

Operator: COG Operating  
Well/Lease: Super Cobra State Com 1H  
County: Lea

STATE OF NEW MEXICO  
DEVIATION REPORT

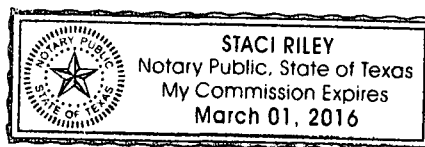
| <u>Footage</u> | <u>Degree</u> |
|----------------|---------------|
| 315            | 0.70          |
| 648            | 0.40          |
| 1199           | 0.00          |
| 1541           | 0.20          |
| 1786           | 0.60          |
| 2245           | 0.40          |
| 2531           | 0.20          |
| 2955           | 1.90          |
| 3336           | 1.10          |
| 3610           | 1.00          |
| 3889           | 1.10          |
| 4174           | 0.30          |
| 4839           | 0.90          |
| 5450           | 0.80          |
| 5960           | 1.00          |
| 6213           | 0.50          |
| 6676           | 1.70          |
| 6961           | 1.20          |
| 7255           | 0.60          |
| 7762           | 1.00          |
| 8226           | 0.80          |
| 8775           | 1.60          |
| 9282           | 1.50          |
| 9776           | 0.90          |
| 10266          | 1.60          |
| 10725          | 0.40          |
| 11168          | 2.20          |
| 11327          | 1.50          |
| 11959          | 1.10          |
| 12313          | 0.50          |

HOBBSOCD  
FEB 18 2015  
RECEIVED

Signed By: Charles Walsh  
Charles Walsh, Division Manager  
Pioneer Drilling Company

Appeared before me on Dec 16, 2014.

Staci Riley  
Notary Public



FEB 24 2015



December 2, 2014

HOBBSOCD

FEB 18 2015

RECEIVED

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

Attn: Kanicia Castillo

RE: **Super Cobra State Com 1H**

Please find enclosed a copy of the survey from 0.00' to 12250.00' ran on the above referenced well.

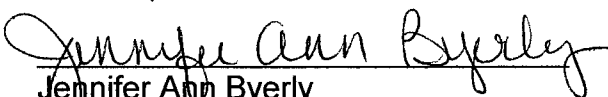
If I can be of any further service, please do not hesitate to call me at 800-606-4976.

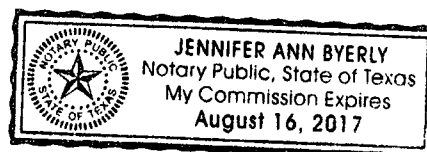
Sincerely,

  
Keith Havelka  
Operations

STATE OF TEXAS     §  
                                  §  
COUNTY OF NUECES §

This instrument was acknowledged before me on the 2 day of December A.D., 2014, by Keith Havelka.

  
Jennifer Ann Byerly  
Notary Public, State of Texas





Company: COG Operating  
Lease/Well: Super Cobra State Com/1H  
Location: Sec 13 T19S R34E  
Rig Name: Pioneer 20  
State/County: New Mexico/Lea  
Latitude: 32.65, Longitude: -103.51  
GRID North is 0.45 Degrees East of True North  
VS-Azi: 0.00 Degrees



Depth Reference : RKB = 17 Feet

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: gyro survey.ut  
Minimum Curvature Method  
Report Date/Time: 12/2/2014 / 13:31

VES Survey International  
West Texas  
(432) 563-5444  
Surveyor: Noe Garza  
Super Cobra State Com 1H / API 30-025-41987

HOBSOCD

FEB 18 2015

RECEIVED

| 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                  | 0.47                 | 176.72                    | 100.00    | -0.41       | 0.02        | -0.41                     | 0.41                      | 176.72                      | 0.47                          |
| 200.00                  | 0.33                 | 167.09                    | 200.00    | -1.09       | 0.11        | -1.09                     | 1.10                      | 174.19                      | 0.15                          |
| 300.00                  | 0.52                 | 166.12                    | 299.99    | -1.82       | 0.28        | -1.82                     | 1.84                      | 171.09                      | 0.19                          |
| 400.00                  | 0.40                 | 167.83                    | 399.99    | -2.60       | 0.47        | -2.60                     | 2.64                      | 169.81                      | 0.12                          |
| 500.00                  | 0.13                 | 124.63                    | 499.99    | -3.01       | 0.64        | -3.01                     | 3.07                      | 168.04                      | 0.32                          |
| 600.00                  | 0.26                 | 146.92                    | 599.99    | -3.26       | 0.86        | -3.26                     | 3.37                      | 165.29                      | 0.14                          |
| 700.00                  | 0.31                 | 95.58                     | 699.99    | -3.48       | 1.25        | -3.48                     | 3.70                      | 160.21                      | 0.25                          |
| 800.00                  | 0.15                 | 56.07                     | 799.99    | -3.43       | 1.63        | -3.43                     | 3.80                      | 154.58                      | 0.22                          |
| 900.00                  | 0.16                 | 38.11                     | 899.99    | -3.25       | 1.83        | -3.25                     | 3.73                      | 150.67                      | 0.05                          |
| 1000.00                 | 0.18                 | 60.12                     | 999.99    | -3.06       | 2.05        | -3.06                     | 3.68                      | 146.25                      | 0.07                          |
| 1100.00                 | 0.08                 | 108.54                    | 1099.99   | -3.01       | 2.24        | -3.01                     | 3.75                      | 143.28                      | 0.14                          |
| 1200.00                 | 0.14                 | 79.78                     | 1199.99   | -3.01       | 2.42        | -3.01                     | 3.86                      | 141.14                      | 0.08                          |
| 1300.00                 | 0.18                 | 98.32                     | 1299.99   | -3.01       | 2.70        | -3.01                     | 4.04                      | 138.14                      | 0.07                          |
| 1400.00                 | 0.08                 | 79.86                     | 1399.98   | -3.02       | 2.93        | -3.02                     | 4.21                      | 135.90                      | 0.10                          |
| 1500.00                 | 0.13                 | 65.96                     | 1499.98   | -2.96       | 3.10        | -2.96                     | 4.29                      | 133.67                      | 0.05                          |
| 1600.00                 | 0.33                 | 331.33                    | 1599.98   | -2.66       | 3.07        | -2.66                     | 4.06                      | 130.97                      | 0.36                          |
| 1700.00                 | 0.38                 | 322.44                    | 1699.98   | -2.15       | 2.72        | -2.15                     | 3.47                      | 128.22                      | 0.07                          |
| 1800.00                 | 0.36                 | 328.23                    | 1799.98   | -1.62       | 2.36        | -1.62                     | 2.86                      | 124.43                      | 0.04                          |

