



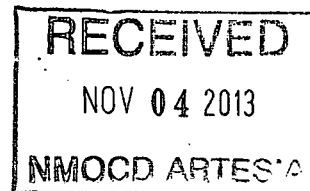
A GYRO TECHNOLOGIES INC. COMPANY

PO Box 261021  
Corpus Christi, Texas 78426  
(361) 767-0602 • (800) 606-GYRO • Fax (361) 767-0612

15-40911

June 3, 2013

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

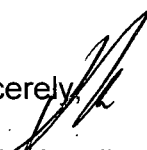


Attn: Kanicia Castillo

RE: **Burch Keely Unit No. 941H**

Please find enclosed a copy of the survey from 0.00' to 4283.00' ran on the above referenced well.

Sincerely,

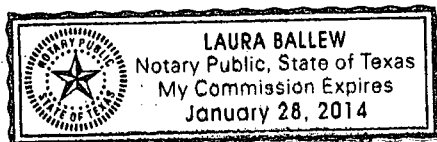
  
Keith Havelka  
Operations

STATE OF TEXAS     §  
                                  §  
COUNTY OF NUECES §

This instrument was acknowledged before me on the 3rd day of June, A.D., 2013, by Keith Havelka.



Laura Ballew  
Notary Public, State of Texas



Company: COG Operating, LLC (Concho)  
Lease/Well: Burch Keely Unit /No. 941H



Rig Name: Silver Oak 11  
State/County: New Mexico/Eddy  
Latitude: 32.84, Longitude: -104.00  
GRID North is 0.18 Degrees East of True North  
VS-Azi: 0.00 Degrees



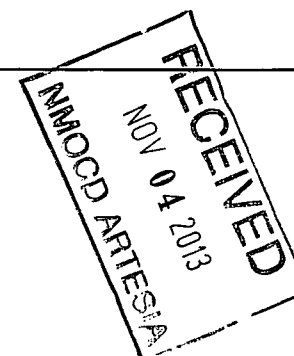
Depth Reference : RKB=18FT

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: survey.ut  
Minimum Curvature Method  
Report Date/Time: 6/3/2013 / 10:05

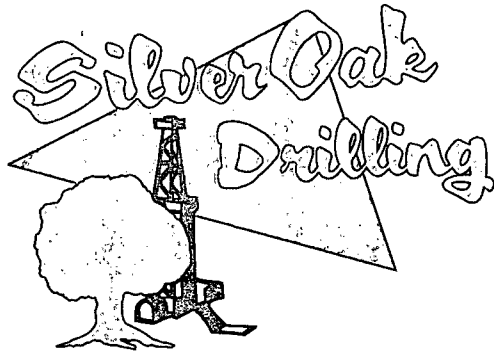
Vaughn Energy Services  
Gardendale, Texas  
432-563-5444

Survey Engineer: Kyle Willis  
Burch Keely Unit No. 941H / API 630-015-40971



| 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                  | 0.24                 | 222.51                    | 100.00    | -0.15       | -0.14       | -0.15                     | 0.21                      | 222.51                      | 0.24                          |
| 200.00                  | 0.06                 | 177.21                    | 200.00    | -0.35       | -0.28       | -0.35                     | 0.45                      | 218.00                      | 0.20                          |
| 300.00                  | 0.12                 | 157.93                    | 300.00    | -0.50       | -0.23       | -0.50                     | 0.55                      | 204.90                      | 0.07                          |
| 400.00                  | 0.60                 | 96.25                     | 400.00    | -0.66       | 0.33        | -0.66                     | 0.74                      | 153.32                      | 0.55                          |
| 500.00                  | 0.68                 | 96.48                     | 499.99    | -0.78       | 1.44        | -0.78                     | 1.64                      | 118.48                      | 0.08                          |
| 600.00                  | 0.49                 | 61.71                     | 599.99    | -0.65       | 2.41        | -0.65                     | 2.49                      | 105.02                      | 0.39                          |
| 700.00                  | 0.75                 | 75.40                     | 699.98    | -0.28       | 3.41        | -0.28                     | 3.42                      | 94.66                       | 0.29                          |
| 800.00                  | 0.74                 | 71.01                     | 799.97    | 0.10        | 4.65        | 0.10                      | 4.66                      | 88.81                       | 0.06                          |
| 900.00                  | 1.15                 | 53.31                     | 899.96    | 0.90        | 6.07        | 0.90                      | 6.14                      | 81.52                       | 0.49                          |
| 1000.00                 | 1.12                 | 54.89                     | 999.94    | 2.07        | 7.67        | 2.07                      | 7.95                      | 74.93                       | 0.04                          |
| 1100.00                 | 1.14                 | 69.80                     | 1099.92   | 2.97        | 9.41        | 2.97                      | 9.87                      | 72.46                       | 0.29                          |
| 1200.00                 | 1.13                 | 68.19                     | 1199.90   | 3.68        | 11.26       | 3.68                      | 11.85                     | 71.88                       | 0.03                          |
| 1300.00                 | 1.10                 | 66.74                     | 1299.88   | 4.43        | 13.06       | 4.43                      | 13.79                     | 71.26                       | 0.04                          |
| 1400.00                 | 1.11                 | 112.01                    | 1399.86   | 4.45        | 14.84       | 4.45                      | 15.49                     | 73.32                       | 0.85                          |
| 1500.00                 | 0.74                 | 70.52                     | 1499.85   | 4.30        | 16.35       | 4.30                      | 16.90                     | 75.27                       | 0.74                          |
| 1600.00                 | 0.56                 | 45.12                     | 1599.85   | 4.86        | 17.30       | 4.86                      | 17.97                     | 74.31                       | 0.33                          |
| 1700.00                 | 0.30                 | 43.48                     | 1699.84   | 5.39        | 17.83       | 5.39                      | 18.63                     | 73.17                       | 0.26                          |
| 1800.00                 | 0.29                 | 41.22                     | 1799.84   | 5.77        | 18.17       | 5.77                      | 19.07                     | 72.39                       | 0.01                          |

| 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                 | 0.28                 | 50.32                     | 1899.84   | 6.11        | 18.53       | 6.11                      | 19.51                     | 71.74                       | 0.05                          |
| 2000.00                 | 0.21                 | 67.15                     | 1999.84   | 6.34        | 18.88       | 6.34                      | 19.92                     | 71.44                       | 0.09                          |
| 2100.00                 | 0.24                 | 70.39                     | 2099.84   | 6.48        | 19.25       | 6.48                      | 20.32                     | 71.39                       | 0.03                          |
| 2200.00                 | 0.09                 | 139.44                    | 2199.84   | 6.50        | 19.50       | 6.50                      | 20.55                     | 71.57                       | 0.22                          |
| 2300.00                 | 0.15                 | 150.85                    | 2299.84   | 6.32        | 19.61       | 6.32                      | 20.61                     | 72.13                       | 0.07                          |
| 2400.00                 | 0.06                 | 232.51                    | 2399.84   | 6.18        | 19.64       | 6.18                      | 20.59                     | 72.54                       | 0.16                          |
| 2500.00                 | 0.12                 | 221.14                    | 2499.84   | 6.07        | 19.53       | 6.07                      | 20.45                     | 72.74                       | 0.06                          |
| 2600.00                 | 0.20                 | 191.11                    | 2599.84   | 5.82        | 19.43       | 5.82                      | 20.29                     | 73.31                       | 0.11                          |
| 2700.00                 | 0.25                 | 216.86                    | 2699.84   | 5.49        | 19.27       | 5.49                      | 20.04                     | 74.11                       | 0.11                          |
| 2800.00                 | 0.08                 | 223.46                    | 2799.84   | 5.26        | 19.09       | 5.26                      | 19.80                     | 74.59                       | 0.17                          |
| 2900.00                 | 0.16                 | 252.64                    | 2899.84   | 5.17        | 18.91       | 5.17                      | 19.60                     | 74.71                       | 0.10                          |
| 3000.00                 | 0.22                 | 260.81                    | 2999.84   | 5.10        | 18.58       | 5.10                      | 19.27                     | 74.66                       | 0.06                          |
| 3100.00                 | 0.14                 | 234.93                    | 3099.83   | 4.99        | 18.29       | 4.99                      | 18.96                     | 74.73                       | 0.11                          |
| 3200.00                 | 0.27                 | 258.09                    | 3199.83   | 4.87        | 17.96       | 4.87                      | 18.61                     | 74.82                       | 0.15                          |
| 3300.00                 | 0.42                 | 229.05                    | 3299.83   | 4.59        | 17.45       | 4.59                      | 18.04                     | 75.28                       | 0.22                          |
| 3400.00                 | 0.28                 | 246.32                    | 3399.83   | 4.25        | 16.95       | 4.25                      | 17.47                     | 75.93                       | 0.17                          |
| 3500.00                 | 0.53                 | 240.02                    | 3499.83   | 3.92        | 16.32       | 3.92                      | 16.79                     | 76.50                       | 0.25                          |
| 3600.00                 | 0.29                 | 228.76                    | 3599.83   | 3.52        | 15.73       | 3.52                      | 16.12                     | 77.39                       | 0.25                          |
| 3700.00                 | 0.45                 | 208.37                    | 3699.82   | 3.00        | 15.35       | 3.00                      | 15.64                     | 78.94                       | 0.20                          |
| 3800.00                 | 0.42                 | 223.55                    | 3799.82   | 2.39        | 14.91       | 2.39                      | 15.10                     | 80.89                       | 0.12                          |
| 3900.00                 | 0.49                 | 212.91                    | 3899.82   | 1.77        | 14.43       | 1.77                      | 14.53                     | 83.02                       | 0.11                          |
| 4000.00                 | 0.26                 | 200.69                    | 3999.81   | 1.19        | 14.11       | 1.19                      | 14.16                     | 85.16                       | 0.24                          |
| 4100.00                 | 0.40                 | 193.61                    | 4099.81   | 0.64        | 13.95       | 0.64                      | 13.96                     | 87.37                       | 0.14                          |
| 4200.00                 | 0.23                 | 201.50                    | 4199.81   | 0.12        | 13.80       | 0.12                      | 13.80                     | 89.51                       | 0.18                          |
| 4283.00                 | 0.13                 | 180.00                    | 4282.81   | -0.13       | 13.74       | -0.13                     | 13.74                     | 90.55                       | 0.14                          |



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

June 11, 2013

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

RE: Burch Keely Unit #941H  
2310' FNL & 265' FEL  
Sec. 18, T17S, R30E  
Eddy County, New Mexico

Dear Sir,

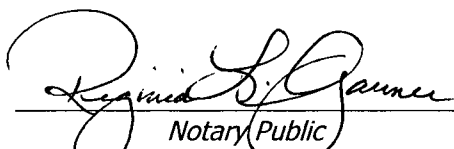
The attached is the Deviation Survey for the above captioned well.

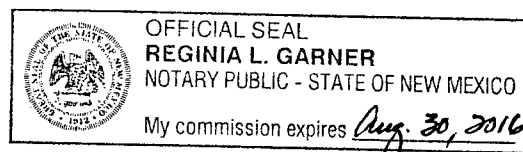
Very truly yours,

  
Eddie LaRue  
Operations Manager

State of New Mexico }  
County of Eddy }

*The foregoing was acknowledged before me this 11<sup>th</sup> day of June, 2013.*

  
Notary Public



Burch Keely Unit #941H

| Date      | Depth | Deviation | Direction |
|-----------|-------|-----------|-----------|
| 5/24/2013 | 172   | 0.60      |           |
| 5/24/2013 | 262   | 0.40      |           |
| 5/24/2013 | 318   | 0.40      |           |
| 5/25/2013 | 469   | 0.70      |           |
| 5/25/2013 | 712   | 0.60      |           |
| 5/26/2013 | 951   | 1.50      |           |
| 5/26/2013 | 1070  | 0.90      |           |
| 5/27/2013 | 1189  | 1.30      |           |
| 5/27/2013 | 1460  | 1.00      |           |
| 5/27/2013 | 1762  | 0.40      |           |
| 5/28/2013 | 2078  | 0.40      |           |
| 5/28/2013 | 2553  | 0.40      |           |
| 5/28/2013 | 2998  | 0.60      |           |
| 5/29/2013 | 3440  | 0.50      |           |
| 5/29/2013 | 3883  | 0.80      |           |
| 5/30/2013 | 4313  | 0.20      | 130.50    |
| 5/30/2013 | 4345  | 0.10      | 252.00    |
| 5/30/2013 | 4377  | 1.00      | 283.70    |
| 5/30/2013 | 4409  | 2.90      | 275.80    |
| 5/30/2013 | 4440  | 5.10      | 278.60    |
| 5/30/2013 | 4472  | 7.50      | 280.00    |
| 5/31/2013 | 4504  | 10.30     | 280.50    |
| 5/31/2013 | 4535  | 13.10     | 281.80    |
| 5/31/2013 | 4567  | 15.90     | 280.80    |
| 5/31/2013 | 4599  | 18.90     | 281.40    |
| 5/31/2013 | 4680  | 62.60     | 269.90    |
| 5/31/2013 | 4820  | 45.40     | 271.60    |
| 5/31/2013 | 4853  | 48.70     | 270.90    |
| 5/31/2013 | 4885  | 52.10     | 271.10    |
| 5/31/2013 | 4916  | 56.10     | 270.50    |
| 5/31/2013 | 4948  | 59.50     | 270.00    |
| 5/31/2013 | 5011  | 65.40     | 270.00    |
| 5/31/2013 | 5043  | 67.80     | 269.90    |
| 6/1/2013  | 5074  | 70.80     | 269.80    |
| 6/1/2013  | 5106  | 74.10     | 270.00    |
| 6/1/2013  | 5138  | 76.80     | 271.30    |
| 6/1/2013  | 5169  | 79.30     | 727.10    |
| 6/1/2013  | 5201  | 82.10     | 272.40    |
| 6/1/2013  | 5233  | 85.10     | 272.50    |
| 6/1/2013  | 5272  | 87.30     | 272.40    |
| 6/1/2013  | 5303  | 88.40     | 272.40    |
| 6/1/2013  | 5334  | 88.40     | 272.10    |
| 6/1/2013  | 5366  | 88.90     | 271.80    |

| Date     | Depth | Deviation | Direction |
|----------|-------|-----------|-----------|
| 6/1/2013 | 5398  | 89.40     | 271.50    |
| 6/1/2013 | 6461  | 90.10     | 270.10    |
| 6/2/2013 | 5549  | 90.80     | 269.60    |
| 6/2/2013 | 5645  | 91.80     | 269.20    |
| 6/2/2013 | 5740  | 92.40     | 268.60    |
| 6/2/2013 | 5835  | 92.80     | 267.80    |
| 6/2/2013 | 5930  | 90.70     | 269.10    |
| 6/2/2013 | 6025  | 91.00     | 268.80    |
| 6/2/2013 | 6120  | 90.50     | 269.10    |
| 6/2/2013 | 6215  | 90.50     | 270.00    |
| 6/2/2013 | 6310  | 91.50     | 270.30    |
| 6/3/2013 | 6594  | 92.00     | 269.50    |
| 6/3/2013 | 669   | 90.60     | 269.70    |
| 6/3/2013 | 6784  | 91.40     | 269.60    |
| 6/3/2013 | 6879  | 90.20     | 269.20    |
| 6/3/2013 | 6974  | 89.90     | 269.90    |
| 6/4/2013 | 7354  | 93.10     | 270.30    |
| 6/4/2013 | 7449  | 91.70     | 270.50    |
| 6/4/2013 | 7544  | 90.90     | 270.40    |
| 6/4/2013 | 7638  | 91.20     | 270.20    |
| 6/4/2013 | 7734  | 91.40     | 269.20    |
| 6/6/2013 | 7829  | 90.10     | 270.40    |
| 6/6/2013 | 7924  | 90.00     | 269.10    |
| 6/6/2013 | 8018  | 90.40     | 269.20    |
| 6/6/2013 | 8115  | 90.80     | 268.50    |
| 6/6/2013 | 8210  | 91.00     | 269.40    |
| 6/6/2013 | 8305  | 90.80     | 269.50    |
| 6/6/2013 | 8400  | 90.70     | 269.50    |
| 6/6/2013 | 8495  | 90.40     | 269.10    |
| 6/7/2013 | 9590  | 90.50     | 269.40    |
| 6/7/2013 | 8686  | 91.20     | 269.90    |
| 6/7/2013 | 8778  | 91.40     | 269.80    |
| 6/7/2013 | 8873  | 91.90     | 269.30    |
| 6/7/2013 | 8971  | 91.60     | 269.10    |
| 6/7/2013 | 9066  | 91.60     | 269.10    |
| 6/7/2013 | 9161  | 91.30     | 269.20    |
| 6/7/2013 | 9245  | 91.20     | 269.60    |



Archer Directional Drilling Services.  
12101 Cutten Road  
Houston, Texas 77066  
Tel: 281-301-2600  
Fax: 281-301-2795

## MWD Survey Certification

State of New Mexico  
County of Eddy

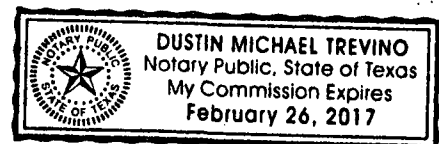
I, Amador Baggerly, certify that; I am employed by Archer Directional Drilling Services; that I did on the day(s) of 05/29/13 through 06/08/13, conduct or supervise the taking of MWD surveys from a depth of 4313 feet to a depth of 9307 feet; that the data is true, correct, complete and within the limitations of the tool as set forth by Archer Directional Drilling Services; that I am authorized and qualified to make this report; that these surveys were conducted at the request of COG Operating, LLC for the Burch Keely Unit #941H (API # 30-015-40971), Well located in Eddy County, New Mexico; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by Archer Directional Drilling Services

Amador Baggerly  
MWD Coordinator

State of Texas  
County of Harris

Before me, a notary public, on this day personally appeared Amador Baggerly, on this 10 day of June, 2013, known to me to be the person whose name is subscribed to the foregoing document and, being by me first duly sworn, declared that the statement therein contained are true and correct.

Notary Public's Signature





Company: COG Operating, LLC  
 Well: Burch Keely Unit # 941H  
 Location: Eddy County, New Mexico  
 Rig: Silver Oak #11  
 Job Date: 05/29/13 / 06/08/13

Job Number: 04273-433-22  
 Mag Decl.: 7.42  
 Dir Driller: Jeff Fulton  
 MWD Eng: C. Hash/S. Stewart

Calculation Method  
 Proposed Azimuth 270.0  
 Depth Reference KBG  
 Tie Into: Gyro Survey

| Survey Number | Survey Depth (ft) | Inclination (deg) | Azimuth (deg) | Course Length (ft) | True Vertical Depth (ft) | Vertical Section (ft) | Coordinates |          | Closure       |                   | Dogleg Severity (d/100') | Build Rate (d/100') | Walk Rate (d/100') |       |         |
|---------------|-------------------|-------------------|---------------|--------------------|--------------------------|-----------------------|-------------|----------|---------------|-------------------|--------------------------|---------------------|--------------------|-------|---------|
|               |                   |                   |               |                    |                          |                       | N/S (ft)    | E/W (ft) | Distance (ft) | Direction Azimuth |                          |                     |                    |       |         |
| Tie In        | 4283.00           | 0.13              | 180           | 0                  | 4282.81                  | 0                     | -0.16       | 0        | 13.73         | 0                 |                          |                     |                    |       |         |
| 1             | 4313              | 0.2               | 130.5         | 30                 | 4312.81                  | -13.77                | 0.23        | S        | 13.77         | E                 | 13.77                    | 90.95               | 0.51               | 0.23  | -165.00 |
| 2             | 4345              | 0.1               | 257.0         | 32                 | 4344.81                  | -13.79                | 0.27        | S        | 13.79         | E                 | 13.79                    | 91.12               | 0.85               | -0.31 | 395.31  |
| 3             | 4377              | 1.0               | 283.7         | 32                 | 4376.81                  | -13.49                | 0.21        | S        | 13.49         | E                 | 13.49                    | 90.90               | 2.85               | 2.81  | 83.44   |
| 4             | 4409              | 2.9               | 275.8         | 32                 | 4408.79                  | -12.41                | 0.06        | S        | 12.41         | E                 | 12.41                    | 90.29               | 5.98               | 5.94  | -24.69  |
| 5             | 4440              | 5.1               | 278.6         | 31                 | 4439.71                  | -10.27                | 0.22        | N        | 10.27         | E                 | 10.27                    | 88.76               | 7.12               | 7.10  | 9.03    |
| 6             | 4472              | 7.5               | 280.1         | 32                 | 4471.52                  | -6.80                 | 0.80        | N        | 6.80          | E                 | 6.85                     | 83.28               | 7.52               | 7.50  | 4.69    |
| 7             | 4504              | 10.3              | 280.5         | 32                 | 4503.13                  | -1.93                 | 1.69        | N        | 1.93          | E                 | 2.57                     | 48.87               | 8.75               | 8.75  | 1.25    |
| 8             | 4535              | 13.1              | 281.8         | 31                 | 4533.48                  | 4.23                  | 2.91        | N        | 4.23          | W                 | 5.14                     | 304.55              | 9.07               | 9.03  | 4.19    |
| 9             | 4567              | 15.9              | 281.8         | 32                 | 4564.46                  | 12.08                 | 4.55        | N        | 12.07         | W                 | 12.90                    | 290.66              | 8.75               | 8.75  | 0.00    |
| 10            | 4599              | 18.9              | 281.4         | 32                 | 4594.99                  | 21.45                 | 6.47        | N        | 21.45         | W                 | 22.40                    | 286.79              | 9.38               | 9.37  | -1.25   |
| 11            | 4630              | 22.2              | 281.7         | 31                 | 4624.01                  | 32.11                 | 8.65        | N        | 32.11         | W                 | 33.25                    | 285.08              | 10.65              | 10.65 | 0.97    |
| 12            | 4662              | 26.1              | 281.7         | 32                 | 4653.21                  | 44.93                 | 11.31       | N        | 44.92         | W                 | 46.32                    | 284.13              | 12.19              | 12.19 | 0.00    |
| 13            | 4694              | 29.8              | 279.7         | 32                 | 4681.47                  | 59.67                 | 14.08       | N        | 59.66         | W                 | 61.30                    | 283.28              | 11.93              | 11.56 | -6.25   |
| 14            | 4726              | 33.2              | 276.0         | 32                 | 4708.75                  | 76.23                 | 16.33       | N        | 76.22         | W                 | 77.95                    | 282.09              | 12.22              | 10.63 | -11.56  |
| 15            | 4757              | 37.1              | 274.3         | 31                 | 4734.10                  | 94.00                 | 17.92       | N        | 93.99         | W                 | 95.68                    | 280.80              | 12.97              | 12.58 | -5.48   |
| 16            | 4789              | 41.3              | 273.3         | 32                 | 4758.89                  | 114.17                | 19.25       | N        | 114.16        | W                 | 115.78                   | 279.57              | 13.27              | 13.13 | -3.13   |
| 17            | 4821              | 45.4              | 271.6         | 32                 | 4782.15                  | 136.12                | 20.18       | N        | 136.10        | W                 | 137.59                   | 278.43              | 13.32              | 12.81 | -5.31   |
| 18            | 4853              | 48.7              | 270.9         | 32                 | 4803.95                  | 159.53                | 20.69       | N        | 159.52        | W                 | 160.85                   | 277.39              | 10.44              | 10.31 | -2.19   |
| 19            | 4884              | 52.1              | 271.1         | 31                 | 4823.71                  | 183.41                | 21.10       | N        | 183.40        | W                 | 184.61                   | 276.56              | 10.98              | 10.97 | 0.65    |
| 20            | 4916              | 56.1              | 270.5         | 32                 | 4842.47                  | 209.32                | 21.46       | N        | 209.31        | W                 | 210.41                   | 275.85              | 12.59              | 12.50 | -1.88   |
| 21            | 4948              | 59.5              | 270.0         | 32                 | 4859.52                  | 236.40                | 21.58       | N        | 236.38        | W                 | 237.37                   | 275.22              | 10.71              | 10.63 | -1.56   |
| 22            | 4979              | 62.6              | 269.9         | 31                 | 4874.53                  | 263.52                | 21.55       | N        | 263.51        | W                 | 264.39                   | 274.68              | 10.00              | 10.00 | -0.32   |
| 23            | 5011              | 65.4              | 270.0         | 32                 | 4888.55                  | 292.28                | 21.53       | N        | 292.27        | W                 | 293.06                   | 274.21              | 8.75               | 8.75  | 0.31    |
| 24            | 5042              | 67.8              | 269.9         | 31                 | 4900.86                  | 320.73                | 21.50       | N        | 320.71        | W                 | 321.43                   | 273.84              | 7.75               | 7.74  | -0.32   |
| 25            | 5074              | 70.8              | 269.8         | 32                 | 4912.17                  | 350.66                | 21.43       | N        | 350.64        | W                 | 351.30                   | 273.50              | 9.38               | 9.38  | -0.31   |
| 26            | 5106              | 74.1              | 270.0         | 32                 | 4921.82                  | 381.16                | 21.37       | N        | 381.15        | W                 | 381.75                   | 273.21              | 10.33              | 10.31 | 0.62    |
| 27            | 5138              | 76.8              | 271.3         | 32                 | 4929.86                  | 412.13                | 21.73       | N        | 412.12        | W                 | 412.69                   | 273.02              | 9.31               | 8.44  | 4.06    |
| 28            | 5169              | 79.3              | 272.1         | 31                 | 4936.28                  | 442.44                | 22.63       | N        | 442.43        | W                 | 443.01                   | 272.93              | 8.45               | 8.06  | 2.58    |
| 29            | 5201              | 82.1              | 272.4         | 32                 | 4941.45                  | 474.00                | 23.87       | N        | 473.98        | W                 | 474.58                   | 272.88              | 8.80               | 8.75  | 0.94    |
| 30            | 5233              | 85.1              | 272.5         | 32                 | 4945.01                  | 505.76                | 25.23       | N        | 505.75        | W                 | 506.38                   | 272.86              | 9.38               | 9.38  | 0.31    |
| 31            | 5264              | 87.3              | 272.4         | 31                 | 4947.07                  | 536.67                | 26.55       | N        | 536.65        | W                 | 537.31                   | 272.83              | 7.10               | 7.10  | -0.32   |
| 32            | 5296              | 88.4              | 272.4         | 32                 | 4948.27                  | 568.62                | 27.89       | N        | 568.60        | W                 | 569.28                   | 272.81              | 3.44               | 3.44  | 0.00    |
| 33            | 5391              | 89.4              | 271.5         | 95                 | 4950.09                  | 663.54                | 31.12       | N        | 663.53        | W                 | 664.26                   | 272.69              | 1.42               | 1.05  | -0.95   |
| 34            | 5454              | 90.1              | 270.1         | 63                 | 4950.37                  | 726.53                | 32.00       | N        | 726.52        | W                 | 727.22                   | 272.52              | 2.48               | 1.11  | -2.22   |
| 35            | 5549              | 90.8              | 269.6         | 95                 | 4949.62                  | 821.53                | 31.75       | N        | 821.51        | W                 | 822.13                   | 272.21              | 0.91               | 0.74  | -0.53   |
| 36            | 5645              | 91.8              | 269.2         | 96                 | 4947.44                  | 917.50                | 30.75       | N        | 917.48        | W                 | 918.00                   | 271.92              | 1.12               | 1.04  | -0.42   |



Company: COG Operating, LLC  
Well: Burch Keely Unit # 941H  
Location: Eddy County, New Mexico  
Rig: Silver Oak #11  
Job Date: 05/29/13 / 06/08/13

Job Number: 04273-433-22  
Mag Decl.: 7.42  
Dir Driller: Jeff Fulton  
MWD Eng: C. Hash/S. Stewart

Calculation Method  
Proposed Azimuth 270.0  
Depth Reference KBG  
Tie Into: Gyro Survey  
Minimum Curvature

| Survey Number | Survey Depth (ft) | Inclination (deg) | Azimuth (deg) | Course Length (ft) | True Vertical Depth (ft) | Vertical Section (ft) | Coordinates |           | Closure       |                   | Dogleg Severity (d/100') | Build Rate (d/100') | Walk Rate (d/100') |
|---------------|-------------------|-------------------|---------------|--------------------|--------------------------|-----------------------|-------------|-----------|---------------|-------------------|--------------------------|---------------------|--------------------|
|               |                   |                   |               |                    |                          |                       | N/S (ft)    | E/W (ft)  | Distance (ft) | Direction Azimuth |                          |                     |                    |
| 37            | 5740              | 92.4              | 268.6         | 95                 | 4943.96                  | 1012.42               | 28.92 N     | 1012.40 W | 1012.81       | 271.64            | 0.89                     | 0.63                | -0.63              |
| 38            | 5835              | 92.8              | 267.8         | 95                 | 4939.65                  | 1107.27               | 25.94 N     | 1107.25 W | 1107.56       | 271.34            | 0.94                     | 0.42                | -0.84              |
| 39            | 5930              | 90.7              | 269.0         | 95                 | 4936.75                  | 1202.18               | 23.29 N     | 1202.17 W | 1202.39       | 271.11            | 2.55                     | -2.21               | 1.26               |
| 40            | 6025              | 91.0              | 268.8         | 95                 | 4935.34                  | 1297.15               | 21.47 N     | 1297.14 W | 1297.32       | 270.95            | 0.38                     | 0.32                | -0.21              |
| 41            | 6120              | 90.5              | 269.1         | 95                 | 4934.10                  | 1392.12               | 19.73 N     | 1392.11 W | 1392.25       | 270.81            | 0.61                     | -0.53               | 0.32               |
| 42            | 6215              | 90.5              | 270.0         | 95                 | 4933.27                  | 1487.12               | 18.98 N     | 1487.11 W | 1487.23       | 270.73            | 0.95                     | 0.00                | 0.95               |
| 43            | 6310              | 91.5              | 270.3         | 95                 | 4931.61                  | 1582.10               | 19.23 N     | 1582.09 W | 1582.21       | 270.70            | 1.10                     | 1.05                | 0.32               |
| 44            | 6404              | 91.7              | 270.1         | 94                 | 4928.99                  | 1676.06               | 19.56 N     | 1676.05 W | 1676.17       | 270.67            | 0.30                     | 0.21                | -0.21              |
| 45            | 6499              | 92.2              | 269.9         | 95                 | 4925.76                  | 1771.01               | 19.56 N     | 1771.00 W | 1771.11       | 270.63            | 0.57                     | 0.53                | -0.21              |
| 46            | 6594              | 92.0              | 269.5         | 95                 | 4922.27                  | 1865.94               | 19.06 N     | 1865.93 W | 1866.03       | 270.59            | 0.47                     | -0.21               | -0.42              |
| 47            | 6689              | 90.6              | 269.7         | 95                 | 4920.12                  | 1960.91               | 18.40 N     | 1960.90 W | 1960.99       | 270.54            | 1.49                     | -1.47               | 0.21               |
| 48            | 6784              | 91.4              | 269.6         | 95                 | 4918.46                  | 2055.89               | 17.82 N     | 2055.89 W | 2055.96       | 270.50            | 0.85                     | 0.84                | -0.11              |
| 49            | 6879              | 90.2              | 269.2         | 95                 | 4917.13                  | 2150.88               | 16.82 N     | 2150.87 W | 2150.94       | 270.45            | 1.33                     | -1.26               | -0.42              |
| 50            | 6974              | 89.9              | 269.9         | 95                 | 4917.05                  | 2245.87               | 16.08 N     | 2245.87 W | 2245.92       | 270.41            | 0.80                     | -0.32               | 0.74               |
| 51            | 7069              | 90.1              | 270.7         | 95                 | 4917.05                  | 2340.87               | 16.57 N     | 2340.86 W | 2340.92       | 270.41            | 0.87                     | 0.21                | 0.84               |
| 52            | 7164              | 90.4              | 271.0         | 95                 | 4916.64                  | 2435.86               | 17.98 N     | 2435.85 W | 2435.92       | 270.42            | 0.45                     | 0.32                | 0.32               |
| 53            | 7259              | 91.6              | 270.9         | 95                 | 4914.98                  | 2530.83               | 19.56 N     | 2530.82 W | 2530.90       | 270.44            | 1.27                     | 1.26                | -0.11              |
| 54            | 7354              | 93.1              | 270.3         | 95                 | 4911.08                  | 2625.74               | 20.55 N     | 2625.73 W | 2625.81       | 270.45            | 1.70                     | 1.58                | -0.63              |
| 55            | 7449              | 91.7              | 270.5         | 95                 | 4907.11                  | 2720.66               | 21.22 N     | 2720.65 W | 2720.73       | 270.45            | 1.49                     | -1.47               | 0.21               |
| 56            | 7544              | 90.9              | 270.4         | 95                 | 4904.95                  | 2815.63               | 21.96 N     | 2815.62 W | 2815.70       | 270.45            | 0.85                     | -0.84               | -0.11              |
| 57            | 7639              | 91.2              | 270.2         | 95                 | 4903.21                  | 2910.61               | 22.46 N     | 2910.60 W | 2910.69       | 270.44            | 0.38                     | 0.32                | -0.21              |
| 58            | 7734              | 91.4              | 269.2         | 95                 | 4901.05                  | 3005.59               | 21.96 N     | 3005.57 W | 3005.65       | 270.42            | 1.07                     | 0.21                | -1.05              |
| 59            | 7829              | 90.1              | 270.4         | 95                 | 4899.81                  | 3100.57               | 21.63 N     | 3100.56 W | 3100.64       | 270.40            | 1.86                     | -1.37               | 1.26               |
| 60            | 7924              | 90.0              | 269.1         | 95                 | 4899.73                  | 3195.57               | 21.22 N     | 3195.56 W | 3195.63       | 270.38            | 1.37                     | -0.11               | -1.37              |
| 61            | 8019              | 90.4              | 269.2         | 95                 | 4899.40                  | 3290.56               | 19.81 N     | 3290.55 W | 3290.61       | 270.34            | 0.43                     | 0.42                | 0.11               |
| 62            | 8115              | 90.8              | 268.5         | 96                 | 4898.39                  | 3386.53               | 17.88 N     | 3386.52 W | 3386.57       | 270.30            | 0.84                     | 0.42                | -0.73              |
| 63            | 8210              | 91.0              | 269.4         | 95                 | 4896.90                  | 3481.50               | 16.14 N     | 3481.49 W | 3481.53       | 270.27            | 0.97                     | 0.21                | 0.95               |
| 64            | 8305              | 90.8              | 269.5         | 95                 | 4895.41                  | 3576.48               | 15.23 N     | 3576.48 W | 3576.51       | 270.24            | 0.24                     | -0.21               | 0.11               |
| 65            | 8400              | 90.7              | 269.5         | 95                 | 4894.16                  | 3671.47               | 14.40 N     | 3671.47 W | 3671.49       | 270.22            | 0.11                     | -0.11               | 0.00               |
| 66            | 8495              | 90.4              | 269.1         | 95                 | 4893.25                  | 3766.46               | 13.24 N     | 3766.45 W | 3766.48       | 270.20            | 0.53                     | -0.32               | -0.42              |
| 67            | 8590              | 90.5              | 269.4         | 95                 | 4892.50                  | 3861.45               | 11.99 N     | 3861.44 W | 3861.46       | 270.18            | 0.33                     | 0.11                | 0.32               |
| 68            | 8686              | 91.2              | 269.9         | 96                 | 4891.08                  | 3957.43               | 11.41 N     | 3957.43 W | 3957.45       | 270.17            | 0.90                     | 0.73                | 0.52               |
| 69            | 8780              | 91.4              | 269.8         | 94                 | 4888.95                  | 4051.41               | 11.16 N     | 4051.40 W | 4051.42       | 270.16            | 0.24                     | 0.21                | -0.11              |
| 70            | 8875              | 91.9              | 269.3         | 95                 | 4886.21                  | 4146.37               | 10.42 N     | 4146.36 W | 4146.37       | 270.14            | 0.74                     | 0.53                | -0.53              |
| 71            | 8971              | 91.6              | 269.0         | 96                 | 4883.28                  | 4242.31               | 8.99 N      | 4242.31 W | 4242.32       | 270.12            | 0.44                     | -0.31               | -0.31              |
| 72            | 9066              | 91.6              | 269.1         | 95                 | 4880.63                  | 4337.26               | 7.42 N      | 4337.26 W | 4337.26       | 270.10            | 0.11                     | 0.00                | 0.11               |
| 73            | 9161              | 91.3              | 269.2         | 95                 | 4878.22                  | 4432.22               | 6.01 N      | 4432.21 W | 4432.22       | 270.08            | 0.33                     | -0.32               | 0.11               |
| 74            | 9245              | 91.2              | 269.6         | 84                 | 4876.39                  | 4516.19               | 5.13 N      | 4516.19 W | 4516.19       | 270.07            | 0.49                     | -0.12               | 0.48               |

# Archer

Company: COG Operating, LLC

Job Number: 04273-433-22

Calculation Method

Minimum Curvature

Well: Burch Keely Unit # 941H

Mag Decl.: 7.42

Proposed Azimuth 270.0

Location: Eddy County, New Mexico

Dir Driller: Jeff Fulton

Depth Reference KBG

Rig: Silver Oak #11

MWD Eng: C. Hash/S. Stewart

Tie Into: Gyro Survey

Job Date: 05/29/13 / 06/08/13

| Survey Number | Survey Depth (ft) | Inclination (deg) | Azimuth (deg) | Course Length (ft) | True Vertical Depth (ft) | Vertical Section (ft) | Coordinates |           | Closure       |                   | Dogleg Severity (d/100') | Build Rate (d/100') | Walk Rate (d/100') |
|---------------|-------------------|-------------------|---------------|--------------------|--------------------------|-----------------------|-------------|-----------|---------------|-------------------|--------------------------|---------------------|--------------------|
|               |                   |                   |               |                    |                          |                       | N/S (ft)    | E/W (ft)  | Distance (ft) | Direction Azimuth |                          |                     |                    |
| Proj.         | 9307              | 91.2              | 269.6         | 62                 | 4875.09                  | 4578.18               | 4.70 N      | 4578.17 W | 4578.18       | 270.06            | 0.00                     | 0.00                | 0.00               |