

HOBBS OCD  
AUG 15 2016  
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## EOG Resources

Lea County, NM (NAD27 NME)

Thor 21

#706H

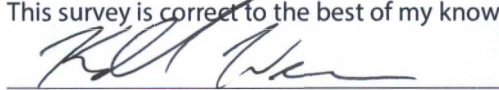
OH

Design: OH

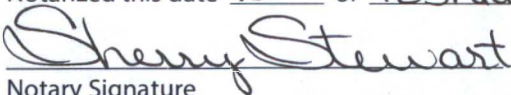
## Regulatory Report (Grid North)

11 February, 2016

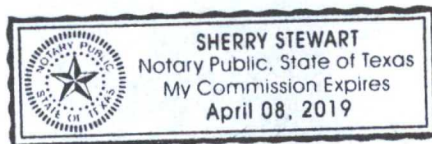
This survey is correct to the best of my knowledge and is supported by actual field data.



Notarized this date 12<sup>th</sup> of February, 2016.



Notary Signature  
County of Midland  
State of Texas



## Regulatory Report (Grid North)

|                  |                            |                                     |                                |
|------------------|----------------------------|-------------------------------------|--------------------------------|
| <b>Company:</b>  | EOG Resources              | <b>Local Co-ordinate Reference:</b> | Well #706H                     |
| <b>Project:</b>  | Lea County, NM (NAD27 NME) | <b>TVD Reference:</b>               | KB=25' @ 3283.00usft (H&P 260) |
| <b>Site:</b>     | Thor 21                    | <b>MD Reference:</b>                | KB=25' @ 3283.00usft (H&P 260) |
| <b>Well:</b>     | #706H                      | <b>North Reference:</b>             | Grid                           |
| <b>Wellbore:</b> | OH                         | <b>Survey Calculation Method:</b>   | Minimum Curvature              |
| <b>Design:</b>   | OH                         | <b>Database:</b>                    | Midland District               |

|                    |                                      |                      |                |
|--------------------|--------------------------------------|----------------------|----------------|
| <b>Project</b>     | Lea County, NM (NAD27 NME)           |                      |                |
| <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>                  | Thor 21   |                     |                 |                                    |
| <b>Site Position:</b>        |           | <b>Northing:</b>    | 373,150.00 usft | <b>Latitude:</b> 32° 1' 24.961 N   |
| <b>From:</b>                 | Map       | <b>Easting:</b>     | 736,878.00 usft | <b>Longitude:</b> 103° 34' 8.442 W |
| <b>Position Uncertainty:</b> | 0.00 usft | <b>Slot Radius:</b> | 13-3/16"        | <b>Grid Convergence:</b> 0.41 °    |

|                             |              |           |                            |                 |
|-----------------------------|--------------|-----------|----------------------------|-----------------|
| <b>Well</b>                 | #706H        |           |                            |                 |
| <b>Well Position</b>        | <b>+N/-S</b> | 0.00 usft | <b>Northing:</b>           | 373,180.00 usft |
|                             | <b>+E/-W</b> | 0.00 usft | <b>Easting:</b>            | 736,878.00 usft |
| <b>Position Uncertainty</b> |              | 0.00 usft | <b>Wellhead Elevation:</b> | 0.00 usft       |
|                             |              |           | <b>Ground Level:</b>       | 3,258.00 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          | 9/23/2015          | 7.13                   | 59.90                | 47,998                     |

|                          |                                |                     |                     |                            |
|--------------------------|--------------------------------|---------------------|---------------------|----------------------------|
| <b>Design</b>            | OH                             |                     |                     |                            |
| <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) (usft)</b> | <b>+N/-S (usft)</b> | <b>+E/-W (usft)</b> | <b>Direction (bearing)</b> |
|                          | 0.00                           | 0.00                | 0.00                | 353.95                     |

|                       |                  |                          |                  |                                  |
|-----------------------|------------------|--------------------------|------------------|----------------------------------|
| <b>Survey Program</b> | <b>Date</b>      | 10/15/2015               |                  |                                  |
| <b>From (usft)</b>    | <b>To (usft)</b> | <b>Survey (Wellbore)</b> | <b>Tool Name</b> | <b>Description</b>               |
| 100.00                | 915.00           | VES Gyro (OH)            | NS-GYRO-MS       | North sensing gyrocompassing m/s |
| 1,058.00              | 17,095.00        | SDI MWD #1 (OH)          | SDI-MWD          | MWD - Scientific Drilling        |

|                  |                |                              |                   |                   |                   |                                  |                                |      |
|------------------|----------------|------------------------------|-------------------|-------------------|-------------------|----------------------------------|--------------------------------|------|
| <b>Survey</b>    |                |                              |                   |                   |                   |                                  |                                |      |
| <b>MD (usft)</b> | <b>Inc (°)</b> | <b>Azi (grid_north_azim)</b> | <b>TVD (usft)</b> | <b>N/S (usft)</b> | <b>E/W (usft)</b> | <b>Closure Azimuth (bearing)</b> | <b>Closure Distance (usft)</b> |      |
| 0.00             | 0.00           | 0.00                         | 0.00              | 0.00              | 0.00              | 0.00                             | 0.00                           | 0.00 |
| 100.00           | 0.54           | 36.45                        | 100.00            | 0.38              | 0.28              | 36.45                            | 0.47                           |      |
| 200.00           | 0.68           | 47.78                        | 199.99            | 1.16              | 1.00              | 40.82                            | 1.53                           |      |
| 300.00           | 0.84           | 64.30                        | 299.98            | 1.87              | 2.10              | 48.25                            | 2.81                           |      |
| 400.00           | 0.78           | 58.26                        | 399.97            | 2.55              | 3.34              | 52.63                            | 4.20                           |      |
| 500.00           | 0.70           | 86.09                        | 499.97            | 2.95              | 4.53              | 56.92                            | 5.40                           |      |
| 600.00           | 0.84           | 118.75                       | 599.96            | 2.64              | 5.78              | 65.46                            | 6.35                           |      |
| 700.00           | 1.36           | 108.18                       | 699.94            | 1.92              | 7.55              | 75.76                            | 7.79                           |      |
| 800.00           | 1.52           | 109.54                       | 799.91            | 1.10              | 9.93              | 83.67                            | 9.99                           |      |
| 850.00           | 1.43           | 111.24                       | 849.89            | 0.65              | 11.13             | 86.64                            | 11.15                          |      |
| 915.00           | 1.46           | 120.64                       | 914.87            | -0.06             | 12.60             | 90.28                            | 12.60                          |      |



## Regulatory Report (Grid North)

|                  |                            |                                     |                                |
|------------------|----------------------------|-------------------------------------|--------------------------------|
| <b>Company:</b>  | EOG Resources              | <b>Local Co-ordinate Reference:</b> | Well #706H                     |
| <b>Project:</b>  | Lea County, NM (NAD27 NME) | <b>TVD Reference:</b>               | KB=25' @ 3283.00usft (H&P 260) |
| <b>Site:</b>     | Thor 21                    | <b>MD Reference:</b>                | KB=25' @ 3283.00usft (H&P 260) |
| <b>Well:</b>     | #706H                      | <b>North Reference:</b>             | Grid                           |
| <b>Wellbore:</b> | OH                         | <b>Survey Calculation Method:</b>   | Minimum Curvature              |
| <b>Design:</b>   | OH                         | <b>Database:</b>                    | Midland District               |

| Survey       |            |                          |               |               |               |                              |                            |
|--------------|------------|--------------------------|---------------|---------------|---------------|------------------------------|----------------------------|
| MD<br>(usft) | Inc<br>(°) | Azi<br>(grid_north_azim) | TVD<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | Closure Azimuth<br>(bearing) | Closure Distance<br>(usft) |
| 1,058.00     | 1.85       | 124.26                   | 1,057.81      | -2.29         | 16.08         | 98.11                        | 16.24                      |
| 1,153.00     | 0.84       | 171.55                   | 1,152.79      | -3.84         | 17.45         | 102.42                       | 17.86                      |
| 1,248.00     | 1.47       | 250.63                   | 1,247.77      | -4.94         | 16.40         | 106.75                       | 17.13                      |
| 1,343.00     | 3.11       | 243.16                   | 1,342.69      | -6.50         | 12.95         | 116.66                       | 14.49                      |
| 1,437.00     | 4.26       | 241.65                   | 1,436.50      | -9.31         | 7.60          | 140.77                       | 12.02                      |
| 1,532.00     | 5.64       | 247.27                   | 1,531.14      | -12.79        | 0.19          | 179.15                       | 12.79                      |
| 1,627.00     | 5.88       | 246.59                   | 1,625.66      | -16.53        | -8.58         | 207.44                       | 18.62                      |
| 1,722.00     | 6.06       | 244.42                   | 1,720.14      | -20.63        | -17.57        | 220.42                       | 27.10                      |
| 1,816.00     | 6.08       | 236.68                   | 1,813.62      | -25.50        | -26.20        | 225.78                       | 36.57                      |
| 1,911.00     | 5.45       | 229.79                   | 1,908.14      | -31.18        | -33.85        | 227.35                       | 46.03                      |
| 2,006.00     | 6.15       | 225.91                   | 2,002.65      | -37.63        | -40.95        | 227.42                       | 55.62                      |
| 2,101.00     | 6.74       | 219.78                   | 2,097.05      | -45.46        | -48.18        | 226.66                       | 66.24                      |
| 2,195.00     | 7.39       | 211.26                   | 2,190.34      | -54.87        | -54.84        | 224.99                       | 77.58                      |
| 2,385.00     | 7.69       | 208.12                   | 2,378.70      | -76.52        | -67.18        | 221.28                       | 101.83                     |
| 2,480.00     | 7.66       | 207.64                   | 2,472.85      | -87.74        | -73.11        | 219.80                       | 114.21                     |
| 2,574.00     | 7.62       | 208.46                   | 2,566.01      | -98.77        | -78.99        | 218.65                       | 126.47                     |
| 2,669.00     | 7.25       | 208.67                   | 2,660.21      | -109.56       | -84.86        | 217.76                       | 138.59                     |
| 2,764.00     | 7.00       | 208.39                   | 2,754.48      | -119.92       | -90.49        | 217.04                       | 150.23                     |
| 2,858.00     | 7.60       | 204.48                   | 2,847.72      | -130.61       | -95.79        | 216.26                       | 161.97                     |
| 2,953.00     | 8.03       | 203.46                   | 2,941.84      | -142.42       | -101.03       | 215.35                       | 174.62                     |
| 3,048.00     | 7.88       | 202.89                   | 3,035.92      | -154.50       | -106.21       | 214.51                       | 187.49                     |
| 3,142.00     | 7.68       | 201.50                   | 3,129.06      | -166.28       | -111.02       | 213.73                       | 199.94                     |
| 3,237.00     | 7.10       | 202.49                   | 3,223.27      | -177.61       | -115.59       | 213.06                       | 211.91                     |
| 3,332.00     | 6.82       | 202.21                   | 3,317.57      | -188.26       | -119.97       | 212.51                       | 223.24                     |
| 3,426.00     | 7.90       | 202.63                   | 3,410.79      | -199.39       | -124.56       | 211.99                       | 235.10                     |
| 3,521.00     | 7.64       | 200.50                   | 3,504.92      | -211.33       | -129.29       | 211.46                       | 247.74                     |
| 3,616.00     | 6.90       | 193.54                   | 3,599.16      | -222.80       | -132.84       | 210.80                       | 259.39                     |
| 3,711.00     | 6.63       | 188.34                   | 3,693.50      | -233.77       | -134.97       | 210.00                       | 269.93                     |
| 3,805.00     | 6.87       | 197.34                   | 3,786.85      | -244.51       | -137.43       | 209.34                       | 280.48                     |
| 3,900.00     | 6.60       | 197.36                   | 3,881.19      | -255.14       | -140.75       | 208.88                       | 291.39                     |
| 3,995.00     | 7.31       | 202.47                   | 3,975.49      | -265.94       | -144.69       | 208.55                       | 302.75                     |
| 4,090.00     | 7.13       | 204.76                   | 4,069.74      | -276.87       | -149.47       | 208.36                       | 314.64                     |
| 4,184.00     | 7.61       | 208.25                   | 4,162.96      | -287.66       | -154.86       | 208.30                       | 326.69                     |
| 4,279.00     | 7.20       | 204.91                   | 4,257.17      | -298.60       | -160.34       | 208.24                       | 338.92                     |
| 4,374.00     | 6.72       | 201.86                   | 4,351.47      | -309.15       | -164.92       | 208.08                       | 350.39                     |
| 4,469.00     | 6.84       | 199.80                   | 4,445.81      | -319.64       | -168.91       | 207.85                       | 361.52                     |
| 4,564.00     | 7.45       | 201.07                   | 4,540.07      | -330.71       | -173.04       | 207.62                       | 373.24                     |
| 4,658.00     | 7.60       | 201.00                   | 4,633.26      | -342.20       | -177.46       | 207.41                       | 385.47                     |
| 4,753.00     | 8.12       | 204.78                   | 4,727.37      | -354.15       | -182.52       | 207.27                       | 398.42                     |
| 4,848.00     | 8.11       | 218.60                   | 4,821.43      | -365.48       | -189.51       | 207.41                       | 411.69                     |
| 4,943.00     | 7.28       | 221.25                   | 4,915.57      | -375.24       | -197.66       | 207.78                       | 424.12                     |
| 5,037.00     | 6.78       | 221.22                   | 5,008.86      | -383.90       | -205.25       | 208.13                       | 435.32                     |
| 5,132.00     | 6.87       | 221.43                   | 5,103.19      | -392.37       | -212.70       | 208.46                       | 446.32                     |
| 5,227.00     | 7.46       | 218.91                   | 5,197.45      | -401.43       | -220.33       | 208.76                       | 457.92                     |

## Regulatory Report (Grid North)

Company: EOG Resources  
 Project: Lea County, NM (NAD27 NME)  
 Site: Thor 21  
 Well: #706H  
 Wellbore: OH  
 Design: OH

Local Co-ordinate Reference:  
 TVD Reference:  
 MD Reference:  
 North Reference:  
 Survey Calculation Method:  
 Database:

Well #706H  
 KB=25' @ 3283.00usft (H&P 260)  
 KB=25' @ 3283.00usft (H&P 260)  
 Grid  
 Minimum Curvature  
 Midland District

## Survey

| MD<br>(usft) | Inc<br>(°) | Azi<br>(grid_north_azim) | TVD<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | Closure Azimuth<br>(bearing) | Closure Distance<br>(usft) |
|--------------|------------|--------------------------|---------------|---------------|---------------|------------------------------|----------------------------|
| 5,322.00     | 7.18       | 219.08                   | 5,291.67      | -410.84       | -227.95       | 209.02                       | 469.84                     |
| 5,417.00     | 6.84       | 219.13                   | 5,385.96      | -419.84       | -235.26       | 209.26                       | 481.26                     |
| 5,511.00     | 6.86       | 213.01                   | 5,479.29      | -428.89       | -241.85       | 209.42                       | 492.38                     |
| 5,606.00     | 6.58       | 209.91                   | 5,573.64      | -438.36       | -247.66       | 209.46                       | 503.48                     |
| 5,701.00     | 7.43       | 216.60                   | 5,667.93      | -448.01       | -254.04       | 209.55                       | 515.02                     |
| 5,796.00     | 7.68       | 216.43                   | 5,762.11      | -458.05       | -261.47       | 209.72                       | 527.42                     |
| 5,890.00     | 7.28       | 214.34                   | 5,855.31      | -468.02       | -268.56       | 209.85                       | 539.60                     |
| 5,985.00     | 6.90       | 213.74                   | 5,949.58      | -477.74       | -275.12       | 209.94                       | 551.29                     |
| 6,080.00     | 6.81       | 211.91                   | 6,043.90      | -487.26       | -281.27       | 210.00                       | 562.62                     |
| 6,174.00     | 6.64       | 210.95                   | 6,137.26      | -496.66       | -287.01       | 210.02                       | 573.62                     |
| 6,269.00     | 6.51       | 209.70                   | 6,231.63      | -506.04       | -292.50       | 210.03                       | 584.50                     |
| 6,364.00     | 6.23       | 211.30                   | 6,326.04      | -515.13       | -297.85       | 210.04                       | 595.04                     |
| 6,458.00     | 6.51       | 209.40                   | 6,419.46      | -524.13       | -303.11       | 210.04                       | 605.47                     |
| 6,553.00     | 6.62       | 210.87                   | 6,513.84      | -533.52       | -308.57       | 210.04                       | 616.33                     |
| 6,648.00     | 6.28       | 213.48                   | 6,608.24      | -542.55       | -314.24       | 210.08                       | 626.99                     |
| 6,742.00     | 6.05       | 209.98                   | 6,701.70      | -551.13       | -319.56       | 210.11                       | 637.07                     |
| 6,837.00     | 6.37       | 215.51                   | 6,796.14      | -559.76       | -325.12       | 210.15                       | 647.33                     |
| 6,932.00     | 6.49       | 216.70                   | 6,890.54      | -568.35       | -331.39       | 210.25                       | 657.91                     |
| 7,027.00     | 5.94       | 214.48                   | 6,984.98      | -576.71       | -337.38       | 210.33                       | 668.15                     |
| 7,121.00     | 6.35       | 209.81                   | 7,078.44      | -585.23       | -342.72       | 210.35                       | 678.20                     |
| 7,216.00     | 6.29       | 209.46                   | 7,172.87      | -594.32       | -347.89       | 210.34                       | 688.65                     |
| 7,311.00     | 6.05       | 206.91                   | 7,267.32      | -603.32       | -352.71       | 210.31                       | 698.85                     |
| 7,406.00     | 5.75       | 207.06                   | 7,361.81      | -612.02       | -357.14       | 210.27                       | 708.60                     |
| 7,500.00     | 5.62       | 206.20                   | 7,455.35      | -620.34       | -361.32       | 210.22                       | 717.90                     |
| 7,595.00     | 4.95       | 205.26                   | 7,549.95      | -628.22       | -365.12       | 210.17                       | 726.62                     |
| 7,721.00     | 4.30       | 205.36                   | 7,675.53      | -637.41       | -369.46       | 210.10                       | 736.74                     |
| 7,877.00     | 3.69       | 210.35                   | 7,831.16      | -647.02       | -374.51       | 210.06                       | 747.59                     |
| 7,972.00     | 3.40       | 206.32                   | 7,925.97      | -652.19       | -377.30       | 210.05                       | 753.46                     |
| 8,066.00     | 3.33       | 204.26                   | 8,019.81      | -657.17       | -379.66       | 210.02                       | 758.96                     |
| 8,161.00     | 3.01       | 205.40                   | 8,114.67      | -661.94       | -381.86       | 209.98                       | 764.19                     |
| 8,351.00     | 2.73       | 202.45                   | 8,304.43      | -670.63       | -385.73       | 209.91                       | 773.65                     |
| 8,445.00     | 3.96       | 205.59                   | 8,398.27      | -675.63       | -387.99       | 209.87                       | 779.11                     |
| 8,540.00     | 4.18       | 204.61                   | 8,493.03      | -681.73       | -390.84       | 209.83                       | 785.82                     |
| 8,635.00     | 3.84       | 204.08                   | 8,587.79      | -687.79       | -393.58       | 209.78                       | 792.44                     |
| 8,729.00     | 3.84       | 197.75                   | 8,681.58      | -693.66       | -395.83       | 209.71                       | 798.65                     |
| 8,824.00     | 3.65       | 197.45                   | 8,776.38      | -699.57       | -397.70       | 209.62                       | 804.72                     |
| 8,919.00     | 3.43       | 202.74                   | 8,871.20      | -705.08       | -399.71       | 209.55                       | 810.49                     |
| 9,014.00     | 3.12       | 199.31                   | 8,966.04      | -710.14       | -401.66       | 209.49                       | 815.86                     |
| 9,108.00     | 2.80       | 196.03                   | 9,059.92      | -714.76       | -403.14       | 209.42                       | 820.61                     |
| 9,203.00     | 2.67       | 193.21                   | 9,154.81      | -719.14       | -404.29       | 209.34                       | 825.00                     |
| 9,298.00     | 1.91       | 188.95                   | 9,249.73      | -722.86       | -405.04       | 209.26                       | 828.61                     |
| 9,393.00     | 1.72       | 178.50                   | 9,344.69      | -725.85       | -405.25       | 209.18                       | 831.32                     |
| 9,487.00     | 1.24       | 175.70                   | 9,438.65      | -728.27       | -405.14       | 209.09                       | 833.38                     |
| 9,582.00     | 1.33       | 182.97                   | 9,533.63      | -730.40       | -405.12       | 209.01                       | 835.23                     |
| 9,677.00     | 0.39       | 167.58                   | 9,628.62      | -731.82       | -405.10       | 208.97                       | 836.46                     |



