



**Scientific  
Drilling**



*posted 6-6-1*  
**GYRO SURVEY REPORT**

**Prepared For**

**PENWELL ENERGY INC.**

**Eagle Springs 8 Fed #2-M**

**Sandoval County, NM**

***Prepared By:***

***Judi Moore - Well Planner***

***Scientific Drilling International***

***Rocky Mountain District***

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# Scientific Drilling SURVEY REPORT

Company: PENWELL ENERGY INC.  
Field: Sandoval County, NM  
Site: Eagle Springs 8 Fed #2-M  
Well: #2-M  
Wellpath: OH

Date: 3/16/2001 Time: 09:15:48 Page: 1  
Co-ordinate(NE) Reference: Site: Eagle Springs 8 Fed #2-M  
Vertical (TVD) Reference: SITE 0.0  
Section (VS) Reference: Well (0.00N,0.00E,179.59Azi)  
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey: Survey #1  
SHL SEC.8,T19N,R4W 330°FNL & 2310°FEL  
Company: Scientific Drilling  
Tool: Gyro, Finder

Start Date: 3/14/2001  
Engineer: Dave Doney  
Tied-to: From Surface

## Survey

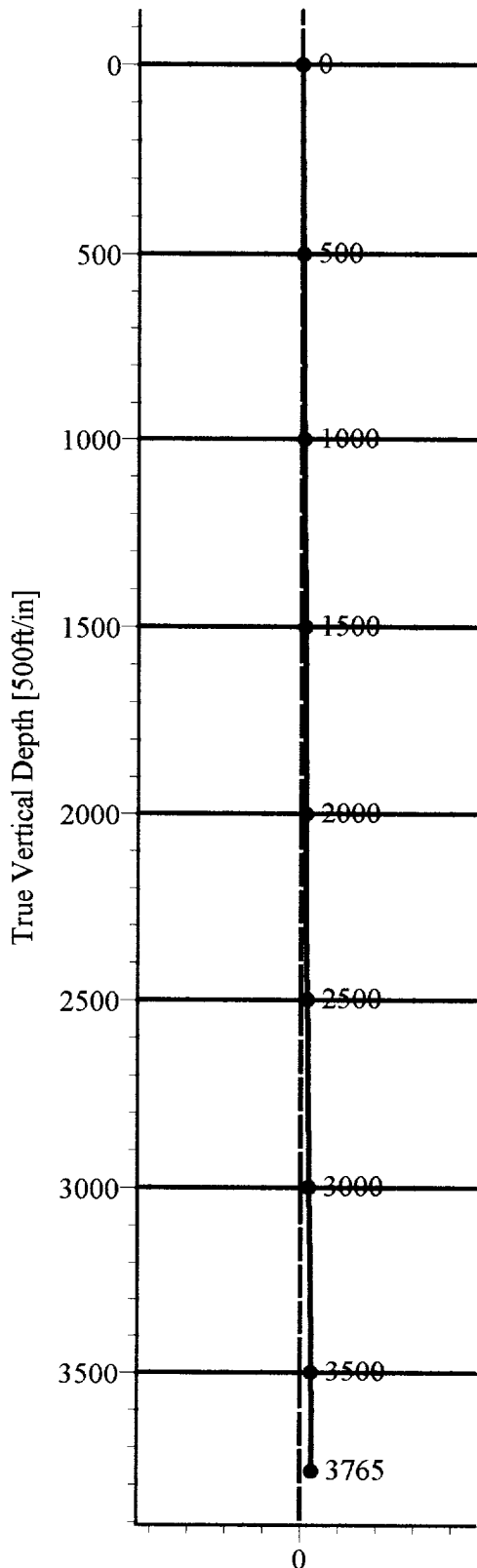
| Meas Depth<br>ft | Incl<br>deg | Azim<br>deg | TVD<br>ft | VS<br>ft | N/S<br>ft | E/W<br>ft | DLS<br>deg/100ft | CLen<br>ft | CLSD<br>ft | CLSA<br>deg |
|------------------|-------------|-------------|-----------|----------|-----------|-----------|------------------|------------|------------|-------------|
| 0.00             | 0.00        | 0.00        | 0.00      | 0.00     | 0.00      | 0.00      | 0.00             | 0.00       | 0.00       | 0.00        |
| 100.00           | 0.41        | 114.50      | 100.00    | 0.15     | -0.15     | 0.33      | 0.41             | 100.00     | 0.36       | 114.50      |
| 200.00           | 0.82        | 117.03      | 199.99    | 0.63     | -0.62     | 1.29      | 0.41             | 100.00     | 1.43       | 115.76      |
| 300.00           | 0.88        | 139.28      | 299.98    | 1.55     | -1.53     | 2.43      | 0.33             | 100.00     | 2.87       | 122.21      |
| 400.00           | 0.83        | 141.85      | 399.97    | 2.71     | -2.68     | 3.38      | 0.06             | 100.00     | 4.31       | 128.46      |
| 500.00           | 0.55        | 131.37      | 499.96    | 3.60     | -3.57     | 4.18      | 0.31             | 100.00     | 5.50       | 130.46      |
| 600.00           | 0.47        | 136.64      | 599.96    | 4.22     | -4.18     | 4.82      | 0.09             | 100.00     | 6.39       | 130.92      |
| 700.00           | 0.39        | 151.88      | 699.96    | 4.82     | -4.78     | 5.27      | 0.14             | 100.00     | 7.11       | 132.23      |
| 800.00           | 0.36        | 153.62      | 799.96    | 5.40     | -5.36     | 5.57      | 0.03             | 100.00     | 7.73       | 133.93      |
| 900.00           | 0.47        | 181.42      | 899.95    | 6.10     | -6.05     | 5.70      | 0.23             | 100.00     | 8.31       | 136.75      |
| 1000.00          | 0.35        | 206.85      | 999.95    | 6.78     | -6.74     | 5.55      | 0.22             | 100.00     | 8.73       | 140.53      |
| 1100.00          | 0.16        | 215.82      | 1099.95   | 7.16     | -7.12     | 5.33      | 0.19             | 100.00     | 8.90       | 143.20      |
| 1200.00          | 0.72        | 207.68      | 1199.95   | 7.83     | -7.79     | 4.95      | 0.56             | 100.00     | 9.23       | 147.55      |
| 1300.00          | 0.74        | 191.17      | 1299.94   | 9.01     | -8.98     | 4.54      | 0.21             | 100.00     | 10.06      | 153.20      |
| 1400.00          | 0.67        | 187.78      | 1399.93   | 10.23    | -10.19    | 4.33      | 0.08             | 100.00     | 11.08      | 156.97      |
| 1500.00          | 0.55        | 218.18      | 1499.92   | 11.18    | -11.15    | 3.96      | 0.34             | 100.00     | 11.83      | 160.46      |
| 1600.00          | 0.54        | 217.06      | 1599.92   | 11.93    | -11.90    | 3.38      | 0.01             | 100.00     | 12.37      | 164.16      |
| 1700.00          | 0.42        | 211.80      | 1699.92   | 12.61    | -12.59    | 2.90      | 0.13             | 100.00     | 12.92      | 167.03      |
| 1800.00          | 0.24        | 206.93      | 1799.91   | 13.11    | -13.09    | 2.61      | 0.18             | 100.00     | 13.35      | 168.72      |
| 1900.00          | 0.23        | 220.42      | 1899.91   | 13.45    | -13.43    | 2.39      | 0.06             | 100.00     | 13.64      | 169.92      |
| 2000.00          | 0.14        | 153.86      | 1999.91   | 13.71    | -13.69    | 2.31      | 0.22             | 100.00     | 13.89      | 170.42      |
| 2100.00          | 0.06        | 155.44      | 2099.91   | 13.87    | -13.85    | 2.39      | 0.08             | 100.00     | 14.05      | 170.22      |
| 2200.00          | 0.23        | 138.15      | 2199.91   | 14.07    | -14.05    | 2.54      | 0.17             | 100.00     | 14.28      | 169.74      |
| 2300.00          | 0.71        | 164.32      | 2299.91   | 14.81    | -14.79    | 2.84      | 0.51             | 100.00     | 15.06      | 169.12      |
| 2400.00          | 0.78        | 163.54      | 2399.90   | 16.07    | -16.04    | 3.20      | 0.07             | 100.00     | 16.36      | 168.71      |
| 2500.00          | 0.71        | 173.92      | 2499.89   | 17.34    | -17.31    | 3.46      | 0.15             | 100.00     | 17.65      | 168.69      |
| 2600.00          | 0.66        | 189.98      | 2599.89   | 18.52    | -18.49    | 3.43      | 0.20             | 100.00     | 18.81      | 169.50      |
| 2700.00          | 0.61        | 182.93      | 2699.88   | 19.62    | -19.59    | 3.30      | 0.09             | 100.00     | 19.87      | 170.44      |
| 2800.00          | 0.56        | 189.74      | 2799.87   | 20.63    | -20.61    | 3.19      | 0.09             | 100.00     | 20.85      | 171.20      |
| 2900.00          | 0.67        | 182.73      | 2899.87   | 21.69    | -21.67    | 3.08      | 0.13             | 100.00     | 21.89      | 171.91      |
| 3000.00          | 0.77        | 191.99      | 2999.86   | 22.93    | -22.91    | 2.91      | 0.15             | 100.00     | 23.10      | 172.75      |
| 3100.00          | 0.99        | 193.92      | 3099.85   | 24.43    | -24.41    | 2.57      | 0.22             | 100.00     | 24.54      | 174.00      |
| 3200.00          | 0.78        | 198.76      | 3199.84   | 25.91    | -25.89    | 2.14      | 0.22             | 100.00     | 25.98      | 175.28      |
| 3300.00          | 0.70        | 191.51      | 3299.83   | 27.15    | -27.14    | 1.80      | 0.12             | 100.00     | 27.20      | 176.21      |
| 3400.00          | 0.68        | 194.39      | 3399.82   | 28.32    | -28.31    | 1.53      | 0.04             | 100.00     | 28.35      | 176.91      |
| 3500.00          | 0.59        | 201.70      | 3499.82   | 29.37    | -29.36    | 1.19      | 0.12             | 100.00     | 29.39      | 177.68      |
| 3600.00          | 0.53        | 200.55      | 3599.81   | 30.28    | -30.27    | 0.84      | 0.06             | 100.00     | 30.29      | 178.41      |
| 3700.00          | 0.43        | 219.33      | 3699.81   | 31.00    | -31.00    | 0.44      | 0.19             | 100.00     | 31.00      | 179.19      |
| 3765.00          | 0.25        | 203.67      | 3764.81   | 31.32    | -31.32    | 0.23      | 0.31             | 65.00      | 31.32      | 179.59      |



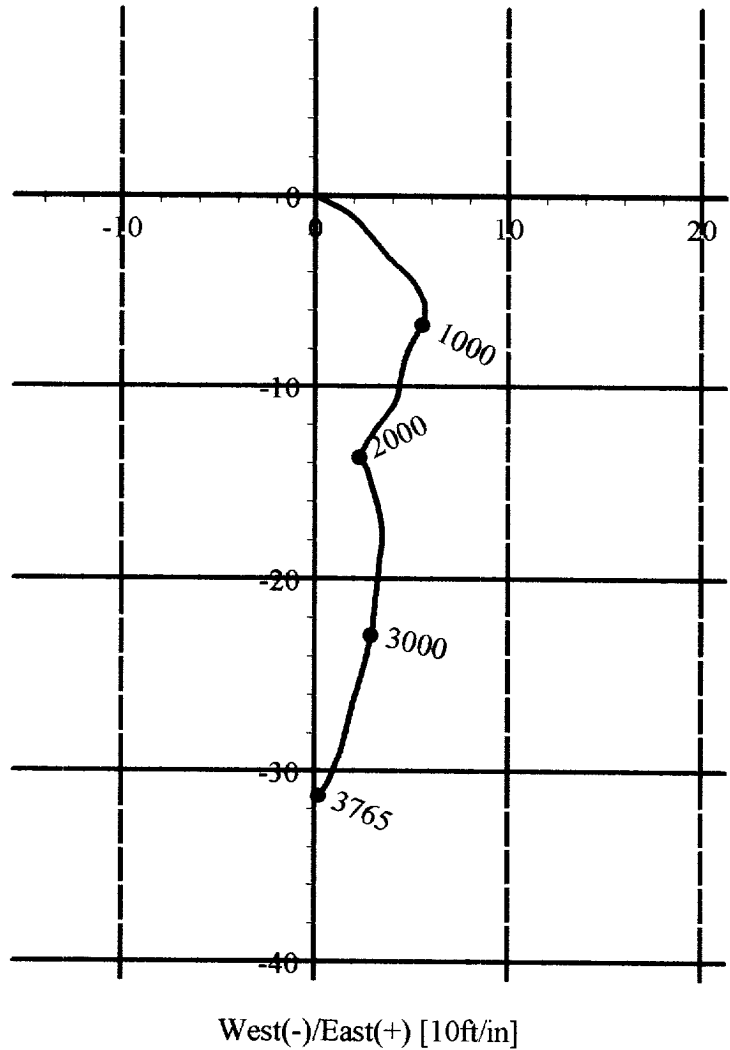
Scientific  
Drilling

# PENWELL ENERGY INC.

Field: Sandoval County, NM  
Site: Eagle Springs 8 Fed #2-M  
Well: #2-M  
Wellpath: OH  
Survey: Survey #1



South(-)/North(+) [10ft/in]



## BOTTOM HOLE CLOSURE

31.32 ft. 179.59° Azimuth

## FINAL STATION

3765.0' MD 3764.81' TVD  
0.25° Angle 203.67° Azimuth  
South 31.32 ft. East 0.23 ft.  
31.32' Vert. Sec.

Survey: Survey #1 (#2-M/OH)

Created By: Judi Moore

Date: 3/16/2001