



## **EOG Resources - Midland**

Lea County, NM (NAD 83 NME)

Ruby 2 State Com

#604H

OH

Survey: Sperry MWD

## **Midland PVA**

10 April, 2018



Midland PVA

|                  |                             |  |                                     |                                |
|------------------|-----------------------------|--|-------------------------------------|--------------------------------|
| <b>Company:</b>  | EOG Resources - Midland     |  | <b>Local Co-ordinate Reference:</b> | Well #604H                     |
| <b>Project:</b>  | Lea County, NM (NAD 83 NME) |  | <b>TVD Reference:</b>               | KB = 25' @ 3319.0usft (HP 462) |
| <b>Site:</b>     | Ruby 2 State Com            |  | <b>MD Reference:</b>                | KB = 25' @ 3319.0usft (HP 462) |
| <b>Well:</b>     | #604H                       |  | <b>North Reference:</b>             | Grid                           |
| <b>Wellbore:</b> | OH                          |  | <b>Survey Calculation Method:</b>   | Minimum Curvature              |
| <b>Design:</b>   | OH                          |  | <b>Database:</b>                    | EDM 5000.14                    |

|                    |                             |                      |                |  |
|--------------------|-----------------------------|----------------------|----------------|--|
| <b>Project</b>     | Lea County, NM (NAD 83 NME) |                      |                |  |
| <b>Map System:</b> | US State Plane 1983         | <b>System Datum:</b> | Mean Sea Level |  |
| <b>Geo Datum:</b>  | North American Datum 1983   |                      |                |  |
| <b>Map Zone:</b>   | New Mexico Eastern Zone     |                      |                |  |

|                              |                  |                     |                 |                          |                   |
|------------------------------|------------------|---------------------|-----------------|--------------------------|-------------------|
| <b>Site</b>                  | Ruby 2 State Com |                     |                 |                          |                   |
| <b>Site Position:</b>        |                  | <b>Northing:</b>    | 393,589.99 usft | <b>Latitude:</b>         | 32° 4' 47.315 N   |
| <b>From:</b>                 | Map              | <b>Easting:</b>     | 775,148.00 usft | <b>Longitude:</b>        | 103° 34' 42.355 W |
| <b>Position Uncertainty:</b> | 0.0 usft         | <b>Slot Radius:</b> | 13-3/16 "       | <b>Grid Convergence:</b> | 0.40 °            |

|                             |       |          |                            |                 |                      |                  |
|-----------------------------|-------|----------|----------------------------|-----------------|----------------------|------------------|
| <b>Well</b>                 | #604H |          |                            |                 |                      |                  |
| <b>Well Position</b>        | +N/-S | 0.0 usft | <b>Northing:</b>           | 393,585.00 usft | <b>Latitude:</b>     | 32° 4' 43.923 N  |
|                             | +E/-W | 0.0 usft | <b>Easting:</b>            | 819,254.00 usft | <b>Longitude:</b>    | 103° 26' 9.748 W |
| <b>Position Uncertainty</b> |       | 0.0 usft | <b>Wellhead Elevation:</b> | usft            | <b>Ground Level:</b> | 3,294.0 usft     |

|                 |    |  |  |  |  |
|-----------------|----|--|--|--|--|
| <b>Wellbore</b> | OH |  |  |  |  |
|-----------------|----|--|--|--|--|

|                  |                   |                    |                        |                      |                            |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination (°)</b> | <b>Dip Angle (°)</b> | <b>Field Strength (nT)</b> |
|                  | IGRF2015          | 12/29/2017         | 6.82                   | 59.94                | 47,812.09125959            |

|                          |                         |               |              |                      |     |
|--------------------------|-------------------------|---------------|--------------|----------------------|-----|
| <b>Design</b>            | OH                      |               |              |                      |     |
| <b>Audit Notes:</b>      |                         |               |              |                      |     |
| <b>Version:</b>          | 1.0                     | <b>Phase:</b> | ACTUAL       | <b>Tie On Depth:</b> | 0.0 |
| <b>Vertical Section:</b> | <b>Depth From (TVD)</b> | <b>+N/-S</b>  | <b>+E/-W</b> | <b>Direction</b>     |     |
|                          | (usft)                  | (usft)        | (usft)       | (°)                  |     |
|                          | 0.0                     | 0.0           | 0.0          | 182.01               |     |



Midland PVA

|                  |                             |                                     |                                |
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| <b>Company:</b>  | EOG Resources - Midland     | <b>Local Co-ordinate Reference:</b> | Well #804H                     |
| <b>Project:</b>  | Lea County, NM (NAD 83 NME) | <b>TVD Reference:</b>               | KB = 25' @ 3319.0usft (HP 462) |
| <b>Site:</b>     | Ruby 2 State Com            | <b>MD Reference:</b>                | KB = 25' @ 3319.0usft (HP 462) |
| <b>Well:</b>     | #804H                       | <b>North Reference:</b>             | Grid                           |
| <b>Wellbore:</b> | OH                          | <b>Survey Calculation Method:</b>   | Minimum Curvature              |
| <b>Design:</b>   | OH                          | <b>Database:</b>                    | EDM 5000.14                    |

| Survey Program |           | Date 4/10/2018    |           |                     |
|----------------|-----------|-------------------|-----------|---------------------|
| From (usft)    | To (usft) | Survey (Wellbore) | Tool Name | Description         |
| 133.0          | 936.0     | Invictus MWD (OH) | MWD       | OWSG MWD - Standard |
| 1,054.0        | 17,305.0  | Sperry MWD (OH)   | MWD       | OWSG MWD - Standard |

