



# SEITENDRUCKVERSUCH

|                    |                      |             |                                |
|--------------------|----------------------|-------------|--------------------------------|
| Projektbezeichnung | : A45, TB Brunsbecke |             |                                |
| Bohrung            | : BK 1               | Formation   | :                              |
| Versuchstiefe      | : 10.00 m            | Gestein     | :                              |
| Datum              | : 13.01.25           | Sondentyp   | : Ettlinger Seitendruck 146 mm |
| Gerätenummer       | : 66/44              | Sondenlänge | : 490 mm                       |
| Messrichtung       | :                    |             |                                |
| Bemerkung          | :                    |             |                                |

| Laststufe | Zeit  | Druck                | Sensor | Sensor | Verformung | Verformung | mittlere   |
|-----------|-------|----------------------|--------|--------|------------|------------|------------|
| A=Anfang  | [Min] |                      | unten  | oben   | unten      | oben       | Verformung |
| E=Ende    |       | [kN/m <sup>2</sup> ] | [mm]   | [mm]   | [mm]       | [mm]       | [mm]       |
| A         | 0     | 98                   | 3.701  | 4.677  | 0.000      | 0.000      | 0.000      |
| E         | 3     | 98                   | 3.815  | 4.881  | 0.114      | 0.204      | 0.159      |
| A         | 3     | 149                  | 4.582  | 5.565  | 0.881      | 0.888      | 0.885      |
| E         | 4     | 149                  | 4.671  | 5.786  | 0.970      | 1.109      | 1.039      |
| A         | 5     | 197                  | 5.089  | 6.706  | 1.388      | 2.029      | 1.708      |
| E         | 6     | 197                  | 5.234  | 7.000  | 1.533      | 2.323      | 1.928      |
| A         | 6     | 250                  | 5.521  | 7.181  | 1.820      | 2.504      | 2.162      |
| E         | 9     | 250                  | 5.772  | 7.323  | 2.071      | 2.646      | 2.358      |
| A         | 10    | 200                  | 5.746  | 7.318  | 2.045      | 2.641      | 2.343      |
| E         | 11    | 200                  | 5.741  | 7.315  | 2.040      | 2.638      | 2.339      |
| A         | 12    | 149                  | 5.739  | 7.313  | 2.038      | 2.636      | 2.337      |
| E         | 13    | 149                  | 5.737  | 7.312  | 2.036      | 2.635      | 2.335      |
| A         | 13    | 100                  | 5.735  | 7.308  | 2.034      | 2.631      | 2.332      |
| E         | 16    | 100                  | 5.730  | 7.301  | 2.029      | 2.624      | 2.326      |
| A         | 16    | 201                  | 5.732  | 7.303  | 2.031      | 2.626      | 2.328      |
| E         | 17    | 201                  | 5.732  | 7.303  | 2.031      | 2.626      | 2.328      |
| A         | 18    | 251                  | 5.766  | 7.309  | 2.065      | 2.632      | 2.349      |
| E         | 19    | 251                  | 5.816  | 7.340  | 2.115      | 2.663      | 2.389      |
| A         | 19    | 298                  | 6.084  | 7.460  | 2.383      | 2.783      | 2.583      |
| E         | 20    | 298                  | 6.260  | 7.587  | 2.559      | 2.910      | 2.734      |
| A         | 21    | 350                  | 6.585  | 7.760  | 2.884      | 3.083      | 2.983      |
| E         | 22    | 350                  | 6.696  | 7.841  | 2.995      | 3.164      | 3.079      |
| A         | 22    | 399                  | 6.957  | 8.004  | 3.256      | 3.327      | 3.291      |
| E         | 25    | 399                  | 7.150  | 8.127  | 3.449      | 3.450      | 3.449      |
| A         | 25    | 299                  | 7.137  | 8.125  | 3.436      | 3.448      | 3.442      |
| E         | 26    | 299                  | 7.137  | 8.125  | 3.436      | 3.448      | 3.442      |
| A         | 27    | 201                  | 7.135  | 8.124  | 3.434      | 3.447      | 3.440      |
| E         | 28    | 201                  | 7.132  | 8.123  | 3.431      | 3.446      | 3.439      |
| A         | 28    | 100                  | 6.963  | 8.119  | 3.262      | 3.442      | 3.352      |
| E         | 31    | 100                  | 6.940  | 8.112  | 3.239      | 3.435      | 3.337      |
| A         | 31    | 199                  | 6.961  | 8.110  | 3.260      | 3.433      | 3.346      |
| E         | 32    | 199                  | 6.969  | 8.113  | 3.268      | 3.436      | 3.352      |
| A         | 33    | 301                  | 7.059  | 8.116  | 3.358      | 3.439      | 3.398      |
| E         | 34    | 301                  | 7.061  | 8.118  | 3.360      | 3.441      | 3.400      |
| A         | 34    | 398                  | 7.290  | 8.161  | 3.589      | 3.484      | 3.536      |
| E         | 35    | 398                  | 7.372  | 8.214  | 3.671      | 3.537      | 3.604      |
| A         | 36    | 500                  | 7.872  | 8.618  | 4.171      | 3.941      | 4.056      |
| E         | 37    | 500                  | 7.987  | 8.726  | 4.286      | 4.049      | 4.167      |
| A         | 37    | 601                  | 8.588  | 9.149  | 4.887      | 4.472      | 4.680      |
| E         | 38    | 601                  | 8.784  | 9.297  | 5.083      | 4.620      | 4.852      |
| A         | 39    | 701                  | 9.221  | 9.581  | 5.520      | 4.904      | 5.212      |
| E         | 42    | 701                  | 9.527  | 9.755  | 5.826      | 5.078      | 5.452      |
| A         | 42    | 499                  | 9.522  | 9.752  | 5.821      | 5.075      | 5.448      |
| E         | 43    | 499                  | 9.513  | 9.746  | 5.812      | 5.069      | 5.441      |



# SEITENDRUCKVERSUCH

|                    |                      |             |                                |
|--------------------|----------------------|-------------|--------------------------------|
| Projektbezeichnung | : A45, TB Brunsbecke |             |                                |
| Bohrung            | : BK 1               | Formation   | :                              |
| Versuchstiefe      | : 10.00 m            | Gestein     | :                              |
| Datum              | : 13.01.25           | Sondentyp   | : Ettlinger Seitendruck 146 mm |
| Gerätenummer       | : 66/44              | Sondenlänge | : 490 mm                       |
| Messrichtung       | :                    |             |                                |
| Bemerkung          | :                    |             |                                |

| Laststufe | Zeit  | Druck                | Sensor | Sensor | Verformung | Verformung | mittlere   |
|-----------|-------|----------------------|--------|--------|------------|------------|------------|
| A=Anfang  | [Min] |                      | unten  | oben   | unten      | oben       | Verformung |
| E=Ende    |       | [kN/m <sup>2</sup> ] | [mm]   | [mm]   | [mm]       | [mm]       | [mm]       |
| A         | 43    | 301                  | 9.487  | 9.742  | 5.786      | 5.065      | 5.425      |
| E         | 44    | 301                  | 9.466  | 9.740  | 5.765      | 5.063      | 5.414      |
| A         | 45    | 201                  | 9.210  | 9.733  | 5.509      | 5.056      | 5.283      |
| E         | 46    | 201                  | 9.208  | 9.733  | 5.507      | 5.056      | 5.281      |
| A         | 46    | 100                  | 8.840  | 9.602  | 5.139      | 4.925      | 5.032      |
| E         | 49    | 100                  | 8.819  | 9.594  | 5.118      | 4.917      | 5.018      |
| A         | 50    | 201                  | 8.852  | 9.594  | 5.151      | 4.917      | 5.034      |
| E         | 51    | 201                  | 8.860  | 9.597  | 5.159      | 4.920      | 5.039      |
| A         | 52    | 401                  | 9.103  | 9.602  | 5.402      | 4.925      | 5.164      |
| E         | 53    | 401                  | 9.106  | 9.602  | 5.405      | 4.925      | 5.165      |
| A         | 53    | 601                  | 9.524  | 9.752  | 5.823      | 5.075      | 5.449      |
| E         | 54    | 601                  | 9.561  | 9.765  | 5.860      | 5.088      | 5.474      |
| A         | 54    | 701                  | 9.765  | 9.869  | 6.064      | 5.192      | 5.628      |
| E         | 55    | 701                  | 9.867  | 9.925  | 6.166      | 5.248      | 5.707      |
| A         | 56    | 801                  | 10.253 | 10.123 | 6.552      | 5.446      | 5.999      |
| E         | 57    | 801                  | 10.330 | 10.159 | 6.629      | 5.482      | 6.056      |
| A         | 57    | 899                  | 10.625 | 10.317 | 6.924      | 5.640      | 6.282      |
| E         | 58    | 899                  | 10.857 | 10.512 | 7.156      | 5.835      | 6.496      |
| A         | 58    | 993                  | 11.108 | 10.661 | 7.407      | 5.984      | 6.695      |
| E         | 59    | 993                  | 11.493 | 10.897 | 7.792      | 6.220      | 7.006      |
| A         | 60    | 1100                 | 11.837 | 11.123 | 8.136      | 6.446      | 7.291      |
| E         | 63    | 1100                 | 12.224 | 11.368 | 8.523      | 6.691      | 7.607      |
| A         | 64    | 901                  | 12.215 | 11.359 | 8.514      | 6.682      | 7.598      |
| E         | 65    | 901                  | 12.210 | 11.358 | 8.509      | 6.681      | 7.595      |
| A         | 66    | 700                  | 12.202 | 11.351 | 8.501      | 6.674      | 7.588      |
| E         | 67    | 700                  | 12.200 | 11.349 | 8.499      | 6.672      | 7.586      |
| A         | 67    | 498                  | 12.142 | 11.344 | 8.441      | 6.667      | 7.554      |
| E         | 68    | 498                  | 12.135 | 11.344 | 8.434      | 6.667      | 7.550      |
| A         | 69    | 299                  | 11.789 | 11.246 | 8.088      | 6.569      | 7.329      |
| E         | 70    | 299                  | 11.738 | 11.203 | 8.037      | 6.526      | 7.281      |
| A         | 70    | 201                  | 11.406 | 11.105 | 7.705      | 6.428      | 7.067      |
| E         | 71    | 201                  | 11.383 | 11.079 | 7.682      | 6.402      | 7.042      |
| A         | 71    | 100                  | 10.907 | 10.899 | 7.206      | 6.222      | 6.714      |
| E         | 74    | 100                  | 10.854 | 10.871 | 7.153      | 6.194      | 6.674      |
| A         | 75    | 201                  | 10.879 | 10.871 | 7.178      | 6.194      | 6.686      |
| E         | 76    | 201                  | 10.892 | 10.872 | 7.191      | 6.195      | 6.693      |
| A         | 77    | 502                  | 11.349 | 10.955 | 7.648      | 6.278      | 6.963      |
| E         | 78    | 502                  | 11.356 | 10.957 | 7.655      | 6.280      | 6.967      |
| A         | 78    | 801                  | 11.956 | 11.215 | 8.255      | 6.538      | 7.397      |
| E         | 79    | 801                  | 11.985 | 11.238 | 8.284      | 6.561      | 7.423      |
| A         | 79    | 1000                 | 12.347 | 11.439 | 8.646      | 6.762      | 7.704      |
| E         | 80    | 1000                 | 12.443 | 11.469 | 8.742      | 6.792      | 7.767      |
| A         | 81    | 1101                 | 12.580 | 11.549 | 8.879      | 6.872      | 7.876      |
| E         | 82    | 1101                 | 12.738 | 11.637 | 9.037      | 6.960      | 7.999      |



# SEITENDRUCKVERSUCH

|                    |                      |             |                                |
|--------------------|----------------------|-------------|--------------------------------|
| Projektbezeichnung | : A45, TB Brunsbecke |             |                                |
| Bohrung            | : BK 1               | Formation   | :                              |
| Versuchstiefe      | : 10.00 m            | Gestein     | :                              |
| Datum              | : 13.01.25           | Sondentyp   | : Ettlinger Seitendruck 146 mm |
| Gerätenummer       | : 66/44              | Sondenlänge | : 490 mm                       |
| Messrichtung       | :                    |             |                                |
| Bemerkung          | :                    |             |                                |

| Laststufe | Zeit  | Druck                | Sensor | Sensor | Verformung | Verformung | mittlere   |
|-----------|-------|----------------------|--------|--------|------------|------------|------------|
| A=Anfang  | [Min] |                      | unten  | oben   | unten      | oben       | Verformung |
| E=Ende    |       | [kN/m <sup>2</sup> ] | [mm]   | [mm]   | [mm]       | [mm]       | [mm]       |
| A         | 82    | 1200                 | 12.896 | 11.759 | 9.195      | 7.082      | 8.139      |
| E         | 83    | 1200                 | 13.143 | 11.881 | 9.442      | 7.204      | 8.323      |
| A         | 83    | 1300                 | 13.381 | 12.029 | 9.680      | 7.352      | 8.516      |
| E         | 84    | 1300                 | 13.794 | 12.213 | 10.093     | 7.536      | 8.814      |
| A         | 85    | 1400                 | 14.299 | 12.444 | 10.598     | 7.767      | 9.182      |
| E         | 88    | 1400                 | 14.897 | 12.801 | 11.196     | 8.124      | 9.660      |
| A         | 88    | 1100                 | 14.881 | 12.795 | 11.180     | 8.118      | 9.649      |
| E         | 89    | 1100                 | 14.871 | 12.791 | 11.170     | 8.114      | 9.642      |
| A         | 89    | 900                  | 14.864 | 12.780 | 11.163     | 8.103      | 9.633      |
| E         | 90    | 900                  | 14.863 | 12.780 | 11.162     | 8.103      | 9.633      |
| A         | 91    | 700                  | 14.820 | 12.774 | 11.119     | 8.097      | 9.608      |
| E         | 92    | 700                  | 14.809 | 12.771 | 11.108     | 8.094      | 9.601      |
| A         | 92    | 501                  | 14.583 | 12.692 | 10.882     | 8.015      | 9.448      |
| E         | 93    | 501                  | 14.566 | 12.680 | 10.865     | 8.003      | 9.434      |
| A         | 94    | 302                  | 14.116 | 12.474 | 10.415     | 7.797      | 9.106      |
| E         | 95    | 302                  | 14.086 | 12.464 | 10.385     | 7.787      | 9.086      |
| A         | 95    | 101                  | 13.150 | 12.086 | 9.449      | 7.409      | 8.429      |
| E         | 98    | 101                  | 13.072 | 12.045 | 9.371      | 7.368      | 8.370      |



# SEITENDRUCKVERSUCH

|                    |                      |             |                                |
|--------------------|----------------------|-------------|--------------------------------|
| Projektbezeichnung | : A45, TB Brunsbecke |             |                                |
| Bohrung            | : BK 1               | Formation   | :                              |
| Versuchstiefe      | : 10.00 m            | Gestein     | :                              |
| Datum              | : 13.01.25           | Sondentyp   | : Ettlinger Seitendruck 146 mm |
| Gerätenummer       | : 66/44              | Sondenlänge | : 490 mm                       |
| Messrichtung       | :                    |             |                                |
| Bemerkung          | :                    |             |                                |

## MODULI aus der unteren Verformung :

|               | Lastbereich<br>[kN/m <sup>2</sup> ] | Verschiebung<br>[mm] | Ermittelte Moduli bei unterschiedlichen Poissonzahlen |                                    |                                   |                                   |                                   |                                   |
|---------------|-------------------------------------|----------------------|-------------------------------------------------------|------------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
|               |                                     |                      | Steifemodul in Klammern                               |                                    |                                   |                                   |                                   |                                   |
|               |                                     |                      | $\nu=0,25$<br>[MN/m <sup>2</sup> ]                    | $\nu=0,25$<br>[MN/m <sup>2</sup> ] | $\nu=0,3$<br>[MN/m <sup>2</sup> ] | $\nu=0,3$<br>[MN/m <sup>2</sup> ] | $\nu=0,4$<br>[MN/m <sup>2</sup> ] | $\nu=0,4$<br>[MN/m <sup>2</sup> ] |
| Belastung     | 98 - 250                            | 1.957                | 10.9                                                  |                                    | 10.7                              |                                   | 10.2                              |                                   |
| Entlastung    | 205 - 145                           | -0.008               | 1090.9                                                | (1309.1)                           | 1078.4                            | (1451.7)                          | 1020.5                            | (2186.8)                          |
| Belastung     | 100 - 399                           | 1.420                | 29.5                                                  |                                    | 29.2                              |                                   | 27.6                              |                                   |
| Entlastung    | 310 - 190                           | -0.027               | 620.2                                                 | (744.2)                            | 613.1                             | (825.3)                           | 580.1                             | (1243.1)                          |
| Belastung     | 100 - 701                           | 2.587                | 32.5                                                  |                                    | 32.1                              |                                   | 30.4                              |                                   |
| Entlastung    | 520 - 280                           | -0.103               | 326.2                                                 | (391.5)                            | 322.5                             | (434.1)                           | 305.2                             | (653.9)                           |
| Belastung     | 100 - 1100                          | 3.405                | 41.2                                                  |                                    | 40.7                              |                                   | 38.5                              |                                   |
| Entlastung    | 800 - 400                           | -0.267               | 210.2                                                 | (252.3)                            | 207.8                             | (279.8)                           | 196.7                             | (421.4)                           |
| Belastung     | 100 - 1400                          | 4.043                | 45.1                                                  |                                    | 44.6                              |                                   | 42.2                              |                                   |
| Entlastung    | 1010 - 491                          | -0.327               | 222.6                                                 | (267.1)                            | 220.1                             | (296.2)                           | 208.2                             | (446.2)                           |
| Erstbelastung | 98 - 250                            | 1.957                | 10.9                                                  |                                    | 10.7                              |                                   | 10.2                              |                                   |
| Erstbelastung | 251 - 399                           | 1.334                | 15.7                                                  |                                    | 15.5                              |                                   | 14.6                              |                                   |
| Erstbelastung | 398 - 701                           | 2.155                | 19.7                                                  |                                    | 19.5                              |                                   | 18.4                              |                                   |
| Erstbelastung | 701 - 1100                          | 2.357                | 23.7                                                  |                                    | 23.4                              |                                   | 22.1                              |                                   |
| Erstbelastung | 1101 - 1400                         | 2.159                | 19.4                                                  |                                    | 19.2                              |                                   | 18.2                              |                                   |
| Wiederbelast. | 100 - 251                           | 0.086                | 244.9                                                 |                                    | 242.1                             |                                   | 229.1                             |                                   |
| Wiederbelast. | 100 - 398                           | 0.432                | 96.5                                                  |                                    | 95.4                              |                                   | 90.3                              |                                   |
| Wiederbelast. | 100 - 701                           | 1.048                | 80.5                                                  |                                    | 79.6                              |                                   | 75.3                              |                                   |
| Wiederbelast. | 100 - 1101                          | 1.884                | 74.5                                                  |                                    | 73.6                              |                                   | 69.6                              |                                   |

## MODULI aus der oberen Verformung :

|               |             |        |        |          |        |          |        |          |
|---------------|-------------|--------|--------|----------|--------|----------|--------|----------|
| Belastung     | 98 - 250    | 2.442  | 8.7    |          | 8.6    |          | 8.1    |          |
| Entlastung    | 205 - 145   | -0.005 | 1795.8 | (2155.0) | 1775.2 | (2389.7) | 1679.8 | (3599.7) |
| Belastung     | 100 - 399   | 0.826  | 50.8   |          | 50.2   |          | 47.5   |          |
| Entlastung    | 310 - 190   | -0.003 | 4934.7 | (5921.6) | 4878.1 | (6566.7) | 4616   | (9891.4) |
| Belastung     | 100 - 701   | 1.643  | 51.2   |          | 50.6   |          | 47.9   |          |
| Entlastung    | 520 - 280   | -0.008 | 3990.6 | (4788.7) | 3944.8 | (5310.4) | 3732.9 | (7999.0) |
| Belastung     | 100 - 1100  | 1.774  | 79.0   |          | 78.1   |          | 73.9   |          |
| Entlastung    | 800 - 400   | -0.079 | 706.9  | (848.3)  | 698.8  | (940.7)  | 661.2  | (1416.9) |
| Belastung     | 100 - 1400  | 1.930  | 94.4   |          | 93.3   |          | 88.3   |          |
| Entlastung    | 1010 - 491  | -0.118 | 619.1  | (742.9)  | 612.0  | (823.8)  | 579.1  | (1240.9) |
| Erstbelastung | 98 - 250    | 2.442  | 8.7    |          | 8.6    |          | 8.1    |          |
| Erstbelastung | 251 - 399   | 0.787  | 26.5   |          | 26.2   |          | 24.8   |          |
| Erstbelastung | 398 - 701   | 1.541  | 27.5   |          | 27.2   |          | 25.8   |          |
| Erstbelastung | 701 - 1100  | 1.443  | 38.7   |          | 38.2   |          | 36.2   |          |
| Erstbelastung | 1101 - 1400 | 1.164  | 36.0   |          | 35.6   |          | 33.7   |          |
| Wiederbelast. | 100 - 251   | 0.039  | 540.0  |          | 533.8  |          | 505.1  |          |
| Wiederbelast. | 100 - 398   | 0.102  | 408.8  |          | 404.1  |          | 382.4  |          |
| Wiederbelast. | 100 - 701   | 0.331  | 254.8  |          | 251.9  |          | 238.4  |          |
| Wiederbelast. | 100 - 1101  | 0.766  | 183.1  |          | 181.0  |          | 171.3  |          |



# SEITENDRUCKVERSUCH

|                    |                      |             |                                |
|--------------------|----------------------|-------------|--------------------------------|
| Projektbezeichnung | : A45, TB Brunsbecke | Formation   | :                              |
| Bohrung            | : BK 1               | Gestein     | :                              |
| Versuchstiefe      | : 10.00 m            | Sondentyp   | : Ettlinger Seitendruck 146 mm |
| Datum              | : 13.01.25           | Sondenlänge | : 490 mm                       |
| Gerätenummer       | : 66/44              |             |                                |
| Messrichtung       | :                    |             |                                |
| Bemerkung          | :                    |             |                                |

## MODULI aus der mittleren Verformung :

|               | Lastbereich<br>[kN/m <sup>2</sup> ] | Verschiebung<br>[mm] | Ermittelte Moduli bei unterschiedlichen Poissonzahlen |                                |                               |                               |                               |                               |
|---------------|-------------------------------------|----------------------|-------------------------------------------------------|--------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
|               |                                     |                      | Steifemodul in Klammern                               |                                |                               |                               |                               |                               |
|               |                                     |                      | v=0,25<br>[MN/m <sup>2</sup> ]                        | v=0,25<br>[MN/m <sup>2</sup> ] | v=0,3<br>[MN/m <sup>2</sup> ] | v=0,3<br>[MN/m <sup>2</sup> ] | v=0,4<br>[MN/m <sup>2</sup> ] | v=0,4<br>[MN/m <sup>2</sup> ] |
| Belastung     | 98 - 250                            | 2.200                | 9.7                                                   |                                | 9.6                           |                               | 9.0                           |                               |
| Entlastung    | 205 - 145                           | -0.006               | 1357.3                                                | (1628.8)                       | 1341.8                        | (1806.2)                      | 1269.7                        | (2720.7)                      |
| Belastung     | 100 - 399                           | 1.123                | 37.3                                                  |                                | 36.9                          |                               | 34.9                          |                               |
| Entlastung    | 310 - 190                           | -0.015               | 1101.9                                                | (1322.2)                       | 1089.2                        | (1466.3)                      | 1030.7                        | (2208.6)                      |
| Belastung     | 100 - 701                           | 2.115                | 39.8                                                  |                                | 39.3                          |                               | 37.2                          |                               |
| Entlastung    | 520 - 280                           | -0.056               | 603.2                                                 | (723.8)                        | 596.3                         | (802.7)                       | 564.2                         | (1209.0)                      |
| Belastung     | 100 - 1100                          | 2.590                | 54.1                                                  |                                | 53.5                          |                               | 50.6                          |                               |
| Entlastung    | 800 - 400                           | -0.173               | 324.1                                                 | (388.9)                        | 320.4                         | (431.3)                       | 303.2                         | (649.6)                       |
| Belastung     | 100 - 1400                          | 2.986                | 61.0                                                  |                                | 60.3                          |                               | 57.1                          |                               |
| Entlastung    | 1010 - 491                          | -0.222               | 327.5                                                 | (393.0)                        | 323.7                         | (435.8)                       | 306.3                         | (656.4)                       |
| Erstbelastung | 98 - 250                            | 2.200                | 9.7                                                   |                                | 9.6                           |                               | 9.0                           |                               |
| Erstbelastung | 251 - 399                           | 1.060                | 19.7                                                  |                                | 19.5                          |                               | 18.4                          |                               |
| Erstbelastung | 398 - 701                           | 1.848                | 23.0                                                  |                                | 22.7                          |                               | 21.5                          |                               |
| Erstbelastung | 701 - 1100                          | 1.900                | 29.4                                                  |                                | 29.0                          |                               | 27.5                          |                               |
| Erstbelastung | 1101 - 1400                         | 1.662                | 25.2                                                  |                                | 25.0                          |                               | 23.6                          |                               |
| Wiederbelast. | 100 - 251                           | 0.063                | 336.9                                                 |                                | 333.1                         |                               | 315.2                         |                               |
| Wiederbelast. | 100 - 398                           | 0.267                | 156.2                                                 |                                | 154.4                         |                               | 146.1                         |                               |
| Wiederbelast. | 100 - 701                           | 0.690                | 122.3                                                 |                                | 120.9                         |                               | 114.4                         |                               |
| Wiederbelast. | 100 - 1101                          | 1.325                | 105.9                                                 |                                | 104.6                         |                               | 99.0                          |                               |

## FORMELN :

Gleichung für die Modulberechnung:

$$E = f \times d \times \frac{\Delta p}{\Delta d}$$

f (für Poissonzahl 0,25)= 0.960

f (für Poissonzahl 0,30)= 0.949

f (für Poissonzahl 0,40)= 0.898

d = 146 mm Anfangsdurchmesser der Versuchsbohrung

delta p = Änderung der Bodenpressung

delta v = Änderung des Durchmessers

Modulberechnungen nach DIN 22476-7



# SEITENDRUCKVERSUCH

|                    |                      |             |                                |
|--------------------|----------------------|-------------|--------------------------------|
| Projektbezeichnung | : A45, TB Brunsbecke | Formation   | :                              |
| Bohrung            | : BK 1               | Gestein     | :                              |
| Versuchstiefe      | : 10.00 m            | Sondentyp   | : Ettlinger Seitendruck 146 mm |
| Datum              | : 13.01.25           | Sondenlänge | : 490 mm                       |
| Gerätenummer       | : 66/44              |             |                                |
| Messrichtung       | :                    |             |                                |
| Bemerkung          | :                    |             |                                |