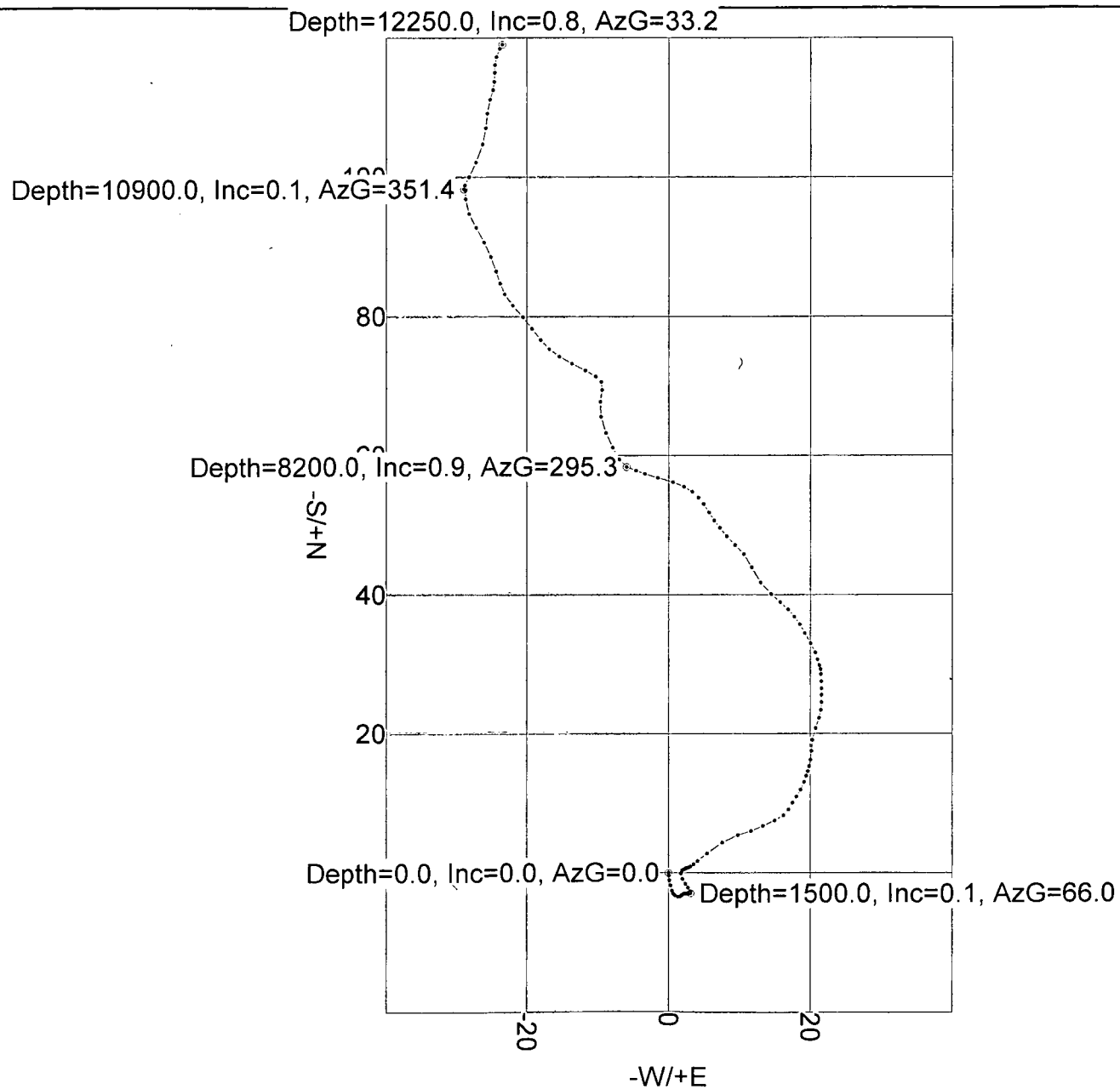
| Measured<br>Depth<br>FT | Incl<br>Angle<br>Deg | Drift<br>Direction<br>Deg | TVD<br>FT | +N/-S<br>FT | +E/-W<br>FT | Vertical<br>Section<br>FT | Closure<br>Distance<br>FT | Closure<br>Direction<br>Deg | Dogleg<br>Severity<br>Deg/100 |
|-------------------------|----------------------|---------------------------|-----------|-------------|-------------|---------------------------|---------------------------|-----------------------------|-------------------------------|
| 1900.00                 | 0.57                 | 331.15                    | 1899.98   | -0.91       | 1.95        | -0.91                     | 2.15                      | 115.03                      | 0.21                          |
| 2000.00                 | 0.38                 | 2.11                      | 1999.97   | -0.15       | 1.72        | -0.15                     | 1.73                      | 94.82                       | 0.32                          |
| 2100.00                 | 0.24                 | 50.29                     | 2099.97   | 0.32        | 1.90        | 0.32                      | 1.92                      | 80.50                       | 0.28                          |
| 2200.00                 | 0.15                 | 73.85                     | 2199.97   | 0.49        | 2.18        | 0.49                      | 2.24                      | 77.40                       | 0.12                          |
| 2300.00                 | 0.13                 | 38.10                     | 2299.97   | 0.62        | 2.38        | 0.62                      | 2.46                      | 75.50                       | 0.09                          |
| 2400.00                 | 0.15                 | 88.77                     | 2399.97   | 0.71        | 2.58        | 0.71                      | 2.68                      | 74.63                       | 0.12                          |
| 2500.00                 | 0.06                 | 81.20                     | 2499.97   | 0.72        | 2.76        | 0.72                      | 2.85                      | 75.39                       | 0.09                          |
| 2600.00                 | 0.35                 | 61.48                     | 2599.97   | 0.87        | 3.08        | 0.87                      | 3.21                      | 74.17                       | 0.29                          |
| 2700.00                 | 0.30                 | 44.79                     | 2699.97   | 1.21        | 3.54        | 1.21                      | 3.74                      | 71.14                       | 0.11                          |
| 2800.00                 | 0.53                 | 51.64                     | 2799.97   | 1.68        | 4.09        | 1.68                      | 4.42                      | 67.62                       | 0.23                          |
| 2900.00                 | 1.43                 | 50.13                     | 2899.95   | 2.77        | 5.41        | 2.77                      | 6.08                      | 62.88                       | 0.91                          |
| 3000.00                 | 1.62                 | 56.75                     | 2999.91   | 4.34        | 7.55        | 4.34                      | 8.71                      | 60.07                       | 0.26                          |
| 3100.00                 | 1.21                 | 73.70                     | 3099.88   | 5.42        | 9.74        | 5.42                      | 11.15                     | 60.93                       | 0.58                          |
| 3200.00                 | 1.02                 | 70.58                     | 3199.87   | 6.01        | 11.59       | 6.01                      | 13.06                     | 62.61                       | 0.20                          |
| 3300.00                 | 1.12                 | 63.94                     | 3299.85   | 6.73        | 13.30       | 6.73                      | 14.91                     | 63.17                       | 0.16                          |
| 3400.00                 | 0.98                 | 65.90                     | 3399.83   | 7.51        | 14.96       | 7.51                      | 16.74                     | 63.35                       | 0.14                          |
| 3500.00                 | 0.68                 | 51.51                     | 3499.82   | 8.22        | 16.20       | 8.22                      | 18.17                     | 63.09                       | 0.37                          |
| 3600.00                 | 0.63                 | 28.67                     | 3599.81   | 9.08        | 16.93       | 9.08                      | 19.21                     | 61.81                       | 0.26                          |
| 3700.00                 | 0.63                 | 31.25                     | 3699.81   | 10.03       | 17.48       | 10.03                     | 20.15                     | 60.15                       | 0.03                          |
| 3800.00                 | 0.58                 | 31.04                     | 3799.80   | 10.93       | 18.03       | 10.93                     | 21.08                     | 58.76                       | 0.05                          |
| 3900.00                 | 0.75                 | 29.74                     | 3899.80   | 11.94       | 18.62       | 11.94                     | 22.12                     | 57.32                       | 0.17                          |
| 4000.00                 | 0.66                 | 16.49                     | 3999.79   | 13.06       | 19.10       | 13.06                     | 23.14                     | 55.64                       | 0.19                          |
| 4100.00                 | 0.40                 | 25.16                     | 4099.78   | 13.92       | 19.41       | 13.92                     | 23.89                     | 54.35                       | 0.27                          |
| 4200.00                 | 0.40                 | 11.36                     | 4199.78   | 14.59       | 19.63       | 14.59                     | 24.46                     | 53.39                       | 0.10                          |
| 4300.00                 | 0.44                 | 14.19                     | 4299.78   | 15.31       | 19.80       | 15.31                     | 25.02                     | 52.29                       | 0.05                          |
| 4400.00                 | 0.65                 | 10.77                     | 4399.77   | 16.24       | 20.00       | 16.24                     | 25.76                     | 50.92                       | 0.21                          |
| 4500.00                 | 0.81                 | 2.54                      | 4499.77   | 17.51       | 20.14       | 17.51                     | 26.68                     | 48.99                       | 0.19                          |
| 4600.00                 | 1.00                 | 7.49                      | 4599.75   | 19.08       | 20.28       | 19.08                     | 27.84                     | 46.75                       | 0.20                          |
| 4700.00                 | 1.07                 | 20.15                     | 4699.74   | 20.81       | 20.71       | 20.81                     | 29.37                     | 44.86                       | 0.24                          |
| 4800.00                 | 0.68                 | 17.21                     | 4799.73   | 22.26       | 21.21       | 22.26                     | 30.75                     | 43.62                       | 0.39                          |
| 4900.00                 | 0.68                 | 6.31                      | 4899.72   | 23.42       | 21.45       | 23.42                     | 31.76                     | 42.50                       | 0.13                          |
| 5000.00                 | 0.63                 | 2.51                      | 4999.71   | 24.56       | 21.54       | 24.56                     | 32.67                     | 41.26                       | 0.06                          |
| 5100.00                 | 0.54                 | 358.67                    | 5099.71   | 25.58       | 21.56       | 25.58                     | 33.45                     | 40.12                       | 0.10                          |
| 5200.00                 | 0.53                 | 1.38                      | 5199.70   | 26.51       | 21.56       | 26.51                     | 34.17                     | 39.11                       | 0.03                          |
| 5300.00                 | 0.63                 | 354.58                    | 5299.70   | 27.52       | 21.51       | 27.52                     | 34.93                     | 38.02                       | 0.13                          |
| 5400.00                 | 0.60                 | 1.40                      | 5399.69   | 28.59       | 21.47       | 28.59                     | 35.76                     | 36.91                       | 0.08                          |
| 5500.00                 | 0.20                 | 342.13                    | 5499.69   | 29.28       | 21.44       | 29.28                     | 36.29                     | 36.21                       | 0.42                          |
| 5600.00                 | 0.49                 | 339.80                    | 5599.69   | 29.84       | 21.23       | 29.84                     | 36.63                     | 35.43                       | 0.30                          |
| 5700.00                 | 0.54                 | 345.60                    | 5699.68   | 30.70       | 20.97       | 30.70                     | 37.18                     | 34.33                       | 0.07                          |

