00                    | 1.30               | 269.10         | 4,644.20                    | -10.04          | -4.66           | 9.33                          | 0.22                          | -0.21                        | 1.28                        |  |
| 4,741.00                    | 1.50               | 273.60         | 4,738.17                    | -9.98           | -6.96           | 8.96                          | 0.24                          | 0.21                         | 4.79                        |  |
| 4,835.00                    | 1.50               | 278.80         | 4,832.14                    | -9.71           | -9.40           | 8.38                          | 0.14                          | 0.00                         | 5.53                        |  |
| 4,929.00                    | 1.50               | 284.90         | 4,926.10                    | -9.21           | -11.81          | 7.56                          | 0.17                          | 0.00                         | 6.49                        |  |
| 5,023.00                    | 1.80               | 283.90         | 5,020.07                    | -8.54           | -14.43          | 6.54                          | 0.32                          | 0.32                         | -1.06                       |  |
| 5,116.00                    | 1.60               | 284.60         | 5,113.02                    | -7.86           | -17.10          | 5.52                          | 0.22                          | -0.22                        | 0.75                        |  |
| 5,210.00                    | 1.80               | 283.90         | 5,206.98                    | -7.17           | -19.81          | 4.48                          | 0.21                          | 0.21                         | -0.74                       |  |
| 5,304.00                    | 0.80               | 266.30         | 5,300.96                    | -6.86           | -21.89          | 3.89                          | 1.13                          | -1.06                        | -18.72                      |  |
| 5,398.00                    | 0.70               | 205.40         | 5,394.95                    | -7.42           | -22.80          | 4.33                          | 0.81                          | -0.11                        | -64.79                      |  |
| 5,491.00                    | 0.60               | 238.80         | 5,487.95                    | -8.19           | -23.46          | 5.00                          | 0.41                          | -0.11                        | 35.91                       |  |
| 5,585.00                    | 0.70               | 250.90         | 5,581.94                    | -8.63           | -24.42          | 5.31                          | 0.18                          | 0.11                         | 12.87                       |  |
| 5,678.00                    | 0.90               | 256.20         | 5,674.93                    | -8.99           | -25.66          | 5.50                          | 0.23                          | 0.22                         | 5.70                        |  |
| 5,772.00                    | 0.80               | 265.30         | 5,768.92                    | -9.22           | -27.04          | 5.54                          | 0.18                          | -0.11                        | 9.68                        |  |
| 5,867.00                    | 0.70               | 262.00         | 5,863.91                    | -9.36           | -28.27          | 5.51                          | 0.11                          | -0.11                        | -3.47                       |  |
| 5,961.00                    | 1.00               | 265.40         | 5,957.90                    | -9.50           | -29.66          | 5.47                          | 0.32                          | 0.32                         | 3.62                        |  |
| 6,055.00                    | 1.00               | 275.00         | 6,051.89                    | -9.50           | -31.29          | 5.25                          | 0.18                          | 0.00                         | 10.21                       |  |
| 6,150.00                    | 0.90               | 273.30         | 6,146.87                    | -9.38           | -32.86          | 4.93                          | 0.11                          | -0.11                        | -1.79                       |  |
| 6,243.00                    | 1.00               | 248.40         | 6,239.86                    | -9.64           | -34.35          | 4.99                          | 0.45                          | 0.11                         | -26.77                      |  |
| 6,338.00                    | 1.10               | 246.60         | 6,334.85                    | -10.30          | -35.95          | 5.43                          | 0.11                          | 0.11                         | -1.89                       |  |
| 6,432.00                    | 0.70               | 213.70         | 6,428.84                    | -11.14          | -37.10          | 6.11                          | 0.68                          | -0.43                        | -35.00                      |  |
| 6,527.00                    | 0.90               | 150.30         | 6,523.83                    | -12.27          | -37.05          | 7.24                          | 0.90                          | 0.21                         | -66.74                      |  |
| 6,621.00                    | 0.90               | 203.60         | 6,617.82                    | -13.59          | -36.98          | 8.55                          | 0.86                          | 0.00                         | 56.70                       |  |
| 6,715.00                    | 1.70               | 250.00         | 6,711.79                    | -14.74          | -38.59          | 9.48                          | 1.34                          | 0.85                         | 49.36                       |  |
| 6,809.00                    | 1.10               | 162.90         | 6,805.77                    | -16.08          | -39.63          | 10.67                         | 2.10                          | -0.64                        | -92.66                      |  |
| 6,903.00                    | 1.40               | 119.00         | 6,899.75                    | -17.50          | -38.36          | 12.25                         | 1.04                          | 0.32                         | -46.70                      |  |
| 6,997.00                    | 0.40               | 98.40          | 6,993.74                    | -18.11          | -37.04          | 13.02                         | 1.10                          | -1.06                        | -21.91                      |  |
| 7,090.00                    | 0.20               | 358.10         | 7,086.74                    | -17.99          | -36.72          | 12.95                         | 0.51                          | -0.22                        | -107.85                     |  |
| 7,185.00                    | 0.40               | 291.80         | 7,181.74                    | -17.70          | -37.03          | 12.62                         | 0.39                          | 0.21                         | -69.79                      |  |

# Archer Survey Report

|           |                    |                              |                                       |
|-----------|--------------------|------------------------------|---------------------------------------|
| Company:  | COG OPERATING, LLC | Local Co-ordinate Reference: | Well 4H                               |
| Project:  | Eddy County, NM    | TVD Reference:               | 3314'GL+19'KB @ 3333.00usft (McVay 6) |
| Site:     | Darthrow State 4H  | MD Reference:                | 3314'GL+19'KB @ 3333.00usft (McVay 6) |
| Well:     | 4H                 | North Reference:             | Grid                                  |
| Wellbore: | Lateral            | Survey Calculation Method:   | Minimum Curvature                     |
| Design:   | Surveys            | Database:                    | EDM R5000.1 MULTI                     |

| Measured<br>Depth<br>(usft) | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Vertical<br>Section<br>(usft) | Dogleg<br>Rate<br>(°/100usft) | Build<br>Rate<br>(°/100usft) | Turn<br>Rate<br>(°/100usft) |
|-----------------------------|--------------------|----------------|-----------------------------|-----------------|-----------------|-------------------------------|-------------------------------|------------------------------|-----------------------------|
| 7,279.00                    | 1.10               | 294.10         | 7,275.73                    | -17.21          | -38.16          | 11.99                         | 0.75                          | 0.74                         | 2.45                        |
| 7,372.00                    | 1.10               | 310.60         | 7,368.71                    | -16.27          | -39.65          | 10.85                         | 0.34                          | 0.00                         | 17.74                       |
| 7,467.00                    | 1.30               | 320.00         | 7,463.69                    | -14.85          | -41.04          | 9.26                          | 0.29                          | 0.21                         | 9.89                        |
| 7,560.00                    | 0.40               | 293.90         | 7,556.68                    | -13.91          | -42.01          | 8.20                          | 1.03                          | -0.97                        | -28.06                      |
| 7,655.00                    | 0.90               | 282.30         | 7,651.68                    | -13.61          | -43.05          | 7.77                          | 0.54                          | 0.53                         | -12.21                      |
| 7,665.00                    | 0.80               | 275.00         | 7,661.67                    | -13.59          | -43.19          | 7.73                          | 1.47                          | -1.00                        | -73.00                      |
| 7,688.00                    | 0.60               | 264.90         | 7,684.67                    | -13.59          | -43.47          | 7.69                          | 1.02                          | -0.87                        | -43.91                      |
| 7,720.00                    | 0.50               | 203.40         | 7,716.67                    | -13.73          | -43.69          | 7.80                          | 1.78                          | -0.31                        | -192.19                     |
| 7,751.00                    | 3.60               | 143.70         | 7,747.65                    | -14.64          | -43.17          | 8.77                          | 10.89                         | 10.00                        | -192.58                     |
| 7,783.00                    | 6.90               | 159.60         | 7,779.51                    | -17.25          | -41.91          | 11.53                         | 11.17                         | 10.31                        | 49.69                       |
| 7,814.00                    | 9.80               | 156.70         | 7,810.18                    | -21.42          | -40.21          | 15.89                         | 9.45                          | 9.35                         | -9.35                       |
| 7,846.00                    | 12.50              | 162.20         | 7,841.57                    | -27.22          | -38.08          | 21.92                         | 9.06                          | 8.44                         | 17.19                       |
| 7,877.00                    | 14.80              | 163.80         | 7,871.70                    | -34.22          | -35.95          | 29.14                         | 7.52                          | 7.42                         | 5.16                        |
| 7,909.00                    | 18.00              | 161.10         | 7,902.39                    | -42.82          | -33.20          | 38.03                         | 10.28                         | 10.00                        | -8.44                       |
| 7,940.00                    | 20.60              | 157.00         | 7,931.65                    | -52.38          | -29.52          | 47.99                         | 9.45                          | 8.39                         | -13.23                      |
| 7,971.00                    | 24.00              | 156.20         | 7,960.33                    | -63.17          | -24.85          | 59.31                         | 11.01                         | 10.97                        | -2.58                       |
| 8,003.00                    | 25.80              | 155.40         | 7,989.35                    | -75.46          | -19.32          | 72.22                         | 5.72                          | 5.63                         | -2.50                       |
| 8,034.00                    | 28.70              | 157.70         | 8,016.91                    | -88.48          | -13.69          | 85.87                         | 9.95                          | 9.35                         | 7.42                        |
| 8,065.00                    | 31.30              | 160.40         | 8,043.75                    | -102.96         | -8.16           | 100.96                        | 9.45                          | 8.39                         | 8.71                        |
| 8,097.00                    | 34.90              | 161.80         | 8,070.56                    | -119.49         | -2.51           | 118.09                        | 11.50                         | 11.25                        | 4.38                        |
| 8,128.00                    | 38.00              | 161.80         | 8,095.49                    | -136.98         | 3.24            | 136.20                        | 10.00                         | 10.00                        | 0.00                        |
| 8,160.00                    | 40.10              | 161.60         | 8,120.34                    | -156.12         | 9.57            | 156.01                        | 6.57                          | 6.56                         | -0.63                       |
| 8,191.00                    | 41.30              | 161.60         | 8,143.84                    | -175.30         | 15.95           | 175.87                        | 3.87                          | 3.87                         | 0.00                        |
| 8,223.00                    | 43.30              | 163.10         | 8,167.51                    | -195.82         | 22.48           | 197.07                        | 7.00                          | 6.25                         | 4.69                        |
| 8,254.00                    | 45.70              | 163.40         | 8,189.62                    | -216.63         | 28.74           | 218.53                        | 7.77                          | 7.74                         | 0.97                        |
| 8,286.00                    | 49.00              | 163.70         | 8,211.29                    | -239.20         | 35.40           | 241.78                        | 10.34                         | 10.31                        | 0.94                        |
| 8,317.00                    | 51.60              | 165.40         | 8,231.10                    | -262.19         | 41.75           | 265.41                        | 9.39                          | 8.39                         | 5.48                        |
| 8,349.00                    | 53.50              | 167.10         | 8,250.55                    | -286.86         | 47.78           | 290.67                        | 7.28                          | 5.94                         | 5.31                        |
| 8,380.00                    | 55.70              | 167.90         | 8,268.51                    | -311.53         | 53.25           | 315.84                        | 7.40                          | 7.10                         | 2.58                        |
| 8,412.00                    | 57.60              | 168.50         | 8,286.10                    | -337.70         | 58.71           | 342.50                        | 6.14                          | 5.94                         | 1.88                        |
| 8,443.00                    | 59.20              | 169.80         | 8,302.35                    | -363.63         | 63.68           | 368.86                        | 6.28                          | 5.16                         | 4.19                        |
| 8,474.00                    | 61.70              | 170.30         | 8,317.63                    | -390.19         | 68.34           | 395.81                        | 8.19                          | 8.06                         | 1.61                        |
| 8,506.00                    | 65.00              | 170.30         | 8,331.98                    | -418.37         | 73.15           | 424.39                        | 10.31                         | 10.31                        | 0.00                        |
| 8,537.00                    | 68.00              | 170.10         | 8,344.34                    | -446.38         | 77.99           | 452.79                        | 9.70                          | 9.68                         | -0.65                       |
| 8,569.00                    | 70.60              | 170.60         | 8,355.65                    | -475.89         | 83.01           | 482.70                        | 8.26                          | 8.13                         | 1.56                        |
| 8,601.00                    | 73.10              | 171.30         | 8,365.62                    | -505.92         | 87.79           | 513.10                        | 8.08                          | 7.81                         | 2.19                        |
| 8,632.00                    | 75.60              | 171.80         | 8,373.98                    | -535.44         | 92.18           | 542.95                        | 8.21                          | 8.06                         | 1.61                        |
| 8,663.00                    | 78.30              | 171.80         | 8,380.98                    | -565.33         | 96.48           | 573.14                        | 8.71                          | 8.71                         | 0.00                        |
| 8,695.00                    | 80.70              | 172.10         | 8,386.81                    | -596.48         | 100.89          | 604.60                        | 7.56                          | 7.50                         | 0.94                        |
| 8,712.00                    | 82.30              | 171.10         | 8,389.33                    | -613.12         | 103.34          | 621.41                        | 11.06                         | 9.41                         | -5.88                       |
| 8,743.00                    | 84.20              | 171.40         | 8,392.97                    | -643.54         | 108.03          | 652.19                        | 6.20                          | 6.13                         | 0.97                        |
| 8,774.00                    | 86.60              | 172.90         | 8,395.46                    | -674.15         | 112.25          | 683.09                        | 9.12                          | 7.74                         | 4.84                        |
| 8,806.00                    | 88.00              | 173.80         | 8,396.96                    | -705.90         | 115.95          | 715.05                        | 5.20                          | 4.38                         | 2.81                        |
| 8,837.00                    | 88.50              | 174.60         | 8,397.91                    | -736.72         | 119.08          | 746.02                        | 3.04                          | 1.61                         | 2.58                        |

# Archer

## Survey Report

|                  |                    |                                     |                                       |
|------------------|--------------------|-------------------------------------|---------------------------------------|
| <b>Company:</b>  | COG OPERATING, LLC | <b>Local Co-ordinate Reference:</b> | Well 4H                               |
| <b>Project:</b>  | Eddy County, NM    | <b>TVD Reference:</b>               | 3314'GL+19'KB @ 3333.00usft (McVay 6) |
| <b>Site:</b>     | Darthrow State 4H  | <b>MD Reference:</b>                | 3314'GL+19'KB @ 3333.00usft (McVay 6) |
| <b>Well:</b>     | 4H                 | <b>North Reference:</b>             | Grid                                  |
| <b>Wellbore:</b> | Lateral            | <b>Survey Calculation Method:</b>   | Minimum Curvature                     |
| <b>Design:</b>   | Surveys            | <b>Database:</b>                    | EDM R5000.1 MULTI                     |

| Survey                      |                    |                |                             |                 |                 |                               |                               |                              |                             |
|-----------------------------|--------------------|----------------|-----------------------------|-----------------|-----------------|-------------------------------|-------------------------------|------------------------------|-----------------------------|
| Measured<br>Depth<br>(usft) | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Vertical<br>Section<br>(usft) | Dogleg<br>Rate<br>(°/100usft) | Build<br>Rate<br>(°/100usft) | Turn<br>Rate<br>(°/100usft) |
| 8,868.00                    | 88.90              | 174.90         | 8,398.61                    | -767.59         | 121.92          | 776.98                        | 1.61                          | 1.29                         | 0.97                        |
| 8,962.00                    | 90.60              | 176.20         | 8,399.02                    | -861.30         | 129.21          | 870.83                        | 2.28                          | 1.81                         | 1.38                        |
| 9,057.00                    | 90.00              | 174.40         | 8,398.53                    | -955.97         | 136.99          | 965.70                        | 2.00                          | -0.63                        | -1.89                       |
| 9,151.00                    | 87.90              | 173.00         | 8,400.25                    | -1,049.38       | 147.30          | 1,059.65                      | 2.68                          | -2.23                        | -1.49                       |
| 9,245.00                    | 88.70              | 173.90         | 8,403.04                    | -1,142.72       | 158.02          | 1,153.59                      | 1.28                          | 0.85                         | 0.96                        |
| 9,339.00                    | 89.70              | 174.40         | 8,404.35                    | -1,236.22       | 167.60          | 1,247.53                      | 1.19                          | 1.06                         | 0.53                        |
| 9,432.00                    | 88.60              | 174.50         | 8,405.73                    | -1,328.78       | 176.59          | 1,340.46                      | 1.19                          | -1.18                        | 0.11                        |
| 9,527.00                    | 89.90              | 175.10         | 8,406.97                    | -1,423.37       | 185.20          | 1,435.36                      | 1.51                          | 1.37                         | 0.63                        |
| 9,620.00                    | 88.20              | 175.00         | 8,408.52                    | -1,516.01       | 193.23          | 1,528.24                      | 1.83                          | -1.83                        | -0.11                       |
| 9,714.00                    | 88.40              | 173.40         | 8,411.30                    | -1,609.49       | 202.72          | 1,622.15                      | 1.71                          | 0.21                         | -1.70                       |
| 9,808.00                    | 88.60              | 173.90         | 8,413.76                    | -1,702.88       | 213.11          | 1,716.09                      | 0.57                          | 0.21                         | 0.53                        |
| 9,902.00                    | 88.40              | 174.20         | 8,416.23                    | -1,796.34       | 222.86          | 1,810.02                      | 0.38                          | -0.21                        | 0.32                        |
| 9,997.00                    | 88.00              | 174.20         | 8,419.21                    | -1,890.80       | 232.45          | 1,904.92                      | 0.42                          | -0.42                        | 0.00                        |
| 10,091.00                   | 88.90              | 173.00         | 8,421.75                    | -1,984.18       | 242.93          | 1,998.87                      | 1.60                          | 0.96                         | -1.28                       |
| 10,185.00                   | 87.60              | 171.70         | 8,424.62                    | -2,077.30       | 255.43          | 2,092.82                      | 1.96                          | -1.38                        | -1.38                       |
| 10,279.00                   | 88.70              | 172.90         | 8,427.66                    | -2,170.40       | 268.02          | 2,186.76                      | 1.73                          | 1.17                         | 1.28                        |
| 10,374.00                   | 89.70              | 174.60         | 8,428.98                    | -2,264.82       | 278.36          | 2,281.72                      | 2.08                          | 1.05                         | 1.79                        |
| 10,469.00                   | 90.60              | 174.20         | 8,428.74                    | -2,359.37       | 287.63          | 2,376.66                      | 1.04                          | 0.95                         | -0.42                       |
| 10,563.00                   | 89.40              | 173.40         | 8,428.74                    | -2,452.81       | 297.78          | 2,470.63                      | 1.53                          | -1.28                        | -0.85                       |
| 10,657.00                   | 89.50              | 172.70         | 8,429.64                    | -2,546.12       | 309.16          | 2,564.62                      | 0.75                          | 0.11                         | -0.74                       |
| 10,752.00                   | 90.40              | 171.30         | 8,429.72                    | -2,640.19       | 322.38          | 2,659.61                      | 1.75                          | 0.95                         | -1.47                       |
| 10,846.00                   | 88.60              | 171.50         | 8,430.54                    | -2,733.13       | 336.43          | 2,753.59                      | 1.93                          | -1.91                        | 0.21                        |
| 10,940.00                   | 89.90              | 172.70         | 8,431.77                    | -2,826.22       | 349.35          | 2,847.58                      | 1.88                          | 1.38                         | 1.28                        |
| 11,034.00                   | 90.40              | 172.00         | 8,431.53                    | -2,919.38       | 361.86          | 2,941.58                      | 0.92                          | 0.53                         | -0.74                       |
| 11,128.00                   | 88.70              | 170.60         | 8,432.26                    | -3,012.29       | 376.08          | 3,035.55                      | 2.34                          | -1.81                        | -1.49                       |
| 11,222.00                   | 88.60              | 171.70         | 8,434.48                    | -3,105.15       | 390.54          | 3,129.50                      | 1.17                          | -0.11                        | 1.17                        |
| 11,316.00                   | 88.70              | 173.40         | 8,436.69                    | -3,198.32       | 402.72          | 3,223.47                      | 1.81                          | 0.11                         | 1.81                        |
| 11,410.00                   | 89.60              | 172.70         | 8,438.09                    | -3,291.62       | 414.09          | 3,317.46                      | 1.21                          | 0.96                         | -0.74                       |
| 11,504.00                   | 90.40              | 171.40         | 8,438.09                    | -3,384.72       | 427.10          | 3,411.45                      | 1.62                          | 0.85                         | -1.38                       |
| 11,598.00                   | 89.40              | 170.50         | 8,438.25                    | -3,477.54       | 441.88          | 3,505.42                      | 1.43                          | -1.06                        | -0.96                       |
| 11,692.00                   | 90.50              | 171.20         | 8,438.33                    | -3,570.35       | 456.83          | 3,599.39                      | 1.39                          | 1.17                         | 0.74                        |
| 11,786.00                   | 90.20              | 170.90         | 8,437.76                    | -3,663.20       | 471.45          | 3,693.36                      | 0.45                          | -0.32                        | -0.32                       |
| 11,880.00                   | 89.50              | 172.00         | 8,438.01                    | -3,756.15       | 485.43          | 3,787.35                      | 1.39                          | -0.74                        | 1.17                        |
| 11,975.00                   | 90.20              | 172.80         | 8,438.25                    | -3,850.32       | 497.99          | 3,882.34                      | 1.12                          | 0.74                         | 0.84                        |
| 12,070.00                   | 90.50              | 172.40         | 8,437.67                    | -3,944.52       | 510.23          | 3,977.34                      | 0.53                          | 0.32                         | -0.42                       |
| 12,164.00                   | 89.70              | 172.30         | 8,437.51                    | -4,037.68       | 522.74          | 4,071.34                      | 0.86                          | -0.85                        | -0.11                       |
| 12,259.00                   | 88.10              | 171.60         | 8,439.33                    | -4,131.73       | 536.04          | 4,166.32                      | 1.84                          | -1.68                        | -0.74                       |
| 12,353.00                   | 88.70              | 172.00         | 8,441.96                    | -4,224.73       | 549.44          | 4,260.27                      | 0.77                          | 0.64                         | 0.43                        |
| 12,447.00                   | 89.80              | 172.50         | 8,443.19                    | -4,317.86       | 562.12          | 4,354.26                      | 1.29                          | 1.17                         | 0.53                        |
| 12,542.00                   | 89.50              | 171.30         | 8,443.77                    | -4,411.91       | 575.50          | 4,449.26                      | 1.30                          | -0.32                        | -1.26                       |
| 12,636.00                   | 89.30              | 171.30         | 8,444.75                    | -4,504.82       | 589.72          | 4,543.24                      | 0.21                          | -0.21                        | 0.00                        |
| 12,730.00                   | 89.00              | 171.40         | 8,446.15                    | -4,597.74       | 603.85          | 4,637.21                      | 0.34                          | -0.32                        | 0.11                        |
| 12,829.00                   | 89.00              | 171.40         | 8,447.88                    | -4,695.62       | 618.66          | 4,736.18                      | 0.00                          | 0.00                         | 0.00                        |

# Archer

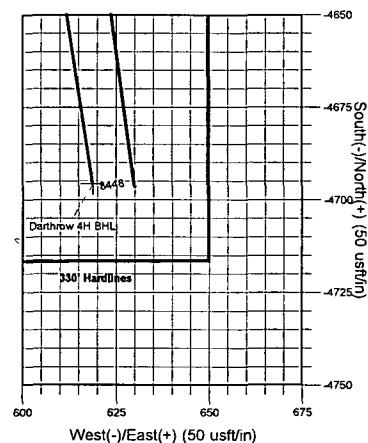
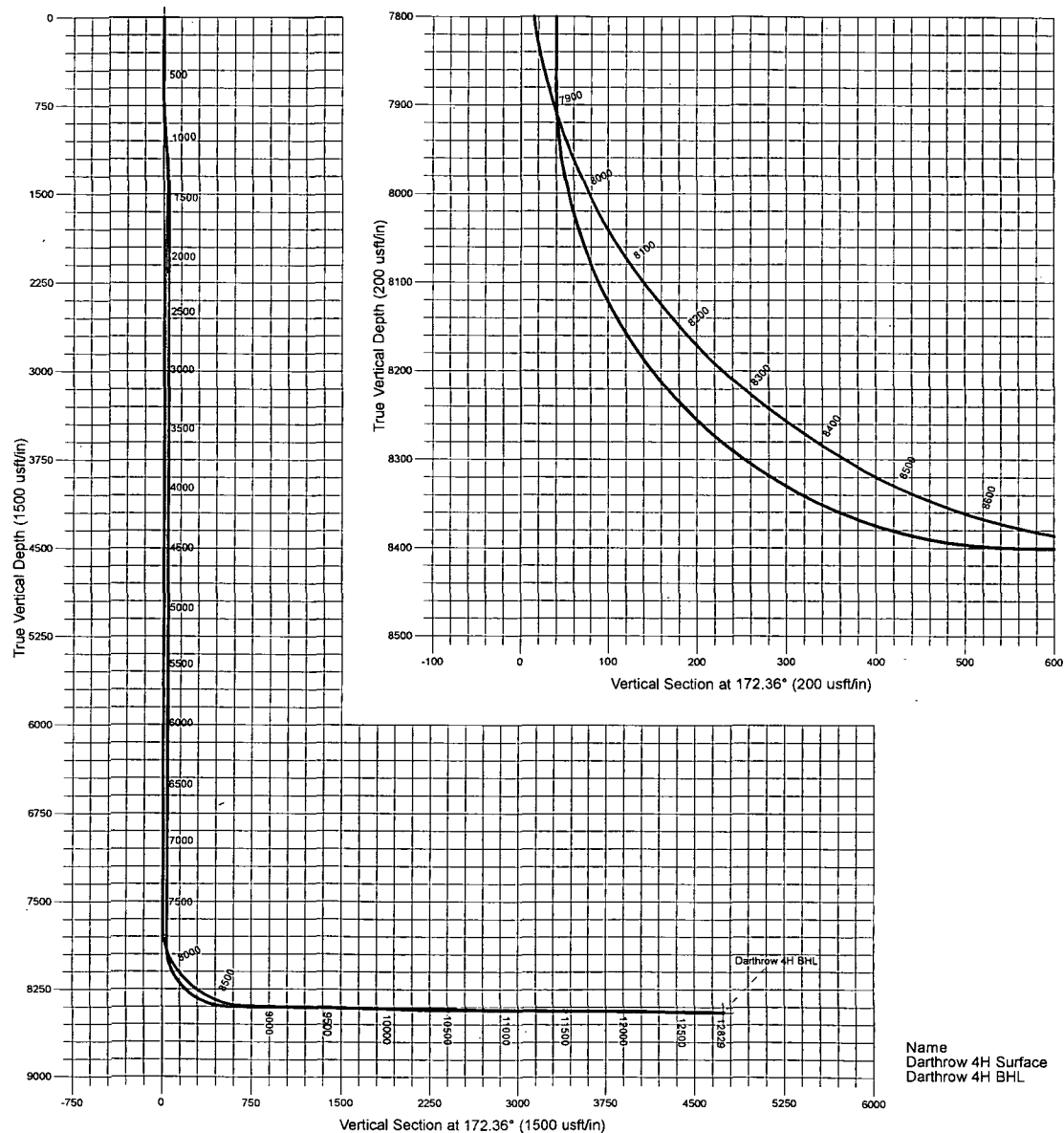
## Survey Report

|                  |                    |                                     |                                       |
|------------------|--------------------|-------------------------------------|---------------------------------------|
| <b>Company:</b>  | COG OPERATING, LLC | <b>Local Co-ordinate Reference:</b> | Well 4H                               |
| <b>Project:</b>  | Eddy County, NM    | <b>TVD Reference:</b>               | 3314'GL+19'KB @ 3333.00usft (McVay 6) |
| <b>Site:</b>     | Darthrow State 4H  | <b>MD Reference:</b>                | 3314'GL+19'KB @ 3333.00usft (McVay 6) |
| <b>Well:</b>     | 4H                 | <b>North Reference:</b>             | Grid                                  |
| <b>Wellbore:</b> | Lateral            | <b>Survey Calculation Method:</b>   | Minimum Curvature                     |
| <b>Design:</b>   | Surveys            | <b>Database:</b>                    | EDM R5000.1 MULTI                     |

| Survey                      |                    |                |                             |                 |                 |                               |                               |                              |                             |
|-----------------------------|--------------------|----------------|-----------------------------|-----------------|-----------------|-------------------------------|-------------------------------|------------------------------|-----------------------------|
| Measured<br>Depth<br>(usft) | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Vertical<br>Section<br>(usft) | Dogleg<br>Rate<br>(°/100usft) | Build<br>Rate<br>(°/100usft) | Turn<br>Rate<br>(°/100usft) |

| Design Targets                                                         |                  |                 |               |                 |                 |                    |                   |                 |                 |
|------------------------------------------------------------------------|------------------|-----------------|---------------|-----------------|-----------------|--------------------|-------------------|-----------------|-----------------|
| Target Name<br>- hit/miss target<br>- Shape                            | Dip Angle<br>(°) | Dip Dir.<br>(°) | TVD<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Northing<br>(usft) | Easting<br>(usft) | Latitude        | Longitude       |
| Darthrow 4H Surface<br>- actual wellpath hits target center<br>- Point | 0.00             | 0.00            | 0.00          | 0.00            | 0.00            | 569,537.40         | 598,338.90        | 32° 33' 55.30 N | 104° 0' 50.88 W |
| Darthrow 4H BHL<br>- actual wellpath hits target center<br>- Point     | 0.00             | 0.01            | 8,447.88      | -4,695.62       | 618.66          | 564,841.79         | 598,957.56        | 32° 33' 8.81 N  | 104° 0' 43.81 W |

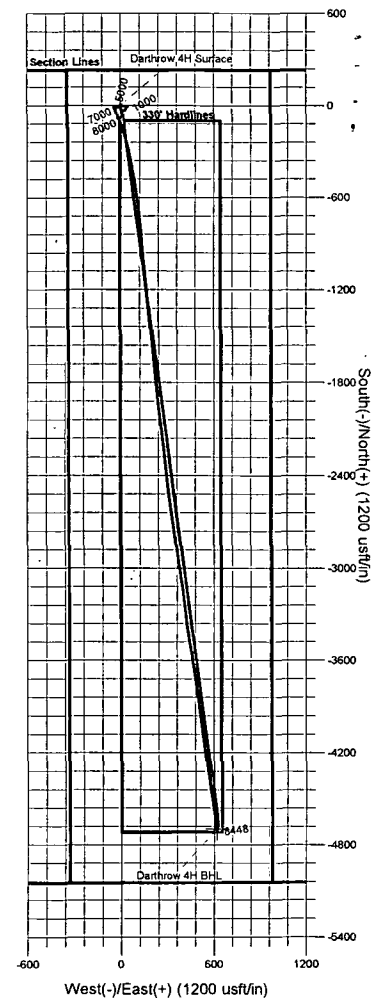
Field: Eddy County, NM  
Site: Dardthrow State 4H  
Well: 4H  
Wellbore: Lateral  
Plan: Surveys



Azimuths to Grid North  
True North:  $-0.17^\circ$   
Magnetic North:  $7.51^\circ$

Magnetic Field  
Strength: 48492.4snT  
Dip Angle: 60.47°  
Date: 10/15/2014  
Model: HDGM

— 4H, Lateral, Plan #1 V0  
— Surveys



| TARGET DETAILS      |         |          |        |           |           |                 |                 |       |
|---------------------|---------|----------|--------|-----------|-----------|-----------------|-----------------|-------|
| Name                | TVD     | +N/-S    | +E/-W  | Northing  | Easting   | Latitude        | Longitude       | Shape |
| Darthrow 4H Surface | 0.00    | 0.00     | 0.00   | 569537.40 | 598338.90 | 32° 33' 55.30 N | 104° 0' 50.88 W | Point |
| Darthrow 4H BHL     | 8447.88 | -4695.62 | 618.66 | 564841.78 | 598957.56 | 32° 33' 8.81 N  | 104° 0' 43.81 W | Point |

# Archer

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Design: Surveys (4H/Lateral)  
Created By: Keith Noack  
Date: 15:28, November 03 2014