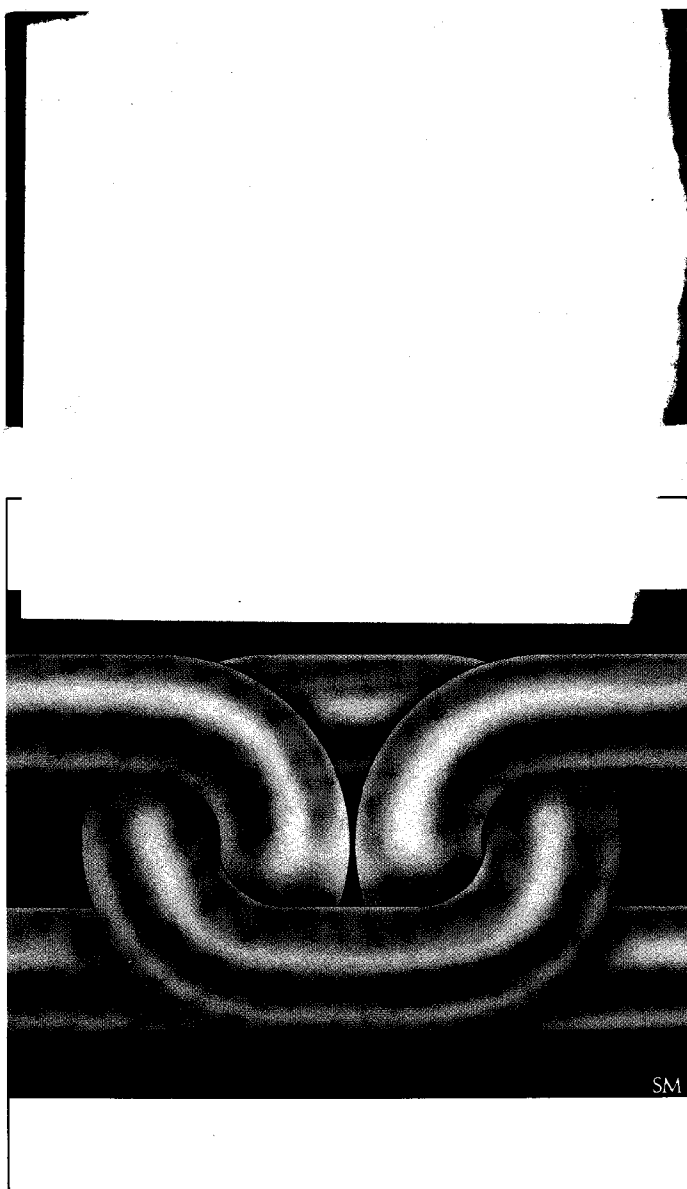
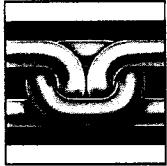


United Energy Services Corporation



**The Critical
Link.SM**

Singleton Laboratories



**The Critical
Link[®]**

September 29, 1994

TASK ASSIGNMENT No. TV-FH-SL-001-045
G/C WORK ORDER No. 07-9826-053
TVA TAO No. GP-493-398629
KINGSTON FOSSIL PLANT
DREDGE CELLS/CLOSURE
SOIL INVESTIGATION

SL Report 015-672-142A

PREPARED FOR:
Gilbert/Commonwealth, Inc.
633 Chestnut Street-Suite 400
chattanooga, TN 37450-0400
As Requested By: D. Erali

SINGLETON LABORATORIES
1413 Topside Road
Louisville, Tennessee 37777
615-970-2299

TVA-00023420

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- 2 Summary of Laboratory Test Data for Borrow Soils

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- 1 Boring Location Plan

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- B Field Logs
- C Laboratory Test Data for All Split-Spoon Samples
- D Laboratory Test Data for All Undisturbed Soil Samples
- E Laboratory Test Data for Borrow Soils

INTRODUCTION

Singleton Laboratories has completed a requested soil investigation for the subject project. This investigation was conducted in general accordance with Singleton Proposal No. 94-232 dated May 2, 1994. The purpose of the investigation was to assess subsurface soil conditions, to determine physical and engineering properties of both undisturbed and borrow soils, and to establish elevations of bedrock. The investigation included both sub-surface exploration and laboratory testing of soil. The following report presents the activities and results of the investigation.

FIELD INVESTIGATION

The field investigation was completed between July 26 and August 19, 1994. A total of 914 linear feet was drilled and sampled at the specified twenty-two (22) locations including 9 split-spoon, 9 undisturbed, and 4 auger borings. A total of 109 split-spoon samples, 30 undisturbed tube samples, and 8 bag samples was completed in this investigation. A CME-550 ATV drill equipped with 6-1/4-in. and 3-3/8-in. hollow stem augers, 3-in. shelby tube samplers, 2-in. split-spoon samplers, and AW rods were used in drilling, sampling, and testing in this investigation. Dry methods of soil sampling were used and procedures conformed to American Society for Testing and Materials (ASTM) Standards D 1452, D 1586, D 1587, and D 2488.

For each split-spoon boring, Standard Penetration Tests (SPT) were performed and SPT samples were taken at 5-ft intervals to the specified depth. SPT tests were performed in accordance with ASTM D 1586 in which a standard 1.4-in. id and 2-in. od split-spoon sampler is driven into the soil with a 140-lb hammer that free falls 30-in. The standard penetration resistance of soil is defined as the number of blows required to drive the final foot. For each boring, field logs showing depths of sampling, and visual classification are enclosed in Appendix B.

Nine (9) split-spoon borings designated as SS-1 through 10 excluding 7, and nine (9) undisturbed borings designated as US-1 through 9 were drilled in the dike areas around Dredge Cells 1, 2, and 3. A total of eight (8) bag samples was obtained at four locations inside the Dredge Cell 2. A boring location plan is enclosed. Refusal was encountered at all split-spoon borings, and depths of refusal ranged from 39 to 92-ft. SPT N values ranged from 0 to 90, indicating soil consistencies varying from very soft to hard. Generally, overburden soils at Borings SS-1 through 6 consisted of a gray fly ash only.

Residual soils were encountered at depths of 55, 70, and 75-ft at Borings SS-8, 9, and 10, respectively. The 20 to 25-ft thick residual soils were composed of two soil types; a mottled brown, tan, and gray silty clay in the upper layer, and a gray and tan silty sand with gravel in the lower layer.

Ground water was encountered at all borings at depths ranging from 5-ft 8-in. to 29-ft during the time of boring. For Boring SS-10, no ground water reading was taken because the hole collapsed immediately after completion of the boring. However, ground water fluctuations due to seasonal and weather changes should be expected. All the borings were backfilled with natural soils.

LABORATORY TESTING

All split-spoon samples obtained were visually classified and tested for moisture content in accordance with ASTM D 2216, while Atterberg limits, grain-size analysis, and specific gravity tests were performed on representative SPT soil samples in accordance with ASTM D 4318, and D 422, and D 854, respectively. Test results are shown in the field logs. Individual test data sheets are enclosed in Appendix C.

All twenty-five (25) undisturbed soil samples obtained from the dike areas were tested for moisture content, classification, grain-size, Atterberg limits, specific gravity, and unit weight in accordance with ASTM D 2216, D 2488, D 422, D 4318, D 854, and SLP-2, respectively. Unconsolidated-undrained triaxial (Q) and consolidated-undrained triaxial (R) with pore water pressure measurements were performed on five (5) selected undisturbed soil samples in accordance with ASTM D 4767 and D 5084, respectively. Test results are also summarized in Table 1. Individual test data sheets are enclosed in Appendix D. Under Q test conditions, angles of internal friction ranged from zero (with 1.85 tsf cohesion) to 37.4 degrees, and cohesions varied from zero to 1.85 tsf. Under R test conditions, apparent angles of internal friction and cohesions ranged from 4.4 to 35.8 degrees and from 0.32 to 3.65 tsf, respectively, and effective angles of internal friction and cohesions varied from 9.2 to 37.5 degrees and from zero to 2.91 tsf, respectively.

All bulk soil samples obtained from the Dredge Cell 2 were visually classified as a gray silty sand (fly ash) and tested for moisture content on representative samples. Natural moisture contents ranged from 34.5 to 39.9 percent with an average of 37.6 percent. Two (2) soil classes were identified from all the bulk samples. Compaction tests were performed in accordance with ASTM D 698 Method A. Optimum moisture contents and maximum dry densities were determined to be 25.4

percent and 79.8 pcf, respectively for soil Class I, and 24.5 percent and 79.9 pcf, respectively for soil Class II. As indicated from the test results, Soil Classes I and II are very similar. A family of compaction curves was established for each soil class and the compaction curves are enclosed. For each soil class, classification tests including grain-size analysis, specific gravity, and Atterberg Limits were performed. Test results are summarized in Table 2 and also shown in the attached compaction curves. Individual test data sheets and compaction curves are enclosed in Appendix E.

Unconsolidated-undrained triaxial (Q) and consolidated-undrained triaxial (R) with pore water pressure measurements tests were performed on the soil samples remolded to the optimum moisture content with 95 and 100 percent maximum dry density. Test results are also summarized in Table 2. Individual test data sheets are also enclosed in Appendix E. Under Q test conditions, angles of internal friction ranged from 23.7 to 24.0 degrees and cohesions varied from 1.04 to 1.10 tsf. Under R test conditions, apparent angles of internal friction and cohesions ranged from 17.9 to 17.9 degrees and from 0.19 to 0.21 tsf, respectively, and effective angles of internal friction and cohesions varied from 28.3 to 38.3 degrees and from 0.06 to 0.27 tsf, respectively.

SUMMARY

Twenty-two (22) soil borings consisting of a total 914 linear feet of drilling including 109 SPT testing and samples, 30 undisturbed tube samples, 8 bag samples were completed at the dikes and dredge cell areas. Laboratory testing including moisture content, classification, grain-size, specific gravity, Atterberg Limits, compaction, unconsolidated-undrained triaxial (Q), and consolidated-undrained triaxial (R) with pore water pressure measurements was performed in accordance with appropriate ASTM methods on both undisturbed and remolded soil samples.

Based on this limited soil investigation including field exploration and laboratory testing conducted for this project, the following recommendations are made. If sub-surface conditions encountered during construction vary from those reported, Singleton Laboratories should be consulted immediately.

1. The predominant overburden soil in the dike area was a fly ash classified as a brown and gray silty sand. However, residual soils were encountered at depths ranging from 55 to 75-ft at Borings SS-8, 9, and 10. Two types of in-situ soil were identified as a mottled brown, tan, and gray silty clay in the

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G/C WORK ORDER No. 07-9822-026 AND TVA TAO No. GP-493-398629
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SOIL INVESTIGATION

Singleton Laboratories Report 015-672-142A

4

upper layer, and a gray and tan silty sand with gravel in the lower layer. The standard penetration testing showed the soil consistencies ranging from soft to hard. The soils have low to medium shear strengths. Refusal was encountered at depths ranging from 39 to 92-ft.

2. In the borrow area (dredge cells), two soil classes were identified. The soils were generally classified as a gray silty sand (fly ash). Test results indicate the two soil types are similar. Optimum moisture contents ranged from 24.5 to 25.4 percent, and maximum dry densities varied from 79.8 to 79.9 pcf. At the molding conditions of optimum moisture content and 95 to 100 percent maximum dry density, the soils exhibit medium to high shear strength.

SINGLETON LABORATORIES
Louisville, Tennessee

TVA-00023425

Table 1

KINGSTON FOSSIL PLANT
SUMMARY OF LABORATORY TEST DATA
UNDISTURBED SAMPLES

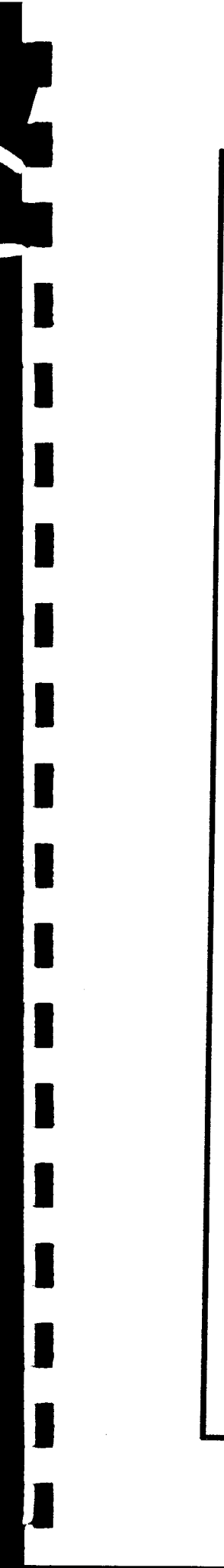
Boring	Sample	Depth ft	Soil Symbol	Nat Moist		Sp G	Grain-Size Analysis					Atterberg Limit		Dry Density pcf	Void Ratio	Triaxial Q		Saturated Triaxial R			
				%	% Sat		Gravel	Sand	Silt	Clay	D ₁₀	Liquid Limit	Plastic Index			Undisturbed		Apparent		Effective	
							%	%	%	%	mm	%	%			deg	tsf	deg	tsf	deg	tsf
US-1	1	8.0-10.0	CL	19.3	98.1	2.60	0	18	47	35	--	30	9	107.3	0.511						
US-1	2	22.0-24.0	CL	28.8	100.0	2.53	0	15	58	27	--	27	7	94.2	0.679	12.7	0.00	6.1	0.69	22.6	0.40
US-2	1	13.0-15.0	CL	64.2	100.0	2.66	4	17	28	51	--	43	20	72.6	1.288						
US-3	1	15.0-17.0	ML	34.5	93.5	2.32	0	2	70	28	--	NP	NP	77.9	0.855						
US-3	2	33.0-35.0	CL	22.8	88.4	2.63	6	30	18	46	--	41	18	97.8	0.876						
US-4	1	8.0-10.0	CL-ML	17.8	82.1	2.59	0	28	48	24	--	23	6	103.6	0.561						
US-4	2	22.0-24.0	SM	19.9	100.0	2.57	0	63	27	10	.0046	NP	NP	106.8	0.498						
US-4	3	24.0-26.0	SM	11.5	72.8	2.66	0	72	17	11	.0046	NP	NP	116.9	0.418						
US-4	4	30.0-32.0	ML	20.6	95.6	2.66	0	50	34	16	--	NP	NP	105.6	0.573						
US-5	1	13.0-15.0	MH/CH	25.2	100.0	2.69	14	12	22	52	--	58	27	101.0	0.661						
US-6	1	13.0-15.0	ML	22.3	84.6	2.21	6	37	42	15	--	NP	NP	87.1	0.582						
US-6	2	15.0-17.0	ML	26.3	86.8	2.22	0	38	50	12	--	NP	NP	82.8	0.673	0.0	1.85	4.4	3.65	9.2	2.91
US-6	3	30.0-32.0	ML	25.8	86.4	2.30	0	1	75	24	--	NP	NP	84.9	0.687						
US-7	1	5.0-7.0	ML	42.0	100.0	2.25	0	4	68	28	--	NP	NP	74.4	0.884						
US-7	2	7.0-9.0	ML	34.5	98.6	2.28	0	2	71	27	--	NP	NP	79.1	0.796						
US-7	3	9.0-11.0	ML	33.2	81.6	2.31	0	4	96	0	--	NP	NP	81.6	0.767						
US-7	4	11.0-13.0	ML	35.2	100.0	2.22	0	2	72	26	--	NP	NP	79.9	0.731						
US-8	1	8.0-10.0	ML	14.1	62.9	2.29	7	35	37	21	--	NP	NP	94.4	0.512						
US-8	2	40.0-42.0	ML	21.3	89.8	2.29	0	3	69	28	--	NP	NP	92.6	0.544						
US-8	3	42.0-44.0	ML	24.9	80.1	2.62	0	10	72	18	--	NP	NP	90.0	0.816						
US-8	4	58.0-60.0	ML	13.6	82.9	2.72	0	42	40	18	--	NP	NP	117.4	0.445	11.0	1.16	14.7	1.24	29.6	0.60
US-8	5	71.0-73.0	SM	18.6	100.0	2.64	0	50	36	14	--	NP	NP	112.9	0.460						
US-9	1	20.0-22.0	ML	19.7	61.5	2.39	0	5	73	22	--	NP	NP	84.6	0.766						
US-9	2	32.0-34.0	ML	30.3	100.0	2.37	0	23	59	18	--	NP	NP	90.7	0.633	37.4	0.00	15.9	0.95	29.1	0.49
US-9	3	45.0-47.0	ML	31.2	81.4	2.27	0	5	69	26	--	NP	NP	75.7	0.871						
US-9	4	57.0-59.0	ML	29.7	85.2	2.56	0	5	67	28	--	NP	NP	85.2	0.873	22.3	1.30	35.8	0.32	37.5	0.00
US-9	5	78.0-80.0	SM	17.2	93.4	2.71	0	58	24	18	.0027	NP	NP	112.6	0.500						
US-9	6	85.0-87.0	SM	22.0	96.2	2.67	0	72	20	8	.0082	NP	NP	103.5	0.611						