| 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                 | 0.66                 | 339.81                    | 5799.68   | 31.70       | 20.65       | 31.70                     | 37.83                     | 33.09                       | 0.13                          |
| 5900.00                 | 1.01                 | 330.07                    | 5899.67   | 33.00       | 20.02       | 33.00                     | 38.59                     | 31.25                       | 0.38                          |
| 6000.00                 | 0.93                 | 331.92                    | 5999.65   | 34.47       | 19.20       | 34.47                     | 39.46                     | 29.11                       | 0.08                          |
| 6100.00                 | 0.74                 | 329.41                    | 6099.64   | 35.74       | 18.49       | 35.74                     | 40.24                     | 27.35                       | 0.20                          |
| 6200.00                 | 0.78                 | 320.82                    | 6199.63   | 36.82       | 17.73       | 36.82                     | 40.87                     | 25.71                       | 0.12                          |
| 6300.00                 | 0.80                 | 318.52                    | 6299.62   | 37.87       | 16.84       | 37.87                     | 41.45                     | 23.97                       | 0.04                          |
| 6400.00                 | 0.96                 | 308.18                    | 6399.61   | 38.91       | 15.72       | 38.91                     | 41.97                     | 22.00                       | 0.23                          |
| 6500.00                 | 1.03                 | 316.42                    | 6499.60   | 40.08       | 14.44       | 40.08                     | 42.61                     | 19.81                       | 0.16                          |
| 6600.00                 | 1.51                 | 318.49                    | 6599.57   | 41.72       | 12.95       | 41.72                     | 43.68                     | 17.24                       | 0.48                          |
| 6700.00                 | 1.48                 | 340.64                    | 6699.54   | 43.92       | 11.65       | 43.92                     | 45.44                     | 14.85                       | 0.57                          |
| 6800.00                 | 1.08                 | 315.50                    | 6799.52   | 45.81       | 10.56       | 45.81                     | 47.01                     | 12.99                       | 0.68                          |
| 6900.00                 | 0.96                 | 317.40                    | 6899.50   | 47.09       | 9.34        | 47.09                     | 48.01                     | 11.22                       | 0.12                          |
| 7000.00                 | 1.02                 | 316.97                    | 6999.48   | 48.36       | 8.17        | 48.36                     | 49.04                     | 9.58                        | 0.06                          |
| 7100.00                 | 0.79                 | 325.51                    | 7099.47   | 49.58       | 7.17        | 49.58                     | 50.09                     | 8.23                        | 0.26                          |
| 7200.00                 | 0.69                 | 320.17                    | 7199.46   | 50.61       | 6.39        | 50.61                     | 51.01                     | 7.20                        | 0.12                          |
| 7300.00                 | 0.90                 | 332.56                    | 7299.45   | 51.78       | 5.64        | 51.78                     | 52.08                     | 6.22                        | 0.27                          |
| 7400.00                 | 0.75                 | 323.55                    | 7399.44   | 53.00       | 4.89        | 53.00                     | 53.22                     | 5.27                        | 0.20                          |
| 7500.00                 | 0.60                 | 323.29                    | 7499.44   | 53.95       | 4.19        | 53.95                     | 54.11                     | 4.44                        | 0.14                          |
| 7600.00                 | 0.78                 | 304.09                    | 7599.43   | 54.75       | 3.30        | 54.75                     | 54.85                     | 3.45                        | 0.29                          |
| 7700.00                 | 0.80                 | 299.90                    | 7699.42   | 55.48       | 2.13        | 55.48                     | 55.52                     | 2.20                        | 0.06                          |
| 7800.00                 | 1.15                 | 290.55                    | 7799.41   | 56.18       | 0.59        | 56.18                     | 56.19                     | 0.60                        | 0.38                          |
| 7900.00                 | 1.37                 | 282.14                    | 7899.38   | 56.78       | -1.51       | 56.78                     | 56.81                     | 358.47                      | 0.29                          |
| 8000.00                 | 0.84                 | 294.13                    | 7999.36   | 57.34       | -3.35       | 57.34                     | 57.43                     | 356.66                      | 0.57                          |
| 8100.00                 | 0.69                 | 287.71                    | 8099.35   | 57.82       | -4.60       | 57.82                     | 58.00                     | 355.45                      | 0.17                          |
| 8200.00                 | 0.93                 | 295.33                    | 8199.34   | 58.35       | -5.90       | 58.35                     | 58.65                     | 354.22                      | 0.26                          |
| 8300.00                 | 0.93                 | 336.87                    | 8299.33   | 59.44       | -6.95       | 59.44                     | 59.85                     | 353.33                      | 0.66                          |
| 8400.00                 | 1.28                 | 326.84                    | 8399.31   | 61.12       | -7.88       | 61.12                     | 61.63                     | 352.65                      | 0.40                          |
| 8500.00                 | 1.43                 | 343.42                    | 8499.29   | 63.26       | -8.85       | 63.26                     | 63.88                     | 352.03                      | 0.42                          |
| 8600.00                 | 1.34                 | 344.35                    | 8599.26   | 65.58       | -9.52       | 65.58                     | 66.27                     | 351.74                      | 0.10                          |
| 8700.00                 | 1.18                 | 11.80                     | 8699.23   | 67.71       | -9.63       | 67.71                     | 68.39                     | 351.91                      | 0.62                          |
| 8800.00                 | 0.81                 | 4.93                      | 8799.22   | 69.43       | -9.36       | 69.43                     | 70.05                     | 352.32                      | 0.38                          |
| 8900.00                 | 0.55                 | 334.64                    | 8899.21   | 70.57       | -9.50       | 70.57                     | 71.21                     | 352.33                      | 0.44                          |
| 9000.00                 | 0.77                 | 304.49                    | 8999.20   | 71.38       | -10.26      | 71.38                     | 72.12                     | 351.82                      | 0.40                          |
| 9100.00                 | 1.18                 | 296.75                    | 9099.19   | 72.22       | -11.73      | 72.22                     | 73.17                     | 350.77                      | 0.43                          |
| 9200.00                 | 1.29                 | 298.25                    | 9199.17   | 73.22       | -13.64      | 73.22                     | 74.48                     | 349.44                      | 0.12                          |
| 9300.00                 | 1.04                 | 301.26                    | 9299.15   | 74.23       | -15.41      | 74.23                     | 75.81                     | 348.27                      | 0.26                          |
| 9400.00                 | 0.99                 | 313.05                    | 9399.13   | 75.28       | -16.82      | 75.28                     | 77.14                     | 347.41                      | 0.21                          |
| 9500.00                 | 1.12                 | 319.48                    | 9499.11   | 76.61       | -18.08      | 76.61                     | 78.72                     | 346.72                      | 0.18                          |
| 9600.00                 | 1.19                 | 326.41                    | 9599.09   | 78.22       | -19.29      | 78.22                     | 80.56                     | 346.15                      | 0.16                          |

| 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 |
|-------------------------|----------------------|---------------------------|-----------|-------------|-------------|---------------------------|---------------------------|-----------------------------|-------------------------------|
| 9700.00                 | 1.22                 | 319.69                    | 9699.07   | 79.89       | -20.55      | 79.89                     | 82.49                     | 345.58                      | 0.14                          |
| 9800.00                 | 1.31                 | 317.06                    | 9799.05   | 81.54       | -22.01      | 81.54                     | 84.46                     | 344.89                      | 0.11                          |
| 9900.00                 | 1.01                 | 335.04                    | 9899.03   | 83.17       | -23.16      | 83.17                     | 86.34                     | 344.44                      | 0.47                          |
| 10000.00                | 0.90                 | 339.20                    | 9999.01   | 84.70       | -23.81      | 84.70                     | 87.99                     | 344.30                      | 0.13                          |
| 10100.00                | 1.21                 | 343.72                    | 10099.00  | 86.45       | -24.39      | 86.45                     | 89.82                     | 344.25                      | 0.32                          |
| 10200.00                | 1.31                 | 337.10                    | 10198.97  | 88.52       | -25.13      | 88.52                     | 92.01                     | 344.15                      | 0.18                          |
| 10300.00                | 1.36                 | 332.86                    | 10298.94  | 90.63       | -26.12      | 90.63                     | 94.32                     | 343.92                      | 0.11                          |
| 10400.00                | 1.32                 | 330.24                    | 10398.92  | 92.69       | -27.23      | 92.69                     | 96.61                     | 343.63                      | 0.07                          |
| 10500.00                | 1.28                 | 335.98                    | 10498.89  | 94.71       | -28.26      | 94.71                     | 98.84                     | 343.39                      | 0.14                          |
| 10600.00                | 1.23                 | 358.21                    | 10598.87  | 96.81       | -28.75      | 96.81                     | 100.99                    | 343.46                      | 0.49                          |
| 10700.00                | 0.17                 | 358.63                    | 10698.86  | 98.03       | -28.79      | 98.03                     | 102.17                    | 343.64                      | 1.06                          |
| 10800.00                | 0.10                 | 260.84                    | 10798.86  | 98.16       | -28.88      | 98.16                     | 102.32                    | 343.61                      | 0.21                          |
| 10900.00                | 0.10                 | 351.42                    | 10898.86  | 98.23       | -28.98      | 98.23                     | 102.41                    | 343.57                      | 0.14                          |
| 11000.00                | 0.58                 | 18.85                     | 10998.86  | 98.80       | -28.82      | 98.80                     | 102.92                    | 343.74                      | 0.50                          |
| 11100.00                | 0.96                 | 29.64                     | 11098.85  | 100.01      | -28.24      | 100.01                    | 103.92                    | 344.23                      | 0.40                          |
| 11200.00                | 1.68                 | 22.95                     | 11198.82  | 102.09      | -27.26      | 102.09                    | 105.66                    | 345.05                      | 0.74                          |
| 11300.00                | 1.50                 | 15.74                     | 11298.78  | 104.70      | -26.33      | 104.70                    | 107.96                    | 345.88                      | 0.27                          |
| 11400.00                | 1.21                 | 5.55                      | 11398.75  | 107.01      | -25.87      | 107.01                    | 110.10                    | 346.41                      | 0.38                          |
| 11500.00                | 1.20                 | 7.48                      | 11498.73  | 109.10      | -25.64      | 109.10                    | 112.07                    | 346.78                      | 0.04                          |
| 11600.00                | 1.15                 | 15.25                     | 11598.71  | 111.11      | -25.23      | 111.11                    | 113.94                    | 347.20                      | 0.17                          |
| 11700.00                | 0.49                 | 18.63                     | 11698.70  | 112.49      | -24.83      | 112.49                    | 115.20                    | 347.55                      | 0.66                          |
| 11800.00                | 0.88                 | 4.52                      | 11798.69  | 113.66      | -24.64      | 113.66                    | 116.30                    | 347.77                      | 0.42                          |
| 11900.00                | 0.65                 | 358.66                    | 11898.68  | 114.98      | -24.59      | 114.98                    | 117.58                    | 347.93                      | 0.24                          |
| 12000.00                | 0.62                 | 7.39                      | 11998.68  | 116.08      | -24.53      | 116.08                    | 118.65                    | 348.07                      | 0.10                          |
| 12100.00                | 0.72                 | 12.10                     | 12098.67  | 117.23      | -24.33      | 117.23                    | 119.73                    | 348.27                      | 0.11                          |
| 12200.00                | 0.78                 | 29.21                     | 12198.66  | 118.43      | -23.87      | 118.43                    | 120.81                    | 348.61                      | 0.23                          |
| 12250.00                | 0.85                 | 33.18                     | 12248.66  | 119.04      | -23.50      | 119.04                    | 121.34                    | 348.83                      | 0.18                          |



