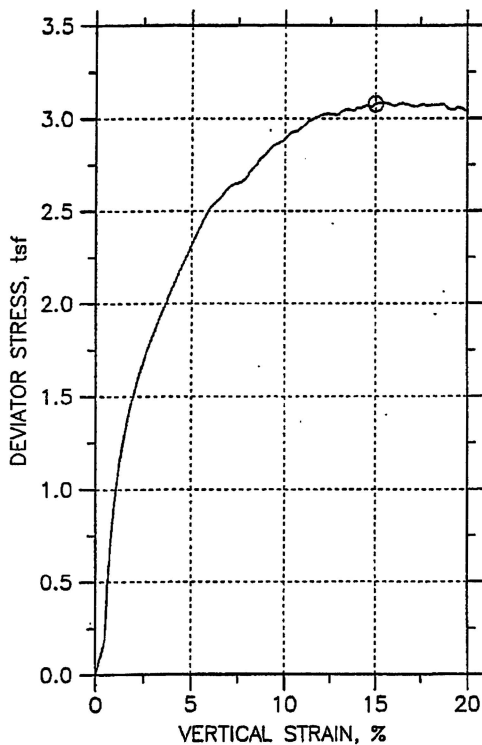
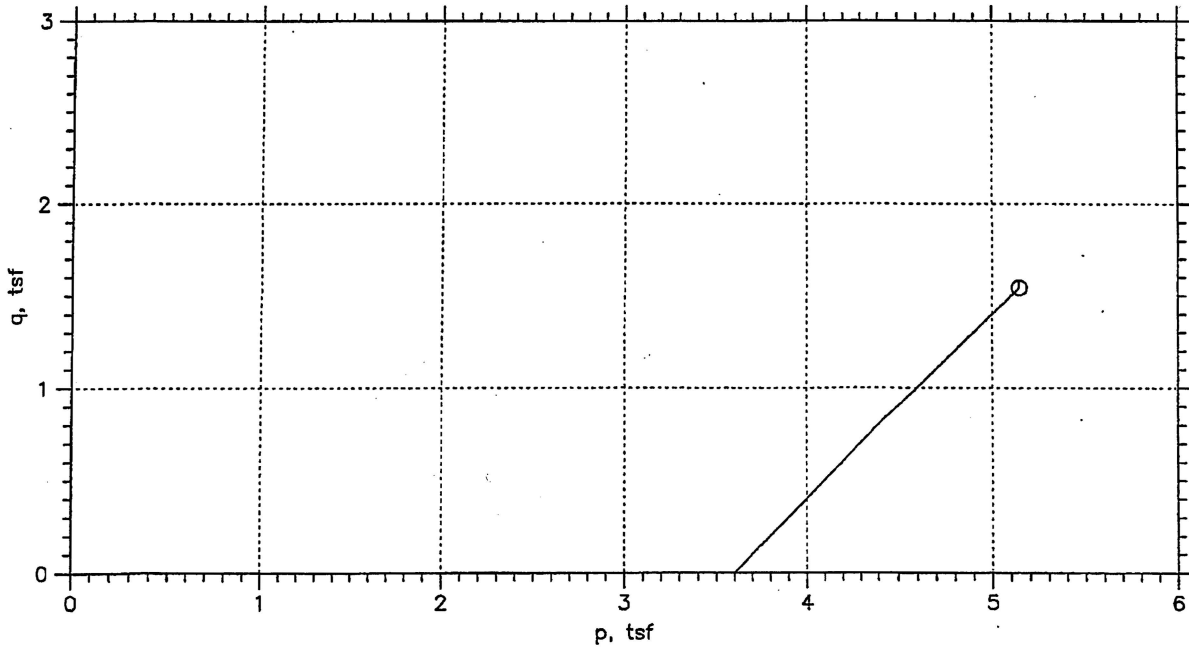


UNCONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D2850



Symbol	⊙			
Sample No.	UD-11			
Test No.	8576			
Depth	69.5-71.5			
Tested by	BM			
Test Date	4/07/08			
Checked by	HJ			
Check Date	4/15/08			
Diameter, in	2.867			
Height, in	5.996			
Water Content, %	18.5			
Dry Density, pcf	101.			
Saturation, %	73.3			
Void Ratio	0.693			
Confining Stress, tsf	3.6			
Undrained Strength, tsf	1.538			
Max. Dev. Stress, tsf	3.077			
Strain at Failure, %	15			
Strain Rate, %/min	1			
Measured Specific Gravity	2.74			
Liquid Limit	59			
Plastic Limit	25			
Plasticity Index	34			

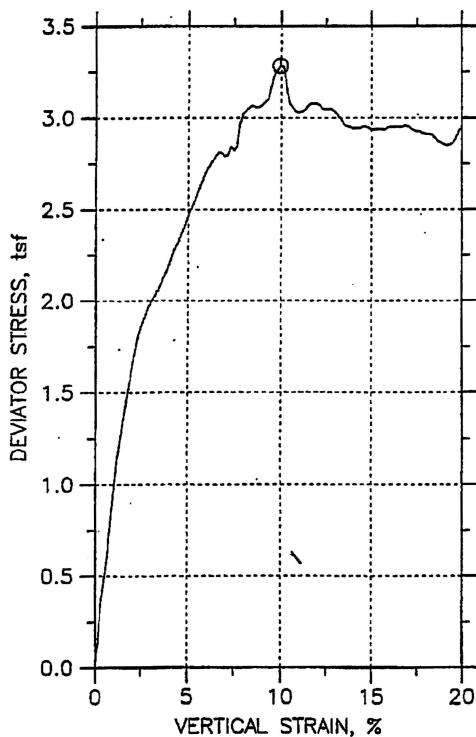
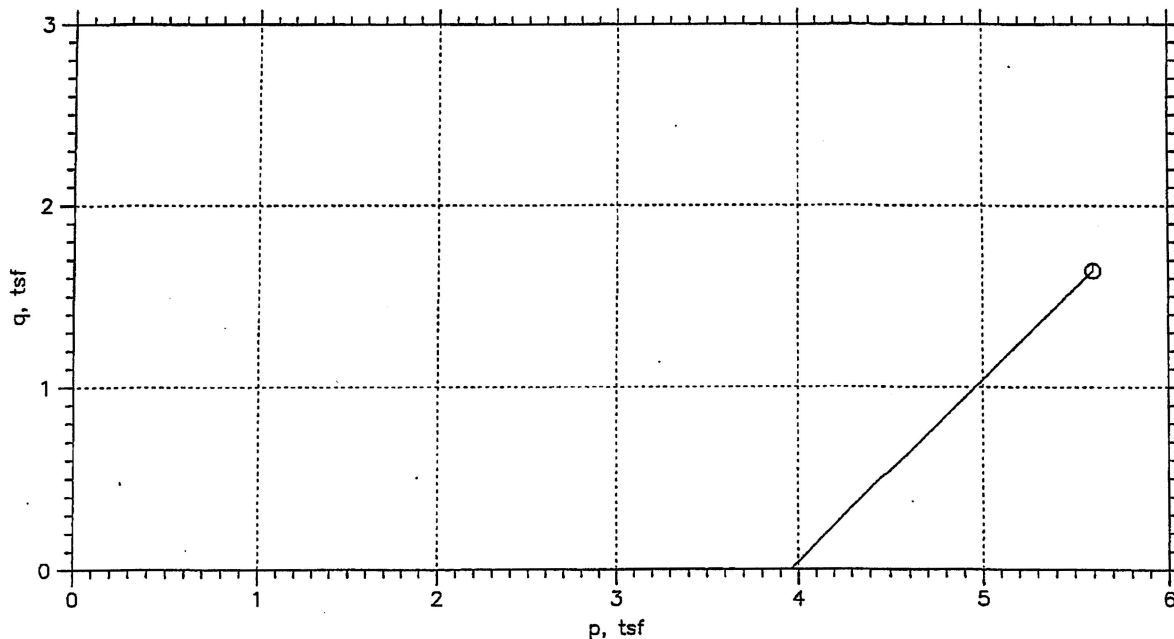
MACTEC	Project: Exelon Texas COL Victoria			
	Location: B-2302UD UD-11			
	Project No.: 6468071777			
	Boring No.: B-2302UD			
	Sample Type: Undisturbed			
	Description: Light Gray Mottled Light Yellowish Brown Fat CLAY (CH)			
Remarks: ASTM D2850-03a. Membrane correction not applied.				

Phase calculations based on start and end of test.

KAW 4-15-08

Tue, 15-APR-2008 13:55:43

UNCONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D2850



Symbol	⊙			
Sample No.	UD-7			
Test No.	8349			
Depth	73.5-75.5'			
Tested by	BM			
Test Date	2/27/08			
Checked by	HJ			
Check Date	4/14/08			
Diameter, in	2.856			
Height, in	5.612			
Water Content, %	27.6			
Dry Density, pcf	92.34			
Saturation, %	87.1			
Void Ratio	0.879			
Confining Stress, tsf	3.96			
Undrained Strength, tsf	1.641			
Max. Dev. Stress, tsf	3.282			
Strain at Failure, %	9.96			
Strain Rate, %/min	1			
Measured Specific Gravity	2.78			
Liquid Limit	69			
Plastic Limit	34			
Plasticity Index	35			

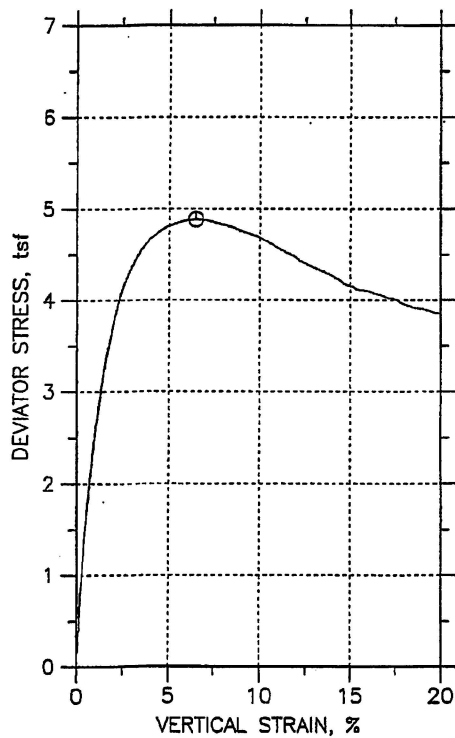
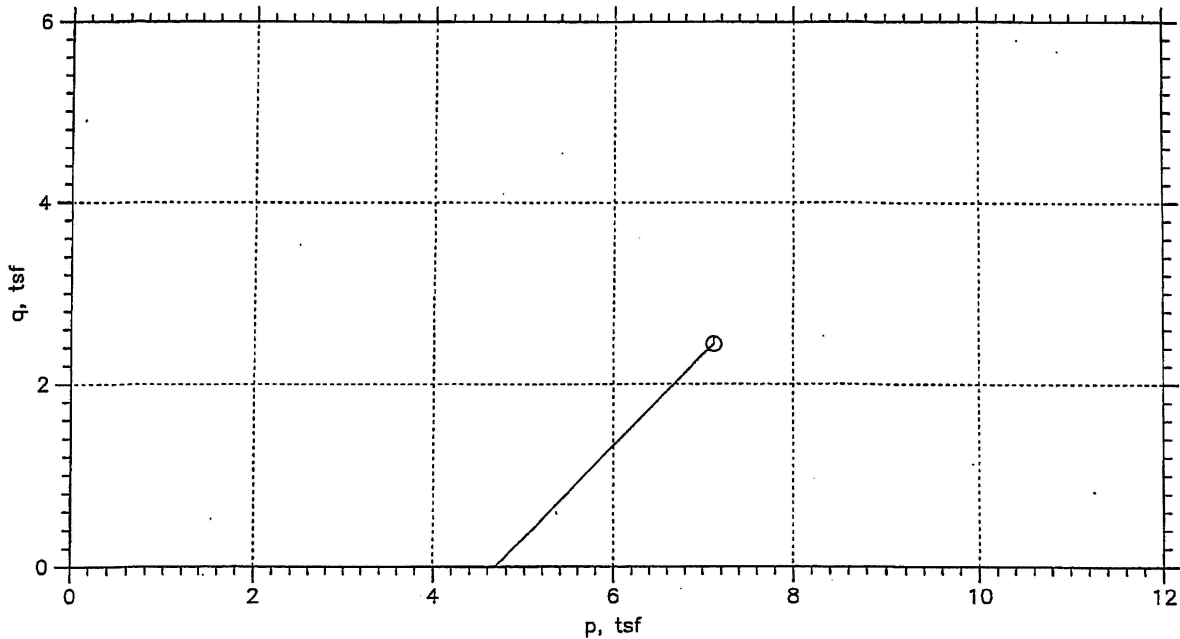
MACTEC	Project: Exelon Texas COL Victoria							
	Location: B-2304UD UD-7							
	Project No.: 6468071777							
	Boring No.: B-2304UD							
	Sample Type: Undisturbed							
Description: Mottled Brownish Yellow and Pale Yellow Elastic SILT (MH)								
Remarks: ASTM D2850-03a. Membrane correction not applied.								

Phase calculations based on start and end of test.

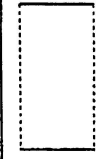
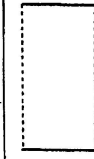
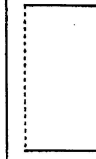
KAW 4.15.08

Mon, 14-APR-2008 16:40:20

UNCONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D2850



Symbol	⊙			
Sample No.	UD-9			
Test No.	8350			
Depth	98.5-101.0'			
Tested by	BM			
Test Date	2/27/08			
Checked by	HJ			
Check Date	7/14/08			
Diameter, in	2.846			
Height, in	5.973			
Water Content, %	22.8			
Dry Density, pcf	101.5			
Saturation, %	91.0			
Void Ratio	0.685			
Confining Stress, tsf	4.68			
Undrained Strength, tsf	2.441			
Max. Dev. Stress, tsf	4.883			
Strain at Failure, %	6.48			
Strain Rate, %/min	1			
Measured Specific Gravity	2.74			
Liquid Limit	62			
Plastic Limit	25			
Plasticity Index	37			

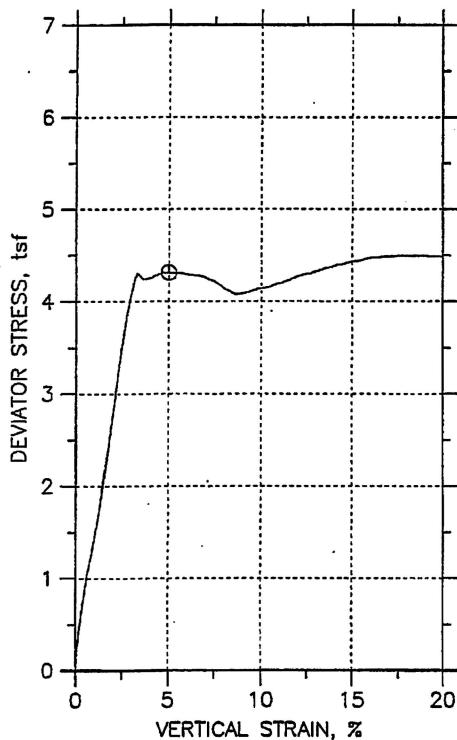
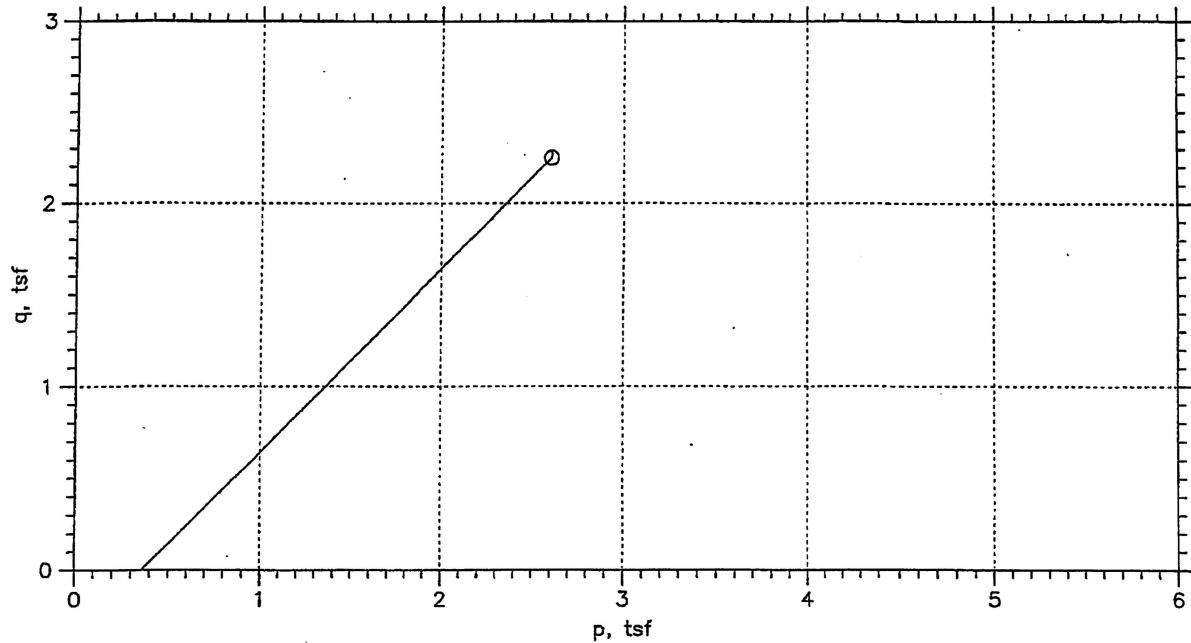
	Project: Exelon Texas COL Victoria				
	Location: B-2304UD UD-9				
	Project No.: 6468071777				
	Boring No.: B-2304UD				
	Sample Type: Undisturbed				
Description: Mottled Pale Yellow and Yellow Fat CLAY with Sand (CH)					
Remarks: ASTM D2850-03a. Membrane correction not applied.					

Phase calculations based on start and end of test.

KAW 4.15.08

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UNCONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D2850



Symbol	$\odot$			
Sample No.	UD-2			
Test No.	8352			
Depth	5.5-7.5'			
Tested by	BM			
Test Date	2/28/08			
Checked by	HJ <i>HJ</i>			
Check Date	4/14/08			
Diameter, in	2.863			
Height, in	5.991			
Water Content, %	13.7			
Dry Density, pcf	117.1			
Saturation, %	82.4			
Void Ratio	0.456			
Confining Stress, tsf	0.36			
Undrained Strength, tsf	2.155			
Max. Dev. Stress, tsf	4.311			
Strain at Failure, %	5			
Strain Rate, %/min	1			
Measured Specific Gravity	2.73			
Liquid Limit	37			
Plastic Limit	16			
Plasticity Index	21			

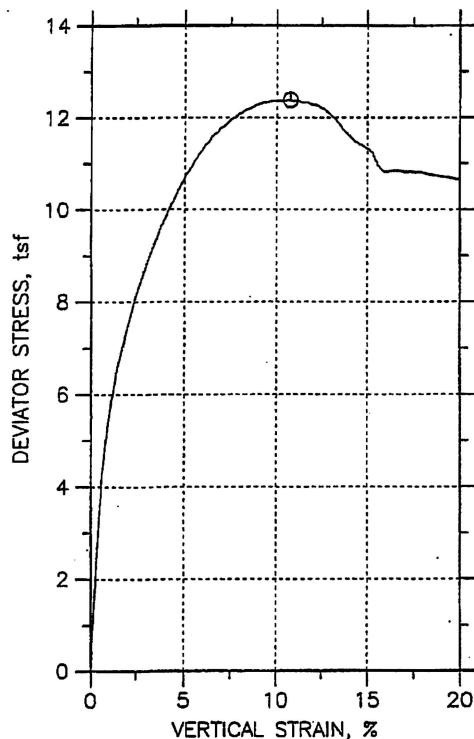
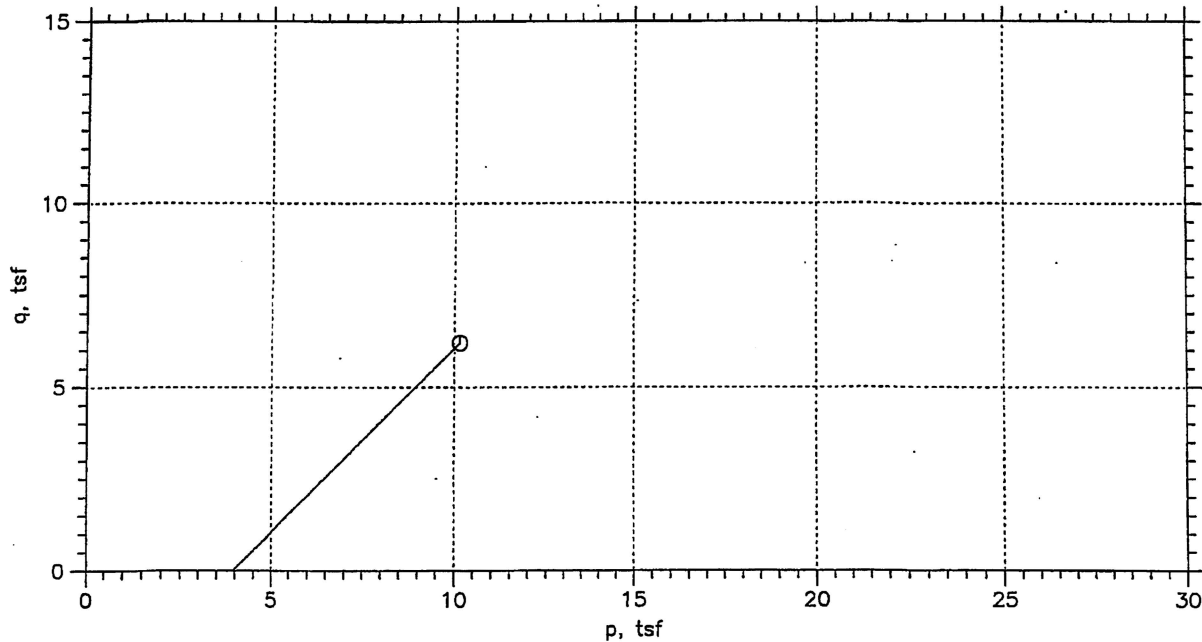
MAGTEC	Project: Exelon Texas COL Victoria				
	Location: B-2319UD UD-2				
	Project No.: 6468071777				
	Boring No.: B-2319UD				
	Sample Type: Undisturbed				
	Description: Grayish Brown Clayey SAND (SC)				
Remarks: ASTM D2850-03a. Membrane correction not applied.					

Phase calculations based on start and end of test.

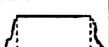
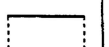
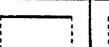
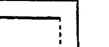
KAW 4.15.08

Mon, 14-APR-2008 15:30:35

UNCONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D2850



Symbol	⊙			
Sample No.	UD-8			
Test No.	8356			
Depth	75-77'			
Tested by	BM			
Test Date	2/27/08			
Checked by	HJ			
Check Date	4/14/08			
Diameter, in	2.817			
Height, in	5.99			
Water Content, %	24.6			
Dry Density, pcf	98.71			
Saturation, %	92.4			
Void Ratio	0.727			
Confining Stress, tsf	3.96			
Undrained Strength, tsf	6.188			
Max. Dev. Stress, tsf	12.38			
Strain at Failure, %	10.8			
Strain Rate, %/min	1			
Measured Specific Gravity	2.73			
Liquid Limit	NP			
Plastic Limit	NP			
Plasticity Index	NP			

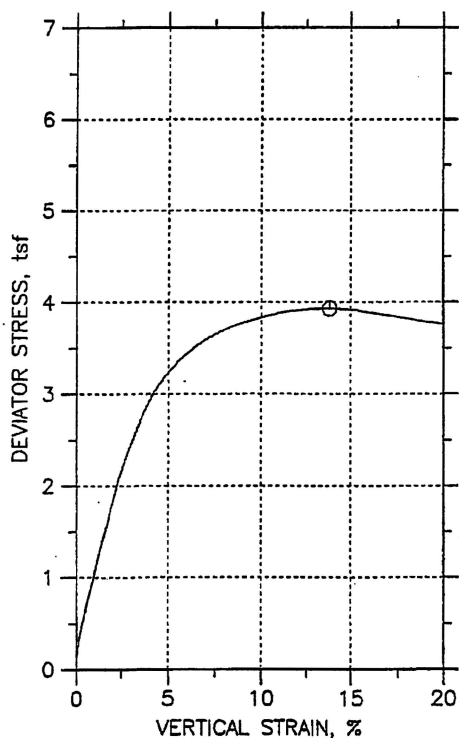
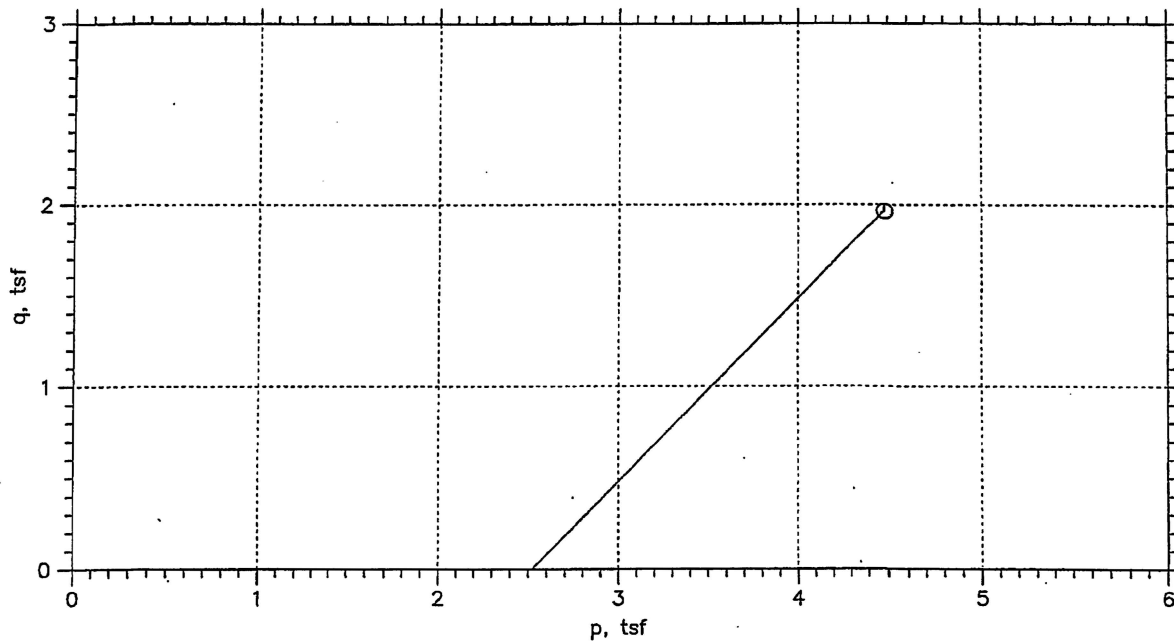
	Project: Exelon Texas COL Victoria	   
	Location: B-2319UD UD-8	
	Project No.: 6468071777	
	Boring No.: B-2319UD	
	Sample Type: Undisturbed	
	Description: Light Gray Poorly Graded SAND with Silt (SP-SM)	
Remarks: ASTM D2850-03a. Membrane correction not applied.		

Phase calculations based on start and end of test.

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UNCONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D2850



Symbol	⊙			
Sample No.	UD-7			
Test No.	8358			
Depth	38.5-40.2'			
Tested by	BM			
Test Date	4/07/08			
Checked by	HJ			
Check Date	4/14/08			
Diameter, in	2.872			
Height, in	5.855			
Water Content, %	14.8			
Dry Density, pcf	106.6			
Saturation, %	65.4			
Void Ratio	0.628			
Confining Stress, tsf	2.52			
Undrained Strength, tsf	1.964			
Max. Dev. Stress, tsf	3.928			
Strain at Failure, %	13.8			
Strain Rate, %/min	1			
Measured Specific Gravity	2.78			
Liquid Limit	60			
Plastic Limit	23			
Plasticity Index	37			

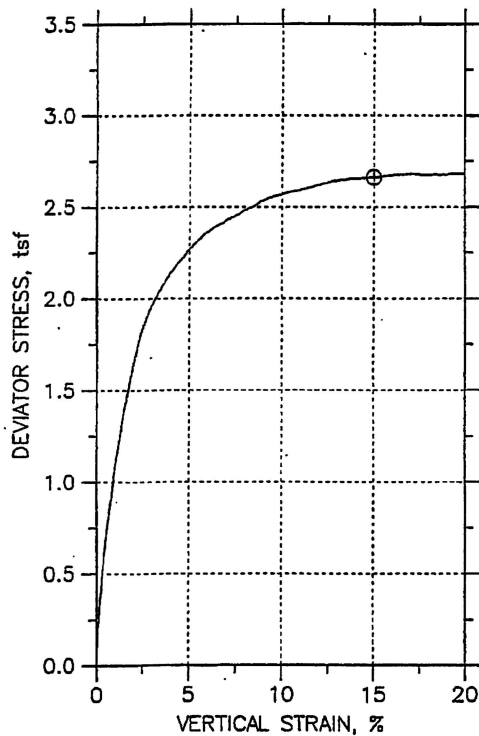
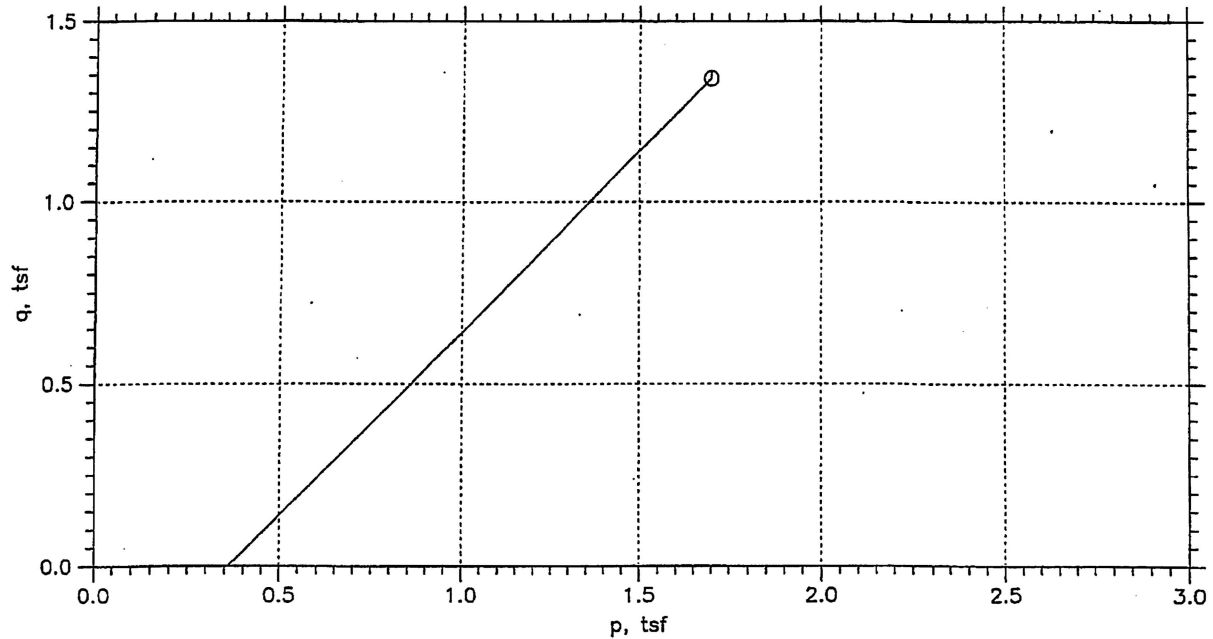
	Project: Exelon Texas COL Victoria				
	Location: B-2321UD UD-7				
	Project No.: 6468071777				
	Boring No.: B-2321UD				
	Sample Type: Undisturbed				
	Description: Very Pale Brown Mottled Brownish Yellow Fat CLAY (CH)				
	Remarks: ASTM D2850-03a. Membrane correction not applied.				

Phase calculations based on start and end of test.

KAW 4.15.08

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UNCONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D2850



Symbol	⊙			
Sample No.	UD-1			
Test No.	8361			
Depth	3.5-5.2'			
Tested by	BM			
Test Date	2/28/08			
Checked by	HJ			
Check Date	4/14/08			
Diameter, in	2.85			
Height, in	5.964			
Water Content, %	18.3			
Dry Density, pcf	110.8			
Saturation, %	95.0			
Void Ratio	0.522			
Confining Stress, tsf	0.36			
Undrained Strength, tsf	1.33			
Max. Dev. Stress, tsf	2.66			
Strain at Failure, %	15			
Strain Rate, %/min	1			
Measured Specific Gravity	2.7			
Liquid Limit	46			
Plastic Limit	19			
Plasticity Index	27			

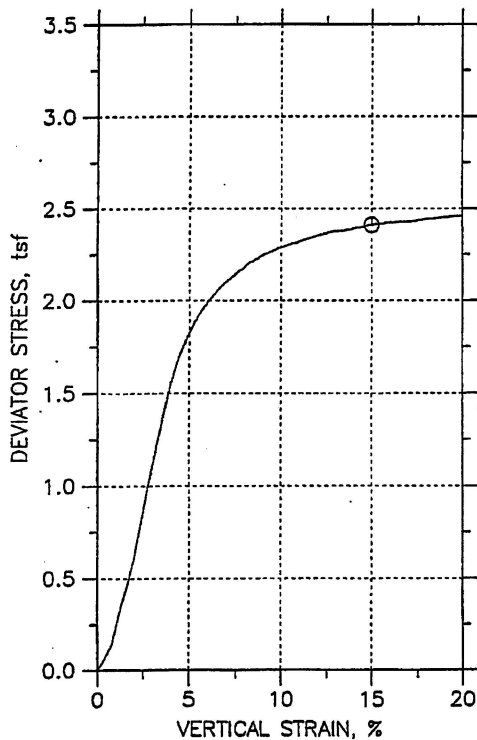
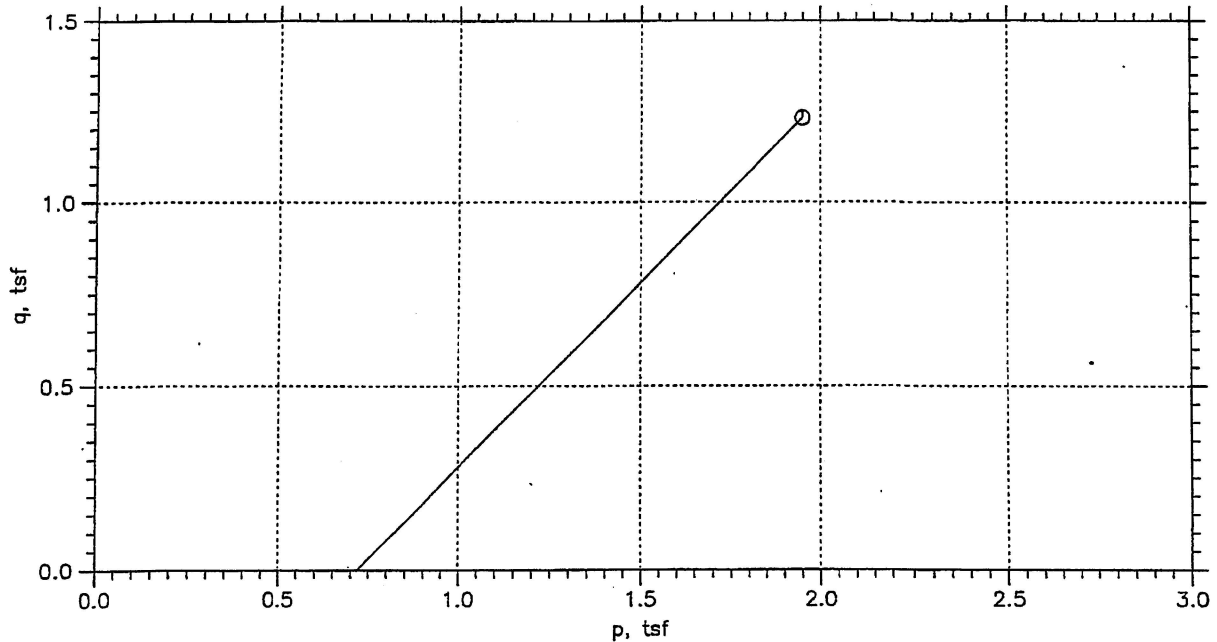
	Project: Exelon Texas COL Victoria	
	Location: B-2352UD UD-1	
	Project No.: 6468071777	
	Boring No.: B-2352UD	
	Sample Type: Undisturbed	
	Description: Pale Brown Sandy Lean CLAY (CL)	
	Remarks: ASTM D2850-03a. Membrane correction not applied.	

