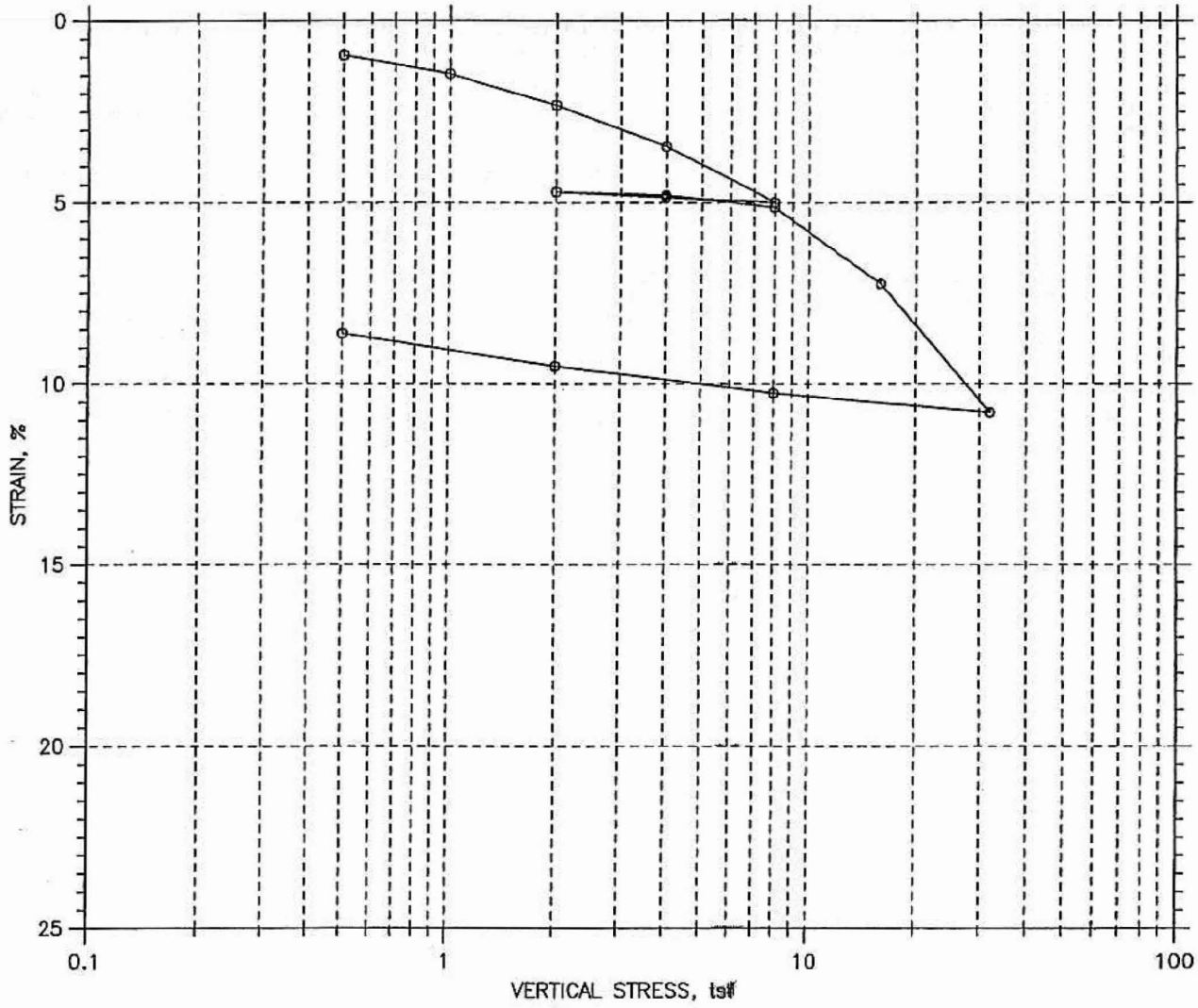
CONSOLIDATION TEST DATA
SUMMARY REPORT



					Before Test	After Test
Overburden Pressure: ---				Water Content, %	28.80	25.45
Preconsolidation Pressure: 10.5 tsf				Dry Unit Weight, pcf	92.1	100.8
Compression Index: ---				Saturation, %	92.05	99.99
Diameter: 2.5 in		Height: 1 in		Void Ratio	0.86	0.70
LL: 54	PL: 11	PI: 43	GS: 2.74			

GeoTesting express a subsidiary of Geocomp Corporation	Project: Calvert Cliffs Nuclear PP	Location: Calvert County, MD	Project No.: GTX-6880
	Boring No.: B-314	Tested By: jdt	Checked By: njh
	Sample No.: S-6	Test Date: 08/24/06	Depth: 13.5-14.5ft
	Test No.: C1	Sample Type: tube	Elevation: ---
	Description: Moist, dark olive gray clayey sand (SC), 35% passing #200 sieve, inundated @ 0.5 tsf		
	Remarks: System G - Compression Ratio: 0.11, Recompression Ratio: 0.01		

Thu, 09-NOV-2006 16:30:09

CONSOLIDATION TEST DATA

Project: Calvert Cliffs Nuclear PP
Boring No.: B-314
Sample No.: S-6
Test No.: C1

Location: Calvert County, MD
Tested By: jdt
Test Date: 08/24/06
Sample Type: tube

Project No.: GTX-6880
Checked By: njh
Depth: 13.5-14.5ft
Elevation: ---

Soil Description: Moist, dark olive gray clayey sand (SC), 35% passing #200 sieve, inundated @ 0.5 tsf
Remarks: System G - Compression Ratio: 0.11, Recompression Ratio: 0.01

Measured Specific Gravity: 2.74
Initial Void Ratio: 0.86
Final Void Ratio: 0.70

Liquid Limit: 54
Plastic Limit: 11
Plasticity Index: 43

Initial Height: 1.00 in
Specimen Diameter: 2.50 in

	Before Consolidation		After Consolidation	
	Trimmings	Specimen+Ring	Specimen+Ring	Trimmings
Container ID	2047	RING		986
Wt. Container + Wet Soil, gm	101.15	360.51	356.54	158.24
Wt. Container + Dry Soil, gm	81.92	326.33	326.33	127.75
Wt. Container, gm	8.12	207.66	207.66	7.96
Wt. Dry Soil, gm	73.8	118.67	118.67	119.79
Water Content, %	26.06	28.80	25.45	25.45
Void Ratio	---	0.86	0.70	---
Degree of Saturation, %	---	92.05	99.99	---
Dry Unit Weight, pcf	---	92.101	100.77	---

CONSOLIDATION TEST DATA

Project: Calvert Cliffs Nuclear PP	Location: Calvert County, MD	Project No.: GTX-6880
Boring No.: B-314	Tested By: jdt	Checked By: njh
Sample No.: S-6	Test Date: 08/24/06	Depth: 13.5-14.5ft
Test No.: C1	Sample Type: tube	Elevation: ---

Soil Description: Moist, dark olive gray clayey sand (SC), 35% passing #200 sieve, inundated @ 0.5 tsf
Remarks: System G - Compression Ratio: 0.11, Recompression Ratio: 0.01

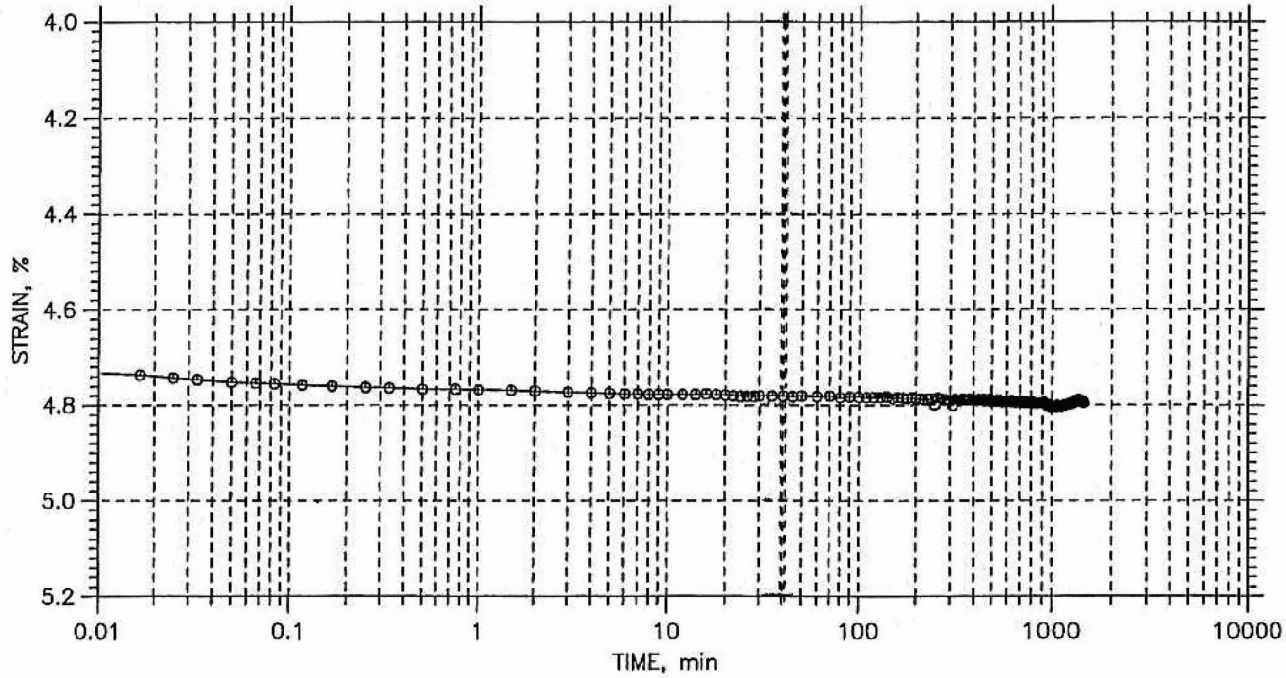
	Applied Stress tsf	Final Displacement in	Void Ratio	Strain at End %	T50 Fitting Sq.Rt. min	T50 Fitting Log min	Coefficient of Consolidation Sq.Rt. in^2/sec	Coefficient of Consolidation Log in^2/sec	Coefficient of Consolidation Ave. in^2/sec
1	0.5	0.009464	0.840	0.95	0.1	0.0	9.85e-003	0.00e+000	9.85e-003
2	1	0.01458	0.830	1.46	0.3	0.0	2.45e-003	0.00e+000	2.45e-003
3	2	0.02315	0.814	2.32	0.3	0.0	2.47e-003	0.00e+000	2.47e-003
4	4	0.03457	0.793	3.46	0.3	0.0	2.38e-003	0.00e+000	2.38e-003
5	8	0.04982	0.765	4.98	0.4	0.0	1.93e-003	0.00e+000	1.93e-003
6	4	0.04863	0.767	4.86	0.6	0.0	1.34e-003	0.00e+000	1.34e-003
7	2	0.04696	0.770	4.70	0.8	0.0	9.72e-004	0.00e+000	9.72e-004
8	4	0.04795	0.768	4.79	2.7	0.0	2.81e-004	0.00e+000	2.81e-004
9	8	0.05121	0.762	5.12	0.4	0.0	1.86e-003	0.00e+000	1.86e-003
10	16	0.07236	0.723	7.24	0.4	0.0	1.76e-003	0.00e+000	1.76e-003
11	32	0.1079	0.657	10.79	0.5	0.0	1.34e-003	0.00e+000	1.34e-003
12	8	0.1025	0.667	10.25	0.3	0.0	2.16e-003	0.00e+000	2.16e-003
13	2	0.09503	0.681	9.50	0.9	0.0	7.24e-004	0.00e+000	7.24e-004
14	0.5	0.08603	0.697	8.60	1.9	0.0	3.65e-004	0.00e+000	3.65e-004

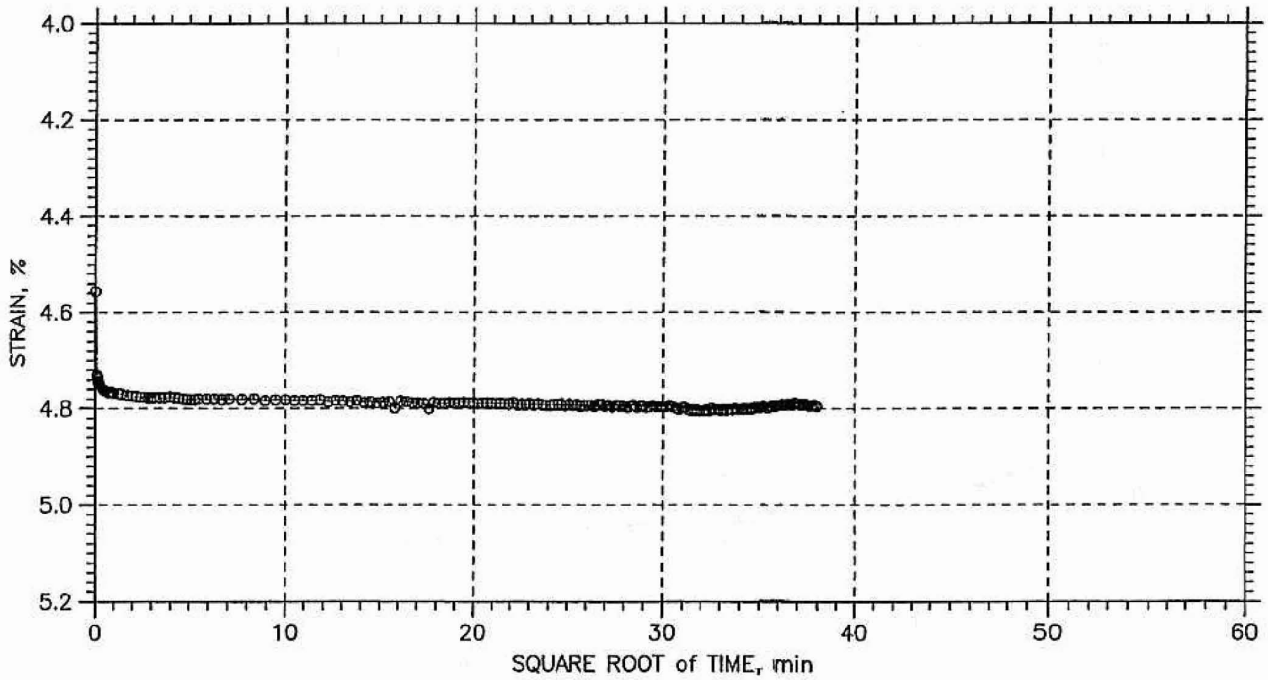
CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 8 of 14

Stress: 4. tsf





GeoTesting express a subsidiary of Geocomp Corporation	Project: Calvert Cliffs Nuclear PP	Location: Calvert County, MD	Project No.: GTX-6880
	Boring No.: B-314	Tested By: jdt	Checked By: njh
	Sample No.: S-6	Test Date: 08/24/06	Depth: 13.5-14.5ft
	Test No.: C1	Sample Type: tube	Elevation: ---
	Description: Moist, dark olive gray clayey sand (SC), 35% passing #200 sieve, inundated @ 0.5 tsf		
	Remarks: System G - Compression Ratio: 0.11, Recompression Ratio: 0.01		

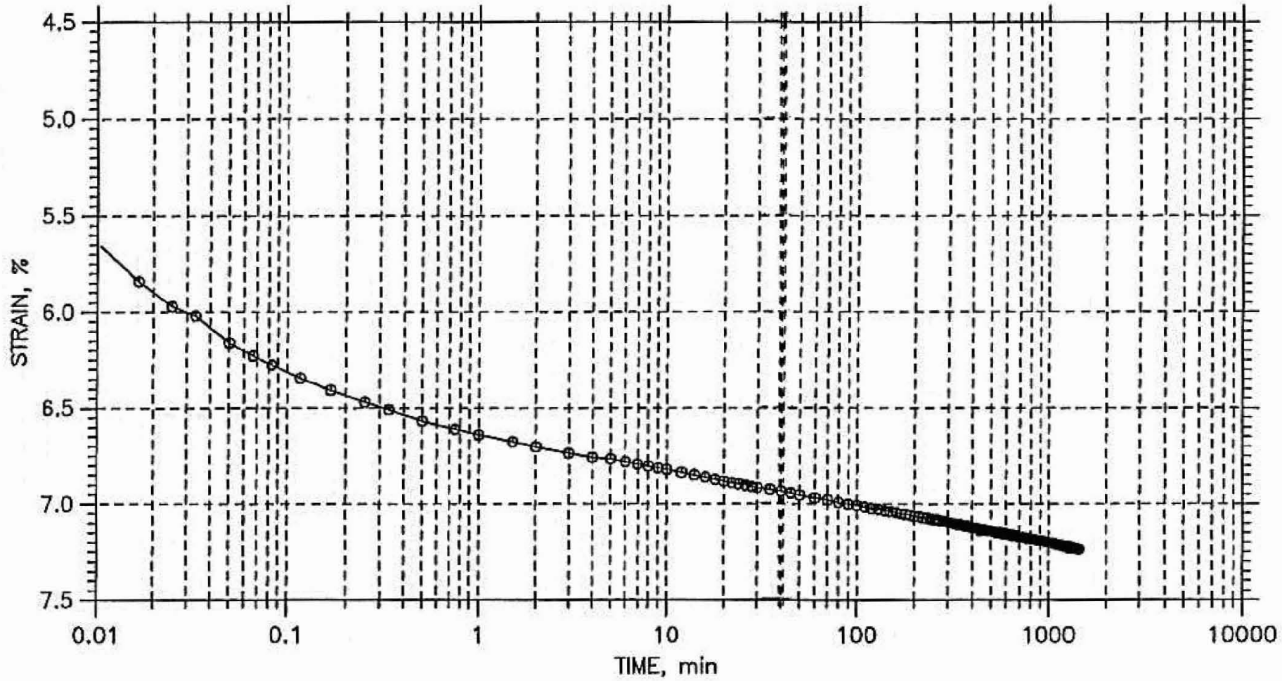
Thu, 09-NOV-2006 16:30:39

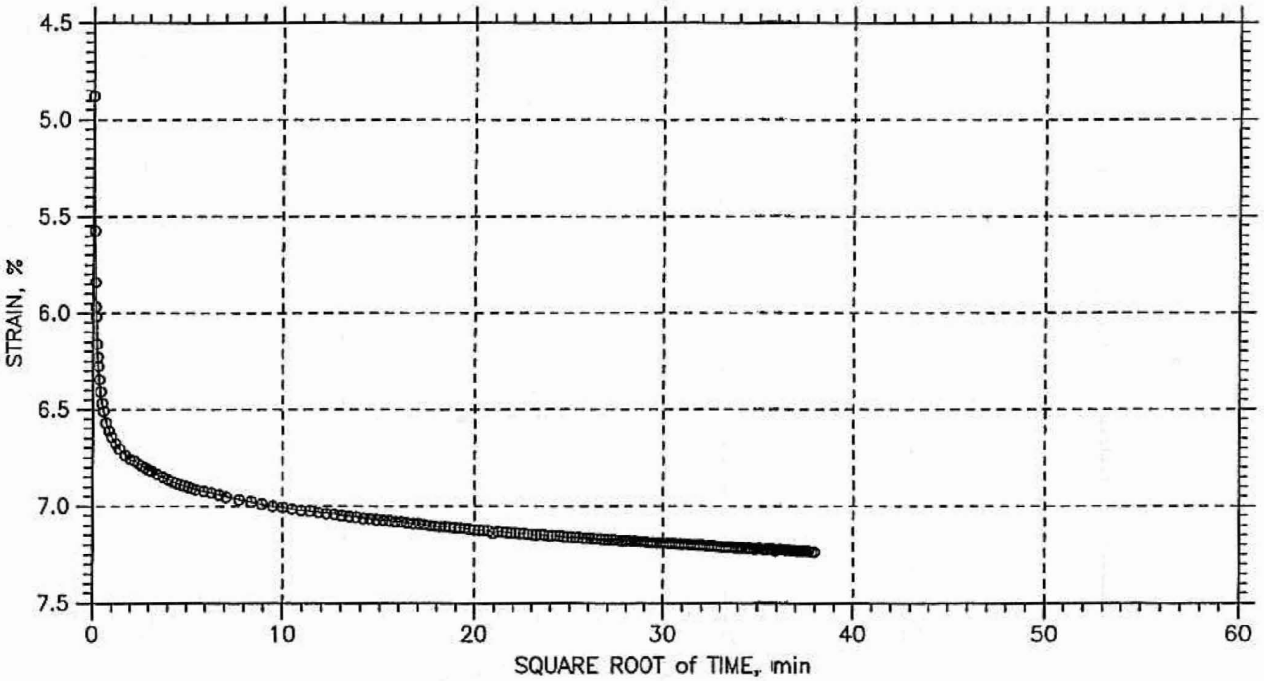
CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 10 of 14

Stress: 16. tsf

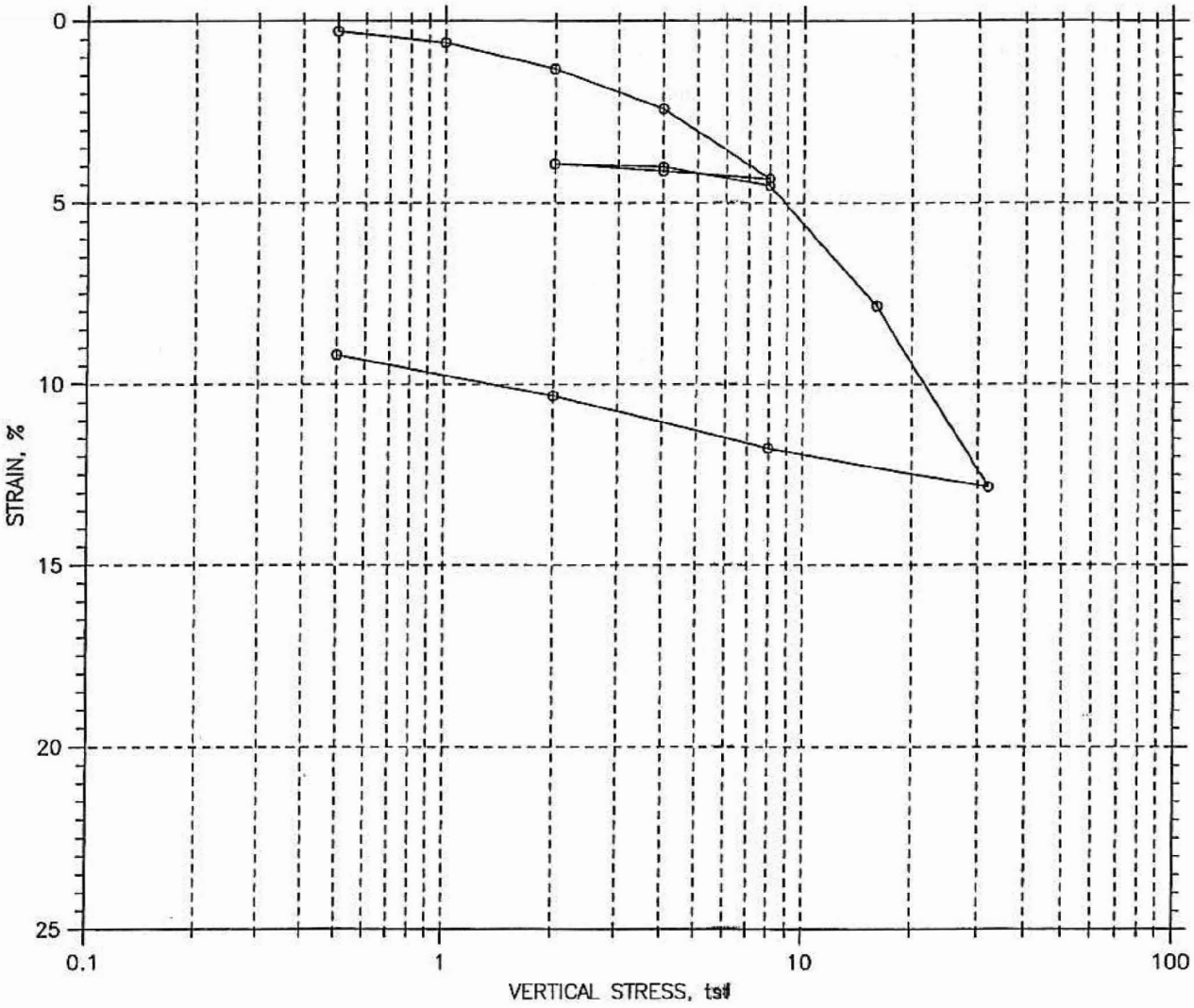




GeoTesting express a subsidiary of Geocomp Corporation	Project: Calvert Cliffs Nuclear PP	Location: Calvert County, MD	Project No.: GTX-6880
	Boring No.: B-314	Tested By: jdt	Checked By: njh
	Sample No.: S-6	Test Date: 08/24/06	Depth: 13.5-14.5ft
	Test No.: C1	Sample Type: tube	Elevation: ---
	Description: Moist, dark olive gray clayey sand (SC), 35% passing #200 sieve, inundated @ 0.5 tsf		
	Remarks: System G - Compression Ratio: 0.11, Recompression Ratio: 0.01		

Thu, 09-NOV-2006 16:31:21

CONSOLIDATION TEST DATA
SUMMARY REPORT



					Before Test	After Test
Overburden Pressure: ---				Water Content, %	27.82	27.12
Preconsolidation Pressure: 10.2 tsf				Dry Unit Weight, pcf	88.93	97.92
Compression Index: ---				Saturation, %	82.87	99.99
Diameter: 2.5 in		Height: 1 in		Void Ratio	0.92	0.74
LL: 41	PL: 11	PI: 30	GS: 2.73			

GeoTesting express a subsidiary of Geocomp Corporation	Project: Calvert Cliffs Nuclear PP	Location: Calvert County, MD	Project No.: GTX-6880
	Boring No.: B-315	Tested By: jdt	Checked By: njh
	Sample No.: S-8	Test Date: 08/25/06	Depth: 23.5-24.7'
	Test No.: C2	Sample Type: tube	Elevation: ---
	Description: Moist, dark olive gray clayey sand (SC), 35% passing #200 sieve, inundated @ 0 .5 tsf		
	Remarks: System C - Compression Ratio:0.17, Recompression Ratio: 0.02		

Thu, 09-NOV-2006 15:13:55

CONSOLIDATION TEST DATA

Project: Calvert Cliffs Nuclear PP
Boring No.: B-315
Sample No.: S-8
Test No.: C2

Location: Calvert County, MD
Tested By: jdt
Test Date: 08/25/06
Sample Type: tube

Project No.: GTX-6880
Checked By: njh
Depth: 23.5-24.7'
Elevation: ---

Soil Description: Moist, dark olive gray clayey sand (SC), 35% passing #200 sieve, inundated @ 0 .5 tsf
Remarks: System C - Compression Ratio:0.17, Recompression Ratio: 0.02

Measured Specific Gravity: 2.73
Initial Void Ratio: 0.92
Final Void Ratio: 0.74

Liquid Limit: 41
Plastic Limit: 11
Plasticity Index: 30

Initial Height: 1.00 in
Specimen Diameter: 2.50 in

	Before Consolidation		After Consolidation	
	Trimmings	Specimen+Ring	Specimen+Ring	Trimmings
Container ID	2040	RING		1866
Wt. Container + Wet Soil, gm	297.56	362.04	361.24	154.27
Wt. Container + Dry Soil, gm	233.52	330.16	330.16	123.08
Wt. Container, gm	8.13	215.58	215.58	8.08
Wt. Dry Soil, gm	225.39	114.58	114.58	115
Water Content, %	28.41	27.82	27.12	27.12
Void Ratio	---	0.92	0.74	---
Degree of Saturation, %	---	82.87	99.99	---
Dry Unit Weight, pcf	---	88.926	97.92	---

CONSOLIDATION TEST DATA

Project: Calvert Cliffs Nuclear PP
Boring No.: B-315
Sample No.: S-8
Test No.: C2

Location: Calvert County, MD
Tested By: jdt
Test Date: 08/25/06
Sample Type: tube

Project No.: GTX-6880
Checked By: njh
Depth: 23.5-24.7'
Elevation: ---

Soil Description: Moist, dark olive gray clayey sand (SC), 35% passing #200 sieve, inundated @ 0 .5 tsf
Remarks: System C - Compression Ratio:0.17, Recompression Ratio: 0.02

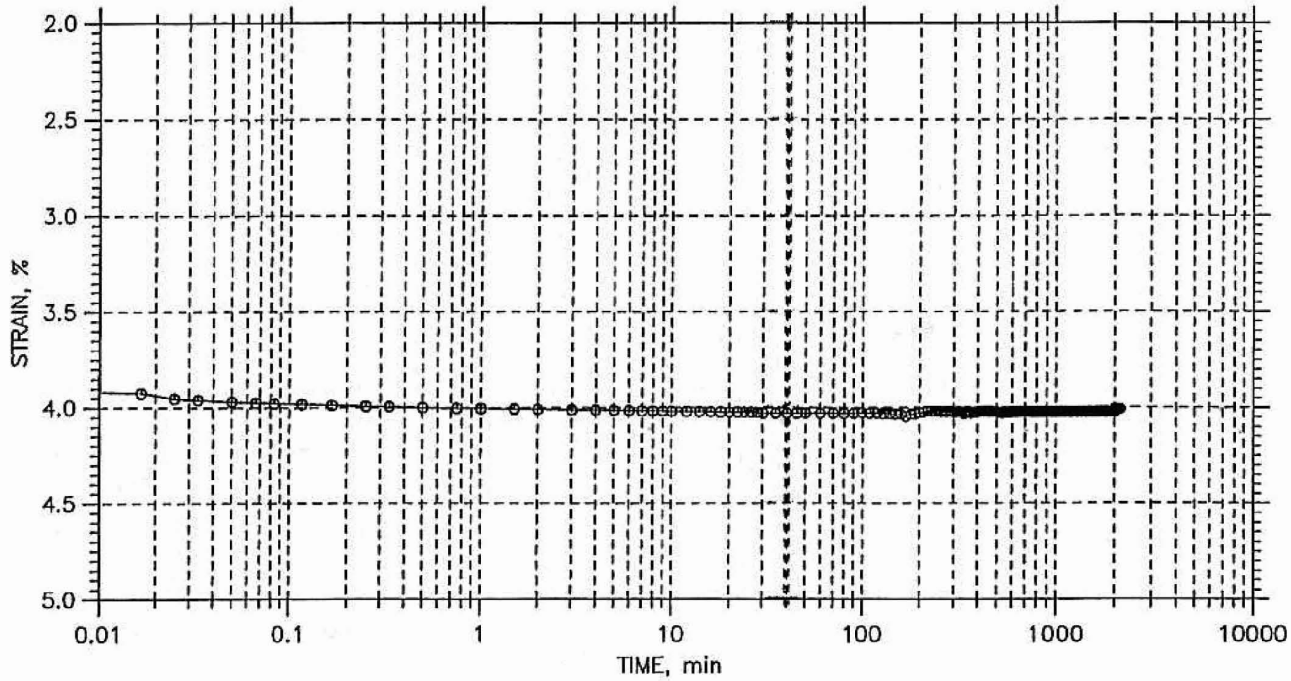
	Applied Stress tsf	Final Displacement in	Void Ratio	Strain at End %	T50 Fitting Sq.Rt. min	T50 Fitting Log min	Coefficient of Consolidation Sq.Rt. in^2/sec	Coefficient of Consolidation Log in^2/sec	Coefficient of Consolidation Ave. in^2/sec
1	0.5	0.002849	0.911	0.28	0.0	0.0	2.75e-002	0.00e+000	2.75e-002
2	1	0.005975	0.905	0.60	0.0	0.0	1.95e-002	0.00e+000	1.95e-002
3	2	0.01319	0.891	1.32	0.3	0.0	2.31e-003	0.00e+000	2.31e-003
4	4	0.02414	0.870	2.41	0.4	0.0	2.21e-003	0.00e+000	2.21e-003
5	8	0.04329	0.834	4.33	0.4	0.0	1.82e-003	0.00e+000	1.82e-003
6	4	0.04126	0.837	4.13	0.2	0.0	3.14e-003	0.00e+000	3.14e-003
7	2	0.03924	0.841	3.92	0.0	0.0	3.08e-002	0.00e+000	3.08e-002
8	4	0.04009	0.840	4.01	0.7	0.0	1.14e-003	0.00e+000	1.14e-003
9	8	0.0452	0.830	4.52	0.3	0.0	2.86e-003	0.00e+000	2.86e-003
10	16	0.07833	0.766	7.83	0.4	0.0	1.61e-003	0.00e+000	1.61e-003
11	32	0.1284	0.670	12.84	0.9	0.0	7.29e-004	0.00e+000	7.29e-004
12	8	0.1176	0.691	11.76	0.9	0.0	7.21e-004	0.00e+000	7.21e-004
13	2	0.1031	0.719	10.31	2.8	0.0	2.31e-004	0.00e+000	2.31e-004
14	0.5	0.09185	0.740	9.18	4.5	5.3	1.49e-004	1.26e-004	1.36e-004

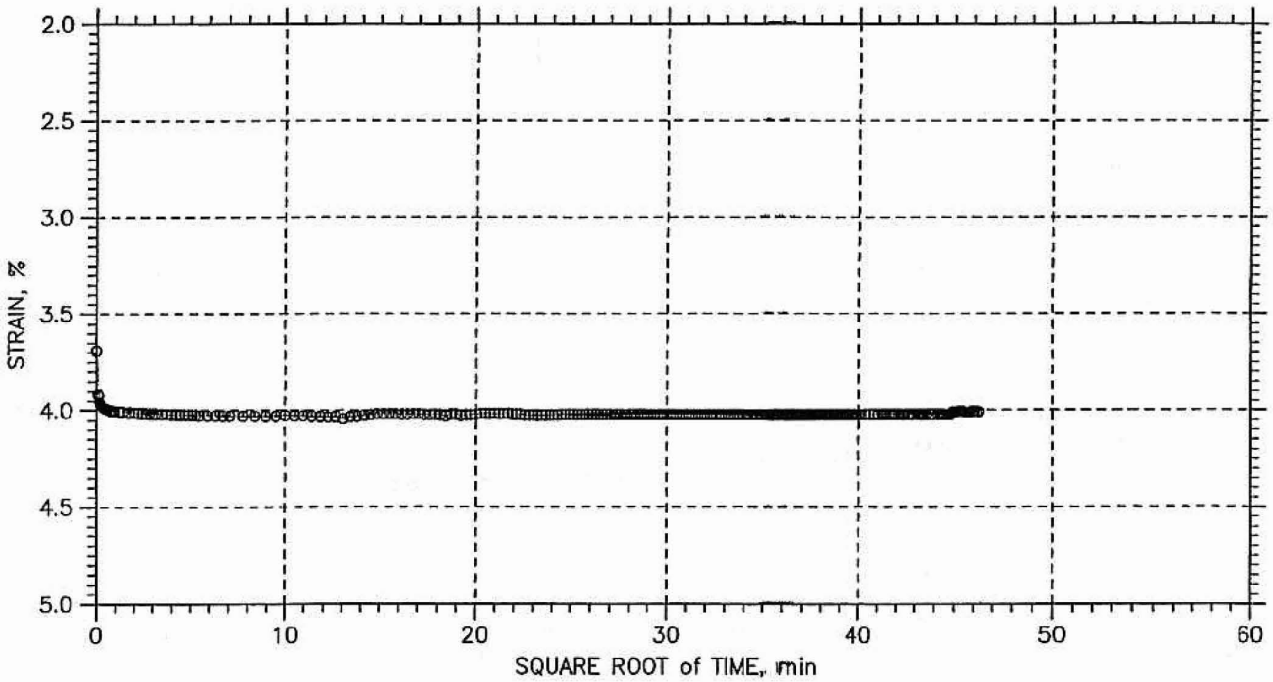
CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 8 of 14

Stress: 4. tsf





GeoTesting express a subsidiary of Geocomp Corporation	Project: Calvert Cliffs Nuclear PP	Location: Calvert County, MD	Project No.: GTX-6880
	Boring No.: B-315	Tested By: jdt	Checked By: njh
	Sample No.: S-8	Test Date: 08/25/06	Depth: 23.5-24.7'
	Test No.: C2	Sample Type: tube	Elevation: ---
	Description: Moist, dark olive gray clayey sand (SC), 35% passing #200 sieve, inundated @ 0 .5 tsf		
	Remarks: System C - Compression Ratio:0.17, Recompression Ratio: 0.02		

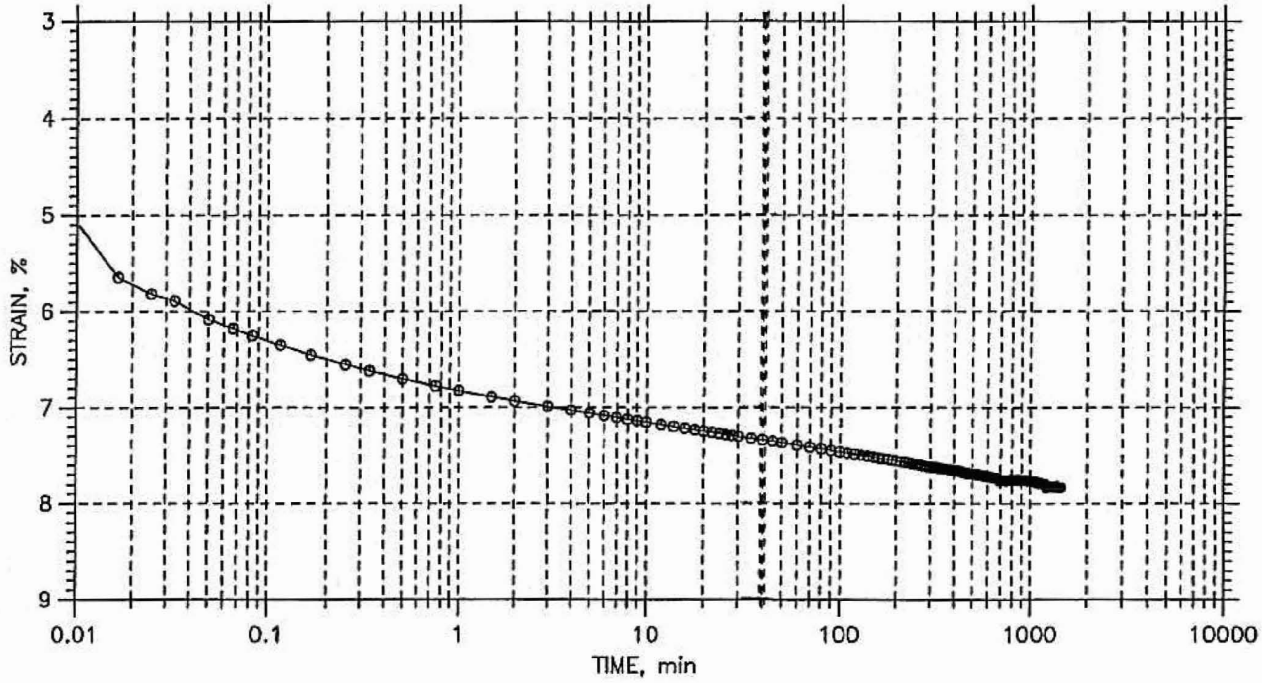
Thu, 09-NOV-2006 14:46:09

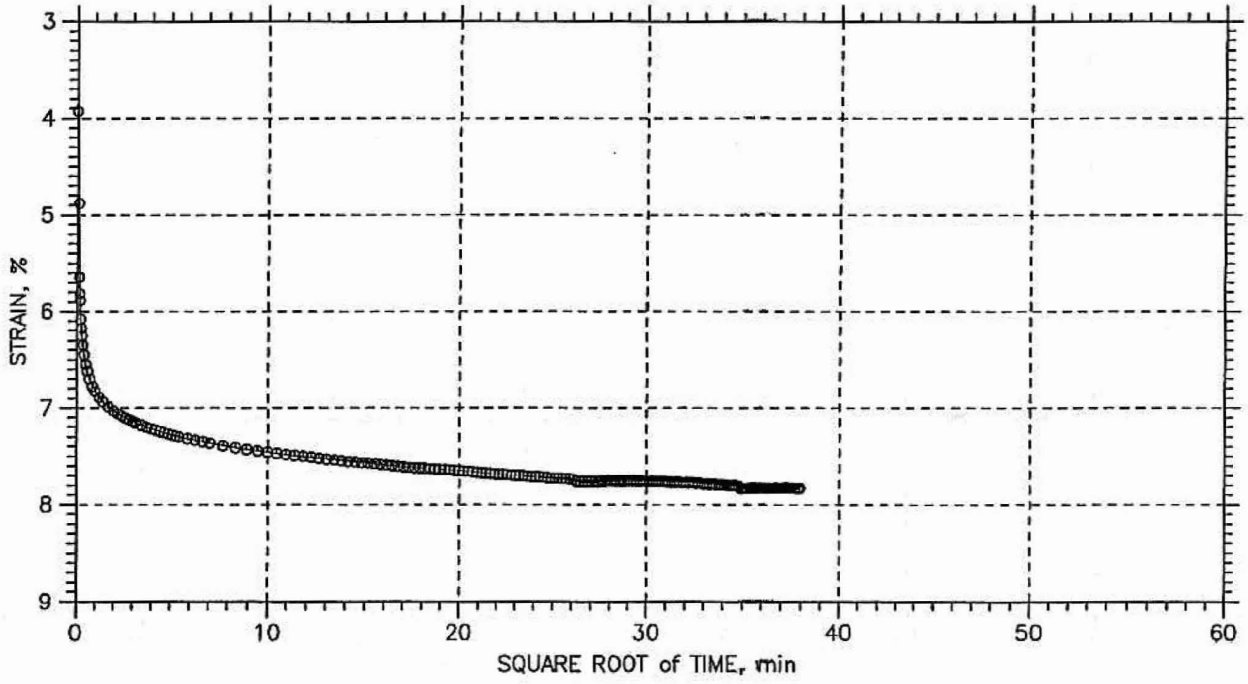
CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 10 of 14

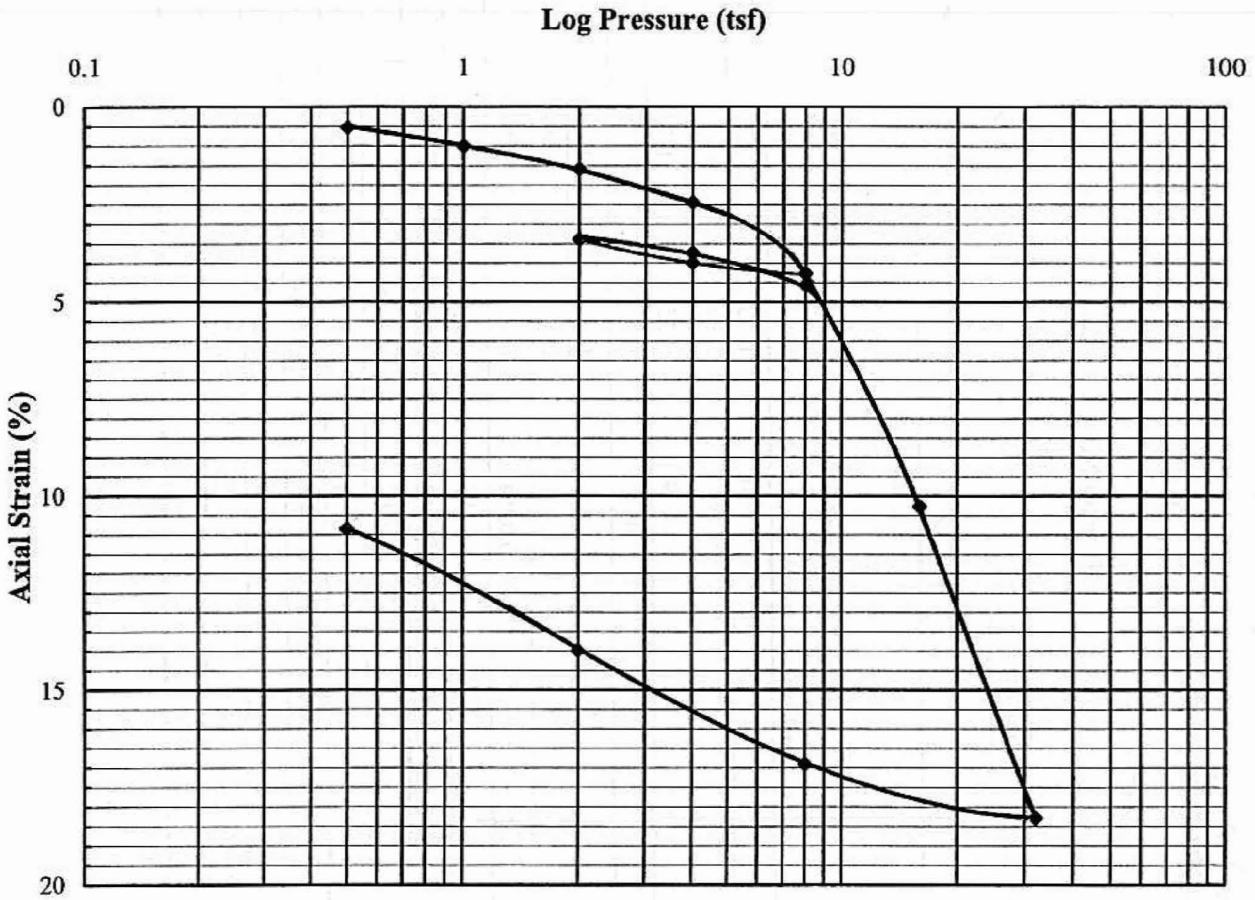
Stress: 16. tsf





GeoTesting express a subsidiary of Geocomp Corporation	Project: Calvert Cliffs Nuclear PP	Location: Calvert County, MD	Project No.: GTX-6880
	Boring No.: B-315	Tested By: jdt	Checked By: njh
	Sample No.: S-8	Test Date: 08/25/06	Depth: 23.5-24.7'
	Test No.: C2	Sample Type: tube	Elevation: ---
	Description: Moist, dark olive gray clayey sand (SC), 35% passing #200 sieve, inundated @ 0 .5 tsf		
	Remarks: System C - Compression Ratio:0.17, Recompression Ratio: 0.02		

Thu, 09-NOV-2006 14:46:29



REVISED FORM FOR
NCR NO. 25237-NCR-028
2/12/07

Probable Preconsolidation Pressure (Pp), tsf:	*9.3*			**Recompression Ratio (Cεr):**	*0.017*
Type of Specimen:	*Tube Sample*			**Compression Ratio (Cεc):**	*0.266*
Description:	*LEAN CLAY with sand (CL) - gray*				**Initial** / **Final**
				Water Content, %	*33.0* / *26.8*
LL: *44*	**PI:** *28*	**Gs:** *2.79*	**P_o' (tsf):** *2.00*	**Void Ratio**	*0.94* / *0.73*
% < No. 200:	*71.0*	**Test Method:**	*ASTM D2435 Method A*	**Saturation, %**	*98* / *100*
Test Condition:	*Inundated @ 0.5 tsf*			**Dry Unit Weight, pcf**	*89.8* / *100.7*

Remarks: Coefficient of Consolidation, Cv, equals 338 and 33 ft2/yr at average pressures of 3 and 12 tsf (square root of time method).

Average Water Content of Trimmings, %: *32.5*

Schnabel
Schnabel Engineering

Project: Calvert Cliffs Nuclear Power Plant

Location:	*Calvert County, MD*		
Boring:	*B-316*	**Schnabel No.:**	*06120048*
Depth:	*43.5-45.5 ft*	**Elevation:**	*64.6 to 62.6*
Date:	*10/26/2006*	**Reviewed by:**	*CJS*

Consolidation Test Report

Consolidation Test Data Sheet

Consolidometer ID: 2

10/26/06

REVISED FORM FOR
NCR NO. 25237-NCR-028
2/12/2007

Schnabel Contract: *06120048*

Test Method: *ASTM D2435 Method A*

Project: *Calvert Cliffs Nuclear Power Plant*

Test Condition: *Inundated @ 0.5 tsf*

Initial Height of Specimen (H_o), in.: 0.7490

Boring No.: *B-316*

Height of Solids (H_s), in.: 0.3863

Depth: *43.5-45.5 ft*

Seating Press. (tsf): 0.05

Initial Dial Gauge Reading (D_o), in.: -0.0001

Reviewed by: CJS

Pressure, P (tsf)	TimeReadings Required	Date Load Applied	Time Load Applied	Load Applied By	A Final[1] Dial Reading, D_{fi} x 10^{-4} in.	B Apparatus Correction[2], D_{ci} x 10^{-4} in.	C Cumulative Change in Height[3], ΔH_i in.	D Height of Voids[4], H_{vi} in.	Vertical Strain[5], ε_i (%)	Void Ratio[6], e_i
0.5		10/3/2006	9:05	DWC	50	11	0.0040	0.3587	0.53	0.929
1		10/4/2006	9:05	DWC	89	15	0.0075	0.3552	1.00	0.920
2		10/5/2006	9:05	DWC	139	21	0.0119	0.3508	1.59	0.908
4		10/6/2006	9:05	DWC	210	28	0.0183	0.3444	2.44	0.892
8		10/7/2006	9:05	DWC	355	36	0.0320	0.3307	4.27	0.856
4		10/9/2006	9:05	DWC	326	28	0.0299	0.3328	3.99	0.862
2		10/10/2006	9:05	DWC	274	21	0.0254	0.3373	3.39	0.873
4		10/11/2006	9:05	DWC	307	28	0.0280	0.3347	3.74	0.866
8		10/12/2006	9:05	DWC	377	36	0.0342	0.3285	4.57	0.850
16		10/13/2006	9:05	DWC	813	45	0.0769	0.2858	10.27	0.740
32		10/14/2006	9:05	CJS	1426	57	0.1370	0.2257	18.29	0.584
8		10/16/2006	9:05	DWC	1301	36	0.1266	0.2361	16.90	0.611
2		10/17/2006	9:05	DWC	1068	21	0.1048	0.2579	13.99	0.668
0.5		10/18/2006	9:05	DWC	823	11	0.0813	0.2814	10.86	0.728

Notes:
1. "Final" based on test method; 24 hrs for Method A, end of primary for Method B.
2. Correction value, for the current pressure, from the consolidometer's calibration curve.
3. $\Delta H = D_{fi} - D_o - D_{ci}$ = Col. A - D_o - Col. B
4. $H_{vi} = (H_o - H_s) - \Delta H$
5. $\varepsilon_i = (\Delta H / H_o) \times 100$ = (Col. C / H_o) x 100
6. $e_i = H_{vi} / Hs$ = Col. D / Hs

Consol 8/2006 Rev. 1

Schnabel Engineering

Load Time Readings

10/26/06

Project: Calvert Cliffs Nuclear Power Plant

Schnabel Contract: 06120048

Boring No.: B-316 Depth: 43.5-45.5 ft

Consol. ID: 2 Reviewed by: CJS

Elapsed Time (min.)	Dial Guage Readings (inches)					
	4 tsf Reload 10/11/2006	16 tsf Load 10/13/2006	X tsf Load Date	X tsf Load Date	X tsf Load Date	X tsf Load Date
0.1	0.0283	0.0415				
0.25	0.0287	0.0432				
0.5	0.0290	0.0450				
1	0.0294	0.0475				
2	0.0298	0.0510				
4	0.0301	0.0554				
8	0.0302	0.0605				
15	0.0303	0.0652				
30	0.0304	0.0695				
60	0.0305	0.0727				
120	0.0306	0.0751				
240	0.0307	0.0772				
480	0.0307	0.0792				
720	0.0307	0.0800				
960	0.0307	0.0805				
1200	0.0307	0.0810				
1440	0.0307	0.0813				
1680						
1920						
2160						
2400						
2640						
2880						

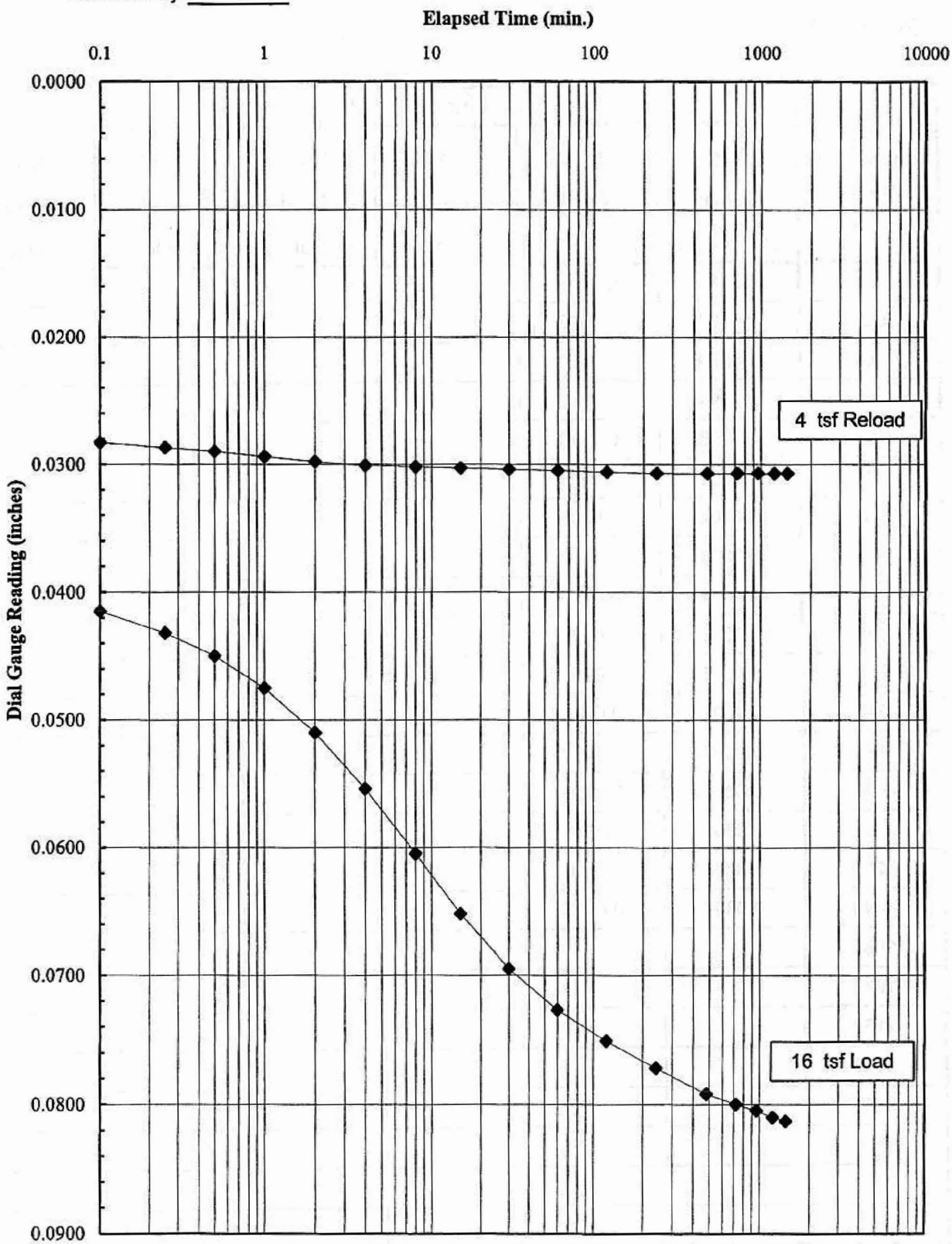
Schnabel
Schnabel Engineering

Consolidation Time Curves

10/26/06

Project: Calvert Cliffs Nuclear Power Plant
Schnabel Contract: 06120048
Boring No.: B-316 Depth: 43.5-45.5 ft

Reviewed by: CJS



Consol 8/2006 Rev. 1