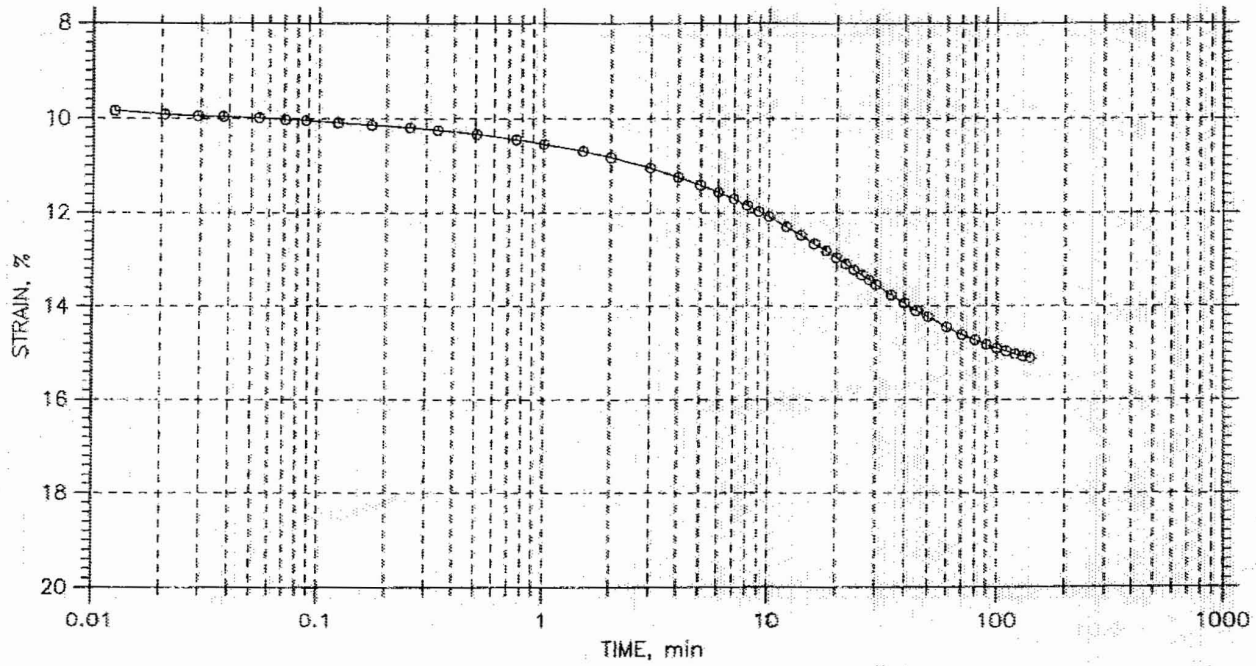
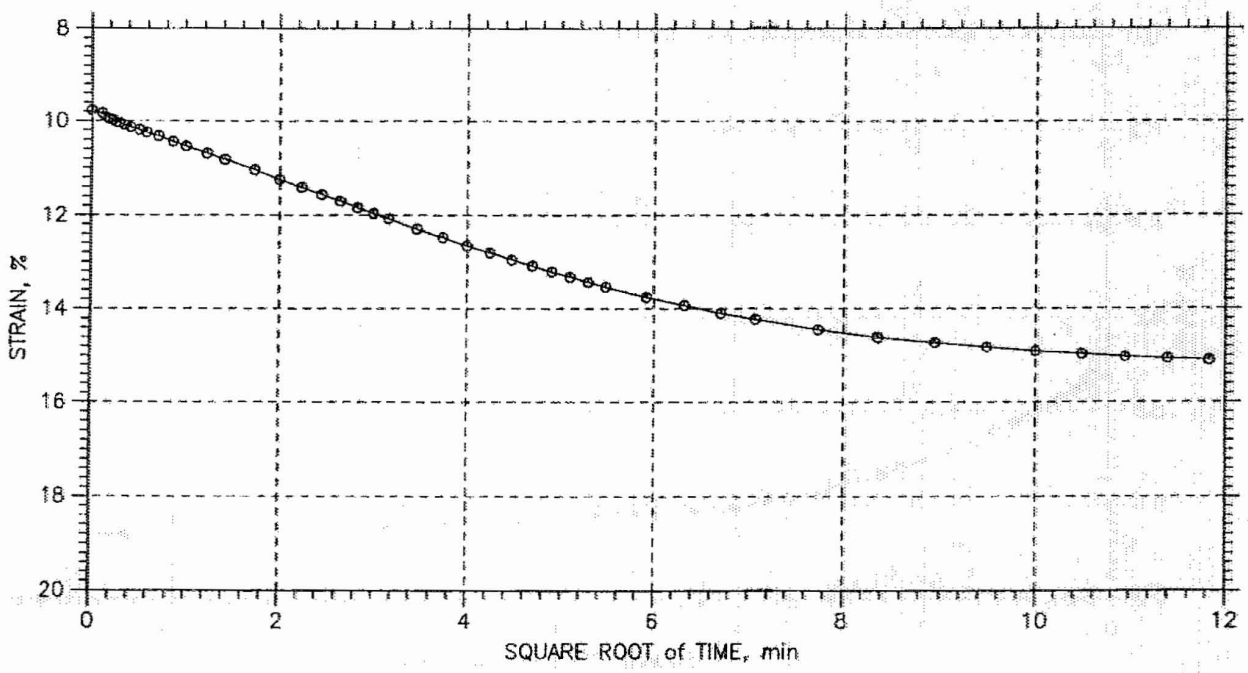
# CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 10 of 14

Stress: 16. tsf



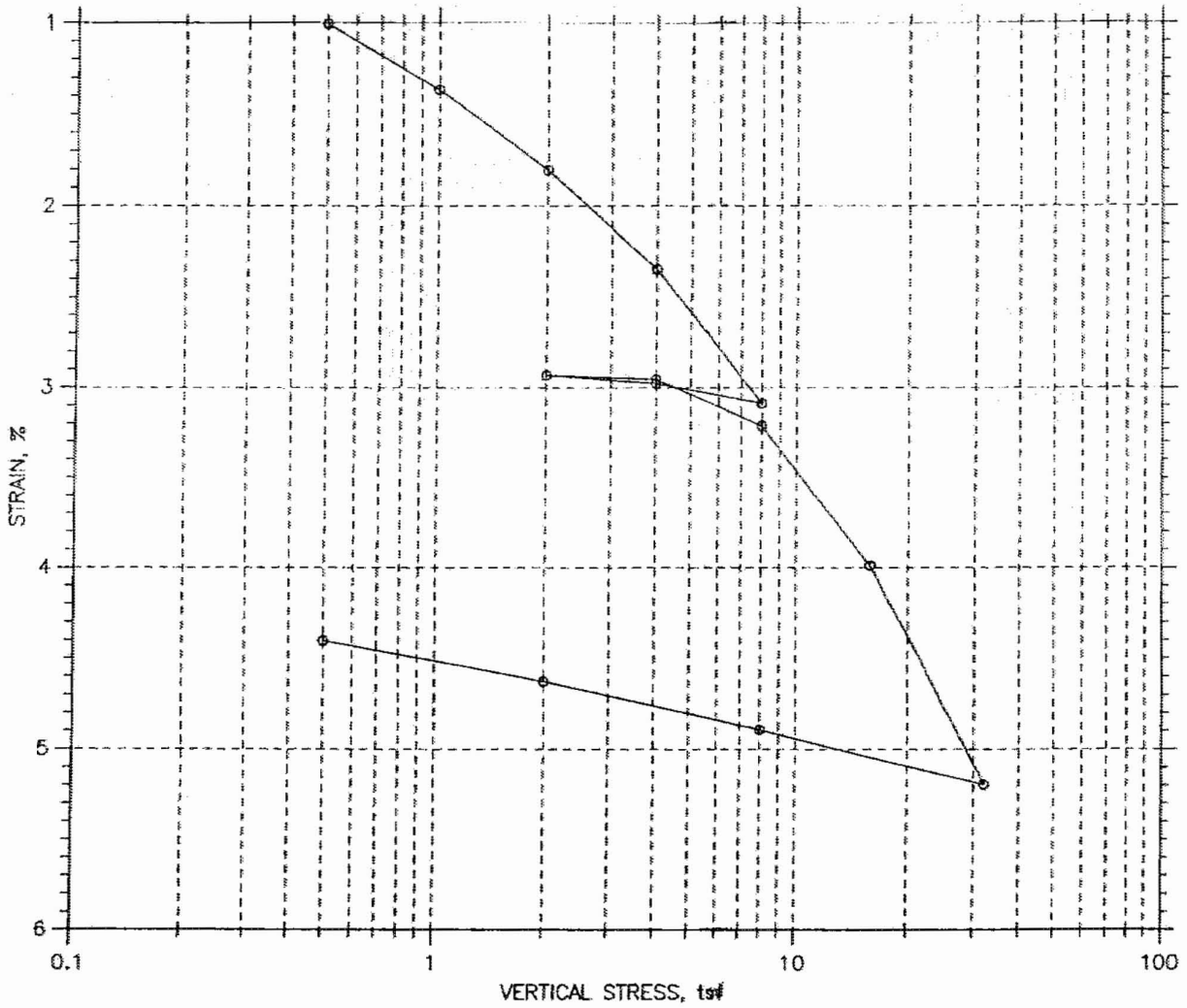




| | | | |
|---|---|---|---|
| GeoTesting express<br>a subsidiary of Geocomp Corporation | Project: Calvert Cliffs Nuclear PP | Location: Calvert County, MD | Project No.: GTX-6880 |
| | Boring No.: B-737 | Tested By: md | Checked By: jdt |
| | Sample No.: UD-1 | Test Date: 09/16/06 | Depth: 10.5-12.5ft |
| | Test No.: C-15 | Sample Type: tube | Elevation: --- |
| | Description: Moist, very pale brown clay (CH), 93% passing #200 sieve, inundated @ 0.5 tsf | | |
| | Remarks: System R - Compression Ratio: 0.20, Recompression Ratio: 0.03 | | |

Tue, 14-NOV-2006 19:01:13

# CONSOLIDATION TEST DATA

SUMMARY REPORT




| | | | | | Before Test | After Test |
|---|---|---|---|---|---|---|
| Overburden Pressure: --- | | | | Water Content, % | 29.81 | 26.37 |
| Preconsolidation Pressure: 8 tsf | | | | Dry Unit Weight, pcf | 93.51 | 97.82 |
| Compression Index: --- | | | | Saturation, % | 101.72 | 100.00 |
| Diameter: 2.5 in | | Height: 1 in | | Void Ratio | 0.78 | 0.70 |
| LL: 26 | PL: 22 | PI: 4 | GS: 2.67 | | | |

| | | | |
|---|---|---|---|
| GeoTesting express a subsidiary of Geocomp Corporation | Project: Calvert Cliffs Nuclear PP | Location: Calvert County, MD | Project No.: GTX-6880 |
| | Boring No.: B-738 | Tested By: md | Checked By: jdt |
| | Sample No.: UD-1 | Test Date: 09/16/06 | Depth: 35-37 |
| | Test No.: C-16 | Sample Type: tube | Elevation: --- |
| | Description: Moist, dark olive gray silty, clayey sand (SC-SM), 25%passing#200 sieve,inundated@0.5tsf | | |
| | Remarks: System C - Compression Ratio: 0.04, Recompression Ratio: <0.01 | | |

Tue, 14-NOV-2006 19:08:21

# CONSOLIDATION TEST DATA

| | | |
|---|---|---|
| Project: Calvert Cliffs Nuclear PP | Location: Calvert County, MD | Project No.: GTX-6880 |
| Boring No.: B-738 | Tested By: md | Checked By: jdt |
| Sample No.: UD-1 | Test Date: 09/16/06 | Depth: 35-37 |
| Test No.: C-16 | Sample Type: tube | Elevation: --- |

Soil Description: Moist, dark olive gray silty, clayey sand (SC-SM), 25%passing#200 sieve,inundated@0.5tsf
Remarks: System C - Compression Ratio: 0.04, Recompression Ratio: <0.01

| | | |
|---|---|---|
| Measured Specific Gravity: 2.67 | Liquid Limit: 26 | Initial Height: 1.00 in |
| Initial Void Ratio: 0.78 | Plastic Limit: 22 | Specimen Diameter: 2.50 in |
| Final Void Ratio: 0.70 | Plasticity Index: 4 | |

| | Before Consolidation | | After Consolidation | |
|---|---|---|---|---|
| | Trimmings | Specimen+Ring | Specimen+Ring | Trimmings |
| Container ID | 1834 | RING | | 1459 |
| Wt. Container + Wet Soil, gm | 149.21 | 373.29 | 369.14 | 162.62 |
| Wt. Container + Dry Soil, gm | 119.77 | 337.37 | 337.37 | 130.43 |
| Wt. Container, gm | 8.34 | 216.88 | 216.88 | 8.35 |
| Wt. Dry Soil, gm | 111.43 | 120.49 | 120.49 | 122.08 |
| Water Content, % | 26.42 | 29.81 | 26.37 | 26.37 |
| Void Ratio | --- | 0.78 | 0.70 | --- |
| Degree of Saturation, % | --- | 101.72 | 100.00 | --- |
| Dry Unit Weight, pcf | --- | 93.51 | 97.816 | --- |

# CONSOLIDATION TEST DATA

Project: Calvert Cliffs Nuclear PP
Boring No.: B-738
Sample No.: UD-1
Test No.: C-16

Location: Calvert County, MD
Tested By: md
Test Date: 09/16/06
Sample Type: tube

Project No.: GTX-6880
Checked By: jdt
Depth: 35-37
Elevation: ---

Soil Description: Moist, dark olive gray silty, clayey sand (SC-SM), 25%passing#200 sieve,inundated@0.5tsf
Remarks: System C - Compression Ratio: 0.04, Recompression Ratio: <0.01

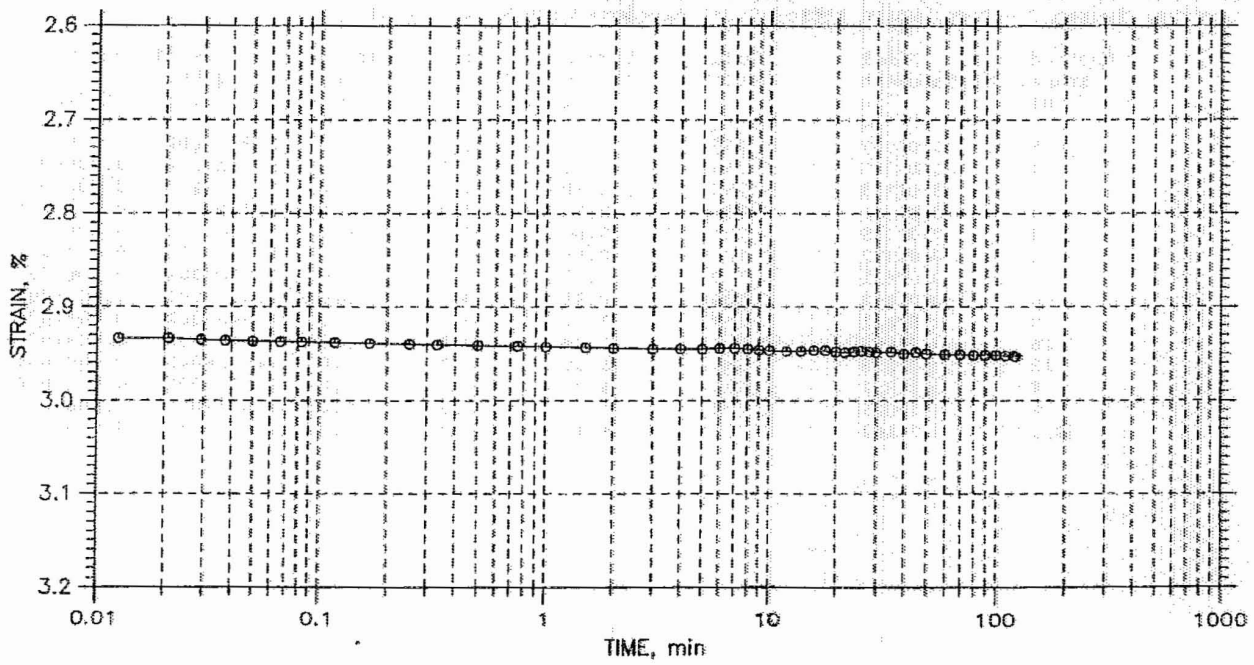
| | Applied Stress tsf | Final Displacement in | Void Ratio | Strain at End % | T50 Fitting Sq.Rt. min | T50 Fitting Log min | Coefficient of Consolidation Sq.Rt. in^2/sec | Coefficient of Consolidation Log in^2/sec | Coefficient of Consolidation Ave. in^2/sec |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.5 | 0.01007 | 0.765 | 1.01 | 0.0 | 0.0 | 2.90e-002 | 0.00e+000 | 2.90e-002 |
| 2 | 1 | 0.01367 | 0.758 | 1.37 | 0.0 | 0.0 | 5.14e-002 | 3.70e-002 | 4.31e-002 |
| 3 | 2 | 0.01803 | 0.750 | 1.80 | 0.0 | 0.0 | 7.25e-002 | 0.00e+000 | 7.25e-002 |
| 4 | 4 | 0.02345 | 0.741 | 2.34 | 0.0 | 0.0 | 9.17e-002 | 0.00e+000 | 9.17e-002 |
| 5 | 8 | 0.03088 | 0.727 | 3.09 | 0.0 | 0.0 | 1.30e-001 | 0.00e+000 | 1.30e-001 |
| 6 | 4 | 0.02977 | 0.729 | 2.98 | 0.0 | 0.0 | 1.37e-001 | 0.00e+000 | 1.37e-001 |
| 7 | 2 | 0.02931 | 0.730 | 2.93 | 0.0 | 0.0 | 1.36e-001 | 0.00e+000 | 1.36e-001 |
| 8 | 4 | 0.02953 | 0.730 | 2.95 | 0.0 | 0.0 | 1.34e-001 | 0.00e+000 | 1.34e-001 |
| 9 | 8 | 0.03211 | 0.725 | 3.21 | 0.0 | 0.0 | 1.34e-001 | 0.00e+000 | 1.34e-001 |
| 10 | 16 | 0.03987 | 0.711 | 3.99 | 0.0 | 0.0 | 1.14e-001 | 0.00e+000 | 1.14e-001 |
| 11 | 32 | 0.05195 | 0.690 | 5.19 | 0.0 | 0.0 | 1.36e-001 | 0.00e+000 | 1.36e-001 |
| 12 | 8 | 0.04892 | 0.695 | 4.89 | 0.0 | 0.0 | 1.17e-001 | 0.00e+000 | 1.17e-001 |
| 13 | 2 | 0.04626 | 0.700 | 4.63 | 0.0 | 0.0 | 1.51e-001 | 0.00e+000 | 1.51e-001 |
| 14 | 0.5 | 0.04402 | 0.704 | 4.40 | 0.0 | 0.0 | 9.65e-002 | 0.00e+000 | 9.65e-002 |

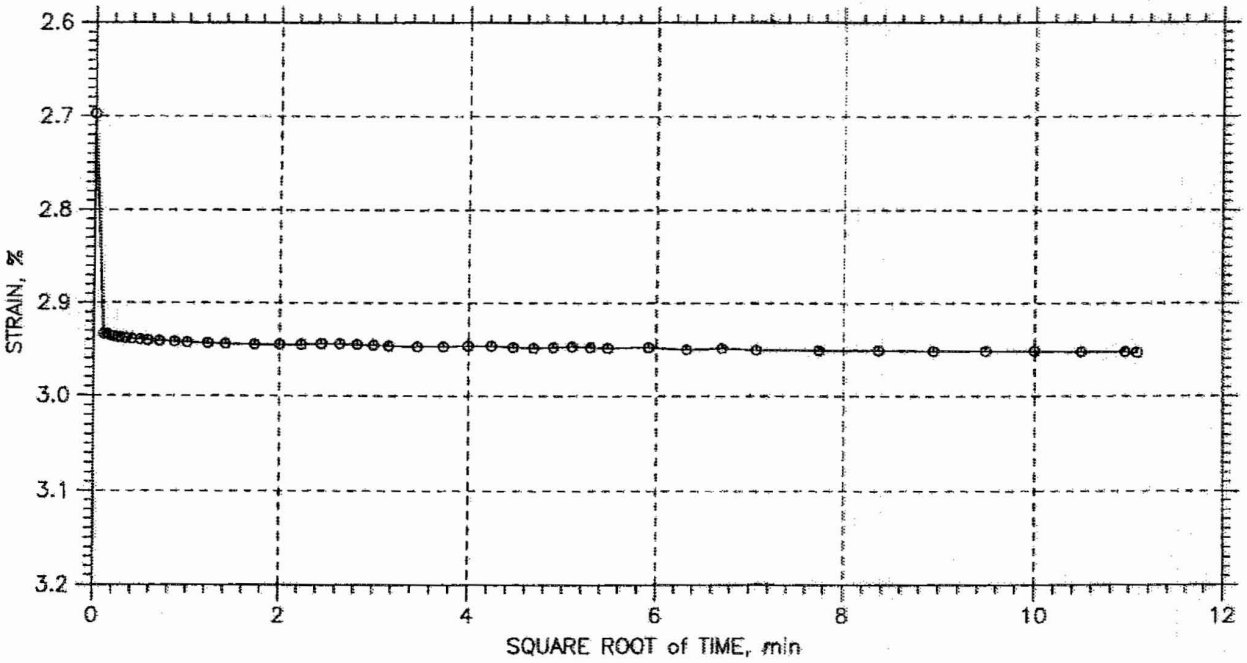
# CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 8 of 14

Stress: 4. tsf




| | | | |
|---|---|---|---|
| GeoTesting express<br>a subsidiary of Geocomp Corporation | Project: Calvert Cliffs Nuclear PP | Location: Calvert County, MD | Project No.: GTX-6880 |
| | Boring No.: B-738 | Tested By: md | Checked By: jdt |
| | Sample No.: UD-1 | Test Date: 09/16/06 | Depth: 35-37 |
| | Test No.: C-16 | Sample Type: tube | Elevation: --- |
| | Description: Moist, dark olive gray silty, clayey sand (SC-SM), 25%passing#200 sieve,inundated@0.5tsf | | |
| | Remarks: System C - Compression Ratio: 0.04, Recompression Ratio: <0.01 | | |

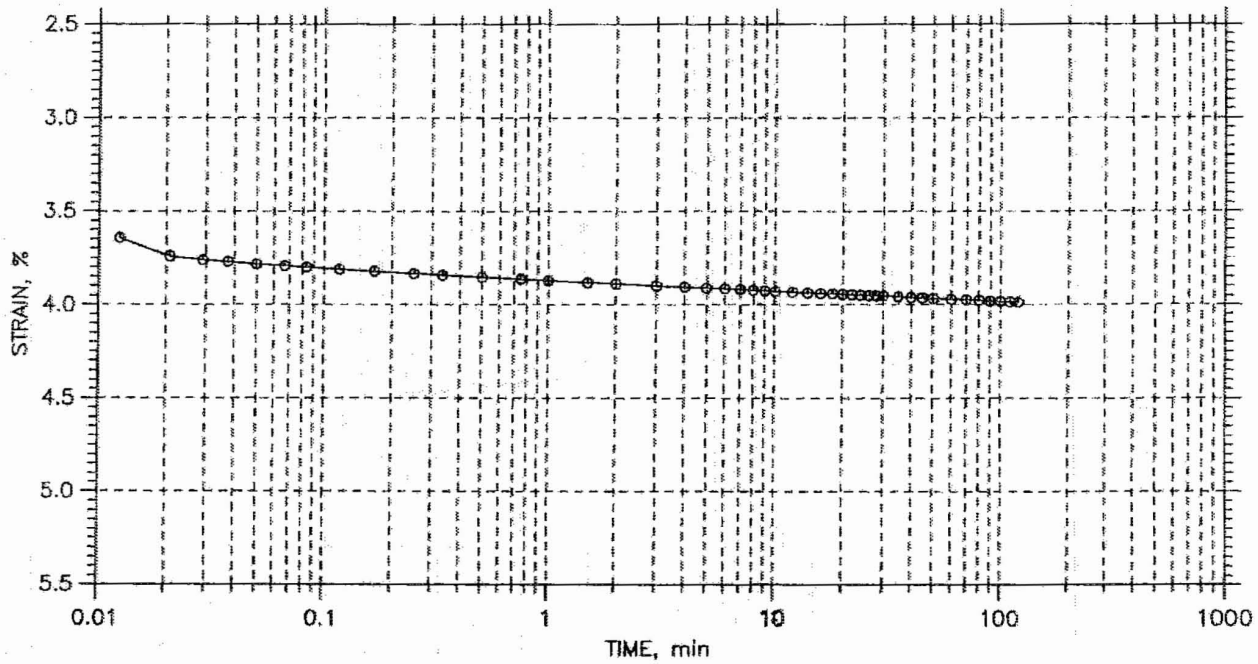
Tue, 14-NOV-2006 19:08:40

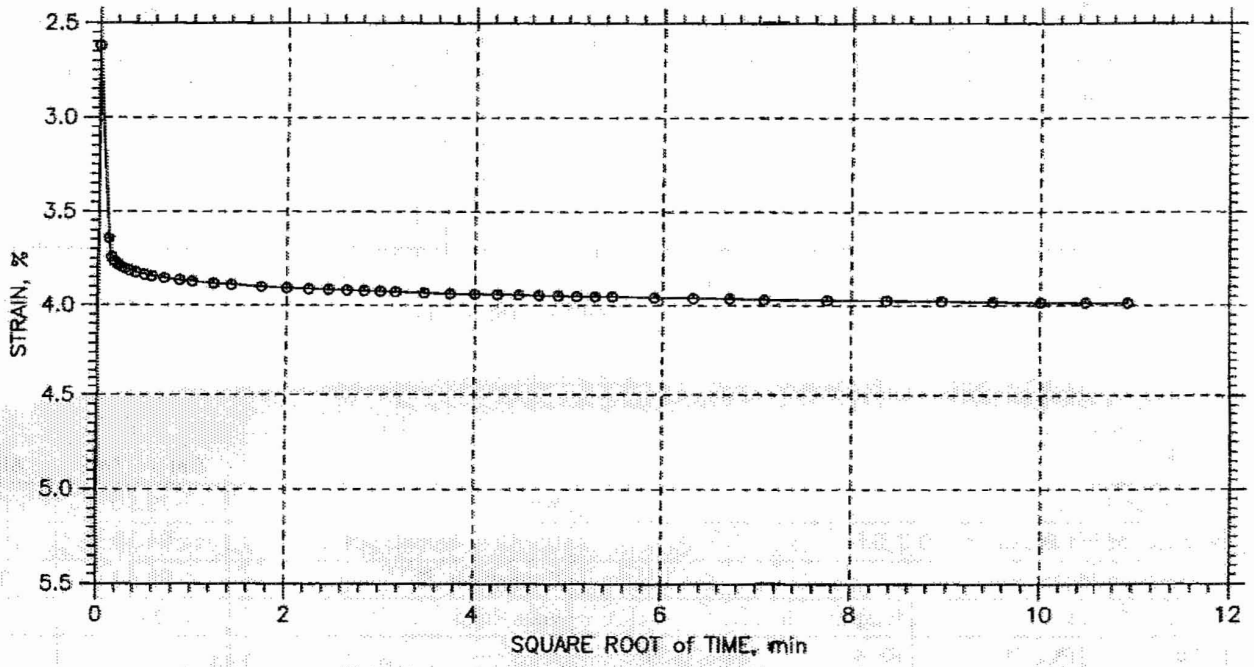
# CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 10 of 14

Stress: 16. tsf



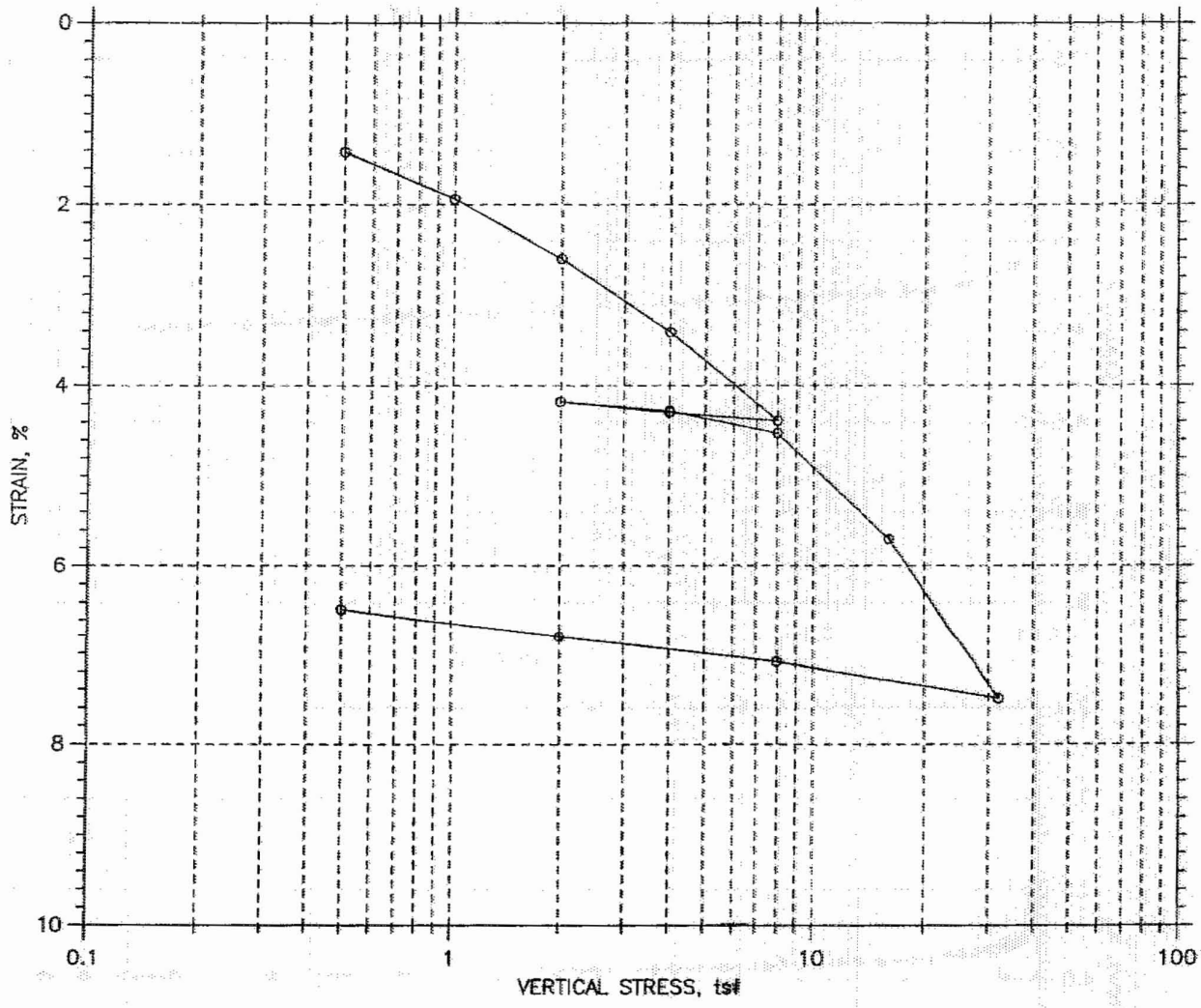




| | | | |
|---|---|---|---|
| GeoTesting express<br>a subsidiary of Geocomp Corporation | Project: Calvert Cliffs Nuclear PP | Location: Calvert County, MD | Project No.: GTX-6880 |
| | Boring No.: B-738 | Tested By: md | Checked By: jdt |
| | Sample No.: UD-1 | Test Date: 09/16/06 | Depth: 35-37 |
| | Test No.: C-16 | Sample Type: tube | Elevation: --- |
| | Description: Moist, dark olive gray silty, clayey sand (SC-SM), 25%passing#200 sieve,inundated@0.5tsf | | |
| | Remarks: System C - Compression Ratio: 0.04, Recompression Ratio: <0.01 | | |

Tue, 14-NOV-2006 19:08:52

# CONSOLIDATION TEST DATA

SUMMARY REPORT




| | | | | | Before Test | After Test |
|---|---|---|---|---|---|---|
| Overburden Pressure: --- | | | | Water Content, % | 29.90 | 25.78 |
| Preconsolidation Pressure: 10.8 tsf | | | | Dry Unit Weight, pcf | 94.15 | 100.7 |
| Compression Index: --- | | | | Saturation, % | 99.43 | 100.00 |
| Diameter: 2.5 in | | Height: 1 in | | Void Ratio | 0.83 | 0.71 |
| LL: 25 | PL: 21 | PI: 4 | GS: 2.76 | | | |

| | | | |
|---|---|---|---|
| GeoTesting express<br>a subsidiary of Geocomp Corporation | Project: Calvert Cliffs Nuclear PP | Location: Calvert County, MD | Project No.: GTX-6880 |
| | Boring No.: B-746 | Tested By: md | Checked By: jdt |
| | Sample No.: S-6 | Test Date: 11/04/06 | Depth: 13.5-15.5 |
| | Test No.: C-53 | Sample Type: tube | Elevation: --- |
| | Description: Moist,dark olive gray silty,clayey sand (SC-SM),29% passing#200 sieve,inundated@0.5tsf | | |
| | Remarks: System G - Compression Ratio: .06, Recompression Ratio: 0.01 | | |

Wed, 15-NOV-2006 12:45:35

# CONSOLIDATION TEST DATA

| | | |
|---|---|---|
| Project: Calvert Cliffs Nuclear PP | Location: Calvert County, MD | Project No.: GTX-6880 |
| Boring No.: B-746 | Tested By: md | Checked By: jdt |
| Sample No.: S-6 | Test Date: 11/04/06 | Depth: 13.5-15.5 |
| Test No.: C-53 | Sample Type: tube | Elevation: --- |

Soil Description: Moist,dark olive gray silty,clayey sand (SC-SM),29% passing#200 sieve,inundated@0.5tsf
Remarks: System G - Compression Ratio: .06, Recompression Ratio: 0.01

| | | |
|---|---|---|
| Measured Specific Gravity: 2.76 | Liquid Limit: 25 | Initial Height: 1.00 in |
| Initial Void Ratio: 0.83 | Plastic Limit: 21 | Specimen Diameter: 2.50 in |
| Final Void Ratio: 0.71 | Plasticity Index: 4 | |

| | Before Consolidation | | After Consolidation | |
|---|---|---|---|---|
| | Trimmings | Specimen+Ring | Specimen+Ring | Trimmings |
| Container ID | 322B | RING | | i-shear |
| Wt. Container + Wet Soil, gm | 187.67 | 374.08 | 369.08 | 162.03 |
| Wt. Container + Dry Soil, gm | 148.33 | 337.8 | 337.8 | 130.61 |
| Wt. Container, gm | 8.27 | 216.49 | 216.49 | 8.74 |
| Wt. Dry Soil, gm | 140.06 | 121.31 | 121.31 | 121.87 |
| Water Content, % | 28.09 | 29.90 | 25.78 | 25.78 |
| Void Ratio | --- | 0.83 | 0.71 | --- |
| Degree of Saturation, % | --- | 99.43 | 100.00 | --- |
| Dry Unit Weight, pcf | --- | 94.149 | 100.67 | --- |

# CONSOLIDATION TEST DATA

Project: Calvert Cliffs Nuclear PP
Boring No.: B-746
Sample No.: S-6
Test No.: C-53

Location: Calvert County, MD
Tested By: md
Test Date: 11/04/06
Sample Type: tube

Project No.: GTX-6880
Checked By: jdt
Depth: 13.5-15.5
Elevation: ---

Soil Description: Moist,dark olive gray silty,clayey sand (SC-SM),29% passing#200 sieve,inundated@0.5tsf
Remarks: System G - Compression Ratio: .06, Recompression Ratio: 0.01

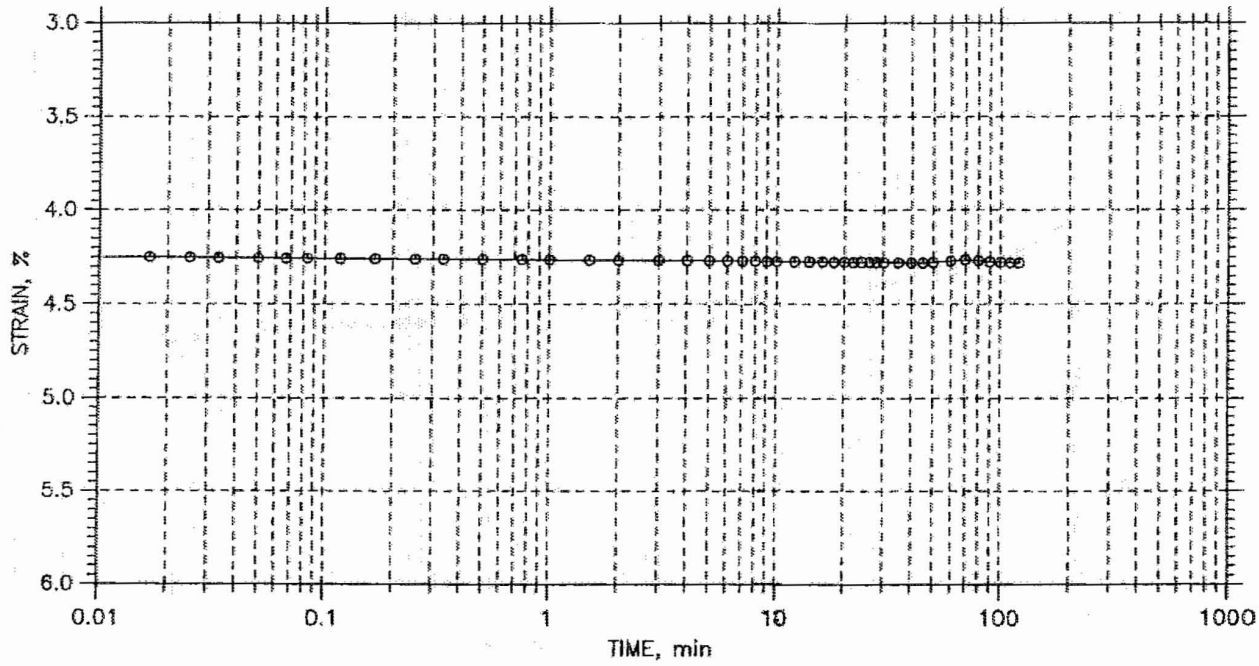
| | Applied Stress tsf | Final Displacement in | Void Ratio | Strain at End % | T50 Fitting Sq.Rt. min | T50 Fitting Log min | Coefficient of Consolidation Sq.Rt. in^2/sec | Coefficient of Consolidation Log in^2/sec | Coefficient of Consolidation Ave. in^2/sec |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.5 | 0.01418 | 0.804 | 1.42 | 0.0 | 0.0 | 2.80e-002 | 0.00e+000 | 2.80e-002 |
| 2 | 1 | 0.01938 | 0.795 | 1.94 | 0.0 | 0.0 | 2.44e-002 | 3.02e-002 | 2.70e-002 |
| 3 | 2 | 0.02598 | 0.783 | 2.60 | 0.0 | 0.0 | 5.13e-002 | 4.11e-002 | 4.57e-002 |
| 4 | 4 | 0.03407 | 0.768 | 3.41 | 0.0 | 0.0 | 6.66e-002 | 5.68e-002 | 6.13e-002 |
| 5 | 8 | 0.04386 | 0.750 | 4.39 | 0.0 | 0.0 | 6.86e-002 | 0.00e+000 | 6.86e-002 |
| 6 | 4 | 0.04298 | 0.751 | 4.30 | 0.0 | 0.0 | 1.50e-001 | 0.00e+000 | 1.50e-001 |
| 7 | 2 | 0.04179 | 0.754 | 4.18 | 0.0 | 0.0 | 1.18e-001 | 0.00e+000 | 1.18e-001 |
| 8 | 4 | 0.04279 | 0.752 | 4.28 | 0.0 | 0.0 | 1.75e-001 | 0.00e+000 | 1.75e-001 |
| 9 | 8 | 0.04526 | 0.747 | 4.53 | 0.0 | 0.0 | 1.32e-001 | 0.00e+000 | 1.32e-001 |
| 10 | 16 | 0.05702 | 0.726 | 5.70 | 0.0 | 0.0 | 8.37e-002 | 0.00e+000 | 8.37e-002 |
| 11 | 32 | 0.07495 | 0.693 | 7.49 | 0.0 | 0.0 | 6.90e-002 | 0.00e+000 | 6.90e-002 |
| 12 | 8 | 0.07088 | 0.700 | 7.09 | 0.0 | 0.0 | 1.20e-001 | 0.00e+000 | 1.20e-001 |
| 13 | 2 | 0.06804 | 0.706 | 6.80 | 0.0 | 0.0 | 1.43e-001 | 0.00e+000 | 1.43e-001 |
| 14 | 0.5 | 0.06474 | 0.712 | 6.47 | 0.0 | 0.0 | 5.47e-002 | 0.00e+000 | 5.47e-002 |

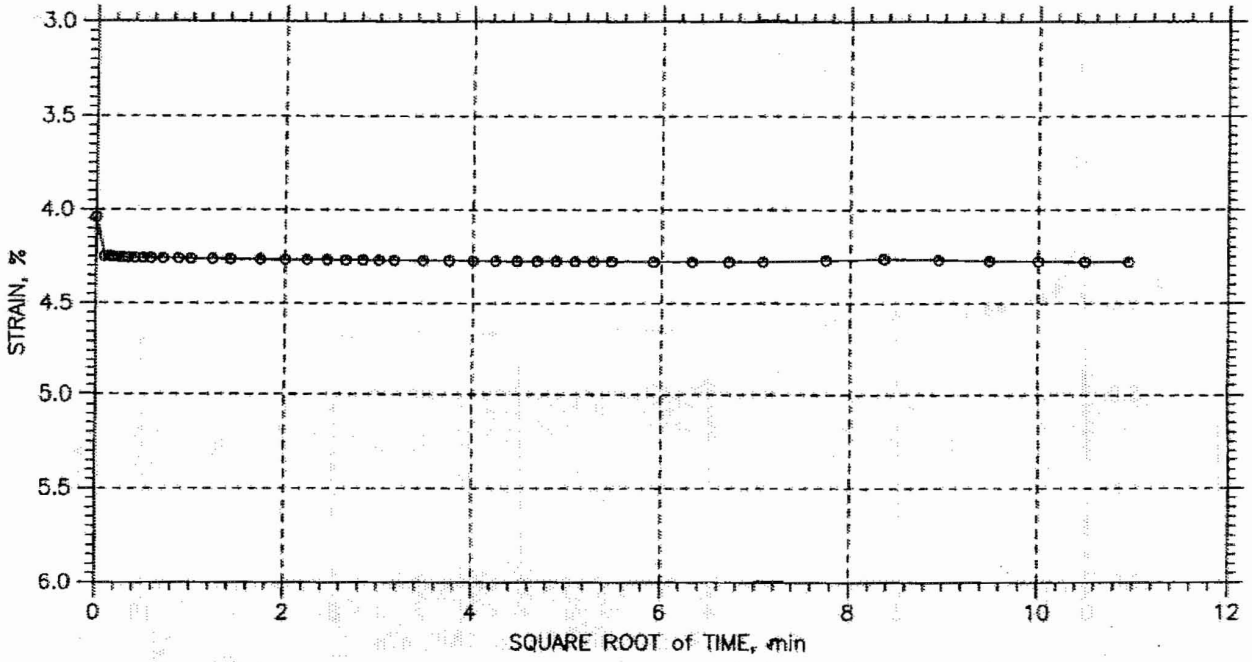
# CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 8 of 14

Stress: 4. tsf




| | | | |
|---|---|---|---|
| GeoTesting express<br>a subsidiary of Geocomp Corporation | Project: Calvert Cliffs Nuclear PP | Location: Calvert County, MD | Project No.: GTX-6880 |
| | Boring No.: B-746 | Tested By: md | Checked By: jdt |
| | Sample No.: S-6 | Test Date: 11/04/06 | Depth: 13.5-15.5 |
| | Test No.: C-53 | Sample Type: tube | Elevation: --- |
| | Description: Moist,dark olive gray silty,clayey sand (SC-SM),29% passing#200 sieve,inundated@0.5tsf | | |
| | Remarks: System G - Compression Ratio: .06, Recompression Ratio: 0.01 | | |

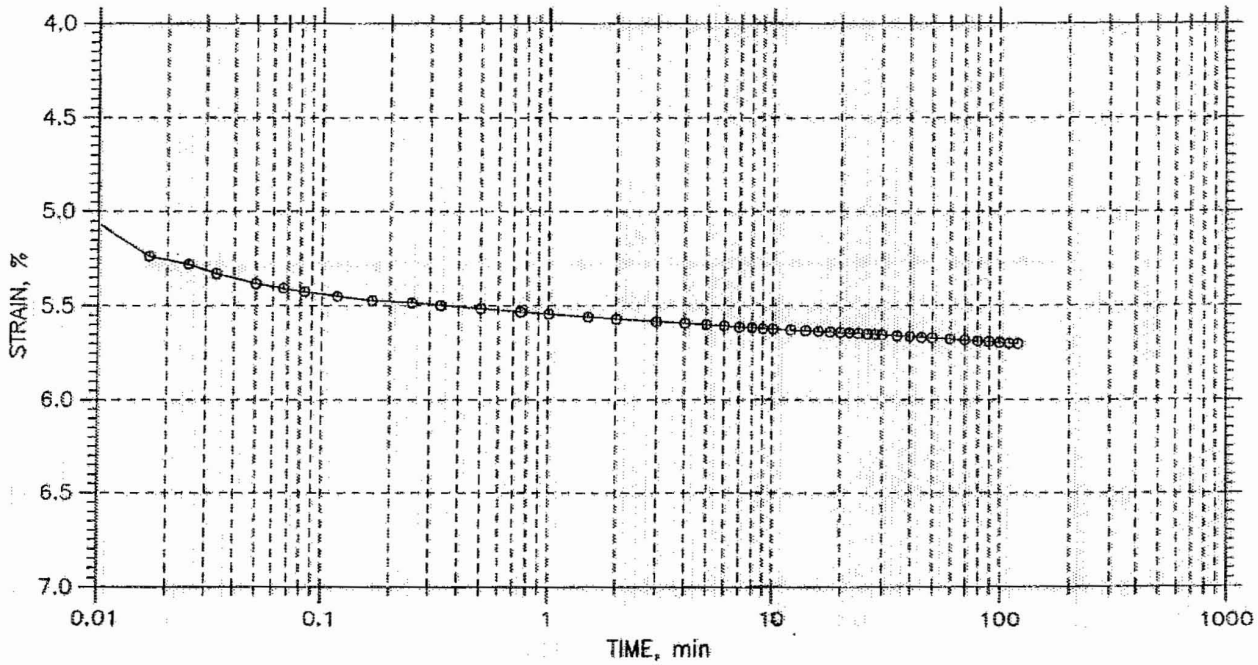
Wed, 15-NOV-2006 12:46:03

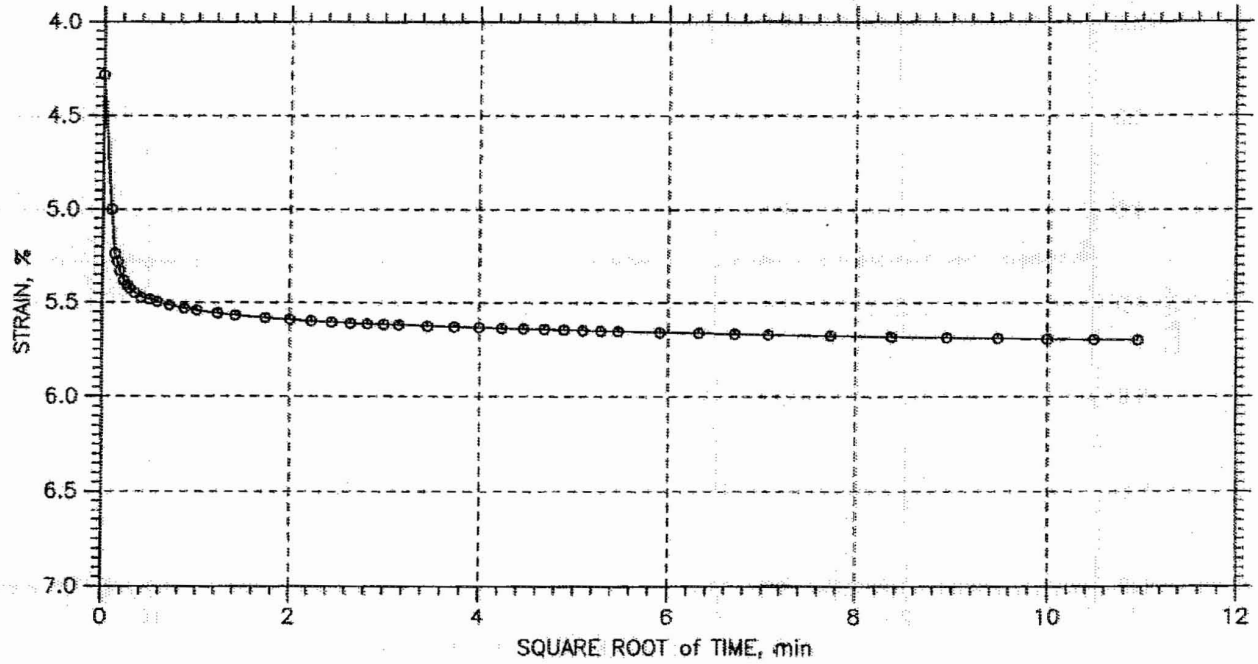
# CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 10 of 14

Stress: 16. tsf



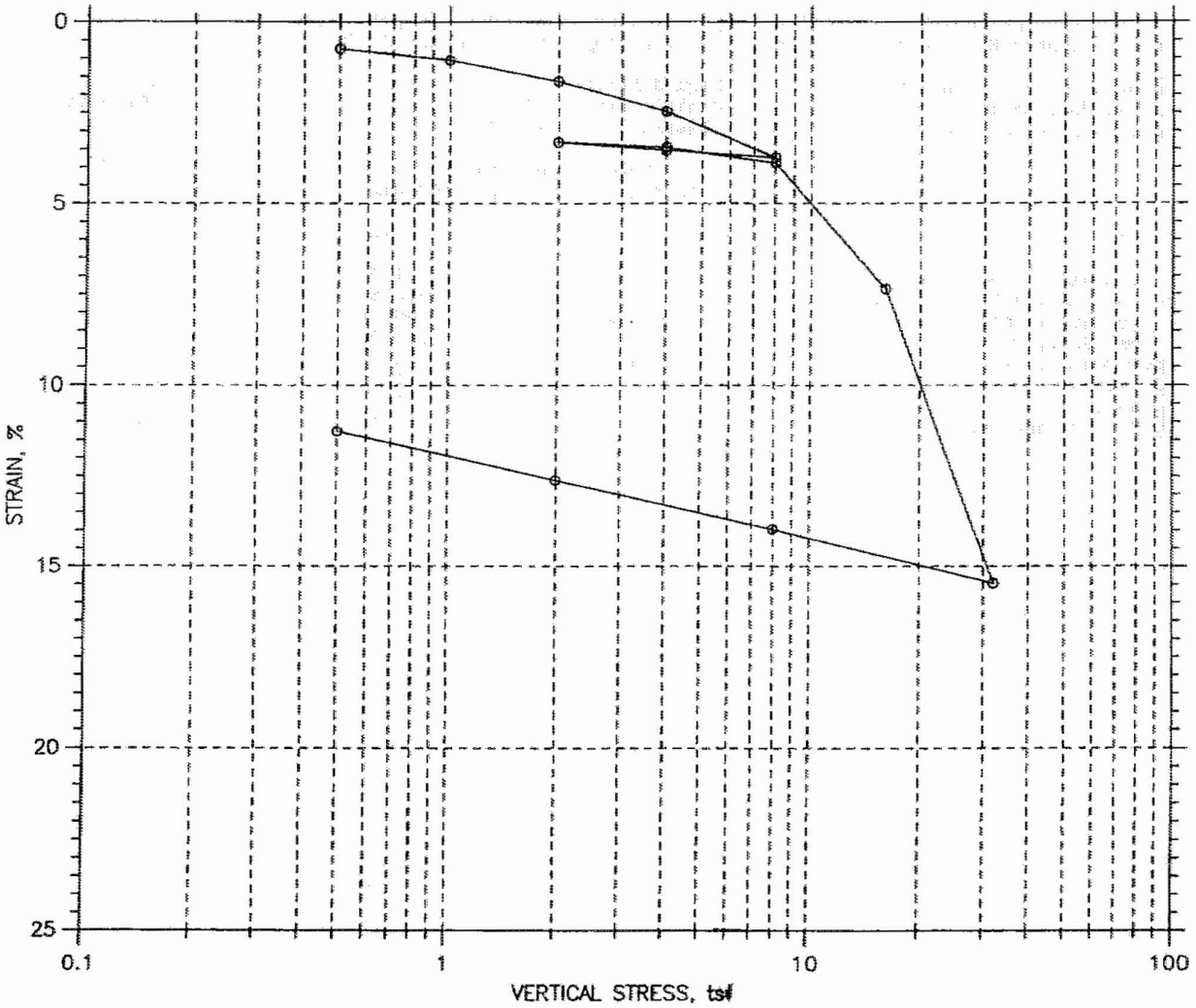




| | | | |
|---|---|---|---|
| GeoTesting express<br>a subsidiary of Geocomp Corporation | Project: Calvert Cliffs Nuclear PP | Location: Calvert County, MD | Project No.: GTX-6880 |
| | Boring No.: B-746 | Tested By: md | Checked By: jdt |
| | Sample No.: S-6 | Test Date: 11/04/06 | Depth: 13.5-15.5 |
| | Test No.: C-53 | Sample Type: tube | Elevation: --- |
| | Description: Moist,dark olive gray silty,clayey sand (SC-SM),29% passing#200 sieve,inundated@0.5tsf | | |
| | Remarks: System G - Compression Ratio: .06, Recompression Ratio: 0.01 | | |

Wed, 15-NOV-2006 12:46:18

# CONSOLIDATION TEST DATA

SUMMARY REPORT




| | | | | Before Test | After Test |
|---|---|---|---|---|---|
| Overburden Pressure: --- | | | | Water Content, % | 36.26 | 31.22 |
| Preconsolidation Pressure: 11.3 tsf | | | | Dry Unit Weight, pcf | 81.65 | 92.01 |
| Compression Index: --- | | | | Saturation, % | 91.05 | 99.99 |
| Diameter: 2.5 in | | Height: 1 in | | Void Ratio | 1.09 | 0.85 |
| LL: 53 | PL: 16 | PI: 37 | GS: 2.73 | | | |

| | | | |
|---|---|---|---|
| GeoTesting express<br>a subsidiary of Geocomp Corporation | Project: Calvert Cliffs Nuclear PP | Location: Calvert County, MD | Project No.: GTX-6880 |
| | Boring No.: B-747 | Tested By: md | Checked By: jdt |
| | Sample No.: S-15 UD-1 | Test Date: 09/16/06 | Depth: ~~25.8-68.0~~ 58.0-60.0 PP 11/16/06 |
| | Test No.: C-18 | Sample Type: tube | Elevation: --- |
| | Description: Moist, dark olive gray clay with sand (CH), 74% passing #200 sieve, inundated @ 0.5 tsf | | |
| | Remarks: System K - Compression Ratio: 0.26, Recompressioin Ratio: 0.02 | | |

Tue, 14-NOV-2006 19:13:54

# CONSOLIDATION TEST DATA

Project: Calvert Cliffs Nuclear PP
Boring No.: B-747
Sample No.: S-15 UD-1
Test No.: C-18

Location: Calvert County, MD
Tested By: md
Test Date: 09/16/06
Sample Type: tube

Project No.: GTX-6880
Checked By: jdt
Depth: 25.8-60.0
Elevation: ---

Soil Description: Moist, dark olive gray clay with sand (CH), 74% passing #200 sieve, inundated @ 0.5 tsf
Remarks: System K - Compression Ratio: 0.26, Recompressioin Ratio: 0.02

Measured Specific Gravity: 2.73
Initial Void Ratio: 1.09
Final Void Ratio: 0.85

Liquid Limit: 53
Plastic Limit: 16
Plasticity Index: 37

Initial Height: 1.00 in
Specimen Diameter: 2.50 in

| | Before Consolidation | | After Consolidation | |
|---|---|---|---|---|
| | Trimmings | Specimen+Ring | Specimen+Ring | Trimmings |
| Container ID | 1395 | RING | | 1311 |
| Wt. Container + Wet Soil, gm | 132.49 | 351.02 | 345.71 | 146.05 |
| Wt. Container + Dry Soil, gm | 100.24 | 312.87 | 312.87 | 113.3 |
| Wt. Container, gm | 8.46 | 207.66 | 207.66 | 8.39 |
| Wt. Dry Soil, gm | 91.78 | 105.21 | 105.21 | 104.91 |
| Water Content, % | 35.14 | 36.26 | 31.22 | 31.22 |
| Void Ratio | --- | 1.09 | 0.85 | --- |
| Degree of Saturation, % | --- | 91.05 | 99.99 | --- |
| Dry Unit Weight, pcf | --- | 81.65 | 92.008 | --- |

# CONSOLIDATION TEST DATA

Project: Calvert Cliffs Nuclear PP
Boring No.: B-747
Sample No.: S-15 UD-1
Test No.: C-18

Location: Calvert County, MD
Tested By: md
Test Date: 09/16/06
Sample Type: tube

Project No.: GTX-6880
Checked By: jdt
Depth: 25.8-60.0
Elevation: ---

Soil Description: Moist, dark olive gray clay with sand (CH), 74% passing #200 sieve, inundated @ 0.5 tsf
Remarks: System K - Compression Ratio: 0.26, Recompressioin Ratio: 0.02

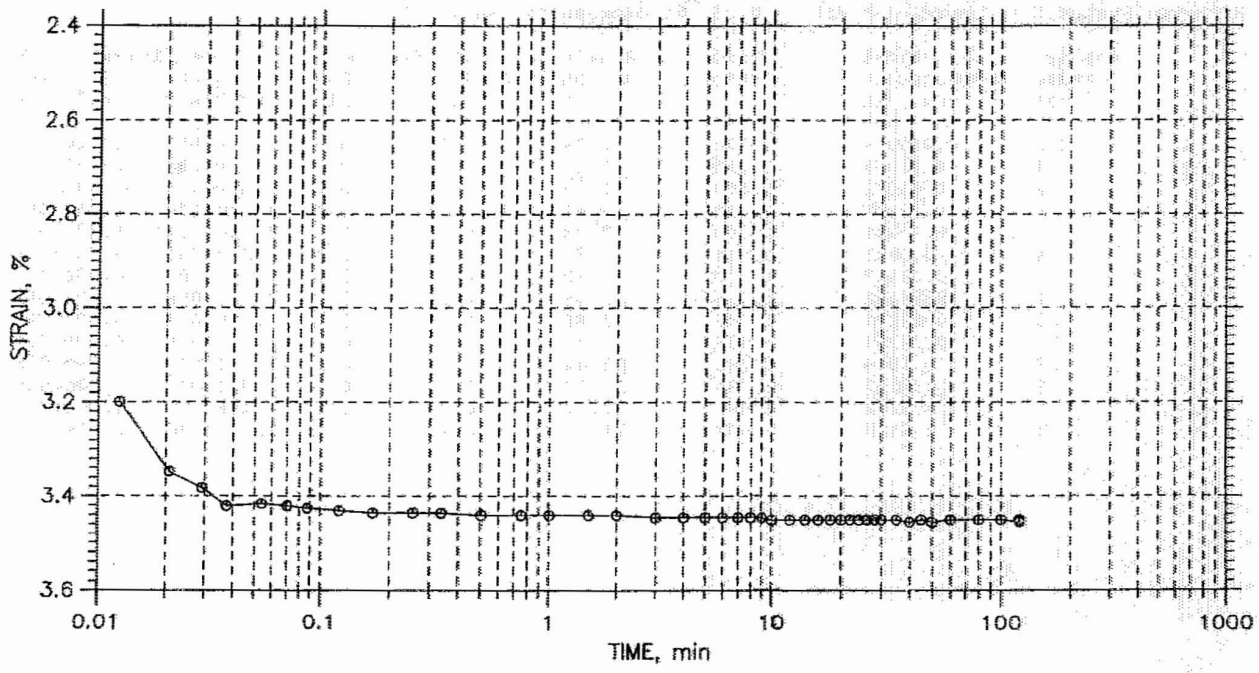
| | Applied Stress tsf | Final Displacement in | Void Ratio | Strain at End % | T50 Fitting Sq.Rt. min | T50 Fitting Log min | Coefficient of Consolidation Sq.Rt. ft^2/sec | Coefficient of Consolidation Log ft^2/sec | Coefficient of Consolidation Ave. ft^2/sec |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.5 | 0.007364 | 1.072 | 0.74 | 0.1 | 0.0 | 9.35e-005 | 0.00e+000 | 9.35e-005 |
| 2 | 1 | 0.01062 | 1.065 | 1.06 | 0.0 | 0.0 | 1.33e-004 | 1.57e-004 | 1.44e-004 |
| 3 | 2 | 0.01631 | 1.053 | 1.63 | 0.0 | 0.0 | 1.35e-004 | 1.53e-004 | 1.43e-004 |
| 4 | 4 | 0.02467 | 1.036 | 2.47 | 0.0 | 0.0 | 1.85e-004 | 1.76e-004 | 1.80e-004 |
| 5 | 8 | 0.03728 | 1.009 | 3.73 | 0.0 | 0.0 | 1.12e-004 | 1.79e-004 | 1.38e-004 |
| 6 | 4 | 0.0353 | 1.014 | 3.53 | 0.0 | 0.0 | 3.27e-004 | 0.00e+000 | 3.27e-004 |
| 7 | 2 | 0.03317 | 1.018 | 3.32 | 0.0 | 0.0 | 2.76e-004 | 0.00e+000 | 2.76e-004 |
| 8 | 4 | 0.03451 | 1.015 | 3.45 | 0.0 | 0.0 | 3.25e-004 | 0.00e+000 | 3.25e-004 |
| 9 | 8 | 0.03876 | 1.006 | 3.88 | 0.0 | 0.0 | 3.09e-004 | 0.00e+000 | 3.09e-004 |
| 10 | 16 | 0.07357 | 0.934 | 7.36 | 0.4 | 0.0 | 1.45e-005 | 0.00e+000 | 1.45e-005 |
| 11 | 32 | 0.1546 | 0.765 | 15.46 | 0.4 | 0.2 | 1.10e-005 | 2.05e-005 | 1.43e-005 |
| 12 | 8 | 0.1397 | 0.796 | 13.97 | 0.0 | 0.0 | 1.92e-004 | 0.00e+000 | 1.92e-004 |
| 13 | 2 | 0.1262 | 0.824 | 12.62 | 0.2 | 0.0 | 2.13e-005 | 0.00e+000 | 2.13e-005 |
| 14 | 0.5 | 0.1126 | 0.852 | 11.26 | 2.7 | 2.5 | 1.63e-006 | 1.74e-006 | 1.68e-006 |

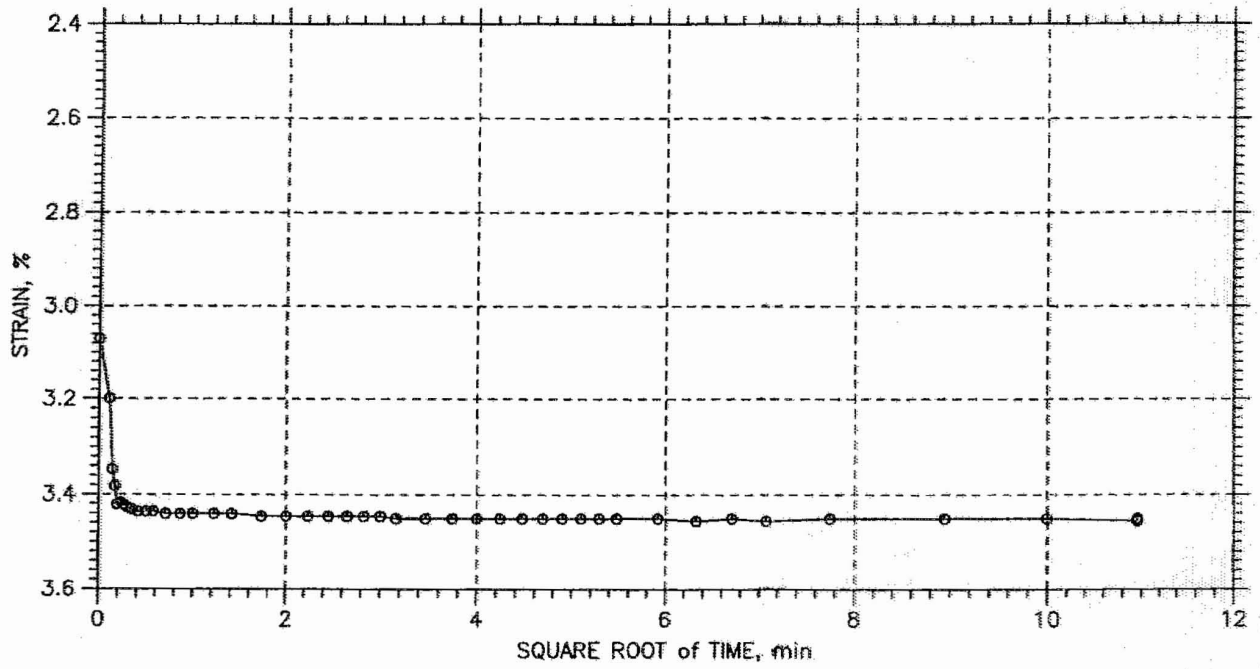
# CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 8 of 14

Stress: 4. tsf




| | | | |
|---|---|---|---|
| GeoTesting express<br>a subsidiary of Geocomp Corporation | Project: Calvert Cliffs Nuclear PP | Location: Calvert County, MD | Project No.: GTX-6880 |
| | Boring No.: B-747 | Tested By: md | Checked By: jdt |
| | Sample No.: S-15 UD-1 | Test Date: 09/16/06 | Depth: 25.8-60.0 |
| | Test No.: C-18 | Sample Type: tube | Elevation: --- |
| | Description: Moist, dark olive gray clay with sand (CH), 74% passing #200 sieve, inundated @ 0.5 tsf | | |
| | Remarks: System K - Compression Ratio: 0.26, Recompressioin Ratio: 0.02 | | |

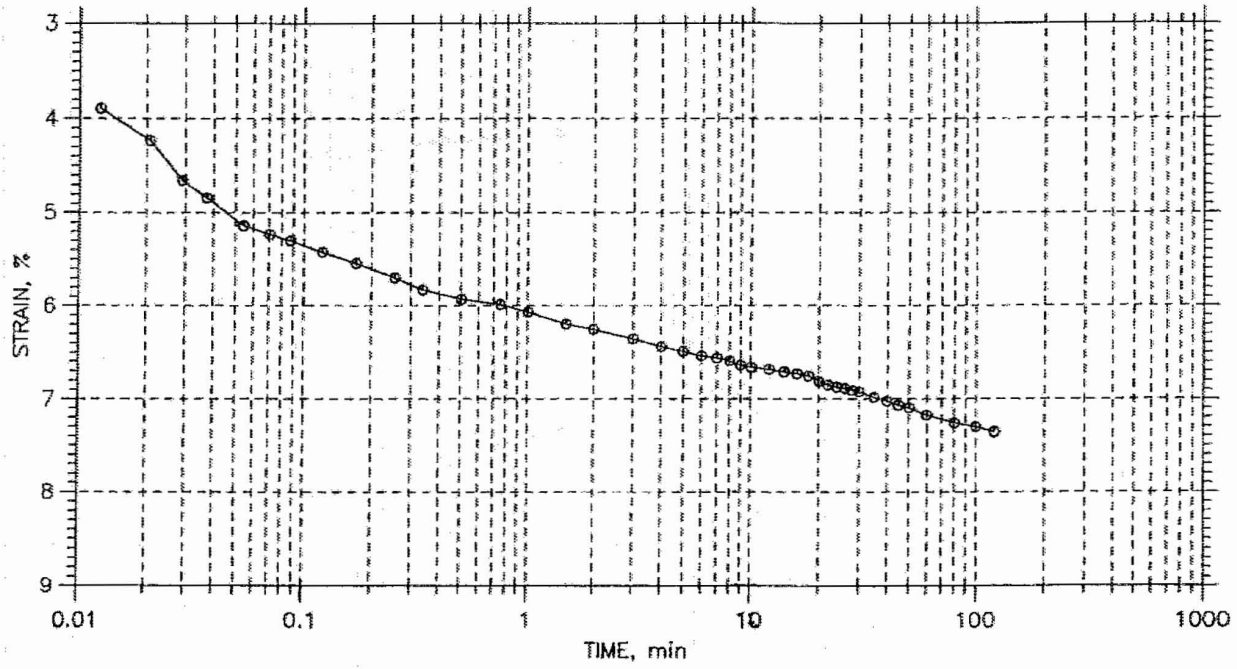
Tue, 14-NOV-2006 19:14:24

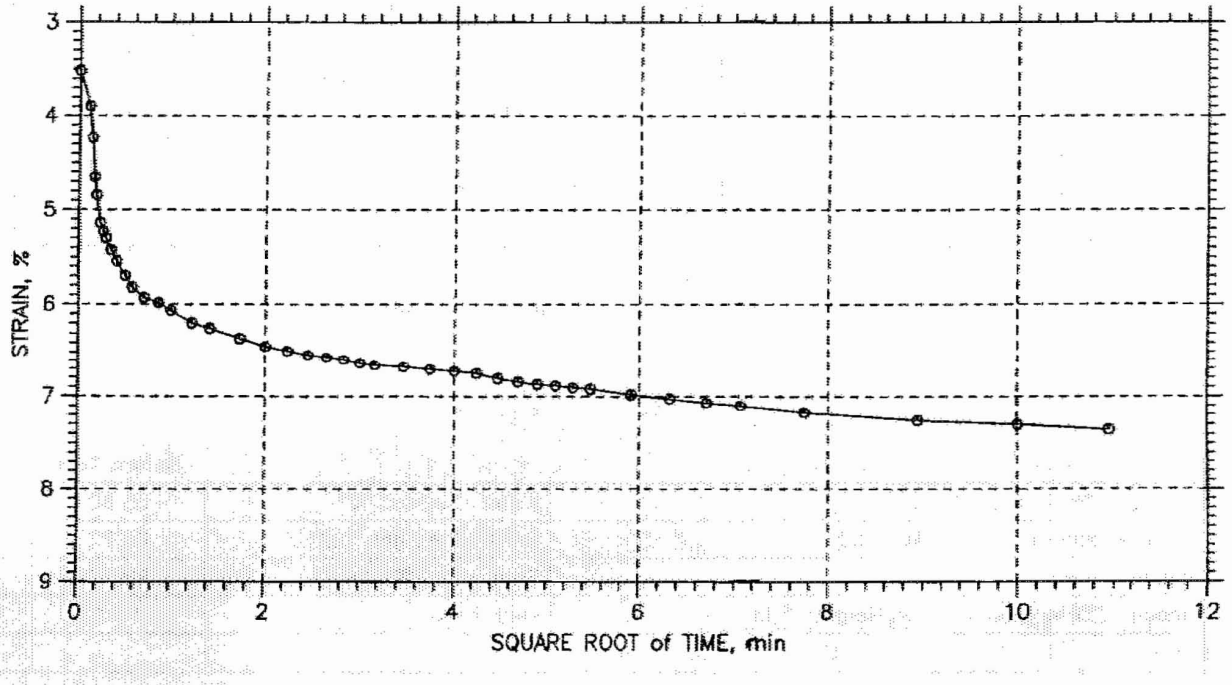
# CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 10 of 14

Stress: 16. tsf




| | | | |
|---|---|---|---|
| GeoTesting express<br>a subsidiary of Geocomp Corporation | Project: Calvert Cliffs Nuclear PP | Location: Calvert County, MD | Project No.: GTX-6880 |
| | Boring No.: B-747 | Tested By: md | Checked By: jdt |
| | Sample No.: S-15 UD-1 | Test Date: 09/16/06 | Depth: 25.8-60.0 |
| | Test No.: C-18 | Sample Type: tube | Elevation: --- |
| | Description: Moist, dark olive gray clay with sand (CH), 74% passing #200 sieve, inundated @ 0.5 tsf | | |
| | Remarks: System K - Compression Ratio: 0.26, Recompressioin Ratio: 0.02 | | |

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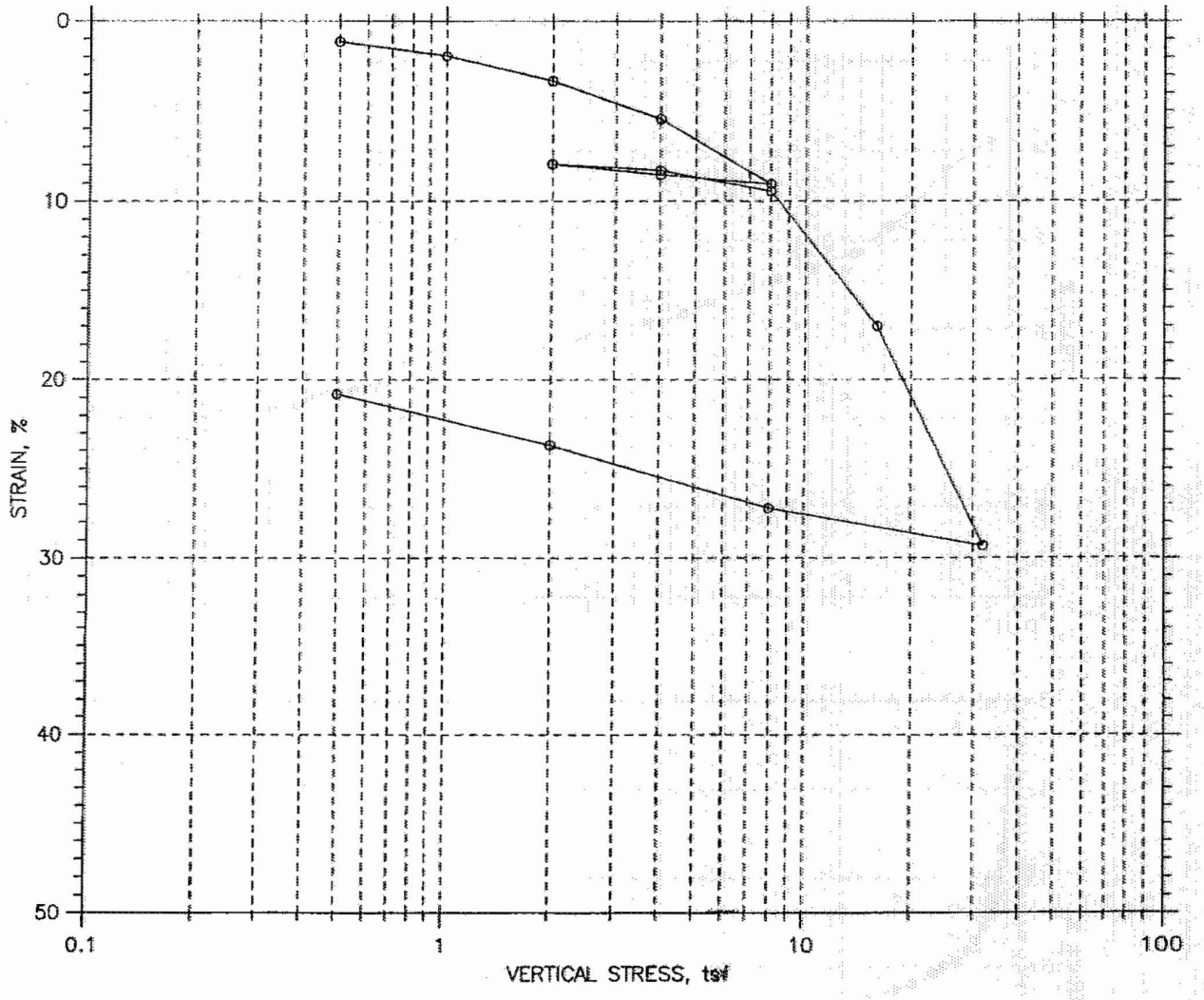
# CONSOLIDATION TEST DATA

SUMMARY REPORT




| | | | | Before Test | After Test |
|---|---|---|---|---|---|
| Overburden Pressure: --- | | | | Water Content, % | 55.60 | 41.62 |
| Preconsolidation Pressure: 10.3 tsf | | | | Dry Unit Weight, pcf | 63.82 | 80.59 |
| Compression Index: --- | | | | Saturation, % | 89.72 | 99.99 |
| Diameter: 2.5 in | | Height: 1 in | | Void Ratio | 1.73 | 1.16 |
| LL: 65 | PL: 17 | PI: 48 | GS: 2.79 | | | |

| | | | |
|---|---|---|---|
| GeoTesting express<br>a subsidiary of Geocomp Corporation | Project: Calvert Cliffs Nuclear PP | Location: Calvert County, MD | Project No.: GTX-6880 |
| | Boring No.: B-752 | Tested By: md | Checked By: jdt |
| | Sample No.: S-15 | Test Date: 09/18/06 | Depth: ~~28-60 ft~~ 58-60 ft RP 11/16 |
| | Test No.: C-20 | Sample Type: tube | Elevation: --- |
| | Description: Moist, dark greenish gray organic clay (OH), 98%passing #200 sieve, inundated @0.5 tsf | | |
| | Remarks: System G - Compression Ratio: 0.40, Recompression Ratio: 0.05 | | |

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# CONSOLIDATION TEST DATA

| | | |
|---|---|---|
| Project: Calvert Cliffs Nuclear PP | Location: Calvert County, MD | Project No.: GTX-6880 |
| Boring No.: B-752 | Tested By: md | Checked By: jdt |
| Sample No.: S-15 | Test Date: 09/18/06 | Depth: 28-60 ft |
| Test No.: C-20 | Sample Type: tube | Elevation: --- |

Soil Description: Moist, dark greenish gray organic clay (OH), 98%passing #200 sieve, inundated @0.5 tsf
Remarks: System G - Compression Ratio: 0.40, Recompression Ratio: 0.05

| | | |
|---|---|---|
| Measured Specific Gravity: 2.79 | Liquid Limit: 65 | Initial Height: 1.00 in |
| Initial Void Ratio: 1.73 | Plastic Limit: 17 | Specimen Diameter: 2.50 in |
| Final Void Ratio: 1.16 | Plasticity Index: 48 | |

| | Before Consolidation | | After Consolidation | |
|---|---|---|---|---|
| | Trimmings | Specimen+Ring | Specimen+Ring | Trimmings |
| Container ID | 13 | RING | | 1534 |
| Wt. Container + Wet Soil, gm | 113.58 | 344.45 | 332.95 | 126.87 |
| Wt. Container + Dry Soil, gm | 79.31 | 298.72 | 298.72 | 91.96 |
| Wt. Container, gm | 8.24 | 216.49 | 216.49 | 8.08 |
| Wt. Dry Soil, gm | 71.07 | 82.235 | 82.235 | 83.88 |
| Water Content, % | 48.22 | 55.50 | 41.62 | 41.62 |
| Void Ratio | --- | 1.73 | 1.16 | --- |
| Degree of Saturation, % | --- | 89.72 | 99.99 | --- |
| Dry Unit Weight, pcf | --- | 63.821 | 80.59 | --- |

# CONSOLIDATION TEST DATA

Project: Calvert Cliffs Nuclear PP
Boring No.: B-752
Sample No.: S-15
Test No.: C-20

Location: Calvert County, MD
Tested By: md
Test Date: 09/18/06
Sample Type: tube

Project No.: GTX-6880
Checked By: jdt
Depth: 28-60 ft
Elevation: ---

Soil Description: Moist, dark greenish gray organic clay (OH), 98%passing #200 sieve, inundated @0.5 tsf
Remarks: System G - Compression Ratio: 0.40, Recompression Ratio: 0.05

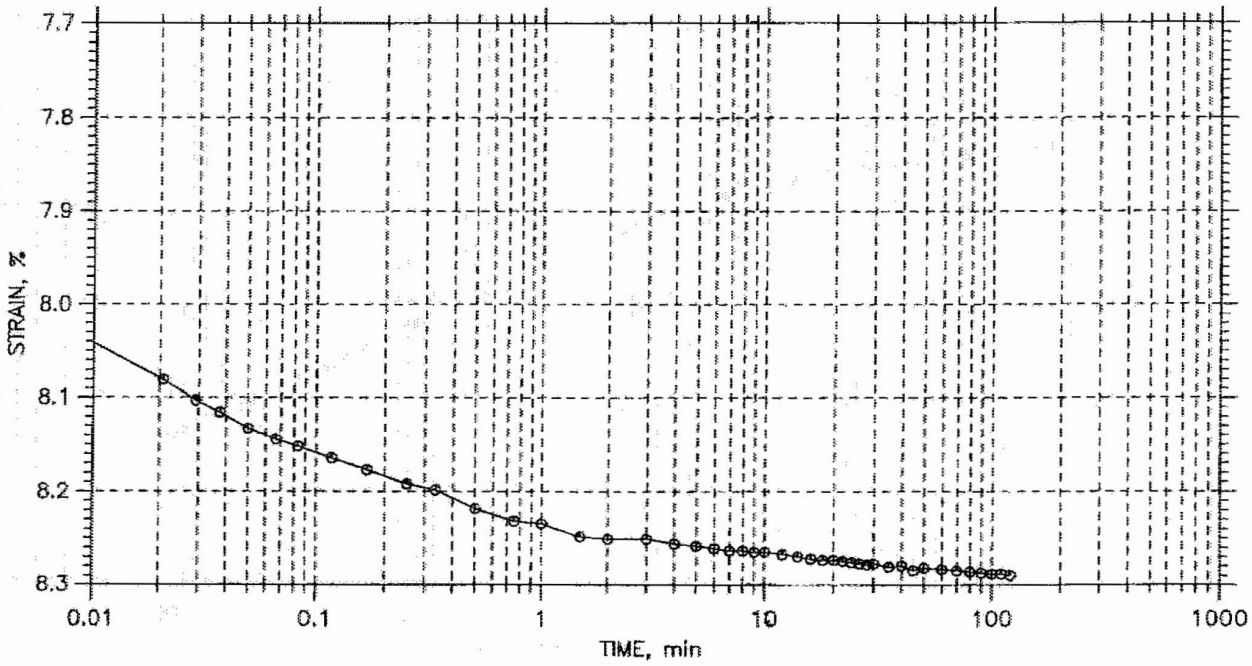
| | Applied Stress tsf | Final Displacement in | Void Ratio | Strain at End % | T50 Fitting Sq.Rt. min | T50 Fitting Log min | Coefficient of Consolidation Sq.Rt. in^2/sec | Coefficient of Consolidation Log in^2/sec | Coefficient of Consolidation Ave. in^2/sec |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.5 | 0.01133 | 1.698 | 1.13 | 0.0 | 0.0 | 3.58e-002 | 0.00e+000 | 3.58e-002 |
| 2 | 1 | 0.01957 | 1.676 | 1.96 | 0.0 | 0.0 | 3.28e-002 | 3.11e-002 | 3.20e-002 |
| 3 | 2 | 0.03336 | 1.638 | 3.34 | 0.0 | 0.0 | 3.43e-002 | 3.50e-002 | 3.47e-002 |
| 4 | 4 | 0.05444 | 1.581 | 5.44 | 0.0 | 0.0 | 1.95e-002 | 3.88e-002 | 2.59e-002 |
| 5 | 8 | 0.09037 | 1.482 | 9.04 | 0.2 | 0.0 | 4.63e-003 | 2.53e-002 | 7.83e-003 |
| 6 | 4 | 0.08536 | 1.496 | 8.54 | 0.0 | 0.0 | 2.85e-002 | 5.74e-001 | 5.43e-002 |
| 7 | 2 | 0.0794 | 1.512 | 7.94 | 0.2 | 0.0 | 4.45e-003 | 0.00e+000 | 4.45e-003 |
| 8 | 4 | 0.0829 | 1.503 | 8.29 | 0.0 | 0.0 | 2.85e-002 | 7.41e-002 | 4.12e-002 |
| 9 | 8 | 0.09435 | 1.472 | 9.44 | 0.2 | 0.0 | 4.49e-003 | 3.80e-002 | 8.03e-003 |
| 10 | 16 | 0.17 | 1.265 | 17.00 | 2.1 | 1.8 | 2.88e-004 | 3.41e-004 | 3.12e-004 |
| 11 | 32 | 0.2932 | 0.929 | 29.32 | 11.8 | 14.7 | 4.11e-005 | 3.30e-005 | 3.66e-005 |
| 12 | 8 | 0.2721 | 0.987 | 27.21 | 3.2 | 0.0 | 1.32e-004 | 0.00e+000 | 1.32e-004 |
| 13 | 2 | 0.237 | 1.082 | 23.70 | 23.3 | 25.9 | 1.96e-005 | 1.76e-005 | 1.86e-005 |
| 14 | 0.5 | 0.2081 | 1.161 | 20.81 | 53.2 | 0.0 | 9.34e-006 | 0.00e+000 | 9.34e-006 |

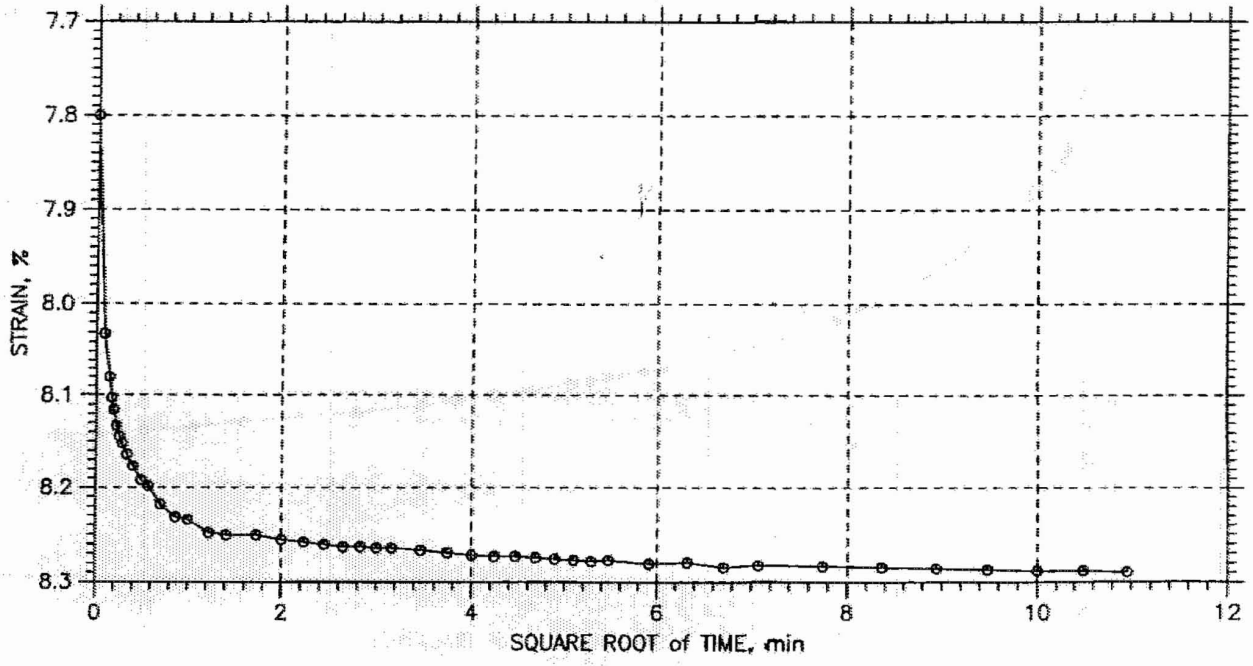
# CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 8 of 14

Stress: 4. tsf




| | | | |
|---|---|---|---|
| GeoTesting express<br>a subsidiary of Geocomp Corporation | Project: Calvert Cliffs Nuclear PP | Location: Calvert County, MD | Project No.: GTX-6880 |
| | Boring No.: B-752 | Tested By: md | Checked By: jdt |
| | Sample No.: S-15 | Test Date: 09/18/06 | Depth: 28-60 ft |
| | Test No.: C-20 | Sample Type: tube | Elevation: --- |
| | Description: Moist, dark greenish gray organic clay (OH), 98%passing #200 sieve, inundated @0.5 tsf | | |
| | Remarks: System G - Compression Ratio: 0.40, Recompression Ratio: 0.05 | | |

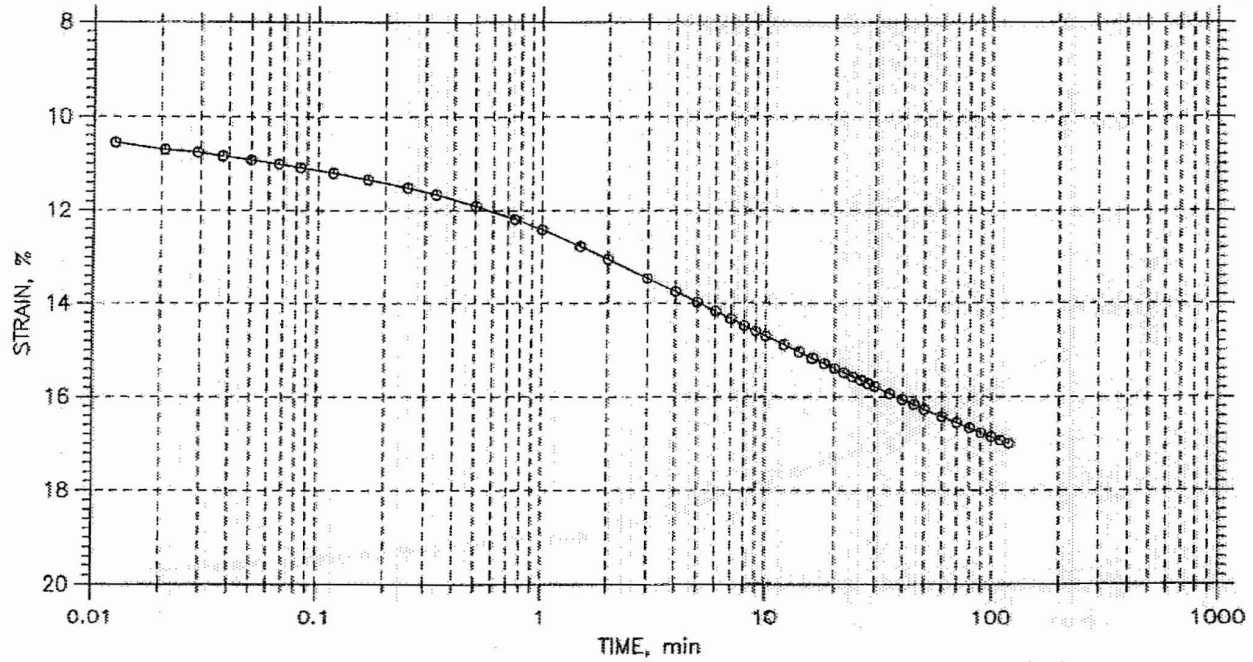
Tue, 14-NOV-2006 19:22:07

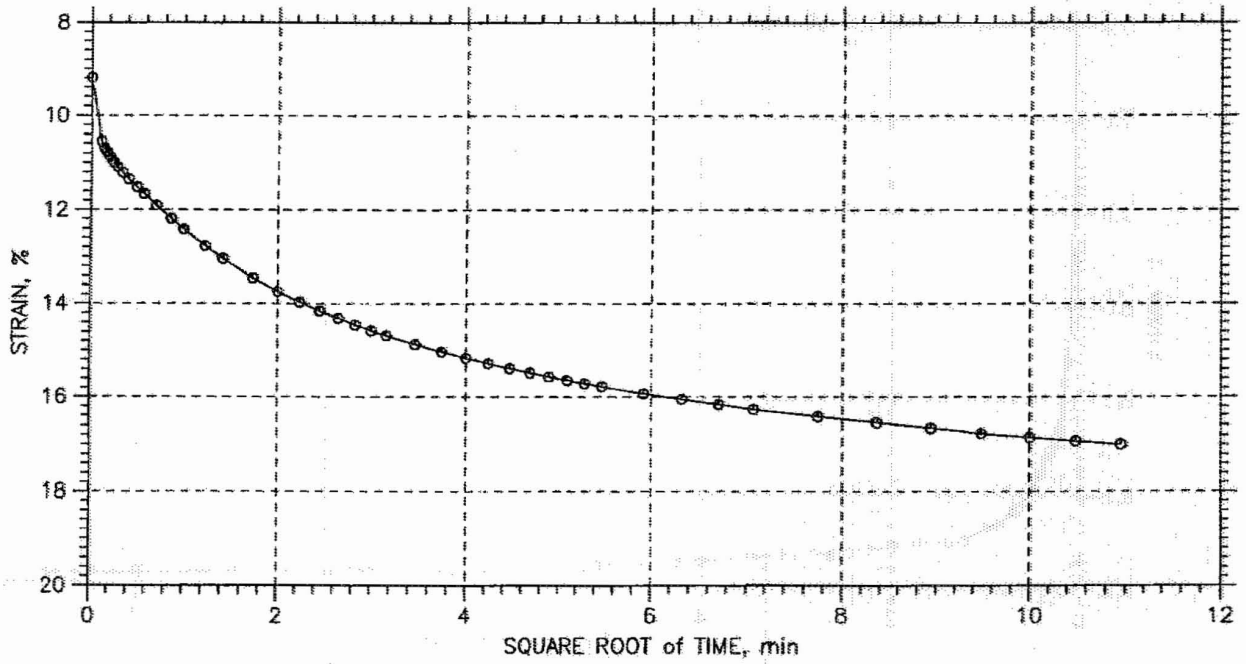
# CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 10 of 14

Stress: 16. tsf




| | | | |
|---|---|---|---|
| GeoTesting express<br>a subsidiary of Geocomp Corporation | Project: Calvert Cliffs Nuclear PP | Location: Calvert County, MD | Project No.: GTX-6880 |
| | Boring No.: B-752 | Tested By: md | Checked By: jdt |
| | Sample No.: S-15 | Test Date: 09/18/06 | Depth: 28-60 ft |
| | Test No.: C-20 | Sample Type: tube | Elevation: --- |
| | Description: Moist, dark greenish gray organic clay (OH), 98%passing #200 sieve, inundated @0.5 tsf | | |
| | Remarks: System G - Compression Ratio: 0.40, Recompression Ratio: 0.05 | | |

Tue, 14-NOV-2006 19:22:16

Schnabel
Schnabel Engineering

06120048 Calvert Cliffs Nuclear Power Plant 3/22/07

Coefficient of Consolidation, $C_v$ (square root of time method)

| Boring | Depth (ft) | Applied Pressure (tsf) | Prior Pressure (tsf) | Average Pressure (tsf) | $H_o$ (in) | $H_{D50}$ (in) | $t_{90}$ (min) | $C_v$ ($ft^2/yr$) |
|---|---|---|---|---|---|---|---|---|
| B-301 | 158.5 | 8 | 4 | 6 | 0.7499 | 0.3665 | 0.2 | 2448 |
| | | 16 | 8 | 12 | | 0.3628 | 0.7 | 591 |
| | | 32 | 16 | 24 | | 0.3540 | 0.2 | 1764 |
| B-301 | 168.5 | 4 | 2 | 3 | 0.7611 | 0.3705 | 0.1 | 3037 |
| | | 16 | 8 | 12 | | 0.3658 | 0.6 | 754 |
| | | 32 | 16 | 24 | | 0.3481 | 3.4 | 110 |
| B-304 | 98.5 | 4 | 2 | 3 | 0.7522 | 0.3675 | 0.1 | 2988 |
| | | 32 | 16 | 24 | | 0.3495 | 0.1 | 2703 |
| B-304 | 138.5 | 4 | 2 | 3 | 0.7468 | 0.3647 | 0.1 | 2943 |
| | | 16 | 8 | 12 | | 0.3621 | 0.1 | 5076 |
| B-313 | 93.5 | 4 | 2 | 3 | 0.7496 | ** | ** | ** |
| | | 32 | 16 | 24 | | 0.3511 | 0.2 | 2010 |
| B-313 | 123.5 | 4 | 2 | 3 | 0.7506 | ** | ** | ** |
| | | 32 | 16 | 24 | | 0.3558 | 0.3 | 1265 |
| B-316 | 43.5 | 4 | 2 | 3 | 0.7490 | 0.3616 | 1.2 | 338 |
| | | 16 | 8 | 12 | | 0.3505 | 11.7 | 33 |
| B-321 | 23.5 | 4 | 2 | 3 | 0.7500 | 0.3691 | 0.8 | 563 |
| | | 32 | 16 | 24 | | 0.3479 | 41.2 | 9 |
| B-321 | 73.5 | 4 | 2 | 3 | 0.7315 | ** | ** | ** |
| | | 16 | 8 | 12 | | 0.3514 | 0.2 | 2013 |
| B-327 | 113.5 | 4 | 2 | 3 | 0.7538 | ** | ** | ** |
| | | 32 | 16 | 24 | | 0.3489 | 0.1 | 2693 |
| B-333 | 28.5 | 4 | 2 | 3 | 0.7497 | 0.3558 | 2.0 | 196 |
| | | 16 | 8 | 12 | | 0.3455 | 22.0 | 17 |
| B-333 | 38.5 | 4 | 2 | 3 | 0.7504 | 0.3678 | 1.5 | 279 |
| | | 16 | 16 | 16 | | 0.3504 | 11.1 | 34 |
| B-401 | 243.5 | 4 | 2 | 3 | 0.7512 | ** | ** | ** |
| | | 32 | 16 | 24 | | 0.3571 | 0.8 | 476 |
| B-434 | 53.5 | 4 | 2 | 3 | 0.7505 | 0.3702 | 2.1 | 202 |
| | | 16 | 8 | 12 | | 0.3638 | 15.3 | 27 |
| B-434 | 63.5 | 4 | 2 | 3 | 0.7514 | ** | ** | ** |
| | | 16 | 8 | 12 | | 0.3614 | 0.2 | 2023 |

** Specimen deformation during loading increment either zero or at the instrument's readability; time curve not interpretable.