## Regulatory Report (Grid North)

|                  |                            |                                     |                                |
|------------------|----------------------------|-------------------------------------|--------------------------------|
| <b>Company:</b>  | EOG Resources              | <b>Local Co-ordinate Reference:</b> | Well #706H                     |
| <b>Project:</b>  | Lea County, NM (NAD27 NME) | <b>TVD Reference:</b>               | KB=25' @ 3283.00usft (H&P 260) |
| <b>Site:</b>     | Thor 21                    | <b>MD Reference:</b>                | KB=25' @ 3283.00usft (H&P 260) |
| <b>Well:</b>     | #706H                      | <b>North Reference:</b>             | Grid                           |
| <b>Wellbore:</b> | OH                         | <b>Survey Calculation Method:</b>   | Minimum Curvature              |
| <b>Design:</b>   | OH                         | <b>Database:</b>                    | Midland District               |

| Survey             |            |                          |               |               |               |                              |                            |  |
|--------------------|------------|--------------------------|---------------|---------------|---------------|------------------------------|----------------------------|--|
| MD<br>(usft)       | Inc<br>(°) | Azi<br>(grid_north_azim) | TVD<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | Closure Azimuth<br>(bearing) | Closure Distance<br>(usft) |  |
| 9,772.00           | 0.40       | 229.73                   | 9,723.62      | -732.35       | -405.29       | 208.96                       | 837.01                     |  |
| 9,866.00           | 0.67       | 279.24                   | 9,817.61      | -732.47       | -406.08       | 209.00                       | 837.51                     |  |
| 9,961.00           | 0.92       | 265.84                   | 9,912.60      | -732.44       | -407.39       | 209.08                       | 838.11                     |  |
| 10,056.00          | 2.01       | 280.52                   | 10,007.57     | -732.19       | -409.79       | 209.23                       | 839.06                     |  |
| 10,151.00          | 2.33       | 281.17                   | 10,102.50     | -731.51       | -413.32       | 209.47                       | 840.20                     |  |
| 10,245.00          | 2.19       | 277.11                   | 10,196.43     | -730.92       | -416.98       | 209.70                       | 841.49                     |  |
| 10,340.00          | 1.90       | 259.04                   | 10,291.37     | -730.99       | -420.33       | 209.90                       | 843.22                     |  |
| 10,435.00          | 1.57       | 267.48                   | 10,386.33     | -731.35       | -423.17       | 210.05                       | 844.95                     |  |
| 10,529.00          | 1.74       | 278.67                   | 10,480.29     | -731.19       | -425.87       | 210.22                       | 846.17                     |  |
| 10,624.00          | 1.81       | 266.19                   | 10,575.24     | -731.07       | -428.79       | 210.39                       | 847.54                     |  |
| 10,719.00          | 1.55       | 258.00                   | 10,670.20     | -731.44       | -431.55       | 210.54                       | 849.26                     |  |
| 10,760.00          | 1.85       | 254.39                   | 10,711.18     | -731.73       | -432.73       | 210.60                       | 850.11                     |  |
| 10,851.00          | 0.95       | 291.64                   | 10,802.16     | -731.85       | -434.84       | 210.72                       | 851.29                     |  |
| 10,945.00          | 0.81       | 251.39                   | 10,896.15     | -731.78       | -436.20       | 210.80                       | 851.92                     |  |
| 11,039.00          | 0.05       | 329.18                   | 10,990.14     | -731.95       | -436.85       | 210.83                       | 852.40                     |  |
| 11,132.00          | 1.37       | 22.66                    | 11,083.14     | -730.89       | -436.44       | 210.84                       | 851.28                     |  |
| 11,227.00          | 1.68       | 38.22                    | 11,178.10     | -728.75       | -435.14       | 210.84                       | 848.78                     |  |
| 11,321.00          | 1.75       | 53.24                    | 11,272.06     | -726.81       | -433.14       | 210.79                       | 846.08                     |  |
| 11,415.00          | 2.39       | 49.79                    | 11,366.00     | -724.68       | -430.49       | 210.71                       | 842.90                     |  |
| 11,509.00          | 1.02       | 72.44                    | 11,459.96     | -723.17       | -428.20       | 210.63                       | 840.43                     |  |
| 11,603.00          | 1.01       | 73.64                    | 11,553.94     | -722.68       | -426.60       | 210.55                       | 839.20                     |  |
| 11,697.00          | 1.44       | 64.58                    | 11,647.92     | -721.94       | -424.74       | 210.47                       | 837.62                     |  |
| 11,760.00          | 1.35       | 88.65                    | 11,710.90     | -721.58       | -423.28       | 210.40                       | 836.57                     |  |
| 11,792.00          | 1.65       | 76.68                    | 11,742.89     | -721.47       | -422.46       | 210.35                       | 836.05                     |  |
| 11,885.00          | 9.93       | 14.01                    | 11,835.38     | -713.36       | -419.21       | 210.44                       | 827.42                     |  |
| 11,932.00          | 17.40      | 8.15                     | 11,881.02     | -702.46       | -417.23       | 210.71                       | 817.02                     |  |
| 11,979.00          | 23.42      | 4.06                     | 11,925.05     | -686.17       | -415.57       | 211.20                       | 802.20                     |  |
| 12,073.00          | 34.53      | 2.01                     | 12,007.16     | -640.76       | -413.30       | 212.82                       | 762.50                     |  |
| 12,120.00          | 41.00      | 359.27                   | 12,044.29     | -612.00       | -413.03       | 214.01                       | 738.34                     |  |
| 12,168.00          | 44.39      | 357.89                   | 12,079.57     | -579.47       | -413.85       | 215.53                       | 712.08                     |  |
| 12,215.00          | 52.19      | 355.97                   | 12,110.82     | -544.47       | -415.77       | 217.37                       | 685.06                     |  |
| 12,261.00          | 58.16      | 357.52                   | 12,137.08     | -506.78       | -417.89       | 219.51                       | 656.86                     |  |
| 12,308.00          | 61.25      | 359.28                   | 12,160.78     | -466.23       | -419.01       | 221.95                       | 626.85                     |  |
| 12,356.00          | 67.28      | 358.94                   | 12,181.62     | -423.01       | -419.69       | 224.77                       | 595.88                     |  |
| 12,373.12          | 67.93      | 359.69                   | 12,188.14     | -407.19       | -419.88       | 225.88                       | 584.89                     |  |
| FTP(Thor 21 #706H) |            |                          |               |               |               |                              |                            |  |
| 12,402.00          | 69.03      | 0.93                     | 12,198.73     | -380.32       | -419.73       | 227.82                       | 566.41                     |  |
| 12,449.00          | 70.58      | 3.15                     | 12,214.96     | -336.24       | -418.16       | 231.20                       | 536.58                     |  |
| 12,496.00          | 73.39      | 3.30                     | 12,229.49     | -291.62       | -415.64       | 234.95                       | 507.74                     |  |
| 12,543.00          | 80.67      | 0.60                     | 12,240.04     | -245.88       | -414.10       | 239.30                       | 481.60                     |  |
| 12,575.00          | 85.40      | 357.96                   | 12,243.92     | -214.13       | -414.50       | 242.68                       | 466.55                     |  |
| 12,669.00          | 87.48      | 358.08                   | 12,249.75     | -120.38       | -417.75       | 253.93                       | 434.74                     |  |
| 12,764.00          | 88.72      | 356.15                   | 12,252.90     | -25.55        | -422.52       | 266.54                       | 423.30                     |  |
| 12,858.00          | 92.05      | 355.77                   | 12,252.27     | 68.20         | -429.15       | 279.03                       | 434.53                     |  |

## Regulatory Report (Grid North)

|                  |                            |                                     |                                |
|------------------|----------------------------|-------------------------------------|--------------------------------|
| <b>Company:</b>  | EOG Resources              | <b>Local Co-ordinate Reference:</b> | Well #706H                     |
| <b>Project:</b>  | Lea County, NM (NAD27 NME) | <b>TVD Reference:</b>               | KB=25' @ 3283.00usft (H&P 260) |
| <b>Site:</b>     | Thor 21                    | <b>MD Reference:</b>                | KB=25' @ 3283.00usft (H&P 260) |
| <b>Well:</b>     | #706H                      | <b>North Reference:</b>             | Grid                           |
| <b>Wellbore:</b> | OH                         | <b>Survey Calculation Method:</b>   | Minimum Curvature              |
| <b>Design:</b>   | OH                         | <b>Database:</b>                    | Midland District               |

| Survey               |            |                          |               |               |               |                              |                            |  |
|----------------------|------------|--------------------------|---------------|---------------|---------------|------------------------------|----------------------------|--|
| MD<br>(usft)         | Inc<br>(°) | Azi<br>(grid_north_azim) | TVD<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | Closure Azimuth<br>(bearing) | Closure Distance<br>(usft) |  |
| 12,952.00            | 92.65      | 357.43                   | 12,248.42     | 161.95        | -434.72       | 290.43                       | 463.90                     |  |
| 13,046.00            | 92.48      | 0.10                     | 12,244.21     | 255.82        | -436.74       | 300.36                       | 506.15                     |  |
| 13,140.00            | 90.23      | 2.29                     | 12,241.99     | 349.77        | -434.78       | 308.82                       | 558.00                     |  |
| 13,234.00            | 90.00      | 2.69                     | 12,241.80     | 443.68        | -430.70       | 315.85                       | 618.34                     |  |
| 13,328.00            | 89.90      | 3.85                     | 12,241.88     | 537.52        | -425.33       | 321.65                       | 685.45                     |  |
| 13,422.00            | 88.63      | 1.56                     | 12,243.09     | 631.40        | -420.90       | 326.31                       | 758.83                     |  |
| 13,515.00            | 91.88      | 1.07                     | 12,242.67     | 724.36        | -418.76       | 329.97                       | 836.70                     |  |
| 13,610.00            | 91.94      | 1.04                     | 12,239.51     | 819.29        | -417.02       | 333.02                       | 919.32                     |  |
| 13,704.00            | 90.50      | 359.72                   | 12,237.50     | 913.27        | -416.39       | 335.49                       | 1,003.71                   |  |
| 13,799.00            | 91.11      | 359.25                   | 12,236.17     | 1,008.25      | -417.25       | 337.52                       | 1,091.18                   |  |
| 13,893.00            | 91.61      | 0.06                     | 12,233.94     | 1,102.22      | -417.81       | 339.24                       | 1,178.75                   |  |
| 13,987.00            | 90.87      | 0.47                     | 12,231.90     | 1,196.20      | -417.38       | 340.77                       | 1,266.92                   |  |
| 14,081.00            | 92.11      | 1.25                     | 12,229.46     | 1,290.15      | -415.97       | 342.13                       | 1,355.55                   |  |
| 14,152.35            | 90.96      | 359.97                   | 12,227.55     | 1,361.48      | -415.21       | 343.04                       | 1,423.38                   |  |
| TGT#1(Thor 21 #706H) |            |                          |               |               |               |                              |                            |  |
| 14,175.00            | 90.60      | 359.57                   | 12,227.24     | 1,384.12      | -415.30       | 343.30                       | 1,445.08                   |  |
| 14,269.00            | 90.47      | 359.41                   | 12,226.36     | 1,478.11      | -416.13       | 344.28                       | 1,535.57                   |  |
| 14,363.00            | 91.75      | 0.77                     | 12,224.54     | 1,572.09      | -415.98       | 345.18                       | 1,626.19                   |  |
| 14,457.00            | 91.78      | 1.01                     | 12,221.64     | 1,666.03      | -414.53       | 346.03                       | 1,716.83                   |  |
| 14,551.00            | 90.34      | 359.29                   | 12,219.90     | 1,760.01      | -414.28       | 346.75                       | 1,808.11                   |  |
| 14,646.00            | 91.55      | 359.97                   | 12,218.34     | 1,854.99      | -414.89       | 347.39                       | 1,900.83                   |  |
| 14,740.00            | 90.70      | 359.46                   | 12,216.49     | 1,948.97      | -415.36       | 347.97                       | 1,992.74                   |  |
| 14,835.00            | 90.77      | 359.99                   | 12,215.27     | 2,043.96      | -415.82       | 348.50                       | 2,085.83                   |  |
| 14,929.00            | 92.95      | 1.69                     | 12,212.22     | 2,137.90      | -414.44       | 349.03                       | 2,177.70                   |  |
| 15,023.00            | 89.26      | 358.87                   | 12,210.41     | 2,231.85      | -413.98       | 349.49                       | 2,269.92                   |  |
| 15,117.00            | 89.13      | 357.29                   | 12,211.73     | 2,325.79      | -417.13       | 349.83                       | 2,362.90                   |  |
| 15,211.00            | 91.24      | 355.14                   | 12,211.43     | 2,419.57      | -423.34       | 350.08                       | 2,456.32                   |  |