Phase calculations based on start and end of test.

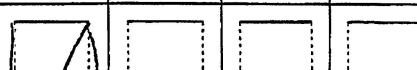
KAW 4-15-08

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UNCONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D2850



Symbol	⊙			
Sample No.	UD-3			
Test No.	8362			
Depth	11.5-13.2			
Tested by	BM			
Test Date	2/28/08			
Checked by	HJ			
Check Date	4/14/08			
Diameter, in	2.845			
Height, in	5.996			
Water Content, %	18.6			
Dry Density, pcf	108.7			
Saturation, %	90.6			
Void Ratio	0.556			
Confining Stress, tsf	0.72			
Undrained Strength, tsf	1.205			
Max. Dev. Stress, tsf	2.41			
Strain at Failure, %	15			
Strain Rate, %/min	1			
Measured Specific Gravity	2.71			
Liquid Limit	39			
Plastic Limit	18			
Plasticity Index	21			

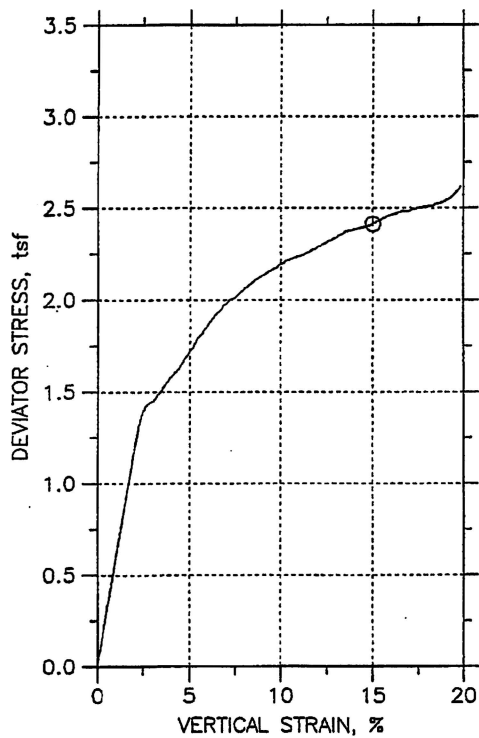
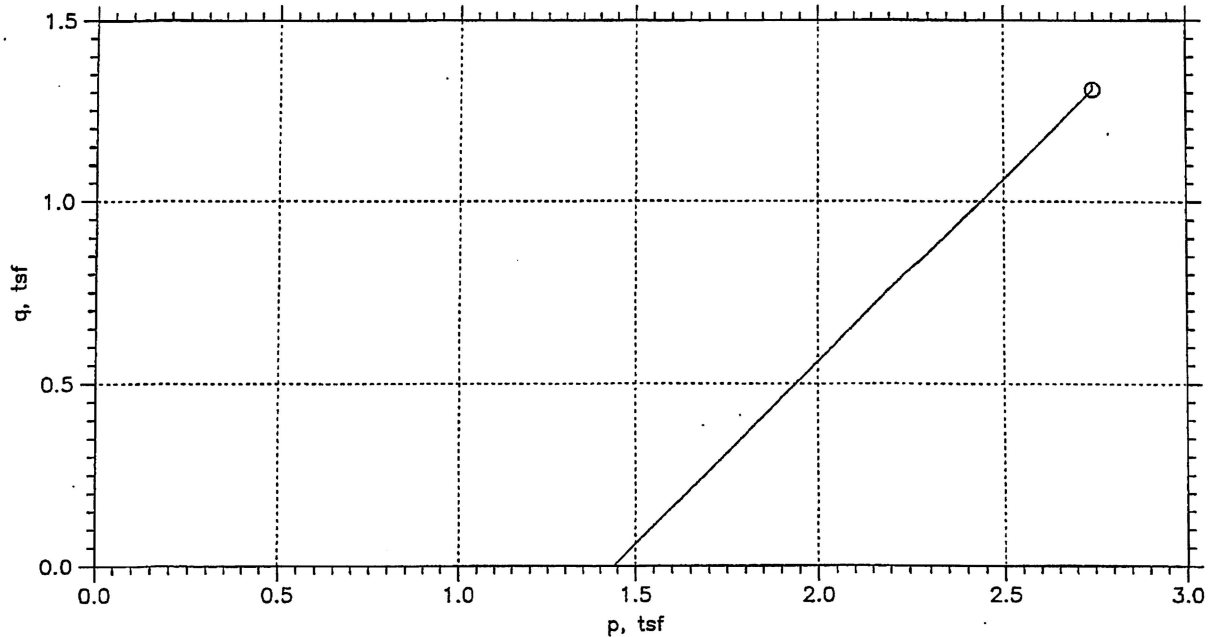
IMACTEC	Project: Exelon Texas COL Victoria	
	Location: B-2352UD UD-3	
	Project No.: 6468071777	
	Boring No.: B-2352UD	
	Sample Type: Undisturbed	
	Description: Yellowish Brown Lean CLAY (CL)	
Remarks: ASTM D2850-03a. Membrane correction not applied.		

Phase calculations based on start and end of test.

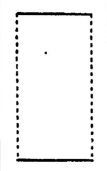
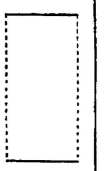
KAW 4-15-08

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UNCONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D2850



Symbol	Q			
Sample No.	UD-5			
Test No.	8363			
Depth	24-25.7'			
Tested by	BM			
Test Date	3/12/08			
Checked by	HJ			
Check Date	4/14/08			
Diameter, in	2.859			
Height, in	6.002			
Water Content, %	22.7			
Dry Density, pcf	100.7			
Saturation, %	92.7			
Void Ratio	0.655			
Confining Stress, tsf	1.44			
Undrained Strength, tsf	1.206			
Max. Dev. Stress, tsf	2.411			
Strain at Failure, %	15			
Strain Rate, %/min	1			
Measured Specific Gravity	2.67			
Liquid Limit	67			
Plastic Limit	29			
Plasticity Index	38			

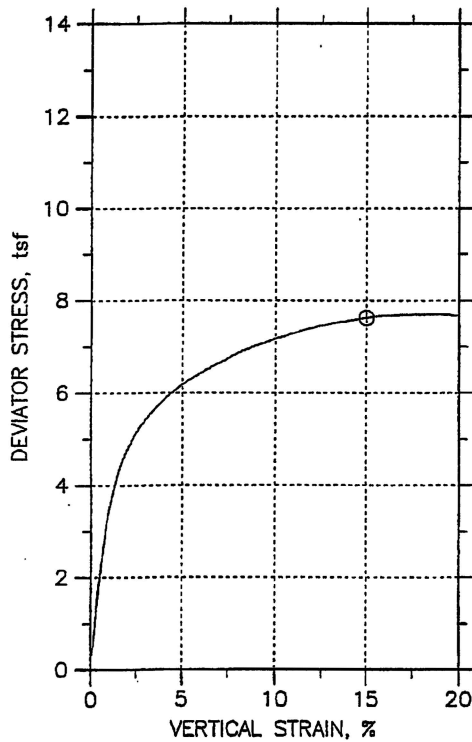
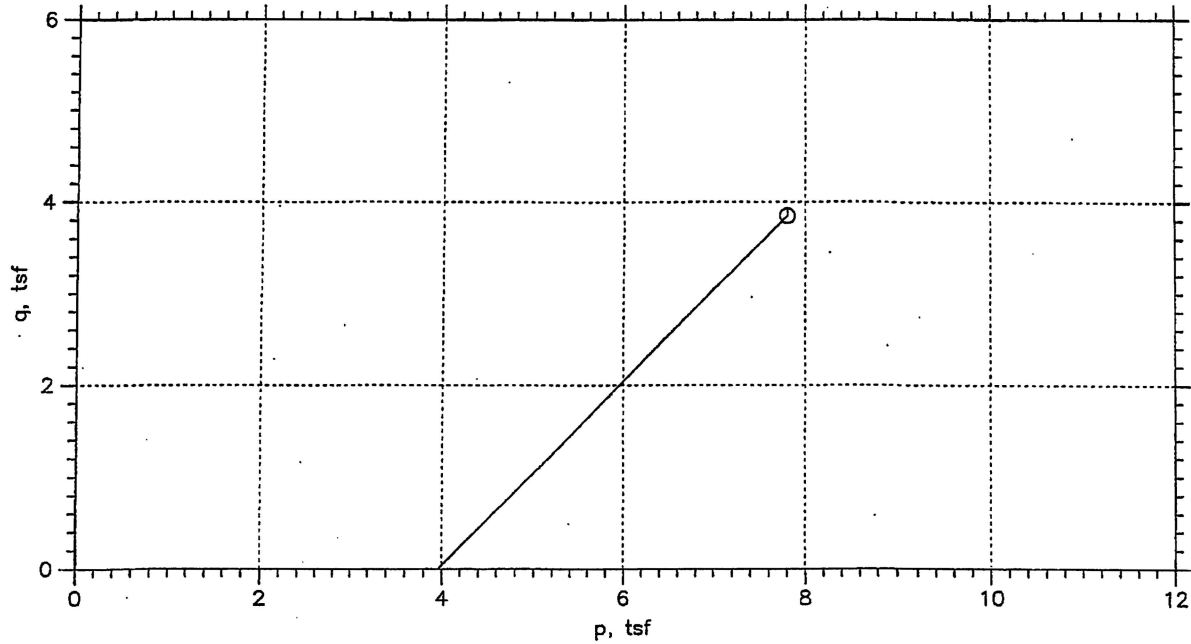
MACTEC	Project: Exelon Texas COL Victoria				
	Location: B-2352UD UD-5				
	Project No.: 6468071777				
	Boring No.: B-2352UD				
	Sample Type: Undisturbed				
Description: Brownish Yellow Fat CLAY (CH)					
Remarks: ASTM D2850-03a. Membrane correction not applied.					

Phase calculations based on start and end of test.

KAW 4.15.08

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UNCONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D2850



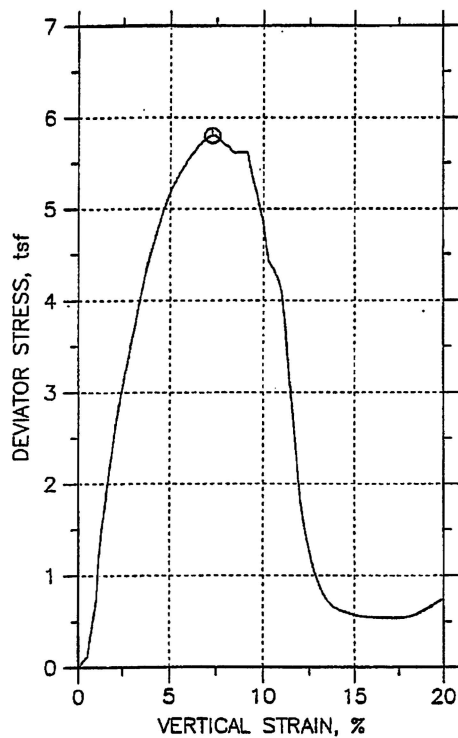
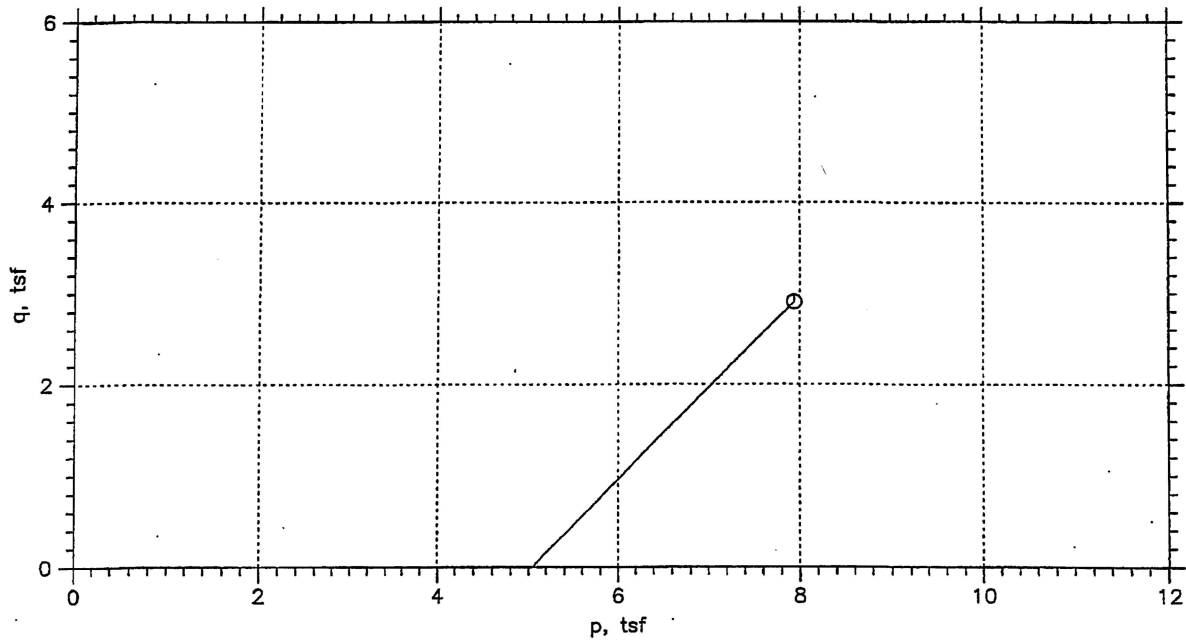
Symbol	⊙			
Sample No.	UD-11			
Test No.	8366			
Depth	77-78.7'			
Tested by	BM			
Test Date	3/10/08			
Checked by	HJ			
Check Date	4/14/08			
Diameter, in	2.841			
Height, in	5.97			
Water Content, %	19.9			
Dry Density, pcf	101.9			
Saturation, %	81.4			
Void Ratio	0.666			
Confining Stress, tsf	3.96			
Undrained Strength, tsf	3.807			
Max. Dev. Stress, tsf	7.614			
Strain at Failure, %	15			
Strain Rate, %/min	1			
Measured Specific Gravity	2.72			
Liquid Limit	23			
Plastic Limit	19			
Plasticity Index	4			

	Project: Exelon Texas COL Victoria					
	Location: B-2359UD UD-11					
	Project No.: 6468071777					
	Boring No.: B-2359UD					
	Sample Type: Undisturbed					
	Description: Light Gray Silty Clayey SAND (SC-SM)					
	Remarks: ASTM D2850-03a. Membrane correction not applied.					

Phase calculations based on start and end of test.

KAW 4.15.08

UNCONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D2850



Symbol	⊙			
Sample No.	UD-17			
Test No.	8368			
Depth	110-111.7'			
Tested by	BM			
Test Date	3/12/08			
Checked by	HJ <i>HJ</i>			
Check Date	4/14/08			
Diameter, in	2.861			
Height, in	5.598			
Water Content, %	17.4			
Dry Density, pcf	106.9			
Saturation, %	80.9			
Void Ratio	0.583			
Confining Stress, tsf	5.04			
Undrained Strength, tsf	2.901			
Max. Dev. Stress, tsf	5.801			
Strain at Failure, %	7.28			
Strain Rate, %/min	1			
Measured Specific Gravity	2.71			
Liquid Limit	21			
Plastic Limit	18			
Plasticity Index	3			

MACTEC	Project: Exelon Texas COL Victoria			
	Location: B-2359UD UD-17			
	Project No.: 6468071777			
	Boring No.: B-2359UD			
	Sample Type: Undisturbed			
	Description: Pale Brown Mottled Yellowish Brown Silty SAND (SM)			
Remarks: ASTM D2850-03a. Membrane correction not applied.				

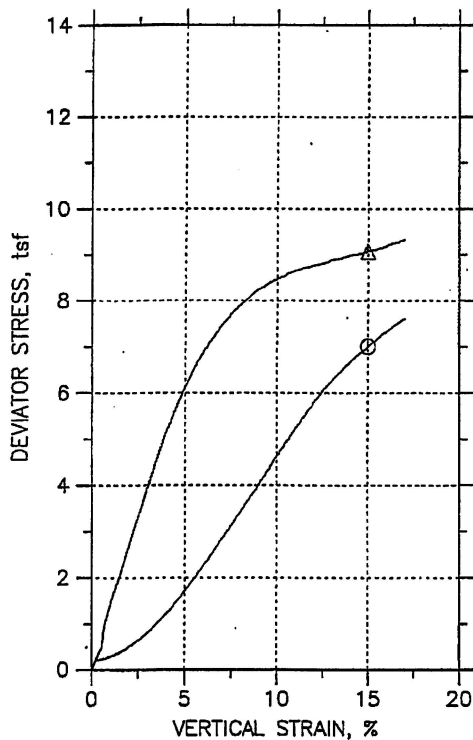
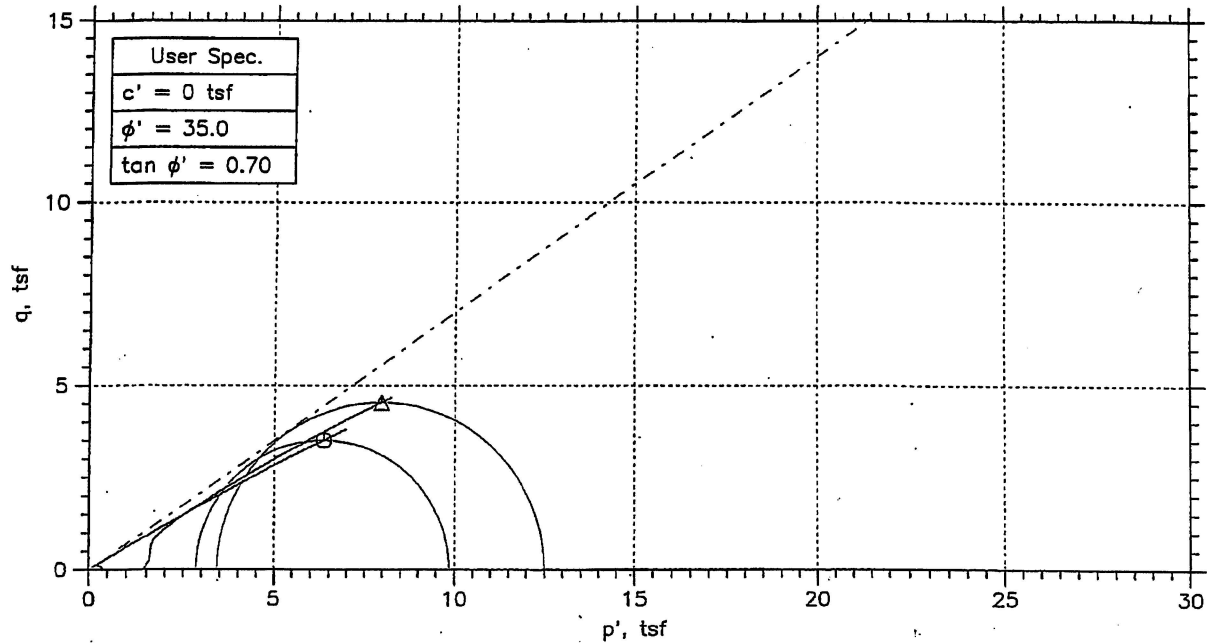
Phase calculations based on start and end of test.

KAW 4.15.08

Mon, 14-APR-2008 15:36:23

Consolidated Undrained Triaxial Compression Reports

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



Symbol	⊙	Δ		
Sample No.	UD-3	UD-3		
Test No.	8343.1	8343.2		
Depth	13.5-16.0	13.5-16 F		
Initial	Diameter, in	2.868	2.854	
	Height, in	5.997	5.997	
	Water Content, %	17.7	17.1	
	Dry Density, pcf	99.26	107.2	
	Saturation, %	69.7	82.7	
Before Shear	Void Ratio	0.679	0.553	
	Water Content, %	24.4	18.9	
	Dry Density, pcf	101.	110.6	
	Saturation*, %	100.0	100.0	
	Void Ratio	0.651	0.505	
	Back Press., tsf	10.08	3.6	
	Ver. Eff. Cons. Stress, tsf	.3604	1.44	
	Shear Strength, tsf	3.501	4.533	
	Strain at Failure, %	15	15	
	Strain Rate, %/min	0.05	0.05	
	B-Value	0.96	0.98	
	Measured Specific Gravity	2.67	2.67	
	Liquid Limit	NP	NP	
	Plastic Limit	NP	NP	

	Project: Exelon Texas COL Victoria	
	Location: B-2302UD, UD-3	
	Project No.: 6468071777	
	Boring No.: B-2302UD	
	Sample Type: Undisturbed	
	Description: Pale Yellow Silty SAND (SM)	
	Remarks: ASTM D4767-04. Wet method was followed for specimen saturation.	

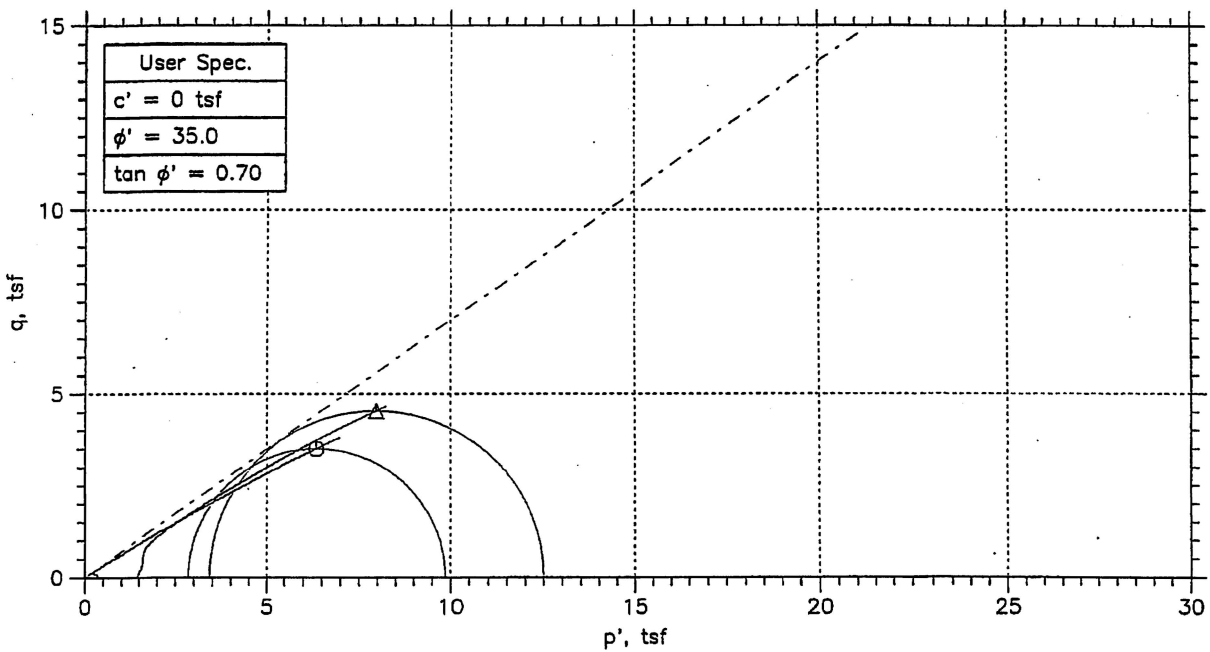
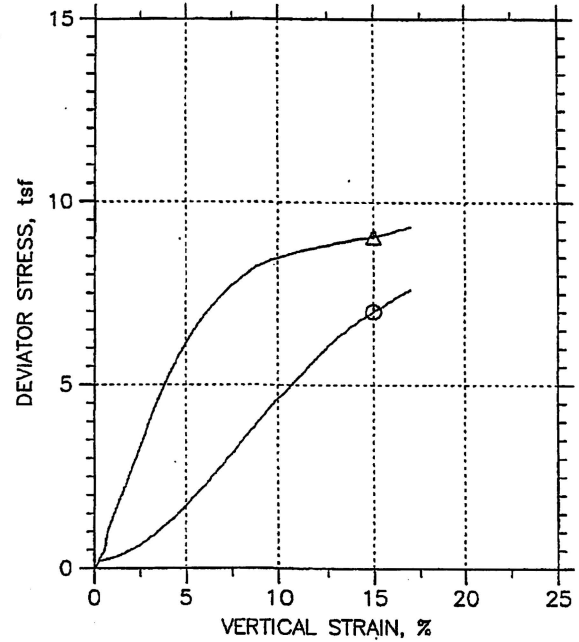
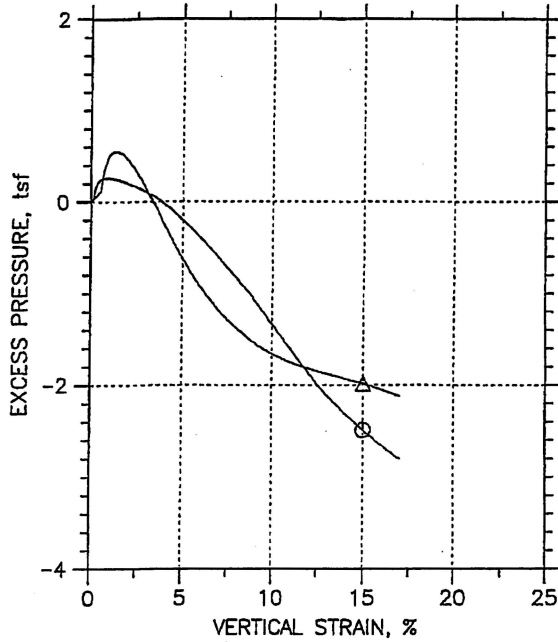
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Phase calculations based on start and end of test.

* Saturation is set to 100% for phase calculations.

KAW 4-15-08

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767

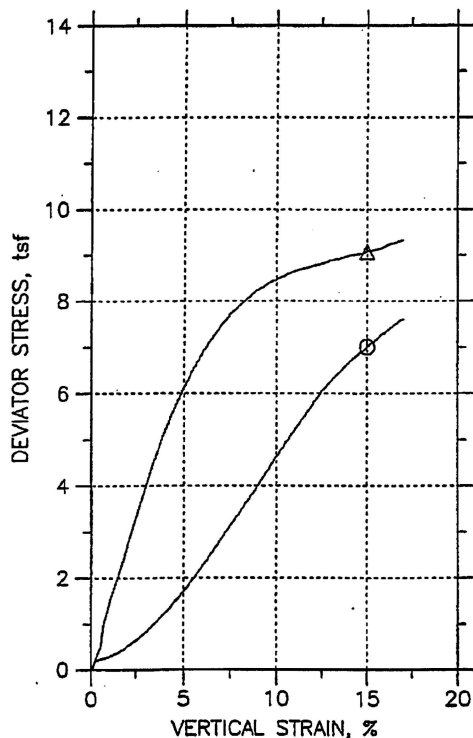
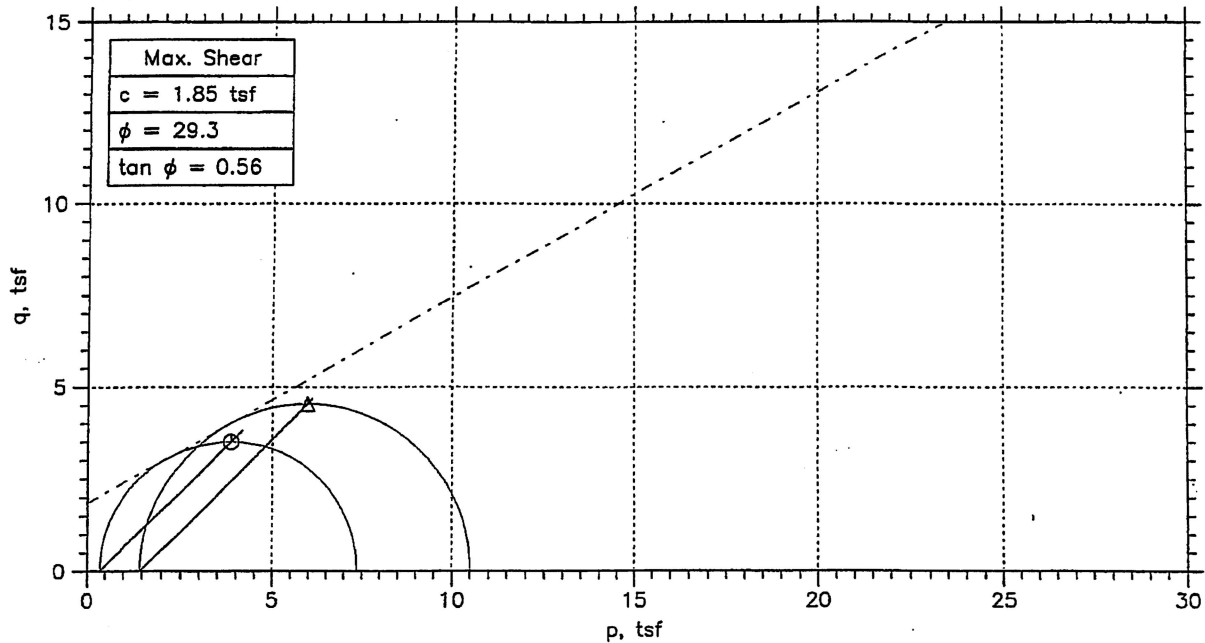


Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
○	UD-3	8343.1	13.5-16.0 Ft	HJ	4/3/08	JW	8343.1_2546.dat
△	UD-3	8343.2	13.5-16 Ft	HJ	4/3/08	JW	8343.2a_2580.dat

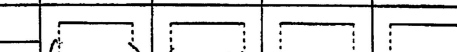
	Project: Exelon Texas COL Victoria		Location: B-2302UD, UD-3	Project No.: 6468071777
	Boring No.: B-2302UD		Sample Type: Undisturbed	
	Description: Pale Yellow Silty SAND (SM)			
	Remarks: ASTM D4767-04. Wet method was followed for specimen saturation.			

Tue, 15-APR-2008 13:55:33

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



Symbol	⊙	Δ		
Sample No.	UD-3	UD-3		
Test No.	8343.1	8343.2		
Depth	13.5-16.0	13.5-16.0		
Initial	Diameter, in	2.868	2.854	
	Height, in	5.997	5.997	
	Water Content, %	17.7	17.1	
	Dry Density, pcf	99.26	107.2	
	Saturation, %	69.7	82.7	
Before Shear	Void Ratio	0.679	0.553	
	Water Content, %	24.4	18.9	
	Dry Density, pcf	101.	110.6	
	Saturation*, %	100.0	100.0	
	Void Ratio	0.651	0.505	
	Back Press., tsf	10.08	3.6	
	Ver. Eff. Cons. Stress, tsf	.3604	1.44	
	Shear Strength, tsf	3.501	4.533	
	Strain at Failure, %	15	15	
	Strain Rate, %/min	0.05	0.05	
	B-Value	0.96	0.98	
	Measured Specific Gravity	2.67	2.67	
	Liquid Limit	NP	NP	
	Plastic Limit	NP	NP	

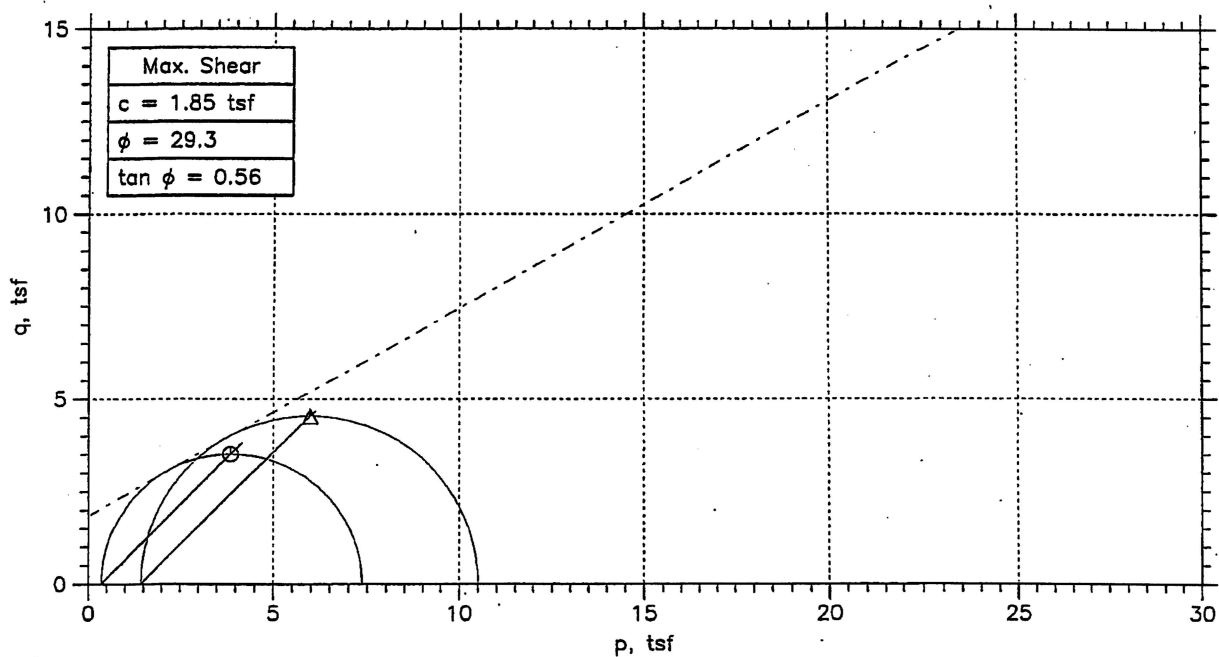
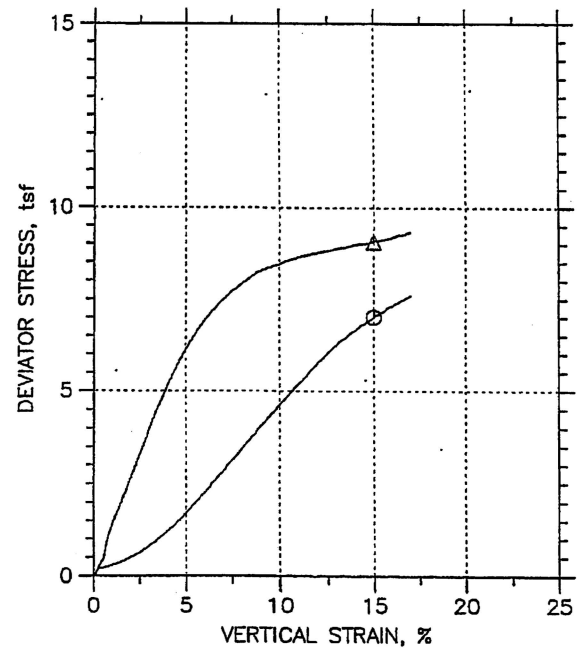
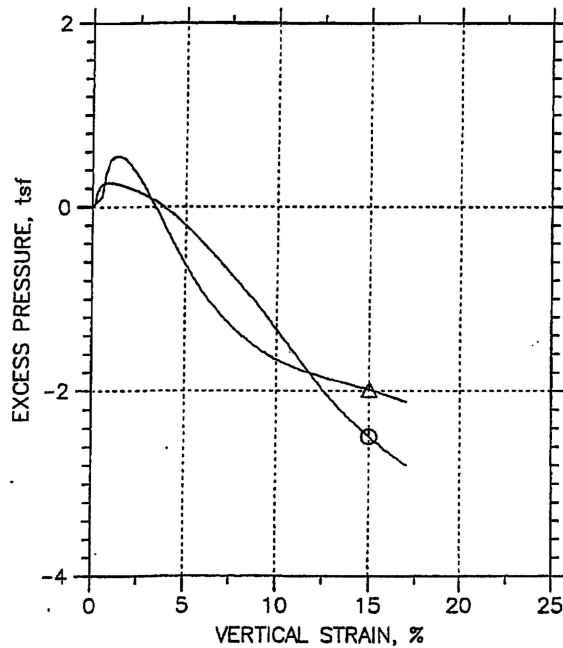
	Project: Exelon Texas COL Victoria	
	Location: B-2302UD, UD-3	
	Project No.: 6468071777	
	Boring No.: B-2302UD	
	Sample Type: Undisturbed	
	Description: Pale Yellow Silty SAND (SM)	
Remarks: ASTM D4767-04. Wet method was followed for specimen saturation.		

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Phase calculations based on start and end of test.

* Saturation is set to 100% for phase calculations.

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767

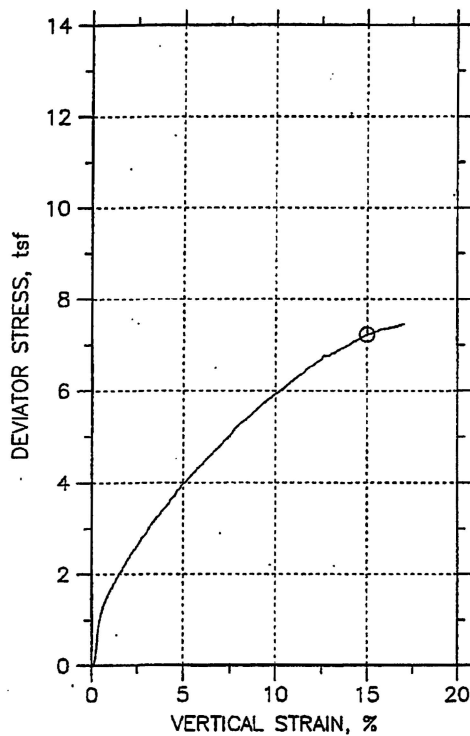
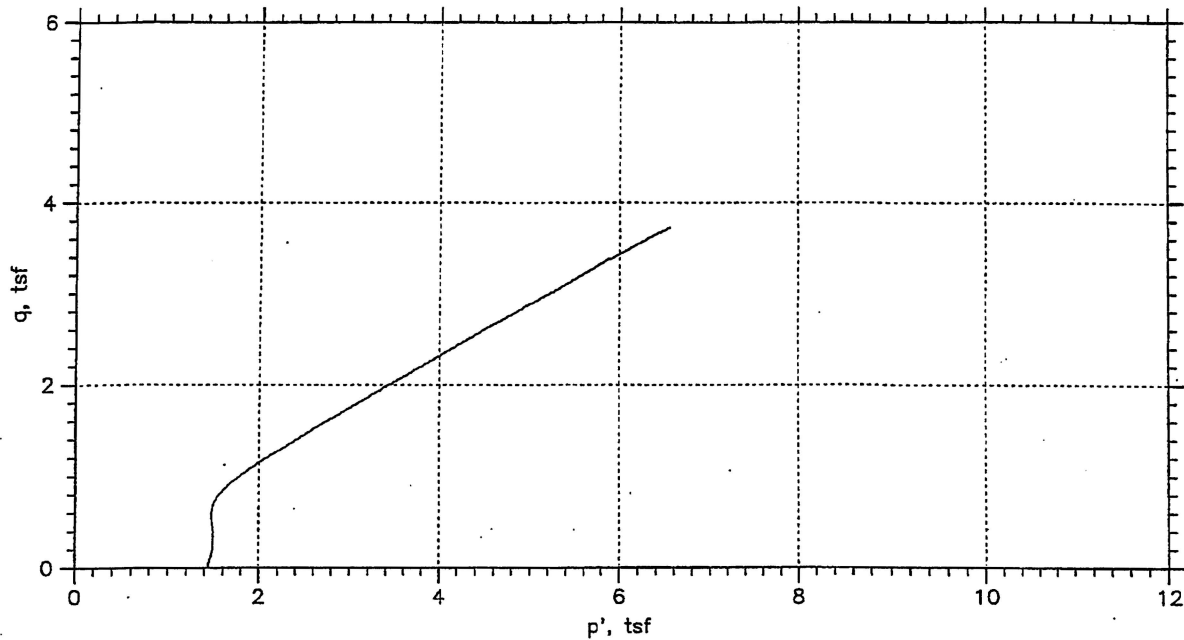


Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
UD-3	8343.1	13.5-16.0 F	HJ	4/3/08	JW	5/2/08	8343.1_2546.dat
UD-3	8343.2	13.5-16 Ft	HJ	4/3/08	JW	4/15/08	8343.2a_2580.dat

	Project: Exelon Texas COL Victoria		Location: B-2302UD, UD-3	Project No.: 6468071777
	Boring No.: B-2302UD		Sample Type: Undisturbed	
	Description: Pale Yellow Silty SAND (SM)			
	Remarks: ASTM D4767-04. Wet method was followed for specimen saturation.			

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CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



Symbol	⊙			
Sample No.	UD-7			
Test No.	8344.1			
Depth	59-60.2 Ft			
Initial	Diameter, in	2.854		
	Height, in	6.004		
	Water Content, %	20.1		
	Dry Density, pcf	106.4		
	Saturation, %	92.4		
Before Shear	Void Ratio	0.59		
	Water Content, %	21.1		
	Dry Density, pcf	107.7		
	Saturation*, %	100.0		
	Void Ratio	0.571		
	Back Press., tsf	5.759		
	Ver. Eff. Cons. Stress, tsf	1.439		
	Shear Strength, tsf	3.611		
	Strain at Failure, %	15		
	Strain Rate, %/min	0.05		
	B-Value	0.96		
	Measured Specific Gravity	2.71		
	Liquid Limit	22		
	Plastic Limit	16		

MACTEC	Project: Exelon Texas COL Victoria	(1)			
	Location: B-2302UD, UD-7				
	Project No.: 6468071777				
	Boring No.: B-2302UD				
	Sample Type: Undisturbed				
	Description: Light Gray Silty, Clayey SAND (SC-SM)				
	Remarks: ASTM D4767-04. Wet method was followed for specimen saturation.				

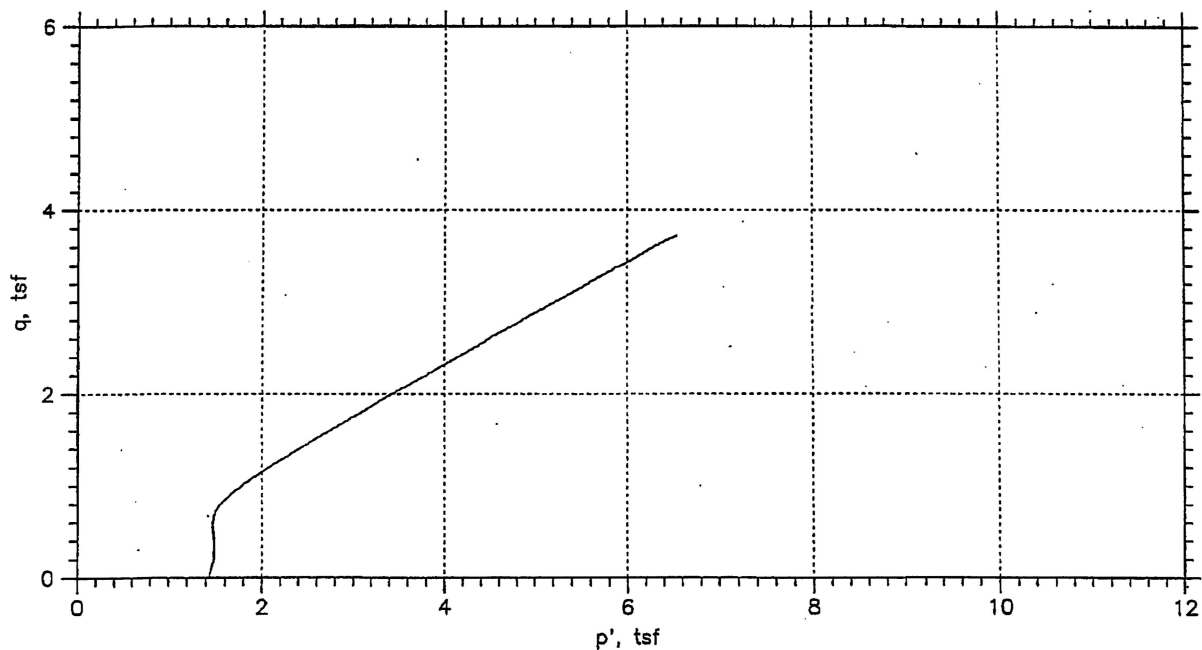
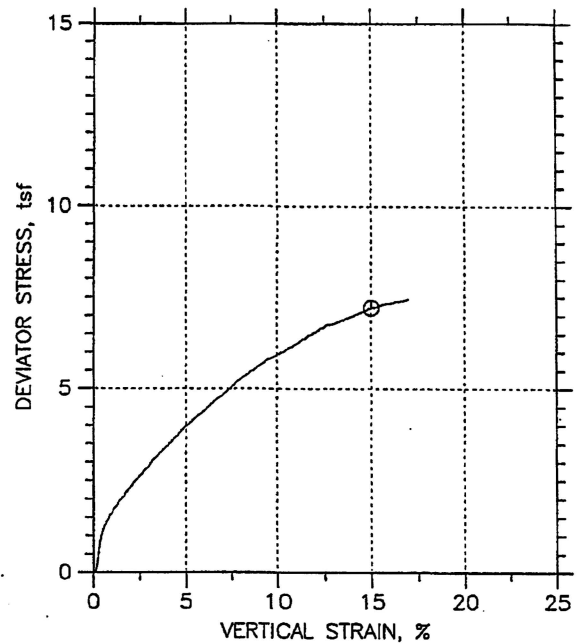
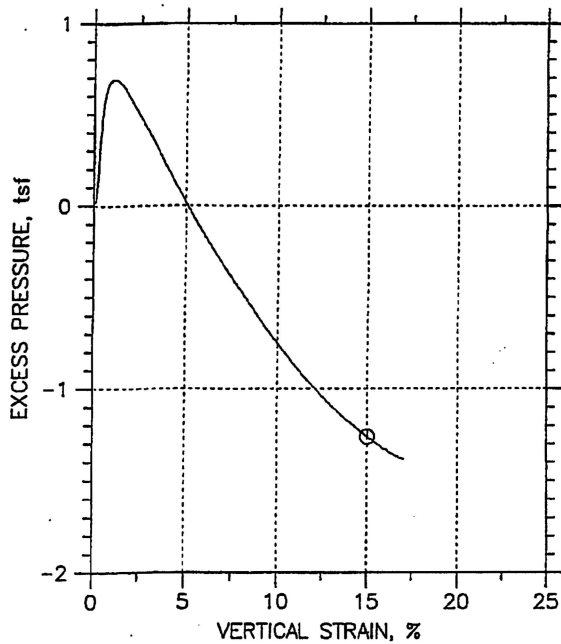
Phase calculations based on start and end of test.

* Saturation is set to 100% for phase calculations.

Tue, 15-APR-2008 16:22:32

KAW 4-15-08

CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767

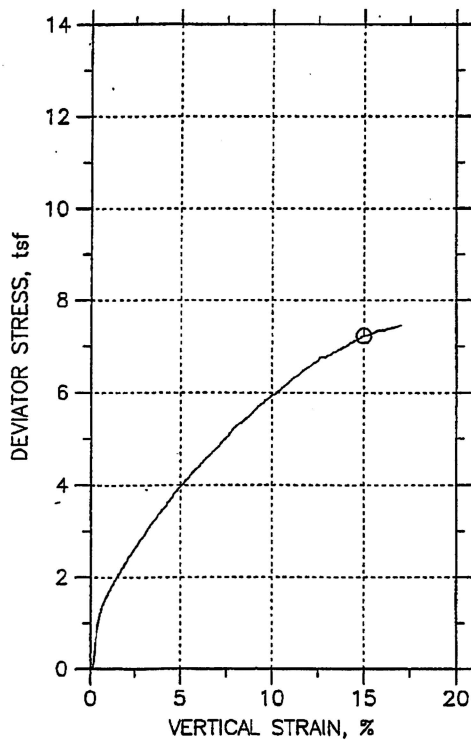
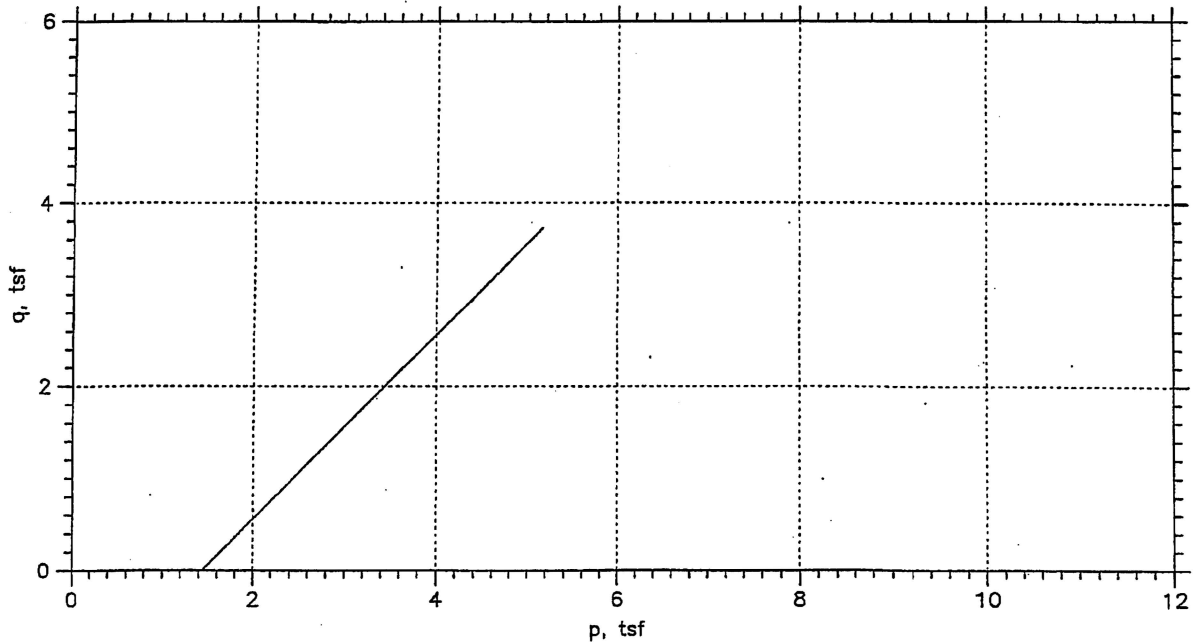


Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
UD-7	8344.1	59-60.2 Ft	HJ	4/4/08	JW	4/15/08	8344.1_2582.dat

	Project: Exelon Texas COL Victoria		Location: B-2302UD, UD-7	Project No.: 6468071777
	Boring No.: B-2302UD		Sample Type: Undisturbed	
	Description: Light Gray Silty, Clayey SAND (SC-SM)			
	Remarks: ASTM D4767-04. Wet method was followed for specimen saturation.			

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CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



Symbol	⊙			
Sample No.	UD-7			
Test No.	8344.1			
Depth	59-60.2 Ft			
Initial	Diameter, in	2.854		
	Height, in	6.004		
	Water Content, %	20.1		
	Dry Density, pcf	106.4		
	Saturation, %	92.4		
Before Shear	Void Ratio	0.59		
	Water Content, %	21.1		
	Dry Density, pcf	107.7		
	Saturation*, %	100.0		
	Void Ratio	0.571		
	Back Press., tsf	5.759		
	Ver. Eff. Cons. Stress, tsf	1.439		
	Shear Strength, tsf	3.611		
	Strain at Failure, %	15		
	Strain Rate, %/min	0.05		
	B-Value	0.96		
	Measured Specific Gravity	2.71		
	Liquid Limit	22		
	Plastic Limit	16		

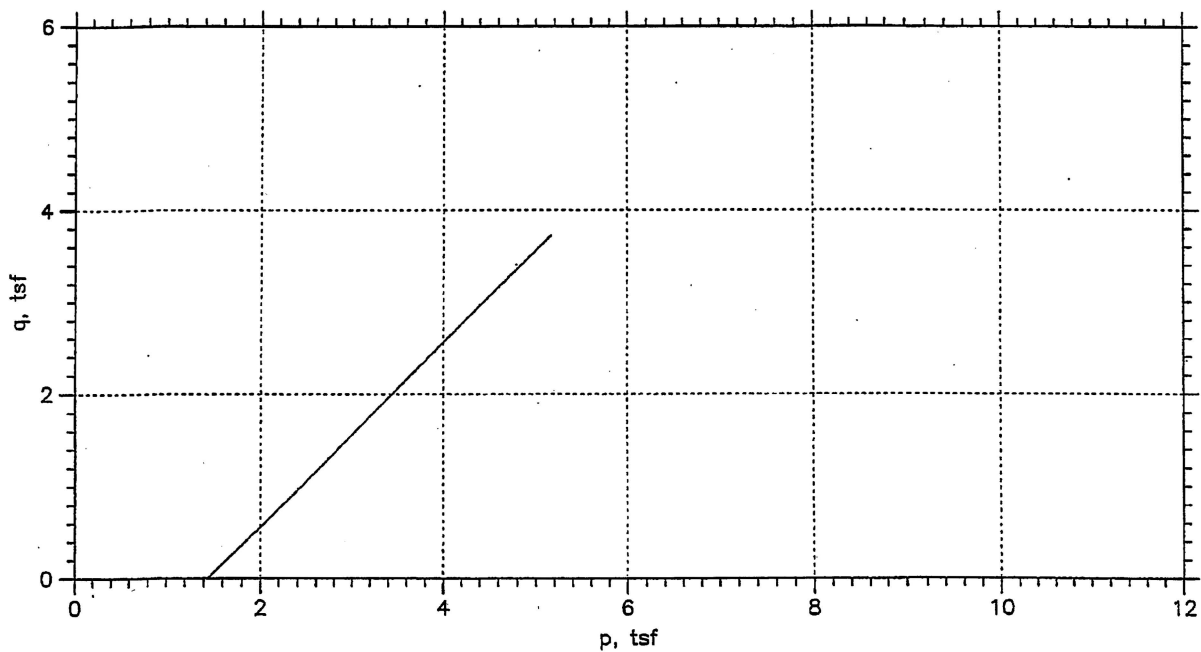
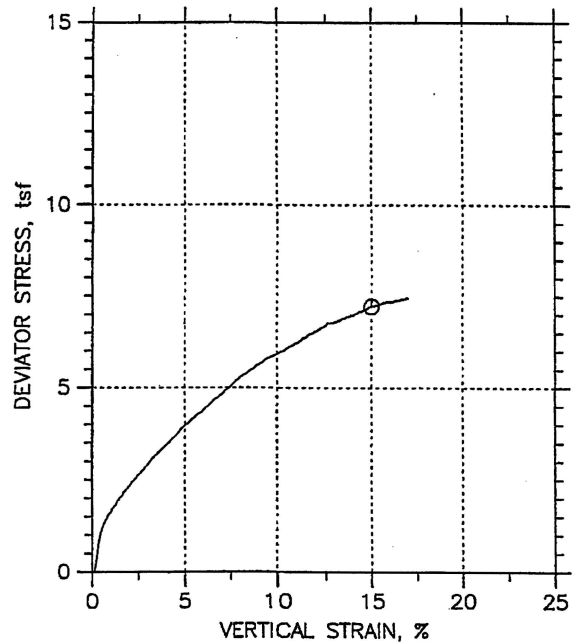
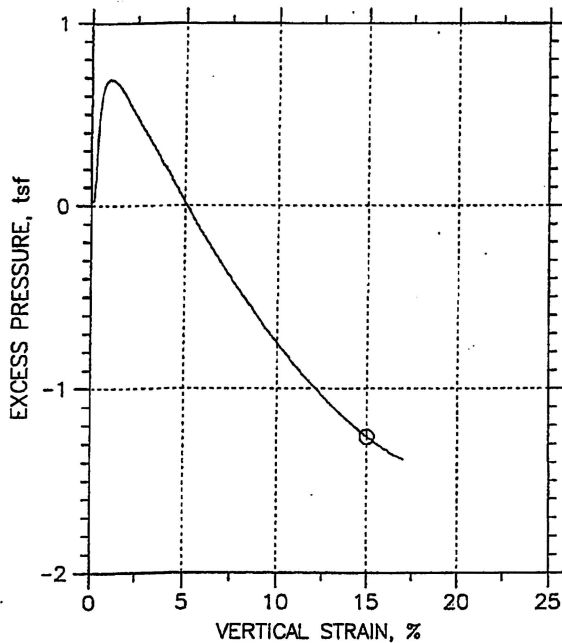
MACTEC	Project: Exelon Texas COL Victoria	(1)			
	Location: B-2302UD, UD-7				
	Project No.: 6468071777				
	Boring No.: B-2302UD				
	Sample Type: Undisturbed				
	Description: Light Gray Silty, Clayey SAND (SC-SM)				
	Remarks: ASTM D4767-04. Wet method was followed for specimen saturation.				

Phase calculations based on start and end of test.

* Saturation is set to 100% for phase calculations.

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CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767



Sample No.	Test No.	Depth	Tested By	Test Date	Checked By	Check Date	Test File
UD-7	8344.1	59-60.2 Ft	HJ	4/4/08	JW	JW 4/15/08	8344.1_2582.dat

	Project: Exelon Texas COL Victoria		Location: B-2302UD, UD-7		Project No.: 6468071777	
	Boring No.: B-2302UD		Sample Type: Undisturbed			
	Description: Light Gray Silty, Clayey SAND (SC-SM)					
	Remarks: ASTM D4767-04. Wet method was followed for specimen saturation.					

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TRIAXIAL TEST (ASTM D 4767-04): Specimen Setup / Take Down

Project Number: 0411-08-1686 Test Type: CIU Triaxial Cell No.: TRX-4 File Name: 2304UD_UD8
 Task No.: NA Test Stress(es), σ'_c or $\sigma'_{v,c}$ = 8.64, NA, NA & NA ksf
 Project Name: Exelon (Victoria) $k (\sigma'_{h,c} / \sigma'_{v,c})$ = 1.00 Induced OCR = 1.00 $K_{ua} (\sigma'_{d,ua} / 2\sigma'_{v,c})$ = NA

Assig. Remarks: Specific Gravity: 2.710 ☒ Meas.; ☐ Assumed

☒ Tube	☐ Field Extruded	☐ Liner	☐ Remolded	☐ Tamping	Constant Effort: Blows/Tamps per Layer =
Boring No.: B-2304UD	☐ Reconstituted	☐ Impact/Rammer		Rammer Wgt. (lb) =	No. Layers =
Sample No.: UD8	Compostite No.:	☐ Pluviated:		Tamper Force (lb) =	Drop (in.) =
Depth (ft): 83.5-85.5	Specimen No.: c	☐ Kneading		Undercompaction: U_{ni} (%) =	Dia. (in.) =
☐ Spec. Selection by X-ray;	☐ Geomarine Sample			Ref. Effort =	% Comp. = $\pm$ Opt. =

Type	☒ Isotropic	☐ K_o stress path	☒ Used automated system: Drained Axial Strain Rate, $\epsilon_{a,rate}$ (%/h) = NA
Consolidation:	☐ Anisotropic	☐ 45° stress path	Remarks:
Loading Conditions:	☒ Static	☒ Undrained	☒ Comp.
	☐ Post Cyclic	☐ Drained	☐ Ext.
		☒ Strain	☐ Stress
		☒ Constant Cell Pressure	☐ Cyclic (Hz)
		☐ Variable Cell Pressure	Rate: 0.1; 1; Other:

Water Content (WC);	Initial - Trimming Location			Final, W_{at} (see below)
	Top ($W_{0.1}$)	Bottom ($W_{0.2}$)	Sides ($W_{0.3}$)	
Container No	1114	4115	4027	4000
Mass Moist Soil + Cont. (g)	77.74	68.22	87.68	143.08
Mass Dry Soil + Container (g)	67.02	59.45	73.69	115.34
Mass Container (g)	31.72	30.27	30.13	30.16
Water Content, $W_{0,n}$ (%)	30.37	30.05	32.12	32.57
Avg. Initial WC, $W_{0,avg}$ (%)	30.85	Final (W_{at}):	☒ Slice ;	Whole Spec.
See attached data sheet(s) for additional water contents				

SOIL MASSES:	Initial	Final
Moist + Tare (etc.) (g)	444.57	450.72
Tare (etc.) (g)	0.00	0.00
Mass Moist Spec., M_h (g)	444.57	450.72
Excess Dry Soil (soil not included in final mass measurement)		
Container No.		
Mass Dry Soil + Cont. (g)		
Mass Container (g)		
Mass Excess Dry Soil, M_{des} (g)		0.00

Specimen Dimensions, (mm)					
Height		Dia., X indicates with membrane			
Initial (H_0)	Final (H_{at})	Initial (D_0)	Final (D_{at})		
GB	100.000	100.000	1 T	50.90	61.00
1	15.12	-1.52	2 M	50.75	60.20
2	15.19	-2.52	3 B	50.80	60.10
3	15.19	-2.18	1 T		51.40
4	15.11	-2.84	2 M		51.40
5	15.12	-3.04	3 B		
Avg.	115.15	97.58	Avg.	50.82	56.82

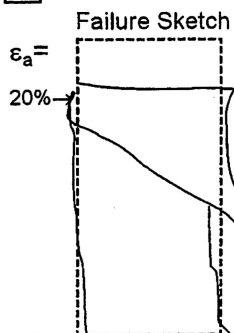
Measuring Devices:	$A_0 = \pi D^2/400$ (cm ²)	20.28
Pi Tape: ☒ Dia	V_0 (cm ³)	233.53
Calipers: ☐ Ht.; ☐ Dia	$A_{slb,m} = \pi (D^*_{sl})^2/400$ (cm ²)	25.10
Dial Comparator: ☒ Ht.; ☐ Dia	$A_{slw,m} = (d_{min} - 2\Delta d) d_{max} \pi/400$ (cm ²)	NA
Remarks: ID# PI-002	$D^*_{sl} = (D_T + 2D_M + D_B)/4$ (mm)	56.53

☐ Photo Taken.

Failure Mode: NA - Not Applicable
 GB - Gage Block
 Other Remarks: LL=61 PL=26 PI=35

☐ Bulge
☒ Wedge
☐ Parabolic

Wedge/Bulge Ht. = NA (mm)



Estimated Initial Unit Weight		Total, γ_{to} (lb/ft ³) = 118.84	Dry, $\gamma_{d,o}$ (lb/ft ³) = 90.83
Membrane / Filter Paper / Apparatus			
Membrane (mm):		Top	Bottom
Number:	Thickness:	0.51	0.71
= 1	Single; ☒ Double	0.54	0.67
Circumference ($C_{m,o}$)		146.0	147.0
Total Thickness		Dia. ($C_{m,o}/\pi$)	
Average:		0.30	46.63
Filter Paper: Top + Bottom:		☒ Yes ; ☐ No	
Filter Strips: ☒ Yes ; ☐ No		Number = 8	
Type of Filter Strips		Vertical: 1/4 in. & Whatman #54	
☒ Spiral: 1/4 in. & Whatman #1			
Apparatus: Mass Top Cap, M_{tc} = 65.8 g, 0.15 lbf			
Mass Displ. System, M_{ds} (cap, dial, piston, etc.) = NA g, NA lbf			
Top Cap Attached: ☒ Yes; ☐ No;		Piston Dia. (in.)	Load Cell:
☒ 1/2; ☐ 3/4;			☐ External ☒ Internal
Top Cap - Rotation ☒ Fixed, <1°;		Limited, <5°;	Unlimited, >5°
With: ☐ Frictionless End Caps;		Lat. Movement Top Cap	
☐ Internal LVDT Jacket			

Final Visual Classification: Mottled Brownish Yellow and Pale Yellow Fat CLAY (CH)

Trimmed / Reconstituted By: TP Set Up By: TP Taken Down By: AW
 Date: 3/27/2008 Date: 3/27/2008 Date: 4/14/2008
 Prelim. Calc. By: TP Final Calc. By: TP Reviewed By: WLD

☐ See more detailed sketch on attached sheet. Remarks:

MULTISTAGE TRIAXIAL TEST: Specimen Calculations & Summary(1)

Project Number: 0411-08-1686 Cell No.: TRX-4 File Name: 2304UD_UD8c
 Task Number: NA Specific Gravity: 2.710 ☒ Measured; ☒ Assumed
 Boring No.: B-2304UD Sample No.: UD8 Specimen No.: c Depth (ft): 83.5-85.5
 Type Test: CIU Triaxial Specimen: ☒ "Undisturbed"; ☐ Reconstituted; ☐
 Calculations Corr. for Salt (dissolved solids): ☒ No or, ☐ Yes, with concentration = ppm

Initial Water Contents (WC), (W_o) over Saturation, (S_o), in (%):						Calculated Mass of Dry Soil (g)	
Top, $W_{o,1}$	Bottom, $W_{o,2}$	Sides, $W_{o,3}$	Avg., $W_{o,avg}$	Select., $W_{o,s}$	Back Cal., $W_{o,bc}$	Initial Selected WC, w_o (%)	29.81
30.37	30.05	32.12	30.85	29.81	30.76	Initial, $M_{d,o}$	342.48
S_o 96.5	96.0	99.2	97.3	95.6	97.1	Final, $M_{d,at}$	340.00
Measured final mass of moist soil, $M_{t,at}$ (g)						Selected, M_d	342.48
Final mass of moist soil corrected for excess dry soil, $M_{t,at,c}$ (g)							

Consolidation Data	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7
Changes in Height (mm) and Volume (cm^3) Within Given Consolidation Stages/Columns	At Initial Seating Stress	During Back-Pressuring	1st Consol. Increment (1)	Column 2 or 3 to 1st Test Stage (1)	Column 4 to 2nd Test Stage	Column 5 to 3rd Test Stage	Column 6 to 4th Test Stage
Sign Convention: (+) Deformation in compression or Flow out of spec.; (-) Deformation in extension (swell) or Flow into spec.							
Change in Height, $\Delta H_{c,n}$	-0.07	-0.80		1.40	NA	NA	NA
Sum of changes in (+ out) burette readings, $\Delta b_{r,n}$ (- in)	0.31			12.51	NA	NA	NA
Theoretical $\Delta V_{ct,n} = (3V_o \times \Delta H_{c,n} / H_o)$	-0.42	-4.84		8.52	NA	NA	NA
Vol. Factor, $F_v = \Delta b_{r,n} / \Delta V_{t,n}$				1.47	NA	NA	NA
Corrected $\Delta V_{ct,n} = F_v \times \Delta V_{t,n}$				0.00	NA	NA	NA
Selected $\Delta V_{c,n}$	-0.42	-4.84		6.51	NA	NA	NA

Summary For Test Stages					
Test Stage:	1st = 1	2nd = 2	3rd = 3	4th = 4	
Cell Pressure, $\sigma_{c,n}$ (psi)	110.04	NA	NA	NA	Number of Test Stages = 1 $t_{50} = 45$ min
Back Pressure, $U_{b,n}$ (psi)	50.27	NA	NA	NA	
Axial Force Reading, $P_{r,n}$ (lbf)	1.51	NA	NA	NA	
Eff. Consol. Stress (σ'_c or $\sigma'_{v,c}$) (4), (ksf)	8.66	NA	NA	NA	
t_c , ON or in ☒ days ☐ hrs	11.00	NA	NA	NA	

At Final Test Stress/Stage - Summary of Calculation of ΔV_c (cm^3) by Different Procedures				
By Selected Volumes $\Delta V_c = 1.25$	By Saturation = 100 % $\Delta V_c = -1.50$	By Change in Mass (5) $\Delta V_c = 3.41$	For Diff. in Meas. Vol. ($V_o - V_{at}$) & corr. for ΔH_{id} $\Delta V_c =$	For Selected ΔV_c , required G_s for $S_c = 100$ %: 2.770

At Final Test Stress/Stage - Consolidation Conclusions				
$\Delta H_{c,f}$ (mm) = 0.54	$\Delta V_{c,f}$ (cm^3) = 1.25	Back Cal. G_s for $S=100\% = 2.770$	Normalized	Ht. Ch. (%) = -0.51
$\epsilon_{ac,c}$ (%) = 0.47	$\epsilon_{vc,f}$ (%) = 0.54		Diff. in:	Vol. Ch. (%) =

Summary of Specimen Physical Properties											
Specific Gravity: $G_s = 2.710$ Measured	Height (mm)	Volume (cm^3)	Area (cm^2)	Water Content (%)	Unit Weight Total (pcf)	Dry (pcf)	Saturation (%)	Void Ratio e	Volumetric Water Content	Porosity n	Skempton B parameter % (6)
Condition:											
Initial:	115.15	233.53	20.28	29.81	118.84	91.55	95.6	0.845	0.4379	0.458	98.0
After to 1st σ'_c	114.61	232.28	20.27	31.60	121.13	92.04	102.6	0.835	0.4668	0.455	
Consol.: to 2nd σ'_c											
to 3rd σ'_c											
to 4th σ'_c											

Notes: (1) If the consol. stress in the 1st consol. increment & 1st test stage are equal, log the data in Column 4.
 (2) The height changes occurring within each shearing and unloading stage (1 - 4) are recorded in these rows (after Column 3).
 (3) The volume changes occurring within each shearing and unloading stage (1 - 4) are calculated/recorded in these rows (after Column 3).
 (4) Stresses are corrected for membrane. (5) $\sim M_{t,o} - (M_{t,at,c} + \rho_{water} \times \Delta V_{in, column 1 \& 2})$
 (6) Initial value is after back pressuring

NA - Not Applicable ON - Over Night WC - Water Content Remarks: Wet Method used in the Saturation Stage

Calculated By: TP Reviewed By: HP

MULTISTAGE TRIAXIAL TEST: Specimen Calculations Summary(2)

Project Number: 0411-08-1686 Test Type: CIU Triaxial App. No.: TRX-4 File Name: 2304UD_UD8
 Project Name: Exelon (Victoria) Task No.: NA Test No.: 0 Test Series for: 0

☒ Tube	☐ Field Extruded	☐ Liner	☐ Remolded	☐ Tamping	☐ Constant Effort: Blows/Tamps per Layer =
Boring No.: <u>B-2304UD</u>	☐ Reconstituted	☐ Impact/Rammer		Rammer Wgt. (lb) =	No. Layers =
Sample No.: <u>UD8</u>	Composite No.: _____	☐ Pluviated: _____		Tamper Force (lb) =	Drop (in.) =
Depth (ft): <u>83.5-85.5</u>	Specimen No.: <u>c</u>	☐ Kneading		Undercompaction: U_{nl} (%) =	Dia. (in.) =
☐ Spec. Selection by X-ray;	☐ Geomarine Sample			Ref. Effort =	% Comp. = $\pm$ Opt. =

Type Consolidation	☒ Isotropic	☐ K_0 stress path	☒ Used automated system	Drained Axial Strain Rate, $\epsilon_{a,rate}$ (%/hr.) = <u>NA</u>
	☐ Anisotropic	☐ 45° stress path	Remarks: _____	
Loading Conditions	☒ Static	☒ Undrained	☒ Comp.	☒ Strain
	☐ Post Cyclic	☐ Drained	☐ Ext.	☐ Stress
			☒ Constant Cell pressure	☐ Cyclic (Hz)
			☐ Variable Cell pressure	Rate: ☐ 0.1; ☐ 1; Other: _____

Specific Gravity: $G_s = 2.710$ Measured	Height (mm)	Volume (cm ³)	Area (cm ²)	Water Content (%)	Unit Weight		Saturation (%)	Void Ratio e	Skempton B para- meter % (1)
					Total (pcf)	Dry (pcf)			
Condition: Initial:	115.15	233.53	20.28	29.81	118.84	91.55	95.63	0.84	98.0
After to 1st σ'_c	114.61	232.28	20.27	31.60	121.13	92.04	102.59	0.83	
Consol.: to 2nd σ'_c									
to 3rd σ'_c									
to 4th σ'_c									

Unit for Stresses: (ksf)

Item	Unit	1st Stage	2nd Stage	3rd Stage	4th Stage
Axial Strain during Consol., ϵ_c	%	0.465	NA	NA	NA
Vol. Strain during Consol., ϵ_v	%	0.535	NA	NA	NA
Effective Vertical Stress, σ'_v	(ksf)	8.659	NA	NA	NA
Effective Horizontal Stress, σ'_h	(ksf)	8.616	NA	NA	NA
Consol. Stress Ratio, k (σ'_h / σ'_v)	-	0.995			
Induced OCR	-	1.00	NA	NA	NA
Eff. Average Stress, $(\sigma'_v + \sigma'_h)/2$	(ksf)	17.275			
Eff. Mean Stress, $(\sigma'_v + 2\sigma'_h)/3$	(ksf)	8.630			
Undr. Ambient Shear Stress, $\tau_{a,ua}$	(ksf)	NA	NA	NA	NA
Undr. Ambient Shear Strain, $\epsilon_{a,ua}$	%	NA	NA	NA	NA

Membrane Correction		
Type:	<u>Bulge</u>	
Modulus:	<u>150.0</u> psi	
Diameter:	<u>46.63</u> mm	
Thickness:	<u>0.30</u> mm	
Area Correction		
Type:	<u>Bulge</u>	
Stage	Area Corr. Const.:	Final Area (cm ²):
1st	1.338	25.10
2nd		
3rd		
4th		
Filter Paper Correction		
Type:	<u>None</u>	
Type Strips:	<u>Spiral #1</u>	
Strips:	<u>8</u>	
Force:	<u>0.000</u> lbf/strip	

Notes: See Fugro South, Inc. Notation Listing for definition of symbols and acronyms.

(1) Initial B is after saturation

NA - Not Applicable

Final Visual Description and Remarks: Mottled Brownish Yellow and Pale Yellow Fat CLAY (CH)

Stage	Stress Status	ϵ_a (%)	q (ksf)	p' (ksf)	ΔU (ksf)	σ_1' (ksf)	σ_3' (ksf)
1st	Max Shear Stress	2.10	1.950	8.271	2.287	10.221	6.320
	Max Obliquity	4.91	1.922	7.939	2.592	9.862	6.017
2nd	Max Shear Stress						
	Max Obliquity						
3rd	Max Shear Stress						
	Max Obliquity						
4th	Max Shear Stress						
	Max Obliquity						

Remarks: Stain Rate (%/min) = 8.89E-03

STAGE 1

Project: 0411-08-1686
Test Type: CIU Triaxial

Boring No.: B-2304UD
Sample No.: UD8
Specimen No.: c

Depth (ft.): 83.5-85.5
Stage No.: 1

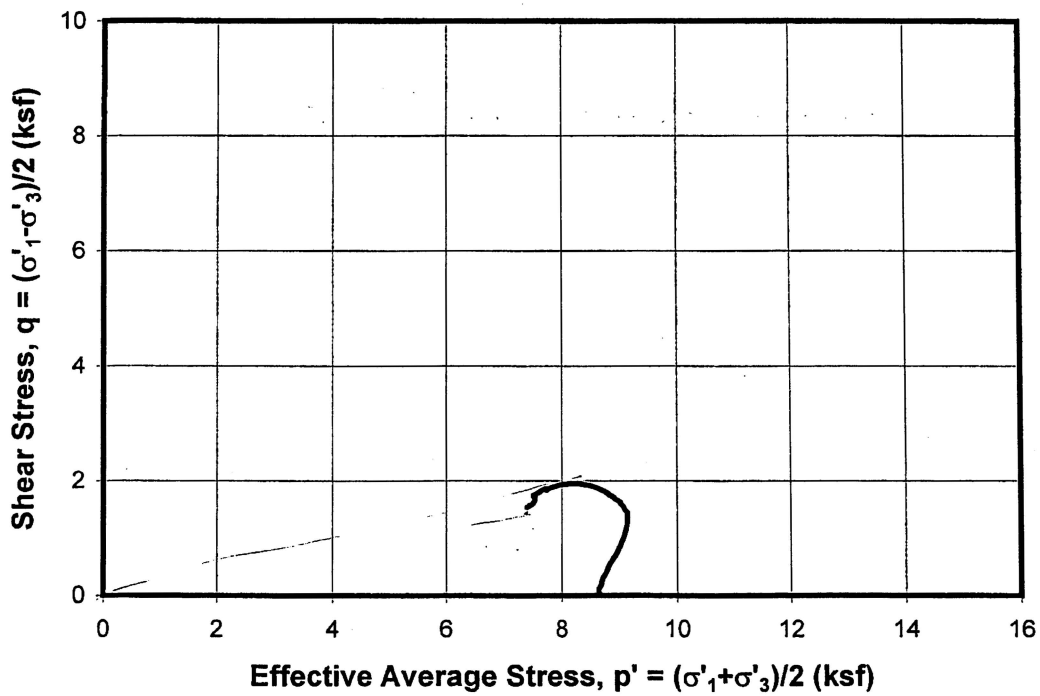
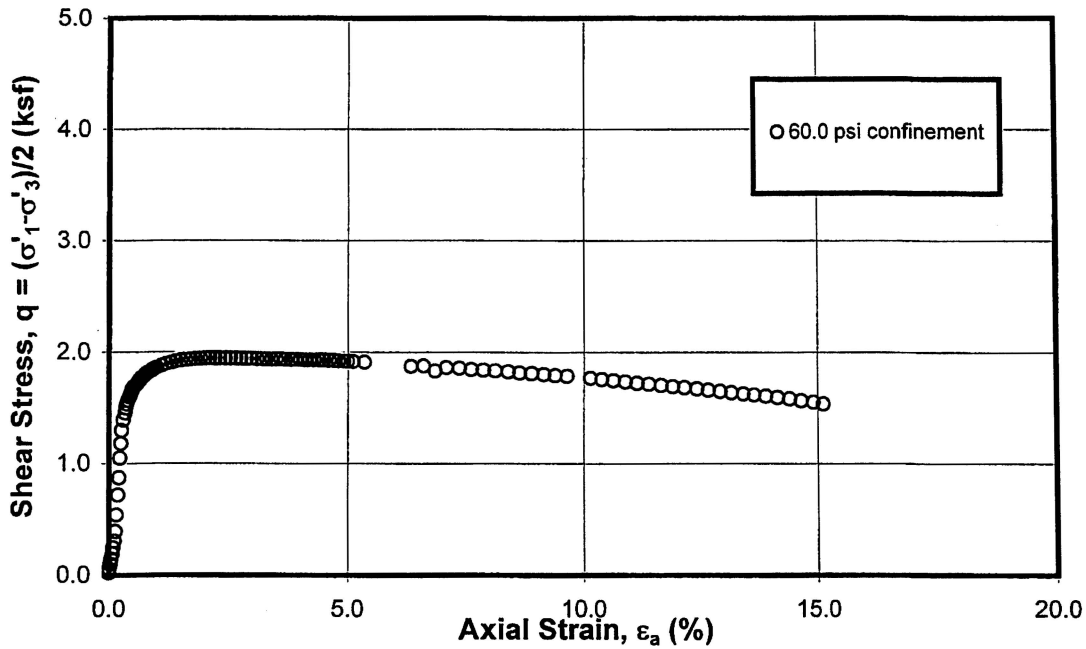
Elapsed Time (min)	Axial Strain ϵ_a (%)	q (ksf)	p' (ksf)	Excess PWP, ΔU (ksf)	Volume Change (cm ³)	Obliquity σ'_1/σ'_3 -	A_f -	E_s (ksf)	E_T (ksf)
0.0	0.000	0.022	8.637	0.000	0.000	1.005	0.000	-	-
3.0	0.008	0.057	8.649	0.021	0.000	1.013	0.333	844.3	580.9
6.0	0.035	0.100	8.639	0.064	0.000	1.023	0.487	444.3	524.9
9.0	0.048	0.145	8.659	0.091	0.000	1.034	0.411	519.3	550.8
12.0	0.074	0.193	8.690	0.117	0.000	1.045	0.346	466.0	559.6
15.0	0.088	0.245	8.693	0.165	0.000	1.058	0.376	511.1	642.4
18.0	0.111	0.307	8.720	0.196	0.000	1.073	0.355	516.0	610.9
21.0	0.135	0.391	8.769	0.231	0.000	1.093	0.321	547.1	1076.3
24.0	0.156	0.541	8.829	0.321	0.000	1.131	0.315	668.0	1307.7
27.0	0.187	0.722	8.946	0.389	0.000	1.175	0.280	749.0	1257.3
30.0	0.210	0.876	9.017	0.464	0.000	1.215	0.278	815.4	1794.5
33.0	0.225	1.050	9.086	0.571	0.000	1.261	0.282	913.3	1718.7
36.0	0.247	1.180	9.118	0.666	0.000	1.297	0.292	939.3	1532.3
39.0	0.259	1.298	9.140	0.765	0.000	1.331	0.303	984.4	1191.0
42.0	0.295	1.393	9.140	0.863	0.000	1.360	0.317	929.4	424.7
45.1	0.334	1.454	9.138	0.928	0.000	1.379	0.325	859.1	482.1
48.1	0.348	1.500	9.091	1.018	0.000	1.395	0.347	850.4	485.7
51.1	0.369	1.535	9.077	1.065	0.000	1.407	0.355	819.5	287.5
54.1	0.396	1.569	9.051	1.124	0.000	1.419	0.366	780.6	213.2
57.1	0.428	1.597	9.021	1.186	0.000	1.430	0.378	736.2	226.7
60.1	0.448	1.624	9.010	1.226	0.000	1.440	0.384	715.8	233.8
63.1	0.471	1.646	8.983	1.279	0.000	1.449	0.394	690.3	268.9
66.1	0.482	1.665	8.955	1.318	0.000	1.457	0.403	682.4	236.5
69.1	0.510	1.683	8.927	1.365	0.000	1.465	0.413	651.5	110.5
72.1	0.544	1.699	8.913	1.396	0.000	1.471	0.418	616.8	103.1
75.1	0.573	1.716	8.902	1.427	0.000	1.477	0.422	591.2	104.3
78.1	0.599	1.728	8.873	1.462	0.000	1.484	0.431	569.6	128.5
81.1	0.620	1.745	8.858	1.499	0.000	1.491	0.436	555.7	121.4
84.1	0.645	1.755	8.826	1.533	0.000	1.497	0.446	537.2	111.7
87.1	0.666	1.770	8.815	1.562	0.000	1.502	0.449	525.2	104.4
90.1	0.692	1.779	8.806	1.582	0.000	1.506	0.452	507.5	63.2
93.1	0.722	1.787	8.787	1.608	0.000	1.511	0.458	489.0	76.7
96.1	0.744	1.798	8.779	1.630	0.000	1.515	0.460	477.5	91.4
99.1	0.766	1.807	8.754	1.657	0.000	1.520	0.467	466.5	87.6
102.1	0.790	1.818	8.746	1.684	0.000	1.525	0.470	454.6	61.0
105.1	0.819	1.823	8.731	1.707	0.000	1.528	0.474	439.9	41.3
108.1	0.845	1.829	8.707	1.732	0.000	1.532	0.481	427.9	46.4
111.1	0.880	1.837	8.701	1.746	0.000	1.535	0.483	412.7	115.4

STAGE 1

Elapsed Time (min)	Axial Strain ϵ_a (%)	q (ksf)	p' (ksf)	Excess PWP, ΔU (ksf)	Volume Change (cm ³)	Obliquity σ'_1/σ'_3 -	A_f -	E_s (ksf)	E_T (ksf)
114.1	0.889	1.846	8.687	1.774	0.000	1.540	0.486	410.3	109.8
117.1	0.916	1.851	8.677	1.786	0.000	1.542	0.489	399.4	42.3
120.1	0.948	1.859	8.655	1.809	0.000	1.547	0.495	387.7	39.9
123.1	0.978	1.863	8.643	1.829	0.000	1.550	0.498	376.6	34.1
135.1	1.074	1.882	8.601	1.890	0.000	1.560	0.510	346.4	35.1
147.1	1.175	1.897	8.557	1.955	0.000	1.570	0.521	319.4	25.5
159.1	1.281	1.908	8.519	2.002	0.000	1.577	0.531	294.5	23.4
171.1	1.384	1.922	8.484	2.051	0.000	1.586	0.540	274.7	19.5
183.1	1.481	1.928	8.439	2.095	0.000	1.592	0.552	257.3	11.2
195.1	1.590	1.933	8.392	2.153	0.000	1.599	0.564	240.5	10.3
207.1	1.693	1.938	8.371	2.168	0.000	1.603	0.569	226.5	8.4
219.1	1.791	1.942	8.341	2.209	0.000	1.607	0.577	214.5	6.2
231.1	1.897	1.945	8.318	2.238	0.000	1.610	0.583	202.8	4.3
243.1	2.001	1.946	8.288	2.270	0.000	1.614	0.591	192.4	5.6
255.1	2.095	1.950	8.271	2.287	0.000	1.617	0.595	184.1	1.7
267.1	2.210	1.947	8.248	2.303	0.000	1.618	0.601	174.3	-2.6
279.1	2.312	1.947	8.220	2.338	0.000	1.621	0.608	166.5	0.3
291.1	2.426	1.948	8.205	2.357	0.000	1.623	0.612	158.8	0.5
303.1	2.540	1.948	8.176	2.377	0.000	1.625	0.620	151.6	-1.1
315.1	2.654	1.947	8.159	2.393	0.000	1.627	0.624	145.0	-3.1
327.1	2.757	1.945	8.165	2.395	0.000	1.625	0.623	139.5	-3.0
339.1	2.882	1.943	8.136	2.411	0.000	1.628	0.630	133.3	-0.4
351.1	2.986	1.944	8.122	2.419	0.000	1.629	0.634	128.8	-1.5
363.1	3.097	1.941	8.129	2.431	0.000	1.628	0.632	124.0	-3.4
375.1	3.206	1.940	8.113	2.437	0.000	1.629	0.637	119.7	-1.5
387.1	3.300	1.940	8.095	2.444	0.000	1.630	0.641	116.3	-2.2
399.1	3.410	1.938	8.086	2.457	0.000	1.630	0.644	112.4	-1.8
411.1	3.510	1.938	8.077	2.465	0.000	1.631	0.646	109.2	3.0
423.1	3.611	1.941	8.068	2.475	0.000	1.633	0.648	106.3	-1.6
435.1	3.704	1.936	8.057	2.492	0.000	1.633	0.652	103.4	-5.8
447.1	3.818	1.935	8.042	2.495	0.000	1.634	0.655	100.2	-0.5
459.1	3.911	1.936	8.045	2.507	0.000	1.634	0.655	97.9	0.5
471.1	4.007	1.935	8.031	2.511	0.000	1.635	0.658	95.5	-1.9
483.1	4.101	1.934	8.033	2.516	0.000	1.634	0.658	93.3	-2.3
495.1	4.205	1.933	8.004	2.542	0.000	1.637	0.666	90.9	-1.7
507.1	4.303	1.932	8.001	2.540	0.000	1.637	0.667	88.8	-1.2
519.1	4.396	1.932	7.985	2.552	0.000	1.638	0.671	86.9	-0.9
531.1	4.499	1.931	7.989	2.549	0.000	1.638	0.670	84.9	-4.5
543.1	4.608	1.927	7.972	2.560	0.000	1.638	0.675	82.7	-5.1
555.2	4.707	1.926	7.969	2.571	0.000	1.637	0.675	80.9	-2.9
567.2	4.805	1.924	7.963	2.576	0.000	1.637	0.677	79.2	-3.5
579.2	4.910	1.922	7.939	2.592	0.000	1.639	0.684	77.4	-3.6
591.2	5.001	1.921	7.937	2.591	0.000	1.639	0.684	76.0	-4.1

STAGE 1

Elapsed Time (min)	Axial Strain ϵ_a (%)	q (ksf)	p' (ksf)	Excess PWP, ΔU (ksf)	Volume Change (cm ³)	Obliquity σ'_1/σ'_3 -	A_f -	E_s (ksf)	E_T (ksf)
603.2	5.110	1.918	7.933	2.592	0.000	1.638	0.686	74.2	-5.0
633.2	5.358	1.912	7.924	2.608	0.000	1.636	0.689	70.6	-1665.0
753.2	6.354	1.875	7.795	2.694	0.000	1.633	0.727	58.3	1332.4
783.2	6.633	1.877	7.789	2.700	0.000	1.635	0.729	55.9	-16.6
813.2	6.886	1.833	7.729	2.713	0.000	1.622	0.751	52.6	-4.5
843.2	7.125	1.864	7.725	2.747	0.000	1.636	0.748	51.7	10.9
873.2	7.398	1.858	7.692	2.784	0.000	1.637	0.757	49.7	-6.1
903.2	7.645	1.848	7.694	2.762	0.000	1.632	0.758	47.8	-6.9
933.2	7.894	1.841	7.668	2.792	0.000	1.632	0.766	46.1	-5.1
963.2	8.135	1.836	7.649	2.795	0.000	1.632	0.773	44.6	-5.8
993.2	8.401	1.826	7.638	2.800	0.000	1.629	0.777	43.0	-8.0
1023.2	8.643	1.815	7.619	2.803	0.000	1.626	0.784	41.5	-7.4
1053.2	8.897	1.808	7.621	2.797	0.000	1.622	0.784	40.2	-6.0
1083.2	9.149	1.800	7.597	2.810	0.000	1.621	0.792	38.9	-6.0
1113.2	9.392	1.793	7.596	2.811	0.000	1.618	0.794	37.7	-5.9
1143.2	9.645	1.786	7.576	2.826	0.000	1.617	0.801	36.6	-543.0
1203.2	10.144	1.769	7.543	2.841	0.000	1.613	0.813	34.5	517.4
1233.2	10.398	1.758	7.522	2.852	0.000	1.610	0.821	33.4	-9.1
1263.2	10.647	1.746	7.501	2.853	0.000	1.607	0.829	32.4	-9.2
1293.2	10.898	1.735	7.520	2.832	0.000	1.600	0.826	31.4	-9.0
1323.2	11.144	1.724	7.500	2.829	0.000	1.597	0.834	30.6	-8.0
1353.2	11.394	1.715	7.521	2.805	0.000	1.591	0.829	29.7	-7.7
1383.2	11.655	1.704	7.533	2.786	0.000	1.585	0.828	28.9	-9.2
1413.2	11.898	1.692	7.531	2.784	0.000	1.580	0.831	28.1	-8.6
1443.2	12.145	1.683	7.534	2.767	0.000	1.575	0.832	27.4	-8.1
1473.2	12.406	1.671	7.526	2.762	0.000	1.571	0.837	26.6	-9.3
1503.2	12.651	1.660	7.525	2.752	0.000	1.566	0.840	25.9	-8.9
1533.2	12.900	1.649	7.519	2.751	0.000	1.562	0.843	25.2	-8.3
1563.2	13.143	1.639	7.516	2.742	0.000	1.558	0.846	24.6	-8.6
1593.2	13.401	1.628	7.501	2.736	0.000	1.554	0.854	24.0	-8.2
1623.2	13.646	1.619	7.500	2.733	0.000	1.550	0.856	23.4	-8.5
1653.2	13.899	1.606	7.493	2.728	0.000	1.546	0.861	22.8	-9.4
1683.2	14.148	1.595	7.480	2.721	0.000	1.542	0.868	22.2	-9.4
1713.2	14.402	1.583	7.467	2.733	0.000	1.538	0.875	21.7	-10.9
1743.2	14.648	1.568	7.417	2.762	0.000	1.536	0.895	21.1	-11.6
1773.2	14.909	1.553	7.418	2.753	0.000	1.530	0.898	20.5	-12.2
1800.7	15.120	1.539	7.386	2.769	0.000	1.526	0.912	20.1	-13.4



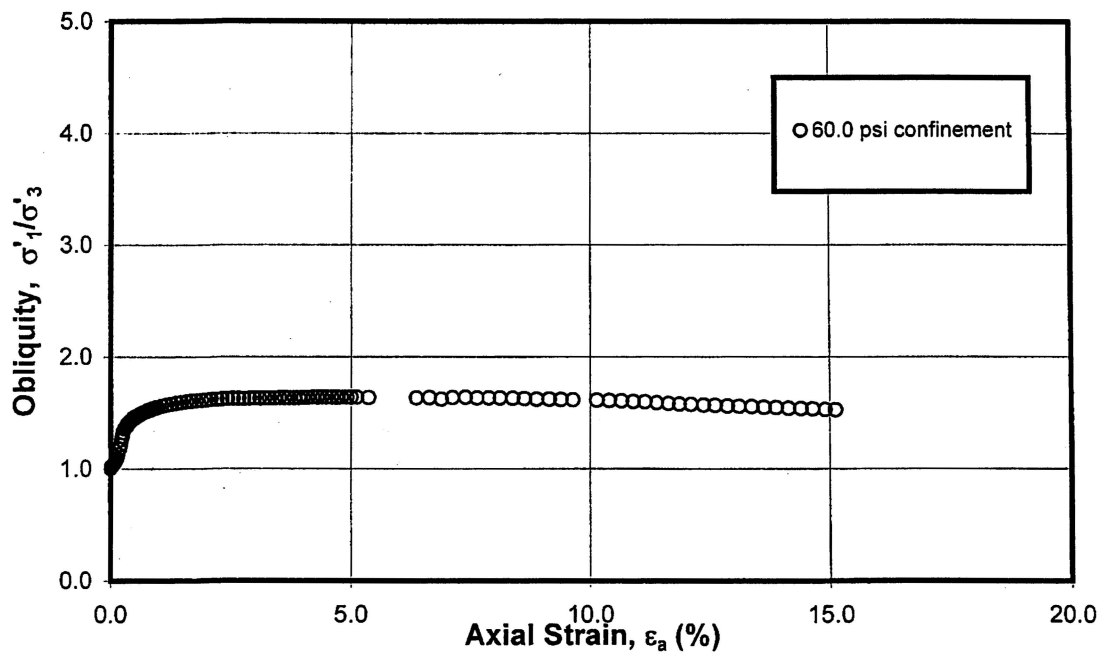
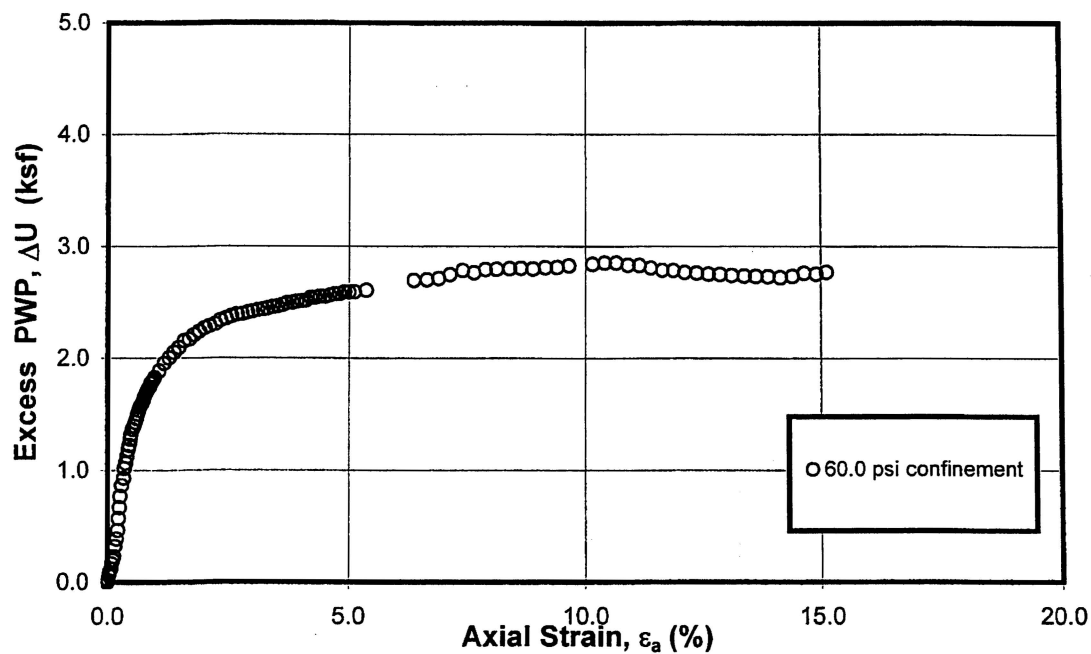
UNDRAINED TRIAXIAL COMPRESSION TEST

Isotropically Consolidated

Sample: UD8c - Depth: 83.5-85.5 ft

Boring B-2304UD

Reviewed By: *WFD*



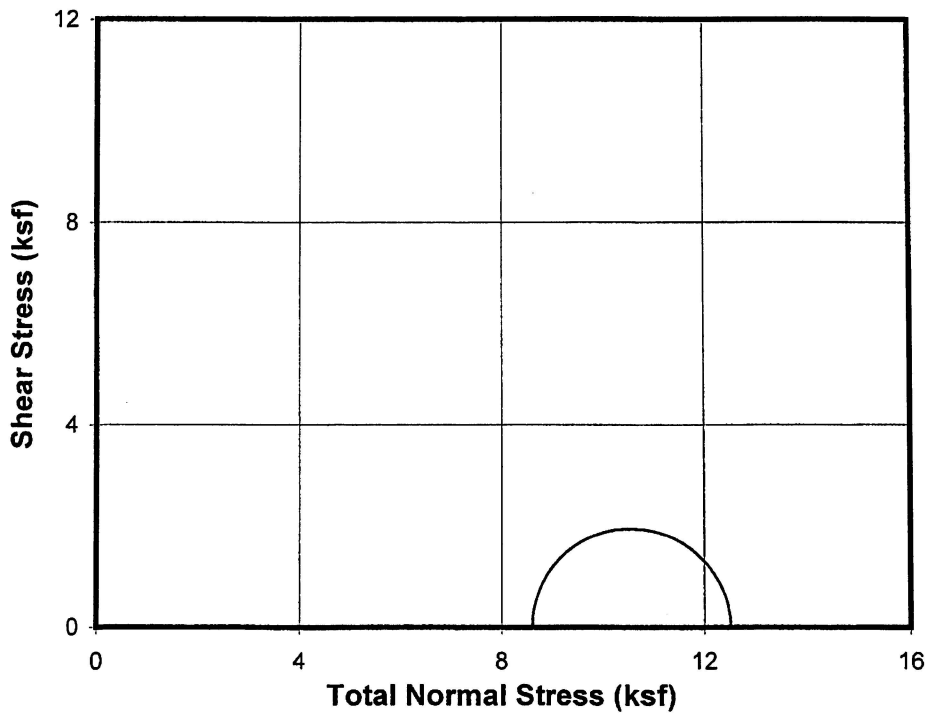
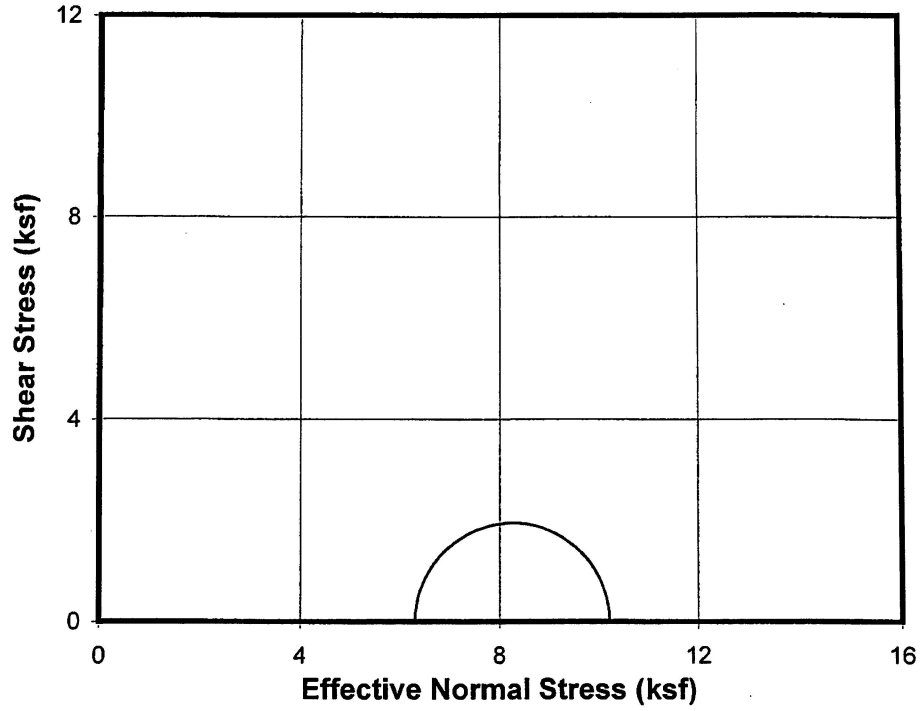
UNDRAINED TRIAXIAL COMPRESSION TEST

Isotropically Consolidated

Sample: UD8c - Depth: 83.5-85.5 ft

Boring B-2304UD

Reviewed By: *WLD*



UNDRAINED TRIAXIAL COMPRESSION TEST
Isotropically Consolidated- Mohr's Circles
Sample: UD8c - Depth: 83.5-85.5 ft
Boring B-2304UD

Reviewed By: W1D

TRIAXIAL TEST (ASTM D 4767-04): Specimen Setup / Take Down

Project Number: 0411-08-1686 Test Type: CIU Triaxial Cell No.: File Name: B-2304UD_UD11d
 Task No.: NA Test Stress(es), σ'_c or $\sigma'_{v,c}$ = 10.08 , & ksf
 Project Name: Exelon (Victoria) $k (\sigma'_{h,c} / \sigma'_{v,c})$ = 1.00 Induced OCR = 1.00 $K_{ua} (\sigma'_{d,ua} / 2\sigma'_{v,c})$ = NA

Assig. Remarks: Specific Gravity: 2.710 ☒ Meas.; ☐ Assumed

☒ Tube	☐ Field Extruded	☐ Liner	☐ Remolded	☐ Tamping	☐ Constant Effort: Blows/Tamps per Layer =
Boring No.: B-2304UD	☐ Reconstituted	☐ Impact/Rammer	Rammer Wgt. (lb) =	No. Layers =	
Sample No.: UD11	Compostite No.:	Pluviated:	Tamper Force (lb) =	Drop (in.) =	
Depth (ft): 111.0-113.0	Specimen No.: D	Kneading	Undercompaction: U_{ni} (%) =	Dia. (in.) =	
☐ Spec. Selection by X-ray;	☐ Geomarine Sample	Ref. Effort =	% Comp. =	$\pm$ Opt. =	

Type	☒ Isotropic	☐ K_0 stress path	☒ Used automated system: Drained Axial Strain Rate, $\epsilon_{a,rate}$ (%/h) = ?Value
Consolidation:	☐ Anisotropic	☐ 45° stress path	Remarks:
Loading	☒ Static	☒ Undrained	☒ Comp.
Conditions:	☐ Post Cyclic	☐ Drained	☐ Ext.
		☒ Strain	☐ Stress
		☐ Constant Cell Pressure	☐ Cyclic (Hz)
		☐ Variable Cell Pressure	Rate: 0.1; 1; Other.

Water Content (WC);	Initial - Trimming Location			Final, W_{at} (see below)
	Top ($W_{o,1}$)	Bottom ($W_{o,2}$)	Sides ($W_{o,3}$)	
Container No	997	584	715	5065
Mass Moist Soil + Cont. (g)	111.67	107.65	104.58	113.04
Mass Dry Soil + Container (g)	92.20	90.05	88.10	98.18
Mass Container (g)	31.59	31.74	32.04	31.14
Water Content, $W_{o,n}$ (%)	32.12	30.18	29.40	22.17
Avg. Initial WC, $W_{o,avg}$ (%)	30.57	Final (W_{at});	X Slice ;	Whole Spec.
See attached data sheet(s) for additional water contents				

SOIL MASSES:	Initial	Final
Moist + Tare (etc.) (g)	459.98	452.88
Tare (etc.) (g)	0.00	0.00
Mass Moist Spec., M_n (g)	459.98	452.88
Excess Dry Soil (soil not included in final mass measurement)		
Container No		
Mass Dry Soil + Cont. (g)		
Mass Container (g)		
Mass Excess Dry Soil, M_{des} (g)		0.00

Specimen Dimensions, (mm)					
Height		Dia., X indicates with membrane			
Initial (H_o)	Final (H_{at})	Initial (D_o)	Final (D_{at})		
GB	100.000	87.000	1 T	50.90	55.50
1	15.44	8.64	2 M	51.00	60.50
2	15.43	8.59	3 B	50.90	51.50
3	15.42	7.98	1 T		
4	15.41	8.62	2 M		
5	15.40	9.28	3 B		
Avg	115.42	95.62	Avg	50.93	55.83

Estimated Initial Unit Weight			
Total, $\gamma_{t,o}$ (lb/ft ³) =	122.11	Dry, $\gamma_{d,o}$ (lb/ft ³) =	93.52
Membrane / Filter Paper / Apparatus			
Membrane (mm):		Top	Bottom
Number:	Thickness:	0.60	0.69
= 1	Single; ☒ Double	0.60	0.71
Circumference ($C_{r,m,o}$)		148.0	148.0
Total Thickness		Dia. ($C_{r,m,o} / \pi$)	
Average:		0.33	47.11
Filter Paper: Top + Bottom: ☐ Yes; ☒ No			
Filter Strips: ☒ Yes; ☐ No Number = 8			
Type of Filter Strips ☐ Vertical: 1/4 in. & Whatman #54			
☒ Spiral: 1/4 in. & Whatman #1			

Measuring Devices:	$A_o = \pi D^2 / 400$ (cm ²)	20.37
PI Tape: ☒ Dia	V_o (cm ³)	235.17
Calipers: ☐ Ht.; ☐ Dia	$A_{atb,n} = \pi (D^*_{at})^2 / 400$ (cm ²)	25.52
Dial Comparator ☒ Ht.; ☐ Dia	$A_{atw,m} = (d_{min} - 2\Delta d) d_{max} \pi / 400$ (cm ²)	NA
Remarks: ID# PI-002	$D^*_{at} = (D_T + 2D_M + D_B) / 4$ (mm)	57.00

Apparatus:	Mass Top Cap, M_{tc} =	53.4 g,	0.12 lbf
Mass Displ. System, M_{ds} (cap, dial, piston, etc.) =	NA g,	NA lbf	
Top Cap Attached:	Piston Dia. (in.)	Load Cell:	
☐ Yes; ☒ No; ☒ 1/2; ☐ 3/4;	☐ External	☒ Internal	
Top Cap - Rotation	Fixed, <1°;	Limited, <5°;	☒ Unlimited, >5°
With:	Frictionless End Caps;	Lat. Movement Top Cap	
	Internal LVDT Jacket		

Photo Taken. Failure Mode: NA - Not Applicable

Failure Sketch

$\epsilon_a =$

20% →

☐ Bulge

☒ Wedge

☐ Parabolic

Wedge/Bulge Ht. =

NA (mm)

Other Remarks:

LL= 77 PL= 19 PI= 58

Final Visual Classification: Mottled Pale Yellow and Yellow Fat CLAY (CH)

Trimmed / Reconstituted By: AW Set Up By: TP Taken Down By: TP
 Date: 5/16/2008 Date: 5/16/2008 Date: 6/2/2008
 Prelim. Calc. By: TP Final Calc. By: TP Reviewed By: *MDA*

☐ See more detailed sketch on attached sheet. Remarks: