

# Scientific Drilling

## CONOCOPHILLIPS

Field: East Vacuum Grayburg San Andres  
Site: Lea County, NM  
Well: EVGSAU #3440-002  
Wellpath: VH - Job #32K0203049  
Survey: 02/03/03

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

Deed Reed.....Company Representative

Notorized this date 13<sup>th</sup> of February, 2003.

Deborah Sue Bynum

Notary Signature  
County of Midland  
State of Texas



# Scientific Drilling International

## Survey Report

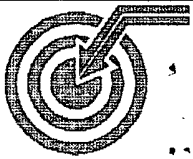
|                                                                                                                                                                                          |                                                                                                                                                                        |                                                                                                                                                                           |                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <b>Company:</b> CONOCOPHILLIPS<br><b>Field:</b> East Vacuum Grayburg San Andres<br><b>Site:</b> Lea County, NM<br><b>Well:</b> EVGSAU #3440-002<br><b>Wellpath:</b> VH - Job #32K0203049 | <b>Date:</b> 2/13/2003<br><b>Co-ordinate(NE) Reference:</b><br><b>Vertical (TVD) Reference:</b><br><b>Section (VS) Reference:</b><br><b>Survey Calculation Method:</b> | <b>Time:</b> 14:35:14<br><b>Site:</b> Lea County, NM, True North<br><b>SITE:</b> 0.0 above Mean Sea Level<br><b>Well (0.0E,0.0N,235.0Azi)</b><br><b>Minimum Curvature</b> | <b>Page:</b> 1 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|

|                                          |                              |
|------------------------------------------|------------------------------|
| <b>Survey:</b> 02/03/03<br>KSRG 0'-4118' | <b>Start Date:</b> 2/13/2003 |
|------------------------------------------|------------------------------|

|                                                                       |                                |
|-----------------------------------------------------------------------|--------------------------------|
| <b>Company:</b> Scientific Drilling Internatio<br><b>Tool:</b> Keeper | <b>Engineer:</b> Angel Guebara |
|-----------------------------------------------------------------------|--------------------------------|

### Survey

| MD<br>ft | Incl<br>deg | Azim<br>deg | TVD<br>ft | VS<br>ft | N/S<br>ft | E/W<br>ft | ClsD<br>ft | ClsA<br>deg | DLS<br>deg/100ft |
|----------|-------------|-------------|-----------|----------|-----------|-----------|------------|-------------|------------------|
| 0.0      | 0.00        | 0.00        | 0.0       | 0.0      | 0.0       | 0.0       | 0.0        | 0.00        | 0.00             |
| 100.0    | 0.14        | 344.16      | 100.0     | 0.0      | 0.1       | 0.0       | 0.1        | 344.16      | 0.14             |
| 200.0    | 0.41        | 92.02       | 200.0     | -0.4     | 0.2       | 0.3       | 0.4        | 52.32       | 0.47             |
| 300.0    | 0.37        | 85.28       | 300.0     | -0.9     | 0.2       | 1.0       | 1.0        | 76.22       | 0.06             |
| 400.0    | 0.43        | 62.94       | 400.0     | -1.6     | 0.4       | 1.6       | 1.7        | 75.02       | 0.17             |
| 500.0    | 0.62        | 58.00       | 500.0     | -2.5     | 0.9       | 2.4       | 2.6        | 69.74       | 0.20             |
| 600.0    | 0.63        | 67.40       | 600.0     | -3.6     | 1.4       | 3.4       | 3.7        | 67.66       | 0.10             |
| 700.0    | 0.26        | 86.73       | 700.0     | -4.3     | 1.6       | 4.1       | 4.4        | 68.59       | 0.39             |
| 800.0    | 0.55        | 42.98       | 800.0     | -5.0     | 2.0       | 4.7       | 5.1        | 67.04       | 0.40             |
| 900.0    | 0.44        | 42.77       | 900.0     | -5.8     | 2.6       | 5.3       | 5.9        | 63.59       | 0.11             |
| 1000.0   | 0.34        | 81.63       | 1000.0    | -6.4     | 2.9       | 5.8       | 6.5        | 63.19       | 0.28             |
| 1100.0   | 0.09        | 182.11      | 1100.0    | -6.7     | 2.9       | 6.1       | 6.8        | 64.56       | 0.37             |
| 1200.0   | 0.12        | 156.19      | 1200.0    | -6.6     | 2.7       | 6.1       | 6.7        | 66.04       | 0.06             |
| 1300.0   | 0.30        | 50.51       | 1300.0    | -6.8     | 2.8       | 6.4       | 7.0        | 66.33       | 0.35             |
| 1400.0   | 0.46        | 16.33       | 1400.0    | -7.4     | 3.3       | 6.7       | 7.5        | 63.44       | 0.27             |
| 1500.0   | 0.44        | 21.47       | 1500.0    | -8.0     | 4.1       | 6.9       | 8.1        | 59.54       | 0.04             |
| 1600.0   | 0.44        | 295.95      | 1600.0    | -8.2     | 4.6       | 6.7       | 8.2        | 55.64       | 0.60             |
| 1700.0   | 0.58        | 230.48      | 1700.0    | -7.5     | 4.5       | 6.0       | 7.5        | 53.44       | 0.56             |
| 1800.0   | 0.27        | 224.73      | 1800.0    | -6.7     | 4.0       | 5.5       | 6.7        | 53.97       | 0.31             |
| 1900.0   | 0.55        | 204.34      | 1900.0    | -6.1     | 3.4       | 5.1       | 6.1        | 56.55       | 0.31             |
| 2000.0   | 0.29        | 219.90      | 2000.0    | -5.4     | 2.7       | 4.7       | 5.5        | 60.00       | 0.28             |
| 2100.0   | 0.63        | 204.81      | 2099.9    | -4.7     | 2.0       | 4.3       | 4.8        | 64.84       | 0.35             |
| 2200.0   | 0.37        | 241.64      | 2199.9    | -3.9     | 1.4       | 3.8       | 4.1        | 70.07       | 0.40             |
| 2300.0   | 0.51        | 180.61      | 2299.9    | -3.3     | 0.8       | 3.5       | 3.6        | 77.39       | 0.46             |
| 2400.0   | 0.10        | 237.08      | 2399.9    | -3.0     | 0.3       | 3.5       | 3.5        | 85.03       | 0.46             |
| 2500.0   | 0.62        | 212.12      | 2499.9    | -2.4     | -0.2      | 3.1       | 3.1        | 93.76       | 0.52             |
| 2600.0   | 0.48        | 135.12      | 2599.9    | -2.0     | -1.0      | 3.1       | 3.2        | 107.09      | 0.69             |
| 2700.0   | 0.08        | 149.61      | 2699.9    | -2.1     | -1.3      | 3.4       | 3.7        | 110.89      | 0.40             |
| 2800.0   | 0.29        | 109.42      | 2799.9    | -2.2     | -1.5      | 3.7       | 4.0        | 111.43      | 0.23             |
| 2900.0   | 0.93        | 142.68      | 2899.9    | -2.4     | -2.2      | 4.4       | 4.9        | 116.20      | 0.70             |
| 3000.0   | 0.67        | 110.97      | 2999.9    | -2.7     | -3.0      | 5.5       | 6.3        | 119.01      | 0.50             |
| 3100.0   | 0.65        | 97.01       | 3099.9    | -3.5     | -3.3      | 6.6       | 7.4        | 116.72      | 0.16             |
| 3200.0   | 0.33        | 87.19       | 3199.9    | -4.2     | -3.4      | 7.4       | 8.2        | 114.36      | 0.33             |
| 3300.0   | 0.23        | 12.69       | 3299.9    | -4.6     | -3.2      | 7.8       | 8.4        | 112.12      | 0.35             |
| 3400.0   | 0.57        | 10.28       | 3399.9    | -5.1     | -2.5      | 7.9       | 8.3        | 107.40      | 0.34             |
| 3500.0   | 0.67        | 338.59      | 3499.9    | -5.5     | -1.4      | 7.8       | 7.9        | 100.51      | 0.35             |
| 3600.0   | 0.75        | 359.53      | 3599.9    | -6.0     | -0.2      | 7.6       | 7.6        | 91.86       | 0.27             |
| 3700.0   | 1.22        | 337.04      | 3699.9    | -6.6     | 1.4       | 7.1       | 7.3        | 78.99       | 0.60             |
| 3800.0   | 1.43        | 332.54      | 3799.9    | -7.0     | 3.5       | 6.1       | 7.1        | 60.54       | 0.23             |
| 3900.0   | 1.50        | 339.51      | 3899.8    | -7.5     | 5.8       | 5.1       | 7.7        | 41.38       | 0.19             |
| 4000.0   | 1.66        | 328.64      | 3999.8    | -7.9     | 8.3       | 3.9       | 9.1        | 25.28       | 0.34             |
| 4100.0   | 1.83        | 339.47      | 4099.7    | -8.4     | 11.0      | 2.6       | 11.3       | 13.26       | 0.37             |
| 4118.0   | 2.14        | 337.88      | 4117.7    | -8.6     | 11.6      | 2.4       | 11.8       | 11.54       | 1.75             |



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Site: Lea County, NM  
Well: EVGSAU #3440-002  
VH - Job #32K0203049  
Drilling Survey: 02/03/03

T/M  
All Angles Relative  
To True North  
True North: 0.00  
Magnetic North: 0.00