| 15,305.00            | 94.17      | 356.81                   | 12,206.99     | 2,513.22      | -429.93       | 350.29                       | 2,549.73                   |  |
| 15,399.00            | 91.31      | 357.70                   | 12,202.50     | 2,606.99      | -434.42       | 350.54                       | 2,642.94                   |  |
| 15,493.00            | 91.74      | 358.85                   | 12,200.00     | 2,700.92      | -437.25       | 350.80                       | 2,736.08                   |  |
| 15,588.00            | 91.38      | 359.87                   | 12,197.41     | 2,795.87      | -438.31       | 351.09                       | 2,830.02                   |  |
| 15,682.00            | 90.30      | 0.58                     | 12,196.03     | 2,889.86      | -437.94       | 351.38                       | 2,922.86                   |  |
| 15,761.74            | 92.63      | 359.84                   | 12,193.99     | 2,969.57      | -437.65       | 351.62                       | 3,001.64                   |  |
| TGT#2(Thor 21 #706H) |            |                          |               |               |               |                              |                            |  |
| 15,776.00            | 93.05      | 359.71                   | 12,193.28     | 2,983.81      | -437.70       | 351.65                       | 3,015.74                   |  |
| 15,870.00            | 89.83      | 357.77                   | 12,190.92     | 3,077.74      | -439.77       | 351.87                       | 3,109.00                   |  |
| 15,965.00            | 95.62      | 359.07                   | 12,186.41     | 3,172.56      | -442.39       | 352.06                       | 3,203.25                   |  |
| 16,059.00            | 94.90      | 0.24                     | 12,177.79     | 3,266.16      | -442.95       | 352.28                       | 3,296.06                   |  |
| 16,153.00            | 93.42      | 2.06                     | 12,170.97     | 3,359.88      | -441.07       | 352.52                       | 3,388.71                   |  |
| 16,247.00            | 91.78      | 2.65                     | 12,166.71     | 3,453.70      | -437.21       | 352.79                       | 3,481.27                   |  |
| 16,342.00            | 92.96      | 3.89                     | 12,162.78     | 3,548.46      | -431.80       | 353.06                       | 3,574.64                   |  |
| 16,437.00            | 88.86      | 2.00                     | 12,161.27     | 3,643.30      | -426.92       | 353.32                       | 3,668.23                   |  |
| 16,531.00            | 86.75      | 358.89                   | 12,164.87     | 3,737.21      | -426.19       | 353.49                       | 3,761.44                   |  |
| 16,625.00            | 89.46      | 356.98                   | 12,167.98     | 3,831.09      | -429.57       | 353.60                       | 3,855.10                   |  |



## Regulatory Report (Grid North)

**Company:** EOG Resources  
**Project:** Lea County, NM (NAD27 NME)  
**Site:** Thor 21  
**Well:** #706H  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well #706H  
**TVD Reference:** KB=25' @ 3283.00usft (H&P 260)  
**MD Reference:** KB=25' @ 3283.00usft (H&P 260)  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature  
**Database:** Midland District

## Survey

| MD<br>(usft)                                | Inc<br>(°) | Azi<br>(grid_north_azim) | TVD<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | Closure Azimuth<br>(bearing) | Closure Distance<br>(usft) |
|---------------------------------------------|------------|--------------------------|---------------|---------------|---------------|------------------------------|----------------------------|
| 16,719.00                                   | 91.81      | 356.86                   | 12,166.94     | 3,924.94      | -434.62       | 353.68                       | 3,948.93                   |
| 16,814.00                                   | 92.55      | 358.06                   | 12,163.32     | 4,019.77      | -438.83       | 353.77                       | 4,043.66                   |
| 16,908.00                                   | 92.59      | 358.00                   | 12,159.11     | 4,113.62      | -442.06       | 353.87                       | 4,137.31                   |
| 17,002.00                                   | 92.38      | 358.19                   | 12,155.03     | 4,207.48      | -445.18       | 353.96                       | 4,230.97                   |
| <b>Final MWD Survey (MD= 17002')</b>        |            |                          |               |               |               |                              |                            |
| 17,079.40                                   | 92.38      | 358.19                   | 12,151.82     | 4,284.78      | -447.62       | 354.04                       | 4,308.10                   |
| <b>PBHL(Thor 21 #706H)</b>                  |            |                          |               |               |               |                              |                            |
| 17,095.00                                   | 92.38      | 358.19                   | 12,151.17     | 4,300.36      | -448.12       | 354.05                       | 4,323.64                   |
| <b>Final Projection to Bit (MD= 17095')</b> |            |                          |               |               |               |                              |                            |

## Design Annotations

| Measured<br>Depth<br>(usft) | Vertical<br>Depth<br>(usft) | Local Coordinates |                 | Comment                              |
|-----------------------------|-----------------------------|-------------------|-----------------|--------------------------------------|
|                             |                             | +N/-S<br>(usft)   | +E/-W<br>(usft) |                                      |
| 17,002.00                   | 12,155.03                   | 4,207.48          | -445.18         | Final MWD Survey (MD= 17002')        |
| 17,095.00                   | 12,151.17                   | 4,300.36          | -448.12         | Final Projection to Bit (MD= 17095') |

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_



Thor 21 #706H  
Lea County, NM (NAD27 NME)  
Northing: (Y) 373180.00  
Easting: (X) 736878.00  
Plan #3



Azimuth to Grid North  
True North -0.41°  
Magnetic North 6.72°  
Magnetic Field  
Strength 47668.1 nT  
Dip Angle 59.90°  
Date 9/23/2015  
Model IGRF2015

To convert Magnetic North to Grid, Add 6.72°  
To convert True North to Grid, Subtract 0.41°

| WELL DETAILS: |       |                       |           |                 |                  |
|---------------|-------|-----------------------|-----------|-----------------|------------------|
|               |       | Ground Level: 3258.00 |           |                 |                  |
| +N/-S         | +E/-W | Northing              | Easting   | Latitude        | Longitude        |
| 0.00          | 0.00  | 373180.00             | 736878.00 | 32° 1' 25.258 N | 103° 34' 8.440 W |

| SECTION DETAILS |       |        |          |         |         |           |        |                      |  |
|-----------------|-------|--------|----------|---------|---------|-----------|--------|----------------------|--|
| MD              | Inc   | As     | TVD      | +N/-S   | +E/-W   | Dog TFace | VSet   | Target               |  |
| 0.00            | 0.00  | 0.00   | 0.00     | 0.00    | 0.00    | 0.00      | 0.00   |                      |  |
| 1100.00         | 0.00  | 0.00   | 1100.00  | 0.00    | 0.00    | 0.00      | 0.00   |                      |  |
| 1850.24         | 5.50  | 210.30 | 1850.38  | -23.54  | -13.78  | 1.00      | 210.30 |                      |  |
| 8763.27         | 5.80  | 210.30 | 8773.82  | -705.13 | -412.12 | 0.00      | 0.00   |                      |  |
| 10039.89        | 0.00  | 0.00   | 10039.89 | -718.90 | -419.00 | 2.00      | 180.00 |                      |  |
| 11821.16        | 0.00  | 0.00   | 11781.30 | -718.90 | -419.00 | 0.00      | 0.00   |                      |  |
| 12578.78        | 80.87 | 359.80 | 1258.78  | -233.84 | -422.36 | 12.00     | 359.80 |                      |  |
| 14172.86        | 90.87 | 359.80 | 12240.00 | 1361.90 | -433.57 | 0.00      | 0.00   |                      |  |
| 14214.42        | 91.51 | 359.80 | 12239.21 | 1403.82 | -433.86 | 2.00      | 0.07   | TGT#1(Thor 21 #706H) |  |
| 15781.08        | 91.51 | 359.80 | 12189.00 | 2959.70 | -444.81 | 0.00      | 0.00   | TGT#2(Thor 21 #706H) |  |
| 15784.11        | 91.57 | 359.80 | 12187.60 | 2972.73 | -444.83 | 2.00      | 0.20   | PBHL(Thor 21 #706H)  |  |
| 17008.90        | 91.57 | 359.80 | 12182.00 | 4285.00 | -454.00 | 0.00      | 0.00   | PBHL(Thor 21 #706H)  |  |

| DESIGN TARGET DETAILS |          |         |         |           |           |
|-----------------------|----------|---------|---------|-----------|-----------|
| Name                  | TVD      | +N/-S   | +E/-W   | Northing  | Easting   |
| TGT#1(Thor 21 #706H)  | 12240.00 | 1361.90 | -433.57 | 374541.90 | 736444.43 |
| TGT#2(Thor 21 #706H)  | 12108.00 | 2959.70 | -444.81 | 376149.70 | 736433.19 |
| PBHL(Thor 21 #706H)   | 12162.00 | 4285.00 | -454.00 | 377465.00 | 736424.00 |
| FTP(Thor 21 #706H)    | 12260.00 | -436.00 | -421.00 | 372744.00 | 736457.00 |

**SITE DETAILS:** Thor 21  
Site Centre Northing: 373150.00  
Easting: 736878.00  
Positional Uncertainty: 0.00  
Convergence: 0.41  
Local North: Grid

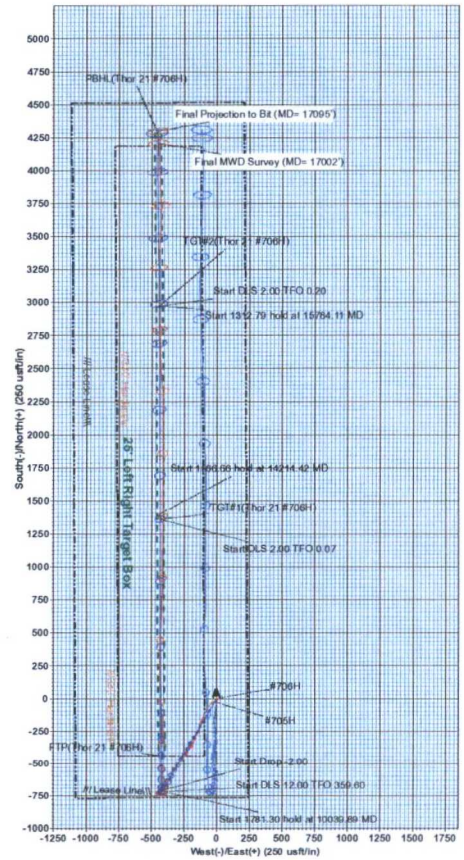
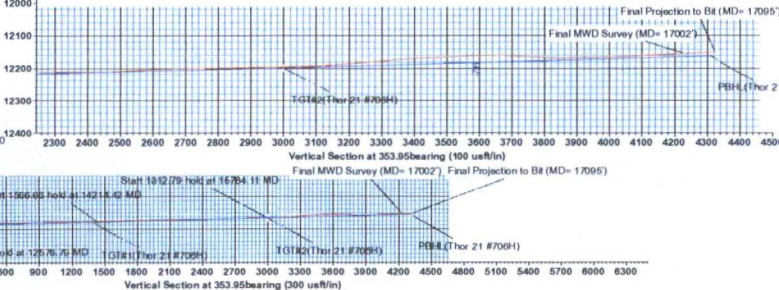
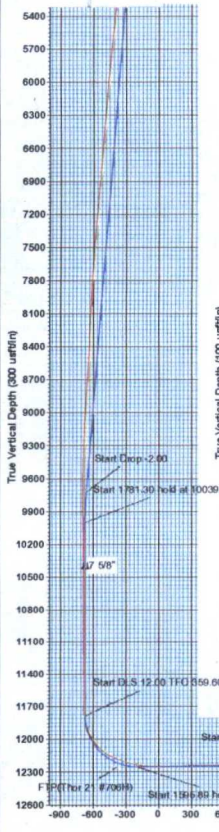
**PROJECT DETAILS:** Lea County, NM (NAD27 NME)  
Geoid System: US State Plane 1927 (Exact solution)  
Datum: NAD 1927 (NADCON CONUS)  
Ellipsoid: Clarke 1866  
Zone: New Mexico East 3001  
System Datum: Mean Sea Level

| CASING DETAILS |          |        |        |
|----------------|----------|--------|--------|
| TVD            | MD       | Name   | Size   |
| 1000.00        | 1000.00  | 10 3/4 | 10-3/4 |
| 10425.00       | 10464.89 | 7 5/8" | 7-5/8  |

Map System: US State Plane 1927 (Exact solution)  
Datum: NAD 1927 (NADCON CONUS)  
Ellipsoid: Clarke 1866  
Zone Name: New Mexico East 3001  
Local Origin: Well #706H, Grid North  
Latitude: 32° 1' 25.258 N  
Longitude: 103° 34' 8.440 W  
Grid East: 736878.00  
Grid North: 373180.00  
Scale Factor: 1.000  
Geomagnetic Model: IGRF2015  
Sample Date: 23-Sep-15  
Magnetic Declination: 7.13°  
Dip Angle from Horizontal: 59.90°  
Magnetic Field Strength: 47696

#### LEGEND

- #706H, OH, OH VO
- #705H, OH, OH VO
- Plan #3



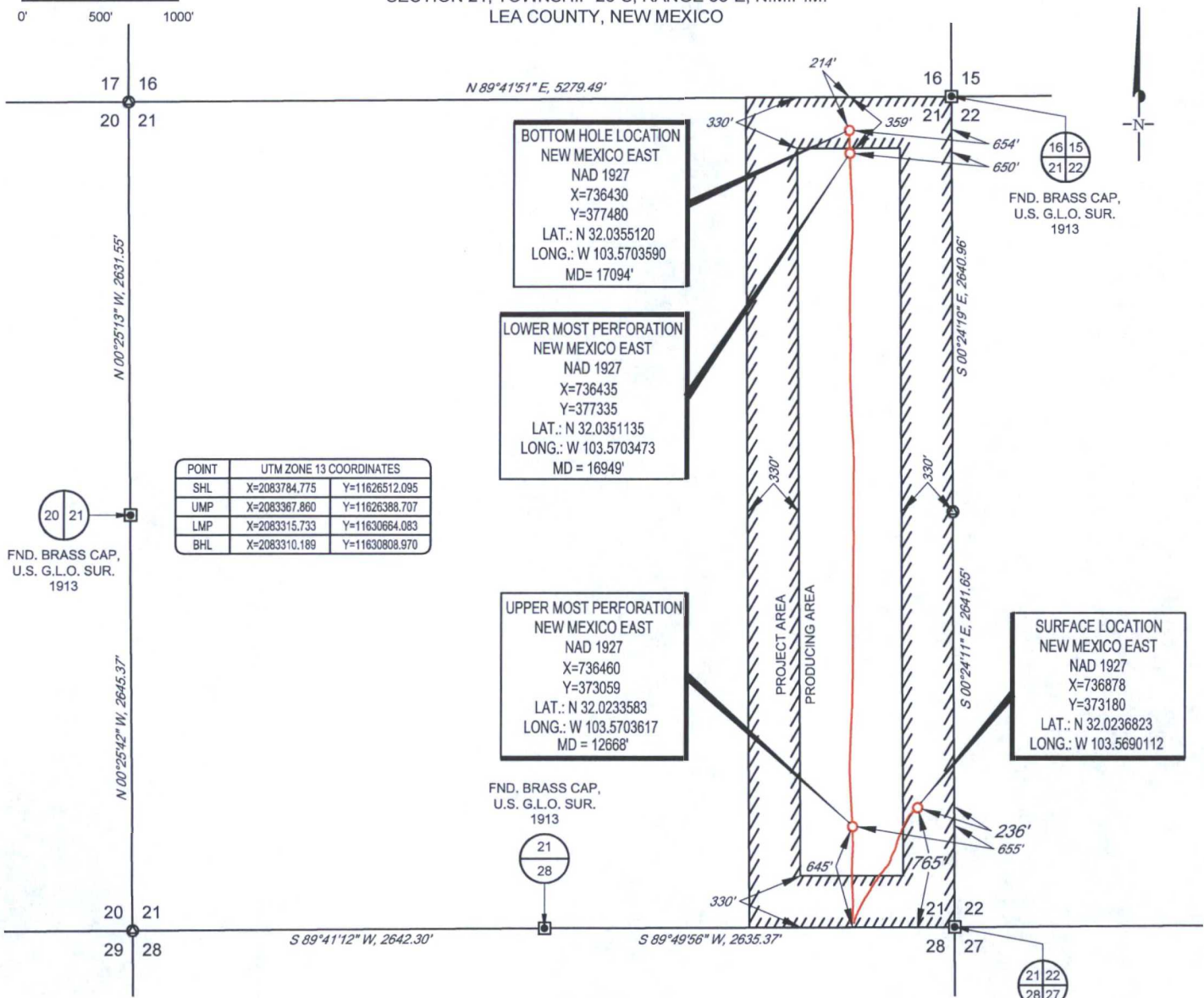
Printed: 7/15/2015  
Scientific Drilling  
2015 Redwood Rd  
Crescent, TX 75705





SCALE: 1" = 1000'

SECTION 21, TOWNSHIP 26-S, RANGE 33-E, N.M.P.M.  
LEA COUNTY, NEW MEXICO



LEASE NAME & WELL NO.: THOR 21 #706H  
SECTION 21 TWP 26-S RGE 33-E SURVEY N.M.P.M.  
COUNTY LEA STATE NM ELEVATION 3259'  
DESCRIPTION 765' FSL & 236' FEL



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WWW.TOPOGRAPHIC.COM



Michael Blake Brown, P.S. No. 18329  
JUNE 14, 2016



|                               |           |
|-------------------------------|-----------|
| THOR 21 #706H<br>AS-COMPLETED | REVISION: |
| DATE: 06/14/16                |           |
| FILE: AD_THOR21_706H          |           |
| DRAWN BY: A.C.C.              |           |
| SHEET: 1 OF 1                 |           |

NOTES:

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