| MD (usft) | Inc (") | Azi (azimuth) (") | TVD (usft) | N/S (usft) | E/W (usft) | DLeg (°/100usft) | Buid (°/100usft) | Turn (°/100usft) | High to Plan (usft) | Right to Plan (usft) |
|-----------|---------|-------------------|------------|------------|------------|------------------|------------------|------------------|---------------------|----------------------|
| 936.0     | 0.80    | 260.36            | 936.0      | 0.4        | -8.4       | 0.00             | 0.00             | 0.00             | 0.0                 | 0.0                  |
| 1,054.0   | 0.97    | 310.35            | 1,053.9    | 0.9        | -9.9       | 0.65             | 0.14             | 42.36            | 0.0                 | 0.0                  |
| 1,239.0   | 0.97    | 321.95            | 1,238.9    | 3.1        | -12.1      | 0.11             | 0.00             | 6.27             | 0.0                 | 0.0                  |
| 1,426.0   | 0.97    | 326.87            | 1,425.9    | 5.7        | -13.9      | 0.04             | 0.00             | 2.63             | 0.0                 | 0.0                  |
| 1,612.0   | 0.66    | 329.77            | 1,611.9    | 7.9        | -15.3      | 0.17             | -0.17            | 1.56             | 0.0                 | 0.0                  |
| 1,800.0   | 0.62    | 327.40            | 1,799.9    | 9.7        | -16.4      | 0.03             | -0.02            | -1.26            | 0.0                 | 0.0                  |
| 1,988.0   | 0.66    | 322.91            | 1,987.8    | 11.4       | -17.6      | 0.03             | 0.02             | -2.39            | 0.0                 | 0.0                  |
| 2,175.0   | 0.75    | 311.40            | 2,174.8    | 13.1       | -19.2      | 0.09             | 0.05             | -6.16            | 0.0                 | 0.0                  |
| 2,362.0   | 0.70    | 315.88            | 2,361.8    | 14.7       | -20.9      | 0.04             | -0.03            | 2.40             | 0.0                 | 0.0                  |
| 2,550.0   | 0.62    | 348.67            | 2,549.8    | 16.6       | -21.9      | 0.20             | -0.04            | 17.44            | 0.0                 | 0.0                  |
| 2,738.0   | 0.79    | 17.14             | 2,737.8    | 18.8       | -21.7      | 0.20             | 0.09             | 15.14            | 0.0                 | 0.0                  |
| 2,925.0   | 1.05    | 38.76             | 2,924.8    | 21.4       | -20.3      | 0.23             | 0.14             | 11.56            | 0.0                 | 0.0                  |
| 3,113.0   | 2.29    | 288.90            | 3,112.7    | 23.9       | -22.8      | 1.50             | 0.66             | -58.44           | 0.0                 | 0.0                  |
| 3,301.0   | 1.58    | 308.94            | 3,300.6    | 26.8       | -28.3      | 0.52             | -0.38            | 10.66            | 0.0                 | 0.0                  |
| 3,488.0   | 1.23    | 5.45              | 3,487.6    | 30.4       | -30.1      | 0.73             | -0.19            | 30.22            | 0.0                 | 0.0                  |
| 3,677.0   | 1.63    | 20.66             | 3,676.5    | 34.9       | -29.0      | 0.29             | 0.21             | 8.05             | 0.0                 | 0.0                  |
| 3,864.0   | 1.41    | 59.07             | 3,863.4    | 38.6       | -26.1      | 0.55             | -0.12            | 20.54            | 0.0                 | 0.0                  |
| 3,957.0   | 2.59    | 72.78             | 3,956.4    | 39.8       | -23.1      | 1.36             | 1.27             | 14.74            | 0.0                 | 0.0                  |
| 4,144.0   | 3.74    | 91.41             | 4,143.1    | 40.9       | -13.0      | 0.82             | 0.61             | 9.96             | 0.0                 | 0.0                  |
| 4,237.0   | 4.18    | 98.97             | 4,235.9    | 40.3       | -6.6       | 0.73             | 0.47             | 8.13             | 0.0                 | 0.0                  |
| 4,330.0   | 4.04    | 97.30             | 4,328.6    | 39.4       | 0.0        | 0.20             | -0.15            | -1.80            | 0.0                 | 0.0                  |



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| <b>Site:</b>     | Ruby 2 State Com            | <b>MD Reference:</b>                | KB = 25' @ 3319.0usft (HP 462) |
| <b>Well:</b>     | #604H                       | <b>North Reference:</b>             | Grid                           |
| <b>Wellbore:</b> | OH                          | <b>Survey Calculation Method:</b>   | Minimum Curvature              |
| <b>Design:</b>   | OH                          | <b>Database:</b>                    | EDM 5000.14                    |

| Survey       |            |                      |               |               |               |                     |                      |                     |                        |                         |  |
|--------------|------------|----------------------|---------------|---------------|---------------|---------------------|----------------------|---------------------|------------------------|-------------------------|--|
| MD<br>(usft) | Inc<br>(°) | Azi (azimuth)<br>(°) | TVD<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | DLeg<br>(°/100usft) | Build<br>(°/100usft) | Turn<br>(°/100usft) | High to Plan<br>(usft) | Right to Plan<br>(usft) |  |
| 4,424.0      | 4.40       | 87.81                | 4,422.4       | 39.1          | 6.9           | 0.83                | 0.38                 | -10.10              | 0.0                    | 0.0                     |  |
| 4,518.0      | 5.23       | 90.53                | 4,516.1       | 39.2          | 14.8          | 0.92                | 0.88                 | 2.89                | 0.0                    | 0.0                     |  |
| 4,601.0      | 5.49       | 89.83                | 4,598.7       | 39.1          | 22.5          | 0.32                | 0.31                 | -0.84               | 0.0                    | 0.0                     |  |
| 4,694.0      | 2.42       | 39.47                | 4,691.5       | 40.7          | 28.2          | 4.69                | -3.30                | -54.15              | 0.0                    | 0.0                     |  |
| 4,788.0      | 4.92       | 312.46               | 4,785.3       | 44.9          | 26.5          | 5.71                | 2.66                 | -92.56              | 0.0                    | 0.0                     |  |
| 4,882.0      | 6.02       | 309.47               | 4,878.9       | 50.8          | 19.7          | 1.21                | 1.17                 | -3.18               | 0.0                    | 0.0                     |  |
| 5,069.0      | 5.23       | 311.58               | 5,065.0       | 62.7          | 5.8           | 0.44                | -0.42                | 1.13                | 0.0                    | 0.0                     |  |
| 5,236.0      | 4.75       | 308.39               | 5,231.4       | 71.8          | -5.5          | 0.39                | -0.29                | -3.11               | 0.0                    | 0.0                     |  |
| 5,346.0      | 4.09       | 305.69               | 5,341.0       | 76.8          | -12.3         | 0.60                | -0.60                | -0.64               | 0.0                    | 0.0                     |  |
| 5,439.0      | 4.40       | 292.94               | 5,433.8       | 80.1          | -18.3         | 1.07                | 0.33                 | -13.71              | 0.0                    | 0.0                     |  |
| 5,627.0      | 6.90       | 295.23               | 5,620.9       | 87.8          | -35.2         | 1.33                | 1.33                 | 1.22                | 0.0                    | 0.0                     |  |
| 5,814.0      | 6.77       | 294.26               | 5,806.5       | 97.1          | -55.4         | 0.09                | -0.07                | -0.52               | 0.0                    | 0.0                     |  |
| 6,002.0      | 6.73       | 290.75               | 5,993.2       | 105.5         | -75.8         | 0.22                | -0.02                | -1.87               | 0.0                    | 0.0                     |  |
| 6,189.0      | 6.81       | 291.10               | 6,178.9       | 113.4         | -96.4         | 0.05                | 0.04                 | 0.19                | 0.0                    | 0.0                     |  |
| 6,377.0      | 6.42       | 288.20               | 6,365.7       | 120.7         | -116.7        | 0.27                | -0.21                | -1.54               | 0.0                    | 0.0                     |  |
| 6,564.0      | 6.99       | 293.21               | 6,551.4       | 128.5         | -137.1        | 0.44                | 0.30                 | 2.68                | 0.0                    | 0.0                     |  |
| 6,751.0      | 7.08       | 292.59               | 6,737.0       | 137.4         | -158.2        | 0.06                | 0.05                 | -0.33               | 0.0                    | 0.0                     |  |
| 6,938.0      | 7.30       | 289.78               | 6,922.5       | 145.8         | -180.1        | 0.22                | 0.12                 | -1.50               | 0.0                    | 0.0                     |  |
| 7,125.0      | 3.43       | 270.27               | 7,108.7       | 149.9         | -196.8        | 2.26                | -2.07                | -10.43              | 0.0                    | 0.0                     |  |
| 7,313.0      | 1.23       | 319.66               | 7,296.5       | 151.4         | -203.8        | 1.48                | -1.17                | 26.27               | 0.0                    | 0.0                     |  |
| 7,500.0      | 1.80       | 326.52               | 7,483.5       | 155.4         | -206.7        | 0.32                | 0.30                 | 3.67                | 0.0                    | 0.0                     |  |
| 7,687.0      | 2.55       | 337.33               | 7,670.3       | 161.7         | -209.9        | 0.46                | 0.40                 | 5.78                | 0.0                    | 0.0                     |  |
| 7,874.0      | 2.51       | 337.94               | 7,857.1       | 169.3         | -213.0        | 0.03                | -0.02                | 0.33                | 0.0                    | 0.0                     |  |
| 8,061.0      | 2.02       | 325.20               | 8,044.0       | 175.8         | -216.5        | 0.37                | -0.26                | -8.81               | 0.0                    | 0.0                     |  |
| 8,248.0      | 1.01       | 310.43               | 8,230.9       | 179.6         | -219.6        | 0.57                | -0.54                | -7.90               | 0.0                    | 0.0                     |  |
| 8,436.0      | 0.44       | 277.74               | 8,418.9       | 180.8         | -221.6        | 0.36                | -0.30                | -17.39              | 0.0                    | 0.0                     |  |
| 8,623.0      | 0.13       | 203.29               | 8,605.9       | 180.7         | -222.4        | 0.23                | -0.17                | -39.81              | 0.0                    | 0.0                     |  |



Midland PVA

|                  |                             |                                     |                                |
|------------------|-----------------------------|-------------------------------------|--------------------------------|
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| <b>Project:</b>  | Lea County, NM (NAD 83 NME) | <b>TVD Reference:</b>               | KB = 25' @ 3319.0usft (HP 462) |
| <b>Site:</b>     | Ruby 2 State Com            | <b>MD Reference:</b>                | KB = 25' @ 3319.0usft (HP 462) |
| <b>Well:</b>     | #804H                       | <b>North Reference:</b>             | Grid                           |
| <b>Wellbore:</b> | OH                          | <b>Survey Calculation Method:</b>   | Minimum Curvature              |
| <b>Design:</b>   | OH                          | <b>Database:</b>                    | EDM 5000.14                    |