Table 2

KINGSTON FOSSIL PLANT
SUMMARY OF LABORATORY TEST DATA
BORROW SOIL

Soil Symbol	Specific Gravity	Grain-Size Analysis					Atterberg Limit		Max Density pcf	Optimum Moisture %	Triaxial Q		Saturated Triaxial R		
		Gravel %	Sand %	Silt %	Clay %	D ₁₀ mm	Liquid Limit %	Plastic Index %			Undisturbed σ c	Disturbed σ c	Apparent σ c	Effective σ c	
CLASS I	ML	2.25	0	6	67	27	--	NP	NP	79.8	25.4				
CLASS II	ML	2.28	0	15	66	19	--	NP	NP	79.9	24.5				
CLASS I & II												23.7	1.04	17.9	0.19 28.3 0.27
												Remolded at optimum moisture and at 95% maximum unit weight.			
CLASS I & II												24.0	1.10	17.9	0.21 38.3 0.06
												Remolded at optimum moisture and at 100% maximum unit weight.			

TVA-00023427



TASK ASSIGNMENT No. TV-FH-SL001-045
G/C WORK ORDER No. 07-9822-026 AND TVA TAO No. GP-493-398629
KINGSTON FOSSIL PLANT - DREDGE CELLS/CLOSURE
SOIL INVESTIGATION

Singleton Laboratories Report 015-672-142A

APPENDIX A

PROPOSAL

SINGLETON LABORATORIES
Louisville, Tennessee

TVA-00023429



**The Critical
Link.**

June 21, 1994

Gilbert Commonwealth, Inc.
Route 10 & Pheasant Road
Reading, Pennsylvania 19607

Attn: Mr. David R. Erali

Re: TVA KINGSTON FOSSIL PLANT - DREDGE CELLS/CLOSURE PERMIT
SUBSURFACE INVESTIGATIONS - PROPOSAL No. 94-309

Dear Mr. Erali:

Singleton Laboratories Division of United Energy Services Corporation (Singleton) is pleased to submit this proposal to Gilbert Commonwealth to provide geotechnical investigation services for the TVA Kingston Fossil Plant Project.

Our understanding of the project requirements, after discussion with Mr. Lynn Petty of TVA on this unsolicited proposal, is to perform subsurface exploration and laboratory testing of split-spoon, undisturbed, and bulk samples. Details of the subsurface investigation for the Dredge Cells Area are enclosed. Singleton will provide qualified test personnel and test equipment to complete the investigations. Also Singleton will perform the required survey work.

SCOPE OF SERVICES

Singleton agrees to perform all work outlined by TVA for the Dredge Cells Area as shown in the attached request. The scope of work of the investigation is briefly described as follows:

1. Field Exploration

Mobilize field personnel and equipment to perform approximately 10 split-spoon borings to top of rock (average 90-ft estimated) at 5-ft intervals of SPT sampling; approximately ten (10) undisturbed borings at locations assigned by TVA to obtain approximately twenty-five (25) Shelby tube samples; and approximately five (5) bag

TVA KINGSTON FOSSIL PLANT - DREDGE CELLS/CLOSURE PERMIT -
 SUBSURFACE INVESTIGATIONS - SINGLETON LABORATORIES PROPOSAL No.
 94-309

samples from identified locations within the pond for laboratory testing. Ground water will be measured if encountered 1-hr and 24-hr after completion of boring. All borings will be backfilled with natural soils and survey of all borings investigated will be performed after completion of investigation.

2. Survey

Perform survey to determine locations and elevations of all borings investigated based on data of existing piezometers after completion of the investigation.

3. Laboratory Testing

Laboratory testing will be performed in accordance with standardized procedures as specified in the request for geotechnical investigation. Specific testing to be performed for each type of sample is summarized in the following tabulations.

SPT Samples (180 each)

Moisture	180 each
Classification	18 each
Atterberg Limit	18 each
Grain Size	18 each
Specific Gravity	18 each

Shelby Tubes (25 each)

Moisture	25 each
Classification	25 each
Atterberg Limit	25 each
Grain Size	25 each
Specific Gravity	25 each
Unit Weight	25 each
Unconsolidated-undrained triaxial (Q) test	5 each
Consolidated-undrained triaxial (R) test	5 each
Tube Extractions	25 each

TVA KINGSTON FOSSIL PLANT - DREDGE CELLS/CLOSURE PERMIT -
 SUBSURFACE INVESTIGATIONS - SINGLETON LABORATORIES PROPOSAL No.
 94-309

Bag Samples (5 each)

Moisture	5 each
Classification	5 each
Atterberg Limit	5 each
Specific Gravity	5 each
Compaction	5 each
Unconsolidated-undrained triaxial (Q) test	3 each
Consolidated-undrained triaxial (R) test	3 each

4. Final Report

A final report will be prepared to include a brief review of general subsurface soil conditions; a detailed description of field exploration and laboratory test procedures used in this investigation; computerized field logs; boring location plan; soil profiles; tabulations of SPT and undisturbed sample test data, and a family of compaction curves.

PERSONNEL AND SCHEDULE

Singleton Laboratories could commence the testing program after receiving written authorization. Mr. Yung Chung will be designated as the Project Manager and, as such, will be responsible for coordinating the Singleton effort on the execution of this test program. Completion of this scope of work is anticipated to take 8 weeks from the date of authorization to proceed. Interim test data will be submitted as available, with earliest lab results expected in early to mid-August, 1994.

COMPENSATION

The lump sum charge to perform this testing project and to submit a final test report will be \$45,870.00 including \$21,000.00 for the subsurface exploration and \$24,870.00 for the laboratory and final report for the Dredge Cells Area investigation. All approved out-of-scope work will be billed in accordance with our existing contract on a time and materials basis. If additional costs are anticipated due to unforeseen difficulties of drilling or work scope changes, such costs will be incurred only after written mutual agreement between authorized representatives of Singleton and Gilbert Commonwealth, Inc..

TVA KINGSTON FOSSIL PLANT - DREDGE CELLS/CLOSURE PERMIT -
SUBSURFACE INVESTIGATIONS - SINGLETON LABORATORIES PROPOSAL No.
94-309

TERMS AND CONDITIONS

Terms and conditions applicable to Singleton's services hereunder are as set forth in Contract No. TV-FH-SL-001. We welcome this opportunity to be of service to TVA and would welcome the receipt of your authorization to proceed. We trust that the scope of work as proposed accurately represents the project requirements. Should you have any questions, please call Mr. Yung Chung or the undersigned at (615) 970-2299. This proposal is valid for sixty (60) days from the date of the proposal.

Sincerely,



J. F. Best, P.E.
Division Manager

TASK ASSIGNMENT No. TV-FH-SL001-045
G/C WORK ORDER No. 07-9822-026 AND TVA TAO No. GP-493-398629
KINGSTON FOSSIL PLANT - DREDGE CELLS/CLOSURE
SOIL INVESTIGATION

Singleton Laboratories Report 015-672-142A

APPENDIX B

FIELD LOGS

SINGLETON LABORATORIES

SOIL PROFILE LEGEND AND SYMBOLS

Depth 1"=5'	El	SPT (N)	Log*	W	LL	PI	Gr	Description or Test Results
Boring Depth and Scale	Elevation	Blows Per Foot (SS Boring)	Lab Soil Type	Moisture Content	Liquid Limit	Plasticity Index	Soil Group Number	

Legend

Cl, etc	Soil Type (Unified Classification)
Mat'l	Notation of Soil Not Sampled (SS, PAH, HAH Logs)
(Core) Type	Bedrock (Note core if cored)
	Initial Water Table Reading
	24 h Water Table Reading
	Explanation of US Sampling Limits if Applicable

Boring Symbols

- SS - 2-in. od Split Spoon Boring
- SPT - Standard Penetration Test
Blows Per Foot With 2-in.
Split Spoon
- CPT - Cone Penetration Test
- US - Undisturbed Sample Boring
- PAH - Power Auger Hole
- HAH - Hand Auger Hole
- TP - Test Pit or Trench
- V - Vane Shear
- P - Piezometer

Under Description or Test Results		
Test	Engineering Test Results	
Q, R, R, S	Friction Angle (degrees)	Cohesion (tsf)
UC	Unconfined Compressive Strength (tsf)	Sensitivity Ratio
C	Compression Index	Preconsolidation Pressure (tsf)
k	Coefficient of Permeability (cm/sec)	

Example:

Q 12.0 0.62 R 19.6 0.21 S 34.0 0
UC 4.0 2.6 C 0.72 2.0 k 5.6

Soil Test Symbols

- Q - Unconsolidated-Undrained Triaxial
Compression
- R - Consolidated-Undrained Triaxial
Compression (Saturated)
- R - Effective Consolidated-Undrained
Triaxial Compression
- R nat - Consolidated-Undrained Triaxial
Compression (Natural Moisture)
- S - Consolidated-Drained Direct Shear
- UC - Unconfined Compression
- C - Consolidation
- k - Permeability

SINGLETON LABORATORIES

FIELD LOG ABBREVIATIONS

<u>Typical Name</u>	<u>Abbreviation</u>	<u>Lithology and Mineralogy</u>	<u>Abbreviation</u>
Sandy gravel	sd gv	Bedrock	br
Silty gravel	si gv	Chert	cht
Clayey gravel	cl gv	Dolomite	dol
Sand	sd	Limestone	ls
Silty sand	si sd	Manganese	mn
Clayey sand	cl sd	Micaceous	mic
Sandy silt	sd si	Pyrite	py
Clayey silt	cl si	Quartz	qtz
Fat silt	ft si	Sandstone	ss
Sandy clay	sd cl	Shale	sh
Silty clay	si cl	Bentonite	bent
Medium clay	md cl	Hematite	hem
Fat clay	ft cl		
Cobble	cob		
Blouder	bldr	<u>Color</u>	
Riprap	rr	Black	blk
Topsoil	ts	Blue	blu
		Brown	brn
<u>Name Modifiers</u>		Cream	crm
Clean	cln	Dark	dk
Coarse	crs	Gray	gy
Dirty	dty	Green	grn
Fine	fn	Light	lt
Organic	org	Maroon	mrn
Poorly graded	pgd	Mottled	mott
Well graded	wgd	Olive	olv
Degraded	degd	Pink	pk
		Purple	pur
<u>Gravel Shape</u>		Red	r
Angular	ang	Rust	rst
Platy	plty	Tan	tn
Round/Rounded	rd	White	wht
Subangular	sb ang	Yellow	yel
Subrounded	sb rd		

<u>Structure</u>	<u>Abbreviation</u>	<u>Consistency</u>	<u>Abbreviation</u>
Blocky	blky	Dense	dns
Fissured	fis	Firm	f
Homogeneous	homo	Hard	hd
Laminated	lam	Loose	lse
Saprolitic	sapr	Soft	s
Shaly	shly	Stiff	stf
Slickensided	slsid	Very Stiff	v stf
Stratified	strat		

<u>Origin</u>		<u>Moisture</u>	
Alluvial	all	Dry	d
Colluvial	coll	Moist	mst
Loess	lss	V Moist	v mst
Residual	resd	Wet	w

General Modifiers

Alternate/Alternating	alt	Layers	lyrs
Angle	∠	Low	l
Augering	augg	Material	mtl
Bottom Ash	ba	Medium	md
Coal	col	Mud	mud
Contaminated	cont	Original	orig
Dip	dp	Partings	prtgs
Disturbed	dstrb	Plastic	plstc
Debris	dbr	River	rvr
Discontinued	disc	Roots	rts
Drive	dr	Rough	rou
Dust	dst	Slow	sl
Elevation	el	Small	sm
Feet	ft	Spoil	sp
Fill	fl	Terraced	ter
Fiber	fbr	Thick	thk
Fly Ash	fa	Thin	thn
High/highly	h	Trace	tr
Horizontal	hor	Variable	var
Hydraulic	hyd	Vegetation	veg
Inch	in	Vertical	vert
Inclusion	inc	Weathered	wth
Incomplete Recovery	IR	With	w/
Interface	infa	Wood	wd

SINGLETON LABORATORIES

SOIL PROFILE: UNDISTURBED

SHEET 1 OF 1

PROJECT: KINGSTON FP

FEATURE: DREDGE CELLS

BORING: US-1 STATION:

RANGE:

SURFACE EL: 752.0

DATE DRILLED: 8/8/94

PREPARED BY: mhd

CHECKED BY: TAL

DEPTH ft.	EL	SPT (N)	* LOG	W	LL	PI	GR	DESCRIPTION (ENGINEERING TEST RESULTS)
	750							
5								
	745							
10								TN SI CL, MST, F
	740							
15								
	735							
20								
	730							LT BRN SI CL MIX w/TS, S, MST
25								
	725							
30								
	720							NO RECOVERY
35								DISCONTINUED AT 34.0'
1''=5'			* LAB CLASSIF.					

SINGLETON LABORATORIES

SOIL PROFILE: UNDISTURBED

SHEET 1 OF 1

PROJECT: KINGSTON FP
 BORING: US-2 STATION:
 DATE DRILLED: 8/9/94

FEATURE: DREDGE CELLS
 RANGE:
 PREPARED BY: mhd

SURFACE EL: 764.0
 CHECKED BY: 7A

DEPTH ft.	EL	SPT (N)	* LOG	N	LL	PI	GR	DESCRIPTION (ENGINEERING TEST RESULTS)
5	760							
10	755							
15	750							R-BRN SI CL, MST. H
								DISCONTINUED AT 15.0'
20	745							
25	740							
30	735							
35	730							
1'-5'		* LAB CLASSIF.						

