

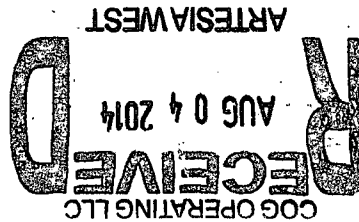


PO Box 1370  
Artesia, NM 88211-1370  
(575) 748-1288

30 015 42125

July 21, 2014

COG, LLC  
One Concho Center  
600 W. Illinois Ave.  
Midland, TX 79701



RE: El Jimador Federal #3H  
190' FNL & 1650' FWL  
Sec. 23, T25S, R29E  
Lea County, New Mexico

Dear Sir,

The attached is the Deviation Survey for the above captioned well.

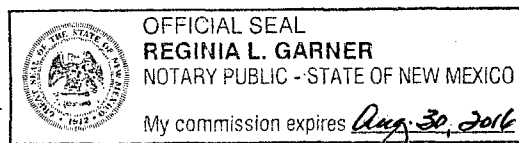
Very truly yours,

Eddie LaRue  
Operations Manager

State of New Mexico }  
County of Eddy }

The foregoing was acknowledged before me this 21<sup>st</sup> day of July, 2014.

Notary Public



El Jimador Federal #3H

| Date      | Depth | Deviation | Direction | TVD     | Horiz Disp |
|-----------|-------|-----------|-----------|---------|------------|
| 6/27/2014 | 231   | 0.20      | 0.00      | 0.00    | 0.00       |
| 6/28/2014 | 503   | 0.90      | 0.00      | 0.00    | 0.00       |
| 6/28/2014 | 683   | 0.80      | 0.00      | 0.00    | 0.00       |
| 6/30/2014 | 1062  | 1.50      | 0.00      | 0.00    | 0.00       |
| 6/30/2014 | 1367  | 1.30      | 0.00      | 0.00    | 0.00       |
| 7/1/2014  | 1673  | 0.70      | 0.00      | 0.00    | 0.00       |
| 7/1/2014  | 1948  | 0.70      | 0.00      | 0.00    | 0.00       |
| 7/1/2014  | 2229  | 0.50      | 0.00      | 0.00    | 0.00       |
| 7/1/2014  | 2545  | 0.60      | 0.00      | 0.00    | 0.00       |
| 7/4/2014  | 2782  | 1.00      | 0.00      | 0.00    | 0.00       |
| 7/4/2014  | 2968  | 0.70      | 0.00      | 0.00    | 0.00       |
| 7/5/2014  | 3126  | 0.30      | 0.00      | 0.00    | 0.00       |
| 7/6/2014  | 3308  | 1.00      | 0.00      | 0.00    | 0.00       |
| 7/7/2014  | 3434  | 0.50      | 0.00      | 0.00    | 0.00       |
| 7/7/2014  | 3654  | 0.50      | 0.00      | 0.00    | 0.00       |
| 7/7/2014  | 3875  | 0.20      | 0.00      | 0.00    | 0.00       |
| 7/7/2014  | 4348  | 0.30      | 0.00      | 0.00    | 0.00       |
| 7/7/2014  | 4600  | 0.80      | 0.00      | 0.00    | 0.00       |
| 7/7/2014  | 4917  | 1.10      | 0.00      | 0.00    | 0.00       |
| 7/8/2014  | 5139  | 1.00      | 0.00      | 0.00    | 0.00       |
| 7/8/2014  | 5389  | 1.20      | 0.00      | 0.00    | 0.00       |
| 7/8/2014  | 5641  | 1.00      | 0.00      | 0.00    | 0.00       |
| 7/8/2014  | 5894  | 0.80      | 0.00      | 0.00    | 0.00       |
| 7/8/2014  | 6147  | 0.50      | 0.00      | 0.00    | 0.00       |
| 7/9/2014  | 6547  | 16.10     | 9.10      | 6544.87 | 21.53      |
| 7/9/2014  | 6641  | 26.40     | 7.40      | 6623.33 | 55.36      |
| 7/9/2014  | 6736  | 36.10     | 9.50      | 6713.07 | 104.83     |
| 7/10/2014 | 6768  | 38.50     | 11.30     | 6738.53 | 123.95     |
| 7/10/2014 | 6862  | 48.00     | 9.10      | 6807.51 | 186.63     |
| 7/10/2014 | 6894  | 80.50     | 8.30      | 6828.39 | 210.64     |
| 7/10/2014 | 6957  | 56.80     | 8.20      | 6865.81 | 260.84     |
| 7/10/2014 | 7051  | 65.50     | 6.70      | 6910.44 | 342.81     |
| 7/10/2014 | 7083  | 68.80     | 6.50      | 6922.86 | 372.15     |
| 7/10/2014 | 7114  | 72.50     | 6.30      | 6933.13 | 401.25     |
| 7/10/2014 | 7146  | 77.00     | 6.50      | 6941.55 | 431.97     |
| 7/10/2014 | 7177  | 82.00     | 6.50      | 6947.20 | 462.30     |
| 7/11/2014 | 7262  | 89.30     | 4.30      | 6953.00 | 546.00     |
| 7/11/2014 | 7364  | 92.20     | 4.00      | 6952.00 | 648.53     |
| 7/11/2014 | 7553  | 89.50     | 358.80    | 6946.63 | 837.34     |
| 7/11/2014 | 7648  | 89.60     | 358.80    | 6947.37 | 932.28     |
| 7/11/2014 | 7742  | 91.00     | 359.00    | 6946.88 | 1026.72    |
| 7/12/2014 | 7837  | 89.80     | 358.50    | 6946.22 | 1121.16    |
| 7/12/2014 | 7932  | 87.10     | 358.20    | 6948.79 | 1216.02    |

| Date      | Depth | Deviation | Direction | TVD     | Horiz Disp |
|-----------|-------|-----------|-----------|---------|------------|
| 7/12/2014 | 8027  | 90.20     | 357.90    | 6951.00 | 1310.00    |
| 7/12/2014 | 8021  | 90.30     | 358.50    | 0.00    | 0.00       |
| 7/13/2014 | 8216  | 88.70     | 359.60    | 6951.44 | 1499.72    |
| 7/13/2014 | 8406  | 91.60     | 358.80    | 6951.36 | 1689.63    |
| 7/13/2014 | 8501  | 92.10     | 359.50    | 6948.29 | 1784.54    |
| 7/13/2014 | 8596  | 92.30     | 1.10      | 6945.00 | 1879.00    |
| 7/13/2014 | 8690  | 90.50     | 1.20      | 6942.00 | 1973.00    |
| 7/13/2014 | 8784  | 87.80     | 0.90      | 6944.37 | 2067.37    |
| 7/13/2014 | 8972  | 88.90     | 1.10      | 6948.00 | 2255.33    |
| 7/14/2014 | 9066  | 88.80     | 1.10      | 6949.95 | 2349.31    |
| 7/14/2014 | 9161  | 90.10     | 1.20      | 6950.87 | 2444.30    |
| 7/14/2014 | 9255  | 90.80     | 0.80      | 6950.13 | 2538.30    |
| 7/14/2014 | 9350  | 89.90     | 0.60      | 6949.00 | 2633.00    |
| 7/14/2014 | 9444  | 89.30     | 0.20      | 6950.00 | 2727.00    |
| 7/14/2014 | 9539  | 90.10     | 1.20      | 6950.00 | 2822.00    |
| 7/14/2014 | 9632  | 88.60     | 2.40      | 6951.76 | 2915.26    |
| 7/14/2014 | 9727  | 91.80     | 2.20      | 6951.43 | 3010.22    |
| 7/15/2014 | 9817  | 89.70     | 2.80      | 6950.25 | 3100.17    |
| 7/15/2014 | 9911  | 89.80     | 2.90      | 6950.66 | 3194.11    |
| 7/15/2014 | 10005 | 90.40     | 2.40      | 6950.49 | 3288.00    |
| 7/16/2014 | 10099 | 89.50     | 1.40      | 6950.58 | 3382.04    |
| 7/16/2014 | 10193 | 89.50     | 1.20      | 6951.40 | 3476.04    |
| 7/16/2014 | 10288 | 90.60     | 0.70      | 6951.31 | 3571.03    |
| 7/16/2014 | 10383 | 89.90     | 1.30      | 6950.00 | 3666.00    |
| 7/16/2014 | 10477 | 90.70     | 0.80      | 6950.00 | 3760.00    |
| 7/16/2014 | 10572 | 90.30     | 1.50      | 6949.00 | 3855.00    |
| 7/16/2014 | 10666 | 88.90     | 1.90      | 6950.23 | 3949.00    |
| 7/16/2014 | 10760 | 89.00     | 2.00      | 6951.96 | 4042.97    |
| 7/16/2014 | 10855 | 90.40     | 2.00      | 6952.45 | 4137.95    |
| 7/17/2014 | 10949 | 89.20     | 0.70      | 6952.78 | 4231.94    |
| 7/17/2014 | 11137 | 89.40     | 359.80    | 6953.93 | 4419.92    |
| 7/17/2014 | 11232 | 89.80     | 359.30    | 6954.59 | 4514.90    |
| 7/17/2014 | 11327 | 90.50     | 358.50    | 6954.00 | 4609.00    |
| 7/17/2014 | 11422 | 90.70     | 358.50    | 6953.00 | 4704.00    |



July 22, 2014

Concho Resources, Inc.  
One Concho Center  
600 W. Illinois Avenue  
Midland, Texas 79701

Attn: Kanicia Castillo

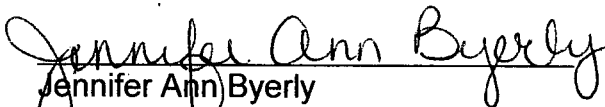
RE: **El Jimador Federal No. 003H**

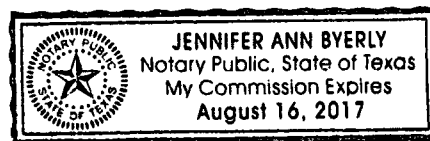
Please find enclosed a copy of the survey from 0.00' to 6348.00' ran on the above referenced well.

Sincerely,  
  
Keith Havelka  
Operations

STATE OF TEXAS       §  
                                 §  
COUNTY OF NUECES §

This instrument was acknowledged before me on the 22 day of July, A.D., 2014, by Keith Havelka.

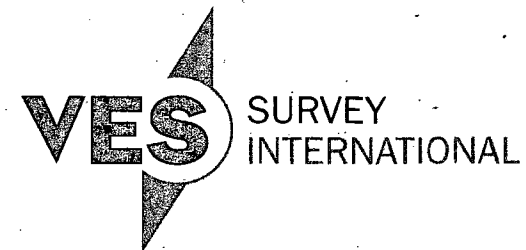
  
Jennifer Ann Byerly  
Notary Public, State of Texas



Company: COG OPERATING, LLC (CONCHO)  
Lease/Well: EL JIMADOR FEDERAL/NO. 003H



Rig Name: SILVER OAK #7  
State/County: NEW MEXICO/EDDY  
Latitude: 32.11, Longitude: -103.96  
GRID North is 0.20 Degrees East of True North  
VS-Azi: 0.00 Degrees



Depth Reference : 18 FEET

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: gyro survey.ut  
Minimum Curvature Method  
Report Date/Time: 7/22/2014 / 12:54

VES Survey International  
West Texas  
(432) 563-5444  
Surveyor: Neil Bates  
El Jimador Federal No. 003H / API 30-015-42125

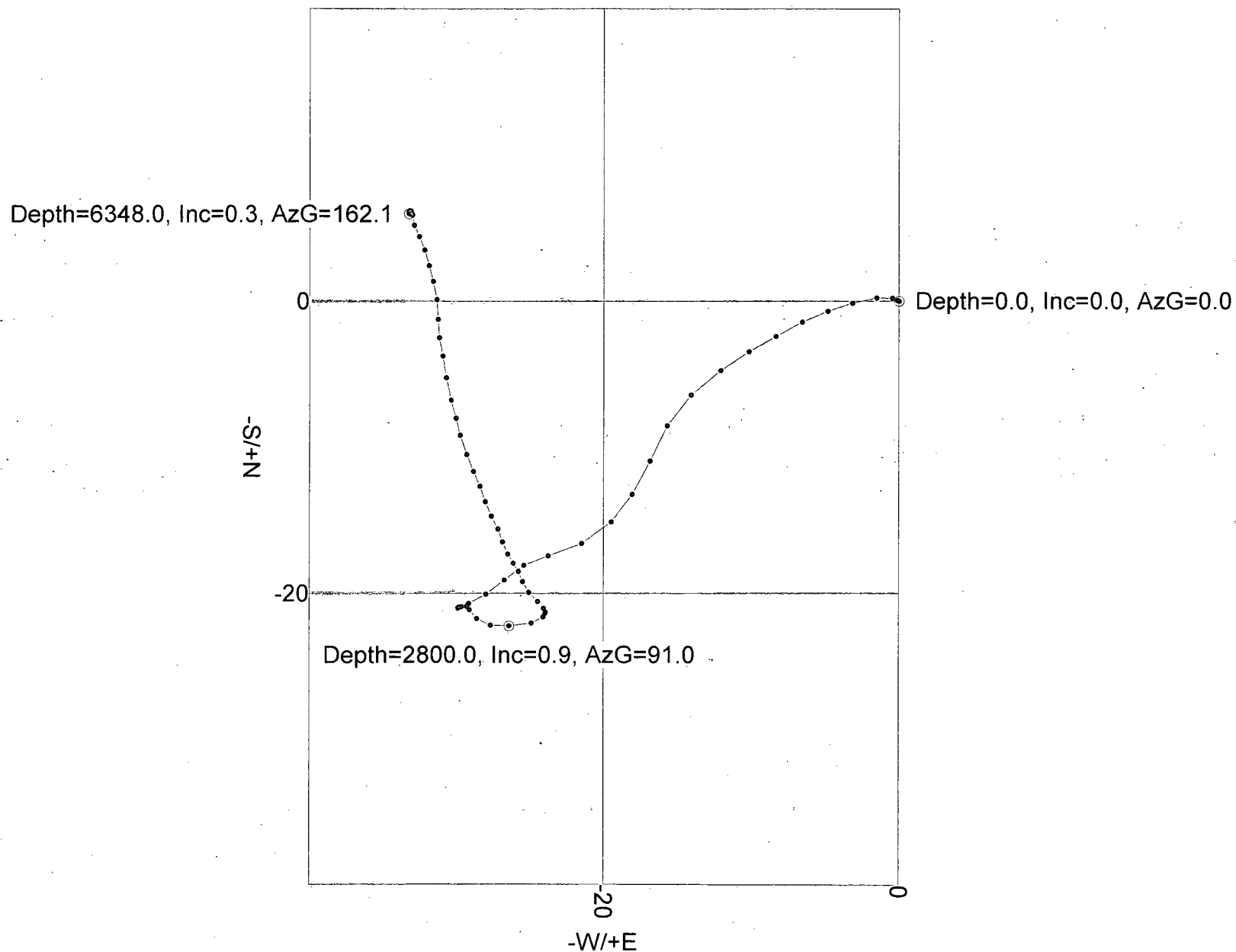
| Measured<br>Depth<br>FT | Incl<br>Angle<br>Deg | Drift<br>Direction<br>Deg | TVD<br>FT | +N/-S<br>FT | +E/-W<br>FT | Vertical<br>Section<br>FT | Closure<br>Distance<br>FT | Closure<br>Direction<br>Deg | Dogleg<br>Severity<br>Deg/100 |
|-------------------------|----------------------|---------------------------|-----------|-------------|-------------|---------------------------|---------------------------|-----------------------------|-------------------------------|
| 0.00                    | 0.00                 | 0.00                      | 0.00      | 0.00        | 0.00        | 0.00                      | 0.00                      | 0.00                        | ****                          |
| 100.00                  | 0.12                 | 298.15                    | 100.00    | 0.05        | -0.09       | 0.05                      | 0.11                      | 298.15                      | 0.12                          |
| 200.00                  | 0.30                 | 290.63                    | 200.00    | 0.19        | -0.44       | 0.19                      | 0.48                      | 294.00                      | 0.18                          |
| 300.00                  | 0.94                 | 265.02                    | 299.99    | 0.22        | -1.50       | 0.22                      | 1.51                      | 278.22                      | 0.68                          |
| 400.00                  | 1.01                 | 250.46                    | 399.98    | -0.15       | -3.14       | -0.15                     | 3.14                      | 267.28                      | 0.26                          |
| 500.00                  | 1.01                 | 252.59                    | 499.96    | -0.71       | -4.81       | -0.71                     | 4.86                      | 261.64                      | 0.04                          |
| 600.00                  | 1.17                 | 242.77                    | 599.95    | -1.44       | -6.56       | -1.44                     | 6.71                      | 257.63                      | 0.25                          |
| 700.00                  | 1.17                 | 239.65                    | 699.92    | -2.42       | -8.35       | -2.42                     | 8.69                      | 253.82                      | 0.06                          |
| 800.00                  | 1.24                 | 241.05                    | 799.90    | -3.46       | -10.17      | -3.46                     | 10.75                     | 251.21                      | 0.08                          |
| 900.00                  | 1.41                 | 231.66                    | 899.88    | -4.75       | -12.09      | -4.75                     | 12.99                     | 248.55                      | 0.28                          |
| 1000.00                 | 1.58                 | 228.31                    | 999.84    | -6.43       | -14.09      | -6.43                     | 15.49                     | 245.45                      | 0.19                          |
| 1100.00                 | 1.52                 | 206.65                    | 1099.81   | -8.54       | -15.72      | -8.54                     | 17.89                     | 241.48                      | 0.59                          |
| 1200.00                 | 1.54                 | 204.20                    | 1199.77   | -10.95      | -16.86      | -10.95                    | 20.11                     | 237.00                      | 0.07                          |
| 1300.00                 | 1.42                 | 211.98                    | 1299.74   | -13.23      | -18.07      | -13.23                    | 22.39                     | 233.80                      | 0.23                          |
| 1400.00                 | 1.28                 | 222.81                    | 1399.71   | -15.10      | -19.48      | -15.10                    | 24.65                     | 232.23                      | 0.29                          |
| 1500.00                 | 1.61                 | 241.84                    | 1499.68   | -16.58      | -21.48      | -16.58                    | 27.14                     | 232.34                      | 0.58                          |
| 1600.00                 | 1.19                 | 260.36                    | 1599.65   | -17.42      | -23.75      | -17.42                    | 29.45                     | 233.74                      | 0.62                          |
| 1700.00                 | 0.91                 | 233.25                    | 1699.63   | -18.07      | -25.41      | -18.07                    | 31.18                     | 234.58                      | 0.56                          |
| 1800.00                 | 0.99                 | 231.92                    | 1799.62   | -19.08      | -26.73      | -19.08                    | 32.84                     | 234.48                      | 0.08                          |

| Measured<br>Depth<br>FT | Incl<br>Angle<br>Deg | Drift<br>Direction<br>Deg | TVD<br>FT | +N/-S<br>FT | +E/-W<br>FT | Vertical<br>Section<br>FT | Closure<br>Distance<br>FT | Closure<br>Direction<br>Deg | Dogleg<br>Severity<br>Deg/100 |
|-------------------------|----------------------|---------------------------|-----------|-------------|-------------|---------------------------|---------------------------|-----------------------------|-------------------------------|
| 1900.00                 | 0.82                 | 231.77                    | 1899.61   | -20.06      | -27.97      | -20.06                    | 34.42                     | 234.36                      | 0.17                          |
| 2000.00                 | 0.73                 | 252.71                    | 1999.60   | -20.69      | -29.14      | -20.69                    | 35.74                     | 234.63                      | 0.29                          |
| 2100.00                 | 0.12                 | 219.74                    | 2099.59   | -20.96      | -29.82      | -20.96                    | 36.45                     | 234.90                      | 0.63                          |
| 2200.00                 | 0.04                 | 40.27                     | 2199.59   | -21.01      | -29.86      | -21.01                    | 36.52                     | 234.87                      | 0.16                          |
| 2300.00                 | 0.25                 | 71.51                     | 2299.59   | -20.92      | -29.63      | -20.92                    | 36.28                     | 234.78                      | 0.22                          |
| 2400.00                 | 0.18                 | 107.64                    | 2399.59   | -20.90      | -29.27      | -20.90                    | 35.97                     | 234.48                      | 0.15                          |
| 2500.00                 | 0.21                 | 170.77                    | 2499.59   | -21.13      | -29.09      | -21.13                    | 35.95                     | 234.02                      | 0.21                          |
| 2600.00                 | 0.73                 | 131.22                    | 2599.59   | -21.73      | -28.58      | -21.73                    | 35.90                     | 232.76                      | 0.59                          |
| 2700.00                 | 0.51                 | 94.72                     | 2699.58   | -22.18      | -27.66      | -22.18                    | 35.46                     | 231.28                      | 0.44                          |
| 2800.00                 | 0.93                 | 91.02                     | 2799.57   | -22.23      | -26.41      | -22.23                    | 34.52                     | 229.91                      | 0.43                          |
| 2900.00                 | 0.85                 | 73.44                     | 2899.56   | -22.04      | -24.89      | -22.04                    | 33.25                     | 228.48                      | 0.28                          |
| 3000.00                 | 0.28                 | 22.41                     | 2999.56   | -21.60      | -24.09      | -21.60                    | 32.36                     | 228.12                      | 0.71                          |
| 3100.00                 | 0.05                 | 59.47                     | 3099.56   | -21.36      | -23.96      | -21.36                    | 32.10                     | 228.29                      | 0.24                          |
| 3200.00                 | 0.06                 | 335.49                    | 3199.56   | -21.28      | -23.94      | -21.28                    | 32.04                     | 228.36                      | 0.08                          |
| 3300.00                 | 0.28                 | 335.31                    | 3299.56   | -21.02      | -24.06      | -21.02                    | 31.95                     | 228.87                      | 0.22                          |
| 3400.00                 | 0.46                 | 310.84                    | 3399.55   | -20.54      | -24.47      | -20.54                    | 31.94                     | 229.99                      | 0.24                          |
| 3500.00                 | 0.52                 | 319.92                    | 3499.55   | -19.93      | -25.06      | -19.93                    | 32.02                     | 231.51                      | 0.10                          |
| 3600.00                 | 0.48                 | 341.41                    | 3599.55   | -19.19      | -25.49      | -19.19                    | 31.90                     | 233.03                      | 0.19                          |
| 3700.00                 | 0.38                 | 332.17                    | 3699.54   | -18.50      | -25.77      | -18.50                    | 31.73                     | 234.33                      | 0.12                          |
| 3800.00                 | 0.39                 | 326.26                    | 3799.54   | -17.92      | -26.12      | -17.92                    | 31.68                     | 235.54                      | 0.04                          |
| 3900.00                 | 0.45                 | 330.26                    | 3899.54   | -17.30      | -26.50      | -17.30                    | 31.65                     | 236.86                      | 0.06                          |
| 4000.00                 | 0.58                 | 341.43                    | 3999.54   | -16.49      | -26.85      | -16.49                    | 31.51                     | 238.45                      | 0.17                          |
| 4100.00                 | 0.52                 | 339.31                    | 4099.53   | -15.59      | -27.17      | -15.59                    | 31.33                     | 240.16                      | 0.07                          |
| 4200.00                 | 0.61                 | 327.85                    | 4199.53   | -14.71      | -27.62      | -14.71                    | 31.29                     | 241.95                      | 0.15                          |
| 4300.00                 | 0.63                 | 347.22                    | 4299.52   | -13.73      | -28.02      | -13.73                    | 31.20                     | 243.90                      | 0.21                          |
| 4400.00                 | 0.65                 | 333.71                    | 4399.51   | -12.68      | -28.40      | -12.68                    | 31.10                     | 245.94                      | 0.15                          |
| 4500.00                 | 0.61                 | 340.22                    | 4499.51   | -11.67      | -28.83      | -11.67                    | 31.10                     | 247.96                      | 0.08                          |
| 4600.00                 | 0.83                 | 337.48                    | 4599.50   | -10.50      | -29.29      | -10.50                    | 31.11                     | 250.28                      | 0.22                          |
| 4700.00                 | 0.77                 | 345.12                    | 4699.49   | -9.18       | -29.74      | -9.18                     | 31.12                     | 252.85                      | 0.12                          |
| 4800.00                 | 0.60                 | 348.63                    | 4799.48   | -8.01       | -30.01      | -8.01                     | 31.06                     | 255.06                      | 0.17                          |
| 4900.00                 | 0.87                 | 342.41                    | 4899.47   | -6.77       | -30.35      | -6.77                     | 31.09                     | 257.42                      | 0.28                          |
| 5000.00                 | 0.92                 | 351.92                    | 4999.46   | -5.25       | -30.69      | -5.25                     | 31.13                     | 260.29                      | 0.16                          |
| 5100.00                 | 0.80                 | 349.23                    | 5099.45   | -3.77       | -30.93      | -3.77                     | 31.16                     | 263.06                      | 0.13                          |
| 5200.00                 | 0.66                 | 349.95                    | 5199.44   | -2.51       | -31.16      | -2.51                     | 31.26                     | 265.39                      | 0.14                          |
| 5300.00                 | 0.79                 | 0.72                      | 5299.44   | -1.26       | -31.25      | -1.26                     | 31.28                     | 267.69                      | 0.19                          |
| 5400.00                 | 0.77                 | 351.90                    | 5399.43   | 0.10        | -31.34      | 0.10                      | 31.34                     | 270.18                      | 0.12                          |
| 5500.00                 | 0.69                 | 345.86                    | 5499.42   | 1.35        | -31.58      | 1.35                      | 31.61                     | 272.44                      | 0.11                          |
| 5600.00                 | 0.59                 | 345.62                    | 5599.41   | 2.43        | -31.86      | 2.43                      | 31.95                     | 274.36                      | 0.10                          |
| 5700.00                 | 0.68                 | 342.77                    | 5699.41   | 3.49        | -32.16      | 3.49                      | 32.35                     | 276.19                      | 0.09                          |