| Survey       |            |                      |               |               |              |                     |                      |                     |                        |                         |  |
|--------------|------------|----------------------|---------------|---------------|--------------|---------------------|----------------------|---------------------|------------------------|-------------------------|--|
| MD<br>(usft) | Inc<br>(°) | Azi (azimuth)<br>(°) | TVD<br>(usft) | N/S<br>(usft) | EW<br>(usft) | DLeg<br>(°/100usft) | Build<br>(°/100usft) | Turn<br>(°/100usft) | High to Plan<br>(usft) | Right to Plan<br>(usft) |  |
| 8,810.0      | 0.31       | 143.35               | 8,792.9       | 180.1         | -222.2       | 0.14                | 0.10                 | -32.05              | 0.0                    | 0.0                     |  |
| 8,998.0      | 0.40       | 111.45               | 8,980.9       | 179.4         | -221.2       | 0.11                | 0.05                 | -16.97              | 0.0                    | 0.0                     |  |
| 9,185.0      | 0.48       | 138.70               | 9,167.9       | 178.6         | -220.1       | 0.12                | 0.04                 | 14.57               | 0.0                    | 0.0                     |  |
| 9,373.0      | 0.75       | 116.20               | 9,355.9       | 177.5         | -218.5       | 0.19                | 0.14                 | -11.97              | 0.0                    | 0.0                     |  |
| 9,562.0      | 0.79       | 68.65                | 9,544.9       | 177.4         | -216.2       | 0.33                | 0.02                 | -25.16              | 0.0                    | 0.0                     |  |
| 9,749.0      | 1.10       | 39.12                | 9,731.8       | 179.3         | -213.8       | 0.30                | 0.17                 | -15.79              | 0.0                    | 0.0                     |  |
| 9,937.0      | 2.33       | 3.08                 | 9,919.7       | 184.5         | -212.5       | 0.84                | 0.65                 | -19.17              | 0.0                    | 0.0                     |  |
| 10,124.0     | 3.30       | 350.69               | 10,106.5      | 193.6         | -213.2       | 0.61                | 0.52                 | -6.63               | 0.0                    | 0.0                     |  |
| 10,312.0     | 5.76       | 334.78               | 10,293.9      | 207.5         | -218.1       | 1.46                | 1.31                 | -8.46               | 0.0                    | 0.0                     |  |
| 10,500.0     | 3.38       | 323.00               | 10,481.3      | 220.4         | -225.4       | 1.35                | -1.27                | -6.27               | 0.0                    | 0.0                     |  |
| 10,688.0     | 1.93       | 4.66                 | 10,669.1      | 228.0         | -228.5       | 1.24                | -0.77                | 22.16               | 0.0                    | 0.0                     |  |
| 10,875.0     | 0.75       | 338.82               | 10,856.1      | 232.3         | -228.7       | 0.89                | -0.63                | -13.82              | 0.0                    | 0.0                     |  |
| 11,060.0     | 1.19       | 108.72               | 11,041.1      | 232.8         | -227.3       | 0.96                | 0.24                 | 70.22               | 0.0                    | 0.0                     |  |
| 11,248.0     | 3.25       | 136.23               | 11,228.9      | 228.3         | -221.8       | 1.20                | 1.10                 | 14.63               | 0.0                    | 0.0                     |  |
| 11,435.0     | 0.09       | 163.83               | 11,415.8      | 224.4         | -218.0       | 1.70                | -1.69                | 14.76               | 0.0                    | 0.0                     |  |
| 11,623.0     | 2.29       | 336.63               | 11,603.8      | 227.7         | -219.5       | 1.27                | 1.17                 | 91.92               | 0.0                    | 0.0                     |  |
| 11,819.0     | 3.91       | 296.20               | 11,799.5      | 234.2         | -227.0       | 1.34                | 0.83                 | -20.63              | 0.0                    | 0.0                     |  |
| 11,929.0     | 4.31       | 291.54               | 11,909.2      | 237.4         | -234.3       | 0.47                | 0.36                 | -4.24               | 0.0                    | 0.0                     |  |
| 11,978.0     | 3.82       | 285.91               | 11,956.1      | 238.5         | -237.4       | 1.34                | -1.04                | -11.98              | 0.0                    | 0.0                     |  |
| 12,023.0     | 3.87       | 278.44               | 12,003.0      | 239.1         | -240.5       | 1.07                | 0.11                 | -15.89              | 0.0                    | 0.0                     |  |
| 12,070.0     | 3.82       | 248.12               | 12,049.9      | 238.8         | -243.5       | 4.28                | -0.11                | -64.51              | 0.0                    | 0.0                     |  |
| 12,117.0     | 4.09       | 233.27               | 12,096.8      | 237.2         | -246.3       | 2.25                | 0.57                 | -31.60              | 0.0                    | 0.0                     |  |
| 12,164.0     | 4.53       | 230.28               | 12,143.6      | 235.0         | -249.1       | 1.05                | 0.94                 | -6.36               | 0.0                    | 0.0                     |  |
| 12,211.0     | 6.24       | 280.11               | 12,190.5      | 234.3         | -253.0       | 10.19               | 3.64                 | 106.02              | 0.0                    | 0.0                     |  |
| 12,258.0     | 12.35      | 303.75               | 12,236.8      | 237.5         | -259.7       | 15.07               | 13.00                | 50.30               | 0.1                    | -2.2                    |  |
| 12,304.0     | 18.64      | 267.98               | 12,281.2      | 240.0         | -271.2       | 24.26               | 13.67                | -77.76              | 1.4                    | -5.1                    |  |
| 12,351.0     | 30.90      | 242.14               | 12,323.9      | 234.0         | -289.5       | 34.25               | 26.09                | -54.98              | -1.8                   | -11.5                   |  |



Midland PVA

|           |                             |                              |                                |
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| Site:     | Ruby 2 State Com            | MD Reference:                | KB = 25' @ 3319.0usft (HP 462) |
| Well:     | #804H                       | North Reference:             | Grid                           |
| Wellbore: | OH                          | Survey Calculation Method:   | Minimum Curvature              |
| Design:   | OH                          | Database:                    | EDM 5000.14                    |