VES Survey International  
West Texas  
(432) 563-5444  
Surveyor: Noe Garza  
Super Cobra State Com 1H / API 30-025-41987



VES Survey Date: 11/22/2014



## **COG Operating LLC**

**Lea County, NM**

**Super Cobra State Com**

**#1H**

**OH**

**Design: OH**

## **Survey Report - Geographic**

**08 December, 2014**







TDS  
Survey Report - Geographic



|           |                       |                              |                           |
|-----------|-----------------------|------------------------------|---------------------------|
| Company:  | COG Operating LLC     | Local Co-ordinate Reference: | Well #1H                  |
| Project:  | Lea County, NM        | TVD Reference:               | KB @ 3895.4usft           |
| Site:     | Super Cobra State Com | MD Reference:                | KB @ 3895.4usft           |
| Well:     | #1H                   | North Reference:             | Grid                      |
| Wellbore: | OH                    | Survey Calculation Method:   | Minimum Curvature         |
| Design:   | OH                    | Database:                    | EDM 5000.1 Single User Db |

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

|                       |                       |                   |                   |
|-----------------------|-----------------------|-------------------|-------------------|
| Site                  | Super Cobra State Com |                   |                   |
| Site Position:        |                       | Northing:         | 602,508.30 usft   |
| From:                 | Map                   | Easting:          | 754,373.20 usft   |
| Position Uncertainty: | 0.0 usft              | Slot Radius:      | 13-3/16 "         |
|                       |                       | Latitude:         | 32° 39' 13.232 N  |
|                       |                       | Longitude:        | 103° 30' 24.680 W |
|                       |                       | Grid Convergence: | 0.45 °            |

|                      |          |                     |                   |
|----------------------|----------|---------------------|-------------------|
| Well                 | #1H      |                     |                   |
| Well Position        | +N/-S    | 0.0 usft            | Northing:         |
|                      | +E/-W    | 0.0 usft            | Easting:          |
| Position Uncertainty | 0.0 usft | Wellhead Elevation: | 0.0 usft          |
|                      |          | Latitude:           | 32° 39' 13.232 N  |
|                      |          | Longitude:          | 103° 30' 24.680 W |
|                      |          | Ground Level:       | 3,878.4 usft      |

|           |            |             |                 |               |                     |
|-----------|------------|-------------|-----------------|---------------|---------------------|
| Wellbore  | OH         |             |                 |               |                     |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
|           | IGRF2010   | 10/26/2014  | 7.17            | 60.51         | 48,541              |

|                   |                         |              |              |               |     |
|-------------------|-------------------------|--------------|--------------|---------------|-----|
| Design            | OH                      |              |              |               |     |
| Audit Notes:      |                         |              |              |               |     |
| Version:          | 1.0                     | Phase:       | ACTUAL       | Tie On Depth: | 0.0 |
| Vertical Section: | Depth From (TVD) (usft) | +N/-S (usft) | +E/-W (usft) | Direction (°) |     |
|                   | 0.0                     | 0.0          | 0.0          | 359.49        |     |

|                |                |                   |           |                |  |
|----------------|----------------|-------------------|-----------|----------------|--|
| Survey Program | Date 12/8/2014 |                   |           |                |  |
| From (usft)    | To (usft)      | Survey (Wellbore) | Tool Name | Description    |  |
| 100.0          | 10,300.0       | GYRO #1 (OH)      | Good_gyro | Good Gyro      |  |
| 10,328.0       | 15,298.0       | MWD #1 (OH)       | MWD       | MWD - Standard |  |

|                       |                 |             |                       |              |              |                     |                    |                  |                   |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|---------------------|--------------------|------------------|-------------------|
| Survey                |                 |             |                       |              |              |                     |                    |                  |                   |
| 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          | 602,508.30          | 754,373.20         | 32° 39' 13.232 N | 103° 30' 24.680 W |
| 100.0                 | 0.47            | 176.72      | 100.0                 | -0.4         | 0.0          | 602,507.89          | 754,373.22         | 32° 39' 13.228 N | 103° 30' 24.680 W |
| 200.0                 | 0.33            | 167.09      | 200.0                 | -1.1         | 0.1          | 602,507.20          | 754,373.31         | 32° 39' 13.221 N | 103° 30' 24.679 W |
| 300.0                 | 0.52            | 166.12      | 300.0                 | -1.8         | 0.3          | 602,506.48          | 754,373.48         | 32° 39' 13.214 N | 103° 30' 24.677 W |
| 400.0                 | 0.40            | 167.83      | 400.0                 | -2.6         | 0.5          | 602,505.70          | 754,373.66         | 32° 39' 13.206 N | 103° 30' 24.675 W |
| 500.0                 | 0.13            | 124.63      | 500.0                 | -3.0         | 0.6          | 602,505.30          | 754,373.83         | 32° 39' 13.202 N | 103° 30' 24.673 W |
| 600.0                 | 0.26            | 146.92      | 600.0                 | -3.3         | 0.9          | 602,505.04          | 754,374.05         | 32° 39' 13.200 N | 103° 30' 24.670 W |
| 700.0                 | 0.31            | 95.58       | 700.0                 | -3.5         | 1.2          | 602,504.82          | 754,374.44         | 32° 39' 13.197 N | 103° 30' 24.666 W |
| 800.0                 | 0.15            | 56.07       | 800.0                 | -3.4         | 1.6          | 602,504.87          | 754,374.82         | 32° 39' 13.198 N | 103° 30' 24.661 W |
| 900.0                 | 0.16            | 38.11       | 900.0                 | -3.2         | 1.8          | 602,505.05          | 754,375.01         | 32° 39' 13.200 N | 103° 30' 24.659 W |
| 1,000.0               | 0.18            | 60.12       | 1,000.0               | -3.1         | 2.0          | 602,505.24          | 754,375.24         | 32° 39' 13.201 N | 103° 30' 24.657 W |



**TDS**  
Survey Report - Geographic



|                                    |                                                     |  |
|------------------------------------|-----------------------------------------------------|--|
| <b>Company:</b> COG Operating LLC  | <b>Local Co-ordinate Reference:</b> Well #1H        |  |
| <b>Project:</b> Lea County, NM     | <b>TVD Reference:</b> KB @ 3895.4usft               |  |
| <b>Site:</b> Super Cobra State Com | <b>MD Reference:</b> KB @ 3895.4usft                |  |
| <b>Well:</b> #1H                   | <b>North Reference:</b> Grid                        |  |
| <b>Wellbore:</b> OH                | <b>Survey Calculation Method:</b> Minimum Curvature |  |
| <b>Design:</b> OH                  | <b>Database:</b> EDM 5000.1 Single User Db          |  |

**Survey**

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N-S (usft) | +E-W (usft) | Map Northing (usft) | Map Easting (usft) | Latitude         | Longitude         |
|-----------------------|-----------------|-------------|-----------------------|-------------|-------------|---------------------|--------------------|------------------|-------------------|
| 1,100.0               | 0.08            | 108.54      | 1,100.0               | -3.0        | 2.2         | 602,505.30          | 754,375.44         | 32° 39' 13.202 N | 103° 30' 24.654 W |
| 1,200.0               | 0.14            | 79.78       | 1,200.0               | -3.0        | 2.4         | 602,505.30          | 754,375.62         | 32° 39' 13.202 N | 103° 30' 24.652 W |
| 1,300.0               | 0.18            | 98.32       | 1,300.0               | -3.0        | 2.7         | 602,505.30          | 754,375.90         | 32° 39' 13.202 N | 103° 30' 24.649 W |
| 1,400.0               | 0.08            | 79.86       | 1,400.0               | -3.0        | 2.9         | 602,505.29          | 754,376.12         | 32° 39' 13.202 N | 103° 30' 24.646 W |
| 1,500.0               | 0.13            | 65.96       | 1,500.0               | -3.0        | 3.1         | 602,505.34          | 754,376.30         | 32° 39' 13.202 N | 103° 30' 24.644 W |
| 1,600.0               | 0.33            | 331.33      | 1,600.0               | -2.7        | 3.1         | 602,505.64          | 754,376.26         | 32° 39' 13.205 N | 103° 30' 24.645 W |
| 1,700.0               | 0.38            | 322.44      | 1,700.0               | -2.1        | 2.7         | 602,506.16          | 754,375.92         | 32° 39' 13.210 N | 103° 30' 24.648 W |
| 1,800.0               | 0.36            | 328.23      | 1,800.0               | -1.6        | 2.4         | 602,506.69          | 754,375.55         | 32° 39' 13.216 N | 103° 30' 24.653 W |
| 1,900.0               | 0.57            | 331.15      | 1,900.0               | -0.9        | 2.0         | 602,507.39          | 754,375.15         | 32° 39' 13.223 N | 103° 30' 24.657 W |
| 2,000.0               | 0.38            | 2.11        | 2,000.0               | -0.1        | 1.7         | 602,508.16          | 754,374.92         | 32° 39' 13.230 N | 103° 30' 24.660 W |
| 2,100.0               | 0.24            | 50.29       | 2,100.0               | 0.3         | 1.9         | 602,508.62          | 754,375.09         | 32° 39' 13.235 N | 103° 30' 24.658 W |
| 2,200.0               | 0.15            | 73.85       | 2,200.0               | 0.5         | 2.2         | 602,508.79          | 754,375.38         | 32° 39' 13.237 N | 103° 30' 24.655 W |
| 2,300.0               | 0.13            | 38.10       | 2,300.0               | 0.6         | 2.4         | 602,508.92          | 754,375.58         | 32° 39' 13.238 N | 103° 30' 24.652 W |
| 2,400.0               | 0.15            | 88.77       | 2,400.0               | 0.7         | 2.6         | 602,509.01          | 754,375.78         | 32° 39' 13.239 N | 103° 30' 24.650 W |
| 2,500.0               | 0.06            | 81.20       | 2,500.0               | 0.7         | 2.8         | 602,509.02          | 754,375.96         | 32° 39' 13.239 N | 103° 30' 24.648 W |
| 2,600.0               | 0.35            | 61.48       | 2,600.0               | 0.9         | 3.1         | 602,509.18          | 754,376.28         | 32° 39' 13.240 N | 103° 30' 24.644 W |
| 2,700.0               | 0.30            | 44.79       | 2,700.0               | 1.2         | 3.5         | 602,509.51          | 754,376.73         | 32° 39' 13.244 N | 103° 30' 24.639 W |
| 2,800.0               | 0.53            | 51.64       | 2,800.0               | 1.7         | 4.1         | 602,509.98          | 754,377.28         | 32° 39' 13.248 N | 103° 30' 24.632 W |
| 2,900.0               | 1.43            | 50.13       | 2,900.0               | 2.8         | 5.4         | 602,511.07          | 754,378.60         | 32° 39' 13.259 N | 103° 30' 24.617 W |
| 3,000.0               | 1.62            | 56.75       | 2,999.9               | 4.3         | 7.5         | 602,512.64          | 754,380.74         | 32° 39' 13.274 N | 103° 30' 24.591 W |
| 3,100.0               | 1.21            | 73.70       | 3,099.9               | 5.4         | 9.7         | 602,513.71          | 754,382.94         | 32° 39' 13.285 N | 103° 30' 24.566 W |
| 3,200.0               | 1.02            | 70.58       | 3,199.9               | 6.0         | 11.6        | 602,514.31          | 754,384.79         | 32° 39' 13.290 N | 103° 30' 24.544 W |
| 3,300.0               | 1.12            | 63.94       | 3,299.8               | 6.7         | 13.3        | 602,515.03          | 754,386.51         | 32° 39' 13.297 N | 103° 30' 24.524 W |
| 3,400.0               | 0.98            | 65.90       | 3,399.8               | 7.5         | 15.0        | 602,515.81          | 754,388.17         | 32° 39' 13.305 N | 103° 30' 24.504 W |
| 3,500.0               | 0.68            | 51.51       | 3,499.8               | 8.2         | 16.2        | 602,516.53          | 754,389.41         | 32° 39' 13.312 N | 103° 30' 24.490 W |
| 3,600.0               | 0.63            | 28.67       | 3,599.8               | 9.1         | 16.9        | 602,517.38          | 754,390.14         | 32° 39' 13.320 N | 103° 30' 24.481 W |
| 3,700.0               | 0.63            | 31.25       | 3,699.8               | 10.0        | 17.5        | 602,518.33          | 754,390.69         | 32° 39' 13.330 N | 103° 30' 24.475 W |
| 3,800.0               | 0.58            | 31.04       | 3,799.8               | 10.9        | 18.0        | 602,519.24          | 754,391.23         | 32° 39' 13.339 N | 103° 30' 24.468 W |
| 3,900.0               | 0.75            | 29.74       | 3,899.8               | 11.9        | 18.6        | 602,520.24          | 754,391.82         | 32° 39' 13.349 N | 103° 30' 24.461 W |
| 4,000.0               | 0.66            | 16.49       | 3,999.8               | 13.1        | 19.1        | 602,521.36          | 754,392.31         | 32° 39' 13.360 N | 103° 30' 24.455 W |
| 4,100.0               | 0.40            | 25.16       | 4,099.8               | 13.9        | 19.4        | 602,522.23          | 754,392.62         | 32° 39' 13.368 N | 103° 30' 24.452 W |
| 4,200.0               | 0.40            | 11.36       | 4,199.8               | 14.6        | 19.6        | 602,522.89          | 754,392.84         | 32° 39' 13.375 N | 103° 30' 24.449 W |
| 4,300.0               | 0.44            | 14.19       | 4,299.8               | 15.3        | 19.8        | 602,523.60          | 754,393.00         | 32° 39' 13.382 N | 103° 30' 24.447 W |
| 4,400.0               | 0.65            | 10.77       | 4,399.8               | 16.2        | 20.0        | 602,524.53          | 754,393.20         | 32° 39' 13.391 N | 103° 30' 24.445 W |
| 4,500.0               | 0.81            | 2.54        | 4,499.8               | 17.5        | 20.1        | 602,525.79          | 754,393.34         | 32° 39' 13.403 N | 103° 30' 24.443 W |
| 4,600.0               | 1.00            | 7.49        | 4,599.8               | 19.1        | 20.3        | 602,527.36          | 754,393.48         | 32° 39' 13.419 N | 103° 30' 24.441 W |
| 4,700.0               | 1.07            | 20.15       | 4,699.7               | 20.8        | 20.7        | 602,529.11          | 754,393.92         | 32° 39' 13.436 N | 103° 30' 24.436 W |
| 4,800.0               | 0.68            | 17.21       | 4,799.7               | 22.2        | 21.2        | 602,530.55          | 754,394.41         | 32° 39' 13.450 N | 103° 30' 24.430 W |
| 4,900.0               | 0.68            | 6.31        | 4,899.7               | 23.4        | 21.5        | 602,531.71          | 754,394.66         | 32° 39' 13.462 N | 103° 30' 24.427 W |
| 5,000.0               | 0.63            | 2.51        | 4,999.7               | 24.5        | 21.5        | 602,532.84          | 754,394.74         | 32° 39' 13.473 N | 103° 30' 24.426 W |
| 5,100.0               | 0.54            | 358.67      | 5,099.7               | 25.6        | 21.6        | 602,533.87          | 754,394.76         | 32° 39' 13.483 N | 103° 30' 24.426 W |
| 5,200.0               | 0.53            | 1.38        | 5,199.7               | 26.5        | 21.6        | 602,534.80          | 754,394.76         | 32° 39' 13.492 N | 103° 30' 24.426 W |
| 5,300.0               | 0.63            | 354.58      | 5,299.7               | 27.5        | 21.5        | 602,535.81          | 754,394.72         | 32° 39' 13.502 N | 103° 30' 24.426 W |
| 5,400.0               | 0.60            | 1.40        | 5,399.7               | 28.6        | 21.5        | 602,536.88          | 754,394.68         | 32° 39' 13.513 N | 103° 30' 24.426 W |
| 5,500.0               | 0.20            | 342.13      | 5,499.7               | 29.3        | 21.4        | 602,537.57          | 754,394.64         | 32° 39' 13.520 N | 103° 30' 24.427 W |
| 5,600.0               | 0.49            | 339.80      | 5,599.7               | 29.8        | 21.2        | 602,538.14          | 754,394.44         | 32° 39' 13.525 N | 103° 30' 24.429 W |
| 5,700.0               | 0.54            | 345.60      | 5,699.7               | 30.7        | 21.0        | 602,538.99          | 754,394.17         | 32° 39' 13.534 N | 103° 30' 24.432 W |
| 5,800.0               | 0.66            | 339.81      | 5,799.7               | 31.7        | 20.7        | 602,539.99          | 754,393.86         | 32° 39' 13.544 N | 103° 30' 24.436 W |
| 5,900.0               | 1.01            | 330.07      | 5,899.7               | 33.0        | 20.0        | 602,541.30          | 754,393.22         | 32° 39' 13.557 N | 103° 30' 24.443 W |
| 6,000.0               | 0.93            | 331.92      | 5,999.7               | 34.5        | 19.2        | 602,542.77          | 754,392.40         | 32° 39' 13.571 N | 103° 30' 24.452 W |
| 6,100.0               | 0.74            | 329.41      | 6,099.6               | 35.7        | 18.5        | 602,544.05          | 754,391.68         | 32° 39' 13.584 N | 103° 30' 24.461 W |
| 6,200.0               | 0.78            | 320.82      | 6,199.6               | 36.8        | 17.7        | 602,545.13          | 754,390.93         | 32° 39' 13.595 N | 103° 30' 24.469 W |
| 6,300.0               | 0.80            | 318.52      | 6,299.6               | 37.9        | 16.8        | 602,546.18          | 754,390.03         | 32° 39' 13.605 N | 103° 30' 24.480 W |
| 6,400.0               | 0.96            | 308.18      | 6,399.6               | 38.9        | 15.7        | 602,547.22          | 754,388.91         | 32° 39' 13.616 N | 103° 30' 24.493 W |
| 6,500.0               | 1.03            | 316.42      | 6,499.6               | 40.1        | 14.4        | 602,548.39          | 754,387.63         | 32° 39' 13.627 N | 103° 30' 24.508 W |



TDS  
Survey Report - Geographic



|           |                       |                              |                           |
|-----------|-----------------------|------------------------------|---------------------------|
| Company:  | COG Operating LLC     | Local Co-ordinate Reference: | Well #1H                  |
| Project:  | Lea County, NM        | TVD Reference:               | KB @ 3895.4usft           |
| Site:     | Super Cobra State Com | MD Reference:                | KB @ 3895.4usft           |
| Well:     | #1H                   | North Reference:             | Grid                      |
| Wellbore: | OH                    | Survey Calculation Method:   | Minimum Curvature         |
| Design:   | OH                    | Database:                    | EDM 5000.1 Single User Db |

| Survey                |                 |             |                       |             |             |                     |                    |                  |                   |
|-----------------------|-----------------|-------------|-----------------------|-------------|-------------|---------------------|--------------------|------------------|-------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N-S (usft) | +E-W (usft) | Map Northing (usft) | Map Easting (usft) | Latitude         | Longitude         |
| 6,600.0               | 1.51            | 318.49      | 6,599.6               | 41.7        | 12.9        | 602,550.03          | 754,386.14         | 32° 39' 13.644 N | 103° 30' 24.525 W |
| 6,700.0               | 1.48            | 340.64      | 6,699.5               | 43.9        | 11.6        | 602,552.23          | 754,384.84         | 32° 39' 13.666 N | 103° 30' 24.540 W |
| 6,800.0               | 1.08            | 315.50      | 6,799.5               | 45.8        | 10.6        | 602,554.12          | 754,383.75         | 32° 39' 13.684 N | 103° 30' 24.552 W |
| 6,900.0               | 0.96            | 317.40      | 6,899.5               | 47.1        | 9.3         | 602,555.41          | 754,382.52         | 32° 39' 13.697 N | 103° 30' 24.567 W |
| 7,000.0               | 1.02            | 316.97      | 6,999.5               | 48.4        | 8.2         | 602,556.68          | 754,381.35         | 32° 39' 13.710 N | 103° 30' 24.580 W |
| 7,100.0               | 0.79            | 325.51      | 7,099.5               | 49.6        | 7.2         | 602,557.90          | 754,380.35         | 32° 39' 13.722 N | 103° 30' 24.592 W |
| 7,200.0               | 0.69            | 320.17      | 7,199.5               | 50.6        | 6.4         | 602,558.93          | 754,379.58         | 32° 39' 13.732 N | 103° 30' 24.601 W |
| 7,300.0               | 0.90            | 332.56      | 7,299.5               | 51.8        | 5.6         | 602,560.09          | 754,378.83         | 32° 39' 13.744 N | 103° 30' 24.610 W |
| 7,400.0               | 0.75            | 323.55      | 7,399.4               | 53.0        | 4.9         | 602,561.31          | 754,378.08         | 32° 39' 13.756 N | 103° 30' 24.618 W |
| 7,500.0               | 0.60            | 323.29      | 7,499.4               | 54.0        | 4.2         | 602,562.26          | 754,377.38         | 32° 39' 13.765 N | 103° 30' 24.626 W |
| 7,600.0               | 0.78            | 304.09      | 7,599.4               | 54.8        | 3.3         | 602,563.06          | 754,376.50         | 32° 39' 13.773 N | 103° 30' 24.637 W |
| 7,700.0               | 0.80            | 299.90      | 7,699.4               | 55.5        | 2.1         | 602,563.79          | 754,375.33         | 32° 39' 13.781 N | 103° 30' 24.650 W |
| 7,800.0               | 1.15            | 290.55      | 7,799.4               | 56.2        | 0.6         | 602,564.49          | 754,373.79         | 32° 39' 13.788 N | 103° 30' 24.668 W |
| 7,900.0               | 1.37            | 282.14      | 7,899.4               | 56.8        | -1.5        | 602,565.09          | 754,371.68         | 32° 39' 13.794 N | 103° 30' 24.693 W |
| 8,000.0               | 0.84            | 294.13      | 7,999.4               | 57.3        | -3.4        | 602,565.64          | 754,369.84         | 32° 39' 13.800 N | 103° 30' 24.714 W |
| 8,100.0               | 0.69            | 287.71      | 8,099.4               | 57.8        | -4.6        | 602,566.13          | 754,368.60         | 32° 39' 13.804 N | 103° 30' 24.729 W |
| 8,200.0               | 0.93            | 295.33      | 8,199.3               | 58.4        | -5.9        | 602,566.66          | 754,367.29         | 32° 39' 13.810 N | 103° 30' 24.744 W |
| 8,300.0               | 0.93            | 336.87      | 8,299.3               | 59.4        | -7.0        | 602,567.75          | 754,366.24         | 32° 39' 13.821 N | 103° 30' 24.756 W |
| 8,400.0               | 1.28            | 326.84      | 8,399.3               | 61.1        | -7.9        | 602,569.43          | 754,365.31         | 32° 39' 13.837 N | 103° 30' 24.767 W |
| 8,500.0               | 1.43            | 343.42      | 8,499.3               | 63.3        | -8.9        | 602,571.56          | 754,364.34         | 32° 39' 13.859 N | 103° 30' 24.778 W |
| 8,600.0               | 1.34            | 344.35      | 8,599.3               | 65.6        | -9.5        | 602,573.89          | 754,363.67         | 32° 39' 13.882 N | 103° 30' 24.786 W |
| 8,700.0               | 1.18            | 11.80       | 8,699.2               | 67.7        | -9.6        | 602,576.02          | 754,363.56         | 32° 39' 13.903 N | 103° 30' 24.787 W |
| 8,800.0               | 0.81            | 4.93        | 8,799.2               | 69.4        | -9.4        | 602,577.73          | 754,363.84         | 32° 39' 13.920 N | 103° 30' 24.783 W |
| 8,900.0               | 0.55            | 334.64      | 8,899.2               | 70.6        | -9.5        | 602,578.87          | 754,363.69         | 32° 39' 13.931 N | 103° 30' 24.785 W |
| 9,000.0               | 0.77            | 304.49      | 8,999.2               | 71.4        | -10.3       | 602,579.68          | 754,362.93         | 32° 39' 13.939 N | 103° 30' 24.794 W |
| 9,100.0               | 1.18            | 296.75      | 9,099.2               | 72.2        | -11.7       | 602,580.53          | 754,361.46         | 32° 39' 13.947 N | 103° 30' 24.811 W |
| 9,200.0               | 1.29            | 298.25      | 9,199.2               | 73.2        | -13.6       | 602,581.52          | 754,359.55         | 32° 39' 13.957 N | 103° 30' 24.833 W |
| 9,300.0               | 1.04            | 301.26      | 9,299.1               | 74.2        | -15.4       | 602,582.53          | 754,357.78         | 32° 39' 13.967 N | 103° 30' 24.854 W |
| 9,400.0               | 0.99            | 313.05      | 9,399.1               | 75.3        | -16.8       | 602,583.59          | 754,356.37         | 32° 39' 13.978 N | 103° 30' 24.870 W |
| 9,500.0               | 1.12            | 319.48      | 9,499.1               | 76.6        | -18.1       | 602,584.92          | 754,355.11         | 32° 39' 13.991 N | 103° 30' 24.885 W |
| 9,600.0               | 1.19            | 326.41      | 9,599.1               | 78.2        | -19.3       | 602,586.53          | 754,353.90         | 32° 39' 14.007 N | 103° 30' 24.899 W |
| 9,700.0               | 1.22            | 319.69      | 9,699.1               | 79.9        | -20.6       | 602,588.21          | 754,352.63         | 32° 39' 14.024 N | 103° 30' 24.913 W |
| 9,800.0               | 1.31            | 317.06      | 9,799.0               | 81.6        | -22.0       | 602,589.85          | 754,351.17         | 32° 39' 14.040 N | 103° 30' 24.930 W |
| 9,900.0               | 1.01            | 335.04      | 9,899.0               | 83.2        | -23.2       | 602,591.49          | 754,350.02         | 32° 39' 14.057 N | 103° 30' 24.944 W |
| 10,000.0              | 0.90            | 339.20      | 9,999.0               | 84.7        | -23.8       | 602,593.02          | 754,349.36         | 32° 39' 14.072 N | 103° 30' 24.951 W |
| 10,100.0              | 1.21            | 343.72      | 10,099.0              | 86.5        | -24.4       | 602,594.77          | 754,348.79         | 32° 39' 14.089 N | 103° 30' 24.958 W |
| 10,200.0              | 1.31            | 337.10      | 10,199.0              | 88.5        | -25.1       | 602,596.84          | 754,348.05         | 32° 39' 14.110 N | 103° 30' 24.966 W |
| 10,300.0              | 1.36            | 332.86      | 10,298.9              | 90.6        | -26.1       | 602,598.95          | 754,347.06         | 32° 39' 14.131 N | 103° 30' 24.978 W |
| 10,328.0              | 2.50            | 15.60       | 10,326.9              | 91.5        | -26.1       | 602,599.83          | 754,347.08         | 32° 39' 14.140 N | 103° 30' 24.977 W |
| 10,360.0              | 5.50            | 34.90       | 10,358.8              | 93.5        | -25.1       | 602,601.76          | 754,348.14         | 32° 39' 14.159 N | 103° 30' 24.965 W |
| 10,391.0              | 8.70            | 29.30       | 10,389.6              | 96.7        | -23.1       | 602,605.02          | 754,350.14         | 32° 39' 14.191 N | 103° 30' 24.941 W |
| 10,423.0              | 10.10           | 20.70       | 10,421.2              | 101.5       | -20.9       | 602,609.76          | 754,352.32         | 32° 39' 14.237 N | 103° 30' 24.915 W |
| 10,455.0              | 12.20           | 14.30       | 10,452.6              | 107.4       | -19.1       | 602,615.66          | 754,354.14         | 32° 39' 14.296 N | 103° 30' 24.893 W |
| 10,487.0              | 14.20           | 12.00       | 10,483.7              | 114.5       | -17.4       | 602,622.78          | 754,355.79         | 32° 39' 14.366 N | 103° 30' 24.873 W |
| 10,519.0              | 14.20           | 11.40       | 10,514.7              | 122.2       | -15.8       | 602,630.47          | 754,357.39         | 32° 39' 14.442 N | 103° 30' 24.854 W |
| 10,551.0              | 13.00           | 10.70       | 10,545.9              | 129.5       | -14.4       | 602,637.85          | 754,358.83         | 32° 39' 14.515 N | 103° 30' 24.836 W |
| 10,582.0              | 14.50           | 9.20        | 10,576.0              | 136.8       | -13.1       | 602,645.11          | 754,360.10         | 32° 39' 14.587 N | 103° 30' 24.821 W |
| 10,614.0              | 17.50           | 3.10        | 10,606.7              | 145.6       | -12.2       | 602,653.87          | 754,361.00         | 32° 39' 14.673 N | 103° 30' 24.810 W |
| 10,646.0              | 20.90           | 0.30        | 10,636.9              | 156.1       | -11.9       | 602,664.38          | 754,361.29         | 32° 39' 14.777 N | 103° 30' 24.805 W |
| 10,677.0              | 24.40           | 355.90      | 10,665.5              | 168.0       | -12.3       | 602,676.30          | 754,360.86         | 32° 39' 14.895 N | 103° 30' 24.809 W |
| 10,709.0              | 28.40           | 353.30      | 10,694.2              | 182.2       | -13.7       | 602,690.46          | 754,359.50         | 32° 39' 15.035 N | 103° 30' 24.824 W |
| 10,741.0              | 32.10           | 351.40      | 10,721.8              | 198.1       | -15.9       | 602,706.43          | 754,357.34         | 32° 39' 15.194 N | 103° 30' 24.848 W |
| 10,772.0              | 35.80           | 350.40      | 10,747.6              | 215.2       | -18.6       | 602,723.52          | 754,354.59         | 32° 39' 15.363 N | 103° 30' 24.878 W |
| 10,804.0              | 39.70           | 351.00      | 10,772.8              | 234.5       | -21.8       | 602,742.85          | 754,351.43         | 32° 39' 15.554 N | 103° 30' 24.913 W |
| 10,836.0              | 45.40           | 353.40      | 10,796.4              | 256.0       | -24.7       | 602,764.28          | 754,348.52         | 32° 39' 15.767 N | 103° 30' 24.945 W |



TDS  
Survey Report - Geographic



|           |                       |                              |                           |
|-----------|-----------------------|------------------------------|---------------------------|
| Company:  | COG Operating LLC     | Local Co-ordinate Reference: | Well #1H                  |
| Project:  | Lea County, NM        | TVD Reference:               | KB @ 3895.4usft           |
| Site:     | Super Cobra State Com | MD Reference:                | KB @ 3895.4usft           |
| Well:     | #1H                   | North Reference:             | Grid                      |
| Wellbore: | OH                    | Survey Calculation Method:   | Minimum Curvature         |
| Design:   | OH                    | Database:                    | EDM 5000.1 Single User Db |

| Survey                |                 |             |                       |              |              |                     |                    |                  |                   |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|---------------------|--------------------|------------------|-------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Map Northing (usft) | Map Easting (usft) | Latitude         | Longitude         |
| 10,868.0              | 52.80           | 354.20      | 10,817.4              | 280.0        | -27.3        | 602,788.31          | 754,345.92         | 32° 39' 16.005 N | 103° 30' 24.974 W |
| 10,899.0              | 60.40           | 355.00      | 10,834.4              | 305.8        | -29.7        | 602,814.06          | 754,343.50         | 32° 39' 16.260 N | 103° 30' 25.000 W |
| 10,931.0              | 69.50           | 355.10      | 10,847.9              | 334.6        | -32.2        | 602,842.91          | 754,341.00         | 32° 39' 16.545 N | 103° 30' 25.026 W |
| 10,962.0              | 77.10           | 357.50      | 10,856.8              | 364.2        | -34.1        | 602,872.52          | 754,339.10         | 32° 39' 16.838 N | 103° 30' 25.046 W |
| 10,994.0              | 81.20           | 0.50        | 10,862.9              | 395.6        | -34.6        | 602,903.93          | 754,338.55         | 32° 39' 17.149 N | 103° 30' 25.049 W |
| 11,025.0              | 85.00           | 2.40        | 10,866.6              | 426.4        | -33.9        | 602,934.69          | 754,339.33         | 32° 39' 17.453 N | 103° 30' 25.037 W |
| 11,057.0              | 89.40           | 4.00        | 10,868.2              | 458.3        | -32.1        | 602,966.59          | 754,341.12         | 32° 39' 17.769 N | 103° 30' 25.014 W |
| 11,089.0              | 91.00           | 4.80        | 10,868.0              | 490.2        | -29.6        | 602,998.50          | 754,343.57         | 32° 39' 18.084 N | 103° 30' 24.982 W |
| 11,121.0              | 91.00           | 4.40        | 10,867.5              | 522.1        | -27.1        | 603,030.39          | 754,346.14         | 32° 39' 18.400 N | 103° 30' 24.949 W |
| 11,184.0              | 90.60           | 4.10        | 10,866.6              | 584.9        | -22.4        | 603,093.21          | 754,350.81         | 32° 39' 19.021 N | 103° 30' 24.889 W |
| 11,279.0              | 90.20           | 3.70        | 10,865.9              | 679.7        | -15.9        | 603,187.99          | 754,357.27         | 32° 39' 19.958 N | 103° 30' 24.805 W |
| 11,374.0              | 92.70           | 3.90        | 10,863.5              | 774.4        | -9.6         | 603,282.74          | 754,363.56         | 32° 39' 20.895 N | 103° 30' 24.722 W |
| 11,469.0              | 92.00           | 3.30        | 10,859.6              | 869.2        | -3.7         | 603,377.47          | 754,369.52         | 32° 39' 21.832 N | 103° 30' 24.644 W |
| 11,564.0              | 92.00           | 3.00        | 10,856.3              | 964.0        | 1.5          | 603,472.27          | 754,374.74         | 32° 39' 22.770 N | 103° 30' 24.574 W |
| 11,659.0              | 91.70           | 2.70        | 10,853.3              | 1,058.8      | 6.3          | 603,567.10          | 754,379.46         | 32° 39' 23.708 N | 103° 30' 24.510 W |
| 11,754.0              | 91.40           | 2.90        | 10,850.7              | 1,153.7      | 10.9         | 603,661.96          | 754,384.10         | 32° 39' 24.646 N | 103° 30' 24.448 W |
| 11,849.0              | 90.90           | 2.30        | 10,848.8              | 1,248.5      | 15.2         | 603,756.84          | 754,388.41         | 32° 39' 25.585 N | 103° 30' 24.389 W |
| 11,945.0              | 93.10           | 0.90        | 10,845.4              | 1,344.4      | 17.9         | 603,852.73          | 754,391.09         | 32° 39' 26.533 N | 103° 30' 24.348 W |
| 12,040.0              | 92.70           | 1.00        | 10,840.6              | 1,439.3      | 19.5         | 603,947.60          | 754,392.66         | 32° 39' 27.472 N | 103° 30' 24.321 W |
| 12,135.0              | 92.40           | 0.60        | 10,836.4              | 1,534.2      | 20.8         | 604,042.49          | 754,393.98         | 32° 39' 28.411 N | 103° 30' 24.297 W |
| 12,230.0              | 92.50           | 0.50        | 10,832.3              | 1,629.1      | 21.7         | 604,137.40          | 754,394.90         | 32° 39' 29.350 N | 103° 30' 24.278 W |
| 12,325.0              | 92.70           | 359.90      | 10,828.0              | 1,724.0      | 22.0         | 604,232.30          | 754,395.23         | 32° 39' 30.289 N | 103° 30' 24.265 W |
| 12,420.0              | 92.90           | 359.60      | 10,823.4              | 1,818.9      | 21.6         | 604,327.19          | 754,394.81         | 32° 39' 31.227 N | 103° 30' 24.262 W |
| 12,516.0              | 92.70           | 359.50      | 10,818.7              | 1,914.8      | 20.9         | 604,423.07          | 754,394.06         | 32° 39' 32.176 N | 103° 30' 24.262 W |
| 12,611.0              | 92.30           | 359.70      | 10,814.6              | 2,009.7      | 20.2         | 604,517.98          | 754,393.40         | 32° 39' 33.115 N | 103° 30' 24.261 W |
| 12,706.0              | 92.30           | 359.50      | 10,810.7              | 2,104.6      | 19.5         | 604,612.90          | 754,392.73         | 32° 39' 34.055 N | 103° 30' 24.260 W |
| 12,801.0              | 91.90           | 359.20      | 10,807.3              | 2,199.5      | 18.5         | 604,707.83          | 754,391.66         | 32° 39' 34.994 N | 103° 30' 24.264 W |
| 12,896.0              | 91.90           | 358.70      | 10,804.1              | 2,294.5      | 16.7         | 604,802.76          | 754,389.92         | 32° 39' 35.933 N | 103° 30' 24.276 W |
| 12,991.0              | 92.00           | 358.60      | 10,800.9              | 2,389.4      | 14.5         | 604,897.68          | 754,387.68         | 32° 39' 36.873 N | 103° 30' 24.293 W |
| 13,086.0              | 92.20           | 358.40      | 10,797.4              | 2,484.3      | 12.0         | 604,992.58          | 754,385.20         | 32° 39' 37.812 N | 103° 30' 24.314 W |