| Measured<br>Depth<br>FT | Incl<br>Angle<br>Deg | Drift<br>Direction<br>Deg | TVD<br>FT | +N/-S<br>FT | +E/-W<br>FT | Vertical<br>Section<br>FT | Closure<br>Distance<br>FT | Closure<br>Direction<br>Deg | Dogleg<br>Severity<br>Deg/100 |
|-------------------------|----------------------|---------------------------|-----------|-------------|-------------|---------------------------|---------------------------|-----------------------------|-------------------------------|
| 5800.00                 | 0.47                 | 330.93                    | 5799.40   | 4.41        | -32.53      | 4.41                      | 32.83                     | 277.72                      | 0.23                          |
| 5900.00                 | 0.51                 | 341.16                    | 5899.40   | 5.19        | -32.88      | 5.19                      | 33.28                     | 278.97                      | 0.09                          |
| 6000.00                 | 0.32                 | 8.27                      | 5999.39   | 5.88        | -32.98      | 5.88                      | 33.50                     | 280.11                      | 0.27                          |
| 6100.00                 | 0.18                 | 270.41                    | 6099.39   | 6.15        | -33.09      | 6.15                      | 33.66                     | 280.53                      | 0.38                          |
| 6200.00                 | 0.05                 | 68.43                     | 6199.39   | 6.17        | -33.21      | 6.17                      | 33.77                     | 280.53                      | 0.22                          |
| 6300.00                 | 0.12                 | 221.15                    | 6299.39   | 6.11        | -33.23      | 6.11                      | 33.79                     | 280.42                      | 0.17                          |
| 6348.00                 | 0.28                 | 162.11                    | 6347.39   | 5.96        | -33.23      | 5.96                      | 33.76                     | 280.17                      | 0.50                          |



VES Survey International  
West Texas  
(432) 563-5444  
Surveyor: Neil Bates  
El Jimador Federal No. 003H / API 30-015-42125



V.E.S. Survey Date: 07/08/2014

**NM OIL CONSERVATION**

ARTESIA DISTRICT

OCT 21 2014

RECEIVED

# **COG Operating, LLC.**

Eddy County, N.M.

Section 23 T25-S R29-E, El Jimador Federal #3H

El Jimador Federal #3H

Original Hole

Design: Original Hole

## **Survey Report - Geographic**

18 July, 2014

# Stryker Directional Survey Report - Geographic

|                  |                                                |                                     |                                          |
|------------------|------------------------------------------------|-------------------------------------|------------------------------------------|
| <b>Company:</b>  | COG Operating, LLC.                            | <b>Local Co-ordinate Reference:</b> | Well El Jimador Federal #3H              |
| <b>Project:</b>  | Eddy County, N.M.                              | <b>TVD Reference:</b>               | GL 3073.7+18 @ 3091.7usft (Silver Oak 7) |
| <b>Site:</b>     | Section 23 T25-S R29-E, El Jimador Federal #3H | <b>MD Reference:</b>                | GL 3073.7+18 @ 3091.7usft (Silver Oak 7) |
| <b>Well:</b>     | El Jimador Federal #3H                         | <b>North Reference:</b>             | Grid                                     |
| <b>Wellbore:</b> | Original Hole                                  | <b>Survey Calculation Method:</b>   | Minimum Curvature                        |
| <b>Design:</b>   | Original Hole                                  | <b>Database:</b>                    | Stryker_EDM                              |

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

|             |                                                |
|-------------|------------------------------------------------|
| <b>Site</b> | Section 23 T25-S R29-E, El Jimador Federal #3H |
|-------------|------------------------------------------------|

|                              |          |                     |                 |                          |                   |
|------------------------------|----------|---------------------|-----------------|--------------------------|-------------------|
| <b>Site Position:</b>        |          | <b>Northing:</b>    | 403,421.50 usft | <b>Latitude:</b>         | 32° 6' 30.835 N   |
| <b>From:</b>                 | Map      | <b>Easting:</b>     | 616,253.50 usft | <b>Longitude:</b>        | 103° 57' 28.345 W |
| <b>Position Uncertainty:</b> | 0.0 usft | <b>Slot Radius:</b> | 13-3/16 "       | <b>Grid Convergence:</b> | 0.20 °            |

|                      |          |                        |           |                 |              |                   |
|----------------------|----------|------------------------|-----------|-----------------|--------------|-------------------|
| Well                 |          | El Jimador Federal #3H |           |                 |              |                   |
| Well Position        | +N/-S    | 0.0 usft               | Northing: | 403,421.50 usft | Latitude:    | 32° 6' 30.835 N   |
|                      | +E/-W    | 0.0 usft               | Easting:  | 616,253.50 usft | Longitude:   | 103° 57' 28.345 W |
| Position Uncertainty | 0.0 usft | Wellhead Elevation:    | 0.0 usft  | Ground Level:   | 3,073.7 usft |                   |

|                 |               |
|-----------------|---------------|
| <b>Wellbore</b> | Original Hole |
|-----------------|---------------|

| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
|-----------|------------|-------------|-----------------|---------------|---------------------|
|           | IGRF2010   | 6/17/2014   | 7.39            | 59.94         | 48,207              |

|               |               |
|---------------|---------------|
| <b>Design</b> | Original Hole |
|---------------|---------------|

|                     |     |               |        |                      |     |
|---------------------|-----|---------------|--------|----------------------|-----|
| <b>Audit Notes:</b> |     |               |        |                      |     |
| <b>Version:</b>     | 1.0 | <b>Phase:</b> | ACTUAL | <b>Tie On Depth:</b> | 0.0 |

| Vertical Section: | Depth From (TVD) (usft) | +N/-S (usft) | +E/-W (usft) | Direction (°) |
|-------------------|-------------------------|--------------|--------------|---------------|
|                   | 0.0                     | 0.0          | 0.0          | 0.84          |

| Survey Program | From (usft) | To (usft) | Survey (Wellbore)                  | Tool Name   | Description                    |
|----------------|-------------|-----------|------------------------------------|-------------|--------------------------------|
|                | 100.0       | 6,348.0   | VES Gyro Survey (Original Hole)    | SRG-GYRO-MS | surface readout gyro multishot |
|                | 6,388.0     | 11,468.0  | Stryker MWD Survey (Original Hole) | MWD         | MWD - Standard                 |

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Map Northing (usft) | Map Easting (usft) | Latitude        | Longitude         |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|---------------------|--------------------|-----------------|-------------------|
| 0.0                   | 0.00            | 0.00        | 0.0                   | 0.0          | 0.0          | 403,421.50          | 616,253.50         | 32° 6' 30.835 N | 103° 57' 28.345 W |
| 100.0                 | 0.12            | 298.15      | 100.0                 | 0.0          | -0.1         | 403,421.55          | 616,253.41         | 32° 6' 30.836 N | 103° 57' 28.346 W |
| 200.0                 | 0.30            | 290.63      | 200.0                 | 0.2          | -0.4         | 403,421.69          | 616,253.07         | 32° 6' 30.837 N | 103° 57' 28.350 W |
| 300.0                 | 0.94            | 265.02      | 300.0                 | 0.2          | -1.5         | 403,421.71          | 616,252.01         | 32° 6' 30.837 N | 103° 57' 28.363 W |
| 400.0                 | 1.01            | 250.46      | 400.0                 | -0.2         | -3.1         | 403,421.35          | 616,250.36         | 32° 6' 30.834 N | 103° 57' 28.382 W |
| 500.0                 | 1.01            | 252.59      | 500.0                 | -0.7         | -4.8         | 403,420.79          | 616,248.69         | 32° 6' 30.828 N | 103° 57' 28.401 W |
| 600.0                 | 1.17            | 242.77      | 599.9                 | -1.4         | -6.6         | 403,420.06          | 616,246.94         | 32° 6' 30.821 N | 103° 57' 28.422 W |
| 700.0                 | 1.17            | 239.65      | 699.9                 | -2.4         | -8.3         | 403,419.07          | 616,245.15         | 32° 6' 30.812 N | 103° 57' 28.443 W |
| 800.0                 | 1.24            | 241.05      | 799.9                 | -3.5         | -10.2        | 403,418.03          | 616,243.33         | 32° 6' 30.801 N | 103° 57' 28.464 W |
| 900.0                 | 1.41            | 231.66      | 899.9                 | -4.8         | -12.1        | 403,416.75          | 616,241.42         | 32° 6' 30.789 N | 103° 57' 28.486 W |

# Stryker Directional

## Survey Report - Geographic

|                  |                                                |                                     |                                          |
|------------------|------------------------------------------------|-------------------------------------|------------------------------------------|
| <b>Company:</b>  | COG Operating, LLC.                            | <b>Local Co-ordinate Reference:</b> | Well El Jimador Federal #3H              |
| <b>Project:</b>  | Eddy County, N.M.                              | <b>TVD Reference:</b>               | GL 3073.7+18 @ 3091.7usft (Silver Oak 7) |
| <b>Site:</b>     | Section 23 T25-S R29-E, El Jimador Federal #3H | <b>MD Reference:</b>                | GL 3073.7+18 @ 3091.7usft (Silver Oak 7) |
| <b>Well:</b>     | El Jimador Federal #3H                         | <b>North Reference:</b>             | Grid                                     |
| <b>Wellbore:</b> | Original Hole                                  | <b>Survey Calculation Method:</b>   | Minimum Curvature                        |
| <b>Design:</b>   | Original Hole                                  | <b>Database:</b>                    | Stryker_EDM                              |

| Survey                |                 |             |                       |              |              |                     |                    |                 |                   |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|---------------------|--------------------|-----------------|-------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Map Northing (usft) | Map Easting (usft) | Latitude        | Longitude         |
| 1,000.0               | 1.58            | 228.31      | 999.8                 | -6.4         | -14.1        | 403,415.07          | 616,239.42         | 32° 6' 30.772 N | 103° 57' 28.509 W |
| 1,100.0               | 1.52            | 206.65      | 1,099.8               | -8.5         | -15.7        | 403,412.96          | 616,237.80         | 32° 6' 30.751 N | 103° 57' 28.528 W |
| 1,200.0               | 1.54            | 204.20      | 1,199.8               | -10.9        | -16.9        | 403,410.55          | 616,236.65         | 32° 6' 30.728 N | 103° 57' 28.542 W |
| 1,300.0               | 1.42            | 211.98      | 1,299.7               | -13.2        | -18.1        | 403,408.28          | 616,235.44         | 32° 6' 30.705 N | 103° 57' 28.556 W |
| 1,400.0               | 1.28            | 222.81      | 1,399.7               | -15.1        | -19.5        | 403,406.41          | 616,234.03         | 32° 6' 30.687 N | 103° 57' 28.572 W |
| 1,500.0               | 1.61            | 241.84      | 1,499.7               | -16.6        | -21.5        | 403,404.92          | 616,232.03         | 32° 6' 30.672 N | 103° 57' 28.596 W |
| 1,600.0               | 1.19            | 260.36      | 1,599.6               | -17.4        | -23.7        | 403,404.09          | 616,229.77         | 32° 6' 30.664 N | 103° 57' 28.622 W |
| 1,700.0               | 0.91            | 233.25      | 1,699.6               | -18.1        | -25.4        | 403,403.44          | 616,228.11         | 32° 6' 30.657 N | 103° 57' 28.641 W |
| 1,800.0               | 0.99            | 231.92      | 1,799.6               | -19.1        | -26.7        | 403,402.43          | 616,226.79         | 32° 6' 30.647 N | 103° 57' 28.657 W |
| 1,900.0               | 0.82            | 231.77      | 1,899.6               | -20.0        | -28.0        | 403,401.45          | 616,225.55         | 32° 6' 30.638 N | 103° 57' 28.671 W |
| 2,000.0               | 0.73            | 252.71      | 1,999.6               | -20.7        | -29.1        | 403,400.82          | 616,224.38         | 32° 6' 30.632 N | 103° 57' 28.685 W |
| 2,100.0               | 0.12            | 219.74      | 2,099.6               | -20.9        | -29.8        | 403,400.55          | 616,223.70         | 32° 6' 30.629 N | 103° 57' 28.693 W |
| 2,200.0               | 0.04            | 40.27       | 2,199.6               | -21.0        | -29.8        | 403,400.50          | 616,223.66         | 32° 6' 30.628 N | 103° 57' 28.693 W |
| 2,300.0               | 0.25            | 71.51       | 2,299.6               | -20.9        | -29.6        | 403,400.59          | 616,223.89         | 32° 6' 30.629 N | 103° 57' 28.691 W |
| 2,400.0               | 0.18            | 107.64      | 2,399.6               | -20.9        | -29.3        | 403,400.62          | 616,224.25         | 32° 6' 30.630 N | 103° 57' 28.686 W |
| 2,500.0               | 0.21            | 170.77      | 2,499.6               | -21.1        | -29.1        | 403,400.39          | 616,224.43         | 32° 6' 30.627 N | 103° 57' 28.684 W |
| 2,600.0               | 0.73            | 131.22      | 2,599.6               | -21.7        | -28.6        | 403,399.79          | 616,224.93         | 32° 6' 30.621 N | 103° 57' 28.678 W |
| 2,700.0               | 0.51            | 94.72       | 2,699.6               | -22.2        | -27.6        | 403,399.33          | 616,225.86         | 32° 6' 30.617 N | 103° 57' 28.668 W |
| 2,800.0               | 0.93            | 91.02       | 2,799.6               | -22.2        | -26.4        | 403,399.28          | 616,227.11         | 32° 6' 30.616 N | 103° 57' 28.653 W |
| 2,900.0               | 0.85            | 73.44       | 2,899.6               | -22.0        | -24.9        | 403,399.48          | 616,228.63         | 32° 6' 30.618 N | 103° 57' 28.635 W |
| 3,000.0               | 0.28            | 22.41       | 2,999.6               | -21.6        | -24.1        | 403,399.91          | 616,229.44         | 32° 6' 30.622 N | 103° 57' 28.626 W |
| 3,100.0               | 0.05            | 59.47       | 3,099.6               | -21.3        | -23.9        | 403,400.16          | 616,229.57         | 32° 6' 30.625 N | 103° 57' 28.625 W |
| 3,200.0               | 0.06            | 335.49      | 3,199.6               | -21.3        | -23.9        | 403,400.23          | 616,229.58         | 32° 6' 30.626 N | 103° 57' 28.624 W |
| 3,300.0               | 0.28            | 335.31      | 3,299.6               | -21.0        | -24.0        | 403,400.50          | 616,229.46         | 32° 6' 30.628 N | 103° 57' 28.626 W |
| 3,400.0               | 0.46            | 310.84      | 3,399.6               | -20.5        | -24.4        | 403,400.98          | 616,229.06         | 32° 6' 30.633 N | 103° 57' 28.630 W |
| 3,500.0               | 0.52            | 319.92      | 3,499.6               | -19.9        | -25.0        | 403,401.59          | 616,228.46         | 32° 6' 30.639 N | 103° 57' 28.637 W |
| 3,600.0               | 0.48            | 341.41      | 3,599.5               | -19.2        | -25.5        | 403,402.34          | 616,228.03         | 32° 6' 30.647 N | 103° 57' 28.642 W |
| 3,700.0               | 0.38            | 332.17      | 3,699.5               | -18.5        | -25.8        | 403,403.03          | 616,227.75         | 32° 6' 30.653 N | 103° 57' 28.646 W |
| 3,800.0               | 0.39            | 326.26      | 3,799.5               | -17.9        | -26.1        | 403,403.61          | 616,227.40         | 32° 6' 30.659 N | 103° 57' 28.650 W |
| 3,900.0               | 0.45            | 330.26      | 3,899.5               | -17.3        | -26.5        | 403,404.23          | 616,227.02         | 32° 6' 30.665 N | 103° 57' 28.654 W |
| 4,000.0               | 0.58            | 341.43      | 3,999.5               | -16.4        | -26.8        | 403,405.05          | 616,226.66         | 32° 6' 30.673 N | 103° 57' 28.658 W |
| 4,100.0               | 0.52            | 339.31      | 4,099.5               | -15.5        | -27.2        | 403,405.95          | 616,226.34         | 32° 6' 30.682 N | 103° 57' 28.662 W |
| 4,200.0               | 0.61            | 327.85      | 4,199.5               | -14.7        | -27.6        | 403,406.83          | 616,225.90         | 32° 6' 30.691 N | 103° 57' 28.667 W |
| 4,300.0               | 0.63            | 347.22      | 4,299.5               | -13.7        | -28.0        | 403,407.82          | 616,225.49         | 32° 6' 30.701 N | 103° 57' 28.672 W |
| 4,400.0               | 0.65            | 333.71      | 4,399.5               | -12.6        | -28.4        | 403,408.86          | 616,225.12         | 32° 6' 30.711 N | 103° 57' 28.676 W |
| 4,500.0               | 0.61            | 340.22      | 4,499.5               | -11.6        | -28.8        | 403,409.87          | 616,224.69         | 32° 6' 30.721 N | 103° 57' 28.681 W |
| 4,600.0               | 0.83            | 337.48      | 4,599.5               | -10.5        | -29.3        | 403,411.04          | 616,224.23         | 32° 6' 30.733 N | 103° 57' 28.686 W |
| 4,700.0               | 0.77            | 345.12      | 4,699.5               | -9.1         | -29.7        | 403,412.36          | 616,223.78         | 32° 6' 30.746 N | 103° 57' 28.691 W |
| 4,800.0               | 0.60            | 348.63      | 4,799.5               | -8.0         | -30.0        | 403,413.52          | 616,223.50         | 32° 6' 30.757 N | 103° 57' 28.695 W |
| 4,900.0               | 0.87            | 342.41      | 4,899.5               | -6.7         | -30.3        | 403,414.76          | 616,223.17         | 32° 6' 30.770 N | 103° 57' 28.698 W |
| 5,000.0               | 0.92            | 351.92      | 4,999.5               | -5.2         | -30.7        | 403,416.28          | 616,222.83         | 32° 6' 30.785 N | 103° 57' 28.702 W |
| 5,100.0               | 0.80            | 349.23      | 5,099.5               | -3.7         | -30.9        | 403,417.76          | 616,222.59         | 32° 6' 30.799 N | 103° 57' 28.705 W |
| 5,200.0               | 0.66            | 349.95      | 5,199.4               | -2.5         | -31.1        | 403,419.01          | 616,222.35         | 32° 6' 30.812 N | 103° 57' 28.708 W |
| 5,300.0               | 0.79            | 0.72        | 5,299.4               | -1.2         | -31.2        | 403,420.27          | 616,222.26         | 32° 6' 30.824 N | 103° 57' 28.709 W |
| 5,400.0               | 0.77            | 351.90      | 5,399.4               | 0.1          | -31.3        | 403,421.62          | 616,222.18         | 32° 6' 30.838 N | 103° 57' 28.710 W |
| 5,500.0               | 0.69            | 345.86      | 5,499.4               | 1.4          | -31.6        | 403,422.87          | 616,221.94         | 32° 6' 30.850 N | 103° 57' 28.712 W |
| 5,600.0               | 0.59            | 345.62      | 5,599.4               | 2.5          | -31.8        | 403,423.95          | 616,221.66         | 32° 6' 30.861 N | 103° 57' 28.716 W |
| 5,700.0               | 0.68            | 342.77      | 5,699.4               | 3.5          | -32.1        | 403,425.02          | 616,221.36         | 32° 6' 30.871 N | 103° 57' 28.719 W |
| 5,800.0               | 0.47            | 330.93      | 5,799.4               | 4.4          | -32.5        | 403,425.94          | 616,220.98         | 32° 6' 30.880 N | 103° 57' 28.723 W |
| 5,900.0               | 0.51            | 341.16      | 5,899.4               | 5.2          | -32.9        | 403,426.72          | 616,220.64         | 32° 6' 30.888 N | 103° 57' 28.727 W |
| 6,000.0               | 0.32            | 8.27        | 5,999.4               | 5.9          | -33.0        | 403,427.42          | 616,220.54         | 32° 6' 30.895 N | 103° 57' 28.728 W |
| 6,100.0               | 0.18            | 270.41      | 6,099.4               | 6.2          | -33.1        | 403,427.70          | 616,220.42         | 32° 6' 30.898 N | 103° 57' 28.730 W |
| 6,200.0               | 0.05            | 68.43       | 6,199.4               | 6.2          | -33.2        | 403,427.72          | 616,220.30         | 32° 6' 30.898 N | 103° 57' 28.731 W |
| 6,300.0               | 0.12            | 221.15      | 6,299.4               | 6.2          | -33.2        | 403,427.65          | 616,220.27         | 32° 6' 30.897 N | 103° 57' 28.732 W |

# Stryker Directional Survey Report - Geographic

|                  |                                                |                                     |                                          |
|------------------|------------------------------------------------|-------------------------------------|------------------------------------------|
| <b>Company:</b>  | COG Operating, LLC.                            | <b>Local Co-ordinate Reference:</b> | Well El Jimador Federal #3H              |
| <b>Project:</b>  | Eddy County, N.M.                              | <b>TVD Reference:</b>               | GL 3073.7+18 @ 3091.7usft (Silver Oak 7) |
| <b>Site:</b>     | Section 23 T25-S R29-E, El Jimador Federal #3H | <b>MD Reference:</b>                | GL 3073.7+18 @ 3091.7usft (Silver Oak 7) |
| <b>Well:</b>     | El Jimador Federal #3H                         | <b>North Reference:</b>             | Grid                                     |
| <b>Wellbore:</b> | Original Hole                                  | <b>Survey Calculation Method:</b>   | Minimum Curvature                        |
| <b>Design:</b>   | Original Hole                                  | <b>Database:</b>                    | Stryker_EDM                              |

