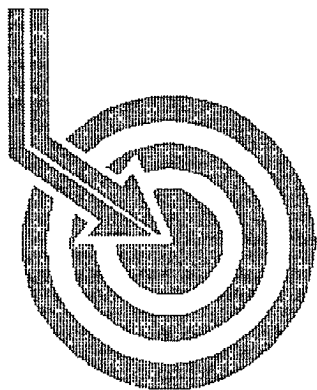




# Scientific Drilling

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NOV 10 2009

HOBBSOCD

## CONOCOPHILLIPS

30-025-03063

Field: Vacuum Abo

Site: Lea County, NM

Well: Vacuum Abo #14-01

Wellpath: VH - Job #32K0409127

Survey: 04/07/09

SUR: K-5-18s-35, 1980/S & 1980/W  
BHL: K-5-18s-35e, 2015/S & 1943/W  
API # 30-025-03063

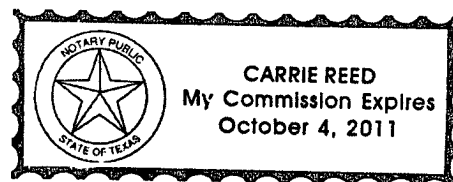
This survey is correct to the best of my knowledge  
and is supported by actual field data.

.....*L. Hart*.....Company Representative

Notorized this date 4th of May, 2009.

*Carrie Reed*

Notary Signature  
County of Midland  
State of Texas





# Scientific Drilling International Survey Report

**Company:** CONOCOPHILLIPS **Date:** 05/04/2009 **Time:** 11:20:33 **Page:** 1  
**Field:** Vacuum Abo **Co-ordinate(NE) Reference:** Site: Lea County, NM, True North  
**Site:** Lea County, NM **Vertical (TVD) Reference:** SITE 0.0  
**Well:** Vacuum Abo #14-01 **Section (VS) Reference:** Well (0.00N,0.00E,307.08Azi)  
**Wellpath:** VH - Job #32K0409127 **Survey Calculation Method:** Minimum Curvature **Db:** Sybase

**Survey:** 04/07/09 **Start Date:** 04/07/2009  
**Company:** Scientific Drilling Internatio **Engineer:** Garza w/Schlumberger  
**Tool:** Keeper;Keeper Gyro **Tied-to:** From Surface

## Survey

| MD<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 | 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        |
| 100.00   | 0.15        | 230.99      | 100.00    | 0.03     | -0.08     | -0.10     | 0.15             | 0.13       | 230.99      |
| 200.00   | 0.28        | 252.99      | 200.00    | 0.21     | -0.24     | -0.44     | 0.15             | 0.50       | 241.61      |
| 300.00   | 0.29        | 257.79      | 300.00    | 0.51     | -0.36     | -0.92     | 0.03             | 0.99       | 248.52      |
| 400.00   | 0.42        | 254.16      | 400.00    | 0.90     | -0.51     | -1.52     | 0.13             | 1.60       | 251.27      |
| 500.00   | 0.47        | 256.88      | 499.99    | 1.38     | -0.71     | -2.27     | 0.05             | 2.38       | 252.68      |
| 600.00   | 0.49        | 253.98      | 599.99    | 1.90     | -0.92     | -3.08     | 0.03             | 3.21       | 253.39      |
| 700.00   | 0.45        | 274.70      | 699.99    | 2.49     | -1.00     | -3.88     | 0.17             | 4.01       | 255.49      |
| 800.00   | 0.69        | 275.78      | 799.98    | 3.34     | -0.91     | -4.87     | 0.24             | 4.96       | 259.40      |
| 900.00   | 0.74        | 273.73      | 899.97    | 4.39     | -0.81     | -6.12     | 0.06             | 6.17       | 262.46      |
| 1000.00  | 0.61        | 277.83      | 999.97    | 5.40     | -0.69     | -7.29     | 0.14             | 7.32       | 264.55      |
| 1100.00  | 0.44        | 277.90      | 1099.96   | 6.20     | -0.57     | -8.20     | 0.17             | 8.22       | 266.02      |
| 1200.00  | 0.37        | 238.48      | 1199.96   | 6.65     | -0.69     | -8.85     | 0.28             | 8.88       | 265.57      |
| 1300.00  | 0.33        | 212.99      | 1299.96   | 6.75     | -1.10     | -9.28     | 0.16             | 9.35       | 263.27      |
| 1400.00  | 0.15        | 229.31      | 1399.96   | 6.75     | -1.42     | -9.54     | 0.19             | 9.65       | 261.52      |
| 1500.00  | 0.25        | 229.88      | 1499.96   | 6.83     | -1.65     | -9.81     | 0.10             | 9.94       | 260.46      |
| 1600.00  | 0.07        | 255.63      | 1599.96   | 6.92     | -1.80     | -10.03    | 0.19             | 10.19      | 259.80      |
| 1700.00  | 0.30        | 271.19      | 1699.96   | 7.17     | -1.81     | -10.35    | 0.23             | 10.51      | 260.06      |
| 1800.00  | 0.15        | 356.98      | 1799.95   | 7.46     | -1.68     | -10.62    | 0.33             | 10.75      | 261.02      |
| 1900.00  | 0.23        | 311.18      | 1899.95   | 7.75     | -1.42     | -10.78    | 0.17             | 10.87      | 262.52      |
| 2000.00  | 0.03        | 290.09      | 1999.95   | 7.97     | -1.27     | -10.96    | 0.20             | 11.03      | 263.37      |
| 2100.00  | 0.15        | 342.53      | 2099.95   | 8.10     | -1.14     | -11.02    | 0.13             | 11.08      | 264.09      |
| 2200.00  | 0.07        | 231.70      | 2199.95   | 8.23     | -1.05     | -11.11    | 0.19             | 11.16      | 264.58      |
| 2300.00  | 0.33        | 51.47       | 2299.95   | 8.17     | -0.91     | -10.93    | 0.40             | 10.97      | 265.23      |
| 2400.00  | 0.31        | 79.52       | 2399.95   | 7.92     | -0.68     | -10.44    | 0.16             | 10.46      | 266.26      |
| 2500.00  | 0.50        | 59.04       | 2499.95   | 7.57     | -0.41     | -9.80     | 0.24             | 9.81       | 267.61      |
| 2600.00  | 0.62        | 72.79       | 2599.94   | 7.09     | -0.02     | -8.91     | 0.18             | 8.91       | 269.84      |
| 2700.00  | 1.09        | 78.33       | 2699.93   | 6.15     | 0.33      | -7.46     | 0.48             | 7.47       | 272.51      |
| 2800.00  | 1.42        | 68.32       | 2799.91   | 4.88     | 0.98      | -5.38     | 0.39             | 5.46       | 280.31      |
| 2900.00  | 1.38        | 64.05       | 2899.88   | 3.69     | 1.96      | -3.14     | 0.11             | 3.70       | 301.99      |
| 3000.00  | 1.14        | 58.58       | 2999.86   | 2.78     | 3.01      | -1.21     | 0.27             | 3.24       | 338.10      |
| 3100.00  | 1.07        | 44.37       | 3099.84   | 2.30     | 4.19      | 0.29      | 0.28             | 4.20       | 3.99        |
| 3200.00  | 0.98        | 36.21       | 3199.82   | 2.19     | 5.55      | 1.45      | 0.17             | 5.74       | 14.64       |
| 3300.00  | 0.95        | 36.59       | 3299.81   | 2.21     | 6.91      | 2.45      | 0.03             | 7.33       | 19.53       |
| 3400.00  | 0.97        | 27.71       | 3399.79   | 2.35     | 8.32      | 3.34      | 0.15             | 8.97       | 21.85       |
| 3500.00  | 1.17        | 14.39       | 3499.78   | 2.89     | 10.06     | 3.98      | 0.32             | 10.82      | 21.61       |
| 3600.00  | 1.26        | 8.26        | 3599.75   | 3.81     | 12.14     | 4.40      | 0.16             | 12.91      | 19.91       |
| 3700.00  | 1.31        | 1.28        | 3699.73   | 5.01     | 14.37     | 4.58      | 0.16             | 15.08      | 17.68       |
| 3800.00  | 1.35        | 3.07        | 3799.70   | 6.34     | 16.69     | 4.67      | 0.06             | 17.33      | 15.63       |
| 3900.00  | 1.43        | 359.52      | 3899.67   | 7.76     | 19.11     | 4.72      | 0.12             | 19.69      | 13.88       |
| 4000.00  | 1.41        | 357.23      | 3999.64   | 9.30     | 21.59     | 4.65      | 0.06             | 22.08      | 12.16       |
| 4100.00  | 1.52        | 350.86      | 4099.61   | 11.05    | 24.13     | 4.38      | 0.20             | 24.52      | 10.29       |
| 4200.00  | 1.71        | 353.49      | 4199.57   | 13.04    | 26.92     | 4.00      | 0.20             | 27.21      | 8.46        |
| 4300.00  | 1.69        | 353.39      | 4299.52   | 15.08    | 29.87     | 3.66      | 0.02             | 30.09      | 6.99        |
| 4400.00  | 1.89        | 345.98      | 4399.48   | 17.39    | 32.93     | 3.09      | 0.31             | 33.07      | 5.37        |
| 4500.00  | 1.89        | 351.90      | 4499.42   | 19.84    | 36.16     | 2.46      | 0.20             | 36.25      | 3.89        |
| 4600.00  | 1.83        | 356.21      | 4599.37   | 22.05    | 39.39     | 2.12      | 0.15             | 39.45      | 3.09        |
| 4700.00  | 1.64        | 355.59      | 4699.32   | 24.05    | 42.41     | 1.91      | 0.19             | 42.45      | 2.58        |
| 4800.00  | 1.44        | 1.20        | 4799.29   | 25.73    | 45.09     | 1.82      | 0.25             | 45.13      | 2.32        |

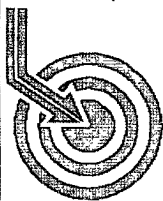


# Scientific Drilling International Survey Report

|                                       |                                   |                                         |                   |
|---------------------------------------|-----------------------------------|-----------------------------------------|-------------------|
| <b>Company:</b> CONOCOPHILLIPS        | <b>Date:</b> 05/04/2009           | <b>Time:</b> 11:20:33                   | <b>Page:</b> 2    |
| <b>Field:</b> Vacuum Abo              | <b>Co-ordinate(NE) Reference:</b> | <b>Site:</b> Lea County, NM, True North |                   |
| <b>Site:</b> Lea County, NM           | <b>Vertical (TVD) Reference:</b>  | <b>SITE</b> 0.0                         |                   |
| <b>Well:</b> Vacuum Abo #14-01        | <b>Section (VS) Reference:</b>    | <b>Well</b> (0.00N,0.00E,307.08Azi)     |                   |
| <b>Wellpath:</b> VH - Job #32K0409127 | <b>Survey Calculation Method:</b> | Minimum Curvature                       | <b>Db:</b> Sybase |

## Survey

| MD<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 | ClsD<br>ft | ClsA<br>deg |
|----------|-------------|-------------|-----------|----------|-----------|-----------|------------------|------------|-------------|
| 4900.00  | 1.38        | 1.14        | 4899.26   | 27.17    | 47.55     | 1.87      | 0.06             | 47.59      | 2.26        |
| 5000.00  | 1.24        | 2.13        | 4999.23   | 28.50    | 49.84     | 1.94      | 0.14             | 49.87      | 2.23        |
| 5100.00  | 0.84        | 16.93       | 5099.21   | 29.37    | 51.62     | 2.19      | 0.48             | 51.67      | 2.43        |
| 5200.00  | 0.19        | 345.43      | 5199.21   | 29.75    | 52.48     | 2.36      | 0.69             | 52.53      | 2.58        |
| 5300.00  | 0.05        | 354.21      | 5299.21   | 29.91    | 52.68     | 2.32      | 0.14             | 52.74      | 2.52        |
| 5400.00  | 0.01        | 320.90      | 5399.21   | 29.95    | 52.73     | 2.31      | 0.04             | 52.79      | 2.51        |
| 5500.00  | 0.28        | 227.01      | 5499.21   | 30.00    | 52.58     | 2.12      | 0.28             | 52.62      | 2.31        |
| 5600.00  | 0.48        | 204.64      | 5599.21   | 29.95    | 52.03     | 1.77      | 0.25             | 52.06      | 1.95        |
| 5700.00  | 0.59        | 209.06      | 5699.20   | 29.79    | 51.20     | 1.35      | 0.12             | 51.21      | 1.51        |
| 5800.00  | 0.54        | 219.00      | 5799.20   | 29.74    | 50.38     | 0.80      | 0.11             | 50.39      | 0.91        |
| 5900.00  | 0.56        | 214.95      | 5899.19   | 29.73    | 49.61     | 0.22      | 0.04             | 49.61      | 0.26        |
| 6000.00  | 0.71        | 216.13      | 5999.19   | 29.71    | 48.71     | -0.42     | 0.15             | 48.71      | 359.50      |
| 6100.00  | 0.76        | 220.39      | 6099.18   | 29.73    | 47.71     | -1.22     | 0.07             | 47.72      | 358.54      |
| 6200.00  | 0.78        | 219.64      | 6199.17   | 29.80    | 46.68     | -2.08     | 0.02             | 46.72      | 357.45      |
| 6300.00  | 0.76        | 226.19      | 6299.16   | 29.94    | 45.69     | -2.99     | 0.09             | 45.79      | 356.25      |
| 6400.00  | 0.86        | 198.37      | 6399.15   | 29.80    | 44.52     | -3.71     | 0.40             | 44.68      | 355.24      |
| 6500.00  | 0.97        | 185.89      | 6499.14   | 29.12    | 42.97     | -4.03     | 0.23             | 43.16      | 354.64      |
| 6600.00  | 0.94        | 176.72      | 6599.12   | 28.15    | 41.31     | -4.07     | 0.16             | 41.51      | 354.37      |
| 6700.00  | 1.04        | 179.62      | 6699.11   | 27.07    | 39.58     | -4.02     | 0.11             | 39.79      | 354.20      |
| 6800.00  | 1.12        | 182.08      | 6799.09   | 25.96    | 37.70     | -4.05     | 0.09             | 37.91      | 353.87      |
| 6900.00  | 1.32        | 181.52      | 6899.07   | 24.73    | 35.57     | -4.12     | 0.20             | 35.81      | 353.40      |
| 7000.00  | 1.26        | 182.38      | 6999.04   | 23.43    | 33.32     | -4.19     | 0.06             | 33.58      | 352.83      |
| 7100.00  | 1.34        | 183.07      | 7099.02   | 22.15    | 31.05     | -4.30     | 0.08             | 31.35      | 352.12      |
| 7200.00  | 1.44        | 186.40      | 7198.99   | 20.86    | 28.64     | -4.50     | 0.13             | 28.99      | 351.06      |
| 7300.00  | 1.30        | 194.57      | 7298.96   | 19.78    | 26.29     | -4.93     | 0.24             | 26.75      | 349.38      |
| 7400.00  | 1.19        | 209.59      | 7398.94   | 19.21    | 24.29     | -5.73     | 0.34             | 24.96      | 346.74      |
| 7500.00  | 1.22        | 211.68      | 7498.91   | 18.98    | 22.48     | -6.80     | 0.05             | 23.49      | 343.18      |
| 7600.00  | 1.18        | 226.27      | 7598.89   | 19.04    | 20.86     | -8.10     | 0.31             | 22.38      | 338.78      |
| 7700.00  | 1.32        | 240.60      | 7698.87   | 19.67    | 19.59     | -9.85     | 0.34             | 21.92      | 333.31      |
| 7800.00  | 1.59        | 247.05      | 7798.84   | 20.82    | 18.48     | -12.13    | 0.32             | 22.10      | 326.72      |
| 7900.00  | 1.41        | 241.10      | 7898.80   | 22.01    | 17.34     | -14.48    | 0.24             | 22.60      | 320.13      |
| 8000.00  | 1.10        | 256.29      | 7998.78   | 23.12    | 16.52     | -16.49    | 0.45             | 23.35      | 315.05      |
| 8100.00  | 1.09        | 264.14      | 8098.76   | 24.42    | 16.20     | -18.37    | 0.15             | 24.49      | 311.40      |
| 8200.00  | 1.02        | 280.88      | 8198.74   | 25.92    | 16.27     | -20.19    | 0.31             | 25.93      | 308.86      |
| 8300.00  | 1.26        | 279.82      | 8298.72   | 27.69    | 16.62     | -22.15    | 0.24             | 27.69      | 306.89      |
| 8400.00  | 1.52        | 288.30      | 8398.69   | 29.93    | 17.23     | -24.49    | 0.33             | 29.94      | 305.12      |
| 8500.00  | 1.95        | 315.74      | 8498.65   | 32.87    | 18.86     | -26.94    | 0.92             | 32.89      | 305.00      |
| 8585.00  | 2.52        | 338.51      | 8583.59   | 35.89    | 21.64     | -28.63    | 1.23             | 35.89      | 307.08      |



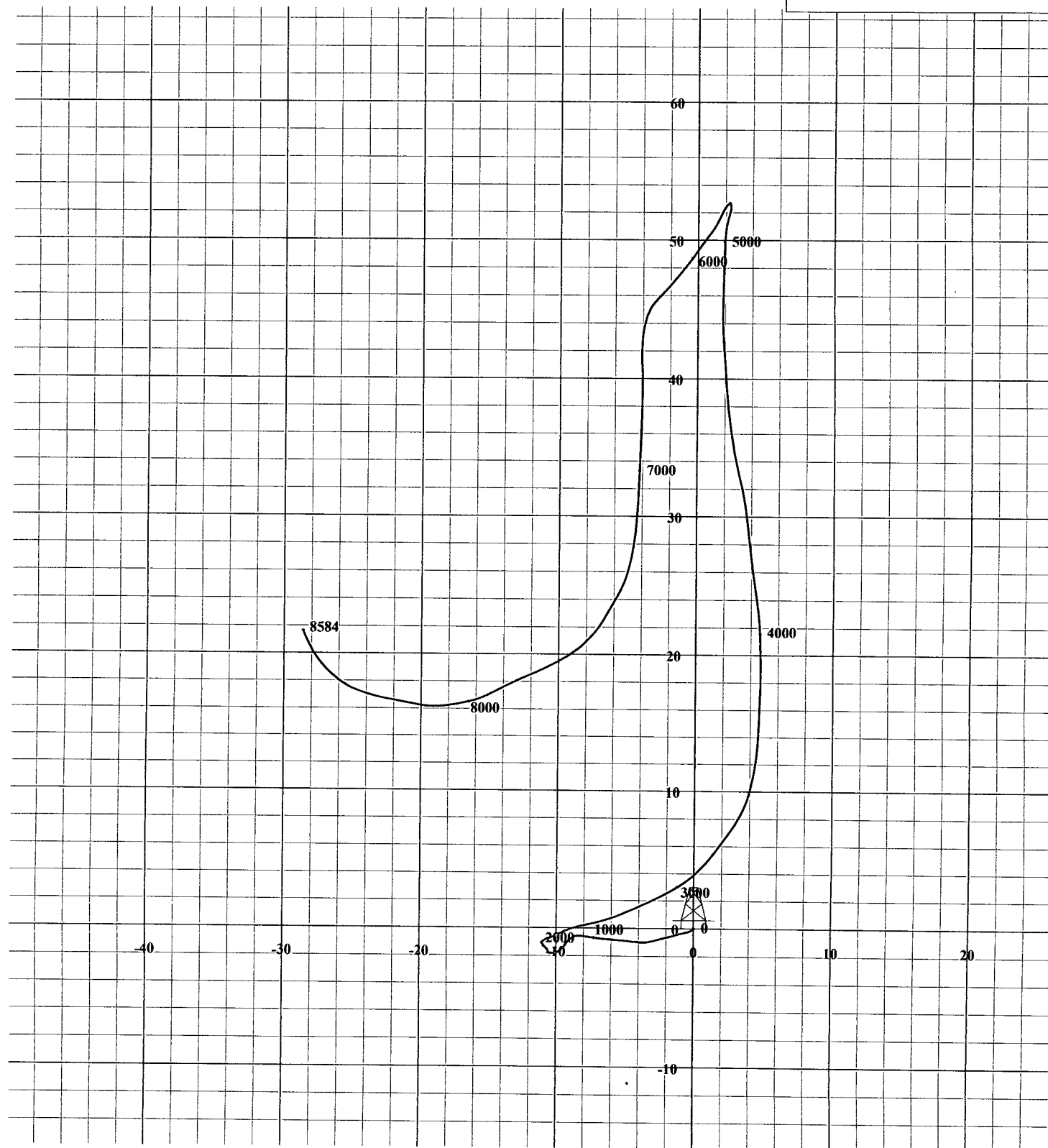
Scientific  
Drilling

Field: Vacuum Abo  
Site: Lea County, NM  
Well: Vacuum Abo #14-01  
Wellpath: VH - Job #32K0409127  
Survey: 04/07/09



Azimuths to True North  
Magnetic North 0.00°  
Magnetic Field  
Strength 0nT  
Dip Angle 0.00°  
Date 05/04/2009  
Model igr2000

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



West(-)/East(+) [10ft/in]