SINGLETON LABORATORIES

SOIL PROFILE: UNDISTURBED

SHEET 1 OF 2

PROJECT: KINGSTON FP

FEATURE: DREDGE CELLS

BORING: US-3 STATION:

RANGE:

SURFACE EL: 773.0

DATE DRILLED: 8/11/94

PREPARED BY: mhd

CHECKED BY: TAL

DEPTH ft.	EL	SPT (N)	* LOG	W	LL	PI	GR	DESCRIPTION (ENGINEERING TEST RESULTS)
	770							
5								
	765							
10								
	760							
15								6Y CL SI (FA), MST, S
	755							
20								
	750							
25								
	745							
30								
	740							R SI CL, MST, H
35								
1''-5'								* LAB CLASSIF.

SINGLETON LABORATORIES

SOIL PROFILE: UNDISTURBED

SHEET 2 OF 2

PROJECT: KINGSTON FP

FEATURE: DREDGE CELLS

BORING: US-3 STATION:

RANGE:

SURFACE EL: 773.0

DATE DRILLED: 8/11/94

PREPARED BY: mhd

CHECKED BY: TAL

DEPTH ft.	EL	SPT (N)	* LOG	W	LL	PI	GR	DESCRIPTION (ENGINEERING TEST RESULTS)
								NO RECOVERY
	735							NO RECOVERY
40								DISCONTINUED AT 39.0' WATER LEVEL, 1-HR = 25'
	730							
45								
	725							
50								
	720							
55								
	715							
60								
	710							
65								
	705							
70								
1'-5'								* LAB CLASSIF.

SINGLETON LABORATORIES

SOIL PROFILE: UNDISTURBED

SHEET 1 OF 1

PROJECT: KINGSTON FP

FEATURE: DREDGE CELLS

BORING: US-4 STATION:

RANGE:

SURFACE EL: 752.0

DATE DRILLED: 8/12/94

PREPARED BY: mhd

CHECKED BY: TAL

DEPTH ft.	EL	SPT (N)	* LOG	W	LL	PI	GR	DESCRIPTION (ENGINEERING TEST RESULTS)
	750							
5								
	745							
10								BRN SI CL, MST, F
	740							
15								
	735							
20								
	730							TN SI SD, MST, S
25								TN SI SD, MST, S
	725							
30								TN & GY SI SD, MST, S
	720							DISCONTINUED AT 32.0'
35								

1" = 5'

*
LAB CLASSIF.

SINGLETON LABORATORIES

SOIL PROFILE: UNDISTURBED

SHEET 1 OF 1

PROJECT: KINGSTON FP
 BORING: US-5 STATION:
 DATE DRILLED: 8/11/94

FEATURE: DREDGE CELLS
 RANGE:
 PREPARED BY: mhd

SURFACE EL: 764.0
 CHECKED BY: TAL

DEPTH ft.	EL	SPT (N)	* LOG	W	LL	PI	GR	DESCRIPTION (ENGINEERING TEST RESULTS)
5	760							
10	755							
15	750							R SI CL MIX w/10% CHT, MST, H
								----- DISCONTINUED AT 15.0'
20	745							
25	740							
30	735							
35	730							
1''-5'								* LAB CLASSIF.

SINGLETON LABORATORIES

SOIL PROFILE: UNDISTURBED

SHEET 1 OF 1

PROJECT: KINGSTON FP
 BORING: US-6 STATION:
 DATE DRILLED: 8/15/94

FEATURE: DREDGE CELLS
 RANGE:
 PREPARED BY: mhd

SURFACE EL: 773.0
 CHECKED BY: TAL

DEPTH ft.	EL	SPT (N)	* LOG	W	LL	PI	GR	DESCRIPTION (ENGINEERING TEST RESULTS)
5	770							
10	765							
15	760							GY SI SD (FA)
20	755							GY SI SD (FA)
25	750							
30	745							GY SI SD (FA)
35	740							DISCONTINUED AT 32.0'
1' -5'								* LAB CLASSIF.

SINGLETON LABORATORIES

SOIL PROFILE: UNDISTURBED

SHEET 1 OF 1

PROJECT: KINGSTON FP
 BORING: US-7 STATION:
 DATE DRILLED: 8/19/94

FEATURE: DREDGE CELLS
 RANGE:
 PREPARED BY: mhd

SURFACE EL: 769.9
 CHECKED BY: *TA*

DEPTH ft.	EL	SPT (N)	* LOG	W	LL	PI	GR	DESCRIPTION (ENGINEERING TEST RESULTS)
5	765							GY SI SD (FA)
								GY SI SD (FA)
10	760							GY SI SD (FA)
								GY SI SD (FA)
15	755							DISCONTINUED AT 13.0'
20	750							
25	745							
30	740							
35	735							
1' = 5'		* LAB CLASSIF.						

SINGLETON LABORATORIES

SOIL PROFILE: UNDISTURBED

SHEET 1 OF 3

PROJECT: KINGSTON FP

FEATURE: DREDGE CELLS

BORING: US-8 STATION:

RANGE:

SURFACE EL: 782.0

DATE DRILLED: 8/16/94

PREPARED BY: mhd

CHECKED BY: TAC

DEPTH ft.	EL	SPT (N)	* LOG	W	LL	PI	GR	DESCRIPTION (ENGINEERING TEST RESULTS)
	780							
5								
	775							
10								6Y SI SD (FA)
	770							
15								
	765							
20								
	760							
25								NO RECOVERY
	755							
30								NO RECOVERY
	750							
35								
1'-5'								* LAB CLASSIF.

SINGLETON LABORATORIES

SOIL PROFILE: UNDISTURBED

SHEET 2 OF 3

PROJECT: KINGSTON FP

FEATURE: DREDGE CELLS

BORING: US-8 STATION:

RANGE:

SURFACE EL: 782.0

DATE DRILLED: 8/16/94

PREPARED BY: mhd

CHECKED BY: *TA*

DEPTH ft.	EL	SPT (N)	* LOG	W	LL	PI	GR	DESCRIPTION (ENGINEERING TEST RESULTS)
								NO RECOVERY
	745							
40								6Y SI SD (FA)
	740							6Y SI SD (FA)
45								
	735							
50								
	730							
55								
	725							
60								6Y & TN SI CL. MST. F
	720							
65								
	715							
70								
1'-5'								* LAB CLASSIF.

SINGLETON LABORATORIES

SOIL PROFILE: UNDISTURBED

SHEET 3 OF 3

PROJECT: KINGSTON FP
 BORING: US-8 STATION:
 DATE DRILLED: 8/16/94

FEATURE: DREDGE CELLS
 RANGE:
 PREPARED BY: mhd

SURFACE EL: 782.0
 CHECKED BY: *TA*

DEPTH ft.	EL	SPT (N)	* LOG	W	LL	PI	GR	DESCRIPTION (ENGINEERING TEST RESULTS)
	710							GY SI CL. MST. S
								----- DISCONTINUED AT 73.0'
75								
	705							
80								
	700							
85								
	695							
90								
	690							
95								
	685							
100								
	680							
105								
1'-5'								
								* LAB CLASSIF.

SINGLETON LABORATORIES

SOIL PROFILE: UNDISTURBED

SHEET 1 OF 3

PROJECT: KINGSTON FP
 BORING: US-9 STATION:
 DATE DRILLED: 8/15/94

FEATURE: DREDGE CELLS
 RANGE:
 PREPARED BY: mhd

SURFACE EL: 795.0
 CHECKED BY: TAC

DEPTH ft.	EL	SPT (N)	* LOG	W	LL	PI	GR	DESCRIPTION (ENGINEERING TEST RESULTS)
	795							
5	790							
10	785							
15	780							
20	775							6Y SI SD (FA)
25	770							
30	765							
35	760							6Y SI SD (FA)
1'-5'								* LAB CLASSIF.

SINGLETON LABORATORIES

SOIL PROFILE: UNDISTURBED

SHEET 2 OF 3

PROJECT: KINGSTON FP
 BORING: US-9 STATION:
 DATE DRILLED: 8/15/94

FEATURE: DREDGE CELLS
 RANGE:
 PREPARED BY: mhd

SURFACE EL: 795.0
 CHECKED BY: JAL

DEPTH ft.	EL	SPT (N)	* LOG	W	LL	PI	GR	DESCRIPTION (ENGINEERING TEST RESULTS)
	760							
40	755							
45	750							GY SI SD (FA)
50	745							
55	740							
60	735							GY SI SD (FA)
65	730							
70	725							
1' = 5'								* LAB CLASSIF.

SINGLETON LABORATORIES

SOIL PROFILE: UNDISTURBED

SHEET 3 OF 3

PROJECT: KINGSTON FP

FEATURE: DREDGE CELLS

BORING: US-9 STATION:

RANGE:

SURFACE EL: 795.0

DATE DRILLED: 8/15/94

PREPARED BY: mhd

CHECKED BY: *TAK*

DEPTH ft.	EL	SPT (N)	* LOG	W	LL	PI	GR	DESCRIPTION (ENGINEERING TEST RESULTS)
	725							
75	720							
								GY SI CL, V MST, S
80	715							
								GY SI SD, V MST, S
85	710							NO RECOVERY; REFUSAL
90	705							DISCONTINUED AT 90.0'
95	700							
100	695							
105	690							
1'-5'								* LAB CLASSIF.

SINGLETON LABORATORIES

SOIL PROFILE: SPLIT-SPOON

SHEET 1 OF 2

PROJECT: KINGSTON FP

FEATURE: DREDGE CELLS

BORING: SS-1 STATION:

RANGE:

SURFACE EL: 752.0

DATE DRILLED: 7/28/94

PREPARED BY: mhd

CHECKED BY: *TA*

DEPTH ft.	EL	SPT (N)	* LOG	W	LL	PI	GR	FIELD DESCRIPTION
	750							
5			CL	12.4	31	12	5	TN & GY SI CL, D
	745							
10			CL	19.2	26	8	9	LT BRN SI CL W/TR GY TS, MST
	740							
15			CL	17.0	26	8	6	BRN SI CL, D
	735							
20			CL	27.1	26	8	9	BRN & GY SI CL, V MST
	730							
25			CL	24.1	26	8	9	BRN & GY SI CL, V MST
	725							
30			SM	19.5	NP	NP	10	GY SI SC TR GY, MST (FA)
	720							
35								
1'-5'								

* LAB CLASSIF.

SINGLETON LABORATORIES

SOIL PROFILE: SPLIT-SPOON

SHEET 2 OF 2

PROJECT: KINGSTON FP
 BORING: SS-1 STATION:
 DATE DRILLED: 7/28/94

FEATURE: DREDGE CELLS
 RANGE:
 PREPARED BY: mhd

SURFACE EL: 752.0
 CHECKED BY: TAL

DEPTH ft.	EL	SPT (N)	* LOG	W	LL	PI	GR	FIELD DESCRIPTION
			SM	27.6	NP	NP	10	GY SI SD, V MST (FA)
40	715							REFUSAL
								GROUND WATER LEVEL - 8'9"
45	710							
	705							
50	700							
	695							
60	690							
	685							
70								

1' = 5' *
LAB CLASSIF.

SINGLETON LABORATORIES

SOIL PROFILE: SPLIT-SPOON

SHEET 1 OF 2

PROJECT: KINGSTON FP

FEATURE: DREDGE CELLS

BORING: SS-2 STATION:

RANGE:

SURFACE EL: 764.0

DATE DRILLED: 7/27/94

PREPARED BY: mhd

CHECKED BY: TAL

DEPTH ft.	EL	SPT (N)	* LOG	W	LL	PI	GR	FIELD DESCRIPTION
5	760	14	MH- CH	21.9	59	28	2	BRN SI CL w/GV, TR TS, D
10	755	10	MH- CH	22.8	59	28	2	R-BRN SI CL, TR GV, D
15	750	8	MH- CH	28.0	59	28	2	R-BRN SI CL, TR GV, MST
20	745	13	SM	25.6	NP	NP	10	GY SI SD w/TR GV (FA), V MST
25	740	-	SM	19.0	NP	NP	10	GY SI SD w/GV (FA), N
30	735	-	SM	28.1	NP	NP	3	BRN SD WI CL (FA), W
35	730							
		* LAB CLASSIF.						

SINGLETON LABORATORIES

SOIL PROFILE: SPLIT-SPOON

PROJECT: KINGSTON FP
 BORING: SS-2 STATION:
 DATE DRILLED: 7/27/94

FEATURE: DREDGE CELLS
 RANGE:
 PREPARED BY: mhd

SHEET 2 OF 2

SURFACE EL: 764.0
 CHECKED BY: TAL

DEPTH ft.	EL	SPT (N)	* LOG	W	LL	PI	GR	FIELD DESCRIPTION
		-	CL	33.6	26	8	9	BRN SI CL w/GY SI (FA), V MST
40	725	3	CL	20.1	26	8	9	ORNG & GY SI CL, V MST
45	720	28	ML	14.0	NP	NP	8	GY SD mix w/PKTS GY CL, MST
50	715	50+	ML	15.8	NP	NP	8	GY SD mix w/PKTS GY CL, MST
55	710	REFUSAL GROUND WATER LEVEL = 5'8"						
60	705							
65	700							
70	695							

1' = 5'

* LAB CLASSIF.

SINGLETON LABORATORIES

SOIL PROFILE: SPLIT-SPOON

SHEET 1 OF 2

PROJECT: KINGSTON FP

FEATURE: DREDGE CELLS

BORING: SS-3 STATION:

RANGE:

SURFACE EL: 773.0

DATE DRILLED: 7/28/94

PREPARED BY: mhd

CHECKED BY: TAL

DEPTH ft.	EL	SPT (N)	* LOG	W	LL	PI	GR	FIELD DESCRIPTION
	770							
5		25	ML	23.3	NP	NP	12	GY CL SI (FA), MST
	765							
10		5	SM	23.0	NP	NP	10	GY SD CL, TR GV (FA), V MST
	760							
15		4	SM	28.6	NP	NP	10	GY SD CL, TR GV (FA), V MST
	755							
20		1	SM	28.6	NP	NP	10	GY SD SI CL, TR GV (FA), W
	750							
25		2	SM	27.1	NP	NP	10	GY SD SI CL, TR GV (FA), W
	745							
30		1	SM	27.0	NP	NP	10	GY SD SI CL, TR GV (FA), W
	740							
35								
1' = 5'			* LAB CLASSIF.					

SINGLETON LABORATORIES

SOIL PROFILE: SPLIT-SPOON

SHEET 2 OF 2

PROJECT: KINGSTON FP
BORING: SS-3 STATION:
DATE DRILLED: 7/28/94

FEATURE: DREDGE CELLS
RANGE:
PREPARED BY: mhd

SURFACE EL: 773.0
CHECKED BY: JAL

DEPTH ft.	EL	SPT (N)	* LOG	W	LL	PI	GR	FIELD DESCRIPTION
		2	ML	28.8	NP	NP	12	GY SD SI CL, TR GV (FA), W
40	735							
		2	SM	22.0	NP	NP	10	GY SD SI CL, TR GV (FA), W
45	730							
		-	ML	33.9	NP	NP	12	GY CL SI, TR GV (FA), W
50	725							
		-	ML	15.7	NP	NP	8	GY CL SI w/GV (FA), V MST
55	720							
		50+	ML	5.8	NP	NP	12	GY CL SI, TR GV
60	715							REFUSAL
								GROUND WATER LEVEL - 9'8"
65	710							
70	705							
1'-5'								

*
LAB CLASSIF.

SINGLETON LABORATORIES

SOIL PROFILE: SPLIT-SPOON

SHEET 1 OF 2

PROJECT: KINGSTON FP

FEATURE: DREDGE CELLS

BORING: SS-4 STATION:

RANGE:

SURFACE EL: 752.0

DATE DRILLED: 7/26/94

PREPARED BY: mhd

CHECKED BY: TA

DEPTH ft.	EL	SPT (N)	* LOG	W	LL	PI	GR	FIELD DESCRIPTION
	750							
5		10	CL	14.2	26	8	6	LT BRN SI CL w/TS, D
	745							
10		3	CL- ML	23.8	26	4	1	BRN & GY SI CL w/TS, MST
	740							
15		8	CL	22.3	31	12	5	TN & GY SI CL (FA), V MST
	735							
20		4	SM	20.9	NP	NP	3	TN SI SD, MST
	730							
25		-	SM	34.8	NP	NP	3	TN SI SD, MST
	725							
30		7	SM	21.4	NP	NP	3	TN SI SD, MST
	720							
35								

1" = 5'

*
LAB CLASSIF.

SINGLETON LABORATORIES

SOIL PROFILE: SPLIT-SPOON

SHEET 2 OF 2

PROJECT: KINGSTON FP
 BORING: SS-4 STATION:
 DATE DRILLED: 7/26/94

FEATURE: DREDGE CELLS
 RANGE:
 PREPARED BY: mhd

SURFACE EL: 752.0
 CHECKED BY: TAL

DEPTH ft.	EL	SPT (N)	* LOG	N	LL	PI	GR	FIELD DESCRIPTION
	715	36	SM	20.4	NP	NP	3	TN SI SD, MST
40								REFUSAL GROUND WATER LEVEL = 9'0"
	710							
45								
	705							
50								
	700							
55								
	695							
60								
	690							
65								
	685							
70								
1' = 5'			* LAB CLASSIF.					

SINGLETON LABORATORIES

SOIL PROFILE: SPLIT-SPOON

SHEET 1 OF 2

PROJECT: KINGSTON FP

FEATURE: DREDGE CELLS

BORING: SS-5 STATION:

RANGE:

SURFACE EL: 764.0

DATE DRILLED: 7/27/94

PREPARED BY: mhd

CHECKED BY: TAL

DEPTH ft.	EL	SPT (N)	* LOG	W	LL	PI	GR	FIELD DESCRIPTION
5	760	18	MH- CH	19.6	59	28	2	R-BRN SI CL w/TR CTH, D
10	755	14	MH- CH	24.2	59	28	2	BRN SI CL w/GV, D
15	750	54	CL- ML	23.5	26	4	1	BRN SI CL w/PKTS GY CL SI, TR CHT, MST
20	745	20	SM	24.3	NP	NP	10	GY SI SD, TR GV (FA), MST
25	740	3	CL	20.9	26	8	6	LT BRN SD SI CL, TR GV, V MST
30	735	14	CL	23.6	31	12	5	TN & GY SI CL, V MST
35	730							
1'-5'			*					LAB CLASSIF.

SINGLETON LABORATORIES

SOIL PROFILE: SPLIT-SPOON

SHEET 2 OF 2

PROJECT: KINGSTON FP
 BORING: SS-5 STATION:
 DATE DRILLED: 7/27/94

FEATURE: DREDGE CELLS
 RANGE:
 PREPARED BY: mhd

SURFACE EL: 764.0
 CHECKED BY: JAL

DEPTH ft.	EL	SPT (N)	* LOG	N	LL	PI	GR	FIELD DESCRIPTION
		16	ML	21.5	NP	NP	7	BRN SI CL w/GY FA, V MST
40	725	2	SM	24.2	NP	NP	3	ORNG CL SD, V MST
45	720	2	CL	21.9	26	8	9	TN CL SI w/PKTS GY FA, V MST
50	715	30	SC/ SM	10.8	NP	NP	4	LT BRN SI SD w/GV, V MST
55	710	50+	ML	13.9	NP	NP	12	BRN & GY CL SI, FA, MST
								REFUSAL
								GROUND WATER LEVEL = 20'
60	705							
65	700							
70	695							

1" = 5' * LAB CLASSIF.

SINGLETON LABORATORIES

SOIL PROFILE: SPLIT-SPOON

SHEET 1 OF 2

PROJECT: KINGSTON FP
BORING: SS-6 STATION:
DATE DRILLED: 8/1/94

FEATURE: DREDGE CELLS
RANGE:
PREPARED BY: mhd

SURFACE EL: 773.0
CHECKED BY: TAC

DEPTH ft.	EL	SPT (N)	* LOG	W	LL	PI	GR	FIELD DESCRIPTION
	770							
5		24	ML	25.2	NP	NP	12	GY SI (FA), MST
	765							
10		5	SM	19.7	NP	NP	10	GY SI (FA), MST
	760							
15		2	SM	28.8	NP	NP	11	GY SI SD (FA), MST
	755							
20		-	ML	25.8	NP	NP	12	GY SI (FA), MST
	750							
25		3	ML	23.3	NP	NP	8	BRN SI CL w/GY FA, TR GV, V MST
	745							
30		1	ML	32.7	NP	NP	12	GY SI (FA), W
	740							
35								
1' -5'			* LAB CLASSIF.					

SINGLETON LABORATORIES

SOIL PROFILE: SPLIT-SPOON

SHEET 2 OF 2

PROJECT: KINGSTON FP
 BORING: SS-6 STATION:
 DATE DRILLED: 8/1/94

FEATURE: DREDGE CELLS
 RANGE:
 PREPARED BY: mhd

SURFACE EL: 773.0
 CHECKED BY: TAL

DEPTH ft.	EL	SPT (N)	* LOG	W	LL	PI	GR	FIELD DESCRIPTION
		9	CL	19.6	26	8	9	BRN CL SI mix w/FA
	735							
40		12	SM	19.4	NP	NP	3	BRN SI SD, V MST
	730							
45		1	SM	29.3	NP	NP	3	BRN SI SD, V MST
	725							
50		3	SM	21.8	NP	NP	3	BRN SD CL, V MST
	720							
55		6	ML	22.3	NP	NP	8	GY SI SD w/FA, MST
	715							
60		50+	ML	9.9	NP	NP	12	GY SI, FA, MST
	710							
65								REFUSAL GROUND WATER LEVEL = 16' 7"
	705							
70								

1''=5'

* LAB CLASSIF.

SINGLETON LABORATORIES

SOIL PROFILE: SPLIT-SPOON

SHEET 1 OF 3

PROJECT: KINGSTON FP
 BORING: SS-8 STATION:
 DATE DRILLED: 8/2/94

FEATURE: DREDGE CELLS
 RANGE:
 PREPARED BY: mhd

SURFACE EL: 782.0
 CHECKED BY: 7A

DEPTH ft.	EL	SPT (N)	* LOG	W	LL	PI	GR	FIELD DESCRIPTION
	780							
5		50+	SM	17.6	NP	NP	10	GY SI (FA), TR GV, D
	775							
10		50+	SM	18.4	NP	NP	10	GY SI (FA), TR GV, D
	770							
15		50+	SM	21.9	NP	NP	10	GY SI (FA), TR GV, D
	765							
20		8	SM	43.9	NP	NP	11	GY SI SD (FA), MST
	760							
25		15	SM	17.9	NP	NP	10	GY SI SD w/GV (FA), MST
	755							
30		-	ML	31.7	NP	NP	12	GY SI (FA), W
	750							
35								
1'-5'								

* LAB CLASSIF.

SINGLETON LABORATORIES

SOIL PROFILE: SPLIT-SPOON

SHEET 2 OF 3

PROJECT: KINGSTON FP

FEATURE: DREDGE CELLS

BORING: SS-8 STATION:

RANGE:

SURFACE EL: 782.0

DATE DRILLED: 8/2/94

PREPARED BY: mhd

CHECKED BY: TAL

DEPTH ft.	EL	SPT (N)	* LOG	W	LL	PI	GR	FIELD DESCRIPTION
	745	-	ML	24.4	NP	NP	12	GY SI (FA), MST
40	740	3	ML	23.8	NP	NP	12	GY SI (FA), MST
45	735	9	ML	31.2	NP	NP	12	GY SI (FA), MST
50	730	4	ML	22.3	NP	NP	8	GY CL SI w/LUMPS TN SI CL, MST
55	725	13	ML	18.2	NP	NP	7	MOTT BRN/TN/GY SI CL, MST
60	720	13	ML	18.6	NP	NP	7	MOTT BRN/TN/GY SI CL, MST
65	715	4	SC/ SM	27.7	NP	NP	4	TN SI SD, W
70								
		* LAB CLASSIF.						

SINGLETON LABORATORIES

SOIL PROFILE: SPLIT-SPOON

SHEET 3 OF 3

PROJECT: KINGSTON FP

FEATURE: DREDGE CELLS

BORING: SS-8 STATION:

RANGE:

SURFACE EL: 782.0

DATE DRILLED: 8/2/94

PREPARED BY: mhd

CHECKED BY: TAC

DEPTH ft.	EL	SPT (N)	* LOG	W	LL	PI	GR	FIELD DESCRIPTION
	710	5	SM	24.9	NP	NP	10	GY SD SI (FA), W
75	705	7	SC/ SM	22.7	NP	NP	4	TN SI SD, V MST
80	700							REFUSAL
								GROUND WATER LEVEL = 11' 3"
85	695							
90	690							
95	685							
100	680							
105								
1'-5'			* LAB CLASSIF.					

SINGLETON LABORATORIES

SOIL PROFILE: SPLIT-SPOON

SHEET 1 OF 3

PROJECT: KINGSTON FP
 BORING: SS-9 STATION:
 DATE DRILLED: 8/2/94

FEATURE: DREDGE CELLS
 RANGE:
 PREPARED BY: mhd

SURFACE EL: 795.0
 CHECKED BY: TA

DEPTH ft.	EL	SPT (N)	* LOG	W	LL	PI	GR	FIELD DESCRIPTION
	795							
5	790	20	ML	17.8	NP	NP	12	GY SI (FA), MST
10	785	50+	ML	19.5	NP	NP	12	GY SI (FA), MST
15	780	44	ML	20.1	NP	NP	12	GY SI (FA), MST
20	775	46	ML	18.3	NP	NP	12	GY SI (FA), MST
25	770	6	ML	30.2	NP	NP	12	GY SI (FA), MST
30	765	5	ML	35.2	NP	NP	12	GY SI (FA), W
35	760							
1'-5'			* LAB CLASSIF.					

SINGLETON LABORATORIES

SOIL PROFILE: SPLIT-SPOON

SHEET 2 OF 3

PROJECT: KINGSTON FP
BORING: SS-9 STATION:
DATE DRILLED: 8/2/94

FEATURE: DREDGE CELLS
RANGE:
PREPARED BY: mhd

SURFACE EL: 795.0
CHECKED BY: TAC

DEPTH ft.	EL	SPT (N)	* LOG	W	LL	PI	GR	FIELD DESCRIPTION
	760	2	ML	17.3	NP	NP	12	GY SI (FA), W
40	755	1	ML	31.0	NP	NP	12	GY SI (FA), W
45	750	-	ML	23.0	NP	NP	12	GY SI (FA), D
50	745	-	ML	31.7	NP	NP	12	GY SI (FA), TR GV, W
55	740	5	ML	30.0	NP	NP	12	GY SI (FA), TR GV, W
60	735	6	ML	32.6	NP	NP	12	GY SI (FA), TR GV, W
65	730	-	ML	26.9	NP	NP	8	BRN SI CL W/GY SI (FA), MST
70	725							
1'-5'			*					LAB CLASSIF.

SINGLETON LABORATORIES

SOIL PROFILE: SPLIT-SPOON

SHEET 3 OF 3

PROJECT: KINGSTON FP

FEATURE: DREDGE CELLS

BORING: SS-9 STATION:

RANGE:

SURFACE EL: 795.0

DATE DRILLED: 8/2/94

PREPARED BY: mhd

CHECKED BY: *TAL*

DEPTH ft.	EL	SPT (N)	* LOG	W	LL	PI	GR	FIELD DESCRIPTION
	725	13	CL	19.2	26	8	9	BRN, TN & GY SI CL, TR CL, MST
75	720	19	CL	19.5	26	8	6	ORNG-BRN SI CL, MST
80	715	4	SM	20.5	NP	NP	10	GY SD SI, W
85	710	19	SC/ SM	23.1	NP	NP	4	TN SI SD
90	705	8	SC/ SM	23.1	NP	NP	4	GY SI SD
95	700							REFUSAL GROUND WATER LEVEL = 29'
100	695							
105	690							
1'-5'			* LAB CLASSIF.					

SINGLETON LABORATORIES

SOIL PROFILE: SPLIT-SPOON

SHEET 1 OF 3

PROJECT: KINGSTON FP

FEATURE: DREDGE CELLS

BORING: SS-10 STATION:

RANGE:

SURFACE EL: 797.5

DATE DRILLED: 8/8/94

PREPARED BY: mhd

CHECKED BY: TAL

DEPTH ft.	EL	SPT (N)	* LOG	W	LL	PI	GR	FIELD DESCRIPTION
	795							
5		50+	ML	17.3	NP	NP	12	6Y SI (FA), MST
	790							
10		26	ML	24.7	NP	NP	12	6Y SI (FA), MST
	785							
15		25	ML	15.0	NP	NP	12	6Y SD SI, TR 6V, MST
	780							
20		5	ML	22.1	NP	NP	12	6Y SI (FA), MST
	775							
25		4	ML	27.4	NP	NP	12	6Y SI (FA), MST
	770							
30		14	ML	29.1	NP	NP	12	6Y SI (FA), MST
	765							
35								
1'-5'		* LAB CLASSIF.						

SINGLETON LABORATORIES

SOIL PROFILE: SPLIT-SPOON

SHEET 2 OF 3

PROJECT: KINGSTON FP

FEATURE: DREDGE CELLS

BORING: SS-10 STATION:

RANGE:

DATE DRILLED: 8/8/94

PREPARED BY: mhd

SURFACE EL: 797.5

CHECKED BY: 7A

DEPTH ft.	EL	SPT (N)	* LOG	W	LL	PI	GR	FIELD DESCRIPTION
		18	SM	31.2	NP	NP	11	GY SD SI (FA) w/GV, W
	760							
40		9	ML	31.4	NP	NP	12	GY SI (FA), V MST
	755							
45		-	ML	27.0	NP	NP	12	GY SD SI w/GV (FA), V MST
	750							
50		-	ML	27.2	NP	NP	12	GY SD SI w/GV (FA), V MST
	745							
55		6	SM	30.7	NP	NP	11	GY PGD SI SD (FA), V MST
	740							
60		9	SM	16.4	NP	NP	11	GY PGD SI SD (FA), V MST
	735							
65		25	SM	19.4	NP	NP	11	CRS PGD SI SD w/GV (FA)
	730							
70								

1" = 5'

* LAB CLASSIF.

