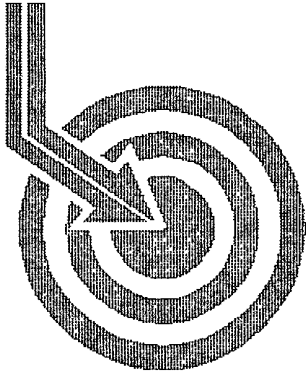


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# Scientific Drilling

SUR: C-2-18s-34e, 1286/N & 1831/W  
BHL: C-2-18s-34e, 1300/N & 1998/W  
API #30-025-38555

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## CHEVRON

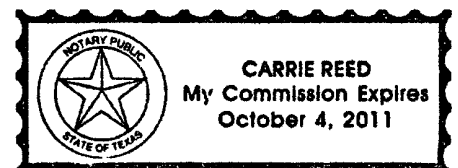
Field: Vacuum Grayburg San Andres  
Site: Lea County, NM  
Well: Vacuum Grayburg San Andres Unit #145WI  
Wellpath: DH - Job #35D0109823  
Survey: 01/27/09-02/01/09

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

.....*Richard*.....Company Representative

Notorized this date 18th of March, 2009.

*Carrie Reed*  
Notary Signature  
County of Midland  
State of Texas





# Scientific Drilling International

## Survey Report

**Company:** CHEVRON **Date:** 01/27/2009 **Time:** 20:35:17 **Page:** 1  
**Field:** Vacuum Grayburg San Andres **Co-ordinate(NE) Reference:** Site: Lea County, NM, Grid North  
**Site:** Lea County, NM **Vertical (TVD) Reference:** SITE 0.0  
**Well:** Vacuum Grayburg San Andres Uni **Section (VS) Reference:** Well (0.00N,0.00E,98.33Azi)  
**Wellpath:** VH - Job #32K0109038 **Survey Calculation Method:** Minimum Curvature **Db:** Sybase

**Survey:** 01/25/09 **Start Date:** 01/25/2009  
**Company:** Scientific Drilling Internatio **Engineer:** Garza w/P&M  
**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        | 359.57      | 0.00      | 0.00     | 0.00      | 0.00      | 0.00             | 0.00       | 0.00        |
| 100.00   | 0.68        | 100.93      | 100.00    | 0.59     | -0.11     | 0.58      | 0.68             | 0.59       | 100.93      |
| 200.00   | 0.13        | 81.50       | 199.99    | 1.29     | -0.21     | 1.28      | 0.56             | 1.29       | 99.26       |
| 300.00   | 0.28        | 223.17      | 299.99    | 1.26     | -0.37     | 1.22      | 0.39             | 1.28       | 106.83      |
| 400.00   | 0.22        | 223.29      | 399.99    | 1.01     | -0.69     | 0.92      | 0.06             | 1.15       | 126.67      |
| 500.00   | 0.34        | 232.22      | 499.99    | 0.70     | -1.01     | 0.56      | 0.13             | 1.15       | 151.08      |
| 600.00   | 0.19        | 282.41      | 599.99    | 0.33     | -1.16     | 0.16      | 0.26             | 1.17       | 172.06      |
| 700.00   | 0.48        | 312.16      | 699.99    | -0.19    | -0.84     | -0.31     | 0.33             | 0.89       | 200.37      |
| 800.00   | 0.93        | 295.96      | 799.98    | -1.31    | -0.20     | -1.35     | 0.49             | 1.37       | 261.49      |
| 900.00   | 0.75        | 313.25      | 899.97    | -2.62    | 0.60      | -2.56     | 0.31             | 2.63       | 283.23      |
| 1000.00  | 0.78        | 342.26      | 999.96    | -3.45    | 1.70      | -3.24     | 0.38             | 3.66       | 297.65      |
| 1100.00  | 0.86        | 356.95      | 1099.95   | -3.90    | 3.10      | -3.49     | 0.22             | 4.66       | 311.58      |
| 1200.00  | 0.68        | 339.26      | 1199.94   | -4.34    | 4.40      | -3.74     | 0.30             | 5.77       | 319.64      |
| 1300.00  | 0.51        | 355.46      | 1299.94   | -4.72    | 5.40      | -3.98     | 0.24             | 6.71       | 323.57      |
| 1400.00  | 0.42        | 33.67       | 1399.94   | -4.67    | 6.15      | -3.82     | 0.32             | 7.24       | 328.17      |
| 1500.00  | 0.69        | 29.97       | 1499.93   | -4.29    | 6.97      | -3.31     | 0.27             | 7.72       | 334.59      |
| 1575.00  | 1.01        | 26.68       | 1574.92   | -3.91    | 7.96      | -2.79     | 0.43             | 8.43       | 340.67      |



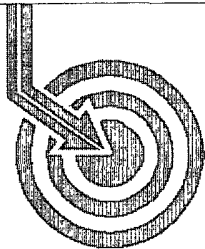
# Scientific Drilling International Survey Report

|                                             |                                   |                                         |                   |
|---------------------------------------------|-----------------------------------|-----------------------------------------|-------------------|
| <b>Company:</b> CHEVRON                     | <b>Date:</b> 03/15/2009           | <b>Time:</b> 21:13:52                   | <b>Page:</b> 1    |
| <b>Field:</b> Vacuum Grayburg San Andres    | <b>Co-ordinate(NE) Reference:</b> | <b>Site:</b> Lea County, NM, Grnd North |                   |
| <b>Site:</b> Lea County, NM                 | <b>Vertical (TVD) Reference:</b>  | <b>SITE 0.0</b>                         |                   |
| <b>Well:</b> Vacuum Grayburg San Andres Uni | <b>Section (VS) Reference:</b>    | <b>Well (0.00N,0.00E,98.33Azi)</b>      |                   |
| <b>Wellpath:</b> DH - Job #35D0109823       | <b>Survey Calculation Method:</b> | <b>Minimum Curvature</b>                | <b>Db:</b> Sybase |

|                                                |                                                 |
|------------------------------------------------|-------------------------------------------------|
| <b>Survey:</b> 01/27/09-02/01/09               | <b>Start Date:</b> 01/27/2009                   |
| <b>MWD 1679'-4952'</b>                         |                                                 |
| <b>Company:</b> Scientific Drilling Internatio | <b>Engineer:</b> Decatur Office/Richardson/Morr |
| <b>Tool:</b> MWD;MWD                           | <b>Tied-to:</b> From: Definitive Path           |

## 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 |
|----------|-------------|-------------|-----------|----------|-----------|-----------|------------------|------------|-------------|
| 1575.00  | 1.01        | 26.68       | 1574.92   | -3.91    | 7.96      | -2.79     | 0.00             | 8.43       | 340.67      |
| 1679.00  | 0.84        | 51.64       | 1678.91   | -3.10    | 9.25      | -1.78     | 0.42             | 9.42       | 349.10      |
| 1870.00  | 1.03        | 51.64       | 1869.88   | -0.96    | 11.18     | 0.66      | 0.10             | 11.20      | 3.39        |
| 2062.00  | 0.88        | 35.26       | 2061.86   | 0.89     | 13.46     | 2.87      | 0.16             | 13.76      | 12.03       |
| 2253.00  | 1.02        | 45.04       | 2252.83   | 2.57     | 15.86     | 4.92      | 0.11             | 16.60      | 17.23       |
| 2443.00  | 1.22        | 40.09       | 2442.79   | 4.64     | 18.60     | 7.42      | 0.12             | 20.02      | 21.74       |
| 2698.00  | 0.55        | 40.58       | 2697.76   | 6.73     | 21.61     | 9.96      | 0.26             | 23.79      | 24.75       |
| 2889.00  | 0.79        | 31.21       | 2888.75   | 7.73     | 23.43     | 11.24     | 0.14             | 25.98      | 25.63       |
| 3080.00  | 0.65        | 53.81       | 3079.73   | 9.01     | 25.19     | 12.80     | 0.16             | 28.26      | 26.93       |
| 3240.00  | 0.50        | 288.02      | 3239.73   | 8.97     | 25.95     | 12.86     | 0.64             | 28.96      | 26.37       |
| 3303.00  | 0.45        | 75.09       | 3302.73   | 8.93     | 26.09     | 12.84     | 1.45             | 29.08      | 26.20       |
| 3335.00  | 2.10        | 91.08       | 3334.72   | 9.62     | 26.12     | 13.55     | 5.23             | 29.42      | 27.42       |
| 3367.00  | 3.04        | 98.94       | 3366.69   | 11.05    | 25.97     | 14.97     | 3.13             | 29.98      | 29.97       |
| 3399.00  | 3.48        | 97.72       | 3398.64   | 12.87    | 25.71     | 16.77     | 1.39             | 30.70      | 33.12       |
| 3463.00  | 4.04        | 95.46       | 3462.50   | 17.07    | 25.23     | 20.94     | 0.90             | 32.79      | 39.69       |
| 3557.00  | 6.46        | 108.95      | 3556.10   | 25.57    | 23.20     | 29.24     | 2.87             | 37.33      | 51.57       |
| 3653.00  | 6.54        | 109.01      | 3651.48   | 36.25    | 19.67     | 39.52     | 0.08             | 44.14      | 63.54       |
| 3749.00  | 6.21        | 107.73      | 3746.89   | 46.75    | 16.31     | 49.63     | 0.37             | 52.24      | 71.81       |
| 3845.00  | 5.80        | 106.05      | 3842.36   | 56.68    | 13.38     | 59.24     | 0.46             | 60.73      | 77.27       |
| 3939.00  | 5.84        | 106.21      | 3935.88   | 66.12    | 10.73     | 68.40     | 0.05             | 69.24      | 81.08       |
| 4034.00  | 5.64        | 104.69      | 4030.40   | 75.55    | 8.20      | 77.55     | 0.26             | 77.99      | 83.96       |
| 4129.00  | 5.44        | 104.62      | 4124.96   | 84.66    | 5.88      | 86.43     | 0.21             | 86.63      | 86.11       |
| 4224.00  | 5.41        | 101.61      | 4219.53   | 93.61    | 3.84      | 95.17     | 0.30             | 95.25      | 87.69       |
| 4320.00  | 5.29        | 100.41      | 4315.11   | 102.55   | 2.13      | 103.96    | 0.17             | 103.98     | 88.82       |
| 4416.00  | 5.14        | 99.47       | 4410.72   | 111.27   | 0.63      | 112.55    | 0.18             | 112.55     | 89.68       |
| 4511.00  | 5.86        | 103.99      | 4505.28   | 120.35   | -1.25     | 121.46    | 0.88             | 121.46     | 90.59       |
| 4606.00  | 5.61        | 103.30      | 4599.80   | 129.81   | -3.49     | 130.68    | 0.27             | 130.73     | 91.53       |
| 4702.00  | 5.61        | 101.67      | 4695.34   | 139.17   | -5.52     | 139.84    | 0.17             | 139.95     | 92.26       |
| 4798.00  | 5.66        | 101.30      | 4790.88   | 148.58   | -7.39     | 149.08    | 0.06             | 149.26     | 92.84       |
| 4894.00  | 5.30        | 113.40      | 4886.45   | 157.59   | -10.08    | 157.79    | 1.26             | 158.11     | 93.66       |
| 4952.00  | 5.41        | 110.78      | 4944.19   | 162.84   | -12.12    | 162.81    | 0.46             | 163.26     | 94.26       |



Scientific  
Drilling

Field: Vacuum Grayburg San Andres  
Site: Lea County, NM  
Well: Vacuum Grayburg San Andres Unit #145WI  
Wellpath: DH - Job #35D0109823  
Survey: 01/27/09-02/01/09

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Azimuths to Grid North  
True North 0.00°  
Magnetic North 0.00°  
Magnetic Field  
Strength 0.0T  
Dip Angle 0.00°  
Date 03/15/2009  
Model igr2000

