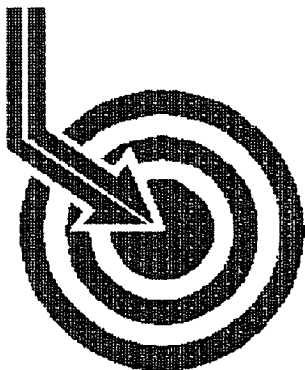




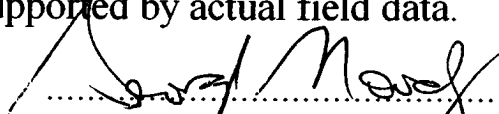
# Scientific Drilling

SUR: O-30-18s-38e, 641/S & 2419/E  
BHL: O-30-18s-38e, 483/S & 2568/E  
API # 30-025-36286

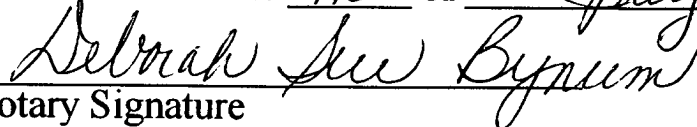
## OCCIDENTAL PERMIAN LTD.

Field: North Hobbs  
Site: Lea County, NM  
Well: NHU #30-536  
Wellpath: DH - Job #32D0603317  
Survey: 06/19/03-06/24/03

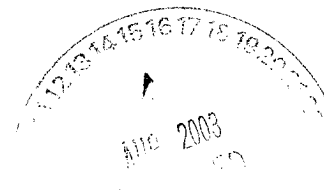
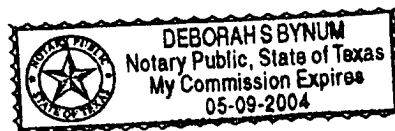
This survey is correct to the best of my knowledge  
and is supported by actual field data.

.....Company Representative

Notorized this date 11th of July, 2003.



Notary Signature  
County of Midland  
State of Texas



# Scientific Drilling Survey Report

**Company:** OCCIDENTAL PERMIAN LTD.  
**Field:** North Hobbs  
**Site:** Lea County, NM  
**Well:** NHU #30-536  
**Wellpath:** VH - Job #32K0603318

**Date:** 7/3/2003      **Time:** 10:22:02      **Page:** 1

**Co-ordinate(NE) Reference:** Site: Lea County, NM, True North

**Vertical (TVD) Reference:** SITE 0.0

**Section (VS) Reference:** Well (0.00N,0.00E,295.88Azi)

**Survey Calculation Method:** Minimum Curvature      **Db:** Sybase

**Survey:** 06/20/03  
KSRG 0'-2355'

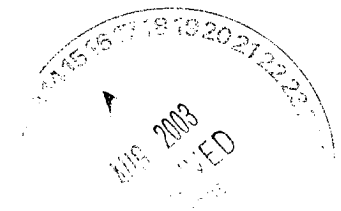
**Company:** Scientific Drilling

**Tool:** Keeper, Keeper Surface Readout

**Start Date:** 6/20/2003  
**Engineer:** Ron Drake  
**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 |
|----------|-------------|-------------|-----------|----------|-----------|-----------|------------------|------------|-------------|
| 0.0      | 0.00        | 359.39      | 0.0       | 0.0      | 0.0       | 0.0       | 0.00             | 0.0        | 0.00        |
| 100.0    | 0.62        | 269.07      | 100.0     | 0.5      | 0.0       | -0.5      | 0.62             | 0.5        | 269.07      |
| 200.0    | 0.73        | 252.12      | 200.0     | 1.4      | -0.2      | -1.7      | 0.23             | 1.7        | 262.80      |
| 300.0    | 1.28        | 265.48      | 300.0     | 2.8      | -0.5      | -3.4      | 0.59             | 3.4        | 261.71      |
| 400.0    | 0.67        | 238.34      | 400.0     | 4.1      | -0.9      | -5.0      | 0.75             | 5.1        | 259.93      |
| 500.0    | 0.51        | 253.95      | 500.0     | 4.8      | -1.3      | -5.9      | 0.23             | 6.1        | 257.47      |
| 600.0    | 0.41        | 252.37      | 600.0     | 5.4      | -1.6      | -6.7      | 0.10             | 6.9        | 256.97      |
| 700.0    | 0.31        | 233.46      | 700.0     | 5.7      | -1.8      | -7.3      | 0.15             | 7.5        | 255.93      |
| 800.0    | 0.31        | 238.92      | 799.9     | 6.0      | -2.1      | -7.7      | 0.03             | 8.0        | 254.62      |
| 900.0    | 0.35        | 248.01      | 899.9     | 6.4      | -2.4      | -8.2      | 0.07             | 8.6        | 253.90      |
| 1000.0   | 0.38        | 242.68      | 999.9     | 6.8      | -2.6      | -8.8      | 0.05             | 9.2        | 253.30      |
| 1100.0   | 0.36        | 239.28      | 1099.9    | 7.1      | -3.0      | -9.4      | 0.03             | 9.8        | 252.50      |
| 1200.0   | 0.36        | 226.16      | 1199.9    | 7.4      | -3.3      | -9.9      | 0.08             | 10.4       | 251.34      |
| 1300.0   | 0.30        | 238.91      | 1299.9    | 7.7      | -3.7      | -10.3     | 0.09             | 11.0       | 250.35      |
| 1400.0   | 0.15        | 231.01      | 1399.9    | 7.9      | -3.9      | -10.7     | 0.15             | 11.3       | 249.87      |
| 1500.0   | 0.09        | 282.61      | 1499.9    | 8.0      | -4.0      | -10.8     | 0.12             | 11.5       | 249.87      |
| 1600.0   | 0.34        | 310.03      | 1599.9    | 8.4      | -3.8      | -11.1     | 0.26             | 11.8       | 251.33      |
| 1700.0   | 0.55        | 303.33      | 1699.9    | 9.1      | -3.3      | -11.8     | 0.22             | 12.2       | 254.29      |
| 1800.0   | 0.54        | 309.11      | 1799.9    | 10.1     | -2.7      | -12.5     | 0.06             | 12.8       | 257.63      |
| 1900.0   | 0.52        | 306.30      | 1899.9    | 11.0     | -2.2      | -13.3     | 0.03             | 13.4       | 260.66      |
| 2000.0   | 0.59        | 340.52      | 1999.9    | 11.8     | -1.4      | -13.8     | 0.33             | 13.9       | 264.10      |
| 2100.0   | 0.83        | 8.55        | 2099.9    | 12.4     | -0.2      | -13.9     | 0.42             | 13.9       | 269.07      |
| 2200.0   | 1.22        | 25.35       | 2199.9    | 12.6     | 1.5       | -13.3     | 0.49             | 13.4       | 276.24      |
| 2300.0   | 1.82        | 38.11       | 2299.9    | 12.3     | 3.7       | -11.9     | 0.69             | 12.4       | 287.17      |
| 2355.0   | 2.21        | 40.46       | 2354.8    | 11.8     | 5.2       | -10.6     | 0.72             | 11.8       | 295.88      |



# Scientific Drilling Survey Report

**Company:** OCCIDENTAL PERMIAN LTD.  
**Field:** North Hobbs  
**Site:** Lea County, NM  
**Well:** NHU #30-536  
**Wellpath:** DH - Job #32D0603317

**Date:** 7/3/2003 **Time:** 10:25:14 **Page:** 1  
**Co-ordinate(NE) Reference:** Site: Lea County, NM, True North  
**Vertical (TVD) Reference:** SITE 0.0  
**Section (VS) Reference:** Well (0.00N,0.00E,223.64Azi)  
**Survey Calculation Method:** Minimum Curvature **Db:** Sybase

**Survey:** 06/19/03-06/24/03  
 E-field 2443'-4427'  
**Company:** Scientific Drilling  
**Tool:** E-field, E-field

**Start Date:** 6/19/2003  
**Engineer:** Brusenhan/Drake  
**Tied-to:** From: Definitive Path

## Survey

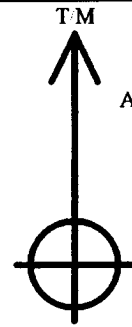
| MD<br>ft | Incl<br>deg | Azim<br>deg | TVD<br>ft | VS<br>ft | N/S<br>ft | E/W<br>ft | DLS<br>deg/100ft | ClsD<br>ft | ClsA<br>deg |
|----------|-------------|-------------|-----------|----------|-----------|-----------|------------------|------------|-------------|
| 2355.0   | 2.21        | 40.46       | 2354.8    | 3.6      | 5.2       | -10.6     | 0.00             | 11.8       | 295.88      |
| 2443.0   | 0.60        | 327.50      | 2442.8    | 1.8      | 6.8       | -9.8      | 2.40             | 11.9       | 304.96      |
| 2537.0   | 1.80        | 234.30      | 2536.8    | 3.1      | 6.4       | -11.2     | 2.05             | 12.9       | 299.62      |
| 2632.0   | 3.80        | 211.10      | 2631.7    | 7.7      | 2.8       | -14.1     | 2.38             | 14.4       | 281.35      |
| 2724.0   | 5.80        | 214.80      | 2723.3    | 15.2     | -3.6      | -18.3     | 2.20             | 18.7       | 258.87      |
| 2819.0   | 7.30        | 212.90      | 2817.7    | 25.9     | -12.6     | -24.3     | 1.60             | 27.4       | 242.60      |
| 2913.0   | 6.60        | 213.70      | 2911.0    | 37.1     | -22.1     | -30.6     | 0.75             | 37.7       | 234.11      |
| 3007.0   | 7.40        | 210.70      | 3004.3    | 48.3     | -31.8     | -36.7     | 0.94             | 48.5       | 229.04      |
| 3070.0   | 6.90        | 212.40      | 3066.8    | 56.0     | -38.5     | -40.8     | 0.86             | 56.1       | 226.63      |
| 3165.0   | 8.50        | 218.40      | 3161.0    | 68.6     | -48.8     | -48.2     | 1.88             | 68.6       | 224.62      |
| 3259.0   | 7.70        | 220.80      | 3254.0    | 81.8     | -59.0     | -56.6     | 0.92             | 81.8       | 223.80      |
| 3322.0   | 7.40        | 219.40      | 3316.5    | 90.1     | -65.4     | -61.9     | 0.56             | 90.1       | 223.46      |
| 3417.0   | 6.40        | 216.30      | 3410.8    | 101.4    | -74.4     | -69.0     | 1.12             | 101.4      | 222.84      |
| 3511.0   | 6.70        | 226.30      | 3504.2    | 112.1    | -82.4     | -76.0     | 1.25             | 112.1      | 222.70      |
| 3575.0   | 5.90        | 224.40      | 3567.8    | 119.1    | -87.3     | -81.0     | 1.29             | 119.1      | 222.86      |
| 3637.0   | 6.90        | 226.70      | 3629.4    | 126.0    | -92.1     | -86.0     | 1.66             | 126.0      | 223.02      |
| 3732.0   | 6.50        | 225.10      | 3723.8    | 137.1    | -99.8     | -93.9     | 0.46             | 137.1      | 223.25      |
| 3827.0   | 6.20        | 226.00      | 3818.2    | 147.6    | -107.2    | -101.4    | 0.33             | 147.6      | 223.41      |
| 3889.0   | 5.90        | 224.50      | 3879.8    | 154.1    | -111.8    | -106.1    | 0.55             | 154.1      | 223.49      |
| 3953.0   | 6.90        | 229.60      | 3943.4    | 161.2    | -116.6    | -111.3    | 1.80             | 161.2      | 223.66      |
| 4047.0   | 7.00        | 227.00      | 4036.8    | 172.6    | -124.2    | -119.8    | 0.35             | 172.6      | 223.96      |
| 4142.0   | 7.20        | 225.20      | 4131.0    | 184.3    | -132.3    | -128.2    | 0.31             | 184.3      | 224.10      |
| 4236.0   | 6.90        | 218.70      | 4224.3    | 195.8    | -140.9    | -136.0    | 0.91             | 195.8      | 223.98      |
| 4331.0   | 6.30        | 219.00      | 4318.7    | 206.7    | -149.4    | -142.8    | 0.63             | 206.7      | 223.71      |
| 4427.0   | 6.30        | 219.00      | 4414.1    | 217.2    | -157.6    | -149.4    | 0.00             | 217.2      | 223.48      |

H. 2003



Scientific  
Drilling

Field: North Hobbs  
Site: Lea County, NM  
Well: NHU #30-536  
Wellpath: DH - Job #32D0603317  
Survey: 06/19/03-06/24/03



Azimuths to True North  
Magnetic North: 0.00°

Magnetic Field  
Strength: 0nT  
Dip Angle: 0.00°  
Date: 7/3/2003  
Model: Wmm\_95