| 13,181.0              | 92.40           | 357.80      | 10,793.6              | 2,579.2      | 8.9          | 605,087.45          | 754,382.05         | 32° 39' 38.751 N | 103° 30' 24.342 W |
| 13,276.0              | 92.70           | 357.40      | 10,789.4              | 2,674.0      | 4.9          | 605,182.28          | 754,378.07         | 32° 39' 39.690 N | 103° 30' 24.380 W |
| 13,371.0              | 93.10           | 357.30      | 10,784.6              | 2,768.8      | 0.5          | 605,277.05          | 754,373.69         | 32° 39' 40.628 N | 103° 30' 24.422 W |
| 13,465.0              | 91.30           | 356.50      | 10,780.9              | 2,862.5      | -4.6         | 605,370.84          | 754,368.61         | 32° 39' 41.556 N | 103° 30' 24.473 W |
| 13,560.0              | 91.40           | 356.00      | 10,778.7              | 2,957.3      | -10.8        | 605,465.61          | 754,362.40         | 32° 39' 42.494 N | 103° 30' 24.537 W |
| 13,655.0              | 91.50           | 356.00      | 10,776.3              | 3,052.0      | -17.4        | 605,560.35          | 754,355.77         | 32° 39' 43.432 N | 103° 30' 24.606 W |
| 13,750.0              | 91.80           | 355.50      | 10,773.6              | 3,146.7      | -24.5        | 605,655.05          | 754,348.73         | 32° 39' 44.370 N | 103° 30' 24.680 W |
| 13,845.0              | 92.20           | 355.60      | 10,770.2              | 3,241.4      | -31.8        | 605,749.71          | 754,341.37         | 32° 39' 45.307 N | 103° 30' 24.757 W |
| 13,940.0              | 92.40           | 355.30      | 10,766.4              | 3,336.0      | -39.4        | 605,844.33          | 754,333.84         | 32° 39' 46.244 N | 103° 30' 24.837 W |
| 14,035.0              | 92.40           | 354.80      | 10,762.5              | 3,430.6      | -47.5        | 605,938.89          | 754,325.65         | 32° 39' 47.180 N | 103° 30' 24.924 W |
| 14,130.0              | 91.40           | 354.50      | 10,759.3              | 3,525.1      | -56.4        | 606,033.43          | 754,316.80         | 32° 39' 48.116 N | 103° 30' 25.019 W |
| 14,225.0              | 90.80           | 355.50      | 10,757.5              | 3,619.7      | -64.7        | 606,128.04          | 754,308.52         | 32° 39' 49.053 N | 103° 30' 25.107 W |
| 14,320.0              | 90.70           | 357.20      | 10,756.2              | 3,714.5      | -70.7        | 606,222.84          | 754,302.47         | 32° 39' 49.991 N | 103° 30' 25.169 W |
| 14,415.0              | 91.40           | 358.00      | 10,754.5              | 3,809.4      | -74.7        | 606,317.74          | 754,298.49         | 32° 39' 50.931 N | 103° 30' 25.207 W |
| 14,511.0              | 89.60           | 0.70        | 10,753.7              | 3,905.4      | -75.8        | 606,413.72          | 754,297.40         | 32° 39' 51.880 N | 103° 30' 25.211 W |
| 14,606.0              | 90.80           | 2.40        | 10,753.3              | 4,000.4      | -73.2        | 606,508.68          | 754,299.97         | 32° 39' 52.820 N | 103° 30' 25.172 W |
| 14,700.0              | 91.20           | 3.00        | 10,751.7              | 4,094.3      | -68.8        | 606,602.56          | 754,304.40         | 32° 39' 53.748 N | 103° 30' 25.112 W |
| 14,795.0              | 91.60           | 2.50        | 10,749.4              | 4,189.1      | -64.2        | 606,697.42          | 754,308.96         | 32° 39' 54.687 N | 103° 30' 25.050 W |
| 14,890.0              | 91.40           | 2.30        | 10,746.9              | 4,284.0      | -60.3        | 606,792.30          | 754,312.93         | 32° 39' 55.625 N | 103° 30' 24.995 W |
| 14,985.0              | 91.30           | 2.00        | 10,744.6              | 4,378.9      | -56.7        | 606,887.21          | 754,316.50         | 32° 39' 56.564 N | 103° 30' 24.945 W |
| 15,080.0              | 91.50           | 1.50        | 10,742.3              | 4,473.8      | -53.8        | 606,982.14          | 754,319.40         | 32° 39' 57.503 N | 103° 30' 24.902 W |
| 15,175.0              | 91.30           | 1.10        | 10,740.0              | 4,568.8      | -51.6        | 607,077.08          | 754,321.55         | 32° 39' 58.442 N | 103° 30' 24.868 W |
| 15,247.0              | 91.10           | 0.90        | 10,738.5              | 4,640.8      | -50.4        | 607,149.06          | 754,322.81         | 32° 39' 59.154 N | 103° 30' 24.847 W |
| Final MWD Survey      |                 |             |                       |              |              |                     |                    |                  |                   |



TDS  
Survey Report - Geographic



|           |                       |                              |                           |
|-----------|-----------------------|------------------------------|---------------------------|
| Company:  | COG Operating LLC     | Local Co-ordinate Reference: | Well #1H                  |
| Project:  | Lea County, NM        | TVD Reference:               | KB @ 3895.4usft           |
| Site:     | Super Cobra State Com | MD Reference:                | KB @ 3895.4usft           |
| Well:     | #1H                   | North Reference:             | Grid                      |
| Wellbore: | OH                    | Survey Calculation Method:   | Minimum Curvature         |
| Design:   | OH                    | Database:                    | EDM 5000.1 Single User Db |

Survey

| Measured<br>Depth<br>(usft) | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Map<br>Northing<br>(usft) | Map<br>Easting<br>(usft) | Latitude         | Longitude         |
|-----------------------------|--------------------|----------------|-----------------------------|-----------------|-----------------|---------------------------|--------------------------|------------------|-------------------|
| 15,298.0                    | 91.10              | 0.90           | 10,737.5                    | 4,691.7         | -49.6           | 607,200.04                | 754,323.61               | 32° 39' 59.659 N | 103° 30' 24.833 W |
| Projection to Bit           |                    |                |                             |                 |                 |                           |                          |                  |                   |

Design Annotations

| Measured<br>Depth<br>(usft) | Vertical<br>Depth<br>(usft) | Local Coordinates |                 | Comment           |
|-----------------------------|-----------------------------|-------------------|-----------------|-------------------|
|                             |                             | +N/-S<br>(usft)   | +E/-W<br>(usft) |                   |
| 15,247.0                    | 10,738.5                    | 4,640.8           | -50.4           | Final MWD Survey  |
| 15,298.0                    | 10,737.5                    | 4,691.7           | -49.6           | Projection to Bit |

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