| Survey                       |                 |             |                       |              |              |                     |                    |                 |                   |
|------------------------------|-----------------|-------------|-----------------------|--------------|--------------|---------------------|--------------------|-----------------|-------------------|
| Measured Depth (usft)        | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Map Northing (usft) | Map Easting (usft) | Latitude        | Longitude         |
| 6,348.0                      | 0.28            | 162.11      | 6,347.4               | 6.0          | -33.2        | 403,427.50          | 616,220.28         | 32° 6' 30.896 N | 103° 57' 28.731 W |
| <b>6348' VES Gyro Survey</b> |                 |             |                       |              |              |                     |                    |                 |                   |
| 6,389.0                      | 0.30            | 191.50      | 6,388.4               | 5.8          | -33.2        | 403,427.30          | 616,220.29         | 32° 6' 30.894 N | 103° 57' 28.731 W |
| 6,421.0                      | 0.10            | 337.90      | 6,420.4               | 5.7          | -33.2        | 403,427.25          | 616,220.26         | 32° 6' 30.893 N | 103° 57' 28.732 W |
| 6,452.0                      | 3.10            | 11.50       | 6,451.4               | 6.6          | -33.1        | 403,428.09          | 616,220.42         | 32° 6' 30.902 N | 103° 57' 28.730 W |
| 6,484.0                      | 7.30            | 11.10       | 6,483.2               | 9.4          | -32.5        | 403,430.94          | 616,220.98         | 32° 6' 30.930 N | 103° 57' 28.723 W |
| 6,515.0                      | 11.60           | 8.70        | 6,513.8               | 14.5         | -31.7        | 403,435.95          | 616,221.83         | 32° 6' 30.979 N | 103° 57' 28.713 W |
| 6,547.0                      | 16.10           | 9.10        | 6,544.9               | 22.0         | -30.5        | 403,443.52          | 616,223.02         | 32° 6' 31.054 N | 103° 57' 28.699 W |
| 6,578.0                      | 19.80           | 9.00        | 6,574.4               | 31.5         | -29.0        | 403,452.95          | 616,224.52         | 32° 6' 31.148 N | 103° 57' 28.681 W |
| 6,610.0                      | 22.90           | 8.00        | 6,604.2               | 43.0         | -27.3        | 403,464.47          | 616,226.24         | 32° 6' 31.261 N | 103° 57' 28.661 W |
| 6,641.0                      | 26.40           | 7.40        | 6,632.3               | 55.8         | -25.5        | 403,477.29          | 616,227.96         | 32° 6' 31.388 N | 103° 57' 28.640 W |
| 6,673.0                      | 30.40           | 6.90        | 6,660.5               | 70.9         | -23.7        | 403,492.38          | 616,229.85         | 32° 6' 31.538 N | 103° 57' 28.618 W |
| 6,705.0                      | 33.50           | 7.90        | 6,687.6               | 87.7         | -21.5        | 403,509.17          | 616,232.04         | 32° 6' 31.704 N | 103° 57' 28.591 W |
| 6,736.0                      | 36.10           | 9.50        | 6,713.1               | 105.2        | -18.8        | 403,526.66          | 616,234.72         | 32° 6' 31.877 N | 103° 57' 28.559 W |
| 6,768.0                      | 38.50           | 11.30       | 6,738.5               | 124.2        | -15.3        | 403,545.73          | 616,238.23         | 32° 6' 32.065 N | 103° 57' 28.518 W |
| 6,800.0                      | 40.70           | 12.10       | 6,763.2               | 144.2        | -11.1        | 403,565.70          | 616,242.37         | 32° 6' 32.263 N | 103° 57' 28.469 W |
| 6,831.0                      | 44.30           | 10.80       | 6,786.0               | 164.7        | -7.0         | 403,586.22          | 616,246.52         | 32° 6' 32.466 N | 103° 57' 28.420 W |
| 6,862.0                      | 48.00           | 9.10        | 6,807.5               | 186.7        | -3.1         | 403,608.24          | 616,250.37         | 32° 6' 32.683 N | 103° 57' 28.374 W |
| 6,894.0                      | 50.50           | 8.30        | 6,828.4               | 210.7        | 0.5          | 403,632.20          | 616,254.04         | 32° 6' 32.920 N | 103° 57' 28.331 W |
| 6,925.0                      | 53.40           | 8.70        | 6,847.5               | 234.8        | 4.1          | 403,656.34          | 616,257.64         | 32° 6' 33.159 N | 103° 57' 28.288 W |
| 6,957.0                      | 56.80           | 8.20        | 6,865.8               | 260.8        | 8.0          | 403,682.30          | 616,261.50         | 32° 6' 33.416 N | 103° 57' 28.242 W |
| 6,988.0                      | 60.10           | 8.60        | 6,882.0               | 286.9        | 11.9         | 403,708.43          | 616,265.36         | 32° 6' 33.674 N | 103° 57' 28.196 W |
| 7,020.0                      | 63.60           | 7.90        | 6,897.1               | 314.8        | 15.9         | 403,736.35          | 616,269.40         | 32° 6' 33.951 N | 103° 57' 28.148 W |
| 7,051.0                      | 65.50           | 6.70        | 6,910.4               | 342.6        | 19.5         | 403,764.11          | 616,272.96         | 32° 6' 34.225 N | 103° 57' 28.105 W |
| 7,083.0                      | 68.80           | 6.50        | 6,922.9               | 371.9        | 22.8         | 403,793.40          | 616,276.35         | 32° 6' 34.515 N | 103° 57' 28.065 W |
| 7,114.0                      | 72.50           | 6.30        | 6,933.1               | 401.0        | 26.1         | 403,822.46          | 616,279.61         | 32° 6' 34.802 N | 103° 57' 28.026 W |
| 7,146.0                      | 77.00           | 6.50        | 6,941.6               | 431.6        | 29.5         | 403,853.13          | 616,283.05         | 32° 6' 35.106 N | 103° 57' 27.984 W |
| 7,177.0                      | 82.00           | 6.50        | 6,947.2               | 461.9        | 33.0         | 403,883.41          | 616,286.50         | 32° 6' 35.405 N | 103° 57' 27.943 W |
| 7,269.0                      | 89.30           | 4.30        | 6,954.2               | 553.2        | 41.6         | 403,974.67          | 616,295.11         | 32° 6' 36.308 N | 103° 57' 27.839 W |
| 7,364.0                      | 92.20           | 4.00        | 6,952.9               | 647.9        | 48.5         | 404,069.40          | 616,301.99         | 32° 6' 37.245 N | 103° 57' 27.755 W |
| 7,458.0                      | 92.60           | 1.70        | 6,949.0               | 741.7        | 53.2         | 404,163.20          | 616,306.66         | 32° 6' 38.174 N | 103° 57' 27.697 W |
| 7,553.0                      | 89.50           | 358.80      | 6,947.3               | 836.7        | 53.6         | 404,258.16          | 616,307.07         | 32° 6' 39.113 N | 103° 57' 27.689 W |
| 7,648.0                      | 89.60           | 358.80      | 6,948.0               | 931.6        | 51.6         | 404,353.13          | 616,305.08         | 32° 6' 40.053 N | 103° 57' 27.708 W |
| 7,742.0                      | 91.00           | 359.00      | 6,947.5               | 1,025.6      | 49.8         | 404,447.11          | 616,303.28         | 32° 6' 40.983 N | 103° 57' 27.725 W |
| 7,837.0                      | 89.80           | 358.50      | 6,946.8               | 1,120.6      | 47.7         | 404,542.09          | 616,301.20         | 32° 6' 41.923 N | 103° 57' 27.745 W |
| 7,932.0                      | 87.10           | 358.20      | 6,949.4               | 1,215.5      | 45.0         | 404,637.00          | 616,298.47         | 32° 6' 42.863 N | 103° 57' 27.773 W |
| 8,027.0                      | 90.20           | 357.90      | 6,951.6               | 1,310.4      | 41.7         | 404,731.91          | 616,295.24         | 32° 6' 43.802 N | 103° 57' 27.807 W |
| 8,121.0                      | 90.30           | 358.50      | 6,951.2               | 1,404.4      | 38.8         | 404,825.86          | 616,292.29         | 32° 6' 44.732 N | 103° 57' 27.838 W |
| 8,216.0                      | 88.70           | 359.60      | 6,952.1               | 1,499.3      | 37.2         | 404,920.84          | 616,290.71         | 32° 6' 45.672 N | 103° 57' 27.852 W |
| 8,311.0                      | 89.90           | 359.50      | 6,953.2               | 1,594.3      | 36.5         | 405,015.83          | 616,289.97         | 32° 6' 46.612 N | 103° 57' 27.857 W |
| 8,406.0                      | 91.60           | 358.80      | 6,952.0               | 1,689.3      | 35.1         | 405,110.81          | 616,288.56         | 32° 6' 47.552 N | 103° 57' 27.869 W |
| 8,501.0                      | 92.10           | 359.50      | 6,948.9               | 1,784.2      | 33.6         | 405,205.75          | 616,287.15         | 32° 6' 48.492 N | 103° 57' 27.882 W |
| 8,596.0                      | 92.30           | 1.10        | 6,945.3               | 1,879.2      | 34.1         | 405,300.67          | 616,287.64         | 32° 6' 49.431 N | 103° 57' 27.872 W |
| 8,690.0                      | 90.50           | 1.20        | 6,943.0               | 1,973.1      | 36.0         | 405,394.62          | 616,289.53         | 32° 6' 50.361 N | 103° 57' 27.847 W |
| 8,784.0                      | 87.80           | 0.90        | 6,944.4               | 2,067.1      | 37.7         | 405,488.59          | 616,291.25         | 32° 6' 51.291 N | 103° 57' 27.823 W |
| 8,879.0                      | 89.40           | 0.70        | 6,946.7               | 2,162.0      | 39.1         | 405,583.54          | 616,292.58         | 32° 6' 52.230 N | 103° 57' 27.804 W |
| 8,972.0                      | 88.90           | 1.10        | 6,948.1               | 2,255.0      | 40.5         | 405,676.52          | 616,294.04         | 32° 6' 53.150 N | 103° 57' 27.783 W |
| 9,066.0                      | 88.80           | 1.10        | 6,950.0               | 2,349.0      | 42.3         | 405,770.49          | 616,295.84         | 32° 6' 54.080 N | 103° 57' 27.758 W |
| 9,161.0                      | 90.10           | 1.20        | 6,950.9               | 2,444.0      | 44.2         | 405,865.46          | 616,297.75         | 32° 6' 55.020 N | 103° 57' 27.732 W |
| 9,255.0                      | 90.80           | 0.80        | 6,950.1               | 2,537.9      | 45.9         | 405,959.44          | 616,299.39         | 32° 6' 55.950 N | 103° 57' 27.709 W |
| 9,350.0                      | 89.90           | 0.60        | 6,949.6               | 2,632.9      | 47.0         | 406,054.43          | 616,300.55         | 32° 6' 56.890 N | 103° 57' 27.692 W |
| 9,444.0                      | 89.30           | 0.20        | 6,950.2               | 2,726.9      | 47.7         | 406,148.43          | 616,301.21         | 32° 6' 57.820 N | 103° 57' 27.680 W |
| 9,539.0                      | 90.10           | 1.20        | 6,950.7               | 2,821.9      | 48.9         | 406,243.42          | 616,302.37         | 32° 6' 58.760 N | 103° 57' 27.663 W |
| 9,632.0                      | 88.60           | 2.40        | 6,951.8               | 2,914.9      | 51.8         | 406,336.36          | 616,305.29         | 32° 6' 59.680 N | 103° 57' 27.625 W |

# Stryker Directional Survey Report - Geographic

|                  |                                                |                                     |                                          |
|------------------|------------------------------------------------|-------------------------------------|------------------------------------------|
| <b>Company:</b>  | COG Operating, LLC.                            | <b>Local Co-ordinate Reference:</b> | Well El Jimador Federal #3H              |
| <b>Project:</b>  | Eddy County, N.M.                              | <b>TVD Reference:</b>               | GL 3073.7+18 @ 3091.7usft (Silver Oak 7) |
| <b>Site:</b>     | Section 23 T25-S R29-E, El Jimador Federal #3H | <b>MD Reference:</b>                | GL 3073.7+18 @ 3091.7usft (Silver Oak 7) |
| <b>Well:</b>     | El Jimador Federal #3H                         | <b>North Reference:</b>             | Grid                                     |
| <b>Wellbore:</b> | Original Hole                                  | <b>Survey Calculation Method:</b>   | Minimum Curvature                        |
| <b>Design:</b>   | Original Hole                                  | <b>Database:</b>                    | Stryker_EDM                              |

| Survey                     |                 |             |                       |              |              |                     |                    |                 |                   |
|----------------------------|-----------------|-------------|-----------------------|--------------|--------------|---------------------|--------------------|-----------------|-------------------|
| Measured Depth (usft)      | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Map Northing (usft) | Map Easting (usft) | Latitude        | Longitude         |
| 9,727.0                    | 91.80           | 2.20        | 6,951.4               | 3,009.8      | 55.6         | 406,431.27          | 616,309.10         | 32° 7' 0.619 N  | 103° 57' 27.577 W |
| 9,817.0                    | 89.70           | 2.80        | 6,950.2               | 3,099.7      | 59.5         | 406,521.17          | 616,313.03         | 32° 7' 1.509 N  | 103° 57' 27.528 W |
| 9,911.0                    | 89.80           | 2.90        | 6,950.7               | 3,193.6      | 64.2         | 406,615.06          | 616,317.70         | 32° 7' 2.438 N  | 103° 57' 27.470 W |
| 10,005.0                   | 90.40           | 2.40        | 6,950.5               | 3,287.5      | 68.5         | 406,708.95          | 616,322.05         | 32° 7' 3.367 N  | 103° 57' 27.415 W |
| 10,099.0                   | 89.50           | 1.40        | 6,950.6               | 3,381.4      | 71.7         | 406,802.90          | 616,325.16         | 32° 7' 4.296 N  | 103° 57' 27.375 W |
| 10,193.0                   | 89.50           | 1.20        | 6,951.4               | 3,475.4      | 73.8         | 406,896.87          | 616,327.29         | 32° 7' 5.226 N  | 103° 57' 27.347 W |
| 10,288.0                   | 90.60           | 0.70        | 6,951.3               | 3,570.4      | 75.4         | 406,991.86          | 616,328.87         | 32° 7' 6.166 N  | 103° 57' 27.324 W |
| 10,383.0                   | 89.90           | 1.30        | 6,950.9               | 3,665.3      | 77.0         | 407,086.84          | 616,330.53         | 32° 7' 7.106 N  | 103° 57' 27.301 W |
| 10,477.0                   | 90.70           | 0.80        | 6,950.4               | 3,759.3      | 78.7         | 407,180.82          | 616,332.25         | 32° 7' 8.036 N  | 103° 57' 27.277 W |
| 10,572.0                   | 90.30           | 1.50        | 6,949.6               | 3,854.3      | 80.7         | 407,275.80          | 616,334.16         | 32° 7' 8.976 N  | 103° 57' 27.251 W |
| 10,666.0                   | 88.90           | 1.90        | 6,950.2               | 3,948.3      | 83.4         | 407,369.75          | 616,336.95         | 32° 7' 9.906 N  | 103° 57' 27.215 W |
| 10,760.0                   | 89.00           | 2.00        | 6,952.0               | 4,042.2      | 86.6         | 407,463.68          | 616,340.14         | 32° 7' 10.835 N | 103° 57' 27.174 W |
| 10,855.0                   | 90.40           | 2.00        | 6,952.5               | 4,137.1      | 90.0         | 407,558.62          | 616,343.46         | 32° 7' 11.775 N | 103° 57' 27.132 W |
| 10,949.0                   | 89.20           | 0.70        | 6,952.8               | 4,231.1      | 92.2         | 407,652.59          | 616,345.67         | 32° 7' 12.704 N | 103° 57' 27.102 W |
| 11,043.0                   | 90.00           | 0.10        | 6,953.4               | 4,325.1      | 92.8         | 407,746.59          | 616,346.33         | 32° 7' 13.635 N | 103° 57' 27.091 W |
| 11,137.0                   | 89.40           | 359.80      | 6,953.9               | 4,419.1      | 92.7         | 407,840.58          | 616,346.25         | 32° 7' 14.565 N | 103° 57' 27.088 W |
| 11,232.0                   | 89.80           | 359.00      | 6,954.6               | 4,514.1      | 91.7         | 407,935.57          | 616,345.25         | 32° 7' 15.505 N | 103° 57' 27.096 W |
| 11,327.0                   | 90.50           | 358.50      | 6,954.3               | 4,609.1      | 89.7         | 408,030.55          | 616,343.18         | 32° 7' 16.445 N | 103° 57' 27.116 W |
| 11,422.0                   | 90.70           | 358.50      | 6,953.4               | 4,704.0      | 87.2         | 408,125.51          | 616,340.69         | 32° 7' 17.385 N | 103° 57' 27.141 W |
| 11,468.0                   | 91.00           | 358.50      | 6,952.7               | 4,750.0      | 86.0         | 408,171.49          | 616,339.49         | 32° 7' 17.840 N | 103° 57' 27.153 W |
| 11468' MD Projected to Bit |                 |             |                       |              |              |                     |                    |                 |                   |

| Design Annotations    |                       |                   |              |                            |
|-----------------------|-----------------------|-------------------|--------------|----------------------------|
| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates |              | Comment                    |
|                       |                       | +N/-S (usft)      | +E/-W (usft) |                            |
| 6,348.0               | 6,347.4               | 6.0               | -33.2        | 6348' VES Gyro Survey      |
| 11,468.0              | 6,952.7               | 4,750.0           | 86.0         | 11468' MD Projected to Bit |