

Submit 3 Copies To Appropriate District  
Office  
District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301, W. Grand Ave., Artesia, NM 88210  
District III  
1000 Rio Brazos Rd., Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM  
87505

State of New Mexico  
Energy, Minerals and Natural Resources

Form C-103  
May 27, 2004

OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

|                                                                                                     |
|-----------------------------------------------------------------------------------------------------|
| WELL API NO.<br><b>30-007-20689 SD-06-01</b>                                                        |
| 5. Indicate Type of Lease<br>STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/> |
| 6. State Oil & Gas Lease No.                                                                        |
| 7. Lease Name or Unit Agreement Name<br><b>VPR D</b>                                                |
| 8. Well Number <b>311</b>                                                                           |
| 9. OGRID Number <b>180514</b>                                                                       |
| 10. Pool name or Wildcat                                                                            |

|                                                                                                                                                                                                                                                                                                                                                                   |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>SUNDRY NOTICES AND REPORTS ON WELLS</b><br>(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)                                                                                                                                                     |  |
| 1. Type of Well: Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other <b>Horizontal Multi Lateral</b>                                                                                                                                                                                                                             |  |
| 2. Name of Operator<br><b>EL Paso E &amp; P Company, L.P.</b>                                                                                                                                                                                                                                                                                                     |  |
| 3. Address of Operator<br><b>PO BOX 190, RATON, NM 87740</b>                                                                                                                                                                                                                                                                                                      |  |
| 4. Well Location<br>Unit Letter <b>N</b> : <b>1026</b> feet from the <b>South</b> line and <b>1360</b> feet from the <b>West</b> line<br>Section <b>1</b> Township <b>30N</b> Range <b>17E</b> NMPM Colfax County<br>Lateral Bottom Hole Location: Unit <b>1</b> , Sec <b>2</b> , T <b>30N</b> , R <b>17E</b> , <b>2167' FSL</b> , <b>36' FEL</b> , Colfax County |  |
| 11. Elevation (Show whether DR, RKB, RT, GR, etc.)<br><b>8,232' (GR)</b>                                                                                                                                                                                                                                                                                          |  |
| Pit or Below-grade Tank Application <input type="checkbox"/> or Closure <input type="checkbox"/>                                                                                                                                                                                                                                                                  |  |
| Pit type _____ Depth to Groundwater _____ Distance from nearest fresh water well _____ Distance from nearest surface water _____                                                                                                                                                                                                                                  |  |
| Pit Liner Thickness: _____ mil Below-Grade Tank: Volume _____ bbls; Construction Material _____                                                                                                                                                                                                                                                                   |  |

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

| NOTICE OF INTENTION TO:                        |                                           | SUBSEQUENT REPORT OF:                            |                                          |
|------------------------------------------------|-------------------------------------------|--------------------------------------------------|------------------------------------------|
| PERFORM REMEDIAL WORK <input type="checkbox"/> | PLUG AND ABANDON <input type="checkbox"/> | REMEDIAL WORK <input type="checkbox"/>           | ALTERING CASING <input type="checkbox"/> |
| TEMPORARILY ABANDON <input type="checkbox"/>   | CHANGE PLANS <input type="checkbox"/>     | COMMENCE DRILLING OPNS. <input type="checkbox"/> | P AND A <input type="checkbox"/>         |
| PULL OR ALTER CASING <input type="checkbox"/>  | MULTIPLE COMPL <input type="checkbox"/>   | CASING/CEMENT JOB <input type="checkbox"/>       |                                          |
| OTHER: <input type="checkbox"/>                |                                           | OTHER: <b>Horizontal Multi Lateral</b>           | <input checked="" type="checkbox"/>      |

1. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work).  
SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion. Work proposed is as follows.

05/02/06 Spud well. Drill 12 1/4" hole to 340'. Run 11 jts 9 5/8" casing to 330'. Mix and pump 135 sks Midcon II. Circulated 10 bbls of cement to surface.

05/09/06 Ensign drilled 8 3/4" vertical hole to 1,391'. Circulate and clean hole.

05/10/06 Drill 8 3/4" curve from 1,391 to 2,311' MD. Circulate and clean hole.

05/14/06 Set KOP sidetrack plug at 1,400'. Pumped 215 sks of standard cement. WOC

05/15/06 Dress off cement to 1,170'. Drill sidetrack 1 curve from 1,170 to 2,406 MD. Stuck pipe at 1,818'.

05/23/06 After several attempts to latch onto fish, a decision was made to abandon curve. Set KOP plug at 1,400'. Pumped 190 sks of standard cement. WOC

05/24/06 Rig down for several days for repairs. Decision to move Ensign rig off location.

07/02/06 Moved in Layne Western Rig 490. Dress off cement to 1,028'.

07/03/06 Drill the sidetrack 2 curve to 2,079 MD.

07/06/06 Run 53 jts, 7", 23# casing to 2,079'. Pumped 221 sks Midcon II cement. Circulated 8 bbls of cement to pit.

07/08/06 Drill 6 1/8" lateral hole from 2,079' to 3,245' MD. Circulate and clean hole.

07/11/06 Run 20 jts 4 1/2" ultra flush liner. Top of liner set at 2,065'. Bottom of liner set at 2,856'.

07/12/06 Fish out whip stock. Circulated and clean hole.

07/19/06 TTH with 2 7/8" production tubing, 7/8" rods, and insert pump. Test and put well on production.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☐, a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE Shirley Mitchell TITLE Regulatory Analyst DATE 08/31/2006  
Type or print name Shirley Mitchell E-mail address: shirley.mitchell@elpaso.com Telephone No. (505) 445-6785

**For State Use Only**

APPROVED BY: Ed Martin TITLE DISTRICT SUPERVISOR DATE 9-13-06  
Conditions of Approval (if any):



# Scientific Drilling Houston

## Final Survey Report

el paso Production

| <b>Company:</b> EL PASO PRODUCTION                       |                                | <b>Date:</b> 8/3/2006              | <b>Time:</b> 13:33:13        | <b>Page:</b> 1    |           |          |                  |            |             |                 |
|----------------------------------------------------------|--------------------------------|------------------------------------|------------------------------|-------------------|-----------|----------|------------------|------------|-------------|-----------------|
| <b>Field:</b> VERMEJO FIELD, NEW MEXICO                  |                                | <b>Co-ordinate(N/E) Reference:</b> | Well: WELL D-311, Grid North |                   |           |          |                  |            |             |                 |
| <b>Site:</b> RATON (D311)                                |                                | <b>Vertical (TVD) Reference:</b>   | SITE 0.0                     |                   |           |          |                  |            |             |                 |
| <b>Well:</b> WELL D-311                                  |                                | <b>Section (VS) Reference:</b>     | Well (0.00N,0.00E,300.00Azi) |                   |           |          |                  |            |             |                 |
| <b>Wellpath:</b> SIDETRACK 1                             |                                | <b>Survey Calculation Method:</b>  | Minimum Curvature            | <b>Db:</b> Sybase |           |          |                  |            |             |                 |
| <b>Field:</b> VERMEJO FIELD, NEW MEXICO                  |                                |                                    |                              |                   |           |          |                  |            |             |                 |
| <b>Map System:</b> US State Plane Coordinate System 1927 |                                | <b>Map Zone:</b>                   | New Mexico, Eastern Zone     |                   |           |          |                  |            |             |                 |
| <b>Geo Datum:</b> NAD27 (Clarke 1866)                    |                                | <b>Coordinate System:</b>          | Well Centre                  |                   |           |          |                  |            |             |                 |
| <b>Sys Datum:</b> Mean Sea Level                         |                                | <b>Geomagnetic Model:</b>          | igrf2005                     |                   |           |          |                  |            |             |                 |
| <b>Site:</b> RATON (D311)                                |                                |                                    |                              |                   |           |          |                  |            |             |                 |
| <b>Site Position:</b>                                    | <b>Northing:</b> 2132886.60 ft | <b>Latitude:</b>                   | 36 51 33.200 N               |                   |           |          |                  |            |             |                 |
| <b>From:</b> Geographic                                  | <b>Easting:</b> 277724.81 ft   | <b>Longitude:</b>                  | 105 5 35.200 W               |                   |           |          |                  |            |             |                 |
| <b>Position Uncertainty:</b> 0.0 ft                      |                                | <b>North Reference:</b>            | Grid                         |                   |           |          |                  |            |             |                 |
| <b>Ground Level:</b> 8232.0 ft                           |                                | <b>Grid Convergence:</b>           | -0.46 deg                    |                   |           |          |                  |            |             |                 |
| <b>Well:</b> WELL D-311                                  |                                |                                    |                              |                   |           |          |                  |            |             |                 |
| <b>Slot Name:</b>                                        |                                |                                    |                              |                   |           |          |                  |            |             |                 |
| <b>Well Position:</b> +N/-S 0.0 ft                       | <b>Northing:</b> 2132886.60 ft | <b>Latitude:</b>                   | 36 51 33.200 N               |                   |           |          |                  |            |             |                 |
| +E/-W 0.0 ft                                             | <b>Easting:</b> 277724.81 ft   | <b>Longitude:</b>                  | 105 5 35.200 W               |                   |           |          |                  |            |             |                 |
| <b>Position Uncertainty:</b> 0.0 ft                      |                                |                                    |                              |                   |           |          |                  |            |             |                 |
| <b>Wellpath:</b> SIDETRACK 1                             |                                |                                    |                              |                   |           |          |                  |            |             |                 |
| <b>Current Datum:</b> SITE                               | <b>Height</b> 0.0 ft           | <b>Drilled From:</b>               | CENTER LATERAL               |                   |           |          |                  |            |             |                 |
| <b>Magnetic Data:</b> 5/15/2006                          |                                | <b>Tie-on Depth:</b>               | 1160.0 ft                    |                   |           |          |                  |            |             |                 |
| <b>Field Strength:</b> 51730 nT                          |                                | <b>Above System Datum:</b>         | Mean Sea Level               |                   |           |          |                  |            |             |                 |
| <b>Vertical Section:</b> Depth From (TVD)                |                                | <b>Declination:</b>                | 9.32 deg                     |                   |           |          |                  |            |             |                 |
| ft                                                       | +N/-S ft                       | <b>Mag Dip Angle:</b>              | 64.20 deg                    |                   |           |          |                  |            |             |                 |
|                                                          |                                | +E/-W ft                           | Direction deg                |                   |           |          |                  |            |             |                 |
| 0.0                                                      | 0.0                            | 0.0                                | 300.00                       |                   |           |          |                  |            |             |                 |
| <b>Survey</b>                                            |                                |                                    |                              |                   |           |          |                  |            |             |                 |
| MD<br>ft                                                 | Incl<br>deg                    | Azim<br>deg                        | TVD<br>ft                    | N/S<br>ft         | E/W<br>ft | VS<br>ft | DLS<br>deg/100ft | ClsD<br>ft | ClsA<br>deg | Tool            |
| 0.0                                                      | 0.00                           | 0.00                               | 0.0                          | 0.0               | 0.0       | 0.0      | 0.00             | 0.0        | 0.00        | TIE LINE        |
| 330.0                                                    | 0.00                           | 0.00                               | 330.0                        | 0.0               | 0.0       | 0.0      | 0.00             | 0.0        | 0.00        | SDI E-FIELD MWD |
| 368.0                                                    | 1.04                           | 88.78                              | 368.0                        | 0.0               | 0.3       | -0.3     | 2.74             | 0.3        | 88.78       | SDI E-FIELD MWD |
| 400.0                                                    | 1.12                           | 93.08                              | 400.0                        | 0.0               | 0.9       | -0.8     | 0.36             | 0.9        | 90.20       | SDI E-FIELD MWD |
| 431.0                                                    | 1.11                           | 91.04                              | 431.0                        | 0.0               | 1.6       | -1.4     | 0.13             | 1.6        | 90.92       | SDI E-FIELD MWD |
| 463.0                                                    | 1.19                           | 93.40                              | 463.0                        | -0.1              | 2.2       | -1.9     | 0.29             | 2.2        | 91.32       | SDI E-FIELD MWD |
| 495.0                                                    | 1.16                           | 91.59                              | 495.0                        | -0.1              | 2.8       | -2.5     | 0.15             | 2.8        | 91.59       | SDI E-FIELD MWD |
| 526.0                                                    | 1.08                           | 74.88                              | 526.0                        | 0.0               | 3.4       | -3.0     | 1.08             | 3.4        | 90.19       | SDI E-FIELD MWD |
| 558.0                                                    | 1.10                           | 77.48                              | 558.0                        | 0.1               | 4.0       | -3.4     | 0.17             | 4.0        | 88.10       | SDI E-FIELD MWD |
| 589.0                                                    | 1.34                           | 90.43                              | 589.0                        | 0.2               | 4.7       | -4.0     | 1.17             | 4.7        | 87.61       | SDI E-FIELD MWD |
| 621.0                                                    | 1.17                           | 77.86                              | 620.9                        | 0.3               | 5.4       | -4.5     | 1.01             | 5.4        | 87.22       | SDI E-FIELD MWD |
| 653.0                                                    | 1.16                           | 80.74                              | 652.9                        | 0.4               | 6.0       | -5.0     | 0.19             | 6.0        | 86.37       | SDI E-FIELD MWD |
| 684.0                                                    | 1.27                           | 92.03                              | 683.9                        | 0.4               | 6.7       | -5.6     | 0.85             | 6.7        | 86.39       | SDI E-FIELD MWD |
| 716.0                                                    | 1.40                           | 82.86                              | 715.9                        | 0.5               | 7.4       | -6.2     | 0.78             | 7.4        | 86.48       | SDI E-FIELD MWD |
| 747.0                                                    | 1.29                           | 81.98                              | 746.9                        | 0.6               | 8.1       | -6.8     | 0.36             | 8.2        | 86.12       | SDI E-FIELD MWD |
| 779.0                                                    | 1.35                           | 79.30                              | 778.9                        | 0.7               | 8.9       | -7.3     | 0.27             | 8.9        | 85.66       | SDI E-FIELD MWD |
| 811.0                                                    | 1.43                           | 89.63                              | 810.9                        | 0.7               | 9.6       | -8.0     | 0.82             | 9.7        | 85.58       | SDI E-FIELD MWD |
| 842.0                                                    | 1.28                           | 81.46                              | 841.9                        | 0.8               | 10.4      | -8.6     | 0.79             | 10.4       | 85.59       | SDI E-FIELD MWD |
| 874.0                                                    | 1.25                           | 72.56                              | 873.9                        | 1.0               | 11.0      | -9.1     | 0.62             | 11.1       | 85.05       | SDI E-FIELD MWD |
| 906.0                                                    | 1.23                           | 79.00                              | 905.9                        | 1.1               | 11.7      | -9.6     | 0.44             | 11.8       | 84.51       | SDI E-FIELD MWD |
| 938.0                                                    | 1.40                           | 83.11                              | 937.9                        | 1.2               | 12.4      | -10.2    | 0.61             | 12.5       | 84.31       | SDI E-FIELD MWD |
| 969.0                                                    | 1.32                           | 86.15                              | 968.9                        | 1.3               | 13.2      | -10.8    | 0.35             | 13.2       | 84.33       | SDI E-FIELD MWD |
| 1001.0                                                   | 1.38                           | 75.66                              | 1000.8                       | 1.4               | 13.9      | -11.3    | 0.79             | 14.0       | 84.14       | SDI E-FIELD MWD |
| 1033.0                                                   | 1.57                           | 76.58                              | 1032.8                       | 1.6               | 14.7      | -11.9    | 0.60             | 14.8       | 83.69       | SDI E-FIELD MWD |
| 1064.0                                                   | 1.54                           | 82.60                              | 1063.8                       | 1.8               | 15.5      | -12.6    | 0.54             | 15.6       | 83.47       | SDI E-FIELD MWD |
| 1096.0                                                   | 1.50                           | 81.12                              | 1095.8                       | 1.9               | 16.4      | -13.2    | 0.18             | 16.5       | 83.39       | SDI E-FIELD MWD |
| 1128.0                                                   | 1.69                           | 79.75                              | 1127.8                       | 2.0               | 17.3      | -13.9    | 0.61             | 17.4       | 83.24       | SDI E-FIELD MWD |
| 1160.0                                                   | 1.98                           | 56.76                              | 1159.8                       | 2.4               | 18.2      | -14.5    | 2.45             | 18.4       | 82.38       | SDI E-FIELD MWD |



# Scientific Drilling Houston Final Survey Report

**el paso** Production

Company: EL PASO PRODUCTION  
Field: VERMEJO FIELD, NEW MEXICO  
Site: RATON (D311)  
Well: WELL D-311  
Wellpath: SIDETRACK 1

Date: 8/3/2006 Time: 13:33:13 Page: 2  
Co-ordinate(NE) Reference: Well: WELL D-311, Grid North  
Vertical (TVD) Reference: SITE 0.0  
Section (VS) Reference: Well (0.00N,0.00E,300.00Azi)  
Survey Calculation Method: Minimum Curvature Db: Sybase

## Survey

| MD<br>ft | Incl<br>deg | Azim<br>deg | TVD<br>ft | N/S<br>ft | E/W<br>ft | VS<br>ft | DLS<br>deg/100ft | ClsD<br>ft | ClsA<br>deg | Tool            |
|----------|-------------|-------------|-----------|-----------|-----------|----------|------------------|------------|-------------|-----------------|
| 1170.0   | 1.13        | 14.23       | 1169.8    | 2.6       | 18.4      | -14.6    | 13.78            | 18.5       | 81.86       | SDI E-FIELD     |
| 1191.0   | 2.34        | 325.45      | 1190.8    | 3.2       | 18.2      | -14.1    | 8.61             | 18.4       | 80.08       | SDI E-FIELD     |
| 1222.0   | 6.20        | 311.00      | 1221.7    | 4.8       | 16.5      | -11.9    | 12.83            | 17.2       | 73.82       | SDI E-FIELD     |
| 1254.0   | 10.03       | 309.25      | 1253.4    | 7.7       | 13.1      | -7.5     | 11.99            | 15.2       | 59.53       | SDI E-FIELD     |
| 1286.0   | 13.98       | 307.22      | 1284.7    | 11.8      | 7.8       | -0.9     | 12.41            | 14.2       | 33.60       | SDI E-FIELD     |
| 1317.0   | 17.92       | 304.87      | 1314.5    | 16.8      | 0.9       | 7.6      | 12.88            | 16.8       | 3.21        | SDI E-FIELD     |
| 1349.0   | 22.10       | 303.32      | 1344.5    | 22.9      | -8.1      | 18.5     | 13.17            | 24.3       | 340.47      | SDI E-FIELD     |
| 1381.0   | 26.43       | 303.40      | 1373.7    | 30.1      | -19.1     | 31.6     | 13.53            | 35.7       | 327.63      | SDI E-FIELD     |
| 1413.0   | 30.81       | 303.34      | 1401.8    | 38.6      | -31.9     | 46.9     | 13.69            | 50.1       | 320.40      | SDI E-FIELD     |
| 1445.0   | 35.11       | 302.67      | 1428.6    | 48.1      | -46.5     | 64.3     | 13.49            | 66.9       | 315.93      | SDI E-FIELD     |
| 1477.0   | 39.15       | 302.75      | 1454.1    | 58.5      | -62.8     | 83.6     | 12.63            | 85.8       | 312.98      | SDI E-FIELD     |
| 1509.0   | 42.87       | 302.28      | 1478.3    | 69.8      | -80.5     | 104.6    | 11.66            | 106.5      | 310.93      | SDI E-FIELD     |
| 1540.0   | 46.09       | 301.45      | 1500.4    | 81.2      | -98.9     | 126.3    | 10.55            | 128.0      | 309.39      | SDI E-FIELD     |
| 1572.0   | 48.98       | 300.25      | 1522.0    | 93.3      | -119.2    | 149.9    | 9.45             | 151.4      | 308.07      | SDI E-FIELD     |
| 1603.0   | 52.14       | 299.60      | 1541.7    | 105.3     | -139.9    | 173.8    | 10.32            | 175.1      | 306.96      | SDI E-FIELD     |
| 1635.0   | 55.29       | 298.45      | 1560.6    | 117.8     | -162.5    | 199.6    | 10.26            | 200.7      | 305.94      | SDI E-FIELD     |
| 1667.0   | 58.17       | 298.32      | 1578.2    | 130.5     | -186.0    | 226.3    | 9.01             | 227.2      | 305.05      | SDI E-FIELD     |
| 1699.0   | 61.35       | 297.51      | 1594.3    | 143.4     | -210.4    | 254.0    | 10.18            | 254.7      | 304.28      | SDI E-FIELD     |
| 1731.0   | 64.79       | 297.50      | 1608.8    | 156.6     | -235.7    | 282.5    | 10.75            | 283.0      | 303.60      | SDI E-FIELD     |
| 1762.0   | 67.43       | 297.20      | 1621.3    | 169.6     | -260.9    | 310.8    | 8.56             | 311.2      | 303.03      | SDI E-FIELD     |
| 1793.0   | 70.07       | 297.70      | 1632.5    | 182.9     | -286.6    | 339.6    | 8.65             | 340.0      | 302.56      | SDI E-FIELD     |
| 1825.0   | 72.74       | 297.63      | 1642.8    | 197.0     | -313.4    | 369.9    | 8.35             | 370.2      | 302.16      | SDI E-FIELD     |
| 1856.0   | 75.15       | 297.37      | 1651.3    | 210.8     | -339.8    | 399.7    | 7.82             | 399.9      | 301.81      | SDI E-FIELD     |
| 1888.0   | 77.67       | 297.30      | 1658.8    | 225.1     | -367.5    | 430.8    | 7.88             | 430.9      | 301.49      | SDI E-FIELD     |
| 1920.0   | 79.55       | 297.05      | 1665.2    | 239.4     | -395.4    | 462.1    | 5.92             | 462.2      | 301.19      | SDI E-FIELD     |
| 1952.0   | 81.98       | 297.19      | 1670.3    | 253.8     | -423.5    | 493.6    | 7.61             | 493.7      | 300.93      | SDI E-FIELD     |
| 1984.0   | 84.45       | 297.17      | 1674.1    | 268.3     | -451.7    | 525.4    | 7.72             | 525.4      | 300.71      | SDI E-FIELD     |
| 2015.0   | 86.20       | 297.00      | 1676.6    | 282.4     | -479.3    | 556.2    | 5.67             | 556.2      | 300.51      | SDI E-FIELD     |
| 2047.0   | 86.80       | 297.02      | 1678.6    | 296.9     | -507.7    | 588.1    | 1.88             | 588.1      | 300.32      | SDI E-FIELD     |
| 2079.0   | 87.54       | 296.21      | 1680.1    | 311.2     | -536.3    | 620.0    | 3.43             | 620.0      | 300.13      | SDI E-FIELD     |
| 2111.0   | 88.45       | 297.10      | 1681.3    | 325.5     | -564.9    | 652.0    | 3.98             | 652.0      | 299.96      | SDI E-FIELD     |
| 2143.0   | 88.89       | 296.51      | 1682.0    | 340.0     | -593.4    | 683.9    | 2.30             | 683.9      | 299.81      | SDI E-FIELD     |
| 2174.0   | 87.85       | 296.12      | 1682.9    | 353.7     | -621.2    | 714.8    | 3.58             | 714.8      | 299.66      | SDI E-FIELD     |
| 2206.0   | 88.39       | 295.61      | 1683.9    | 367.7     | -650.0    | 746.7    | 2.32             | 746.7      | 299.49      | SDI E-FIELD     |
| 2238.0   | 88.82       | 295.80      | 1684.7    | 381.5     | -678.8    | 778.6    | 1.47             | 778.7      | 299.34      | SDI E-FIELD     |
| 2270.0   | 88.55       | 295.28      | 1685.4    | 395.3     | -707.7    | 810.5    | 1.83             | 810.6      | 299.19      | SDI E-FIELD     |
| 2311.0   | 88.55       | 295.28      | 1686.5    | 412.8     | -744.7    | 851.4    | 0.00             | 851.5      | 299.00      | PROJECTED DEPTH |



Scientific Drilling

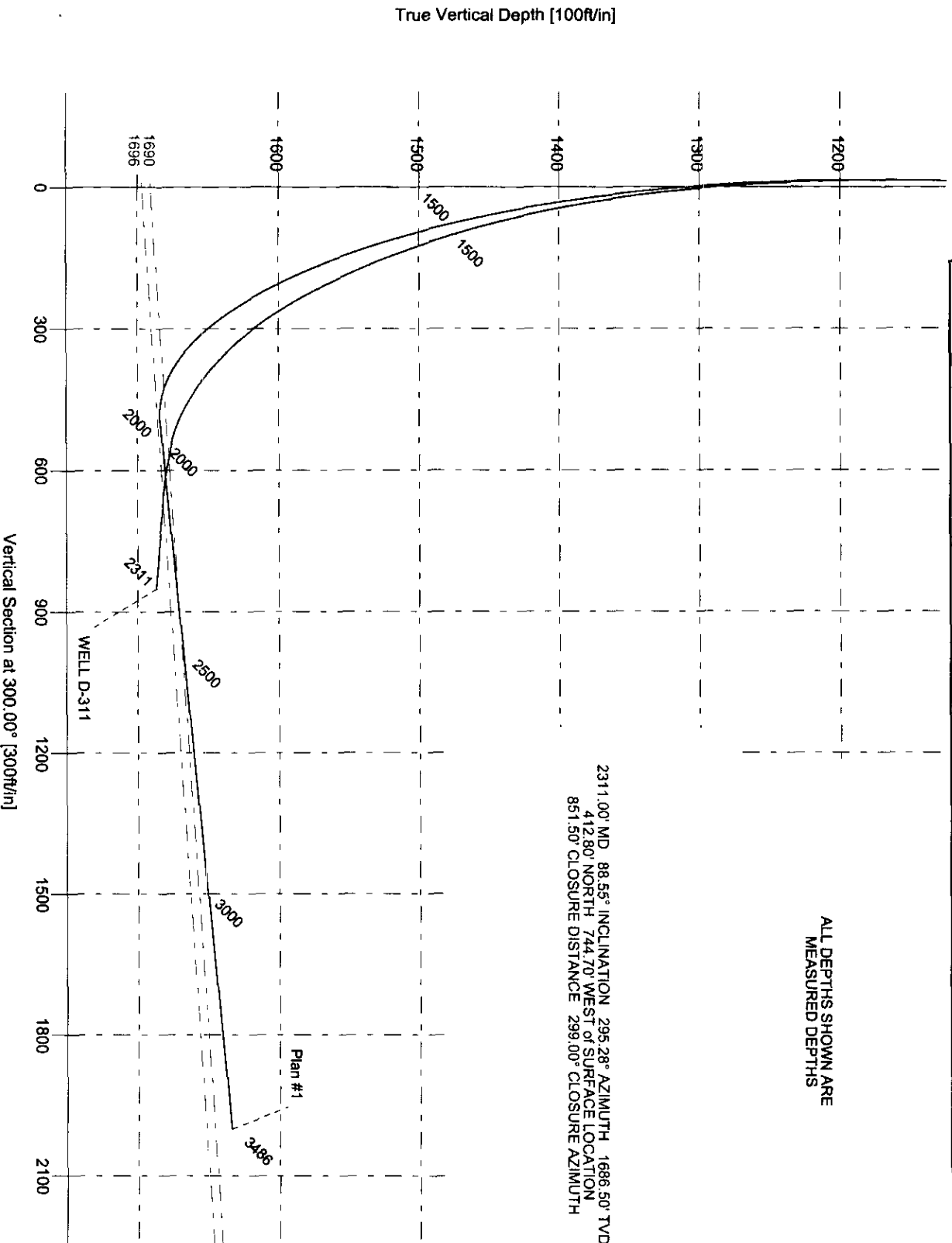
EL PASO PRODUCTION

RATON WELL D-311  
VERMEJO FIELD, NEW MEXICO  
LATERAL SIDETRACK 1



ALL DEPTHS SHOWN ARE  
MEASURED DEPTHS

2311.00' MD 88.55° INCLINATION 295.28° AZIMUTH 1686.50' TVD  
412.80' NORTH 744.70' WEST of SURFACE LOCATION  
851.50' CLOSURE DISTANCE 299.00° CLOSURE AZIMUTH





# Scientific Drilling Houston

## Final Survey Report



| <b>Company:</b> EL PASO PRODUCTION                       |             | <b>Date:</b> 8/3/2006             | <b>Time:</b> 11:00:31                      | <b>Page:</b> 1   |           |          |                  |            |             |                 |
|----------------------------------------------------------|-------------|-----------------------------------|--------------------------------------------|------------------|-----------|----------|------------------|------------|-------------|-----------------|
| <b>Field:</b> VERMEJO FIELD, NEW MEXICO                  |             | <b>Co-ordinate(NE) Reference:</b> | <b>Well:</b> WELL D-311, Grid North        |                  |           |          |                  |            |             |                 |
| <b>Site:</b> RATON (D311)                                |             | <b>Vertical (TVD) Reference:</b>  | <b>SITE</b> 0.0                            |                  |           |          |                  |            |             |                 |
| <b>Well:</b> WELL D-311                                  |             | <b>Section (VS) Reference:</b>    | <b>Well</b> (0.00N,0.00E,7.08Azi)          |                  |           |          |                  |            |             |                 |
| <b>Wellpath:</b> CENTER LATERAL                          |             | <b>Survey Calculation Method:</b> | <b>Minimum Curvature</b> <b>Db:</b> Sybase |                  |           |          |                  |            |             |                 |
| <b>Field:</b> VERMEJO FIELD, NEW MEXICO                  |             |                                   |                                            |                  |           |          |                  |            |             |                 |
| <b>Map System:</b> US State Plane Coordinate System 1927 |             | <b>Map Zone:</b>                  | <b>New Mexico, Eastern Zone</b>            |                  |           |          |                  |            |             |                 |
| <b>Geo Datum:</b> NAD27 (Clarke 1866)                    |             | <b>Coordinate System:</b>         | <b>Well Centre</b>                         |                  |           |          |                  |            |             |                 |
| <b>Sys Datum:</b> Mean Sea Level                         |             | <b>Geomagnetic Model:</b>         | <b>igrf2005</b>                            |                  |           |          |                  |            |             |                 |
| <b>Site:</b> RATON (D311)                                |             |                                   |                                            |                  |           |          |                  |            |             |                 |
| <b>Site Position:</b>                                    |             | <b>Northing:</b> 2132886.60 ft    | <b>Latitude:</b> 36 51 33.200 N            |                  |           |          |                  |            |             |                 |
| <b>From:</b> Geographic                                  |             | <b>Easting:</b> 277724.81 ft      | <b>Longitude:</b> 105 5 35.200 W           |                  |           |          |                  |            |             |                 |
| <b>Position Uncertainty:</b> 0.0 ft                      |             | <b>North Reference:</b>           | <b>Grid</b>                                |                  |           |          |                  |            |             |                 |
| <b>Ground Level:</b> 8232.0 ft                           |             | <b>Grid Convergence:</b>          | <b>-0.46 deg</b>                           |                  |           |          |                  |            |             |                 |
| <b>Well:</b> WELL D-311 <b>Slot Name:</b>                |             |                                   |                                            |                  |           |          |                  |            |             |                 |
| <b>Well Position:</b> +N/-S 0.0 ft                       |             | <b>Northing:</b> 2132886.60 ft    | <b>Latitude:</b> 36 51 33.200 N            |                  |           |          |                  |            |             |                 |
| <b>+E/-W</b> 0.0 ft                                      |             | <b>Easting:</b> 277724.81 ft      | <b>Longitude:</b> 105 5 35.200 W           |                  |           |          |                  |            |             |                 |
| <b>Position Uncertainty:</b> 0.0 ft                      |             |                                   |                                            |                  |           |          |                  |            |             |                 |
| <b>Wellpath:</b> CENTER LATERAL                          |             |                                   |                                            |                  |           |          |                  |            |             |                 |
| <b>Current Datum:</b> SITE                               |             | <b>Height</b> 0.0 ft              | <b>Drilled From:</b> Surface               |                  |           |          |                  |            |             |                 |
| <b>Magnetic Data:</b> 4/27/2006                          |             |                                   | <b>Tie-on Depth:</b> 0.0 ft                |                  |           |          |                  |            |             |                 |
| <b>Field Strength:</b> 51735 nT                          |             |                                   | <b>Above System Datum:</b> Mean Sea Level  |                  |           |          |                  |            |             |                 |
| <b>Vertical Section:</b> Depth From (TVD)                |             | <b>+N/-S</b>                      | <b>Declination:</b> 9.33 deg               |                  |           |          |                  |            |             |                 |
| ft                                                       |             | ft                                | <b>Mag Dip Angle:</b> 64.20 deg            |                  |           |          |                  |            |             |                 |
|                                                          |             |                                   | <b>+E/-W</b>                               | <b>Direction</b> |           |          |                  |            |             |                 |
|                                                          |             |                                   | ft                                         | deg              |           |          |                  |            |             |                 |
| 0.0                                                      |             | 0.0                               | 0.0                                        | 7.08             |           |          |                  |            |             |                 |
| <b>Survey</b>                                            |             |                                   |                                            |                  |           |          |                  |            |             |                 |
| MD<br>ft                                                 | Incl<br>deg | Azim<br>deg                       | TVD<br>ft                                  | N/S<br>ft        | E/W<br>ft | VS<br>ft | DLS<br>deg/100ft | ClsD<br>ft | ClsA<br>deg | Tool            |
| 0.0                                                      | 0.00        | 0.00                              | 0.0                                        | 0.0              | 0.0       | 0.0      | 0.00             | 0.0        | 0.00        | TIE LINE        |
| 330.0                                                    | 0.00        | 0.00                              | 330.0                                      | 0.0              | 0.0       | 0.0      | 0.00             | 0.0        | 0.00        | SDI E-FIELD MWD |
| 368.0                                                    | 1.04        | 88.78                             | 368.0                                      | 0.0              | 0.3       | 0.0      | 2.74             | 0.3        | 88.78       | SDI E-FIELD MWD |
| 400.0                                                    | 1.12        | 93.08                             | 400.0                                      | 0.0              | 0.9       | 0.1      | 0.36             | 0.9        | 90.20       | SDI E-FIELD MWD |
| 431.0                                                    | 1.11        | 91.04                             | 431.0                                      | 0.0              | 1.6       | 0.2      | 0.13             | 1.6        | 90.92       | SDI E-FIELD MWD |
| 463.0                                                    | 1.19        | 93.40                             | 463.0                                      | -0.1             | 2.2       | 0.2      | 0.29             | 2.2        | 91.32       | SDI E-FIELD MWD |
| 495.0                                                    | 1.16        | 91.59                             | 495.0                                      | -0.1             | 2.8       | 0.3      | 0.15             | 2.8        | 91.59       | SDI E-FIELD MWD |
| 526.0                                                    | 1.08        | 74.88                             | 526.0                                      | 0.0              | 3.4       | 0.4      | 1.08             | 3.4        | 90.19       | SDI E-FIELD MWD |
| 558.0                                                    | 1.10        | 77.48                             | 558.0                                      | 0.1              | 4.0       | 0.6      | 0.17             | 4.0        | 88.10       | SDI E-FIELD MWD |
| 589.0                                                    | 1.34        | 90.43                             | 589.0                                      | 0.2              | 4.7       | 0.8      | 1.17             | 4.7        | 87.61       | SDI E-FIELD MWD |
| 621.0                                                    | 1.17        | 77.86                             | 620.9                                      | 0.3              | 5.4       | 0.9      | 1.01             | 5.4        | 87.22       | SDI E-FIELD MWD |
| 653.0                                                    | 1.16        | 80.74                             | 652.9                                      | 0.4              | 6.0       | 1.1      | 0.19             | 6.0        | 86.37       | SDI E-FIELD MWD |
| 684.0                                                    | 1.27        | 92.03                             | 683.9                                      | 0.4              | 6.7       | 1.2      | 0.85             | 6.7        | 86.39       | SDI E-FIELD MWD |
| 716.0                                                    | 1.40        | 82.86                             | 715.9                                      | 0.5              | 7.4       | 1.4      | 0.78             | 7.4        | 86.48       | SDI E-FIELD MWD |
| 747.0                                                    | 1.29        | 81.98                             | 746.9                                      | 0.6              | 8.1       | 1.6      | 0.36             | 8.2        | 86.12       | SDI E-FIELD MWD |
| 779.0                                                    | 1.35        | 79.30                             | 778.9                                      | 0.7              | 8.9       | 1.8      | 0.27             | 8.9        | 85.66       | SDI E-FIELD MWD |
| 811.0                                                    | 1.43        | 89.63                             | 810.9                                      | 0.7              | 9.6       | 1.9      | 0.82             | 9.7        | 85.58       | SDI E-FIELD MWD |
| 842.0                                                    | 1.28        | 81.46                             | 841.9                                      | 0.8              | 10.4      | 2.1      | 0.79             | 10.4       | 85.59       | SDI E-FIELD MWD |
| 874.0                                                    | 1.25        | 72.56                             | 873.9                                      | 1.0              | 11.0      | 2.3      | 0.62             | 11.1       | 85.05       | SDI E-FIELD MWD |
| 906.0                                                    | 1.23        | 79.00                             | 905.9                                      | 1.1              | 11.7      | 2.6      | 0.44             | 11.8       | 84.51       | SDI E-FIELD MWD |
| 938.0                                                    | 1.40        | 83.11                             | 937.9                                      | 1.2              | 12.4      | 2.8      | 0.61             | 12.5       | 84.31       | SDI E-FIELD MWD |
| 969.0                                                    | 1.32        | 86.15                             | 968.9                                      | 1.3              | 13.2      | 2.9      | 0.35             | 13.2       | 84.33       | SDI E-FIELD MWD |
| 1001.0                                                   | 1.38        | 75.66                             | 1000.8                                     | 1.4              | 13.9      | 3.1      | 0.79             | 14.0       | 84.14       | SDI E-FIELD MWD |
| 1033.0                                                   | 1.57        | 76.58                             | 1032.8                                     | 1.6              | 14.7      | 3.4      | 0.60             | 14.8       | 83.69       | SDI E-FIELD MWD |
| 1064.0                                                   | 1.54        | 82.60                             | 1063.8                                     | 1.8              | 15.5      | 3.7      | 0.54             | 15.6       | 83.47       | SDI E-FIELD MWD |
| 1096.0                                                   | 1.50        | 81.12                             | 1095.8                                     | 1.9              | 16.4      | 3.9      | 0.18             | 16.5       | 83.39       | SDI E-FIELD MWD |
| 1128.0                                                   | 1.69        | 79.75                             | 1127.8                                     | 2.0              | 17.3      | 4.2      | 0.61             | 17.4       | 83.24       | SDI E-FIELD MWD |
| 1160.0                                                   | 1.98        | 56.76                             | 1159.8                                     | 2.4              | 18.2      | 4.7      | 2.45             | 18.4       | 82.38       | SDI E-FIELD MWD |



# Scientific Drilling Houston

## Final Survey Report

**el paso** Production

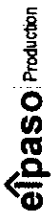
Company: EL PASO PRODUCTION  
Field: VERMEJO FIELD, NEW MEXICO  
Site: RATON (D311)  
Well: WELL D-311  
Wellpath: CENTER LATERAL

Date: 8/3/2006 Time: 11:00:31 Page: 2  
Co-ordinate(NE) Reference: Well: WELL D-311, Grid North  
Vertical (TVD) Reference: SITE 0.0  
Section (VS) Reference: Well (0.00N,0.00E,7.08Azi)  
Survey Calculation Method: Minimum Curvature Db: Sybase

### Survey

| MD<br>ft | Incl<br>deg | Azim<br>deg | TVD<br>ft | N/S<br>ft | E/W<br>ft | VS<br>ft | DLS<br>deg/100ft | ClsD<br>ft | ClsA<br>deg | Tool            |
|----------|-------------|-------------|-----------|-----------|-----------|----------|------------------|------------|-------------|-----------------|
| 1191.0   | 3.75        | 27.89       | 1190.7    | 3.6       | 19.1      | 6.0      | 7.20             | 19.5       | 79.26       | SDI E-FIELD MWD |
| 1223.0   | 6.37        | 16.29       | 1222.6    | 6.3       | 20.1      | 8.7      | 8.75             | 21.0       | 72.72       | SDI E-FIELD MWD |
| 1254.0   | 9.10        | 13.92       | 1253.3    | 10.3      | 21.2      | 12.8     | 8.86             | 23.5       | 64.09       | SDI E-FIELD MWD |
| 1286.0   | 11.95       | 12.56       | 1284.8    | 16.0      | 22.5      | 18.6     | 8.94             | 27.6       | 54.63       | SDI E-FIELD MWD |
| 1318.0   | 15.07       | 10.22       | 1315.9    | 23.3      | 24.0      | 26.1     | 9.90             | 33.4       | 45.79       | SDI E-FIELD MWD |
| 1350.0   | 17.64       | 10.69       | 1346.6    | 32.2      | 25.6      | 35.1     | 8.04             | 41.1       | 38.51       | SDI E-FIELD MWD |
| 1382.0   | 21.08       | 10.16       | 1376.8    | 42.6      | 27.5      | 45.7     | 10.76            | 50.7       | 32.86       | SDI E-FIELD MWD |
| 1414.0   | 24.72       | 10.21       | 1406.3    | 54.8      | 29.7      | 58.1     | 11.38            | 62.4       | 28.45       | SDI E-FIELD MWD |
| 1446.0   | 28.48       | 10.02       | 1434.9    | 69.0      | 32.2      | 72.4     | 11.75            | 76.1       | 25.05       | SDI E-FIELD MWD |
| 1478.0   | 32.23       | 9.76        | 1462.5    | 84.9      | 35.0      | 88.5     | 11.73            | 91.8       | 22.41       | SDI E-FIELD MWD |
| 1509.0   | 36.17       | 9.82        | 1488.1    | 102.0     | 38.0      | 106.0    | 12.71            | 108.9      | 20.41       | SDI E-FIELD MWD |
| 1541.0   | 39.68       | 9.94        | 1513.4    | 121.4     | 41.3      | 125.6    | 10.97            | 128.3      | 18.80       | SDI E-FIELD MWD |
| 1572.0   | 43.14       | 9.73        | 1536.6    | 141.6     | 44.8      | 146.1    | 11.17            | 148.6      | 17.57       | SDI E-FIELD MWD |
| 1603.0   | 47.41       | 9.35        | 1558.4    | 163.3     | 48.5      | 168.1    | 13.80            | 170.4      | 16.53       | SDI E-FIELD MWD |
| 1635.0   | 52.14       | 8.60        | 1579.1    | 187.5     | 52.3      | 192.5    | 14.89            | 194.6      | 15.59       | SDI E-FIELD MWD |
| 1667.0   | 56.65       | 8.04        | 1597.7    | 213.2     | 56.1      | 218.5    | 14.17            | 220.4      | 14.73       | SDI E-FIELD MWD |
| 1699.0   | 61.42       | 7.47        | 1614.2    | 240.4     | 59.8      | 245.9    | 14.98            | 247.7      | 13.96       | SDI E-FIELD MWD |
| 1731.0   | 66.31       | 6.79        | 1628.2    | 268.9     | 63.3      | 274.6    | 15.40            | 276.2      | 13.25       | SDI E-FIELD MWD |
| 1762.0   | 70.48       | 6.98        | 1639.7    | 297.5     | 66.8      | 303.5    | 13.46            | 304.9      | 12.65       | SDI E-FIELD MWD |
| 1793.0   | 74.70       | 6.76        | 1648.9    | 326.9     | 70.3      | 333.0    | 13.63            | 334.3      | 12.14       | SDI E-FIELD MWD |
| 1825.0   | 78.46       | 6.32        | 1656.4    | 357.8     | 73.8      | 364.1    | 11.83            | 365.3      | 11.66       | SDI E-FIELD MWD |
| 1856.0   | 79.96       | 6.22        | 1662.2    | 388.0     | 77.2      | 394.6    | 4.85             | 395.6      | 11.25       | SDI E-FIELD MWD |
| 1888.0   | 83.01       | 5.53        | 1666.9    | 419.5     | 80.4      | 426.2    | 9.77             | 427.2      | 10.85       | SDI E-FIELD MWD |
| 1920.0   | 84.26       | 5.77        | 1670.4    | 451.2     | 83.5      | 458.0    | 3.98             | 458.8      | 10.49       | SDI E-FIELD MWD |
| 1952.0   | 86.91       | 5.89        | 1672.9    | 482.9     | 86.8      | 489.9    | 8.29             | 490.6      | 10.19       | SDI E-FIELD MWD |
| 1984.0   | 88.49       | 5.71        | 1674.2    | 514.7     | 90.0      | 521.9    | 4.97             | 522.5      | 9.92        | SDI E-FIELD MWD |
| 2015.0   | 88.72       | 5.02        | 1675.0    | 545.6     | 92.9      | 552.9    | 2.35             | 553.4      | 9.67        | SDI E-FIELD MWD |
| 2047.0   | 88.99       | 5.32        | 1675.6    | 577.4     | 95.8      | 584.8    | 1.26             | 585.3      | 9.42        | SDI E-FIELD MWD |
| 2079.0   | 88.12       | 5.86        | 1676.4    | 609.3     | 98.9      | 616.8    | 3.20             | 617.2      | 9.22        | SDI E-FIELD MWD |
| 2111.0   | 88.42       | 5.99        | 1677.4    | 641.1     | 102.2     | 648.8    | 1.02             | 649.2      | 9.06        | SDI E-FIELD MWD |
| 2143.0   | 88.62       | 5.86        | 1678.2    | 672.9     | 105.5     | 680.8    | 0.75             | 681.1      | 8.91        | SDI E-FIELD MWD |
| 2174.0   | 88.93       | 5.98        | 1678.9    | 703.7     | 108.7     | 711.8    | 1.07             | 712.1      | 8.78        | SDI E-FIELD MWD |
| 2206.0   | 87.85       | 5.50        | 1679.8    | 735.6     | 111.9     | 743.7    | 3.69             | 744.0      | 8.65        | SDI E-FIELD MWD |
| 2238.0   | 87.75       | 5.48        | 1681.0    | 767.4     | 115.0     | 775.7    | 0.32             | 775.9      | 8.52        | SDI E-FIELD MWD |
| 2270.0   | 87.55       | 5.28        | 1682.3    | 799.2     | 118.0     | 807.7    | 0.88             | 807.9      | 8.40        | SDI E-FIELD MWD |
| 2301.0   | 87.48       | 5.20        | 1683.6    | 830.1     | 120.8     | 838.6    | 0.34             | 838.8      | 8.28        | SDI E-FIELD MWD |
| 2333.0   | 87.95       | 5.20        | 1684.9    | 861.9     | 123.7     | 870.6    | 1.47             | 870.7      | 8.17        | SDI E-FIELD MWD |
| 2356.0   | 88.56       | 5.05        | 1685.6    | 884.8     | 125.7     | 893.5    | 2.73             | 893.7      | 8.09        | SDI E-FIELD MWD |
| 2406.0   | 88.56       | 5.05        | 1686.9    | 934.6     | 130.1     | 943.5    | 0.00             | 943.6      | 7.93        | PROJECTED DEPTH |

# EL PASO PRODUCTION

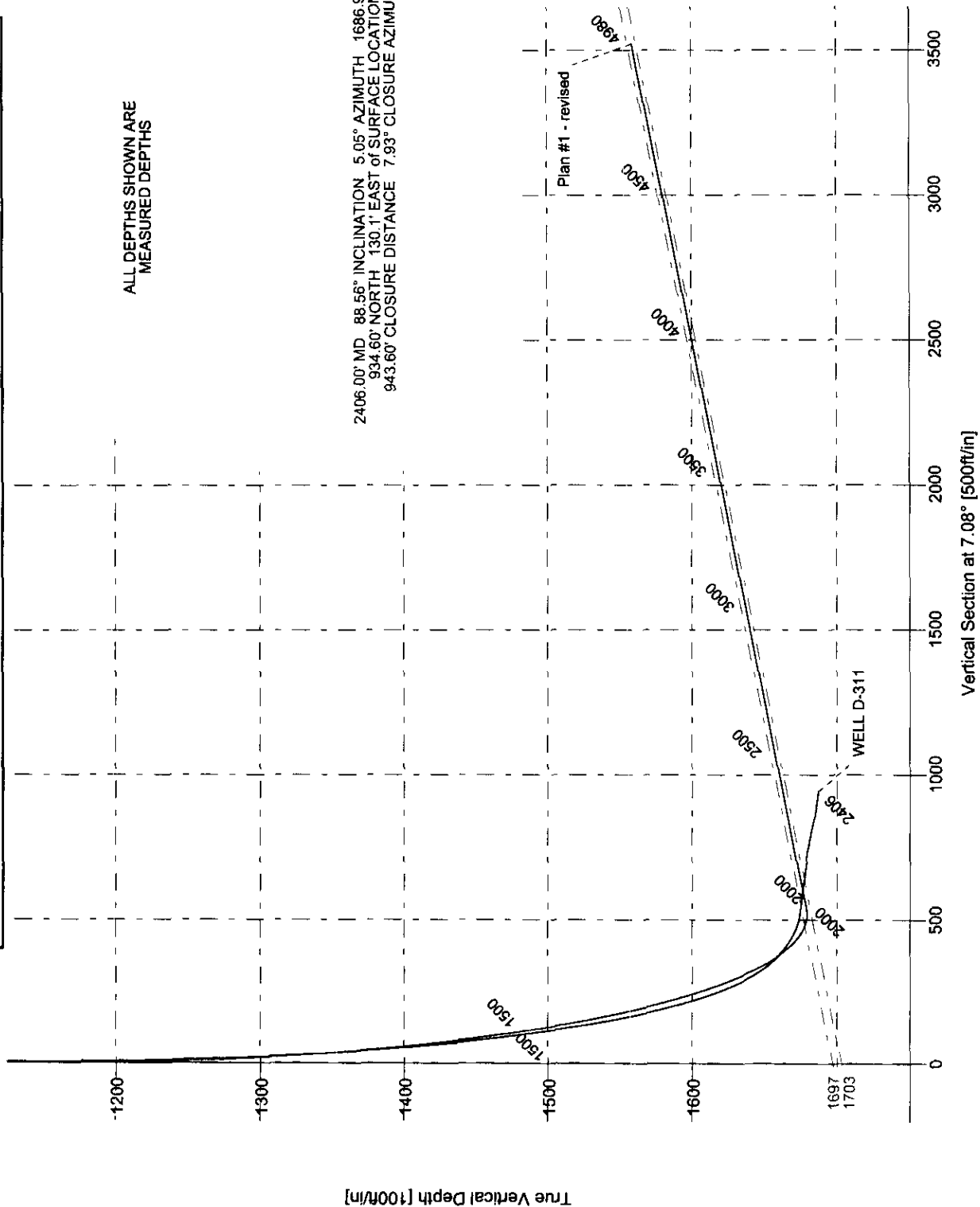


RATON WELL D-311  
VERMEJO FIELD, NEW MEXICO  
ST00BP00 / CENTER LATERAL



ALL DEPTHS SHOWN ARE  
MEASURED DEPTHS

2406.00' MD 88.58° INCLINATION 5.05° AZIMUTH 1686.90' TVD  
934.60' NORTH 130.1' EAST of SURFACE LOCATION  
943.60' CLOSURE DISTANCE 7.93° CLOSURE AZIMUTH





# Scientific Drilling Houston

## Final Survey Report

**el paso** Production

|                                         |                                                                |                       |                |
|-----------------------------------------|----------------------------------------------------------------|-----------------------|----------------|
| <b>Company:</b> EL PASO PRODUCTION      | <b>Date:</b> 8/2/2006                                          | <b>Time:</b> 10:00:26 | <b>Page:</b> 1 |
| <b>Field:</b> VERMEJO FIELD, NEW MEXICO | <b>Co-ordinate(NE) Reference:</b> Well: WELL D-311, Grid North |                       |                |
| <b>Site:</b> RATON (D311)               | <b>Vertical (TVD) Reference:</b> SITE 0.0                      |                       |                |
| <b>Well:</b> WELL D-311                 | <b>Section (VS) Reference:</b> Well (0.00N,0.00E,310.00Azi)    |                       |                |
| <b>Wellpath:</b> SIDETRACK 2            | <b>Survey Calculation Method:</b> Minimum Curvature            | <b>Db:</b> Sybase     |                |

|                                                          |  |                                           |  |
|----------------------------------------------------------|--|-------------------------------------------|--|
| <b>Field:</b> VERMEJO FIELD, NEW MEXICO                  |  |                                           |  |
| <b>Map System:</b> US State Plane Coordinate System 1927 |  | <b>Map Zone:</b> New Mexico, Eastern Zone |  |
| <b>Geo Datum:</b> NAD27 (Clarke 1866)                    |  | <b>Coordinate System:</b> Well Centre     |  |
| <b>Sys Datum:</b> Mean Sea Level                         |  | <b>Geomagnetic Model:</b> igrf2005        |  |

|                                     |                                |                                    |  |
|-------------------------------------|--------------------------------|------------------------------------|--|
| <b>Site:</b> RATON (D311)           |                                |                                    |  |
| <b>Site Position:</b>               | <b>Northing:</b> 2132886.60 ft | <b>Latitude:</b> 36 51 33.200 N    |  |
| <b>From:</b> Geographic             | <b>Easting:</b> 277724.81 ft   | <b>Longitude:</b> 105 5 35.200 W   |  |
| <b>Position Uncertainty:</b> 0.0 ft |                                | <b>North Reference:</b> Grid       |  |
| <b>Ground Level:</b> 8232.0 ft      |                                | <b>Grid Convergence:</b> -0.46 deg |  |

|                                     |                                |                                  |  |
|-------------------------------------|--------------------------------|----------------------------------|--|
| <b>Well:</b> WELL D-311             |                                | <b>Slot Name:</b>                |  |
| <b>Well Position:</b> +N/-S 0.0 ft  | <b>Northing:</b> 2132886.60 ft | <b>Latitude:</b> 36 51 33.200 N  |  |
| <b>+E/-W 0.0 ft</b>                 | <b>Easting:</b> 277724.81 ft   | <b>Longitude:</b> 105 5 35.200 W |  |
| <b>Position Uncertainty:</b> 0.0 ft |                                |                                  |  |

|                                           |                                           |          |               |
|-------------------------------------------|-------------------------------------------|----------|---------------|
| <b>Wellpath:</b> SIDETRACK 2              | <b>Drilled From:</b> SIDETRACK 1          |          |               |
| <b>Current Datum:</b> SITE                | <b>Tie-on Depth:</b> 1191.0 ft            |          |               |
| <b>Magnetic Data:</b> 5/23/2006           | <b>Above System Datum:</b> Mean Sea Level |          |               |
| <b>Field Strength:</b> 51728 nT           | <b>Declination:</b> 9.32 deg              |          |               |
| <b>Vertical Section:</b> Depth From (TVD) | <b>Mag Dip Angle:</b> 64.20 deg           |          |               |
| ft                                        | +N/-S ft                                  | +E/-W ft | Direction deg |
| 0.0                                       | 0.0                                       | 0.0      | 310.00        |

| Survey   |             |             |           |           |           |          |                  |            |             |                 |
|----------|-------------|-------------|-----------|-----------|-----------|----------|------------------|------------|-------------|-----------------|
| MD<br>ft | Incl<br>deg | Azim<br>deg | TVD<br>ft | N/S<br>ft | E/W<br>ft | VS<br>ft | DLS<br>deg/100ft | ClsD<br>ft | ClsA<br>deg | Tool            |
| 969.0    | 1.32        | 86.15       | 968.9     | 1.3       | 13.2      | -9.3     | 0.00             | 13.2       | 84.33       | SDI E-FIELD MWD |
| 999.0    | 1.40        | 72.77       | 998.8     | 1.4       | 13.9      | -9.7     | 1.09             | 13.9       | 84.07       | SDI E-FIELD MWD |
| 1029.0   | 1.49        | 29.38       | 1028.8    | 1.9       | 14.4      | -9.8     | 3.57             | 14.5       | 82.53       | SDI E-FIELD MWD |
| 1060.0   | 1.86        | 9.21        | 1059.8    | 2.7       | 14.7      | -9.5     | 2.23             | 14.9       | 79.45       | SDI E-FIELD MWD |
| 1089.0   | 2.36        | 4.06        | 1088.8    | 3.8       | 14.8      | -8.9     | 1.84             | 15.3       | 75.62       | SDI E-FIELD MWD |
| 1118.0   | 3.84        | 346.28      | 1117.8    | 5.3       | 14.6      | -7.8     | 6.03             | 15.6       | 69.95       | SDI E-FIELD MWD |
| 1147.0   | 6.50        | 339.37      | 1146.6    | 7.8       | 13.8      | -5.6     | 9.40             | 15.9       | 60.49       | SDI E-FIELD MWD |
| 1178.0   | 9.55        | 338.18      | 1177.3    | 11.8      | 12.2      | -1.8     | 9.85             | 17.0       | 45.93       | SDI E-FIELD MWD |
| 1207.0   | 12.46       | 338.83      | 1205.8    | 17.0      | 10.2      | 3.1      | 10.04            | 19.8       | 31.00       | SDI E-FIELD MWD |
| 1238.0   | 14.52       | 335.20      | 1235.9    | 23.6      | 7.4       | 9.5      | 7.18             | 24.8       | 17.32       | SDI E-FIELD MWD |
| 1269.0   | 17.42       | 333.89      | 1265.7    | 31.3      | 3.7       | 17.3     | 9.43             | 31.6       | 6.74        | SDI E-FIELD MWD |
| 1299.0   | 20.84       | 336.37      | 1294.1    | 40.3      | -0.4      | 26.2     | 11.72            | 40.3       | 359.41      | SDI E-FIELD MWD |
| 1330.0   | 23.85       | 336.72      | 1322.8    | 51.1      | -5.1      | 36.7     | 9.72             | 51.3       | 354.29      | SDI E-FIELD MWD |
| 1359.0   | 27.38       | 335.59      | 1348.9    | 62.5      | -10.2     | 48.0     | 12.29            | 63.4       | 350.76      | SDI E-FIELD MWD |
| 1390.0   | 30.98       | 334.09      | 1376.0    | 76.2      | -16.6     | 61.7     | 11.85            | 78.0       | 347.70      | SDI E-FIELD MWD |
| 1420.0   | 34.63       | 332.70      | 1401.2    | 90.7      | -23.9     | 76.6     | 12.42            | 93.8       | 345.24      | SDI E-FIELD MWD |
| 1450.0   | 37.91       | 329.67      | 1425.4    | 106.3     | -32.5     | 93.2     | 12.46            | 111.1      | 343.01      | SDI E-FIELD MWD |
| 1480.0   | 40.56       | 325.71      | 1448.6    | 122.3     | -42.6     | 111.3    | 12.15            | 129.5      | 340.79      | SDI E-FIELD MWD |
| 1511.0   | 43.20       | 322.04      | 1471.7    | 139.0     | -54.8     | 131.3    | 11.62            | 149.4      | 338.47      | SDI E-FIELD MWD |
| 1541.0   | 46.48       | 319.49      | 1493.0    | 155.4     | -68.2     | 152.1    | 12.47            | 169.7      | 336.30      | SDI E-FIELD MWD |
| 1571.0   | 49.33       | 316.11      | 1513.1    | 171.8     | -83.2     | 174.2    | 12.65            | 190.9      | 334.17      | SDI E-FIELD MWD |
| 1601.0   | 52.30       | 313.04      | 1532.0    | 188.1     | -99.7     | 197.3    | 12.68            | 212.9      | 332.07      | SDI E-FIELD MWD |
| 1633.0   | 54.79       | 310.14      | 1551.0    | 205.2     | -119.0    | 223.1    | 10.66            | 237.2      | 329.89      | SDI E-FIELD MWD |
| 1663.0   | 55.68       | 307.71      | 1568.1    | 220.7     | -138.2    | 247.7    | 7.29             | 260.4      | 327.95      | SDI E-FIELD MWD |
| 1693.0   | 57.74       | 305.68      | 1584.6    | 235.7     | -158.3    | 272.7    | 8.90             | 283.9      | 326.12      | SDI E-FIELD MWD |
| 1723.0   | 61.26       | 305.78      | 1599.8    | 250.8     | -179.3    | 298.5    | 11.74            | 308.2      | 324.44      | SDI E-FIELD MWD |
| 1753.0   | 63.67       | 306.82      | 1613.7    | 266.5     | -200.7    | 325.0    | 8.60             | 333.6      | 323.02      | SDI E-FIELD MWD |
| 1783.0   | 65.24       | 307.32      | 1626.6    | 282.8     | -222.3    | 352.1    | 5.45             | 359.7      | 321.84      | SDI E-FIELD MWD |





# Scientific Drilling Houston

## Final Survey Report

**eipaso** Production

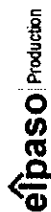
Company: EL PASO PRODUCTION  
Field: VERMEJO FIELD, NEW MEXICO  
Site: RATON (D311)  
Well: WELL D-311  
Wellpath: SIDETRACK 2

Date: 8/2/2006 Time: 10:00:26 Page: 2  
Co-ordinate(NE) Reference: Well: WELL D-311, Grid North  
Vertical (TVD) Reference: SITE 0.0  
Section (VS) Reference: Well (0.00N,0.00E,310.00Azi)  
Survey Calculation Method: Minimum Curvature Db: Sybase

### Survey

| MD<br>ft | Incl<br>deg | Azim<br>deg | TVD<br>ft | N/S<br>ft | E/W<br>ft | VS<br>ft | DLS<br>deg/100ft | ClsD<br>ft | ClsA<br>deg | Tool            |
|----------|-------------|-------------|-----------|-----------|-----------|----------|------------------|------------|-------------|-----------------|
| 1813.0   | 67.86       | 306.76      | 1638.6    | 299.4     | -244.3    | 379.6    | 8.90             | 386.4      | 320.79      | SDI E-FIELD MWD |
| 1843.0   | 70.77       | 307.14      | 1649.2    | 316.3     | -266.7    | 407.6    | 9.77             | 413.7      | 319.86      | SDI E-FIELD MWD |
| 1873.0   | 74.84       | 308.05      | 1658.0    | 333.8     | -289.4    | 436.2    | 13.87            | 441.7      | 319.07      | SDI E-FIELD MWD |
| 1904.0   | 79.18       | 308.46      | 1665.0    | 352.5     | -313.1    | 466.4    | 14.06            | 471.4      | 318.38      | SDI E-FIELD MWD |
| 1934.0   | 81.77       | 308.11      | 1670.0    | 370.8     | -336.3    | 496.0    | 8.71             | 500.6      | 317.79      | SDI E-FIELD MWD |
| 1964.0   | 82.83       | 307.60      | 1674.0    | 389.0     | -359.8    | 525.7    | 3.91             | 529.9      | 317.24      | SDI E-FIELD MWD |
| 1993.0   | 84.69       | 307.34      | 1677.1    | 406.6     | -382.7    | 554.5    | 6.48             | 558.3      | 316.73      | SDI E-FIELD MWD |
| 2024.0   | 87.98       | 307.17      | 1679.1    | 425.3     | -407.3    | 585.4    | 10.63            | 588.9      | 316.24      | SDI E-FIELD MWD |
| 2103.0   | 91.21       | 311.51      | 1679.7    | 475.4     | -468.4    | 664.3    | 6.85             | 667.3      | 315.42      | SDI E-FIELD MWD |
| 2135.0   | 92.38       | 309.00      | 1678.7    | 496.0     | -492.8    | 696.3    | 8.65             | 699.2      | 315.19      | SDI E-FIELD MWD |
| 2167.0   | 92.99       | 307.96      | 1677.2    | 515.9     | -517.8    | 728.3    | 3.76             | 730.9      | 314.90      | SDI E-FIELD MWD |
| 2199.0   | 92.39       | 306.59      | 1675.7    | 535.3     | -543.2    | 760.2    | 4.67             | 762.6      | 314.58      | SDI E-FIELD MWD |
| 2231.0   | 91.91       | 306.13      | 1674.5    | 554.2     | -569.0    | 792.1    | 2.08             | 794.3      | 314.25      | SDI E-FIELD MWD |
| 2263.0   | 91.41       | 305.49      | 1673.5    | 572.9     | -594.9    | 824.0    | 2.54             | 825.9      | 313.92      | SDI E-FIELD MWD |
| 2294.0   | 91.11       | 305.09      | 1672.9    | 590.8     | -620.2    | 854.9    | 1.61             | 856.6      | 313.61      | SDI E-FIELD MWD |
| 2326.0   | 90.57       | 303.92      | 1672.4    | 609.0     | -646.6    | 886.7    | 4.03             | 888.2      | 313.28      | SDI E-FIELD MWD |
| 2358.0   | 90.40       | 303.64      | 1672.1    | 626.8     | -673.2    | 918.6    | 1.02             | 919.8      | 312.96      | SDI E-FIELD MWD |
| 2389.0   | 87.51       | 303.20      | 1672.7    | 643.8     | -699.0    | 949.3    | 9.43             | 950.4      | 312.65      | SDI E-FIELD MWD |
| 2421.0   | 86.40       | 302.82      | 1674.4    | 661.2     | -725.8    | 981.1    | 3.67             | 981.9      | 312.33      | SDI E-FIELD MWD |
| 2452.0   | 90.47       | 303.38      | 1675.2    | 678.2     | -751.8    | 1011.8   | 13.25            | 1012.5     | 312.05      | SDI E-FIELD MWD |
| 2484.0   | 91.71       | 303.91      | 1674.6    | 695.9     | -778.4    | 1043.6   | 4.21             | 1044.1     | 311.80      | SDI E-FIELD MWD |
| 2505.0   | 91.98       | 308.37      | 1674.0    | 708.3     | -795.4    | 1064.6   | 21.27            | 1065.0     | 311.68      | SDI E-FIELD MWD |
| 2535.0   | 91.07       | 304.84      | 1673.2    | 726.1     | -819.4    | 1094.5   | 12.15            | 1094.9     | 311.55      | SDI E-FIELD MWD |
| 2566.0   | 91.24       | 304.78      | 1672.5    | 743.8     | -844.9    | 1125.3   | 0.58             | 1125.7     | 311.36      | SDI E-FIELD MWD |
| 2596.0   | 92.25       | 305.35      | 1671.6    | 761.1     | -869.4    | 1155.2   | 3.87             | 1155.5     | 311.20      | SDI E-FIELD MWD |
| 2627.0   | 93.59       | 305.51      | 1670.0    | 779.0     | -894.7    | 1186.1   | 4.35             | 1186.3     | 311.05      | SDI E-FIELD MWD |
| 2656.0   | 95.21       | 306.02      | 1667.8    | 795.9     | -918.1    | 1214.9   | 5.85             | 1215.1     | 310.92      | SDI E-FIELD MWD |
| 2687.0   | 95.11       | 305.82      | 1665.0    | 814.0     | -943.1    | 1245.7   | 0.72             | 1245.8     | 310.80      | SDI E-FIELD MWD |
| 2716.0   | 93.05       | 305.68      | 1663.0    | 830.9     | -966.6    | 1274.6   | 7.12             | 1274.7     | 310.68      | SDI E-FIELD MWD |
| 2746.0   | 92.95       | 306.59      | 1661.4    | 848.6     | -990.8    | 1304.5   | 3.05             | 1304.5     | 310.58      | SDI E-FIELD MWD |
| 2776.0   | 93.32       | 306.98      | 1659.7    | 866.5     | -1014.8   | 1334.4   | 1.79             | 1334.4     | 310.49      | SDI E-FIELD MWD |
| 2806.0   | 91.61       | 306.16      | 1658.5    | 884.4     | -1038.9   | 1364.3   | 6.32             | 1364.3     | 310.41      | SDI E-FIELD MWD |
| 2816.0   | 91.85       | 306.07      | 1658.2    | 890.3     | -1046.9   | 1374.2   | 2.56             | 1374.3     | 310.38      | SDI E-FIELD MWD |
| 2846.0   | 92.28       | 305.80      | 1657.1    | 907.9     | -1071.2   | 1404.2   | 1.69             | 1404.2     | 310.28      | SDI E-FIELD MWD |
| 2876.0   | 91.71       | 306.19      | 1656.0    | 925.5     | -1095.5   | 1434.1   | 2.30             | 1434.1     | 310.19      | SDI E-FIELD MWD |
| 2906.0   | 89.73       | 305.97      | 1655.7    | 943.1     | -1119.7   | 1464.0   | 6.64             | 1464.0     | 310.11      | SDI E-FIELD MWD |
| 2936.0   | 89.80       | 306.27      | 1655.8    | 960.8     | -1143.9   | 1493.9   | 1.03             | 1493.9     | 310.03      | SDI E-FIELD MWD |
| 2965.0   | 91.24       | 306.96      | 1655.5    | 978.1     | -1167.2   | 1522.9   | 5.51             | 1522.9     | 309.96      | SDI E-FIELD MWD |
| 2996.0   | 89.63       | 307.25      | 1655.3    | 996.8     | -1191.9   | 1553.8   | 5.28             | 1553.8     | 309.91      | SDI E-FIELD MWD |
| 3026.0   | 89.03       | 307.88      | 1655.6    | 1015.1    | -1215.7   | 1583.8   | 2.90             | 1583.8     | 309.86      | SDI E-FIELD MWD |
| 3056.0   | 89.56       | 308.52      | 1656.0    | 1033.7    | -1239.3   | 1613.8   | 2.77             | 1613.8     | 309.83      | SDI E-FIELD MWD |
| 3087.0   | 89.93       | 308.90      | 1656.1    | 1053.1    | -1263.5   | 1644.8   | 1.71             | 1644.8     | 309.81      | SDI E-FIELD MWD |
| 3117.0   | 89.50       | 309.23      | 1656.3    | 1072.0    | -1286.8   | 1674.8   | 1.81             | 1674.8     | 309.80      | SDI E-FIELD MWD |
| 3147.0   | 88.52       | 308.88      | 1656.8    | 1090.9    | -1310.1   | 1704.8   | 3.47             | 1704.8     | 309.78      | SDI E-FIELD MWD |
| 3178.0   | 88.25       | 308.48      | 1657.7    | 1110.2    | -1334.3   | 1735.7   | 1.56             | 1735.8     | 309.76      | SDI E-FIELD MWD |
| 3208.0   | 86.64       | 308.87      | 1659.0    | 1129.0    | -1357.7   | 1765.7   | 5.52             | 1765.7     | 309.75      | SDI E-FIELD MWD |
| 3245.0   | 86.64       | 308.87      | 1661.2    | 1152.1    | -1386.4   | 1802.6   | 0.00             | 1802.6     | 309.73      | PROJECTED DEPTH |

# EL PASO PRODUCTION

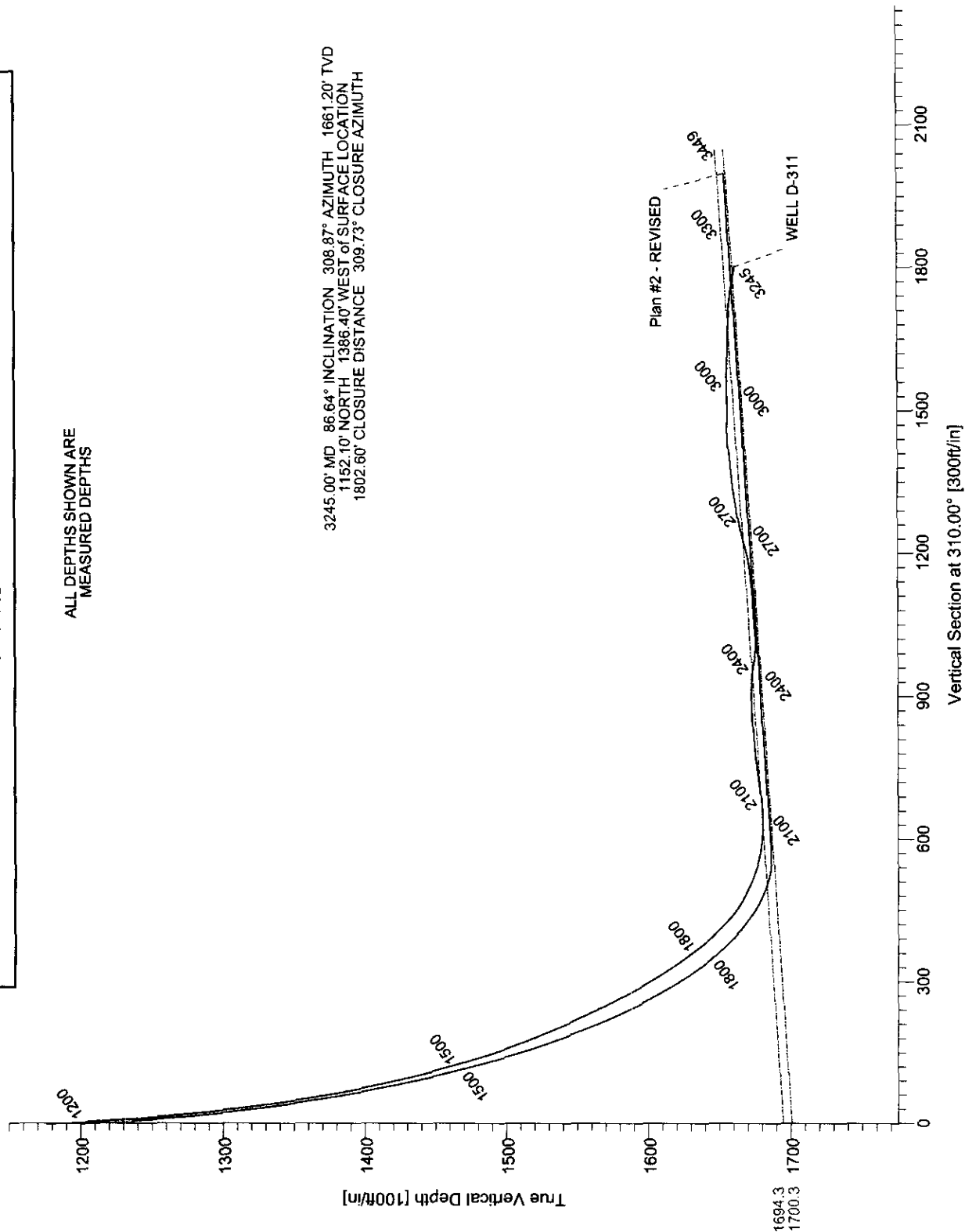


RATON WELL D-311  
VERMEJO FIELD, NEW MEXICO  
ST00BP02 / SIDETRACK 2 LATERAL



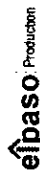
ALL DEPTHS SHOWN ARE  
MEASURED DEPTHS

3245.00' MD 86.64° INCLINATION 308.87° AZIMUTH 1661.20' TVD  
1152.10' NORTH 1386.40' WEST of SURFACE LOCATION  
1802.60' CLOSURE DISTANCE 309.73° CLOSURE AZIMUTH



# EL PASO PRODUCTION

RATON WELL D-311  
VERMEJO FIELD, NEW MEXICO  
LATERAL / SIDETRACK 1 / SIDETRACK 2



SIDETRACK 2

1661

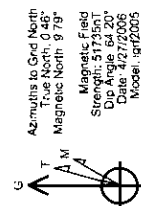
SIDETRACK 1

1686

ALL DEPTHS SHOWN ARE  
TRUE VERTICAL DEPTHS

LATERAL

1687



West(-)/East(+) [200ft/in]

WELL DETAILS

| Name       | +N/-S | +E/-W | Northing   | Easting   | Latitude      | Longitude      | Slot |
|------------|-------|-------|------------|-----------|---------------|----------------|------|
| WELL D-311 | 0.0   | 0.0   | 2132886.60 | 277724.81 | 36°51'33.200N | 105°05'35.200W | N/A  |

August 3, 2006  
Scientific Drilling  
281.443.4600