



Consolidated Undrained Triaxial Compression Test

ASTM D4767

Project: Calvert Cliffs Nuclear Power Plant

Schnabel Contract: 06120048

Date: 10/20/2006

Location: Calvert County, MD

Boring No.: B-321

Depth: 73.5-75.5ft.

Elevation: -2.8 to -4.8

Reviewed by: CJS

Confining Stress (psi): 80.0

	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 _{wet} (lbs)	2.15	
P _{wet} (pcf)	120.8	
P _{dry} (pcf)	98.6	98.7
Void Ratio	0.72	0.69
Saturation, %	92	100

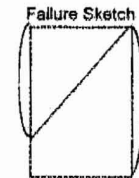
Shear Testing Conditions	
Cell Pressure (psi)	100.0
Back Pressure (psi)	20.0
Eff. Confining Stress (psi)	80.0
Final B check	0.97
t ₉₀ (min.)	0.1
Rate of Strain (%/min)	0.125

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

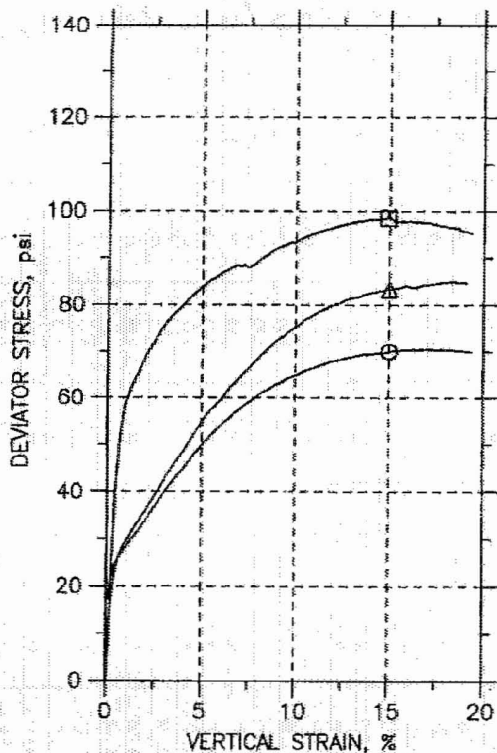
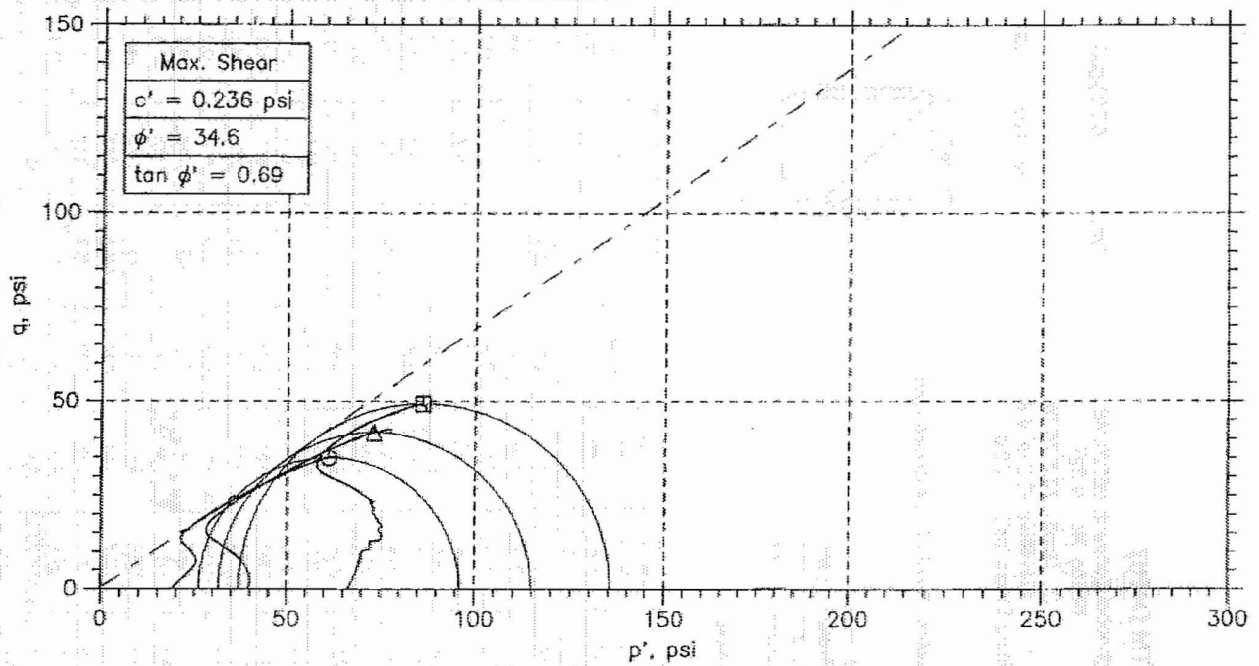


Remarks:

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	519.9	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	551.6	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	196.7	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	6.95	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	145.3	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	148.6	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	0.889	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



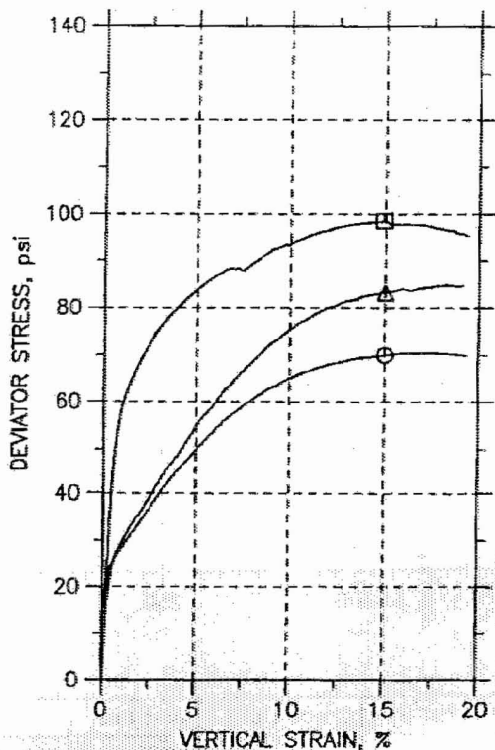
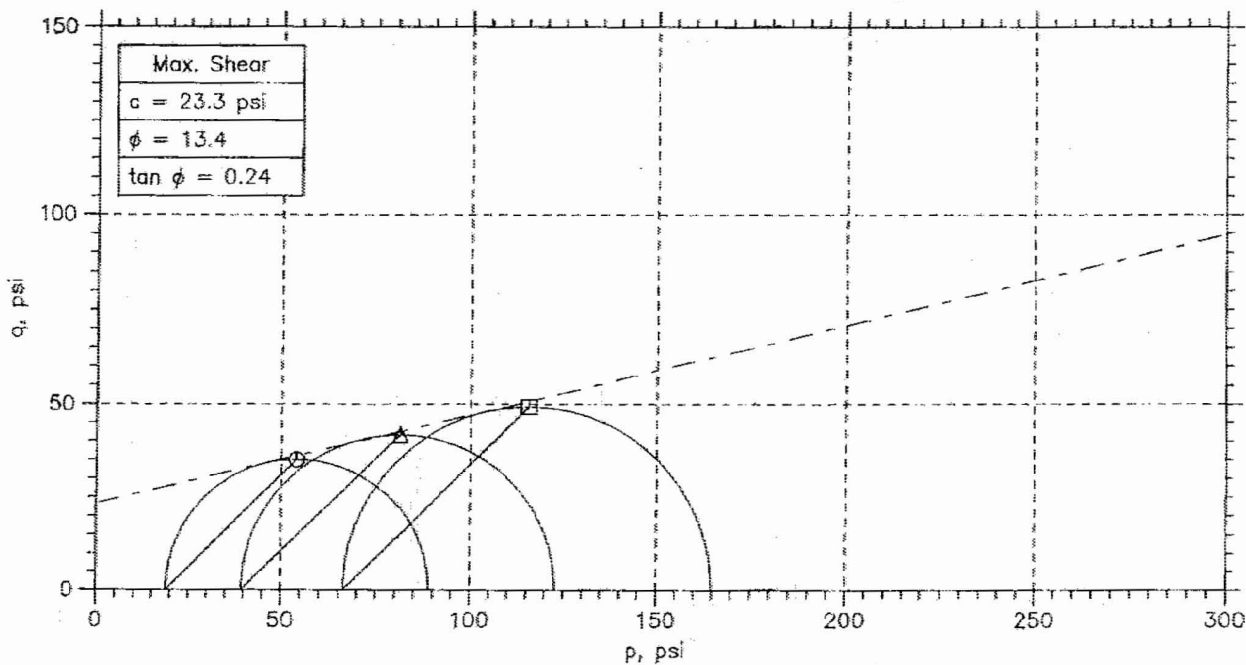
Symbol	⊙	△	⊠	
Sample No.	S-16	S-16	S-16	
Test No.	CU4	CU5	CU6	
Depth	63.5-65.5	63.5-65.5	63.5-65.5	
Initial	Diameter, in	2.87	2.87	2.87
	Height, in	6.05	6	6.2
	Water Content, %	27.0	26.8	23.2
	Dry Density, pcf	94.64	96.94	98
	Saturation, %	95.2	99.8	88.8
Before Shear	Water Content, %	27.4	25.4	20.0
	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 <small>a subsidiary of Geocomp Corporation</small>	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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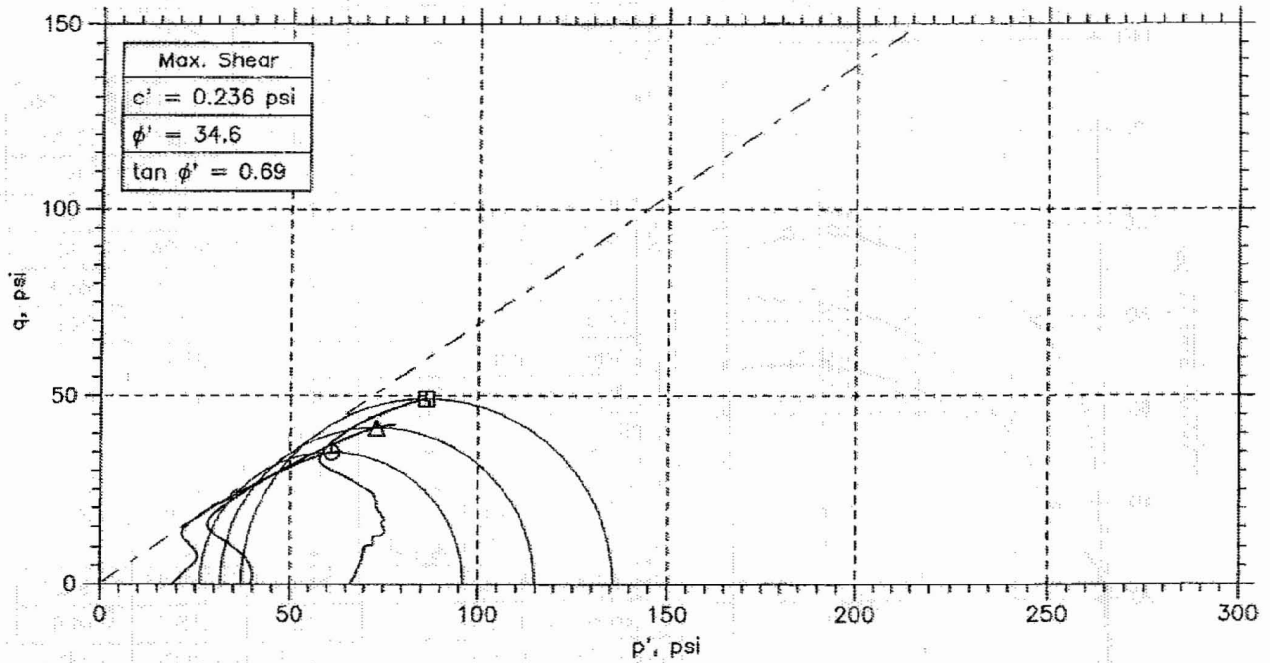
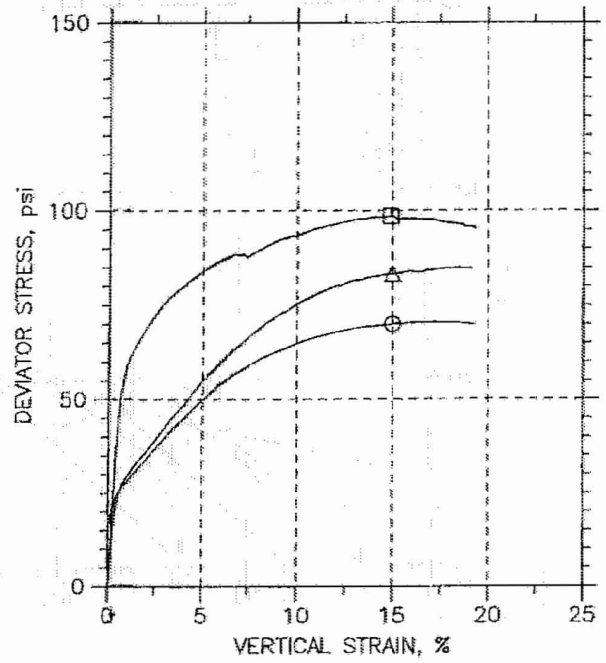
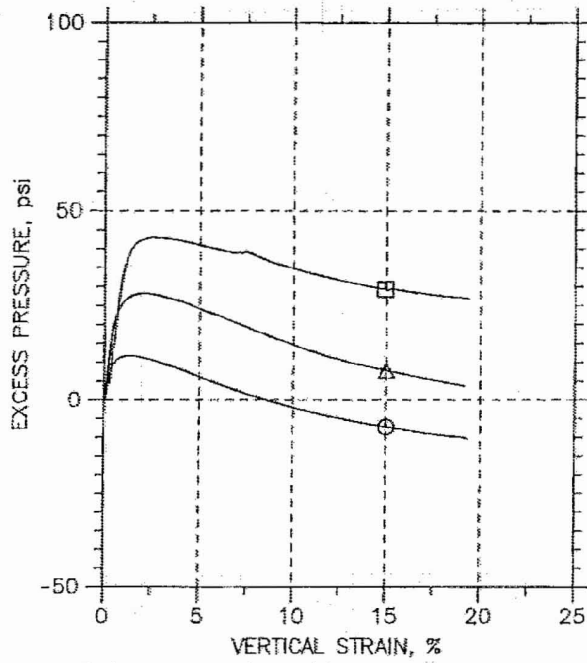
Symbol	○	△	□	
Sample No.	S-16	S-16	S-16	
Test No.	CU4	CU5	CU6	
Depth	63.5-65.5	63.5-65.5	63.5-65.5	
Initial	Diameter, in	2.87	2.87	2.87
	Height, in	6.05	6	6.2
	Water Content, %	27.0	26.8	23.2
	Dry Density, pcf	94.64	96.94	98.
	Saturation, %	95.2	99.8	88.8
Before Shear	Void Ratio	0.755	0.713	0.695
	Water 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 <small>a subsidiary of Geocomp Corporation</small>	Project: Calvert Cliffs Nuclear	
	Location: Calvert County, MD	
	Project No.: GTX-6880	
	Boring No.: B-32B	
	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		

Phase calculations based on start and end of test.

* Saturation is set to 100% for phase calculations.

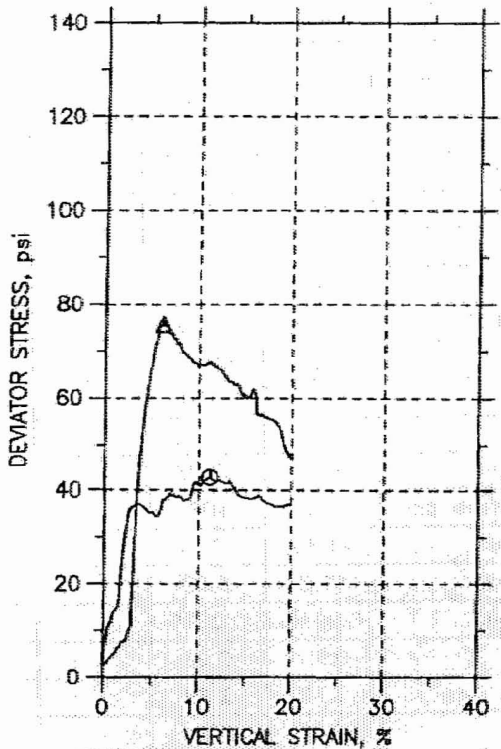
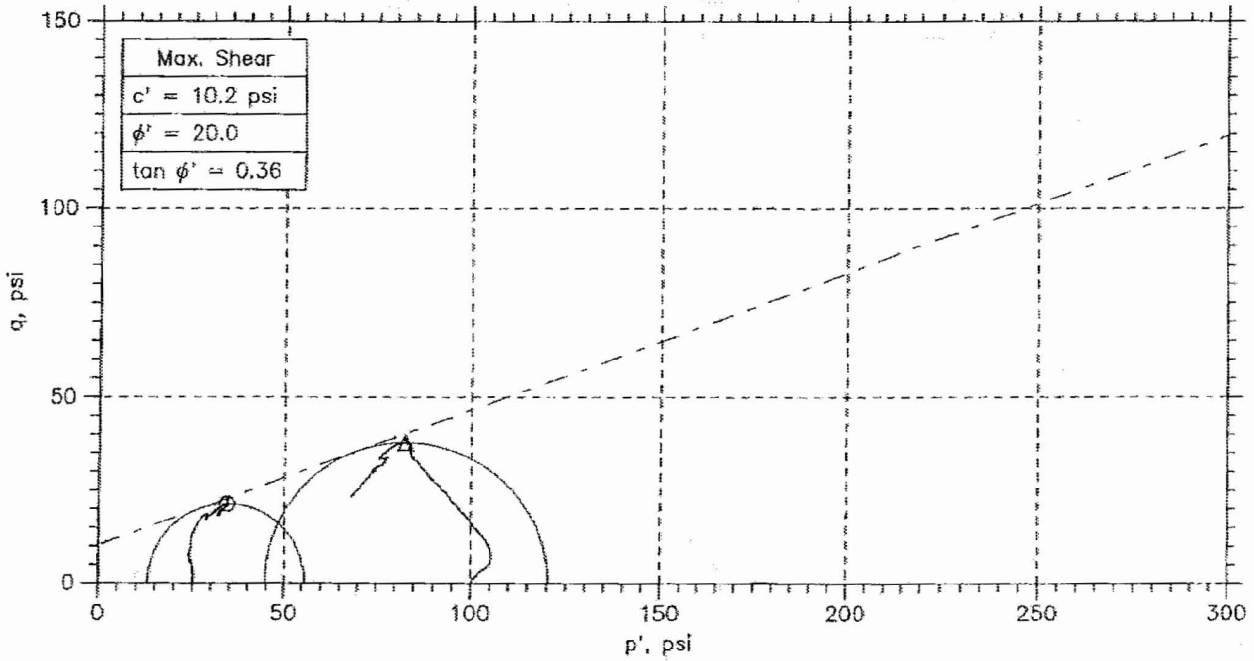
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Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
⊙ S-16	CU4	63.5-65.5	njh	09/21/06	jdt		6880-cu4n.dat
△ S-16	CU5	63.5-65.5	njh	09/20/06	jdt		6880-CU5n.dat
□ S-16	CU6	63.5-65.5	njh	09/19/06	jdt		6880-CU6an.dat

GeoTesting express <small>a subsidiary of Geocomp Corporation</small>	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

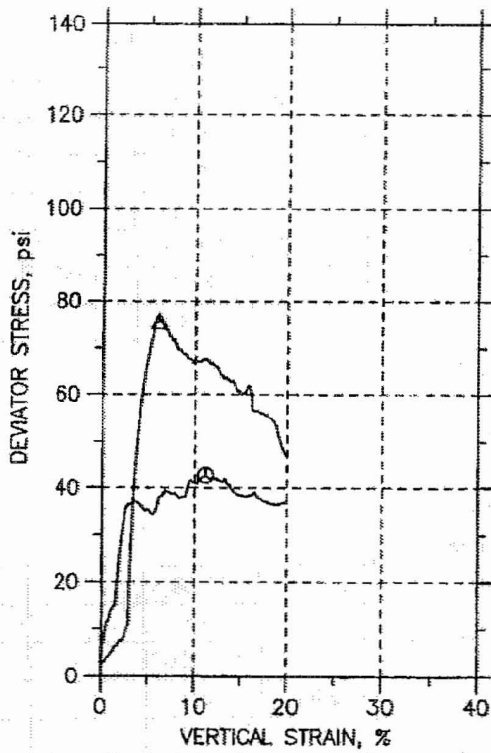
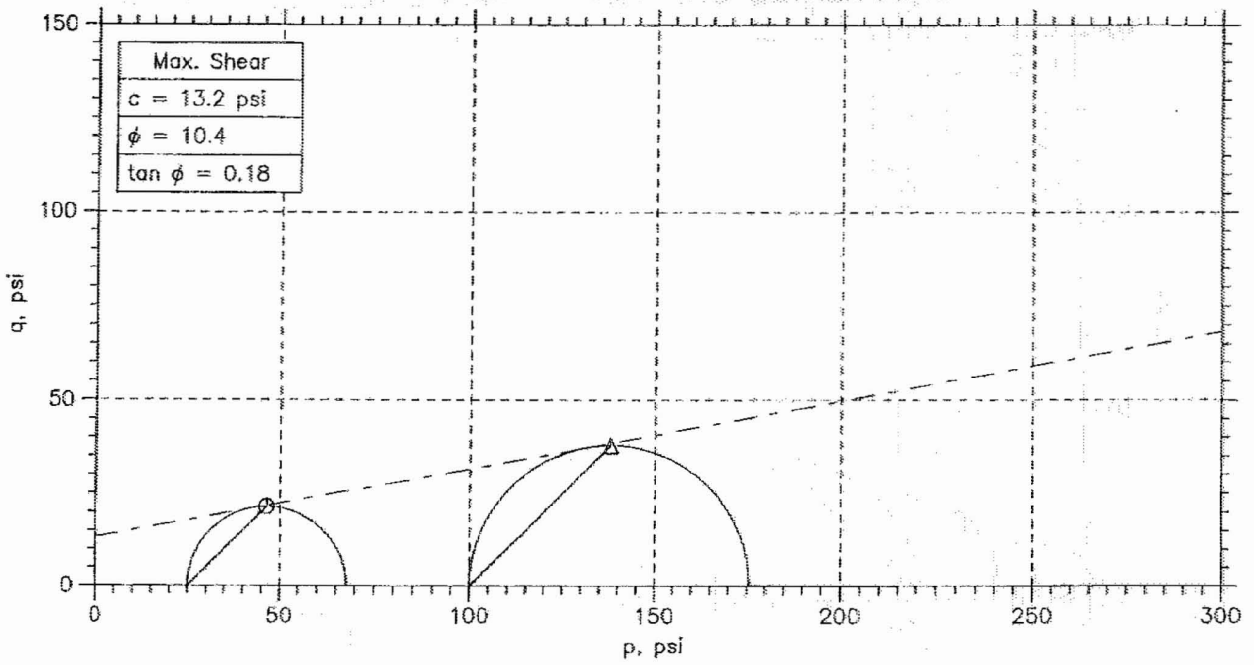


Symbol	⊙	△		
Sample No.	S-17	S-17		
Test No.	CU18	CU19		
Depth	68-70	68-70		
Initial	Diameter, in	2.87	2.87	
	Height, in	6.07	5.9	
	Water Content, %	35.1	36.5	
	Dry Density, pcf	84.52	83.09	
	Saturation, %	92.6	93.1	
Before Shear	Void Ratio	1.05	1.09	
	Water Content, %	38.5	33.6	
	Dry Density, pcf	83.86	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		

GeoTesting express <small>a subsidiary of Geocomp Corporation</small>	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 - t50 = 112.5 min, Triaxial 1.0.6.318					

Phase calculations based on start and end of test.

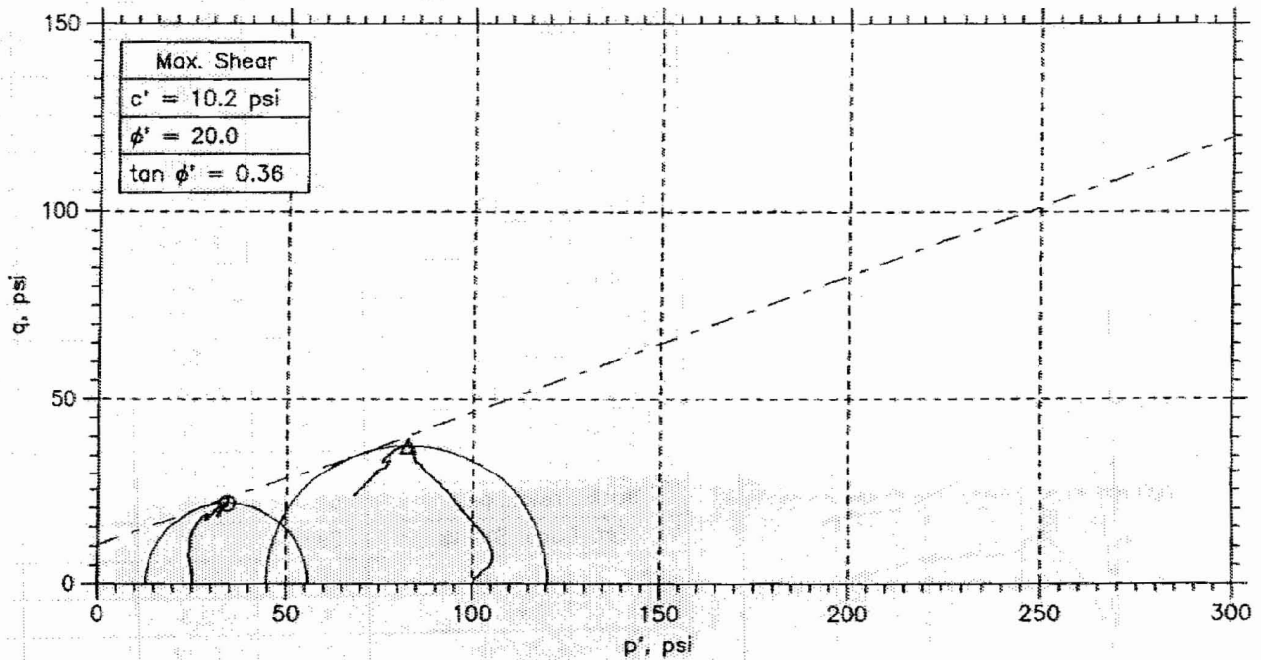
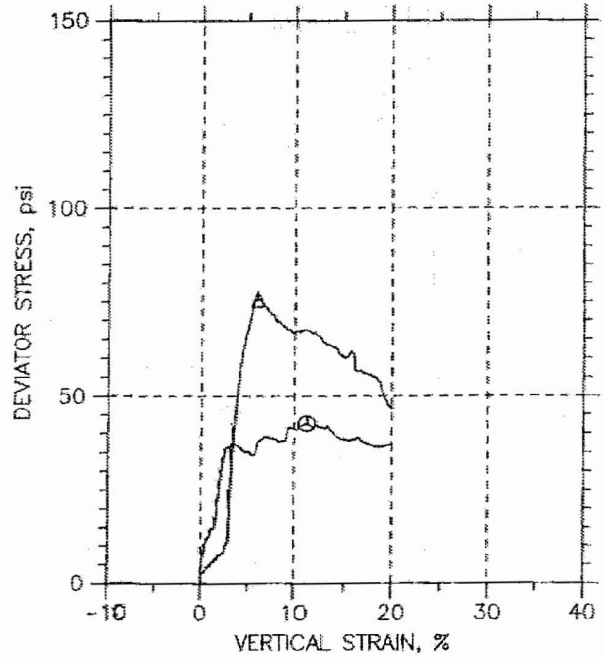
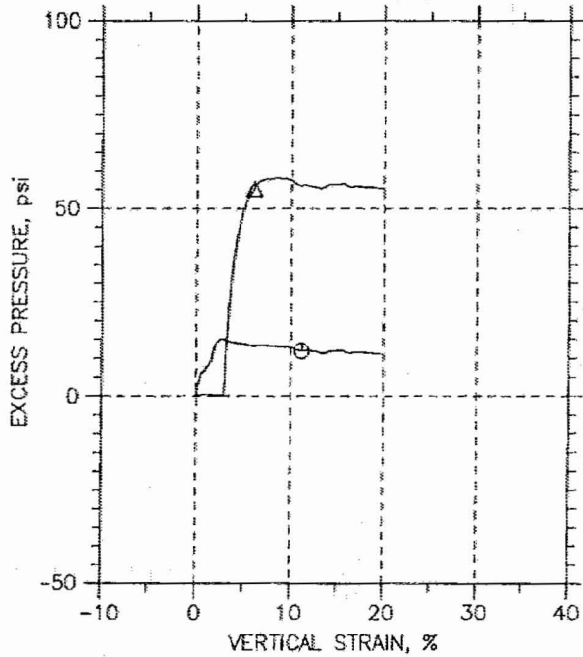
CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



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	

GeoTesting express <small>a subsidiary of Geocomp Corporation</small>	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 - t50 = 112.5 min, Triaxial 1.0.6.318	

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767

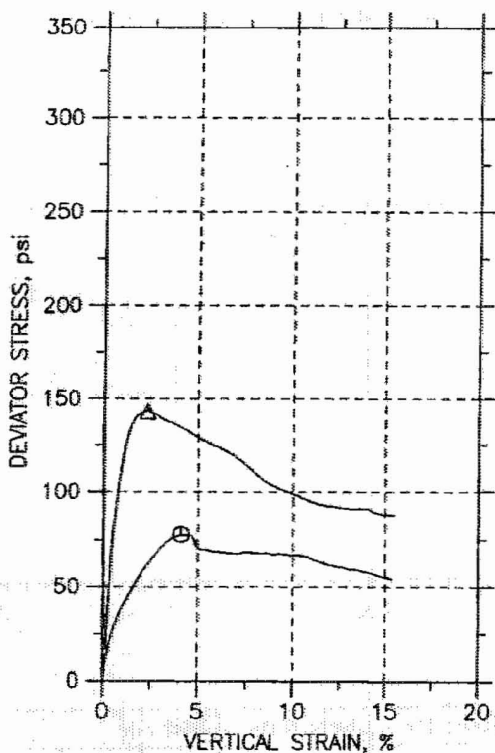
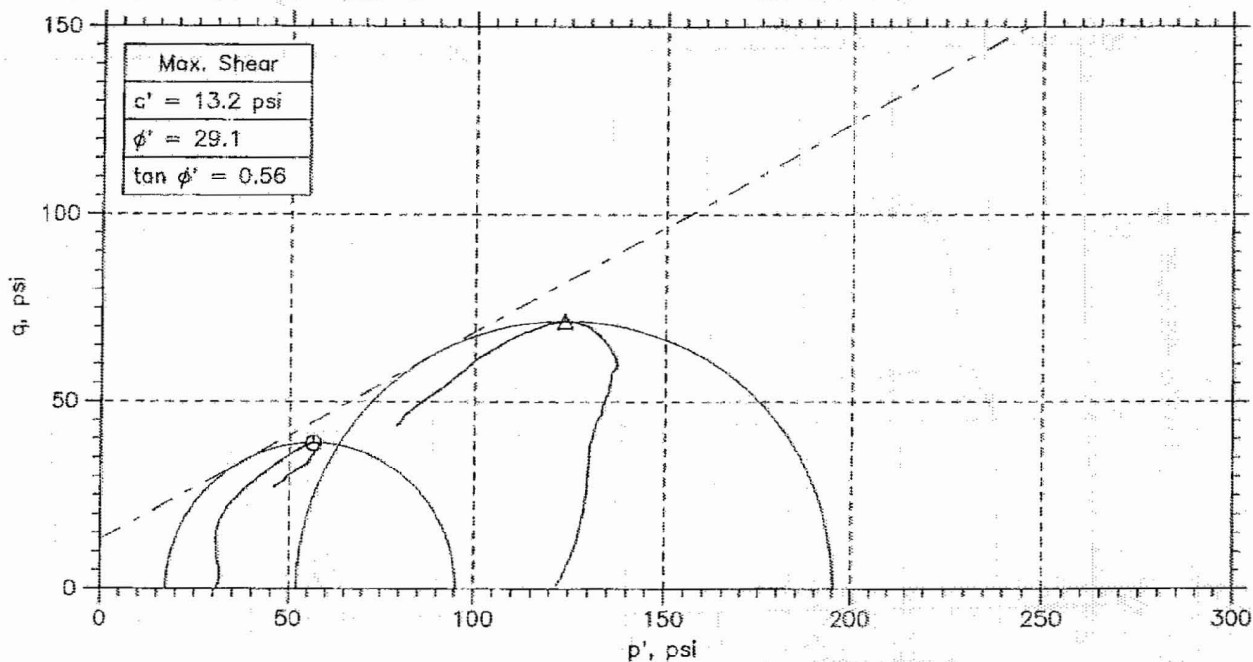


Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
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△ S-17	CU19	68-70	njh	11/06/06	jdt		6880-CU19.dat

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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 - t50 = 112.5 min, Triaxial 1.0.6.318		

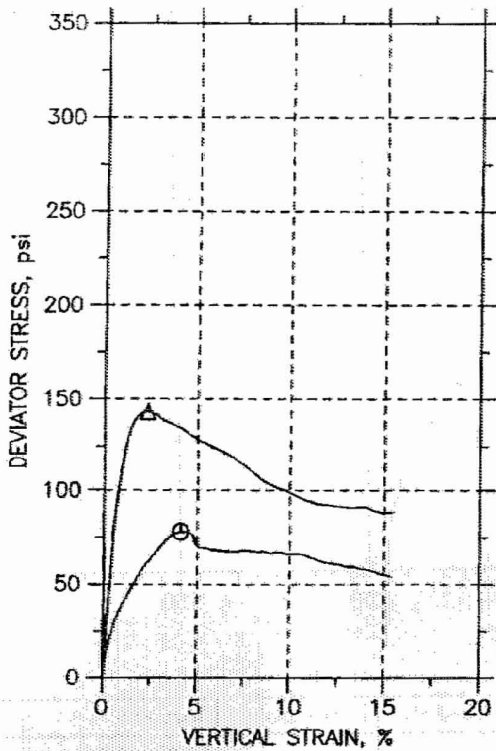
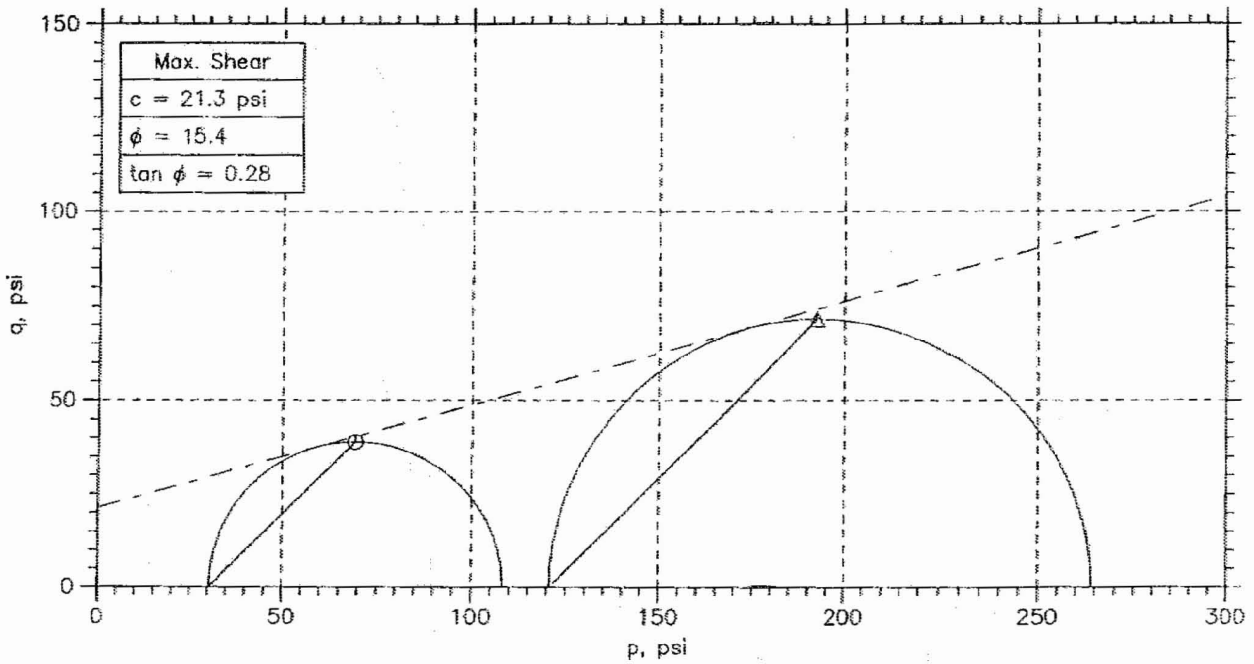
CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



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		

GeoTesting express <small>a subsidiary of Geocomp Corporation</small>	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



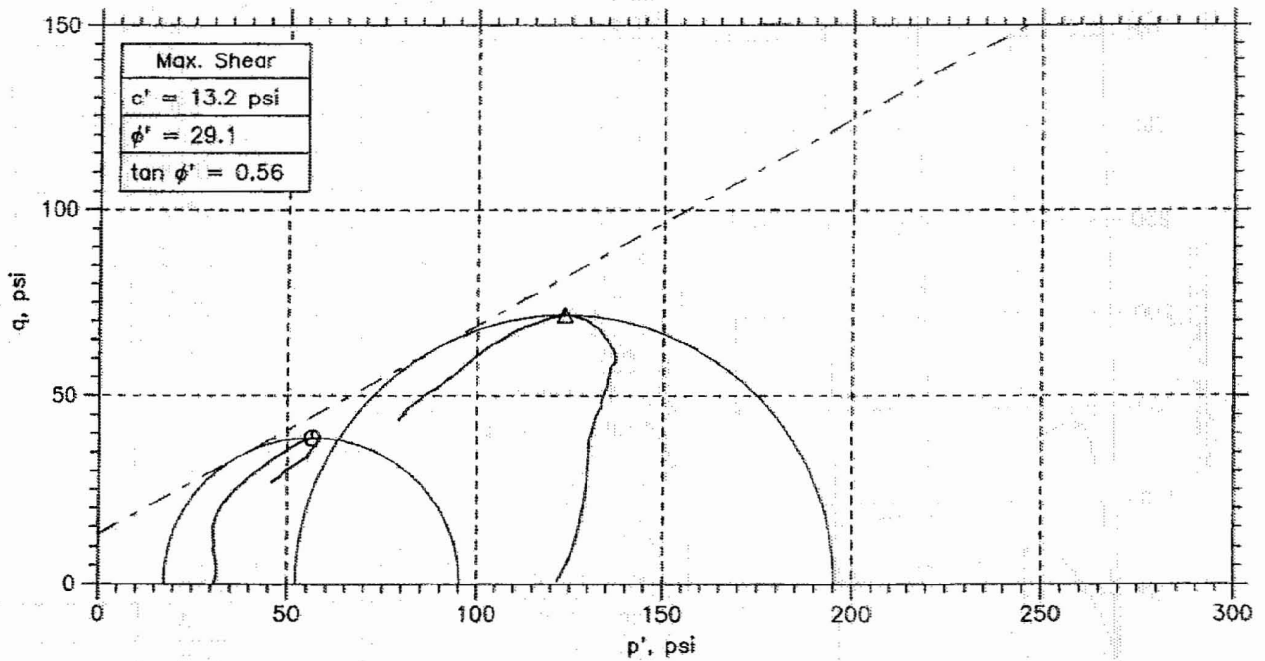
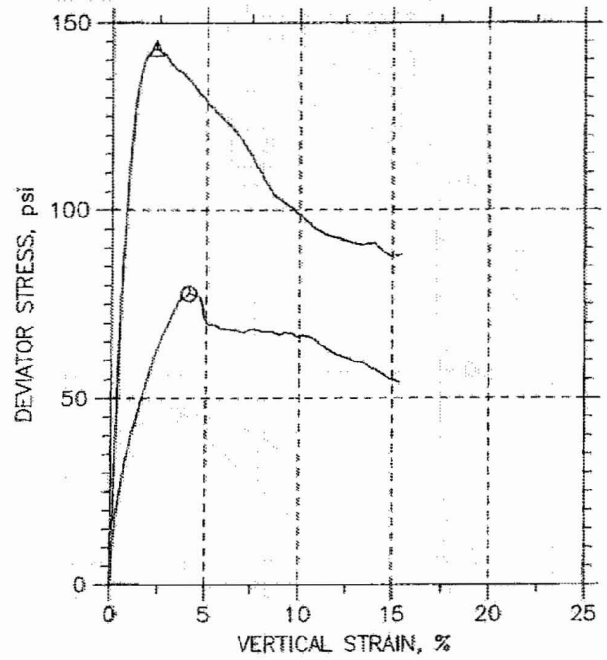
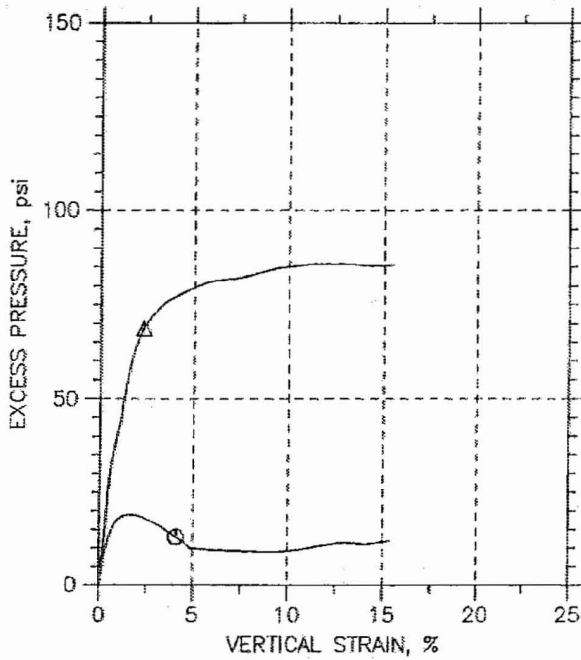
Symbol	⊙	△		
Sample No.	S-29	S-29		
Test No.	CU16	CU17		
Depth	128.5	128.5		
Initial	Diameter, in	2.87	2.86	
	Height, in	5.9	5.78	
	Water Content, %	32.6	35.5	
	Dry Density, pcf	87.99	80.59	
	Saturation, %	99.5	90.2	
	Void Ratio	0.859	1.03	
Before Shear	Water Content, %	37.9	35.6	
	Dry Density, pcf	82.05	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 <small>a subsidiary of Geacorp Corporation</small>	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

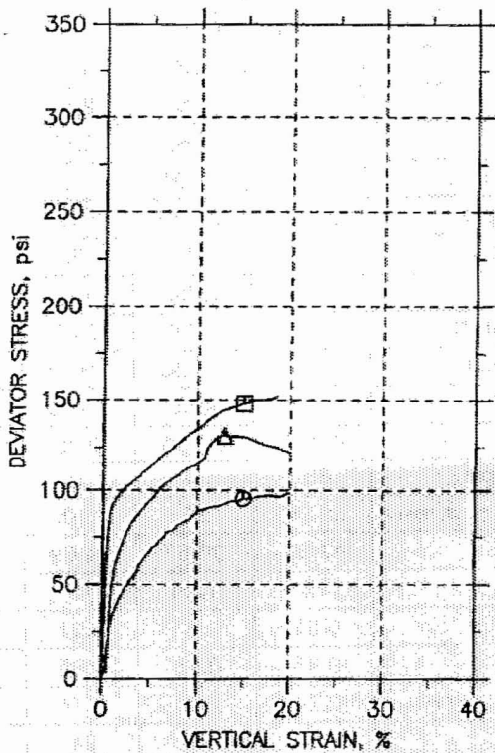
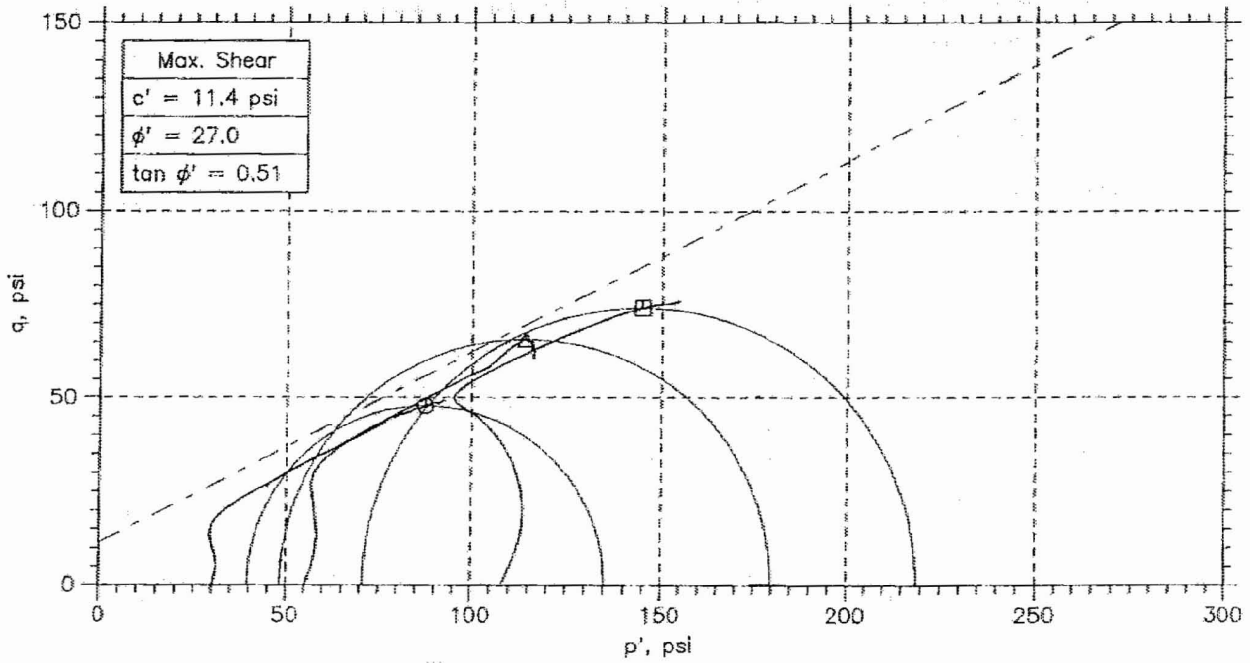


	Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
○	S-29	CU16	128.5	njh	11/03/06	jdt		6880-CU16n.dat
△	S-29	CU17	128.5	njh	11/03/06	jdt		6880-CU17n.dat

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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		

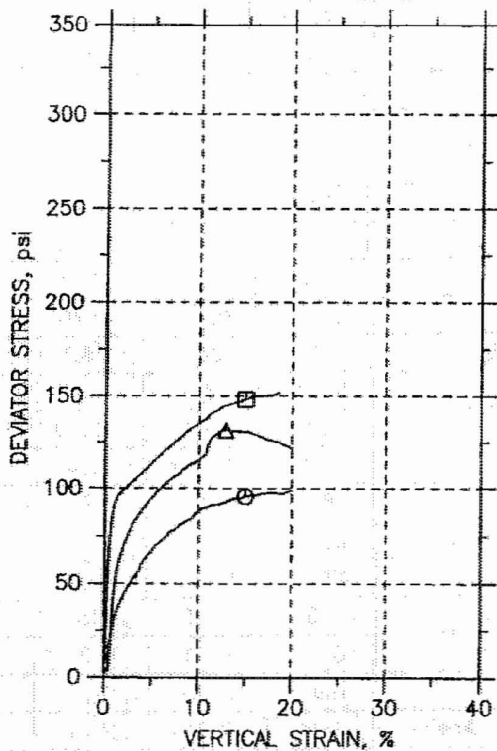
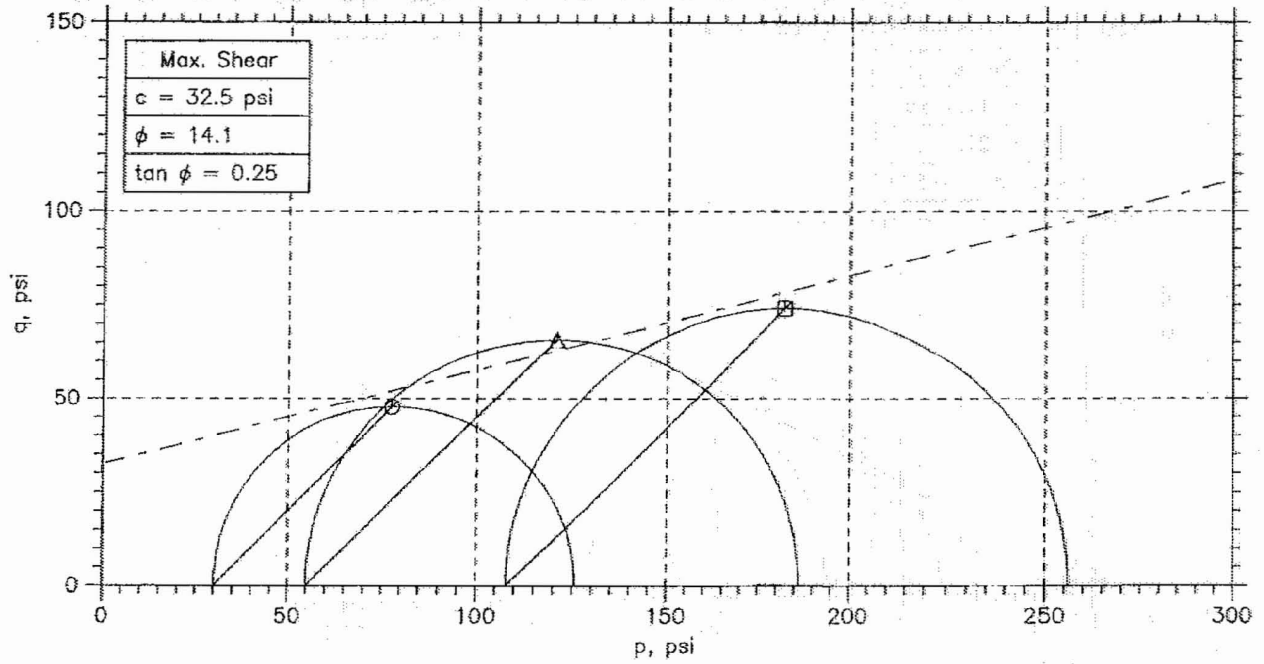
CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



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	

GeoTesting express <small>a subsidiary of Geocomp Corporation</small>	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 by ASTM D4767



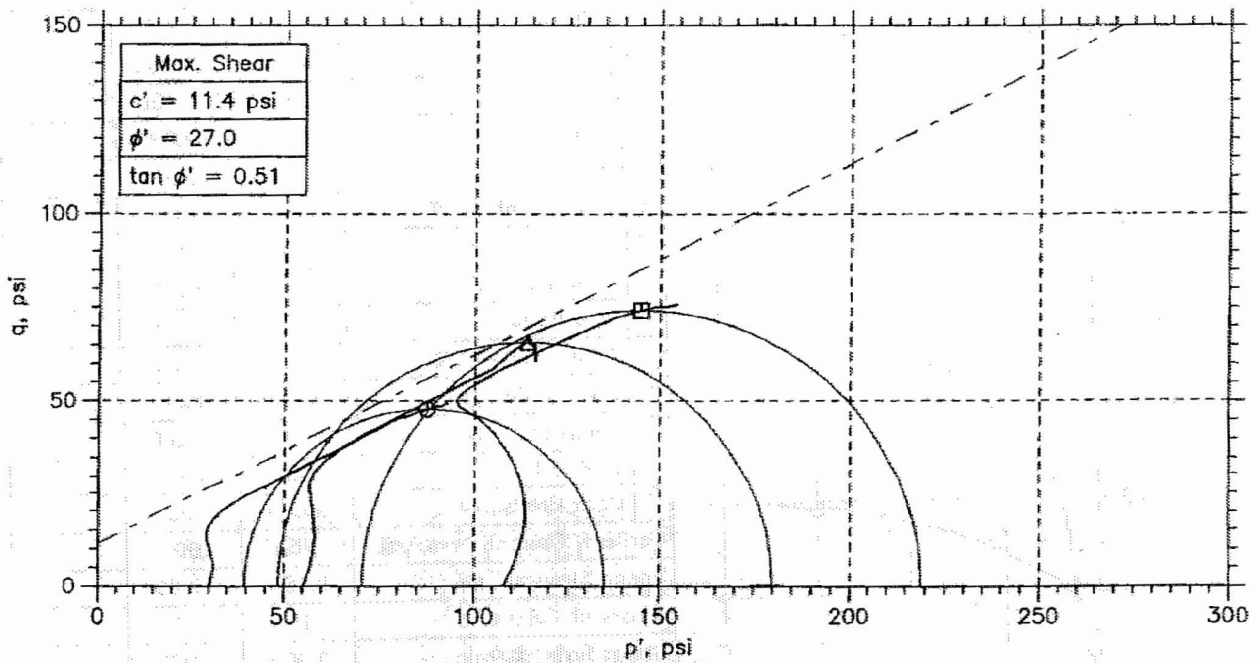
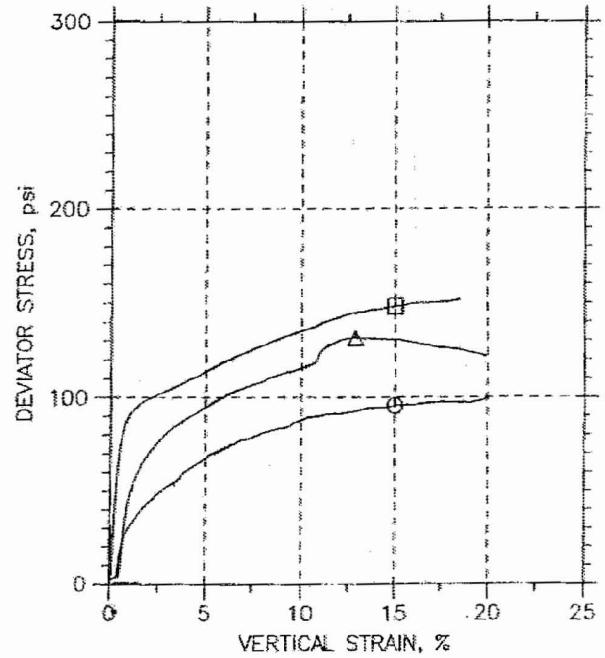
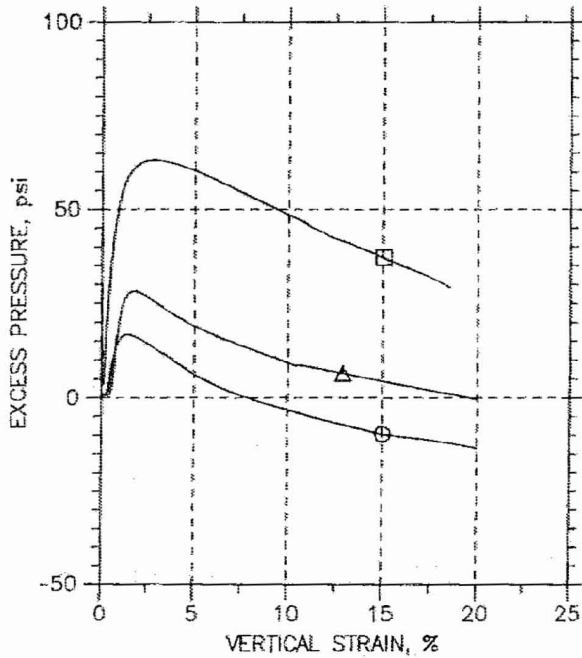
Symbol	⊙	△	⊠	
Sample No.	S-24	S-24	S-24	
Test No.	CU10	CU11A	CU12	
Depth	103.5	103.5	103.5	
Initial	Diameter, in	2.87	2.87	2.87
	Height, in	5.82	5.85	5.85
	Water Content, %	26.6	22.6	23.1
	Dry Density, pcf	93.43	95.13	97.17
	Saturation, %	87.7	77.7	83.1
Before Shear	Void Ratio	0.831	0.798	0.76
	Water 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	
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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 - t50 = 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.

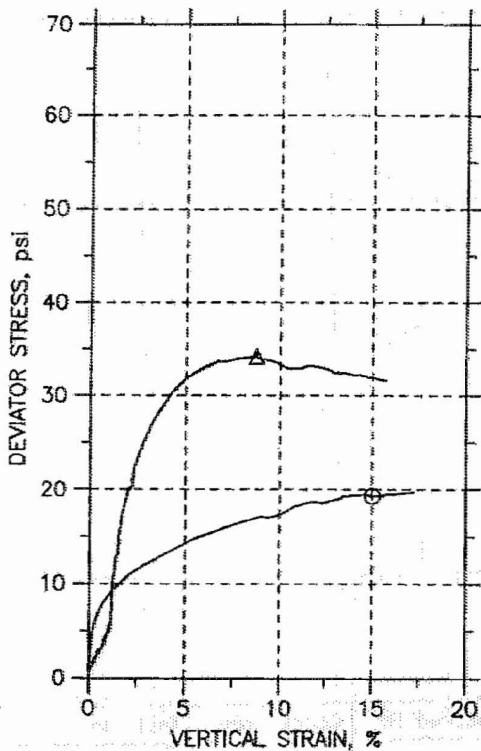
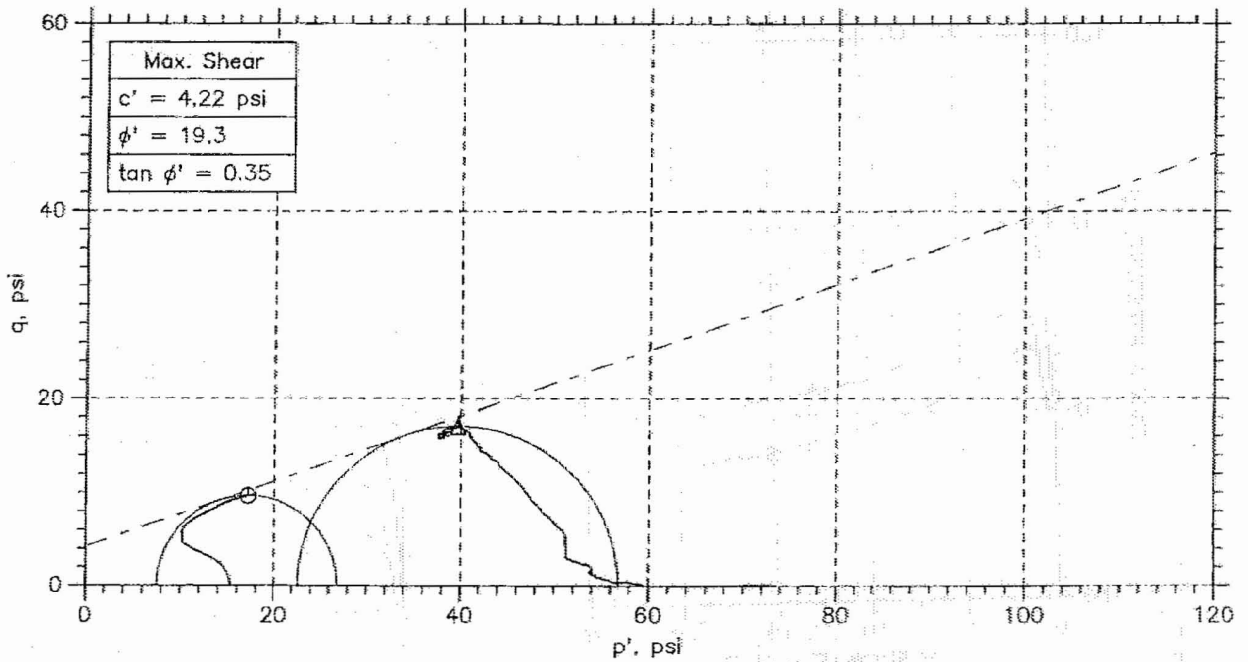
CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
○	S-24 CU10	103.5	njh	10/28/06	jdt		6880-CU10n.dat
△	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

GeoTesting express <small>a subsidiary of Geocomp Corporation</small>	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 4.6.318					

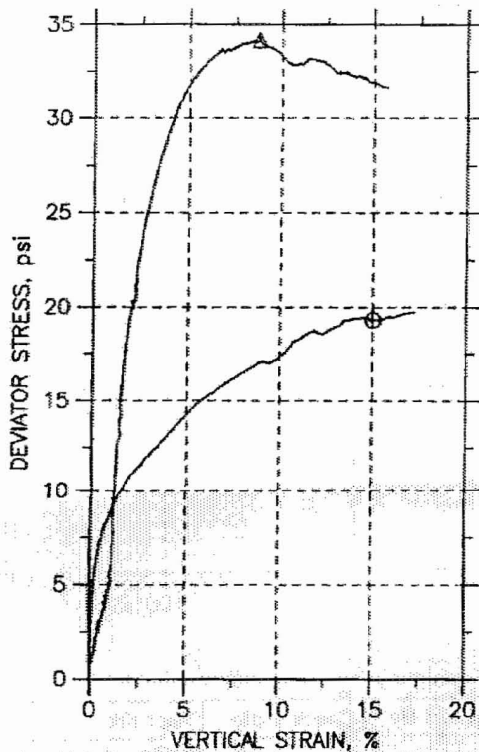
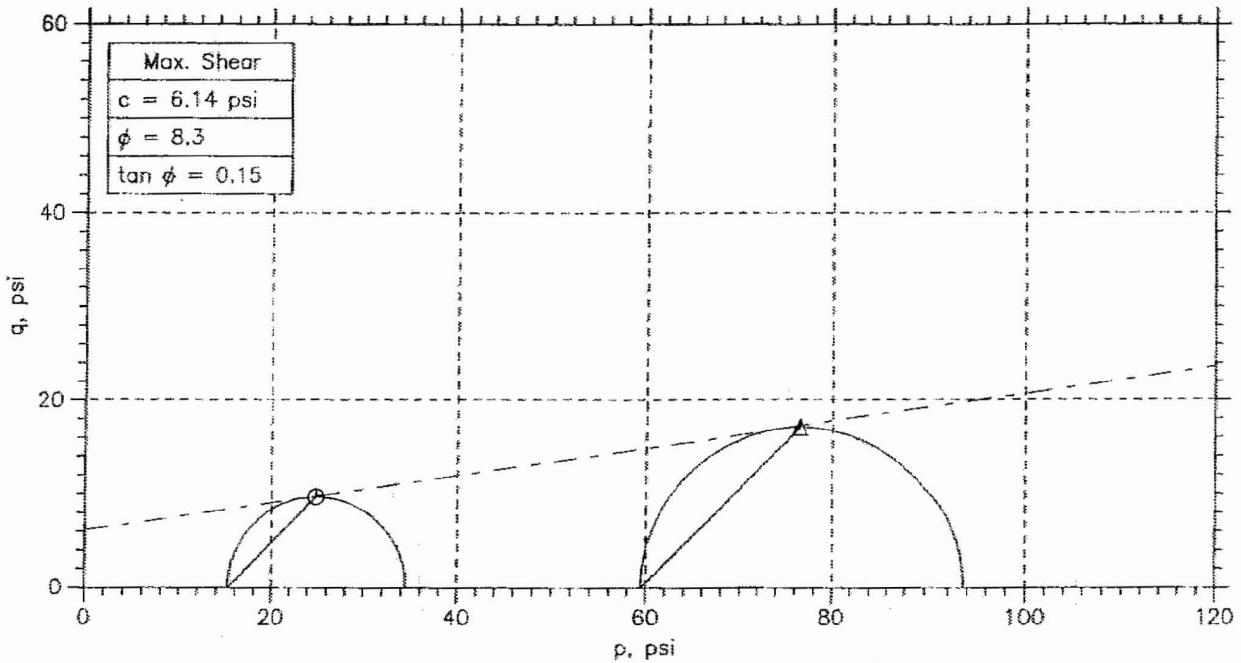
CONSOLIDATED UNDRAINED TRIAXIAL TEST



Symbol	⊙	△		
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 <small>a subsidiary of Geocomp Corporation</small>	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



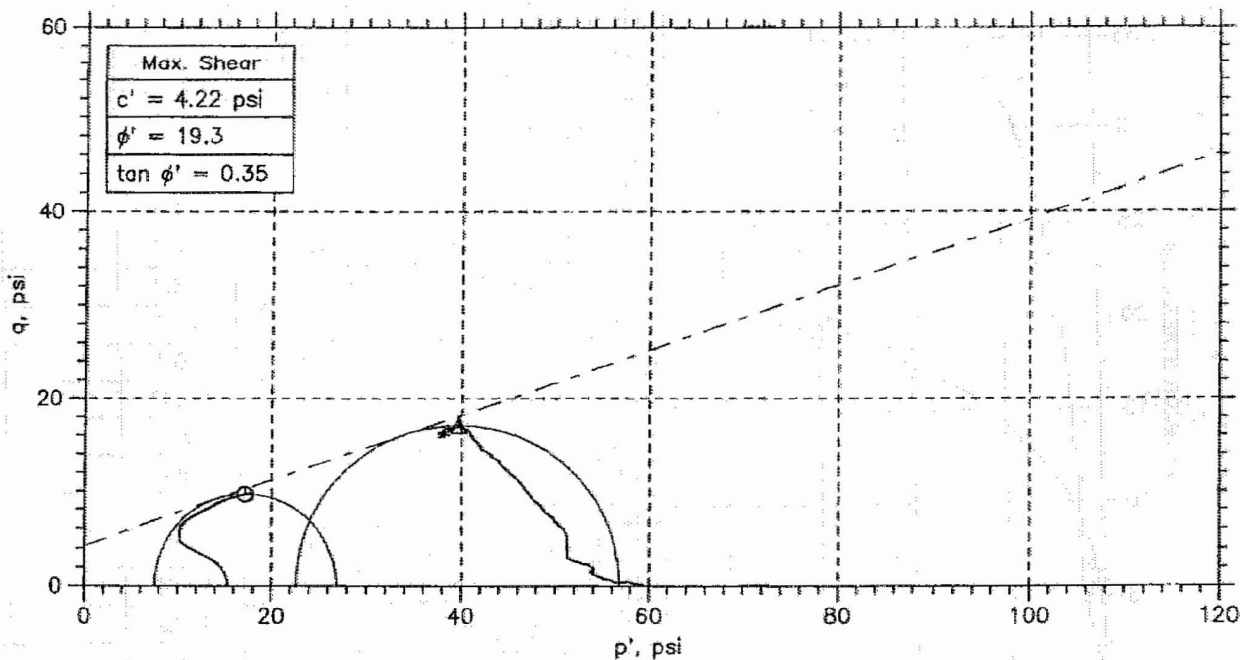
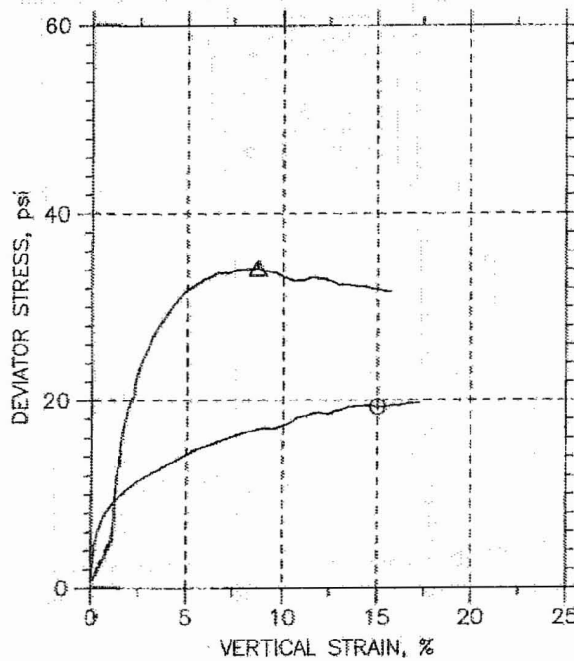
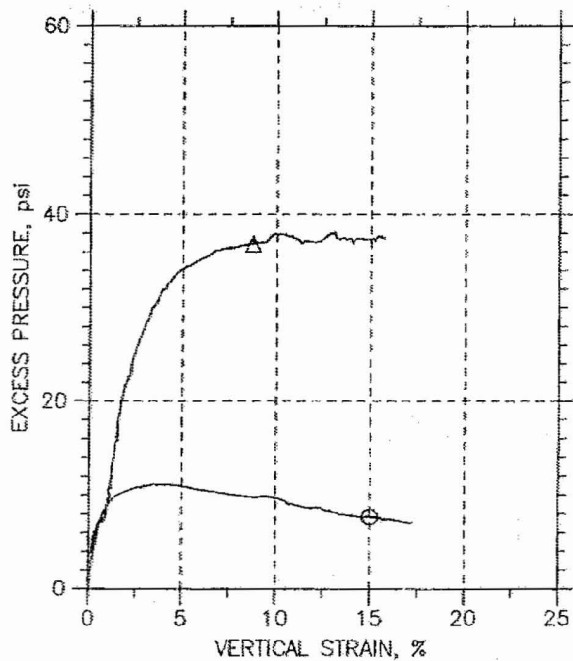
Symbol	⊙	Δ		
Sample No.	S-13	S-13		
Test No.	CU13	CU15a		
Depth	48.5-50.5	48.5-50.5		
Initial	Diameter, in	2.87	2.87	
	Height, in	5.89	5.95	
	Water Content, %	34.0	47.3	
	Dry Density, pcf	85.03	70.77	
	Saturation, %	95.0	93.4	
Before Shear	Void Ratio	0.953	1.35	
	Water Content, %	38.7	35.5	
	Dry Density, 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 <small>a subsidiary of Geocomp Corporation</small>	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 - t50 = 200 min, Triaxial Rev 1.0.6.318		

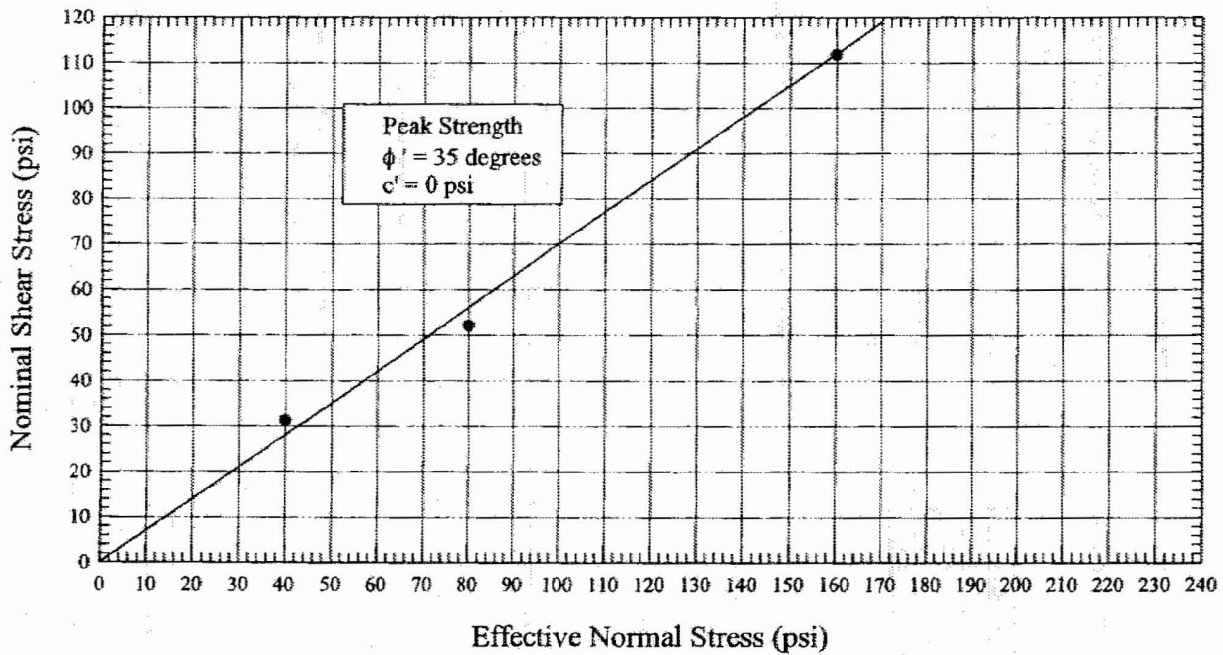
DIRECT SHEAR RESULTS

1000

1000

Consolidated Drained Direct Shear (ASTM D3080)

Nominal Shear Stress vs. Effective Normal Stress



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