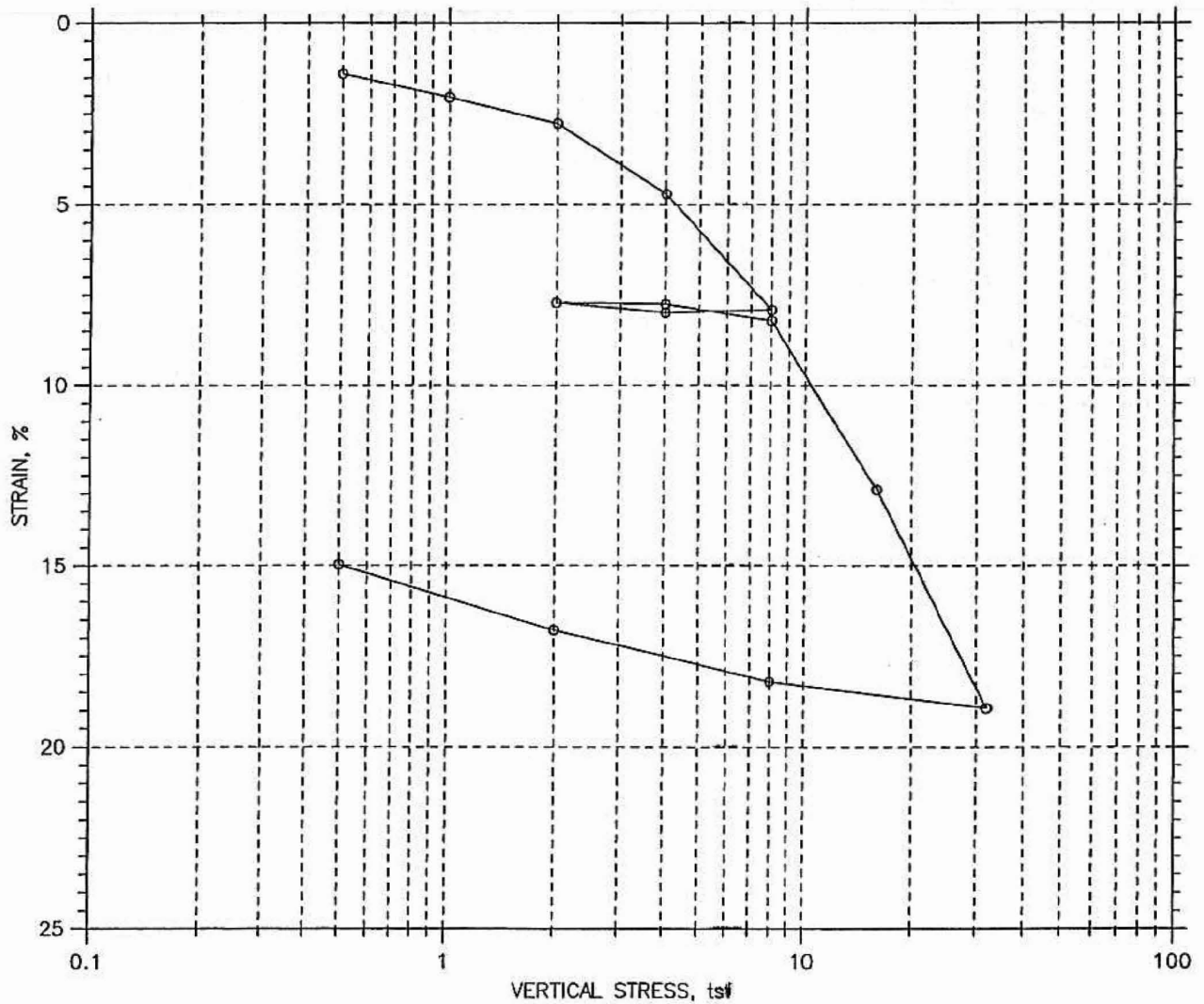


CONSOLIDATION TEST DATA SUMMARY REPORT



				Before Test	After Test
Overburden Pressure: ---				28.35	21.46
Preconsolidation Pressure: 5.4 tsf				90.1	106.
Compression Index: ---				89.06	100.00
Diameter: 2.5 in		Height: 1 in		0.85	0.57
LL: 49	PL: 12	PI: 37	GS: 2.67		

GeoTesting express <small>a subsidiary of Geocomp Corporation</small>	Project: Calvert Cliffs Nuclear	Location: Calvert County, MD	Project No.: GTX-6880
	Boring No.: B-319	Tested By: md	Checked By: jdt
	Sample No.: S-10	Test Date: 09/08/06	Depth: 33.5-35.5
	Test No.: C-4	Sample Type: tube	Elevation: ---
	Description: Moist, dark gray clay with sand (CL), 72% passing #200 sieve, inundated @ 0.5 tsf		
	Remarks: System Q-Compression Ratio: 0.19, Recompression Ratio: 0.01		

CONSOLIDATION TEST DATA

Project: Calvert Cliffs Nuclear
 Boring No.: B-319
 Sample No.: S-10
 Test No.: C-4

Location: Calvert County, MD
 Tested By: md
 Test Date: 09/08/06
 Sample Type: tube

Project No.: GTX-6880
 Checked By: jdt
 Depth: 33.5-35.5
 Elevation: ---

Soil Description: Moist, dark gray clay with sand (CL), 72% passing #200 sieve, inundated @ 0.5 tsf
 Remarks: System Q-Compression Ratio: 0.19, Recompression Ratio: 0.01

Measured Specific Gravity: 2.67
 Initial Void Ratio: 0.85
 Final Void Ratio: 0.57

Liquid Limit: 49
 Plastic Limit: 12
 Plasticity Index: 37

Initial Height: 1.00 in
 Specimen Diameter: 2.50 in

Container ID	Before Consolidation		After Consolidation	
	Trimmings	Specimen+Ring	Specimen+Ring	Trimmings
	1611	RING		6
Wt. Container + Wet Soil, gm	105.39	356.66	348.66	148.94
Wt. Container + Dry Soil, gm	82.64	323.74	323.74	124.1
Wt. Container, gm	8.42	207.65	207.65	8.37
Wt. Dry Soil, gm	74.22	116.09	116.09	115.73
Water Content, %	30.65	28.35	21.46	21.46
Void Ratio	---	0.85	0.57	---
Degree of Saturation, %	---	89.06	100.00	---
Dry Unit Weight, pcf	---	90.097	105.96	---

CONSOLIDATION TEST DATA

Project: Calvert Cliffs Nuclear
 Boring No.: B-319
 Sample No.: S-10
 Test No.: C-4

Location: Calvert County, MD
 Tested By: md
 Test Date: 09/08/06
 Sample Type: tube

Project No.: GTX-6880
 Checked By: jdt
 Depth: 33.5-35.5
 Elevation: ---

Soil Description: Moist, dark gray clay with sand (CL), 72% passing #200 sieve, inundated @ 0.5 tsf
 Remarks: System Q-Compression Ratio: 0.19, Recompression Ratio: 0.01

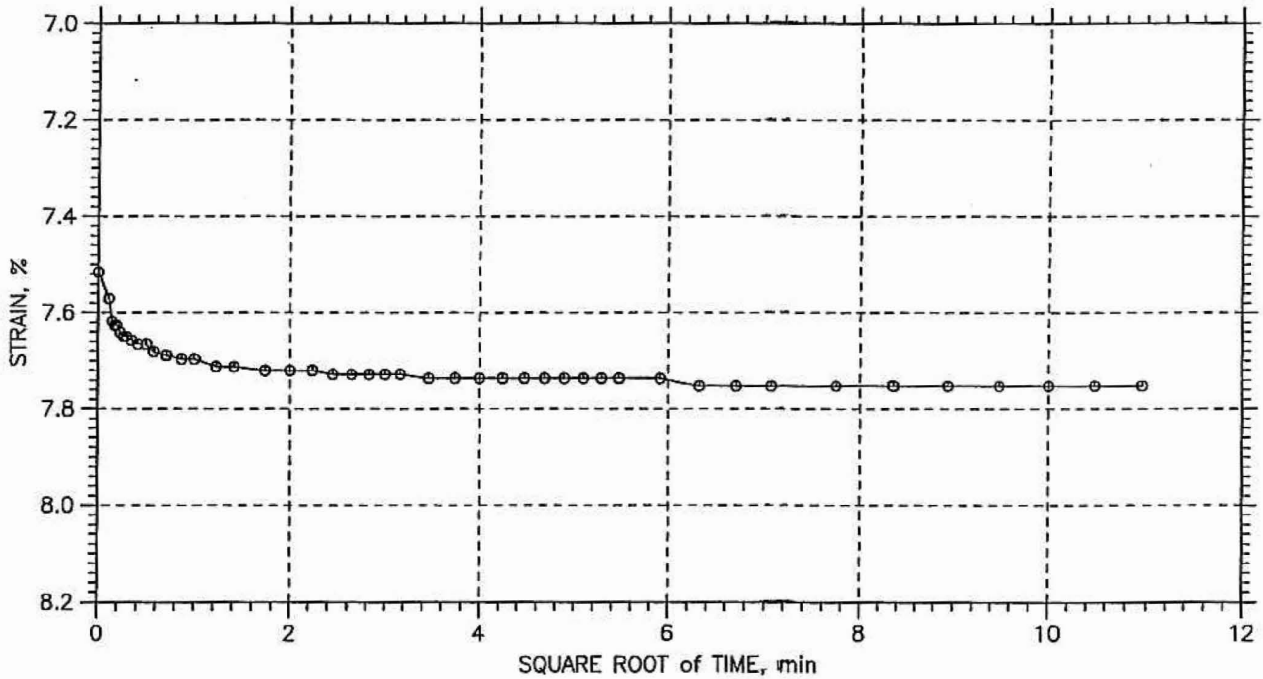
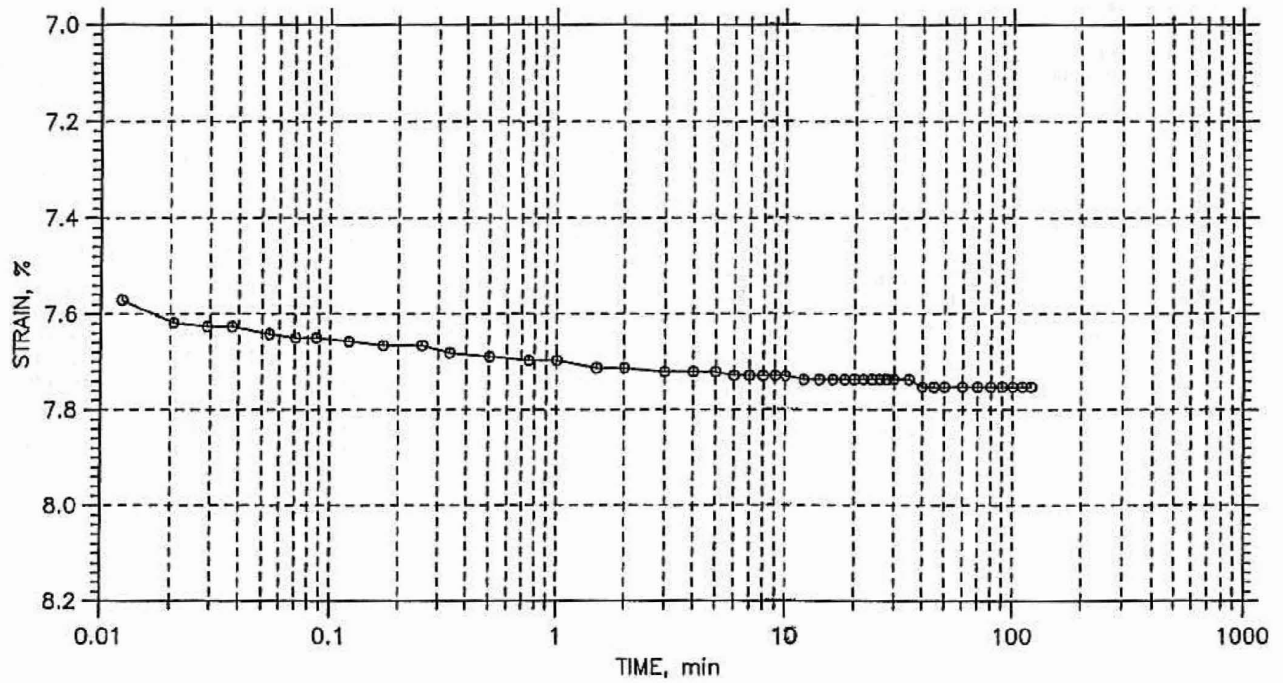
	Applied Stress tsf	Final Displacement in	Void Ratio	Strain at End %	T50 Sq.Rt. min	Fitting		Coefficient of Consolidation		
						Log min	Sq.Rt. in ² /sec	Log in ² /sec	Ave. in ² /sec	
1	0.5	0.01405	0.824	1.40	0.1	0.0	1.01e-002	0.00e+000	1.01e-002	
2	1	0.02055	0.812	2.05	1.2	0.0	6.81e-004	0.00e+000	6.81e-004	
3	2	0.02771	0.799	2.77	0.1	0.0	1.53e-002	1.73e-002	1.63e-002	
4	4	0.0472	0.763	4.72	0.2	0.1	3.54e-003	7.12e-003	4.73e-003	
5	8	0.07909	0.704	7.91	0.9	1.0	7.71e-004	7.04e-004	7.36e-004	
6	4	0.07988	0.702	7.99	0.2	0.0	3.30e-003	0.00e+000	3.30e-003	
7	2	0.07716	0.707	7.72	0.7	0.5	1.06e-003	1.38e-003	1.20e-003	
8	4	0.07752	0.707	7.75	0.1	0.0	6.99e-003	0.00e+000	6.99e-003	
9	8	0.08201	0.698	8.20	0.7	0.2	9.75e-004	3.77e-003	1.55e-003	
10	16	0.1289	0.611	12.89	2.1	2.7	3.16e-004	2.46e-004	2.76e-004	
11	32	0.1893	0.500	18.93	2.8	3.8	2.08e-004	1.53e-004	1.76e-004	
12	8	0.182	0.513	18.20	0.3	0.0	1.87e-003	0.00e+000	1.87e-003	
13	2	0.1678	0.540	16.78	3.5	4.8	1.58e-004	1.17e-004	1.34e-004	
14	0.5	0.1497	0.573	14.97	10.9	0.0	5.34e-005	0.00e+000	5.34e-005	

CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 8 of 14

Stress: 4. tsf



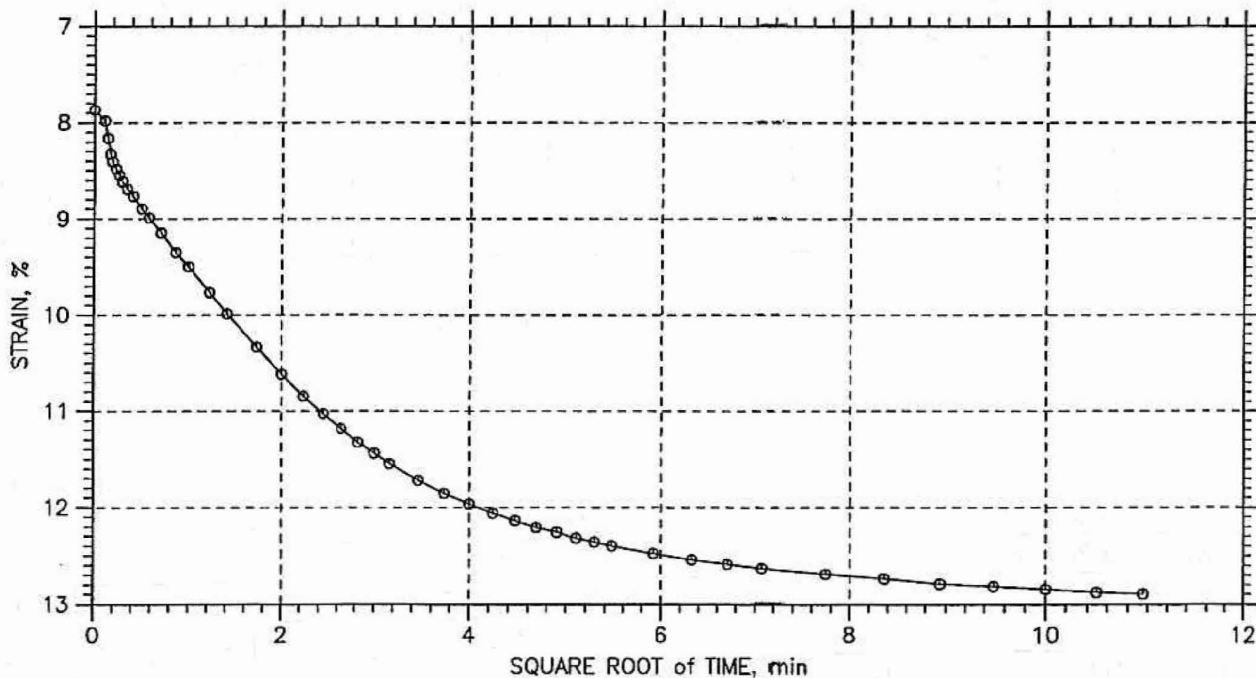
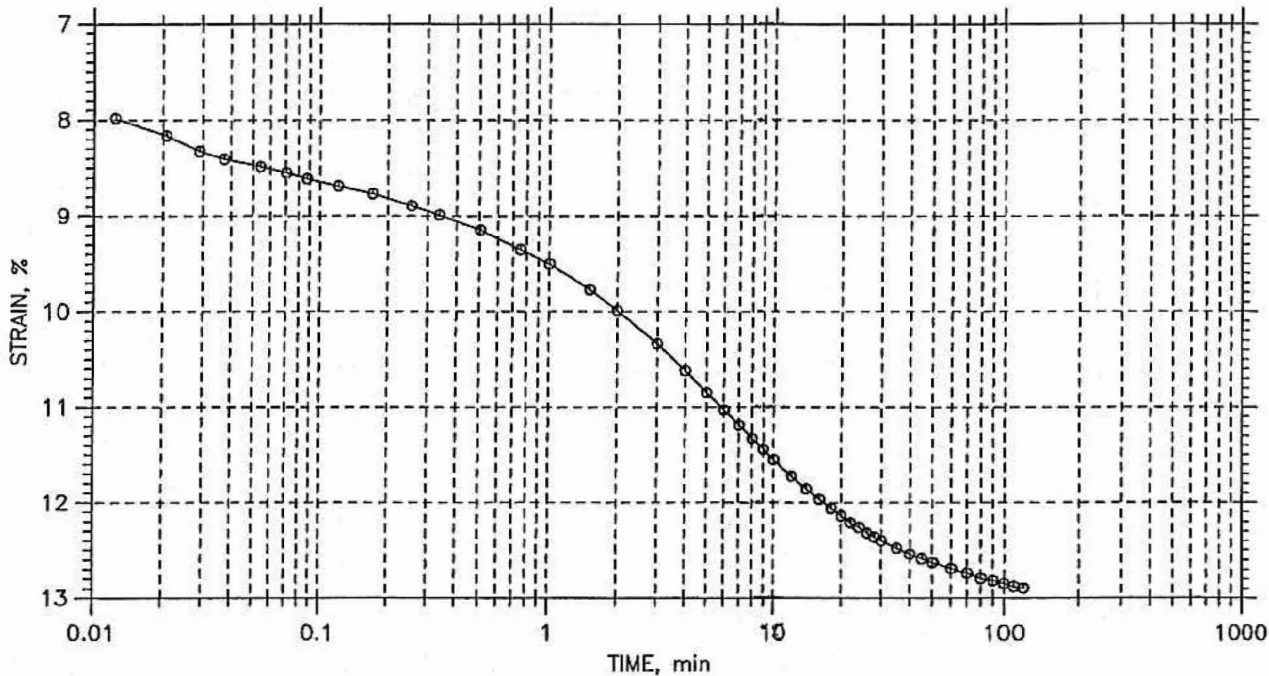
GeoTesting express <small>a subsidiary of Geocomp Corporation</small>	Project: Calvert Cliffs Nuclear	Location: Calvert County, MD	Project No.: GTX-6880
	Boring No.: B-319	Tested By: md	Checked By: jdt
	Sample No.: S-10	Test Date: 09/08/08	Depth: 33.5-35.5
	Test No.: C-4	Sample Type: tube	Elevation: ---
	Description: Moist, dark gray clay with sand (CL), 72% passing #200 sieve, inundated @ 0.5 tsf		
	Remarks: System Q-Compression Ratio: 0.19, Recompression Ratio: 0.01		

CONSOLIDATION TEST DATA

TIME CURVES

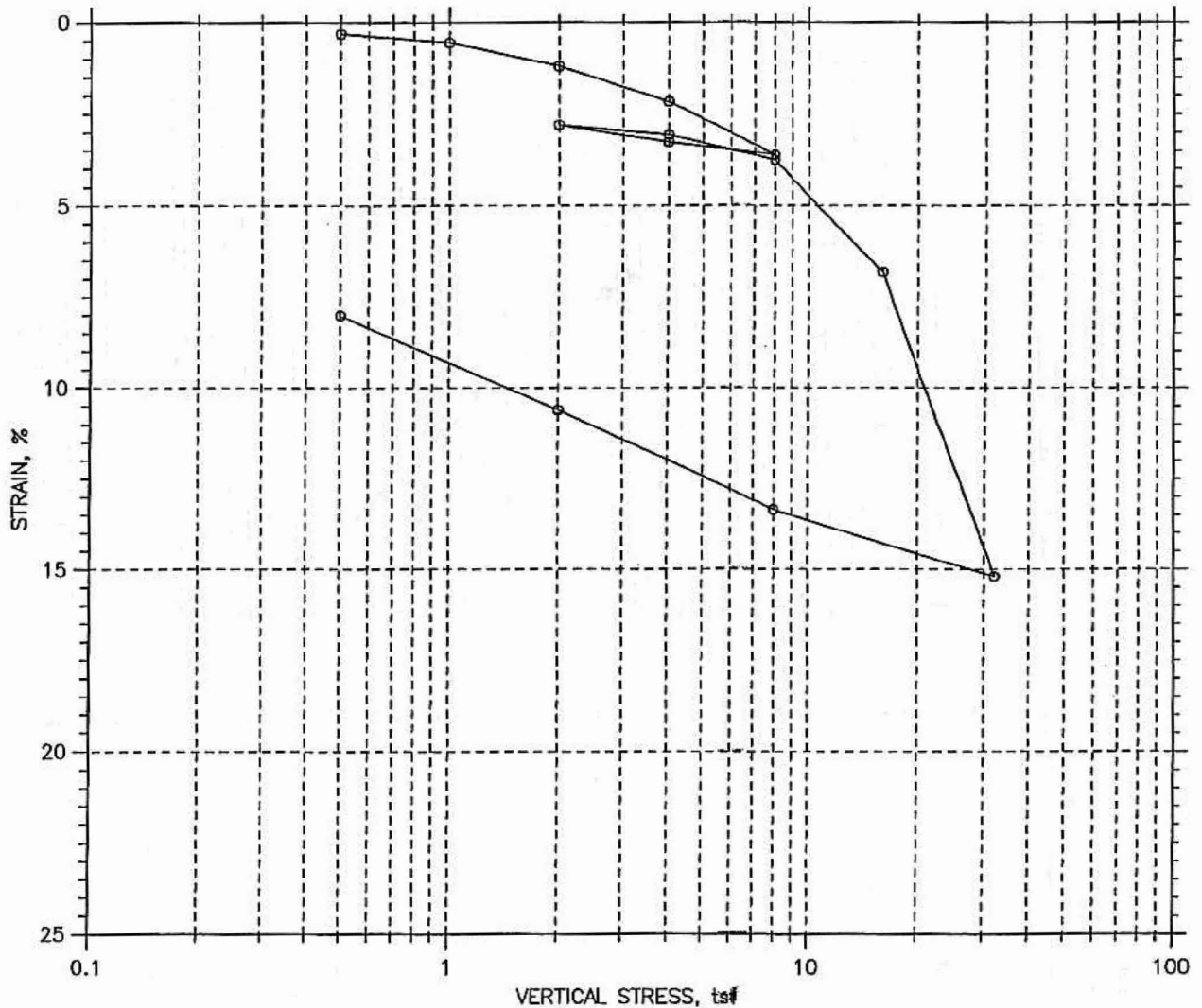
Constant Load Step: 10 of 14

Stress: 16. tsf



GeoTesting express <small>a subsidiary of Geocomp Corporation</small>	Project: Calvert Cliffs Nuclear	Location: Calvert County, MD	Project No.: GTX-6880
	Boring No.: B-319	Tested By: md	Checked By: jdt
	Sample No.: S-10	Test Date: 09/08/06	Depth: 33.5-35.5
	Test No.: C-4	Sample Type: tube	Elevation: ---
	Description: Moist, dark gray clay with sand (CL), 72% passing #200 sieve, inundated @ 0.5 tsf		
	Remarks: System Q-Compression Ratio: 0.19, Recompression Ratio: 0.01		

CONSOLIDATION TEST DATA SUMMARY REPORT



				Before Test	After Test	
Overburden Pressure: ---				Water Content, %	27.51	24.64
Preconsolidation Pressure: 12 tsf				Dry Unit Weight, pcf	93.73	101.9
Compression Index: ---				Saturation, %	91.78	100.00
Diameter: 2.5 in		Height: 1 in		Void Ratio	0.82	0.67
LL: 58	PL: 13	PI: 45	GS: 2.73			

GeoTesting express <small>a subsidiary of Geocomp Corporation</small>	Project: Calvert Cliffs Nuclear	Location: Calvert County, MD	Project No.: GTX-6880
	Boring No.: B-319	Tested By: md	Checked By: njh
	Sample No.: S-12	Test Date: 09/07/06	Depth: 43.5-45.2
	Test No.: C-3	Sample Type: tube	Elevation: ---
	Description: Moist, dark gray clay (CH), 87% passing #200 sieve, inundated @ 0.5 tsf		
	Remarks: System G - Compression Ratio: 0.28, Recompression Ratio: 0.04		

CONSOLIDATION TEST DATA

Project: Calvert Cliffs Nuclear
 Boring No.: B-319
 Sample No.: S-12
 Test No.: C-3

Location: Calvert County, MD
 Tested By: md
 Test Date: 09/07/06
 Sample Type: tube

Project No.: GTX-6880
 Checked By: njh
 Depth: 43.5-45.2
 Elevation: ---

Soil Description: Moist, dark gray clay (CH), 87% passing #200 sieve, inundated @ 0.5 tsf
 Remarks: System G - Compression Ratio: 0.28, Recompression Ratio: 0.04

Measured Specific Gravity: 2.73
 Initial Void Ratio: 0.82
 Final Void Ratio: 0.67

Liquid Limit: 58
 Plastic Limit: 13
 Plasticity Index: 45

Initial Height: 1.00 in
 Specimen Diameter: 2.50 in

	Before Consolidation		After Consolidation	
	Trimmings	Specimen+Ring	Specimen+Ring	Trimmings
Container ID	Z178C	RING		1223
Wt. Container + Wet Soil, gm	116.43	370.45	366.98	151.31
Wt. Container + Dry Soil, gm	90.31	337.22	337.22	123.06
Wt. Container, gm	8.35	216.45	216.45	8.4
Wt. Dry Soil, gm	81.96	120.77	120.77	114.66
Water Content, %	31.87	27.51	24.64	24.64
Void Ratio	---	0.82	0.67	---
Degree of Saturation, %	---	91.78	100.00	---
Dry Unit Weight, pcf	---	93.73	101.89	---

CONSOLIDATION TEST DATA

Project: Calvert Cliffs Nuclear
 Boring No.: B-319
 Sample No.: S-12
 Test No.: C-3

Location: Calvert County, MD
 Tested By: md
 Test Date: 09/07/06
 Sample Type: tube

Project No.: GTX-6880
 Checked By: njh
 Depth: 43.5-45.2
 Elevation: ---

Soil Description: Moist, dark gray clay (CH), 87% passing #200 sieve, inundated @ 0.5 tsf
 Remarks: System G - Compression Ratio: 0.28, Recompression Ratio: 0.04

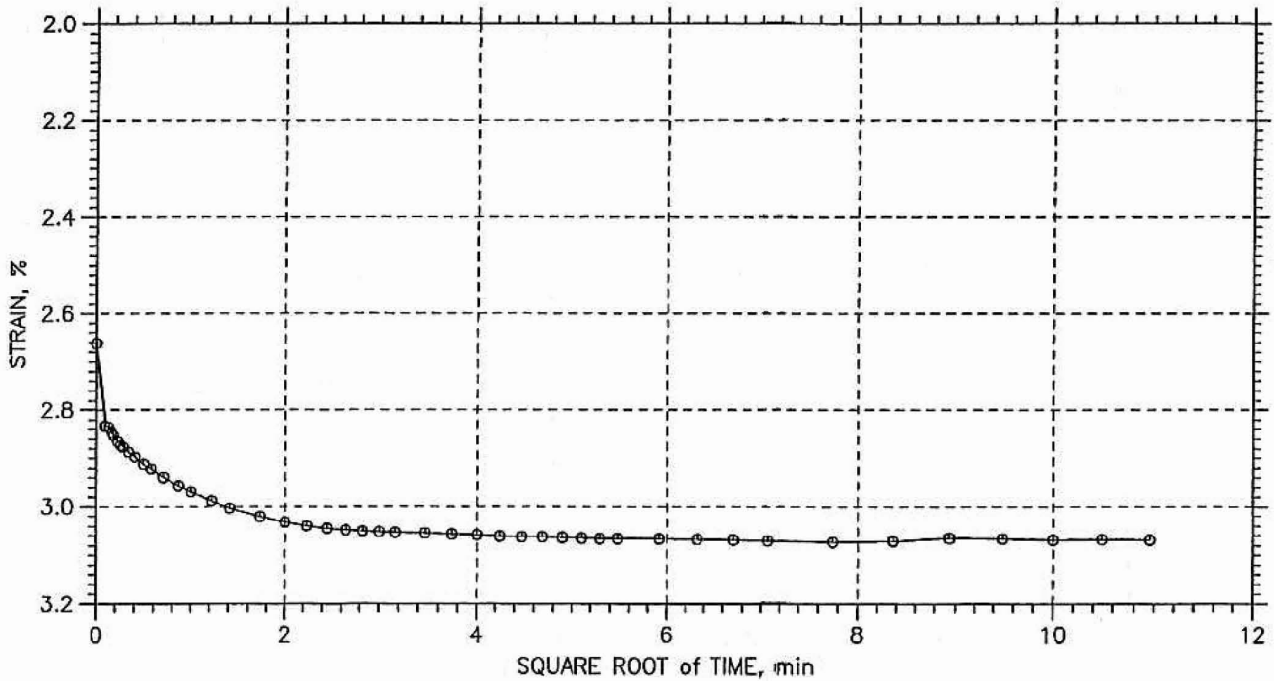
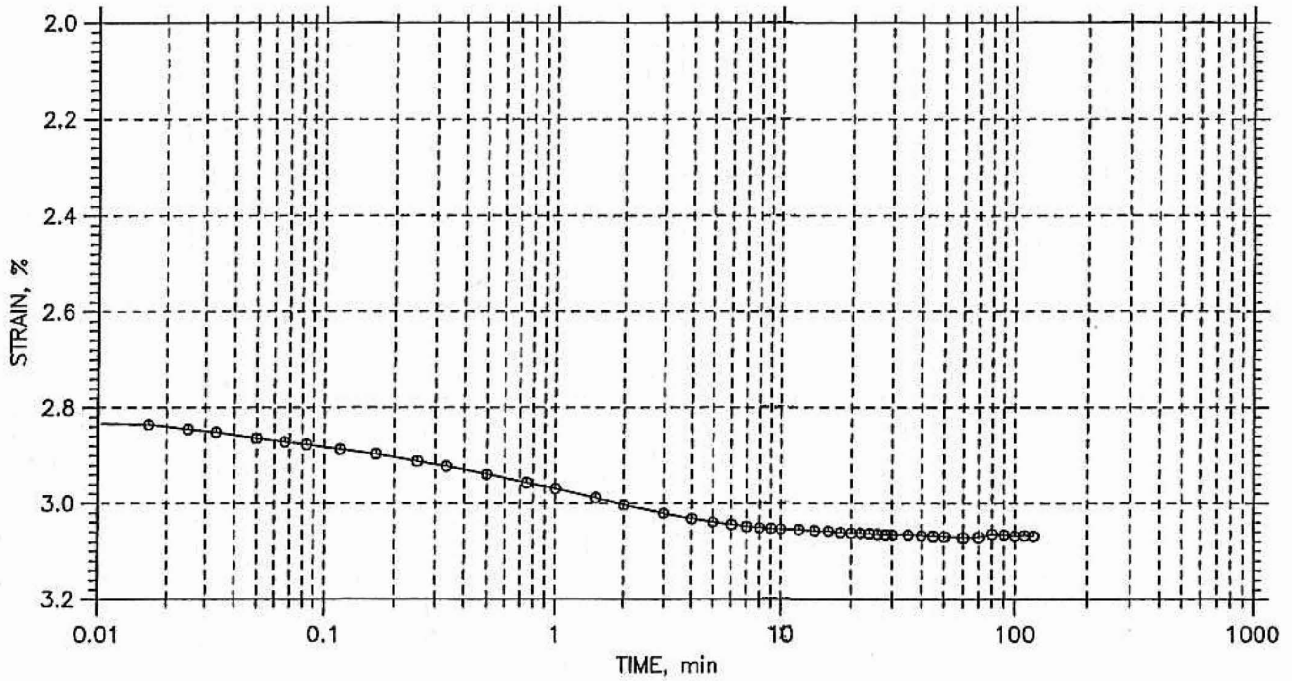
	Applied Stress tsf	Final Displacement in	Void Ratio	Strain at End %	T50 Fitting Sq.Rt. min	Coefficient of Consolidation			
						Fitting Log min	Sq.Rt. in ² /sec	Log in ² /sec	Ave. in ² /sec
1	0.5	0.003141	0.813	0.31	0.0	0.0	6.14e-002	0.00e+000	6.14e-002
2	1	0.005529	0.808	0.55	0.3	0.0	2.52e-003	0.00e+000	2.52e-003
3	2	0.01195	0.797	1.19	0.5	0.0	1.66e-003	0.00e+000	1.66e-003
4	4	0.02158	0.779	2.16	0.4	0.0	1.80e-003	0.00e+000	1.80e-003
5	8	0.03606	0.753	3.61	0.7	0.0	1.16e-003	0.00e+000	1.16e-003
6	4	0.03264	0.759	3.26	0.2	0.0	3.54e-003	0.00e+000	3.54e-003
7	2	0.02802	0.767	2.80	0.7	0.0	1.16e-003	0.00e+000	1.16e-003
8	4	0.03068	0.762	3.07	0.2	0.0	4.56e-003	0.00e+000	4.56e-003
9	8	0.03751	0.750	3.75	0.4	0.0	1.75e-003	0.00e+000	1.75e-003
10	16	0.0682	0.694	6.82	1.8	2.0	4.21e-004	3.77e-004	3.98e-004
11	32	0.152	0.542	15.20	5.1	9.0	1.28e-004	7.23e-005	9.23e-005
12	8	0.1335	0.575	13.35	1.1	0.0	5.74e-004	0.00e+000	5.74e-004
13	2	0.1061	0.625	10.61	7.3	0.0	8.70e-005	0.00e+000	8.70e-005
14	0.5	0.08009	0.673	8.01	13.0	0.0	5.20e-005	0.00e+000	5.20e-005

CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 8 of 14

Stress: 4. tsf



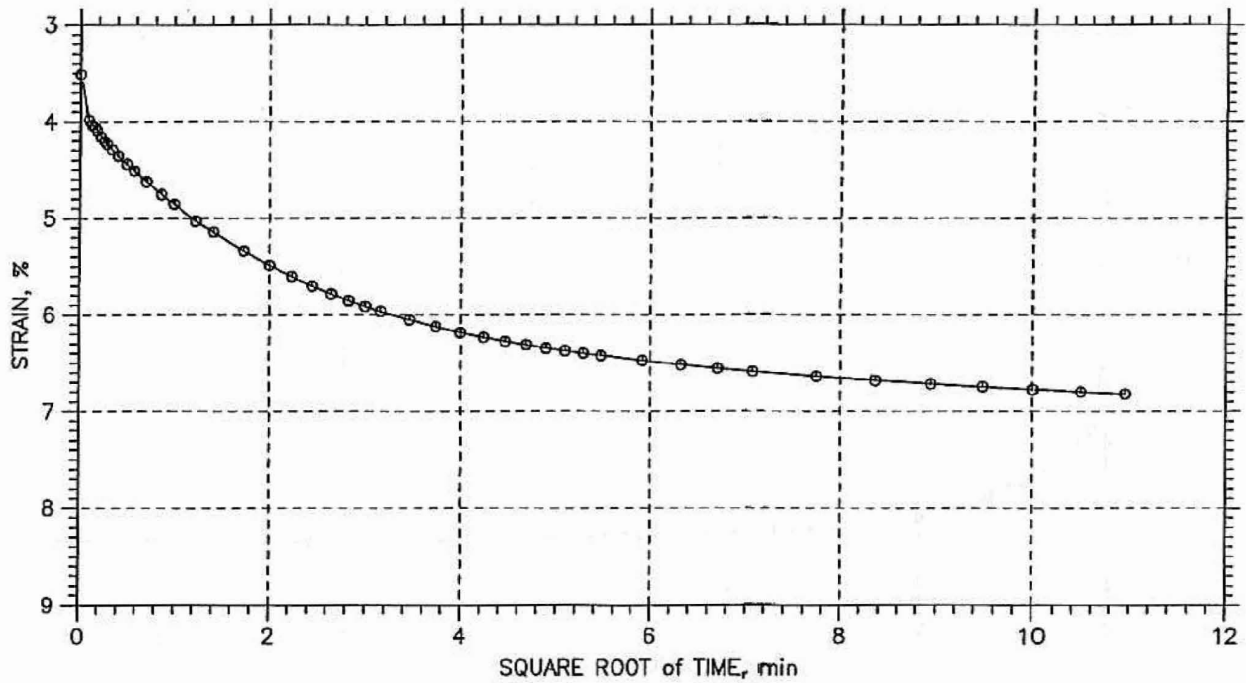
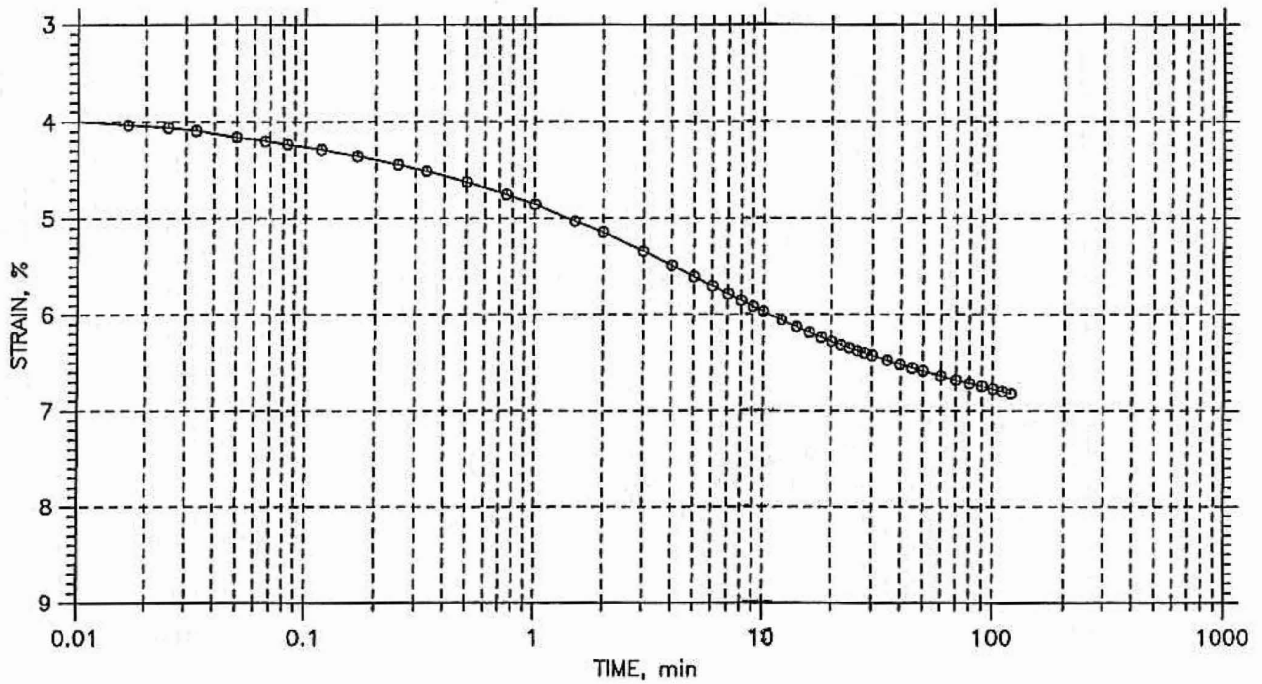
GeoTesting express <small>a subsidiary of Geocomp Corporation</small>	Project: Calvert Cliffs Nuclear	Location: Calvert County, MD	Project No.: GTX-6880
	Boring No.: B-319	Tested By: md	Checked By: njh
	Sample No.: S-12	Test Date: 09/07/06	Depth: 43.5-45.2
	Test No.: C-3	Sample Type: tube	Elevation: ---
	Description: Moist, dark gray clay (CH), 87% passing #200 sieve, inundated @ 0.5 tsf		
	Remarks: System G - Compression Ratio: 0.28, Recompression Ratio: 0.04		

CONSOLIDATION TEST DATA

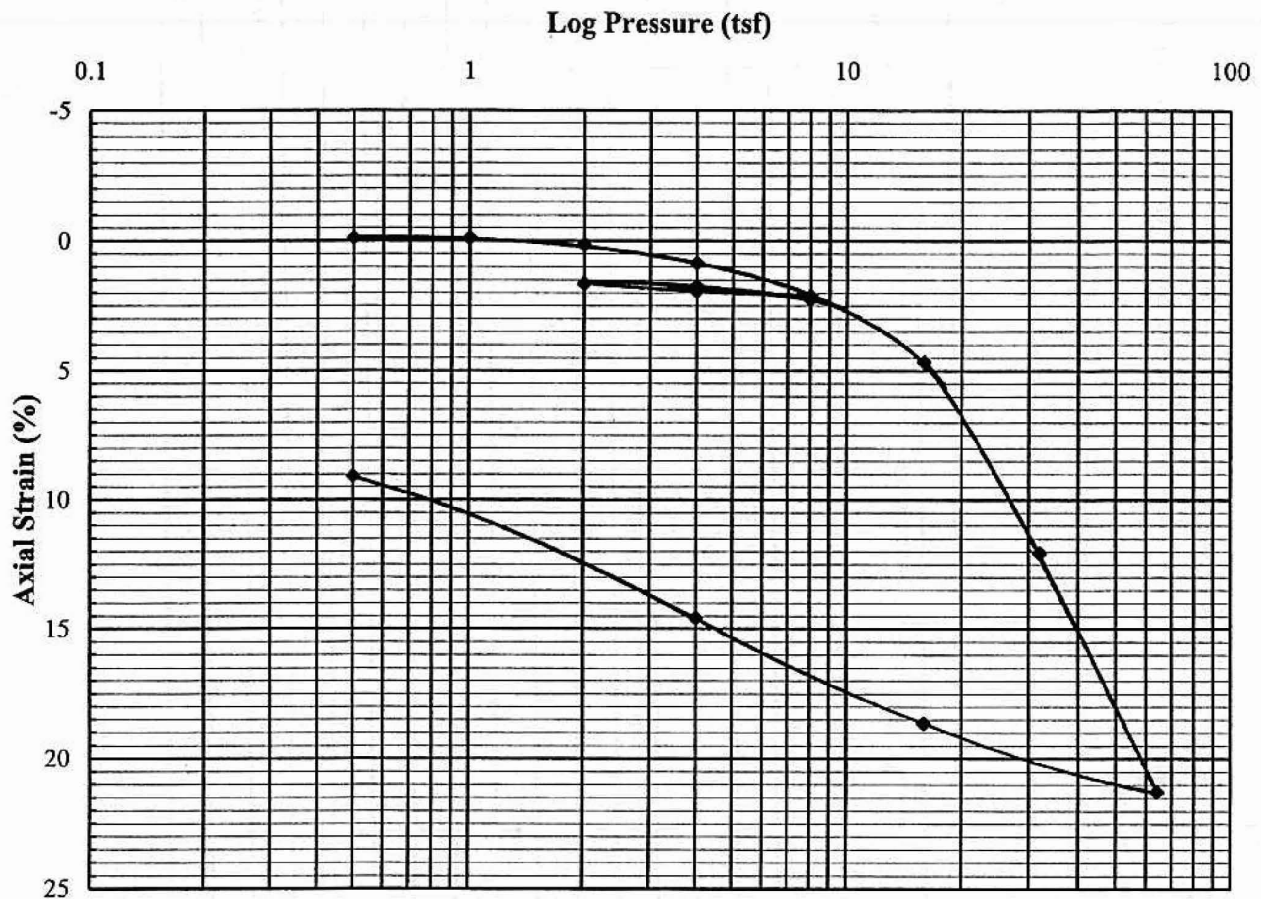
TIME CURVES

Constant Load Step: 10 of 14

Stress: 16. tsf




GeoTesting express <small>a subsidiary of Geocomp Corporation</small>	Project: Calvert Cliffs Nuclear	Location: Calvert County, MD	Project No.: GTX-6880
	Boring No.: B-319	Tested By: md	Checked By: njh
	Sample No.: S-12	Test Date: 09/07/06	Depth: 43.5-45.2
	Test No.: C-3	Sample Type: tube	Elevation: ---
	Description: Moist, dark gray clay (CH), 87% passing #200 sieve, inundated @ 0.5 tsf		
	Remarks: System G - Compression Ratio: 0.28, Recompression Ratio: 0.04		



Coefficient of Consolidation, C_v , equals 563 and 9 ft²/yr at average pressures of 3 and 12 tsf (square root of time method).

REVISED FORM FOR NCR NO. 25237-NCR-028
 AND HEIGHT OF SPECIMEN DATA ENTRY
 ERROR (NCR NO. 25237-NCR-031)
 3/9/07

Probable Preconsolidation Pressure (P_p), tsf: 19				Recompression Ratio ($C_{\alpha r}$): 0.009	
Type of Specimen: Tube Sample				Compression Ratio ($C_{\alpha c}$): 0.306	
Description: LEAN CLAY (CL) - gray				Initial	Final
				Water Content, %	35.8
				Void Ratio	1.03
LL: 45	PI: 27	Gs: 2.79	P_o' (tsf): 1.05	Saturation, %	97
% < No. 200: 99.7		Test Method: ASTM D2435 Method A		Dry Unit Weight, pcf	85.8
Test Condition: Inundated @ 4 tsf					94.4
Remarks: Initial specimen height set at 0.750 in.; possible range in value could be 0.732 to 0.761 inch.				Project: Calvert Cliffs Nuclear Power Plant	
Average Water Content of Trimmings, %: 31.4				Location: Calvert County, MD	
		Boring: B-321		Schnabel No.: 06120048	
		Depth: 23.5-25.5 ft		Elevation: 47.2 to 45.2	
		Date: 2/15/2007		Reviewed by: CJS	
		Consolidation Test Report			

Consolidation Test Data Sheet

REVISED FORM FOR NCR
NO. 25237-NCR-028 and
25237-NCR-031
3/9/2007

Consolidometer ID: 5

2/15/07

Test Method: *ASTM D2435 Method A*

Schnabel Contract: 06120048

Test Condition: *Inundated @ 4 tsf*

Project: *Calvert Cliffs Nuclear Power Plant*

Initial Height of Specimen (H_o), in.: 0.7500

Boring No.: B-321

Height of Solids (H_s), in.: 0.3699

Depth: 23.5-25.5 ft

Seating Press. (tsf): 0.05

Initial Dial Gauge Reading (D_o), in.: -0.0005

Reviewed by: CJS

Pressure, P (tsf)	Time Readings Required	Date Load Applied	Time Load Applied	Load Applied By	A	B	C	D	Vertical Strain ⁵ , ϵ_i (%)	Void Ratio ⁶ , e_i
					Final ¹ Dial Reading, D_{fi} $\times 10^{-4}$ in.	Apparatus Correction ² , D_{ci} $\times 10^{-4}$ in.	Cumulative Change in Height ³ , ΔH_i in.	Height of Voids ⁴ , H_{vi} in.		
0.5		10/4/2006	9:20	DWC	-1	12	-0.0008	0.3809	-0.11	1.030
1		10/5/2006	9:20	DWC	8	21	-0.0008	0.3809	-0.11	1.030
2		10/6/2006	9:20	DWC	40	33	0.0012	0.3789	0.16	1.024
4		10/7/2006	9:20	DWC	99	40	0.0064	0.3737	0.85	1.010
8		10/9/2006	9:20	DWC	204	50	0.0159	0.3642	2.12	0.985
4		10/10/2006	9:20	DWC	181	40	0.0146	0.3655	1.95	0.988
2		10/11/2006	9:20	DWC	152	33	0.0124	0.3677	1.65	0.994
4		10/12/2006	9:20	DWC	166	40	0.0131	0.3670	1.75	0.992
8		10/13/2006	9:20	DWC	213	50	0.0168	0.3633	2.24	0.982
16		10/14/2006	9:20	CJS	408	63	0.0350	0.3451	4.67	0.933
32		10/16/2006	9:20	DWC	976	76	0.0905	0.2896	12.07	0.783
64		10/17/2006	9:20	DWC	1677	87	0.1595	0.2206	21.27	0.596
16		10/18/2006	9:20	DWC	1457	63	0.1399	0.2402	18.65	0.649
4		10/19/2006	9:20	DWC	1129	40	0.1094	0.2707	14.59	0.732
0.5		10/20/2006	9:20	DWC	689	12	0.0682	0.3119	9.09	0.843

- 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 $\Delta H = D_{fi} - D_o - D_{ci} = \text{Col. A} - D_o - \text{Col. B}$
 - 4 $H_{vi} = (H_o - H_s) - \Delta H$
 - 5 $\epsilon_i = (\Delta H / H_o) \times 100 = (\text{Col. C} / H_o) \times 100$
 - 6 $e_i = H_{vi} / H_s = \text{Col. D} / H_s$



Load Time Readings

10/26/06

Project: Calvert Cliffs Nuclear Power Plant

Schnabel Contract: 06120048

Boring No.: B-321

Depth: 23.5-25.5ft.

Consol. ID: 5

Reviewed by: CJS

Elapsed Time (min.)	Dial Guage Readings (inches)					
	4 tsf Reload	32 tsf Load	X tsf Load	X tsf Load	X tsf Load	X tsf Load
	10/12/2006	10/16/2006	Date	Date	Date	Date
0.1	0.0156	0.0468				
0.25	0.0158	0.0480				
0.5	0.0160	0.0492				
1	0.0161	0.0508				
2	0.0162	0.0531				
4	0.0163	0.0562				
8	0.0163	0.0604				
15	0.0163	0.0653				
30	0.0163	0.0716				
60	0.0164	0.0784				
120	0.0164	0.0844				
240	0.0165	0.0892				
480	0.0166	0.0931				
720	0.0166	0.0949				
960	0.0166	0.0961				
1200	0.0166	0.0968				
1440	0.0166	0.0976				
1680						
1920						
2160						
2400						
2640						
2880						



Consolidation Time Curves

10/26/06

Project: Calvert Cliffs Nuclear Power Plant
Schnabel Contract: 06120048
Boring No.: B-321 Depth: 23.5-25.5ft.

Reviewed by: CJS