| Survey                                                         |            |                      |               |               |               |                     |                      |                     |                        |                         |
|----------------------------------------------------------------|------------|----------------------|---------------|---------------|---------------|---------------------|----------------------|---------------------|------------------------|-------------------------|
| MD<br>(usft)                                                   | Inc<br>(") | Azi (azimuth)<br>(°) | TVD<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | DLeg<br>(°/100usft) | Build<br>(°/100usft) | Turn<br>(°/100usft) | High to Plan<br>(usft) | Right to Plan<br>(usft) |
| 12,398.0                                                       | 41.10      | 224.04               | 12,362.0      | 217.2         | -311.0        | 31.17               | 21.70                | -38.51              | -6.4                   | -22.5                   |
| 12,445.0                                                       | 48.31      | 201.01               | 12,395.6      | 189.5         | -328.2        | 37.54               | 15.34                | -49.00              | -5.4                   | -33.4                   |
| 12,482.0                                                       | 55.60      | 182.90               | 12,424.7      | 153.5         | -335.5        | 33.98               | 15.51                | -38.53              | -3.0                   | -37.4                   |
| 12,532.0                                                       | 68.09      | 177.54               | 12,443.6      | 118.3         | -335.5        | 33.37               | 31.23                | -13.40              | -5.7                   | -36.7                   |
| 12,566.0                                                       | 76.22      | 175.61               | 12,454.0      | 86.1          | -333.6        | 24.51               | 23.91                | -5.68               | -9.8                   | -35.8                   |
| 12,595.0                                                       | 81.54      | 175.87               | 12,459.6      | 57.7          | -331.5        | 18.37               | 18.34                | 0.90                | -13.2                  | -35.6                   |
| 12,610.0                                                       | 81.85      | 176.14               | 12,461.7      | 42.9          | -330.4        | 2.73                | 2.07                 | 1.80                | -14.3                  | -35.9                   |
| 12,625.0                                                       | 86.11      | 174.47               | 12,463.3      | 28.0          | -329.2        | 30.48               | 28.40                | -11.13              | -14.8                  | -36.5                   |
| 12,673.0                                                       | 90.15      | 172.36               | 12,464.9      | -19.6         | -323.7        | 9.49                | 8.42                 | -4.40               | -14.1                  | -37.9                   |
| 12,688.6                                                       | 90.39      | 172.18               | 12,464.8      | -35.1         | -321.6        | 1.93                | 1.54                 | -1.15               | -13.7                  | -38.3                   |
| FTP Crossing 12688.6' MD; 12464.8' TVD; -35.1'; -321.6'; 90.39 |            |                      |               |               |               |                     |                      |                     |                        |                         |
| 12,719.0                                                       | 90.86      | 171.83               | 12,464.5      | -65.2         | -317.4        | 1.93                | 1.54                 | -1.15               | -13.2                  | -38.8                   |
| 12,812.0                                                       | 89.36      | 169.02               | 12,464.3      | -156.9        | -301.9        | 3.42                | -1.61                | -3.02               | -10.6                  | -38.0                   |
| 12,906.0                                                       | 88.62      | 168.14               | 12,466.0      | -249.0        | -283.3        | 1.22                | -0.79                | -0.94               | -6.2                   | -34.1                   |
| 13,000.0                                                       | 88.79      | 167.00               | 12,468.1      | -340.8        | -263.1        | 1.23                | 0.18                 | -1.21               | -1.4                   | -28.5                   |
| 13,093.0                                                       | 87.87      | 171.30               | 12,470.8      | -432.0        | -245.6        | 4.73                | -0.99                | 4.62                | 3.7                    | -24.4                   |
| 13,186.0                                                       | 91.78      | 175.17               | 12,471.1      | -524.4        | -234.6        | 5.91                | 4.20                 | 4.16                | 5.0                    | -22.7                   |
| 13,280.0                                                       | 92.30      | 175.70               | 12,467.7      | -618.0        | -227.2        | 0.79                | 0.55                 | 0.56                | 1.4                    | -20.1                   |
| 13,374.0                                                       | 86.37      | 174.64               | 12,468.8      | -711.6        | -219.3        | 6.41                | -6.31                | -1.13               | 1.2                    | -13.5                   |
| 13,468.0                                                       | 85.49      | 176.58               | 12,475.5      | -805.1        | -212.1        | 2.26                | -0.94                | 2.06                | 6.4                    | -7.2                    |
| 13,561.0                                                       | 84.48      | 179.04               | 12,483.6      | -897.7        | -208.5        | 2.85                | -1.09                | 2.65                | 13.0                   | -4.6                    |
| 13,655.0                                                       | 90.46      | 181.76               | 12,487.8      | -991.5        | -209.2        | 6.99                | 6.36                 | 2.89                | 15.7                   | -6.1                    |
| 13,702.0                                                       | 91.91      | 181.23               | 12,486.8      | -1,038.5      | -210.4        | 3.28                | 3.09                 | -1.13               | 14.0                   | -7.8                    |
| 13,750.0                                                       | 90.95      | 180.53               | 12,485.6      | -1,086.5      | -211.2        | 2.47                | -2.00                | -1.46               | 12.0                   | -9.0                    |
| 13,843.0                                                       | 91.91      | 181.94               | 12,483.3      | -1,179.4      | -213.2        | 1.83                | 1.03                 | 1.52                | 8.4                    | -11.9                   |
| 13,936.0                                                       | 94.55      | 183.17               | 12,478.0      | -1,272.2      | -217.3        | 3.13                | 2.84                 | 1.32                | 2.0                    | -16.9                   |
| 14,030.0                                                       | 90.37      | 181.23               | 12,474.0      | -1,366.0      | -220.9        | 4.90                | -4.45                | -2.06               | -3.4                   | -21.4                   |



Midland PVA

|                  |                             |                                     |                                |
|------------------|-----------------------------|-------------------------------------|--------------------------------|
| <b>Company:</b>  | EOG Resources - Midland     | <b>Local Co-ordinate Reference:</b> | Well #604H                     |
| <b>Project:</b>  | Lea County, NM (NAD 83 NME) | <b>TVD Reference:</b>               | KB = 25' @ 3319.0usft (HP 462) |
| <b>Site:</b>     | Ruby 2 State Com            | <b>MD Reference:</b>                | KB = 25' @ 3319.0usft (HP 462) |
| <b>Well:</b>     | #604H                       | <b>North Reference:</b>             | Grid                           |
| <b>Wellbore:</b> | OH                          | <b>Survey Calculation Method:</b>   | Minimum Curvature              |
| <b>Design:</b>   | OH                          | <b>Database:</b>                    | EDM 5000.14                    |

| Survey       |            |                      |               |               |               |                     |                      |                     |                        |                         |  |
|--------------|------------|----------------------|---------------|---------------|---------------|---------------------|----------------------|---------------------|------------------------|-------------------------|--|
| MD<br>(usft) | Inc<br>(°) | Azi (azimuth)<br>(°) | TVD<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | DLeg<br>(°/100usft) | Build<br>(°/100usft) | Turn<br>(°/100usft) | High to Plan<br>(usft) | Right to Plan<br>(usft) |  |
| 14,049.0     | 89.76      | 180.53               | 12,474.0      | -1,385.0      | -221.2        | 4.89                | -3.21                | -3.68               | -3.6                   | -21.9                   |  |
| 14,124.0     | 87.03      | 177.81               | 12,476.1      | -1,460.0      | -220.1        | 5.14                | -3.64                | -3.63               | -2.5                   | -21.5                   |  |
| 14,218.0     | 88.88      | 178.51               | 12,479.4      | -1,553.8      | -217.1        | 2.10                | 1.97                 | 0.74                | -0.4                   | -19.4                   |  |
| 14,312.0     | 95.25      | 179.65               | 12,476.0      | -1,647.7      | -215.6        | 6.88                | 6.78                 | 1.21                | -5.1                   | -18.8                   |  |
| 14,406.0     | 91.21      | 177.81               | 12,470.8      | -1,741.5      | -213.5        | 4.72                | -4.30                | -1.96               | -11.6                  | -17.6                   |  |
| 14,500.0     | 87.38      | 176.22               | 12,471.9      | -1,835.4      | -208.6        | 4.41                | -4.07                | -1.69               | -11.7                  | -13.6                   |  |
| 14,594.0     | 87.74      | 177.02               | 12,475.9      | -1,929.1      | -203.1        | 0.93                | 0.38                 | 0.85                | -9.0                   | -9.0                    |  |
| 14,687.0     | 87.08      | 176.14               | 12,480.1      | -2,021.9      | -197.5        | 1.18                | -0.71                | -0.95               | -6.0                   | -4.3                    |  |
| 14,781.0     | 91.21      | 177.89               | 12,481.5      | -2,115.7      | -192.6        | 4.77                | 4.39                 | 1.86                | -5.9                   | -0.3                    |  |
| 14,875.0     | 89.01      | 178.69               | 12,481.3      | -2,209.6      | -189.8        | 2.49                | -2.34                | 0.85                | -7.3                   | 1.6                     |  |
| 14,969.0     | 89.63      | 177.81               | 12,482.5      | -2,303.6      | -187.0        | 1.15                | 0.66                 | -0.94               | -7.5                   | 3.5                     |  |
| 15,062.0     | 87.56      | 177.81               | 12,484.7      | -2,396.5      | -183.4        | 2.23                | -2.23                | 0.00                | -6.5                   | 6.2                     |  |
| 15,155.0     | 87.16      | 178.86               | 12,489.0      | -2,489.4      | -180.7        | 1.21                | -0.43                | 1.13                | -3.4                   | 8.0                     |  |
| 15,249.0     | 89.14      | 179.74               | 12,492.1      | -2,583.3      | -179.6        | 2.30                | 2.11                 | 0.94                | -1.6                   | 8.3                     |  |
| 15,343.0     | 89.89      | 179.74               | 12,492.8      | -2,677.3      | -179.1        | 0.80                | 0.80                 | 0.00                | -2.1                   | 7.8                     |  |
| 15,436.0     | 87.96      | 180.09               | 12,494.6      | -2,770.3      | -179.0        | 2.11                | -2.08                | 0.38                | -1.7                   | 7.0                     |  |
| 15,530.0     | 89.27      | 177.98               | 12,496.9      | -2,864.2      | -177.4        | 2.64                | 1.39                 | -2.24               | -0.8                   | 7.7                     |  |
| 15,624.0     | 89.63      | 177.46               | 12,497.8      | -2,958.1      | -173.7        | 0.67                | 0.38                 | -0.55               | -1.2                   | 10.5                    |  |
| 15,717.0     | 89.14      | 177.46               | 12,498.8      | -3,051.0      | -169.6        | 0.53                | -0.53                | 0.00                | -1.5                   | 13.8                    |  |
| 15,811.0     | 87.34      | 176.14               | 12,501.7      | -3,144.8      | -164.3        | 2.37                | -1.91                | -1.40               | 0.0                    | 18.1                    |  |
| 15,905.0     | 89.63      | 178.77               | 12,504.1      | -3,238.7      | -160.1        | 3.71                | 2.44                 | 2.80                | 1.2                    | 21.4                    |  |
| 15,999.0     | 89.32      | 178.86               | 12,505.0      | -3,332.7      | -158.2        | 0.34                | -0.33                | 0.10                | 0.7                    | 22.4                    |  |
| 16,093.0     | 88.13      | 178.60               | 12,507.1      | -3,426.6      | -156.1        | 1.30                | -1.27                | -0.28               | 1.5                    | 23.6                    |  |
| 16,186.0     | 86.59      | 181.67               | 12,511.4      | -3,519.5      | -156.3        | 3.69                | -1.66                | 3.30                | 4.5                    | 22.5                    |  |
| 16,280.0     | 92.13      | 185.28               | 12,512.4      | -3,613.3      | -162.0        | 7.03                | 5.89                 | 3.84                | 4.2                    | 15.9                    |  |
| 16,373.0     | 91.91      | 185.10               | 12,509.1      | -3,705.9      | -170.4        | 0.31                | -0.24                | -0.19               | -0.4                   | 6.6                     |  |
| 16,467.0     | 91.16      | 181.41               | 12,506.6      | -3,799.6      | -175.8        | 4.00                | -0.80                | -3.93               | -4.2                   | 0.4                     |  |



Midland PVA

|           |                             |                              |                                |
|-----------|-----------------------------|------------------------------|--------------------------------|
| Company:  | EOG Resources - Midland     | Local Co-ordinate Reference: | Well #604H                     |
| Project:  | Lea County, NM (NAD 83 NME) | TVD Reference:               | KB = 25' @ 3319.0usft (HP 462) |
| Site:     | Ruby 2 State Com            | MD Reference:                | KB = 25' @ 3319.0usft (HP 462) |
| Well:     | #604H                       | North Reference:             | Grid                           |
| Wellbore: | OH                          | Survey Calculation Method:   | Minimum Curvature              |
| Design:   | OH                          | Database:                    | EDM 5000.14                    |

| MD<br>(usft)                            | Inc<br>(°) | Azi (azimuth)<br>(°) | TVD<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | DLeg<br>(°/100usft) | Build<br>(°/100usft) | Turn<br>(°/100usft) | High to Plan<br>(usft) | Right to Plan<br>(usft) |
|-----------------------------------------|------------|----------------------|---------------|---------------|---------------|---------------------|----------------------|---------------------|------------------------|-------------------------|
| 16,560.0                                | 87.91      | 179.74               | 12,507.4      | -3,892.6      | -176.7        | 3.93                | -3.49                | -1.80               | -4.8                   | -1.5                    |
| 16,653.0                                | 87.96      | 179.30               | 12,510.7      | -3,985.6      | -175.9        | 0.48                | 0.05                 | -0.47               | -2.7                   | -1.6                    |
| 16,747.0                                | 89.32      | 179.21               | 12,513.0      | -4,079.5      | -174.7        | 1.45                | 1.45                 | -0.10               | -1.8                   | -1.2                    |
| 16,841.0                                | 91.56      | 178.42               | 12,512.2      | -4,173.5      | -172.8        | 2.53                | 2.38                 | -0.84               | -3.8                   | -0.2                    |
| 16,934.0                                | 90.77      | 177.37               | 12,510.4      | -4,266.4      | -169.3        | 1.41                | -0.85                | -1.13               | -7.0                   | 2.3                     |
| 17,028.0                                | 90.95      | 176.93               | 12,508.9      | -4,360.3      | -164.7        | 0.51                | 0.19                 | -0.47               | -9.7                   | 6.1                     |
| 17,122.0                                | 89.45      | 178.95               | 12,508.6      | -4,454.2      | -161.3        | 2.68                | -1.60                | 2.15                | -11.3                  | 8.6                     |
| 17,216.0                                | 90.95      | 178.95               | 12,508.3      | -4,548.2      | -159.6        | 1.60                | 1.60                 | 0.00                | -12.9                  | 9.4                     |
| <b>Last MWD Survey (MD = 17216.0)</b>   |            |                      |               |               |               |                     |                      |                     |                        |                         |
| 17,305.0                                | 90.95      | 178.95               | 12,506.8      | -4,637.2      | -157.9        | 0.00                | 0.00                 | 0.00                | -15.6                  | 10.1                    |
| <b>Projection to Bit (MD = 17305.0)</b> |            |                      |               |               |               |                     |                      |                     |                        |                         |

| Measured<br>Depth<br>(usft) | Vertical<br>Depth<br>(usft) | Local Coordinates |                | Comment                                                        |
|-----------------------------|-----------------------------|-------------------|----------------|----------------------------------------------------------------|
|                             |                             | +N-S<br>(usft)    | +E-W<br>(usft) |                                                                |
| 12,688.6                    | 12,464.8                    | -35.1             | -321.6         | FTP Crossing 12688.6' MD; 12464.8' TVD; -35.1'; -321.6'; 90.39 |
| 17,216.0                    | 12,508.3                    | -4,548.2          | -159.6         | Last MWD Survey (MD = 17216.0)                                 |
| 17,305.0                    | 12,506.8                    | -4,637.2          | -157.9         | Projection to Bit (MD = 17305.0)                               |

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

HOBBS OCL  
JUN 11 2018  
RECEIVED



Lea County, NM (NAD 83 NME)

Ruby 2 State Com #604H

HP 462

Plan #3

PROJECT DETAILS: Lea County, NM (NAD 83 NME)

Geodetic System: US State Plane 1983  
Datum: North American Datum 1983  
Ellipsoid: GRS 1980  
Zone: New Mexico Eastern Zone  
System Datum: Mean Sea Level

WELL DETAILS: #604H

3294.0  
KB = 25' @ 3319.0usft (HP 462)  
Northing 393585.00 Easting 819294.00 Longitude 103° 26' 9.748 W  
Latitude 32° 4' 43.923 N

#### SECTION DETAILS

| Sec | MD      | Inc   | Azi    | TVD     | +N-S    | +E-W   | Dleg  | TFace   | VSeet  | Target                        |
|-----|---------|-------|--------|---------|---------|--------|-------|---------|--------|-------------------------------|
| 1   | 12211.0 | 6.24  | 280.11 | 12190.5 | 234.3   | -253.0 | 0.00  | 0.00    | -225.2 |                               |
| 2   | 12267.0 | 15.20 | 280.11 | 12245.4 | 236.1   | -263.3 | 15.99 | 0.00    | -226.7 |                               |
| 3   | 12642.7 | 91.66 | 170.97 | 12479.4 | 0.8     | -288.6 | 25.70 | -108.10 | 9.3    |                               |
| 4   | 13009.7 | 91.66 | 170.97 | 12468.7 | -361.5  | -231.0 | 0.00  | 0.00    | 369.4  |                               |
| 5   | 13305.1 | 89.10 | 179.45 | 12466.8 | -655.6  | -206.3 | 3.00  | 106.77  | 662.4  |                               |
| 6   | 13765.1 | 89.10 | 179.45 | 12474.0 | -1115.5 | -201.9 | 0.00  | 0.00    | 1121.9 | TGT1 (Ruby 2 State Com #604H) |
| 7   | 13771.7 | 89.23 | 179.45 | 12474.1 | -1122.1 | -201.8 | 2.00  | 0.30    | 1128.5 |                               |
| 8   | 15256.8 | 89.23 | 179.45 | 12494.0 | -2607.0 | -187.6 | 0.00  | 0.00    | 2612.0 | TGT2 (Ruby 2 State Com #604H) |
| 9   | 15258.9 | 89.19 | 179.45 | 12494.0 | -2609.1 | -187.6 | 2.00  | -178.66 | 2614.0 |                               |
| 10  | 16673.0 | 89.19 | 179.45 | 12514.0 | -4023.0 | -174.0 | 0.00  | 0.00    | 4026.6 | TGT3 (Ruby 2 State Com #604H) |
| 11  | 16674.1 | 89.21 | 179.45 | 12514.0 | -4024.1 | -174.0 | 2.00  | -3.73   | 4027.7 |                               |
| 12  | 17400.1 | 89.21 | 179.45 | 12524.0 | -4750.0 | -167.0 | 0.00  | 0.00    | 4752.9 | PBHL (Ruby 2 State Com #604H) |



Adjustments to Grid North  
True North: 4.65°  
Magnetic North: 4.34°  
Magnetic Field  
Strength: 47.00 Gauss  
Angle: 12.0000°  
Date: 05/01/2018

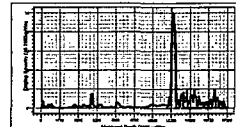
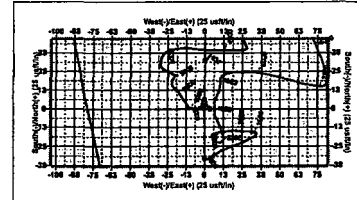
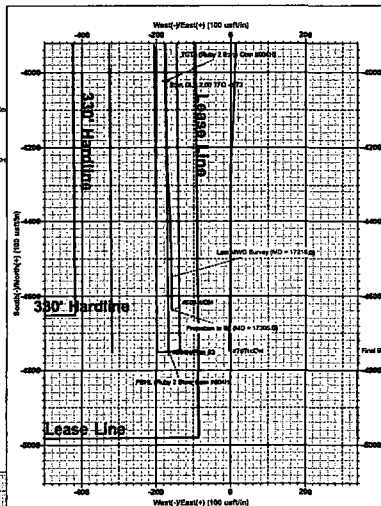
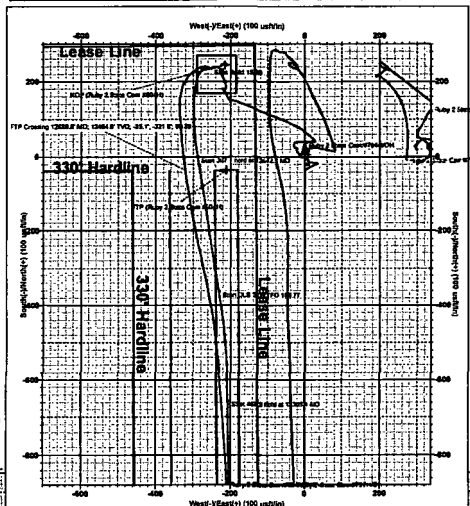
To convert a Magnetic Direction to a Grid Direction, Add 6.35°  
To convert a Magnetic Direction to a True Direction, Add 6.32° East  
To convert a True Direction to a Grid Direction, Subtract 0.45°

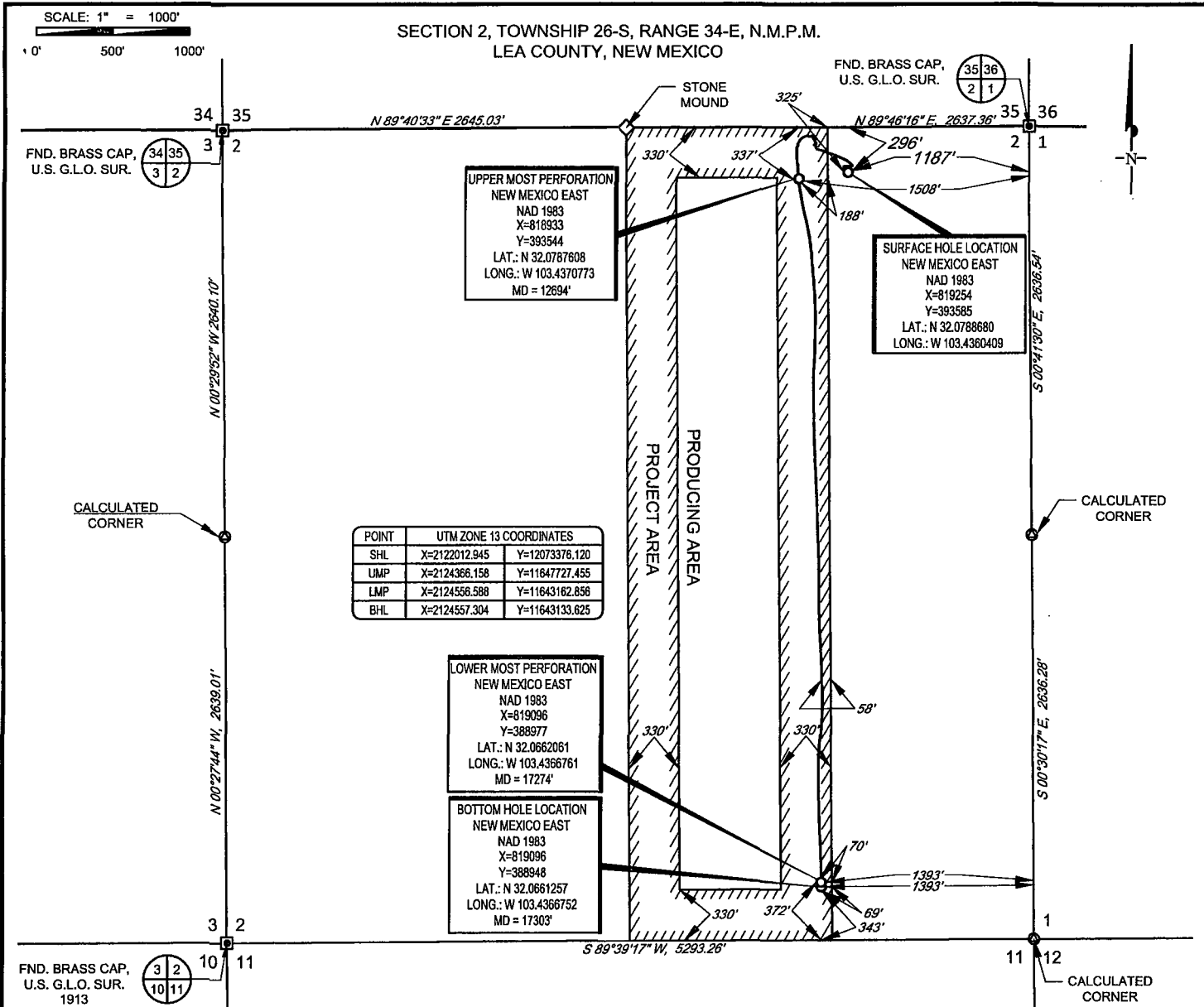
#### CASING DETAILS

No casing data is available

#### WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

| Name                          | TVD     | +N-S    | +E-W   | Northing  | Easting   |
|-------------------------------|---------|---------|--------|-----------|-----------|
| TGT1 (Ruby 2 State Com #604H) | 12474.0 | -1115.5 | -201.9 | 392469.26 | 819052.10 |
| TGT2 (Ruby 2 State Com #604H) | 12494.0 | -2607.0 | -187.6 | 389973.00 | 819066.40 |
| TGT3 (Ruby 2 State Com #604H) | 12514.0 | -4023.0 | -174.0 | 389562.00 | 819080.00 |
| PBHL (Ruby 2 State Com #604H) | 12524.0 | -4750.0 | -167.0 | 389335.00 | 819087.00 |
| FTP (Ruby 2 State Com #604H)  | 12468.0 | -34.0   | -212.0 | 393551.00 | 819042.00 |
| KOP (Ruby 2 State Com #604H)  | 11958.8 | 244.1   | -215.0 | 393829.11 | 819039.00 |



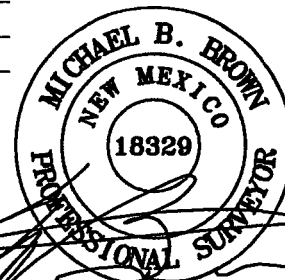


LEASE NAME & WELL NO.: RUBY 2 STATE COM #604H

SECTION 2 TWP 26-S RGE 34-E SURVEY N.M.P.M.

COUNTY LEA STATE NM ELEVATION 3294'

DESCRIPTION 296' FNL & 1187' FEL



Michael Blake Brown, P.S. No. 18329  
JUNE 4, 2018

**Geog resources, inc.**

**TOPOGRAPHIC**  
LOYALTY INNOVATION LEGACY  
1400 EVERMAN PARKWAY, Ste. 146 • FT. WORTH, TEXAS 76140  
TELEPHONE: (817) 744-7512 • FAX (817) 744-7554  
TEXAS FIRM REGISTRATION NO. 10042504  
WWW.TOPOGRAPHIC.COM

|                                                   |           |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------------------------------|-----------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>RUBY 2 STATE COM<br/>#604H<br/>AS-COMPLETE</b> | REVISION: |  | <b>NOTES:</b><br>1. ORIGINAL DOCUMENT SIZE: 8.5" X 11"<br>2. ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREIN ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM, EAST ZONE, U.S. SURVEY FEET, NORTH AMERICAN DATUM 1983.<br>3. THIS WELL LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY EOG RESOURCES, INC. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY. |
|                                                   |           |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                                                   |           |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                                                   |           |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                                                   |           |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| DATE: 06/04/18                                    |           |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| FILE: AD_RUBY2STATECOM_604H                       |           |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| DRAWN BY: IMU                                     |           |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| SHEET: 1 OF 1                                     |           |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |