



Consolidated Undrained Triaxial Compression Test

Project: Calvert Cliffs Nuclear Power Plant

Location: Calvert County, MD

ASTM D4767

Schnabel Contract: 06120048

Boring No.: B-321

Depth: 73.5-75.5ft.

Elevation: -2.8 to -4.8

Confining Stress (psi): 80.0

Date: 10/20/2006

Reviewed by: CJS

	Specimen Conditions	
	Initial	Consolidated
Diameter (in)	2.893	2.87
Height (in)	5.838	5.81
Area (in ²)	6.58	6.46
Moisture (%)	25.0	
W _{soils} (lbs)	2.15	
P _{wet} (pcf)	120.8	
P _{dry} (pcf)	98.6	98.7
Void Ratio	0.72	0.69
Saturation, %	92	100

Shear Testing Conditions	
Cell Pressure (psi)	100.0
Back Pressure (psi)	20.0
Eff. Confining Stress (psi)	80.0
Final B check	0.97
t ₉₀ (min.)	0.1
Rate of Strain (%/min)	0.125

Filter strips used? NO

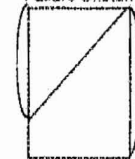
Specimen Type: Tube Sample

Soil Description: Fine SILTY SAND (SM) - gray

Liquid Limit: —
Plasticity Index: NP
% finer than No. 200: 15.3
Specific Gravity: 2.67

Remarks:

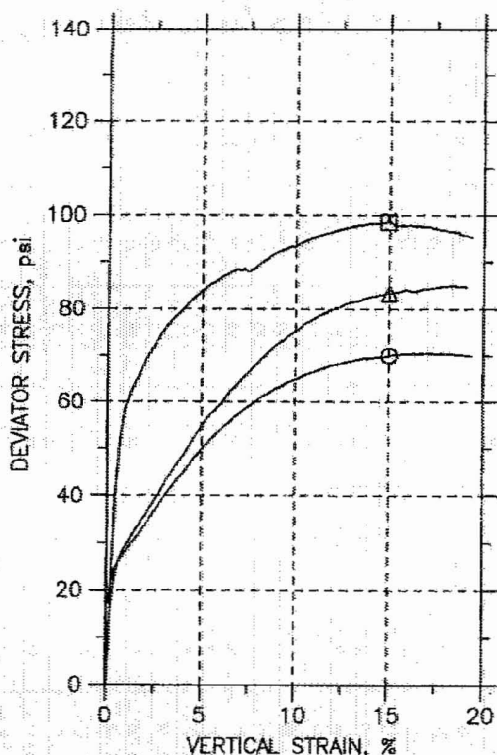
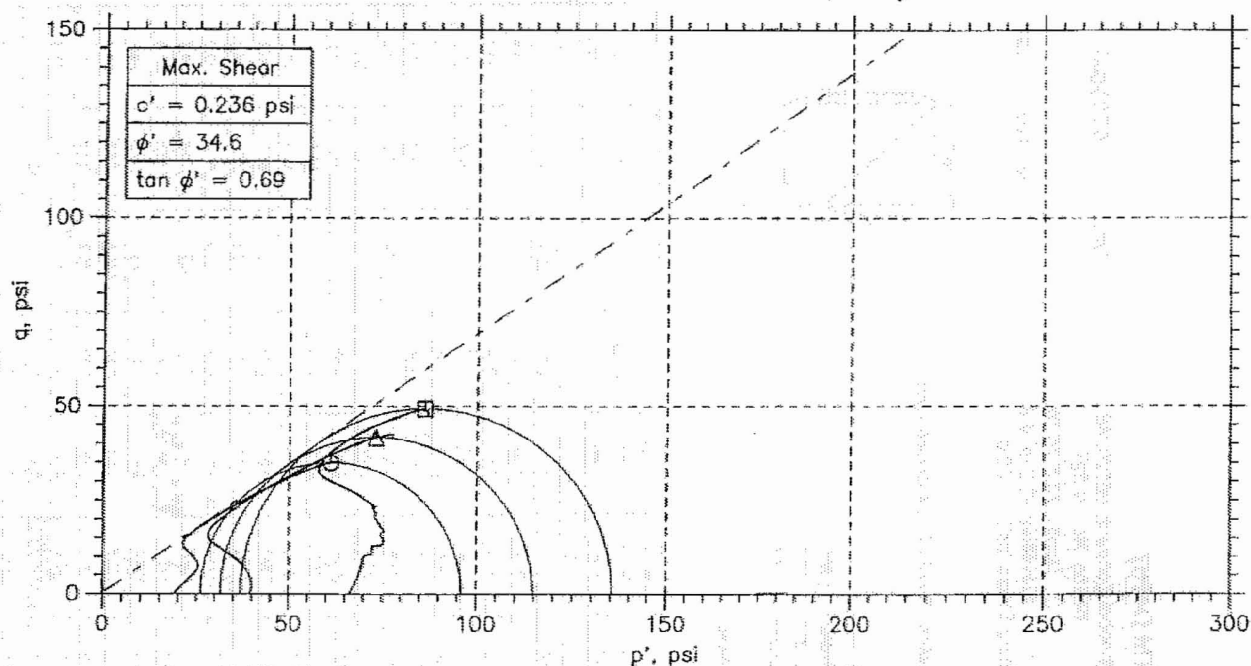
Failure Sketch



Reading No.	Deviator Load (lbs)	Corrected Dev. Load (lbs.)	Axial Deformation (in.)	Axial Strain (%)	Pore Pressure (psi)	Change in Pore Press. (psi)	Corrected Area ² (in ²)	σ ₁ (psi)	σ ₃ (psi)	σ ₁ ' (psi)	σ ₃ ' (psi)	Deviator Stress (psi)	Principal Stress Ratio	A _{bar}	P (psi)	P' (psi)	q (psi)
Zero	0.0	0.0	0.000	0.00	20.0	0.0	6.46	80.0	80.0	80.0	80.0	0.0	1.00	0.00	80.0	80.0	0.0
1	43.6	43.6	0.006	0.10	22.0	2.0	6.47	86.7	80.0	84.7	78.0	6.7	1.09	0.30	83.4	81.4	3.4
2	211.3	211.8	0.011	0.19	33.0	13.0	6.48	112.7	80.0	98.7	67.0	32.7	1.49	0.40	98.3	83.3	16.3
3	306.9	306.8	0.017	0.29	40.6	20.6	6.48	127.3	80.0	106.7	59.4	47.3	1.80	0.44	103.7	83.1	23.7
4	375.0	374.9	0.022	0.38	46.2	26.2	6.49	137.8	80.0	111.8	53.8	57.8	2.07	0.45	108.9	82.7	28.9
5	419.5	419.4	0.028	0.48	49.8	29.8	6.50	144.8	80.0	114.8	50.2	64.6	2.29	0.46	112.3	82.5	32.3
6	458.8	458.7	0.034	0.59	52.8	32.8	6.50	150.5	80.0	117.9	47.4	70.5	2.49	0.46	115.3	82.7	35.3
7	487.4	487.3	0.039	0.67	54.4	34.4	6.51	154.9	80.0	120.5	45.6	74.9	2.64	0.46	117.4	83.0	37.4
8	513.9	513.7	0.045	0.77	55.9	35.9	6.51	158.9	80.0	123.0	44.1	78.9	2.79	0.46	119.4	83.5	39.4
9	534.9	534.7	0.050	0.86	58.9	38.9	6.52	162.0	80.0	125.1	43.1	82.0	2.90	0.45	121.0	84.1	41.0
10	552.0	551.8	0.056	0.96	57.5	37.5	6.53	184.5	80.0	127.0	42.5	84.5	2.99	0.44	122.3	84.8	42.3
11	616.8	616.5	0.084	1.45	58.7	38.7	6.56	174.0	80.0	135.3	41.3	94.0	3.28	0.41	127.0	86.3	47.0
12	681.3	680.9	0.112	1.93	58.1	38.1	6.59	180.3	80.0	142.2	41.9	100.3	3.39	0.38	130.1	92.0	50.1
13	704.4	703.9	0.148	2.51	56.9	36.9	6.83	196.2	80.0	149.3	43.1	106.2	3.46	0.35	133.1	96.2	53.1
14	733.5	732.9	0.174	3.00	55.7	35.7	6.66	190.0	80.0	154.3	44.3	110.0	3.48	0.32	135.0	99.3	55.0
15	786.4	785.5	0.230	3.98	53.3	33.3	6.73	198.7	80.0	163.4	46.7	116.7	3.50	0.29	138.4	105.1	58.4
16	842.3	841.2	0.291	5.01	50.7	30.7	6.80	203.6	80.0	172.9	49.3	123.6	3.51	0.25	141.8	111.1	61.8
17	887.2	885.9	0.348	5.99	48.6	28.6	6.88	208.8	80.0	180.2	51.4	128.8	3.51	0.22	144.4	115.8	64.4
18	929.0	927.5	0.404	6.05	46.6	26.6	6.95	213.5	80.0	186.9	53.4	133.5	3.50	0.20	146.8	120.2	66.8
19	973.5	971.8	0.465	8.01	44.4	24.4	7.03	218.3	80.0	193.9	55.6	138.3	3.49	0.18	149.2	124.8	69.2
20	1014.6	1012.7	0.521	8.97	42.5	22.5	7.10	222.6	80.0	200.1	57.5	142.6	3.48	0.16	151.3	128.8	71.3
21	1051.8	1049.7	0.577	9.93	40.7	20.7	7.18	226.3	80.0	205.6	59.3	146.3	3.47	0.14	153.1	132.4	73.1
22	1089.0	1086.6	0.639	11.00	38.8	18.8	7.28	229.6	80.0	210.8	61.2	149.6	3.44	0.13	154.8	136.0	74.8
23	1121.5	1118.9	0.695	11.96	37.2	17.2	7.34	232.4	80.0	215.2	62.8	152.4	3.43	0.11	156.2	139.0	76.2
24	1148.3	1145.5	0.751	12.93	35.7	15.7	7.42	234.3	80.0	218.6	64.3	154.3	3.40	0.10	157.2	141.5	77.2
25	1184.2	1181.2	0.813	14.00	34.1	14.1	7.52	237.2	80.0	223.1	65.9	157.2	3.38	0.09	158.6	144.5	78.6
26	1217.5	1214.3	0.869	14.96	32.8	12.8	7.60	239.6	80.0	227.0	67.2	159.8	3.38	0.08	159.9	147.1	79.9

Notes: 1. Deviator load corrected for membrane and filter cage (if applicable) effects.
2. Right Cylinder Correction Method

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



Symbol	⊙	△	⊠	
Sample No.	S-16	S-16	S-16	
Test No.	CU4	CU5	CU6	
Depth	63.5-65.5	63.5-65.5	63.5-65.5	
Initial	Diameter, in	2.87	2.87	2.87
	Height, in	6.05	6	6.2
	Water Content, %	27.0	26.8	23.2
	Dry Density, pcf	94.64	96.94	98
	Saturation, %	95.2	99.8	88.8
Before Shear	Void Ratio	0.755	0.713	0.695
	Water Content, %	27.4	25.4	20.0
	Dry Density, pcf	96.04	99.1	108.4
	Saturation*, %	100.0	100.0	100.0
	Void Ratio	0.729	0.676	0.532
	Back Press., psi	64.	60.98	57.99
	Ver. Eff. Cons. Stress, psi	20.	40.	70.
	Shear Strength, psi	34.99	41.66	49.27
	Strain at Failure, %	15	15	14.9
	Strain Rate, %/min	0.005	0.005	0.005
	B-Value	0.96	0.95	0.95
	Measured Specific Gravity	2.66	2.66	2.66
	Liquid Limit	72	72	72
	Plastic Limit	41	41	41

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Project: Calvert Cliffs Nuclear

Location: Calvert County, MD

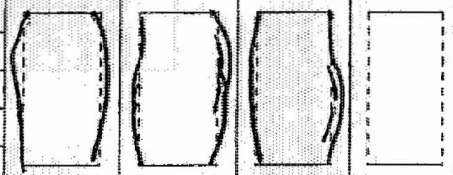
Project No.: GTX-6880

Boring No.: B-328

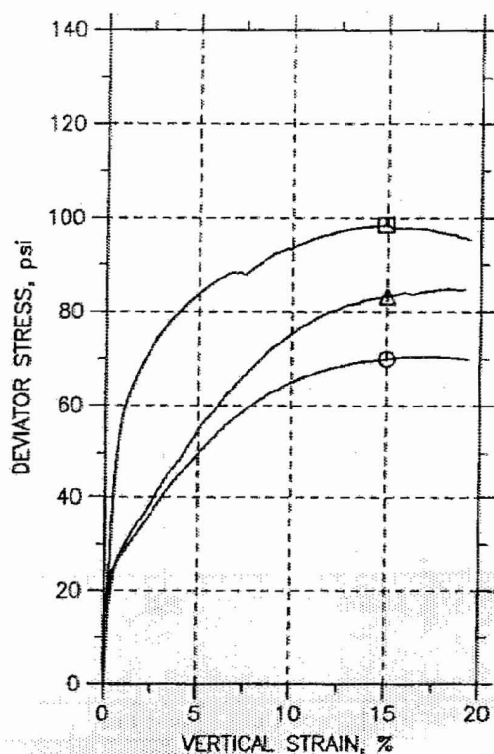
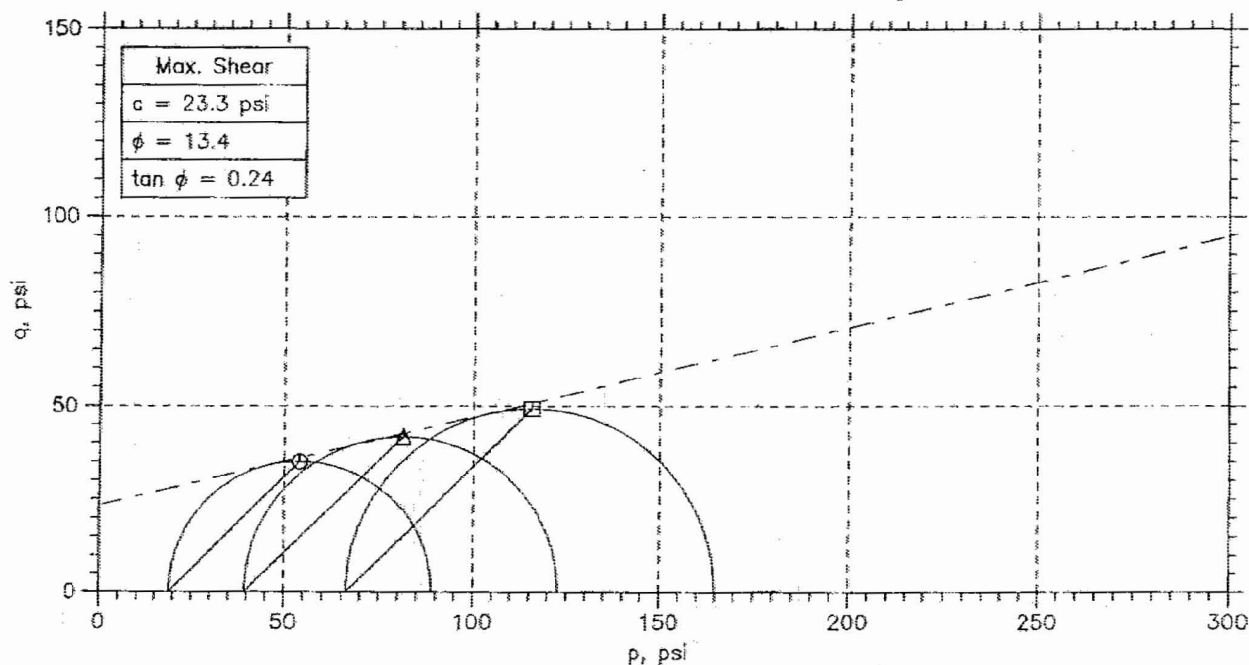
Sample Type: tube

Description: Moist, dark gray organic silt (OH), 87% passing #200 sieve

Remarks: System 0 - t50 = 84.5 min, Triaxial Rev 1.0.6.318



CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



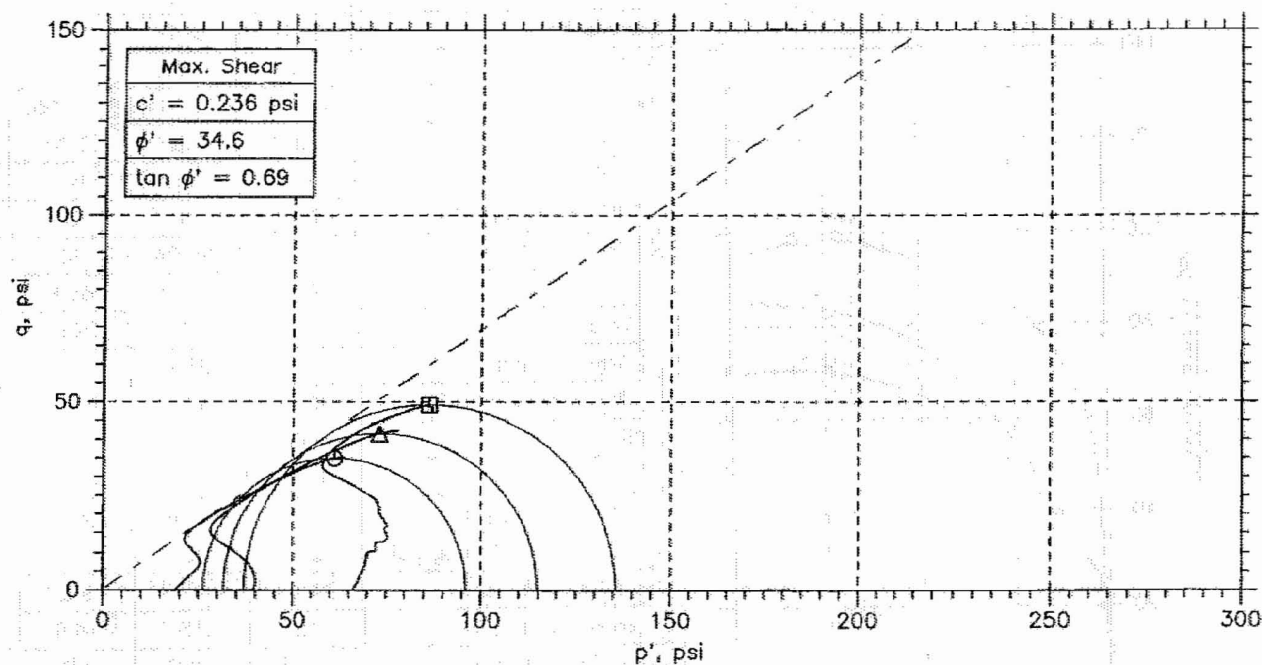
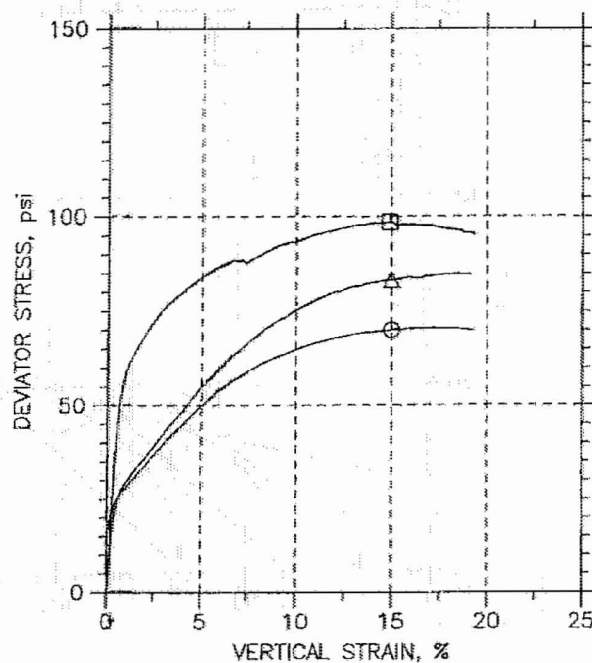
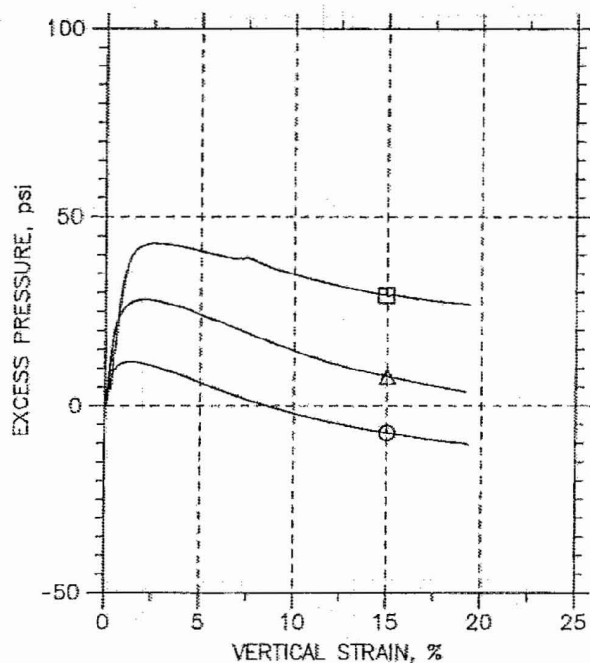
Symbol	○	△	□	
Sample No.	S-16	S-16	S-16	
Test No.	CU4	CU5	CU6	
Depth	63.5-65.5	63.5-65.5	63.5-65.5	
Initial	Diameter, in	2.87	2.87	2.87
	Height, in	6.05	6	6.2
	Water Content, %	27.0	26.8	23.2
	Dry Density, pcf	94.64	96.94	98.
	Saturation, %	95.2	99.8	88.8
Before Shear	Void Ratio	0.755	0.713	0.695
	Water Content, %	27.4	25.4	20.0
	Dry Density, pcf	96.04	99.1	108.4
	Saturation*, %	100.0	100.0	100.0
	Void Ratio	0.729	0.676	0.532
	Back Press., psi	64.	60.98	57.99
	Ver. Eff. Cons. Stress, psi	20.	40.	70.
	Shear Strength, psi	34.99	41.66	49.27
	Strain at Failure, %	15	15	14.9
	Strain Rate, %/min	0.005	0.005	0.005
	B-Value	0.96	0.95	0.95
	Measured Specific Gravity	2.66	2.66	2.66
	Liquid Limit	72	72	72
	Plastic Limit	41	41	41

GeoTesting express a subsidiary of Geocomp Corporation	Project: Calvert Cliffs Nuclear	
	Location: Calvert County, MD	
	Project No.: GTX-6880	
	Boring No.: B-328	
	Sample Type: tube	
	Description: Moist, dark gray organic silt (OH), 87% passing #200 sieve	
Remarks: System O - t50 = 84.5 min, Triaxial Rev 1.0.6.318		

Phase calculations based on start and end of test.

* Saturation is set to 100% for phase calculations.

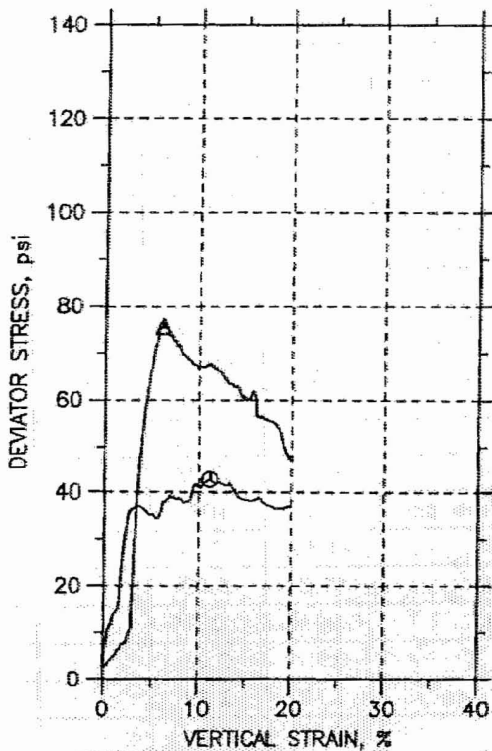
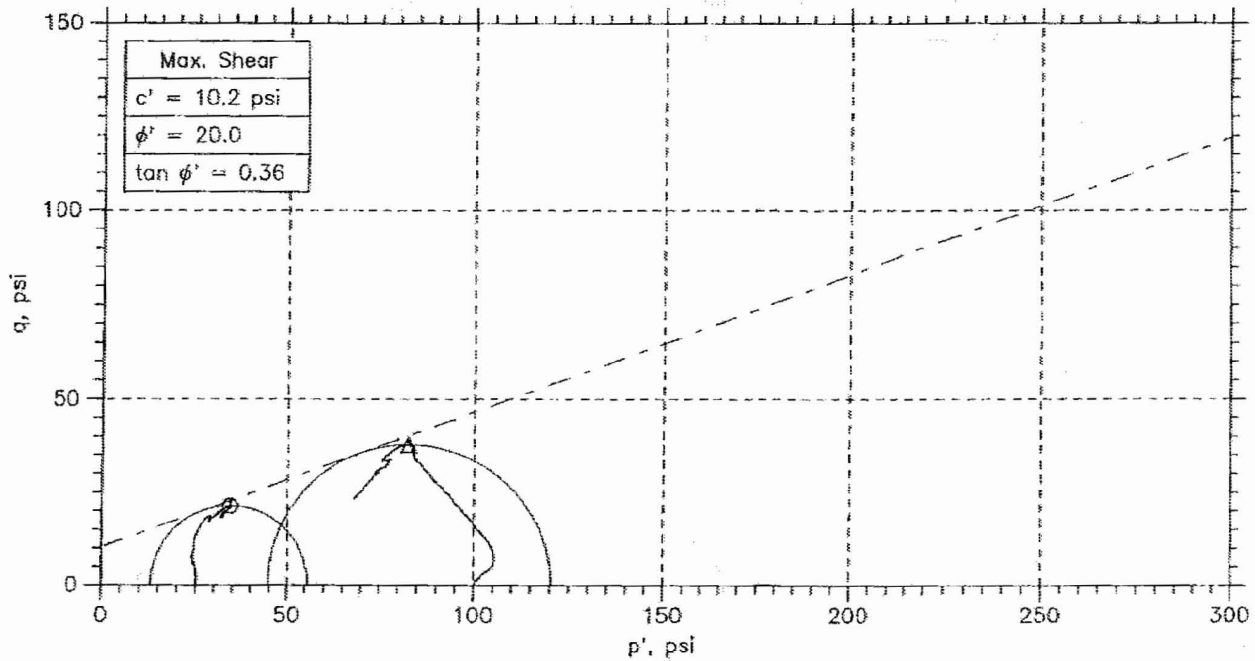
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Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
⊙ S-16	CU4	63.5-65.5	njh	09/21/06	jdt		6880-cu4n.dat
△ S-16	CU5	63.5-65.5	njh	09/20/06	jdt		6880-CU5n.dat
□ S-16	CU6	63.5-65.5	njh	09/19/06	jdt		6880-CU6an.dat

GeoTesting express a subsidiary of Geocomp Corporation			
	Project: Calvert Cliffs Nuclear	Location: Calvert County, MD	Project No.: GTX-6880
	Boring No.: B-328	Sample Type: tube	
	Description: Moist, dark gray organic silt (OH), 87% passing #200 sieve		
	Remarks: System O - t50 = 84.5 min, Triaxial Rev 1.0.6.318		

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



Symbol	⊙	Δ		
Sample No.	S-17	S-17		
Test No.	CU18	CU19		
Depth	68-70	68-70		
Initial	Diameter, in	2.87	2.87	
	Height, in	6.07	5.9	
	Water Content, %	35.1	36.5	
	Dry Density, pcf	84.52	83.09	
	Saturation, %	92.6	93.1	
Before Shear	Void Ratio	1.05	1.09	
	Water Content, %	38.5	33.6	
	Dry Density, pcf	83.86	89.77	
	Saturation*, %	100.0	100.0	
	Void Ratio	1.07	0.933	
	Back Press., psi	115.	87.83	
	Ver. Eff. Cons. Stress, psi	25.	100.	
	Shear Strength, psi	21.35	37.82	
	Strain at Failure, %	11.2	6.06	
	Strain Rate, %/min	0.0036	0.0036	
	B-Value	0.95	0.94	
	Measured Specific Gravity	2.78	2.78	
	Liquid Limit	51	51	
	Plastic Limit	15	15	

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Project: Calvert Cliffs Nuclear

Location: Calvert County, MD

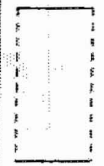
Project No.: GTX-6880

Boring No.: B-414

Sample Type: tube

Description: Moist, dark greenish gray clay (CH), 97% passing the #200 sieve

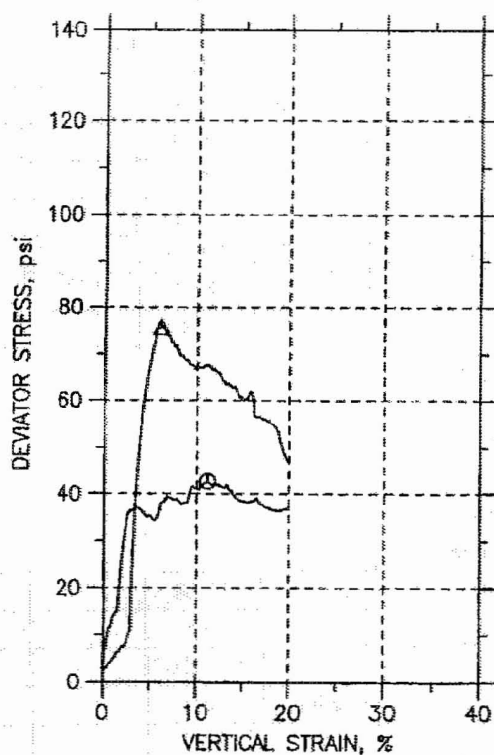
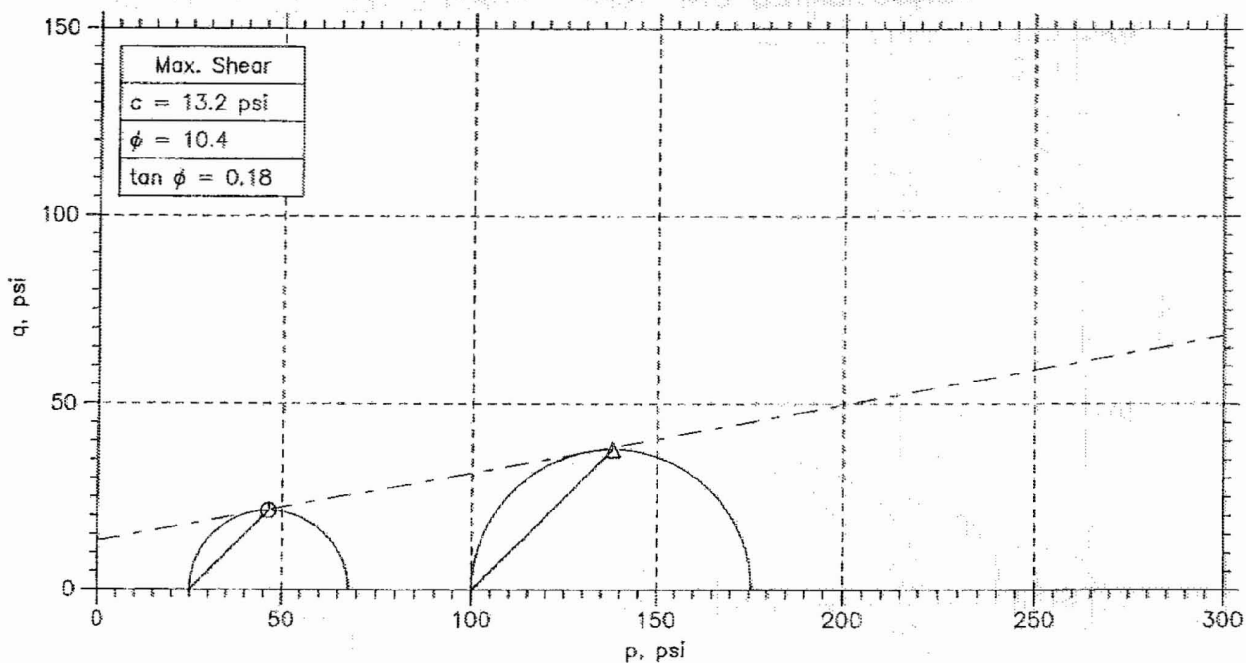
Remarks: System B - $t_{50} = 112.5$ min, Triaxial 1.0.6.318



Phase calculations based on start and end of test.

* Saturation is set to 100% for phase calculations.

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



Symbol	⊙	Δ		
Sample No.	S-17	S-17		
Test No.	CU18	CU19		
Depth	68-70	68-70		
Initial	Diameter, in	2.87	2.87	
	Height, in	6.07	5.9	
	Water Content, %	35.1	36.5	
	Dry Density, pcf	84.52	83.09	
	Saturation, %	92.6	93.1	
Before Shear	Void Ratio	1.05	1.09	
	Water Content, %	38.5	33.6	
	Dry Density, pcf	83.86	89.77	
	Saturation*, %	100.0	100.0	
	Void Ratio	1.07	0.933	
	Back Press., psi	115.	87.83	
	Ver. Eff. Cons. Stress, psi	25.	100.	
	Shear Strength, psi	21.35	37.82	
	Strain at Failure, %	11.2	6.06	
	Strain Rate, %/min	0.0036	0.0036	
	B-Value	0.95	0.94	
	Measured Specific Gravity	2.78	2.78	
	Liquid Limit	51	51	
	Plastic Limit	15	15	

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Project: Calvert Cliffs Nuclear

Location: Calvert County, MD

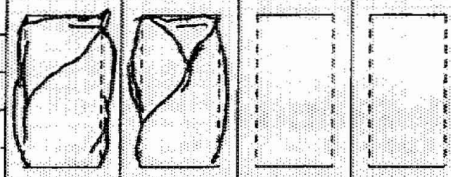
Project No.: GTX-6880

Boring No.: B-414

Sample Type: tube

Description: Moist, dark greenish gray clay (CH), 97% passing the #200 sieve

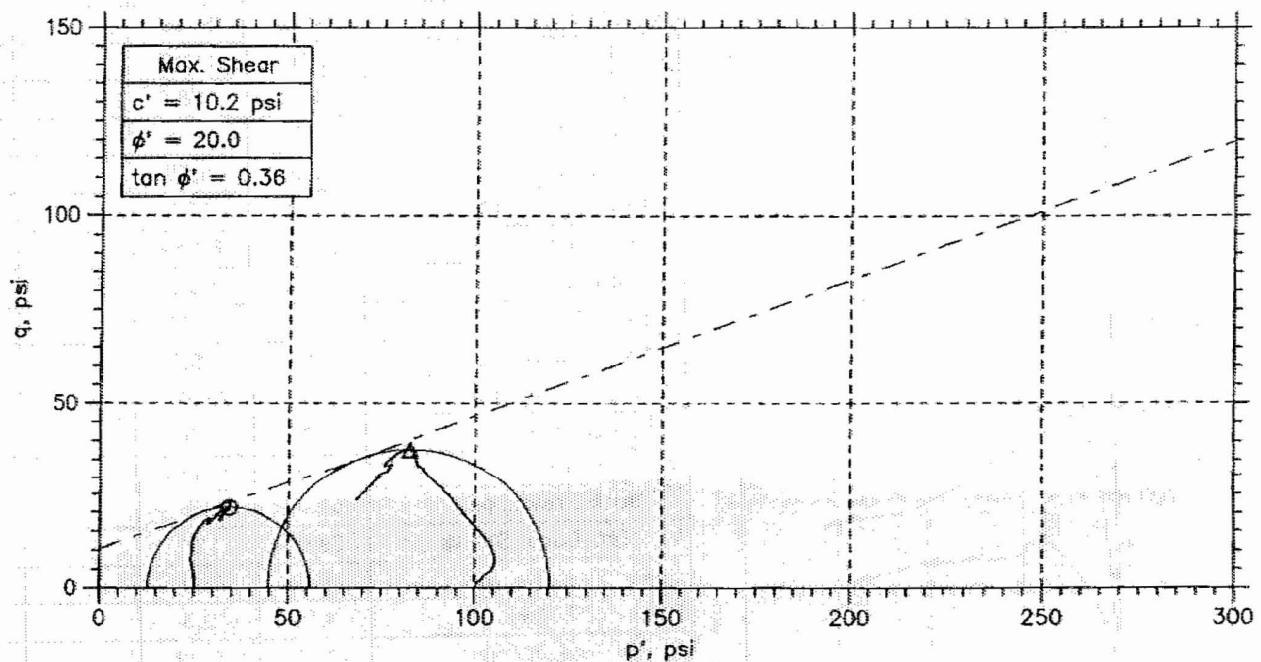
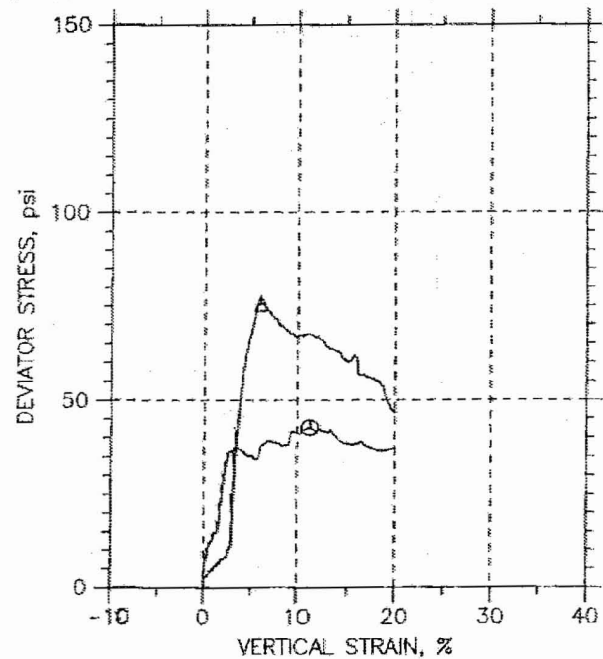
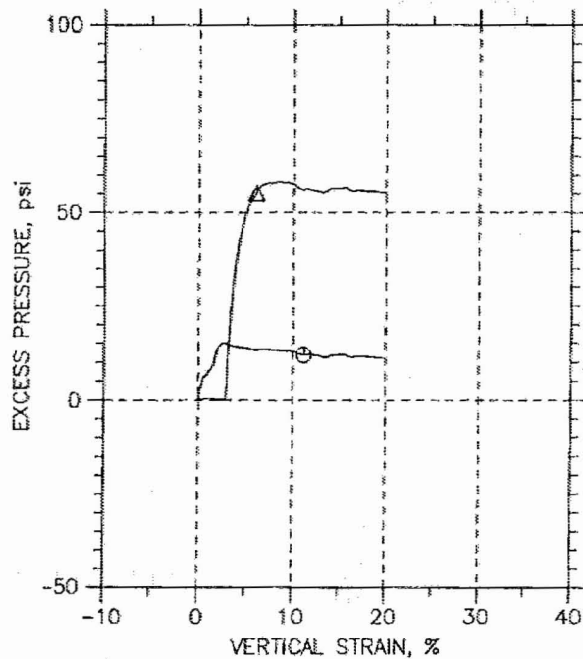
Remarks: System B - $t_{50} = 112.5$ min, Triaxial 1.0.6.318



Phase calculations based on start and end of test.

* Saturation is set to 100% for phase calculations.

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
Ø S-17	CU18	68-70	njh	11/06/06	jdt		6880-CU18.dat
Δ S-17	CU19	68-70	njh	11/06/06	jdt		6880-CU19.dat

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Project: Calvert Cliffs Nuclear

Location: Calvert County, MD

Project No.: GTX-6880

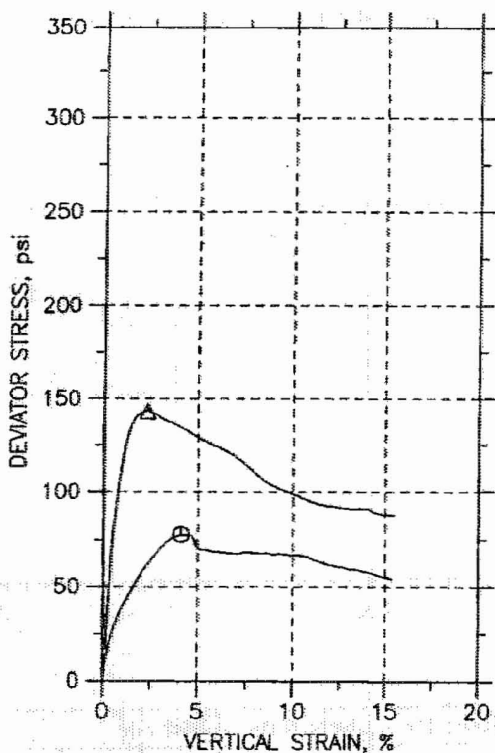
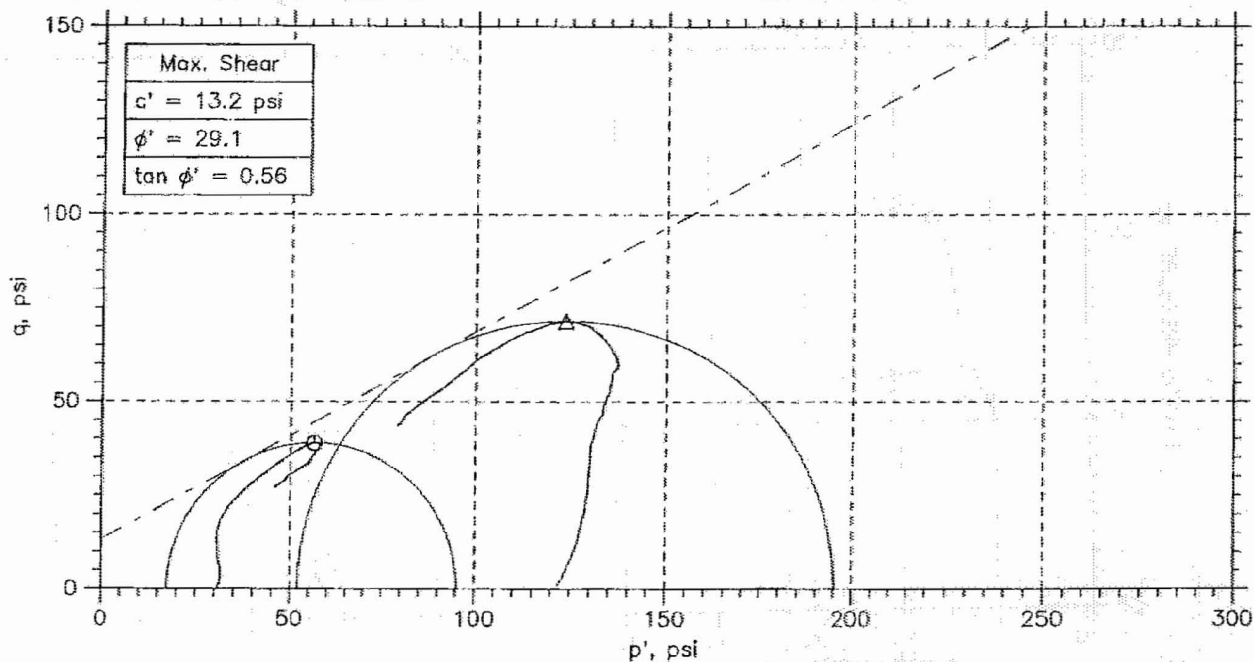
Boring No.: B-414

Sample Type: tube

Description: Moist, dark greenish gray clay (CH), 97% passing the #200 sieve

Remarks: System B - $t_{50} = 112.5$ min, Triaxial 1.0.6.318

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



Symbol	⊙	Δ		
Sample No.	S-29	S-29		
Test No.	CU16	CU17		
Depth	128.5	128.5		
Initial	Diameter, in	2.87	2.86	
	Height, in	5.9	5.78	
	Water Content, %	32.6	35.5	
	Dry Density, pcf	87.99	80.59	
	Saturation, %	99.5	90.2	
Before Shear	Void Ratio	0.859	1.03	
	Water Content, %	37.9	35.6	
	Dry Density, pcf	82.05	84.62	
	Saturation*, %	100.0	100.0	
	Void Ratio	0.994	0.933	
	Back Press., psi	52.01	37.	
	Ver. Eff. Cons. Stress, psi	29.98	120.	
	Shear Strength, psi	38.91	71.57	
	Strain at Failure, %	4.11	2.3	
	Strain Rate, %/min	0.02	0.02	
	B-Value	0.95	0.95	
	Measured Specific Gravity	2.62	2.62	
	Liquid Limit	59	59	
	Plastic Limit	34	34	

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Project: Calvert Cliffs Nuclear

Location: Calvert County, MD

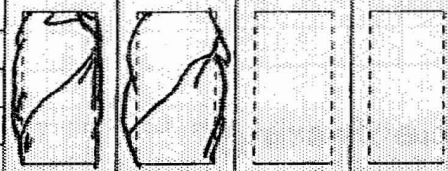
Project No.: GTX-6880

Boring No.: B-420

Sample Type: tube

Description: Moist, very dark grayish brown sandy organic silt (OH), 50% passing #200 sieve

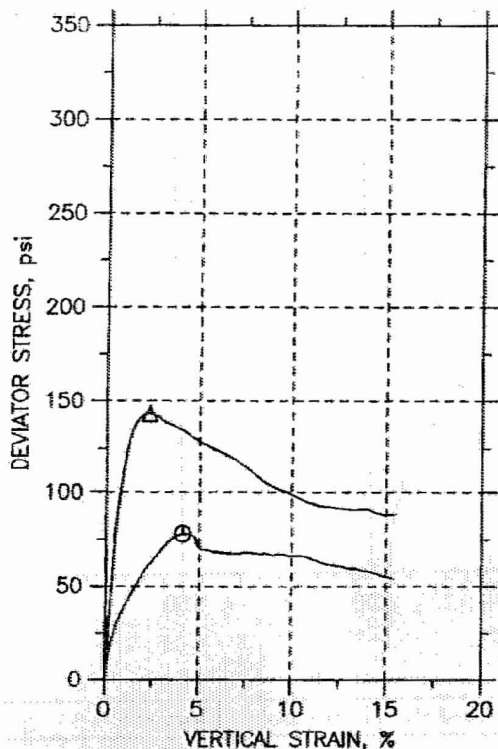
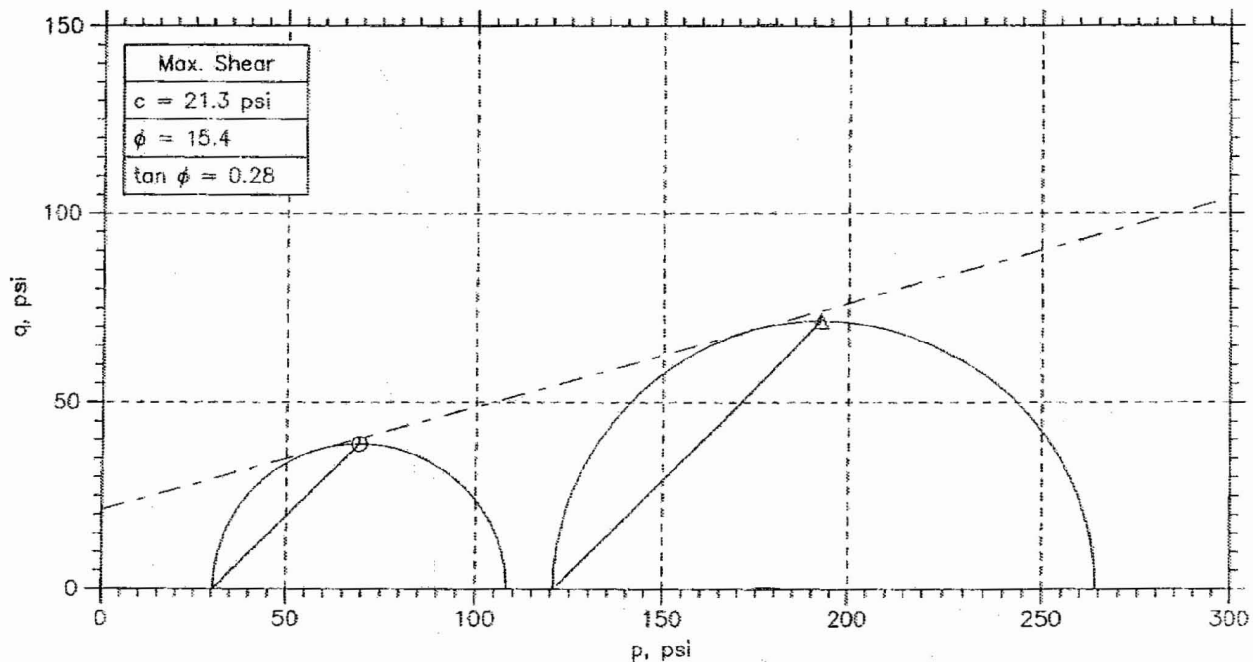
Remarks: System B - t50 = 18 min, Triaxial Rev 1.0.6.318



Phase calculations based on start and end of test.

* Saturation is set to 100% for phase calculations.

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



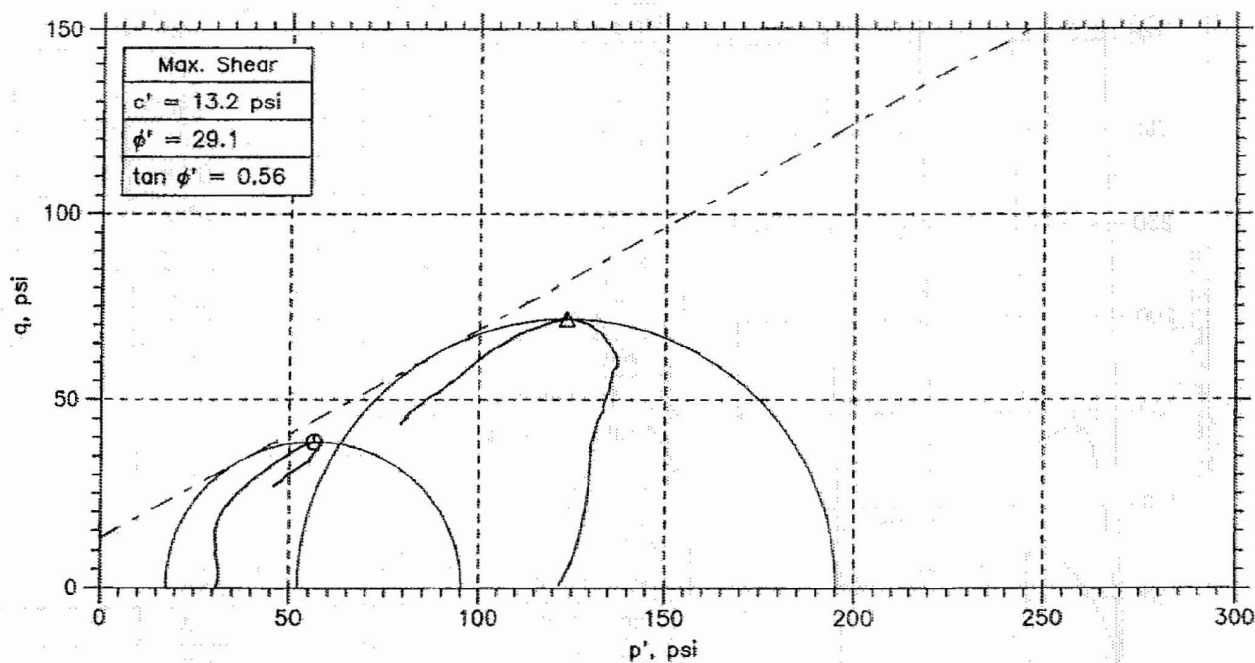
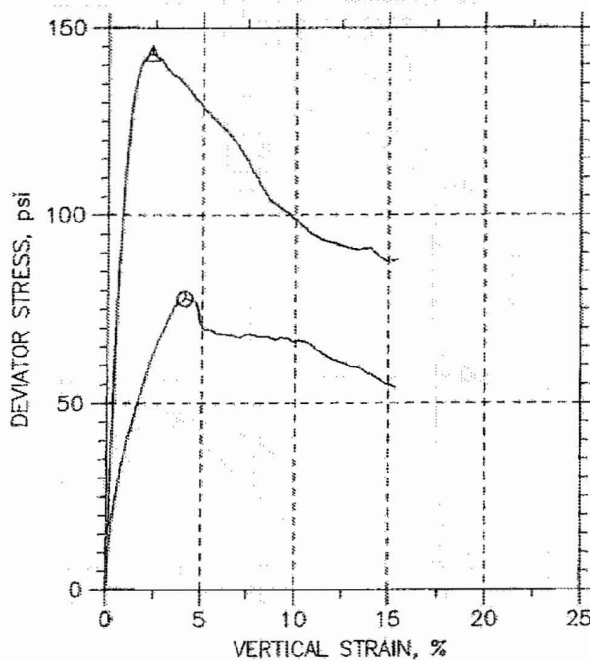
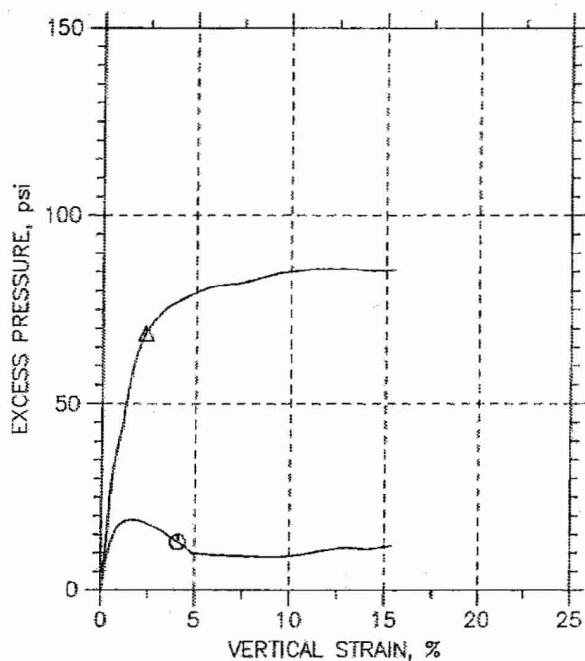
Symbol	⊙	Δ		
Sample No.	S-29	S-29		
Test No.	CU16	CU17		
Depth	128.5	128.5		
Initial	Diameter, in	2.87	2.86	
	Height, in	5.9	5.78	
	Water Content, %	32.6	35.5	
	Dry Density, pcf	87.99	80.59	
	Saturation, %	99.5	90.2	
Before Shear	Void Ratio	0.859	1.03	
	Water Content, %	37.9	35.6	
	Dry Density, pcf	82.05	84.62	
	Saturation*, %	100.0	100.0	
	Void Ratio	0.994	0.933	
	Back Press., psi	52.01	37.	
	Ver. Eff. Cons. Stress, psi	29.98	120.	
	Shear Strength, psi	38.91	71.57	
	Strain at Failure, %	4.11	2.3	
	Strain Rate, %/min	0.02	0.02	
	B-Value	0.95	0.95	
	Measured Specific Gravity	2.62	2.62	
	Liquid Limit	59	59	
	Plastic Limit	34	34	

GeoTesting express a subsidiary of Geacorp Corporation	Project: Calvert Cliffs Nuclear	   
	Location: Calvert County, MD	
	Project No.: GTX-6880	
	Boring No.: B-420	
	Sample Type: tube	
Description: Moist, very dark grayish brown sandy organic silt (OH), 50% passing #200 sieve		
Remarks: System B - t50 = 18 min, Triaxial Rev 1.0.8.318		

Phase calculations based on start and end of test.

* Saturation is set to 100% for phase calculations.

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



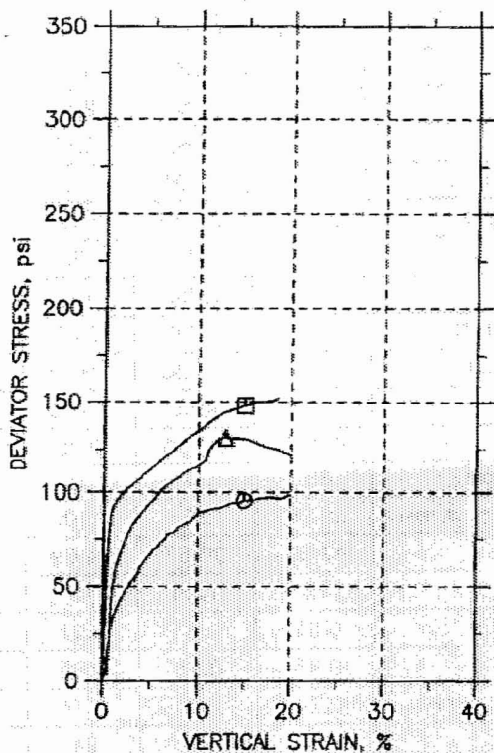
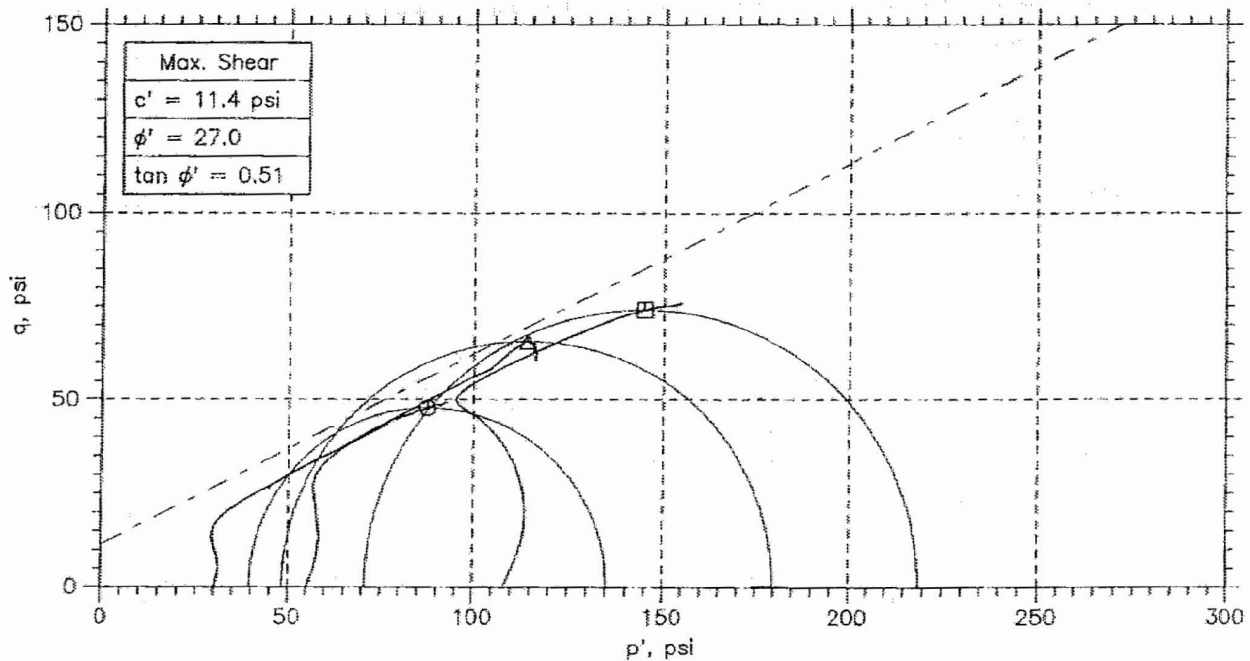
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△	S-29	CU17	128.5	njh	11/03/06	jdt		6880-CU17n.dat

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Project: Calvert Cliffs Nuclear	Location: Calvert County, MD	Project No.: GTX-6880
Boring No.: B-420	Sample Type: tube	
Description: Moist, very dark grayish brown sandy organic silt (OH), 50% passing #200 sieve		
Remarks: System B - t50 = 18 min, Triaxial Rev 1.0.6.318		

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



Symbol	○	△	□	
Sample No.	S-24	S-24	S-24	
Test No.	CU10	CU11A	CU12	
Depth	103.5	103.5	103.5	
Initial	Diameter, in	2.87	2.87	2.87
	Height, in	5.82	5.85	5.85
	Water Content, %	26.6	22.6	23.1
	Dry Density, pcf	93.43	95.13	97.17
	Saturation, %	87.7	77.7	83.1
Before Shear	Void Ratio	0.831	0.798	0.76
	Water Content, %	27.2	26.9	26.3
	Dry Density, pcf	98.04	98.36	99.47
	Saturation*, %	100.0	99.9	100.0
	Void Ratio	0.745	0.739	0.72
	Back Press., psi	85.	79.	70.
	Ver. Eff. Cons. Stress, psi	29.99	55.	110.
	Shear Strength, psi	47.81	65.67	74.09
	Strain at Failure, %	15	12.9	15
	Strain Rate, %/min	0.01	0.01	0.01
	B-Value	0.95	0.95	0.95
	Measured Specific Gravity	2.74	2.74	2.74
	Liquid Limit	24	24	24
	Plastic Limit	18	18	18

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Project: Calvert Cliffs Nuclear PP

Location: Calvert County, MD

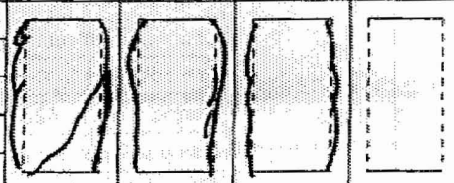
Project No.: GTX-6880

Boring No.: B-423

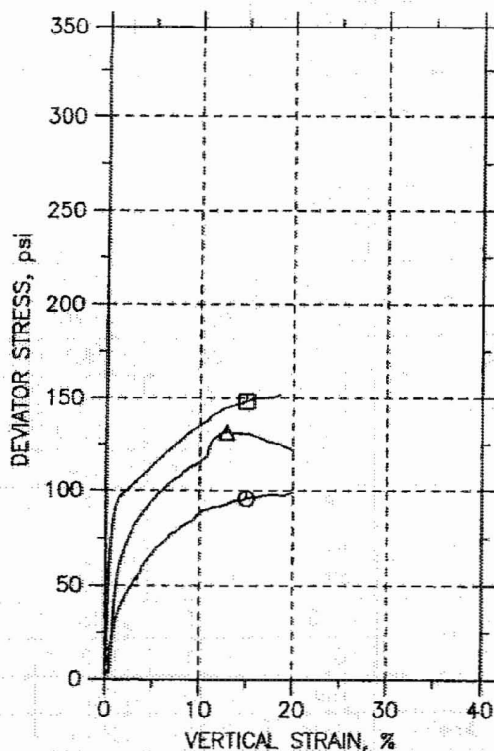
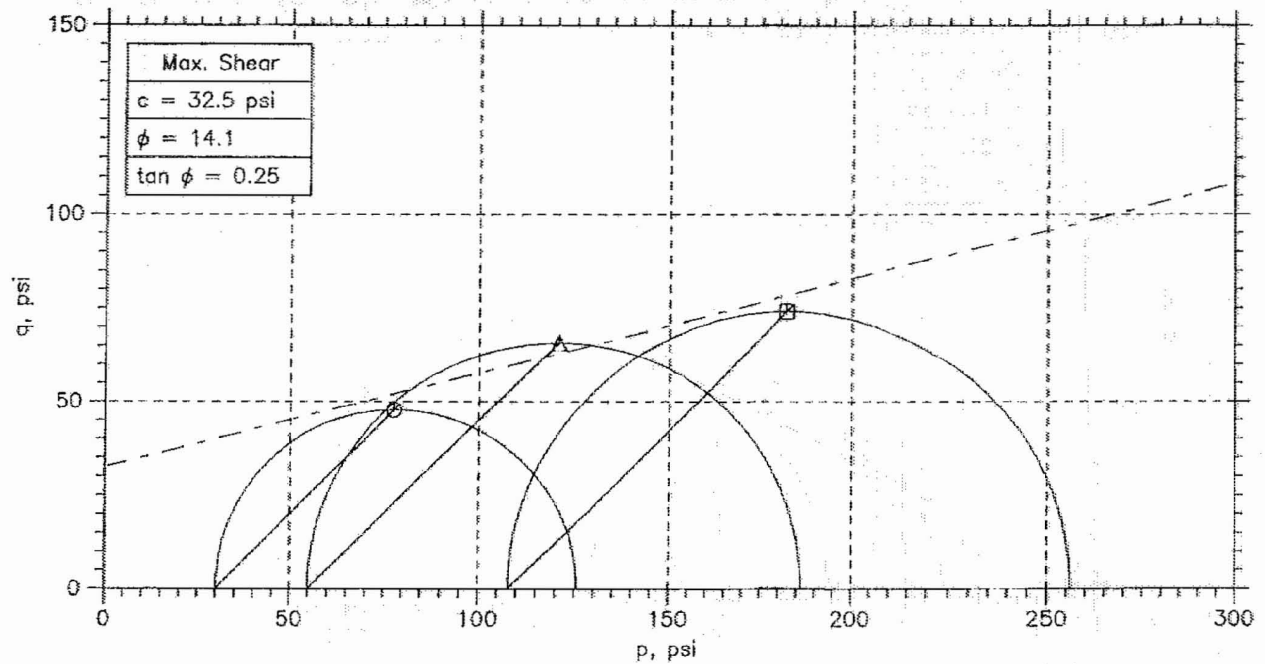
Sample Type: tube

Description: Moist, dark olive gray sand with silty clay (SP-SC), 10% passing #200 sieve

Remarks: System F - $t_{50} = 40.5$ min, Triaxial Rev 1.0.6.318



CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



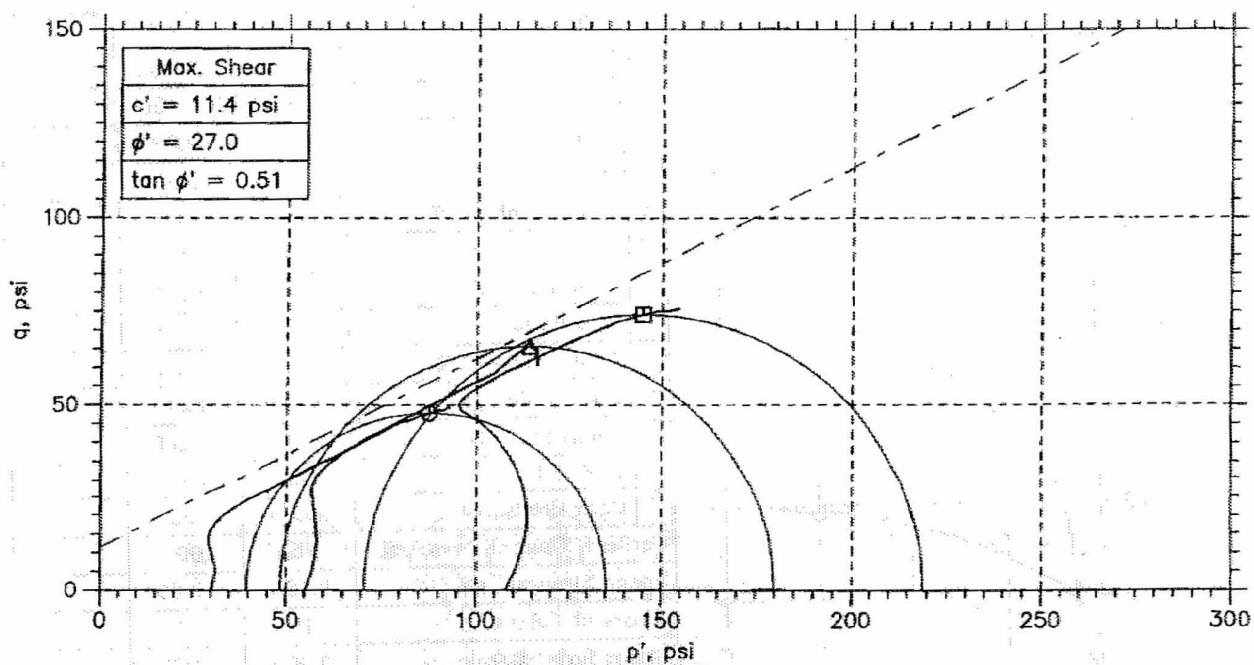
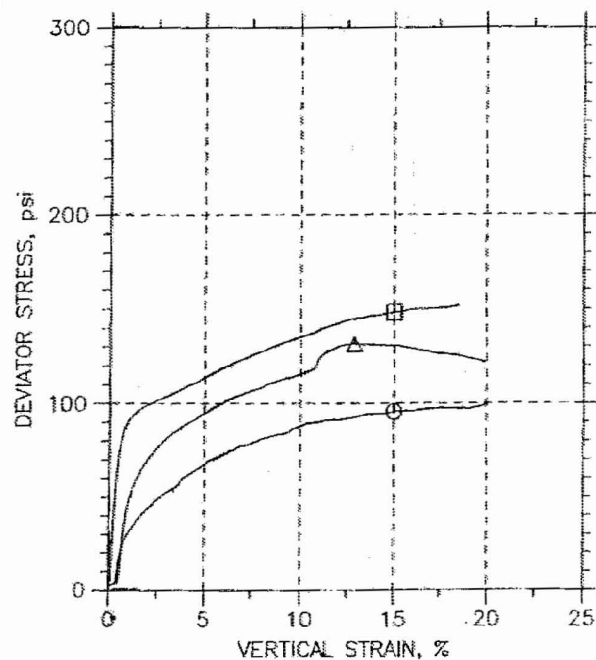
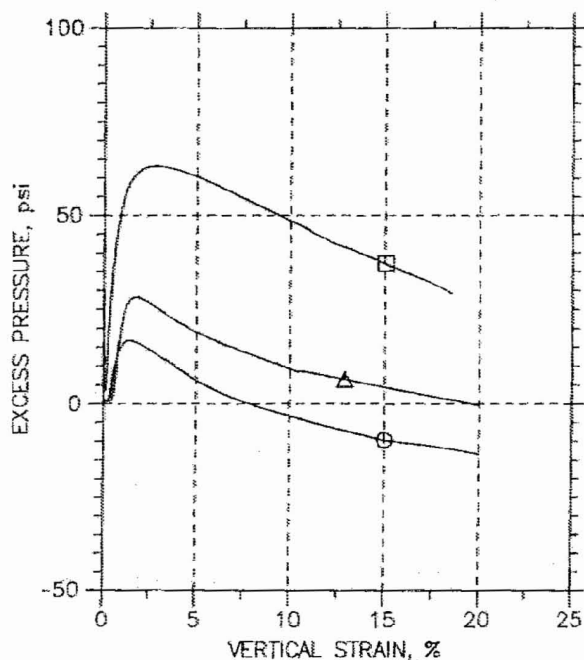
Symbol	○	△	□	
Sample No.	S-24	S-24	S-24	
Test No.	CU10	CU11A	CU12	
Depth	103.5	103.5	103.5	
Initial	Diameter, in	2.87	2.87	2.87
	Height, in	5.82	5.85	5.85
	Water Content, %	26.6	22.6	23.1
	Dry Density, pcf	93.43	95.13	97.17
	Saturation, %	87.7	77.7	83.1
Before Shear	Void Ratio	0.831	0.798	0.76
	Water Content, %	27.2	26.9	26.3
	Dry Density, pcf	98.04	98.36	99.47
	Saturation*, %	100.0	99.9	100.0
	Void Ratio	0.745	0.739	0.72
	Back Press., psi	85.	79.	70.
	Ver. Eff. Cons. Stress, psi	29.99	55.	110.
	Shear Strength, psi	47.81	65.67	74.09
	Strain at Failure, %	15	12.9	15
	Strain Rate, %/min	0.01	0.01	0.01
	B-Value	0.95	0.95	0.95
	Measured Specific Gravity	2.74	2.74	2.74
	Liquid Limit	24	24	24
	Plastic Limit	18	18	18

GeoTesting express a subsidiary of Geocomp Corporation	Project: Calvert Cliffs Nuclear PP	
	Location: Calvert County, MD	
	Project No.: GTX-6880	
	Boring No.: B-423	
	Sample Type: tube	
	Description: Moist, dark olive gray sand with silty clay (SP-SC), 10% passing #200 sieve	
Remarks: System F - $t_{50} = 40.5$ min, Triaxial Rev 1.0.6.318		

Phase calculations based on start and end of test.

* Saturation is set to 100% for phase calculations.

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



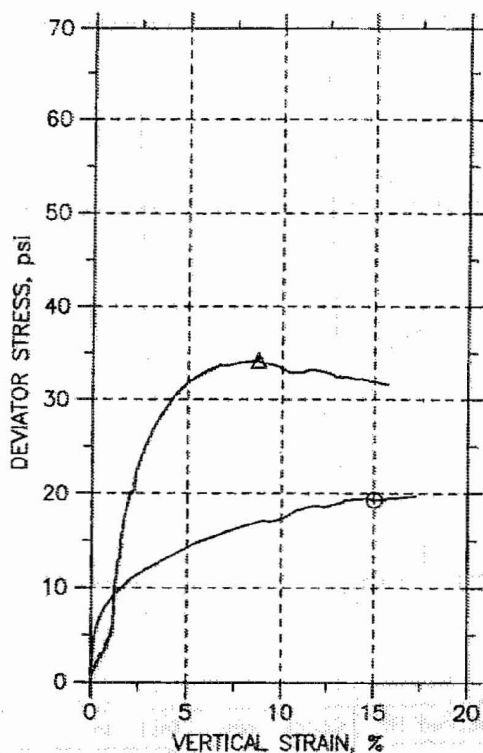
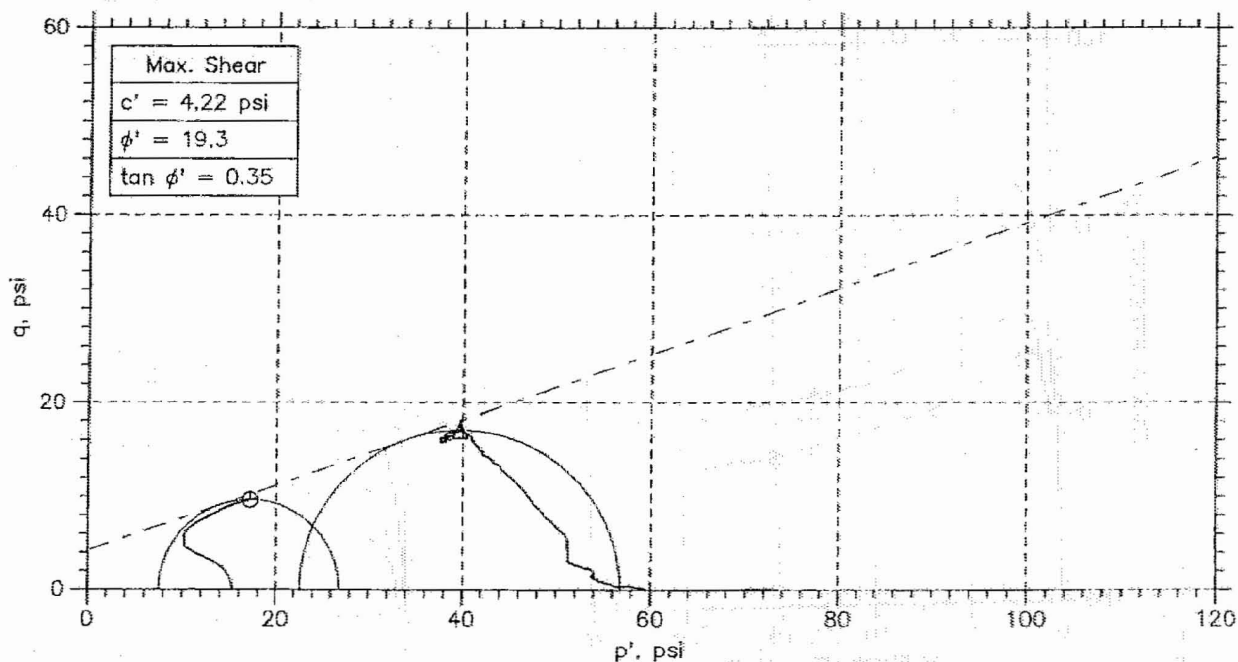
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△	S-24	CU11A	103.5	njh	10/25/06	jdt		6880-CU11an.dat
□	S-24	CU12	103.5	njh	10/20/06	jdt		6880-CU12n.dat

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Project: Calvert Cliffs Nuclear PP	Location: Calvert County, MD	Project No.: GTX-6880
Boring No.: B-423	Sample Type: tube	
Description: Moist, dark olive gray sand with silty clay (SP-SC), 10% passing #200 sieve		
Remarks: System F - t50 = 40.5 min, Triaxial Rev 1.0.6.318		

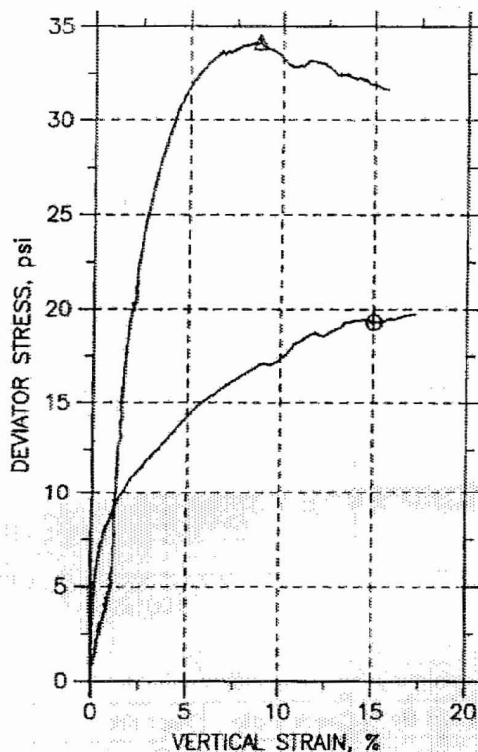
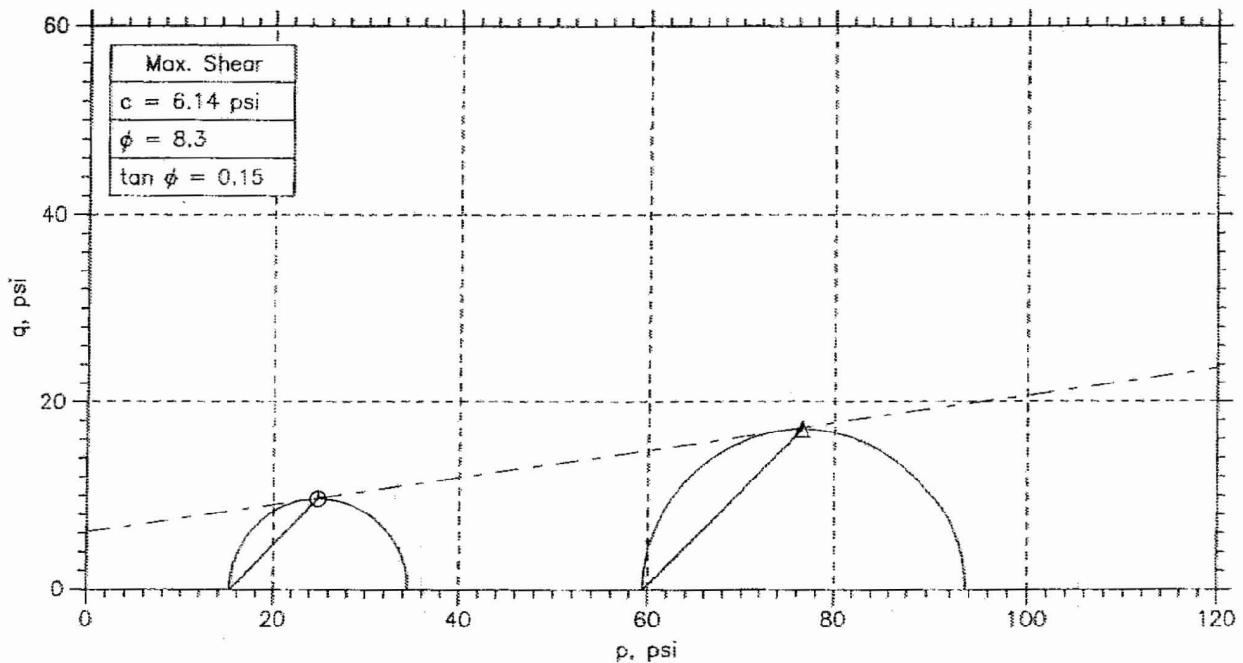
CONSOLIDATED UNDRAINED TRIAXIAL TEST



Symbol	⊙	Δ		
Sample No.	S-13	S-13		
Test No.	CU13	CU15a		
Depth	48.5-50.5	48.5-50.5		
Initial	Diameter, in	2.87	2.87	
	Height, in	5.89	5.95	
	Water Content, %	34.0	47.3	
	Dry Density, pcf	85.03	70.77	
	Saturation, %	95.0	93.4	
Before Shear	Void Ratio	0.953	1.35	
	Water Content, %	38.7	35.5	
	Dry Density, pcf	81.85	85.45	
	Saturation*, %	100.0	100.0	
	Void Ratio	1.03	0.943	
	Back Press., psi	99.99	103.	
	Ver. Eff. Cons. Stress, psi	15.	60.	
	Shear Strength, psi	9.653	17.09	
	Strain at Failure, %	15	8.73	
	Strain Rate, %/min	0.002	0.002	
	B-Value	0.95	0.95	
	Measured Specific Gravity	2.66	2.66	
	Liquid Limit	64	64	
	Plastic Limit	23	23	

GeoTesting express a subsidiary of Geocomp Corporation	Project: Calvert Cliffs Nuclear	
	Location: Calvert County, MD	
	Project No.: GTX-6880	
	Boring No.: B-433	
	Sample Type: tube	
	Description: Moist, black clay, 95% passing #200 sieve	
	Remarks: System B - t50 = 200 min, Triaxial Rev 1.0.6.318	

CONSOLIDATED UNDRAINED TRIAXIAL TEST



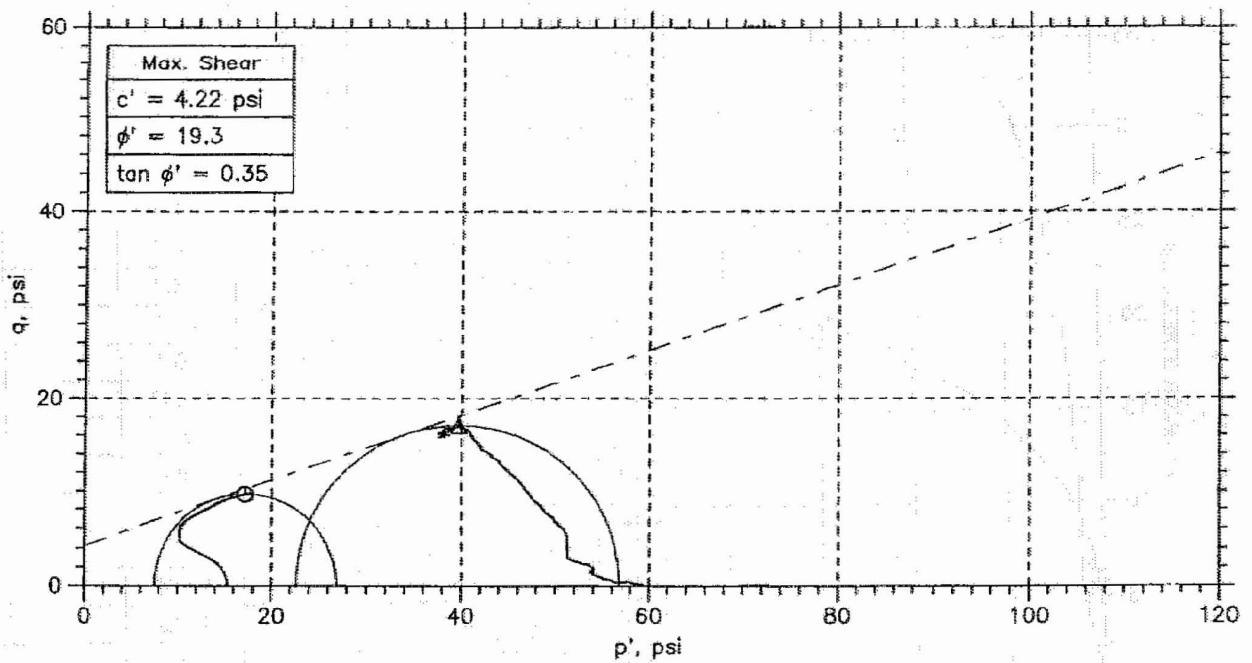
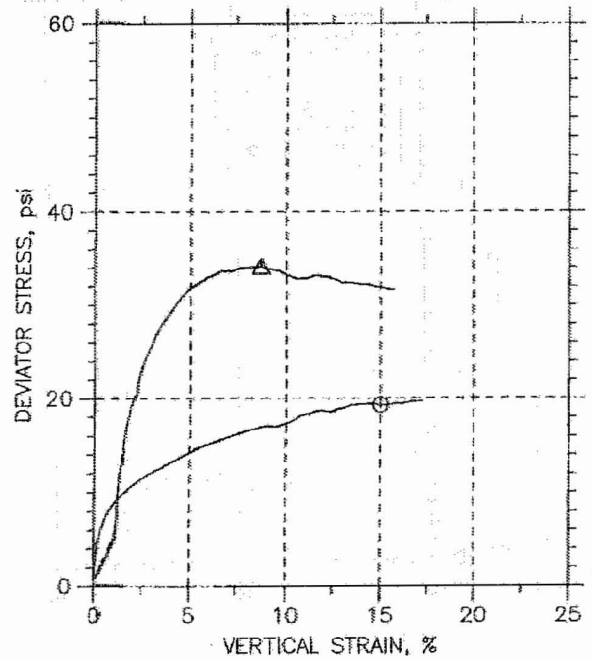
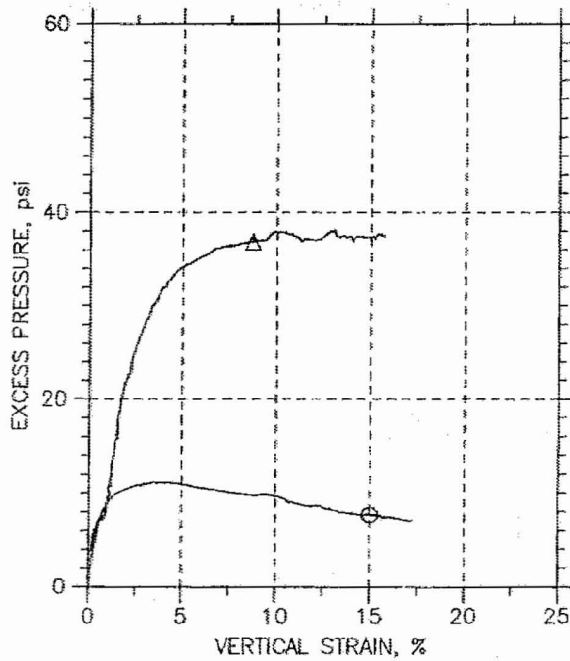
Symbol	⊖	Δ		
Sample No.	S-13	S-13		
Test No.	CU13	CU15a		
Depth	48.5-50.5	48.5-50.5		
Initial	Diameter, in	2.87	2.87	
	Height, in	5.89	5.95	
	Water Content, %	34.0	47.3	
	Dry Density, pcf	85.03	70.77	
	Saturation, %	95.0	93.4	
Before Shear	Void Ratio	0.953	1.35	
	Water Content, %	38.7	35.5	
	Dry Density, pcf	81.85	85.45	
	Saturation*, %	100.0	100.0	
	Void Ratio	1.03	0.943	
	Back Press., psi	99.99	103.	
	Ver. Eff. Cons. Stress, psi	15.	60.	
	Shear Strength, psi	9.653	17.09	
	Strain at Failure, %	15	8.73	
	Strain Rate, %/min	0.002	0.002	
	B-Value	0.95	0.95	
	Measured Specific Gravity	2.66	2.66	
	Liquid Limit	64	64	
	Plastic Limit	23	23	

GeoTesting express a subsidiary of Geocomp Corporation	Project: Calvert Cliffs Nuclear			
	Location: Calvert County, MD			
	Project No.: GTX-6880			
	Boring No.: B-433			
	Sample Type: tube			
	Description: Moist, black clay, 95% passing #200 sieve			
	Remarks: System B - t50 = 200 min, Triaxial Rev 1.0.6.318			

Phase calculations based on start and end of test.

* Saturation is set to 100% for phase calculations.

CONSOLIDATED UNDRAINED TRIAXIAL TEST



	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
○	S-13	CU13	48.5-50.5	njh	10/20/06	jdt		6880-CU13na.dat
△	S-13	CU15a	48.5-50.5	njh	10/25/06	jdt		6880-CU15Anan.dat

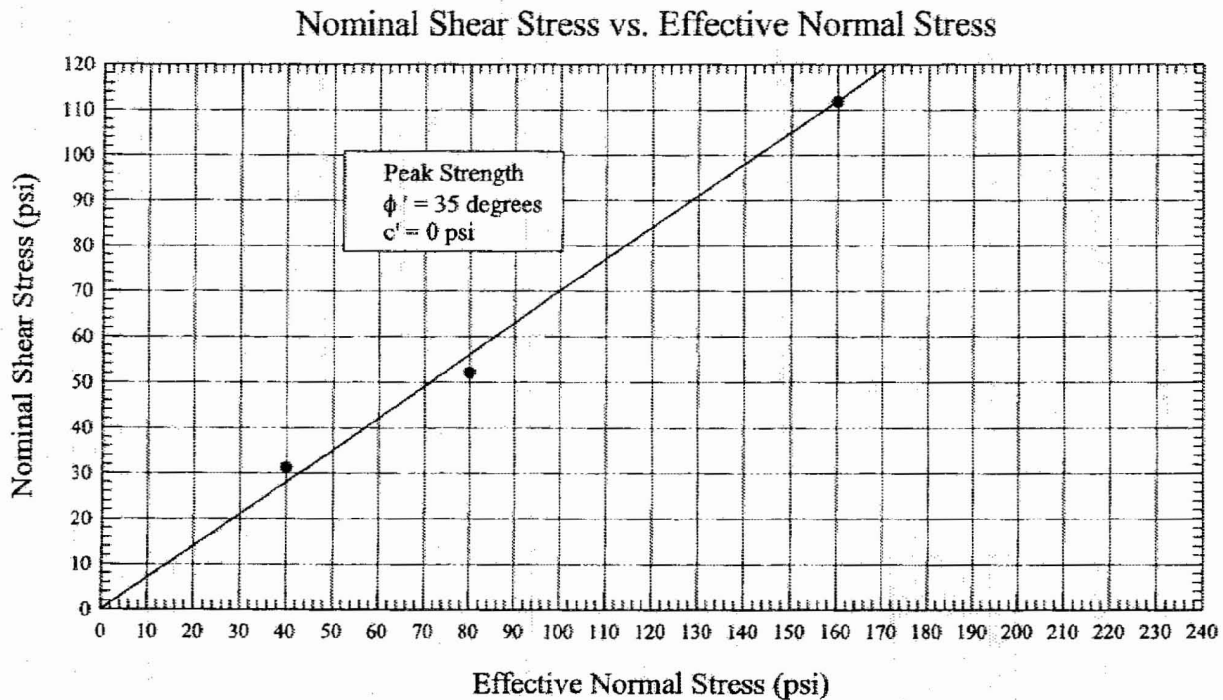
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Project: Calvert Cliffs Nuclear	Location: Calvert County, MD	Project No.: GTX-6880
Boring No.: B-433	Sample Type: tube	
Description: Moist, black clay, 95% passing #200 sieve		
Remarks: System B - $t_{50} = 200$ min, Triaxial Rev 1.0.6.318		

Schnabel Project No. 06120048
Appendix I: Soil Laboratory Testing

DIRECT SHEAR RESULTS

Consolidated Drained Direct Shear (ASTM D3080)



Boring No.: B-307

Depth: 178.5-180.4 ft

SEI Contract: 06120048

Date: 12/12/06

Sample Description: F-m CLAYEY SAND (SC), contains shell fragments - green gray

Reviewed By: CJS

Specimen Type: Tube Sample

Specific Gravity: 2.67

LL: 41

PI: 16

%<200: 37.7



Calvert Cliffs Nuclear Power Plant
Calvert County, MD