SINGLETON LABORATORIES

SOIL PROFILE: SPLIT-SPOON

SHEET 3 OF 3

PROJECT: KINGSTON FP

FEATURE: DREDGE CELLS

BORING: SS-10 STATION:

RANGE:

SURFACE EL: 797.5

DATE DRILLED: 8/8/94

PREPARED BY: mhd

CHECKED BY: TAL

DEPTH ft.	EL	SPT (N)	* LOG	W	LL	PI	GR	FIELD DESCRIPTION
		39	ML	19.0	NP	NP	8	BRN SI CL w/PKTS GY SI (FA), V MST
	725							
75		17	CL	19.2	26	8	9	BRN & GY SI CL, V MST
	720							
80		18	CL	16.9	26	8	6	ORNG-BRN SD SI CL, MST
	715							
85		16	ML	18.9	NP	NP	8	GY SI SD, MST
	710							
90		50+	ML	3.7	NP	NP	8	GY SI SD w/GY
	705							
95								
	700							REFUSAL GROUND WATER LEVEL =
100								
	695							
105								
1'-5'		* LAB CLASSIF.						

SINGLETON LABORATORIES

SOIL PROFILE:

SHEET 1 OF 1

PROJECT: KINGSTON FP

FEATURE: DREDGE CELLS

BORING: A-1 STATION:

RANGE:

SURFACE EL: 768.9

DATE DRILLED: 9/17/94

PREPARED BY: mhd

CHECKED BY: TAL

DEPTH ft.	EL	SPT (N)	* LOG	W	LL	PI	GR	FIELD DESCRIPTION
5	765		M _L	38.9	NP	NP	1	GY SI SD (FA)
								DISCONTINUED AT 5'
10	760							
15	755							
20	750							
25	745							
30	740							
35	735							
1'-5'								* LAB CLASSIF.

SINGLETON LABORATORIES

SOIL PROFILE:

SHEET 1 OF 1

PROJECT: KINGSTON FP
 BORING: A-2 STATION:
 DATE DRILLED: 9/17/94

FEATURE: DREDGE CELLS
 RANGE:
 PREPARED BY: mhd

SURFACE EL: 768.9
 CHECKED BY: *TA*

DEPTH ft.	EL	SPT (N)	* LOG	W	LL	PI	GR	FIELD DESCRIPTION
5	765		ML	34.5	NP	NP	1	GY SI SD, FA
								DISCONTINUED AT 5'
10	760							
15	755							
20	750							
25	745							
30	740							
35	735							
1'-5'								* LAB CLASSIF.

SINGLETON LABORATORIES

SOIL PROFILE:

SHEET 1 OF 1

PROJECT: KINGSTON FP

FEATURE: DREDGE CELLS

BORING: A-3 STATION:

RANGE:

SURFACE EL: 768.9

DATE DRILLED: 9/17/94

PREPARED BY: mhd

CHECKED BY: *TAL*

DEPTH ft.	EL	SPT (N)	* LOG	N	LL	PI	GR	FIELD DESCRIPTION
5	765		ML	39.9	NP	NP	2	6Y SI SD, FA
								DISCONTINUED AT 5'
10	760							
15	755							
20	750							
25	745							
30	740							
35	735							
1'-5'								* LAB CLASSIF.

SINGLETON LABORATORIES

SOIL PROFILE:

SHEET 1 OF 1

PROJECT: KINGSTON FP
 BORING: A-4 STATION:
 DATE DRILLED: 9/17/94

FEATURE: DREDGE CELLS
 RANGE:
 PREPARED BY: mhd

SURFACE EL: 768.9
 CHECKED BY: TA ✓

DEPTH ft.	EL	SPT (N)	* LOG	W	LL	PI	GR	FIELD DESCRIPTION
5	765		M	37.1	NP	NP	2	GY SI SD, FA
								DISCONTINUED AT 5'
10	760							
15	755							
20	750							
25	745							
30	740							
35	735							
1'-5'								* LAB CLASSIF.

TASK ASSIGNMENT No. TV-FH-SL001-045
G/C WORK ORDER No. 07-9822-026 AND TVA TAO No. GP-493-398629
KINGSTON FOSSIL PLANT - DREDGE CELLS/CLOSURE
SOIL INVESTIGATION

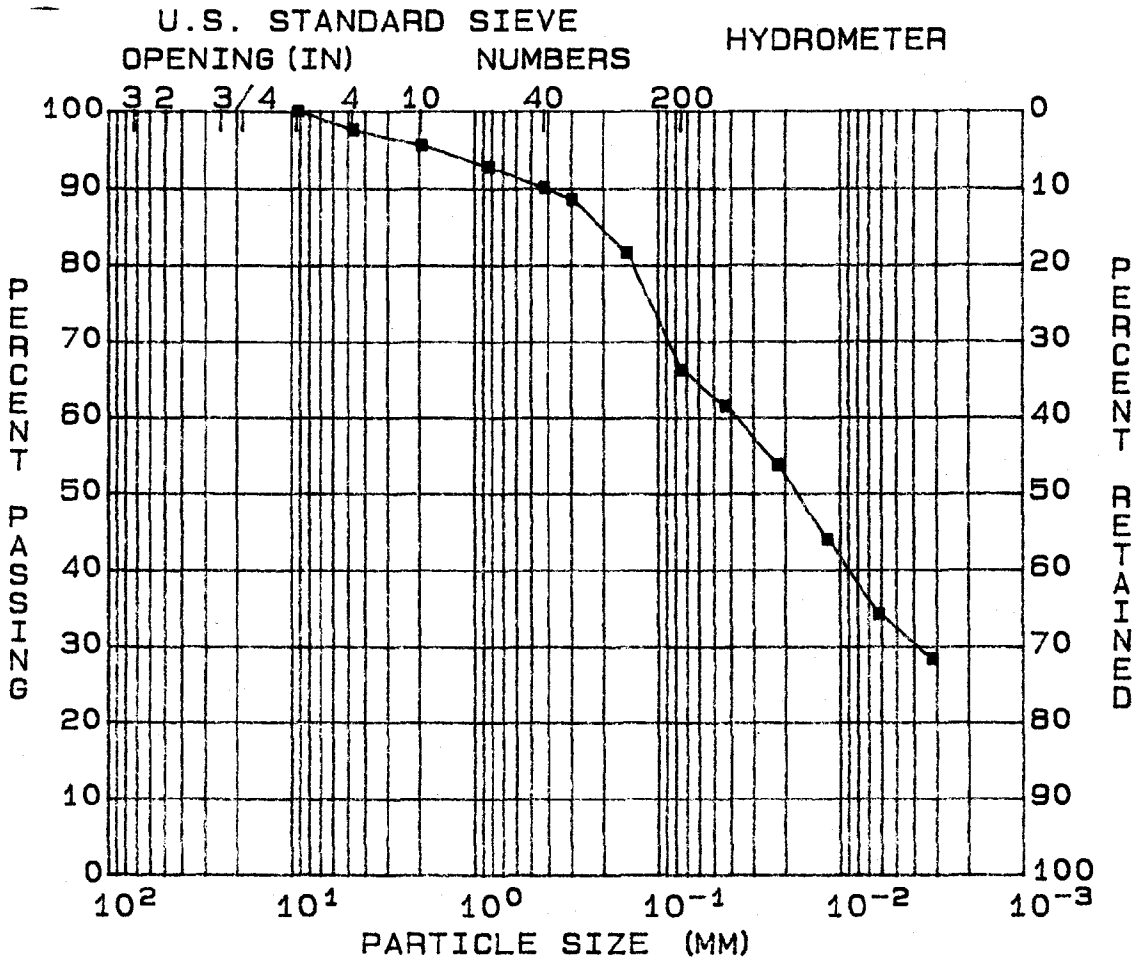
Singleton Laboratories Report 015-672-142A

APPENDIX C

LABORATORY TEST DATA FOR ALL SPLIT-SPOON SAMPLES

**SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS**

PROJECT: TVA/KINGSTON FP	BORING: SS-1 thru SS-10
FEATURE: DREDGE CELLS/CLOSURE	EL. :
STATION:	SAMPLE: Gr 1
RANGE :	DATE : 09-29-94
PART :	



GRAVEL (%) = 2	D10 (MM) = --
SAND (%) = 32	D30 (MM) = --
SILT (%) = 34	D60 (MM) = --
CLAY (%) = 32	COEF UNIF = --

SOIL SYMBOL = CL-ML	L.L. (%) = 26	DENSITY (pcf) = --
MOISTURE (%) =	P.I. (%) = 4	SATURATION (%) = --
SP. GR. = 2.65		VOID RATIO = --

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : SS-1 thru SS-10

El. :
Sample: Gr 1
Part :

FILE : 100
TESTED BY : AEL
Computed By: MHD
Checked By : TAC
Report Date: 09-29-94

Specific Gravity = 2.646
Flask No. = 35.00
Soil Wt.(gm) = 50.00

Temp.(deg.c.) = 22.40
Total Wt.(gm) = 710.23

Moisture Determination

Dry Wt.+Tare(gm)= 370.10

Tare Wt(gm) = 68.30

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 122.90

Dry Wt.+Tare(gm)= 121.50

Tare Wt(gm) = 39.70

Moisture(%) = 1.71

Liquid Limit

Plastic Limit

Blows = 27.00

Wet Wt.(gm) = 21.35

Wet Wt.(gm) = 16.40

Dry Wt.(gm) = 18.33

Dry Wt.(gm) = 13.83

Tare Wt.(gm) = 4.14

Tare Wt.(gm) = 3.73

Liquid Limit(%) = 25.68

Plastic Limit(%)= 21.28

Plasticity Index= 4.40

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 301.8

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO.4	5.1	98.3	4.7500
NO.10	11.4	96.2	2.0000
NO.20	1.5	93.3	0.8500
NO.40	2.9	90.5	0.4250
NO.50	3.7	89.0	0.3000
NO.100	7.3	81.9	0.1500
NO.200	15.2	66.5	0.0750

Air Dry Weight(gm)= 50.00

Corrected Weight(gm)= 49.16

Time	Temp.	Hyd.Rdg	Corr	% Pass	Size(mm)
1 min.	20.3	38.0	6.5	61.7	0.0428
4 min.	20.3	34.0	6.5	53.9	0.0221
15 min.	20.3	29.0	6.5	44.1	0.0118
1 hour	20.3	24.0	6.5	34.3	0.0061
4 hours	20.3	21.0	6.5	28.4	0.0031

Soil Symbol= CL-ML (Inorganic sandy clayey silt)

Gravel(%)= 2

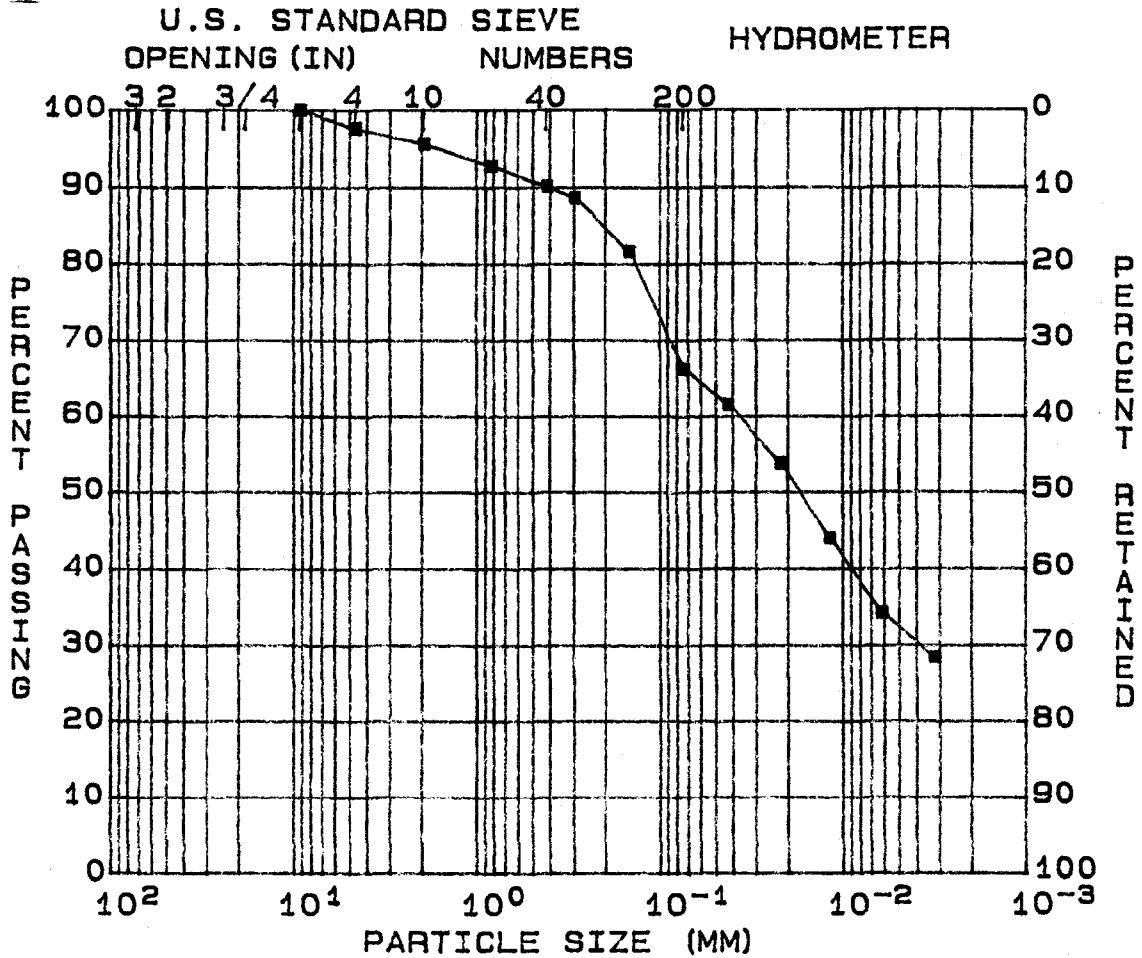
Sand(%)=32

Silt(%)= 34

Clay(%)= 32

**SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS**

PROJECT: TVA/KINGSTON FP	BORING: SS-1 thru SS-10
FEATURE: DREDGE CELLS/CLOSURE	EL. :
STATION:	SAMPLE: Gr 1
RANGE :	DATE : 09-29-94
PART :	



GRAVEL (%) = 2	D10 (MM) = --
SAND (%) = 32	D30 (MM) = --
SILT (%) = 34	D60 (MM) = --
CLAY (%) = 32	COEF UNIF = --

SOIL SYMBOL = CL-ML	L.L. (%) = 25	DENSITY (pcf) = --
MOISTURE (%) =	P.I. (%) = 4	SATURATION (%) = --
SP. GR. = 2.65		VOID RATIO = --

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : SS-1 thru SS-10

El. :
Sample: Gr 1
Part :

FILE : 1
TESTED BY : AEL
Computed By: MHD
Checked By : *TAL*
Report Date: 09-29-94

Specific Gravity = 2.646
Flask No. = 35.00
Soil Wt.(gm) = 50.00

Temp.(deg.c.) = 22.40
Total Wt.(gm) = 710.23

Moisture Determination

Dry Wt.+Tare(gm)= 370.10

Tare Wt(gm) = 68.30

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 122.90

Dry Wt.+Tare(gm)= 121.50

Tare Wt(gm) = 39.70

Moisture(%) = 1.71

Liquid Limit

Plastic Limit

Blows = 27.00

Wet Wt.(gm) = 21.35

Wet Wt.(gm) = 17.00

Dry Wt.(gm) = 18.33

Dry Wt.(gm) = 14.37

Tare Wt.(gm) = 4.14

Tare Wt.(gm) = 3.90

Liquid Limit(%) = 25.35

Plastic Limit(%)= 21.28

Plasticity Index= 4.07

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 301.8

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO.4	5.1	98.3	4.7500
NO.10	11.4	96.2	2.0000
NO.20	1.5	93.3	0.8500
NO.40	2.9	90.5	0.4250
NO.50	3.7	89.0	0.3000
NO.100	7.3	81.9	0.1500
NO.200	15.2	66.5	0.0750

Air Dry Weight(gm)= 50.00

Corrected Weight(gm)= 49.16

Time	Temp.	Hyd.Rdg	Corr	% Pass	Size(mm)
1/2 min.	20.3	38.0	6.5	61.7	0.0428
4 min.	20.3	34.0	6.5	53.9	0.0221
15 min.	20.3	29.0	6.5	44.1	0.0118
1 hour	20.3	24.0	6.5	34.3	0.0061
4 hours	20.3	21.0	6.5	28.4	0.0031

Soil Symbol= CL-ML (Inorganic sandy clayey silt)

Gravel(%)= 2

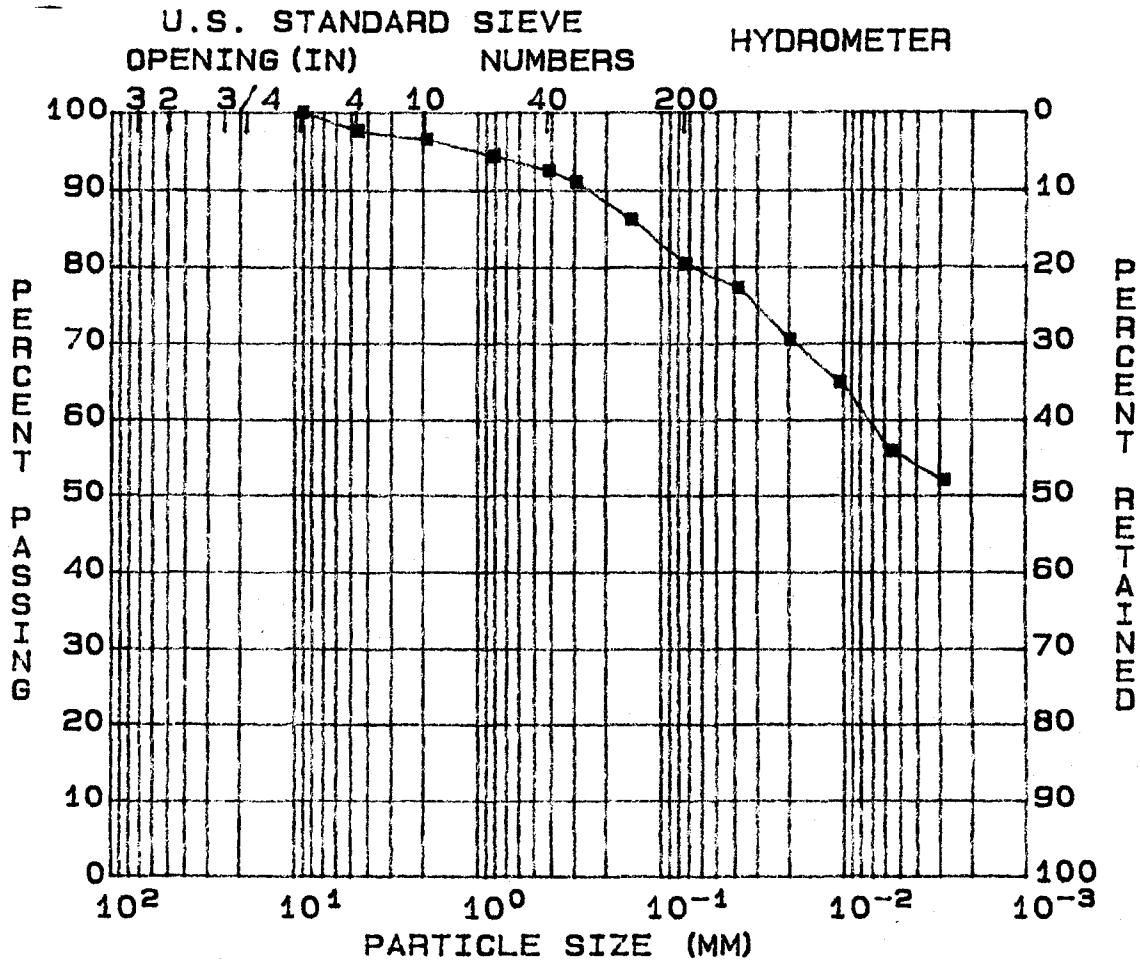
Sand(%)=32

Silt(%)= 34

Clay(%)= 32

**SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS**

PROJECT: TVA/KINGSTON FP BORING: SS-1 thru SS-10
 FEATURE: DREDGE CELLS/CLOSURE EL. :
 STATION: SAMPLE: Gr 2
 RANGE : DATE : 09-29-94
 PART :



GRAVEL (%) = 1	D10 (MM) = ---
SAND (%) = 18	D30 (MM) = ---
SILT (%) = 25	D60 (MM) = ---
CLAY (%) = 56	COEF UNIF = ---

SOIL SYMBOL = MH/CH	L.L. (%) = 59	DENSITY (pcf) = ---
MOISTURE (%) =	P.I. (%) = 28	SATURATION (%) = ---
SP. GR. = 2.73		VOID RATIO = ---

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : SS-1 thru SS-10

El. :
Sample: Gr 2
Part :

FILE : 2
TESTED BY : AEL
Computed By: MHD
Checked By : TAL
Report Date: 09-29-94

Specific Gravity = 2.731

Flask No. = 26.00

Soil Wt. (gm) = 50.00

Temp. (deg. c.) = 22.40

Total Wt. (gm) = 708.73

Moisture Determination

Dry Wt. + Tare (gm) = 380.60

Tare Wt. (gm) = 68.80

Hygroscopic Moisture

Wet Wt. + Tare (gm) = 155.30

Dry Wt. + Tare (gm) = 152.30

Tare Wt. (gm) = 40.40

Moisture (%) = 2.68

Liquid Limit

Blows = 25.00

Plastic Limit

Wet Wt. (gm) = 18.15

Wet Wt. (gm) = 15.60

Dry Wt. (gm) = 14.73

Dry Wt. (gm) = 11.33

Tare Wt. (gm) = 3.73

Tare Wt. (gm) = 4.10

Liquid Limit (%) = 59.06

Plastic Limit (%) = 31.09

Plasticity Index = 27.97

Sieve and Hydrometer Analysis

Total Dry Weight (gm) = 311.8

Sieve	Wt. Ret.	% Pass.	Size (mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO. 4	4.6	98.5	4.7500
NO. 10	8.3	97.3	2.0000
NO. 20	1.1	95.1	0.8500
NO. 40	2.1	93.1	0.4250
NO. 50	2.9	91.5	0.3000
NO. 100	5.4	86.5	0.1500
NO. 200	8.3	80.7	0.0750

Air Dry Weight (gm) = 50.00

Corrected Weight (gm) = 48.69

Time	Temp.	Hyd. Rdg	Corr	% Pass	Size (mm)
1 min.	20.3	46.0	6.5	77.6	0.0389
4 min.	20.3	42.5	6.5	70.7	0.0201
15 min.	20.3	39.6	6.5	65.0	0.0106
1 hour	20.3	35.0	6.5	56.0	0.0055
4 hours	20.3	33.0	6.5	52.0	0.0028

Soil Symbol = MH/CH (Inorganic clayey silt of high plasticity)

Gravel (%) = 1

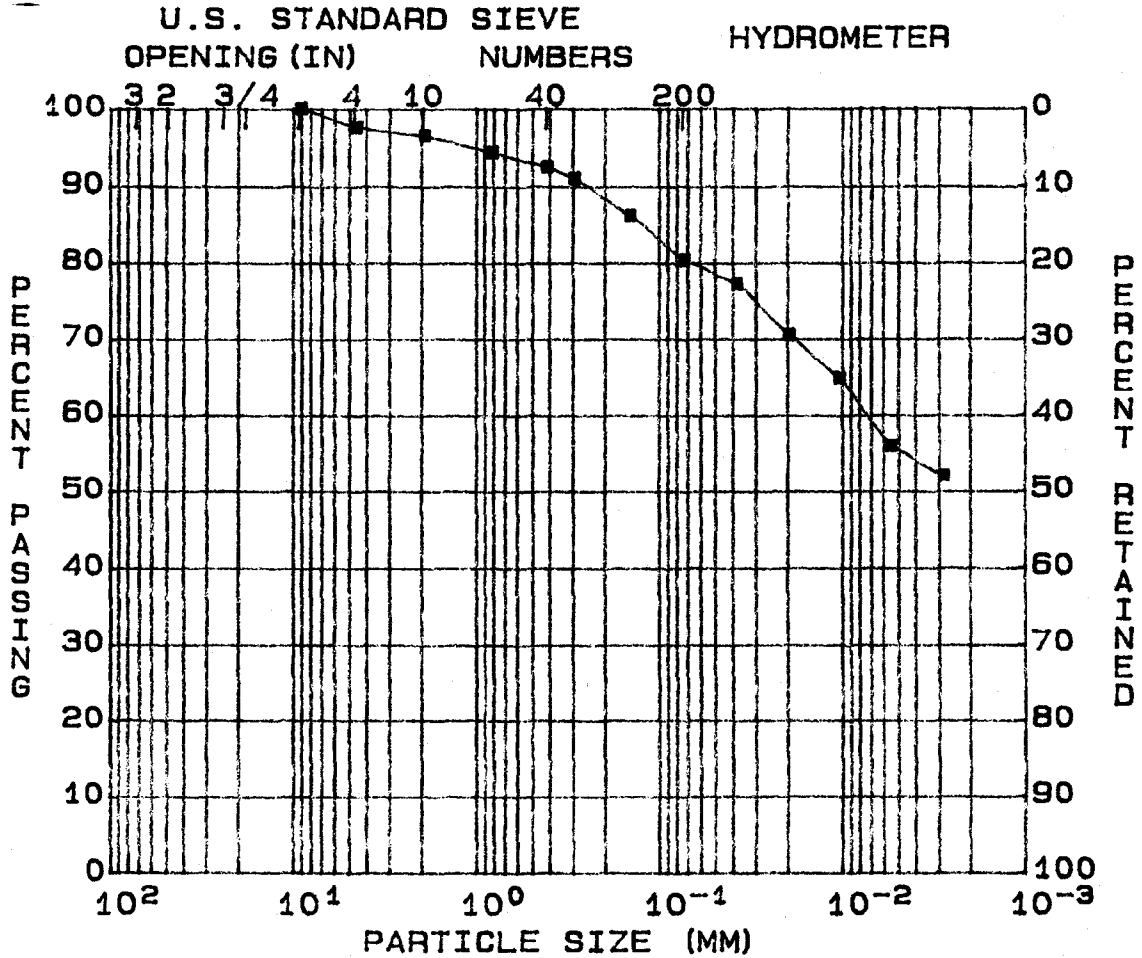
Sand (%) = 18

Silt (%) = 25

Clay (%) = 56

**SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS**

PROJECT: TVA/KINGSTON FP	BORING: SS-1 thru SS-10
FEATURE: DREDGE CELLS/CLOSURE	EL. :
STATION:	SAMPLE: Gr 2
RANGE :	DATE : 09-29-94
PART :	



GRAVEL (%) = 1	D10 (MM) = --
SAND (%) = 18	D30 (MM) = --
SILT (%) = 25	D60 (MM) = --
CLAY (%) = 56	COEF UNIF = --

SOIL SYMBOL = MH/CH	L.L. (%) = 59	DENSITY (pcf) = --
MOISTURE (%) =	P.I. (%) = 27	SATURATION (%) = --
SP. GR. = 2.73		VOID RATIO = --

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : SS-1 thru SS-10

El. :
Sample: Gr 2
Part :

FILE : 3
TESTED BY : AEL
Computed By: MHD
Checked By : *TA*
Report Date: 09-29-94

Specific Gravity = 2.731
Flask No. = 26.00
Soil Wt.(gm) = 50.00

Temp.(deg.c.) = 22.40
Total Wt.(gm) = 708.73

Moisture Determination

Dry Wt.+Tare(gm)= 380.60

Tare Wt(gm) = 68.80

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 155.30

Dry Wt.+Tare(gm)= 152.30

Tare Wt(gm) = 40.40

Moisture(%) = 2.68

Liquid Limit

Blows = 25.00

Plastic Limit

Wet Wt.(gm) = 13.60

Wet Wt.(gm) = 18.15

Dry Wt.(gm) = 10.03

Dry Wt.(gm) = 14.73

Tare Wt.(gm) = 3.93

Tare Wt.(gm) = 3.73

Liquid Limit(%) = 58.52

Plastic Limit(%)= 31.09

Plasticity Index= 27.43

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 311.8

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO.4	4.6	98.5	4.7500
NO.10	8.3	97.3	2.0000
NO.20	1.1	95.1	0.8500
NO.40	2.1	93.1	0.4250
NO.50	2.9	91.5	0.3000
NO.100	5.4	86.5	0.1500
NO.200	8.3	80.7	0.0750

Air Dry Weight(gm)= 50.00

Corrected Weight(gm)= 48.69

Time	Temp.	Hyd.Rdg
1 min.	20.3	46.0
4 min.	20.3	42.5
15 min.	20.3	39.6
1 hour	20.3	35.0
4 hours	20.3	33.0

Corr	% Pass	Size(mm)
6.5	77.6	0.0389
6.5	70.7	0.0201
6.5	65.0	0.0106
6.5	56.0	0.0055
6.5	52.0	0.0028

Soil Symbol= MH/CH (Inorganic clayey silt of high plasticity)

Gravel(%)= 1

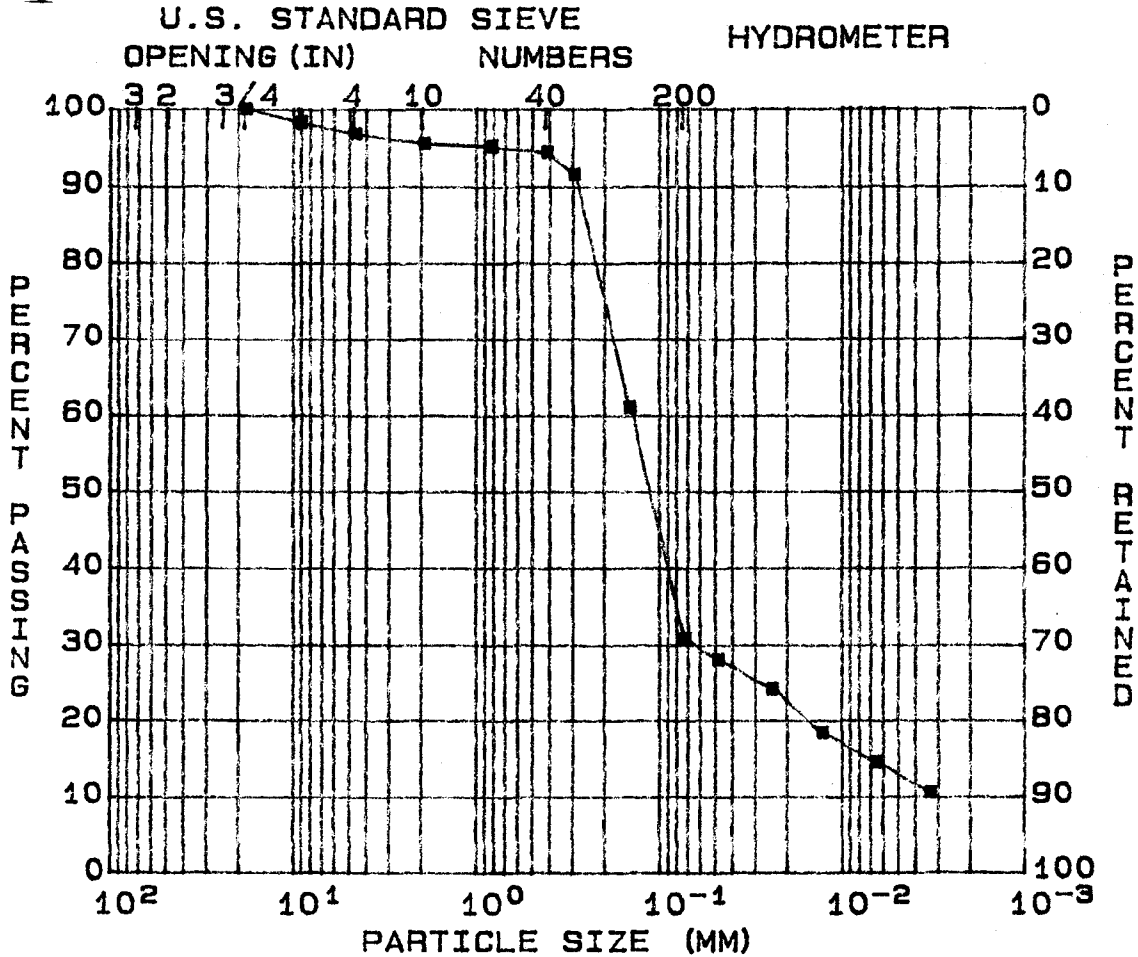
Sand(%)= 18

Silt(%)= 25

Clay(%)= 56

**SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS**

PROJECT: TVA/KINGSTON FP BORING: SS-1 thru SS-10
 FEATURE: DREDGE CELLS/CLOSURE EL. :
 STATION: SAMPLE: Gr 3
 RANGE : DATE : 09-29-94
 PART :



GRAVEL (%) = 3	D10 (MM) = 0.0029
SAND (%) = 66	D30 (MM) = 0.0648
SILT (%) = 18	D60 (MM) = 0.1456
CLAY (%) = 13	COEF UNIF = 49.4

SOIL SYMBOL = SM	L.L. (%) = NP	DENSITY (pcf) = --
MOISTURE (%) =	P.I. (%) = NP	SATURATION (%) = --
SP. GR. = 2.64		VOID RATIO = --

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : SS-1 thru SS-10

El. :
Sample: Gr 3
Part :

FILE : 4
TESTED BY : AEL
Computed By: MHD
Checked By : TA
Report Date: 09-29-94

Specific Gravity = 2.641

Flask No. = 19.00

Soil Wt.(gm) = 50.00

Temp.(deg.c.) = 22.40

Total Wt.(gm) = 712.08

Moisture Determination

Dry Wt.+Tare(gm)= 598.60

Tare Wt(gm) = 108.20

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 142.50

Dry Wt.+Tare(gm)= 141.70

Tare Wt(gm) = 39.70

Moisture(%) = 0.78

Non-Plastic Soil

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 490.4

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	6.1	98.8	9.5300
NO.4	13.6	97.2	4.7500
NO.10	20.0	95.9	2.0000
NO.20	0.2	95.5	0.8500
NO.40	0.6	94.8	0.4250
NO.50	2.1	91.9	0.3000
NO.100	17.9	61.3	0.1500
NO.200	33.6	31.0	0.0750

Air Dry Weight(gm)= 50.00

Corrected Weight(gm)= 49.61

Time	Temp.	Hyd.Rdg	Corr	% Pass	Size(mm)
1 min.	20.3	21.0	6.5	28.1	0.0485
4 min.	20.3	19.0	6.5	24.2	0.0246
15 min.	20.3	16.0	6.5	18.4	0.0129
1 hour	20.3	14.0	6.5	14.5	0.0065
4 hours	20.3	12.0	6.5	10.7	0.0033

Soil Symbol= SM (Silty sand)

D10(mm) = 0.0029

D30(mm)= 0.0648

D60(mm)= 0.1456

Gravel(%)= 3

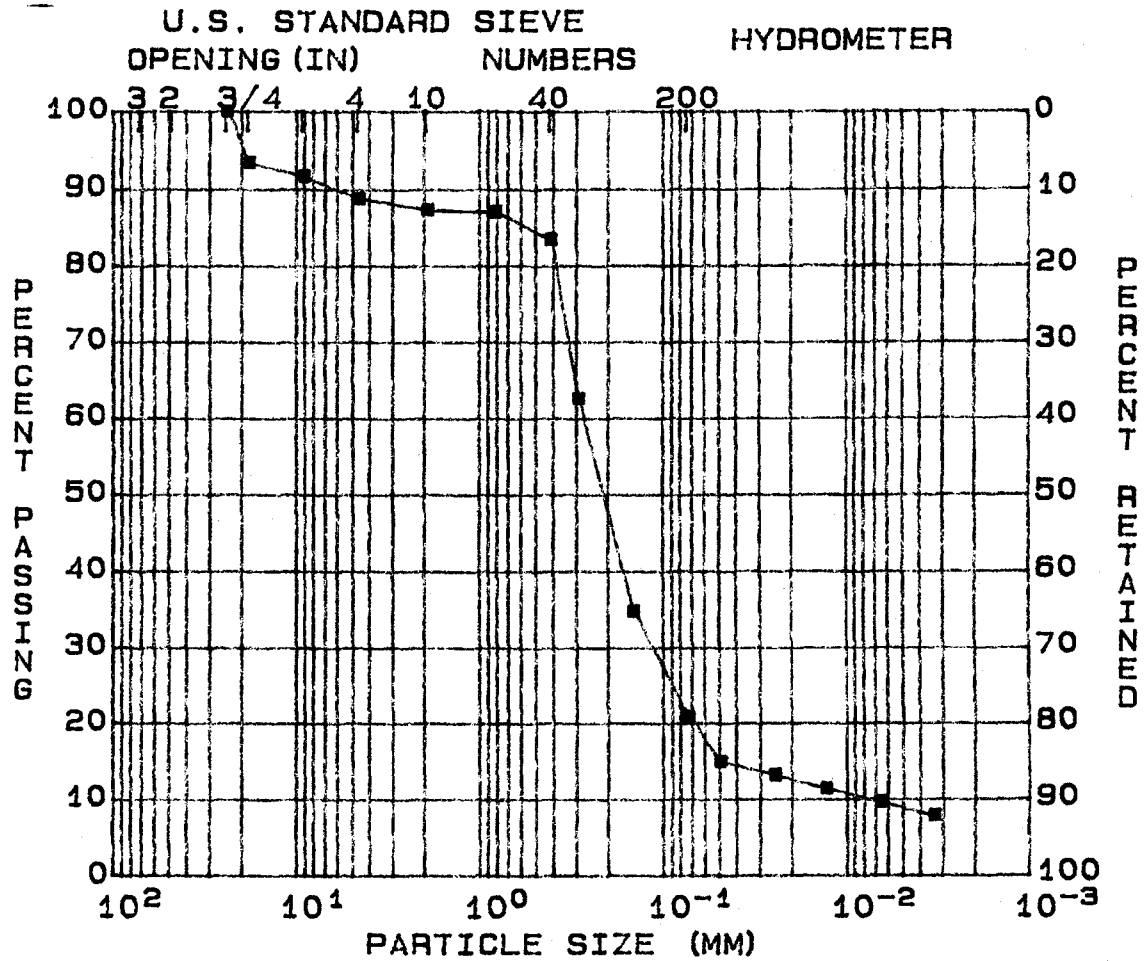
Sand(%)=66

Silt(%)= 18

Clay(%)= 13

**SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS**

PROJECT: TVA/KINGSTON FP BORING: SS-1 thru SS-10
 FEATURE: DREDGE CELLS/CLOSURE EL. :
 STATION: SAMPLE: Gr 4
 RANGE : DATE : 09-29-94
 PART :



GRAVEL (%) = 11	D10 (MM) = 0.0076
SAND (%) = 68	D30 (MM) = 0.1176
SILT (%) = 12	D60 (MM) = 0.2804
CLAY (%) = 9	COEF UNIF = 37.1

SOIL SYMBOL = SC/SM	L.L. (%) = NP	DENSITY (pcf) = --
MOISTURE (%) =	P.I. (%) = NP	SATURATION (%) = --
SP. GR. = 2.66		VOID RATIO = --

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : SS-1 thru SS-10

El. :
Sample: Gr 4
Part :

FILE : 5
TESTED BY : AEL
Computed By: MHD
Checked By : TAL
Report Date: 09-29-94

Specific Gravity = 2.657

Flask No. = 36.00

Soil Wt. (gm) = 50.00

Temp. (deg. c.) = 22.40

Total Wt. (gm) = 710.75

Moisture Determination

Dry Wt. + Tare (gm) = 569.70

Tare Wt (gm) = 105.40

Hygroscopic Moisture

Wet Wt. + Tare (gm) = 121.90

Dry Wt. + Tare (gm) = 121.70

Tare Wt (gm) = 40.10

Moisture (%) = 0.25

Liquid Limit

Blows = 25.00

Wet Wt. (gm) = 13.60

Dry Wt. (gm) = 10.03

Tare Wt. (gm) = 3.93

Liquid Limit (%) = 58.52

Plasticity Index = 27.43

Plastic Limit

Wet Wt. (gm) = 18.15

Dry Wt. (gm) = 14.73

Tare Wt. (gm) = 3.73

Plastic Limit (%) = 31.09

Sieve and Hydrometer Analysis

Total Dry Weight (gm) = 464.3

Sieve	Wt. Ret.	% Pass.	Size (mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	27.7	94.0	19.0500
3/8 in.	36.3	92.2	9.5300
NO. 4	49.9	89.3	4.7500
NO. 10	57.3	87.7	2.0000
NO. 20	0.2	87.3	0.8500
NO. 40	2.3	83.6	0.4250
NO. 50	14.2	62.7	0.3000
NO. 100	30.0	34.9	0.1500
NO. 200	38.0	20.9	0.0750

Air Dry Weight (gm) = 50.00

Corrected Weight (gm) = 49.88

Time	Temp.	Hyd. Rdg	Corr	% Pass	Size (mm)
1 min.	20.3	15.0	6.5	14.9	0.0501
4 min.	20.3	14.0	6.5	13.2	0.0252
15 min.	20.3	13.0	6.5	11.4	0.0131
1 hour	20.3	12.0	6.5	9.7	0.0066
4 hours	20.3	11.0	6.5	7.9	0.0033

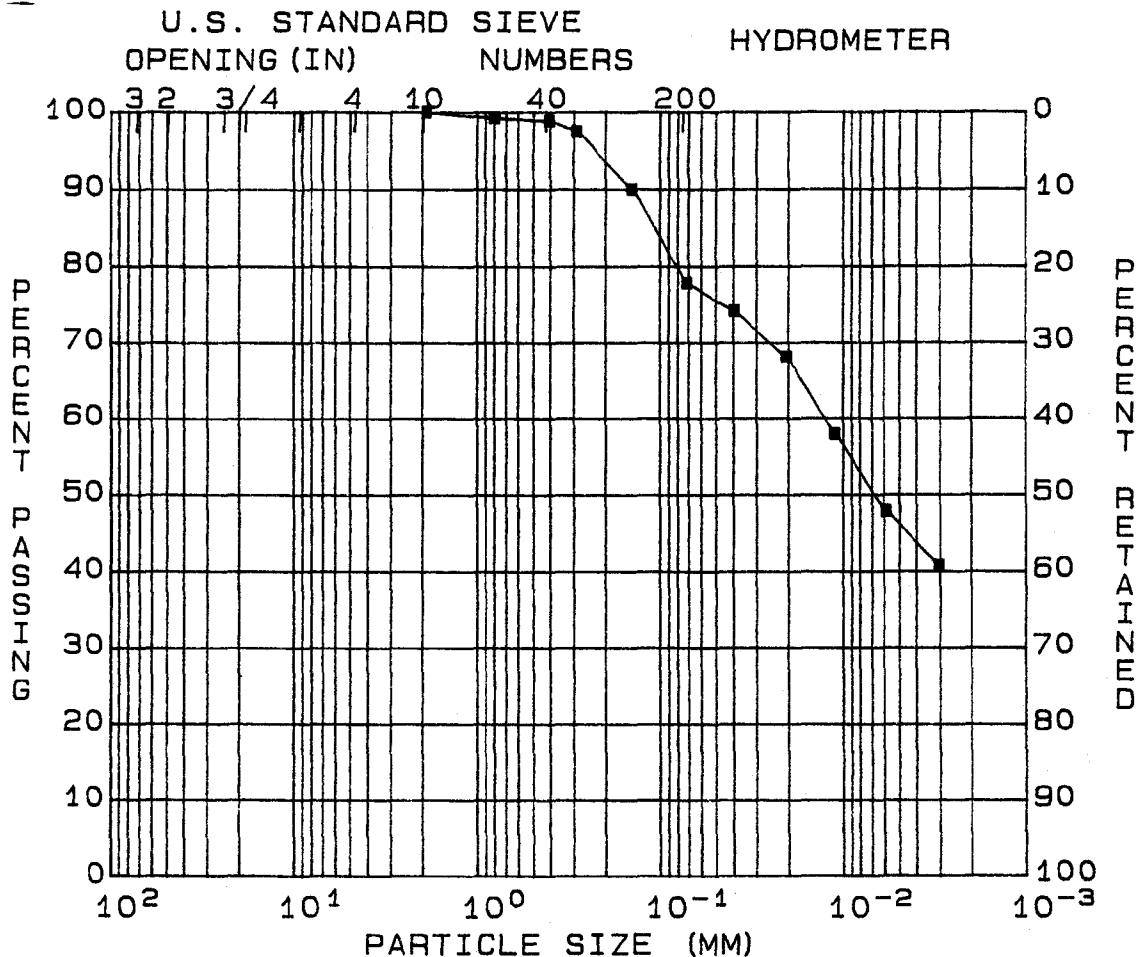
Soil Symbol = SC/SM (Silty/clayey sand)

D10 (mm) = 0.0076 D30 (mm) = 0.1176 D60 (mm) = 0.2804

Gravel (%) = 11 Sand (%) = 68 Silt (%) = 12 Clay (%) = 9

SINGLETON LABORATORIES PARTICLE SIZE ANALYSIS

PROJECT: TVA/KINGSTON FP BORING: SS-1 thru SS-10
 FEATURE: DREDGE CELLS/CLOSURE EL. :
 STATION: SAMPLE: Gr 5
 RANGE : DATE : 09-29-94
 PART :



GRAVEL (%) = 0	D10 (MM) = --
SAND (%) = 22	D30 (MM) = --
SILT (%) = 32	D60 (MM) = --
CLAY (%) = 46	COEF UNIF = --

SOIL SYMBOL = CL	L.L. (%) = 31	DENSITY (pcf) = --
MOISTURE (%) =	P.I. (%) = 12	SATURATION (%) = --
SP. GR. = 2.66		VOID RATIO = --

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : SS-1 thru SS-10

El. :
Sample: Gr 5
Part :

FILE : 6
TESTED BY : AEL
Computed By: MHD
Checked By : *TAL*
Report Date: 09-29-94

Specific Gravity = 2.662
Flask No. = 34.00
Soil Wt. (gm) = 50.00

Temp. (deg. c.) = 22.40
Total Wt. (gm) = 709.80

Moisture Determination

Dry Wt. + Tare (gm) = 548.60

Tare Wt (gm) = 104.10

Hygroscopic Moisture

Wet Wt. + Tare (gm) = 118.80

Dry Wt. + Tare (gm) = 117.10

Tare Wt (gm) = 40.50

Moisture (%) = 2.22

Liquid Limit

Blows = 24.00

Plastic Limit

Wet Wt. (gm) = 18.00

Wet Wt. (gm) = 18.50

Dry Wt. (gm) = 15.75

Dry Wt. (gm) = 15.05

Tare Wt. (gm) = 3.90

Tare Wt. (gm) = 4.00

Liquid Limit (%) = 31.07

Plastic Limit (%) = 18.99

Plasticity Index = 12.08

Sieve and Hydrometer Analysis

Total Dry Weight (gm) = 444.5

Sieve	Wt. Ret.	% Pass.	Size (mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO. 4	0.0	100.0	4.7500
NO. 10	0.0	100.0	2.0000
NO. 20	0.1	99.8	0.8500
NO. 40	0.3	99.4	0.4250
NO. 50	1.0	98.0	0.3000
NO. 100	4.7	90.4	0.1500
NO. 200	10.7	78.1	0.0750

Air Dry Weight (gm) = 50.00

Corrected Weight (gm) = 48.91

Time	Temp.	Hyd. Rdg	Corr	% Pass	Size (mm)
1 min.	20.3	43.0	6.5	74.4	0.0408
4 min.	20.3	40.0	6.5	68.3	0.0209
15 min.	20.3	35.0	6.5	58.1	0.0113
1 hour	20.3	30.0	6.5	47.9	0.0059
4 hours	20.3	26.5	6.5	40.8	0.0030

Soil Symbol = CL (Inorganic sandy clay of medium plasticity)

Gravel (%) = 0

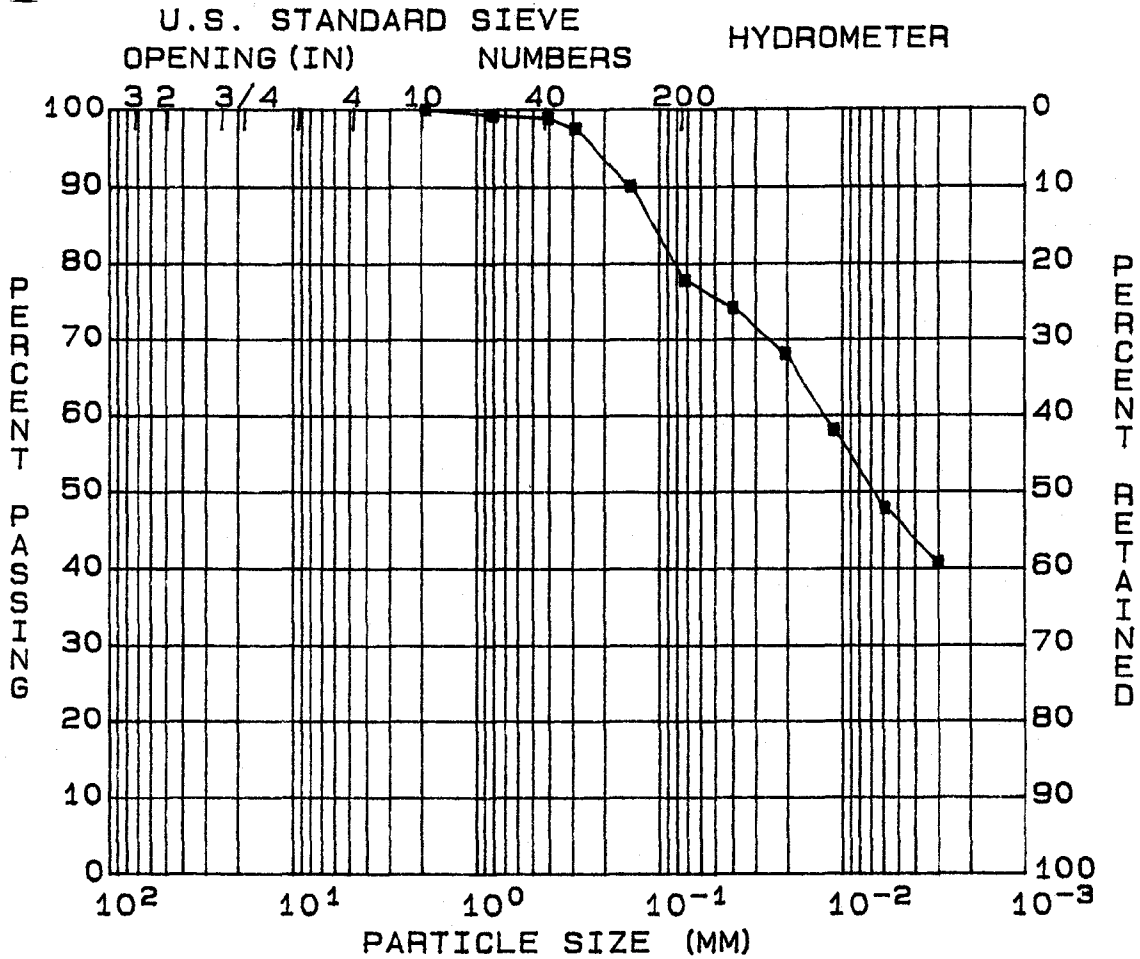
Sand (%) = 22

Silt (%) = 32

Clay (%) = 46

SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS

PROJECT: TVA/KINGSTON FP BORING: SS-1 thru SS-10
 FEATURE: DREDGE CELLS/CLOSURE EL. :
 STATION: SAMPLE: Gr 5
 RANGE : DATE : 09-29-94
 PART : :



GRAVEL (%) = 0	D10 (MM) = --
SAND (%) = 22	D30 (MM) = --
SILT (%) = 32	D60 (MM) = --
CLAY (%) = 46	COEF UNIF = --

SOIL SYMBOL = CL	L.L. (%) = 30	DENSITY (pcf) = --
MOISTURE (%) =	P.I. (%) = 11	SATURATION (%) = --
SP. GR. = 2.66		VOID RATIO = --

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
 Feature: DREDGE CELLS/CLOSURE
 Station:
 Range :
 Boring : SS-1 thru SS-10

El. :
 Sample: Gr 5
 Part :

FILE : 7
 TESTED BY : AEL
 Computed By: MHD
 Checked By : *TAL*
 Report Date: 09-29-94

Specific Gravity = 2.662
 Flask No. = 34.00
 Soil Wt. (gm) = 50.00

Temp. (deg. c.) = 22.40
 Total Wt. (gm) = 709.80

Moisture Determination

Dry Wt.+Tare(gm)= 548.60

Tare Wt(gm) = 104.10

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 118.80

Dry Wt.+Tare(gm)= 117.10

Tare Wt(gm) = 40.50

Moisture(%) = 2.22

Liquid Limit

Blows = 24.00

Plastic Limit

Wet Wt. (gm) = 17.10

Wet Wt. (gm) = 18.00

Dry Wt. (gm) = 13.98

Dry Wt. (gm) = 15.75

Tare Wt. (gm) = 3.93

Tare Wt. (gm) = 3.90

Liquid Limit(%) = 30.89

Plastic Limit(%)= 18.99

Plasticity Index= 11.91

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 444.5

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO.4	0.0	100.0	4.7500
NO.10	0.0	100.0	2.0000
NO.20	0.1	99.8	0.8500
NO.40	0.3	99.4	0.4250
NO.50	1.0	98.0	0.3000
NO.100	4.7	90.4	0.1500
NO.200	10.7	78.1	0.0750

Air Dry Weight(gm)= 50.00

Corrected Weight(gm)= 48.91

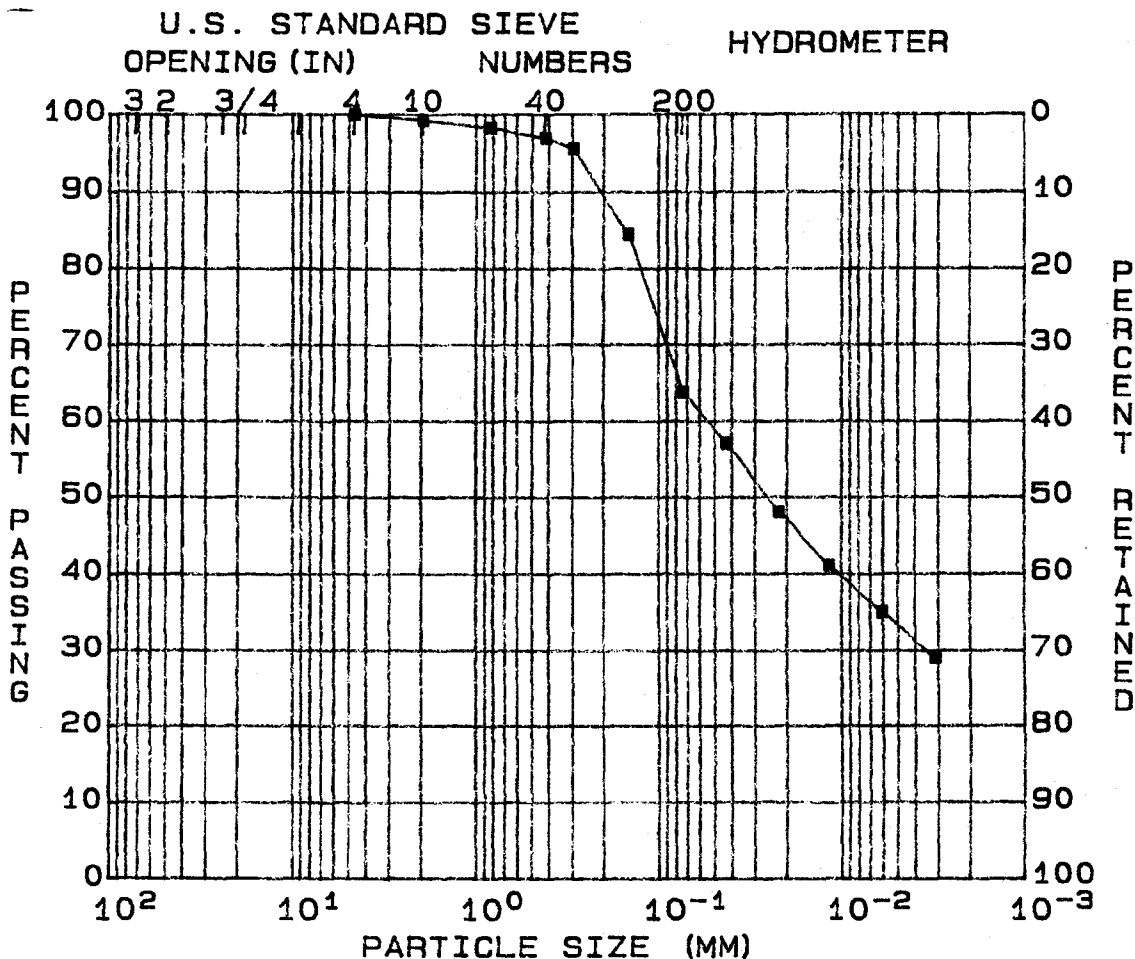
Time	Temp.	Hyd. Rdg	Corr	% Pass	Size(mm)
1 min.	20.3	43.0	6.5	74.4	0.0408
4 min.	20.3	40.0	6.5	68.3	0.0209
15 min.	20.3	35.0	6.5	58.1	0.0113
1 hour	20.3	30.0	6.5	47.9	0.0059
4 hours	20.3	26.5	6.5	40.8	0.0030

Soil Symbol= CL (Inorganic sandy clay of medium plasticity)
 Gravel(%)= 0 Sand(%)=22 Silt(%)= 32

Clay(%)= 46

**SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS**

PROJECT: TVA/KINGSTON FP	BORING: SS-1 thru SS-10
FEATURE: DREDGE CELLS/CLOSURE	EL. :
STATION:	SAMPLE: Gr 6
RANGE :	DATE : 09-29-94
PART :	



GRAVEL (%) = 0	D10 (MM) = --
SAND (%) = 36	D30 (MM) = --
SILT (%) = 30	D60 (MM) = --
CLAY (%) = 34	COEF UNIF = --

SOIL SYMBOL = CL	L.L. (%) = 26	DENSITY (pcf) = --
MOISTURE (%) =	P.I. (%) = 8	SATURATION (%) = --
SP. GR. = 2.71		VOID RATIO = --

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
 Feature: DREDGE CELLS/CLOSURE
 Station:
 Range :
 Boring : SS-1 thru SS-10

El. :
 Sample: Gr 6
 Part :

FILE : 8
 TESTED BY : AEL
 Computed By: MHD
 Checked By : TA
 Report Date: 09-29-94

Specific Gravity = 2.706
 Flask No. = 24.00
 Soil Wt. (gm) = 50.00

Temp. (deg. c.) = 22.40
 Total Wt. (gm) = 707.32

Moisture Determination

Dry Wt. + Tare (gm) = 520.80

Tare Wt. (gm) = 95.10

Hygroscopic Moisture

Wet Wt. + Tare (gm) = 116.00

Dry Wt. + Tare (gm) = 114.60

Tare Wt. (gm) = 39.80

Moisture (%) = 1.87

Liquid Limit

Blows = 25.00

Plastic Limit

Wet Wt. (gm) = 20.70

Wet Wt. (gm) = 20.23

Dry Wt. (gm) = 17.20

Dry Wt. (gm) = 17.75

Tare Wt. (gm) = 3.70

Tare Wt. (gm) = 3.84

Liquid Limit (%) = 25.93

Plastic Limit (%) = 17.83

Plasticity Index = 8.10

Sieve and Hydrometer Analysis

Total Dry Weight (gm) = 425.7

Sieve	Wt. Ret.	% Pass.	Size (mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO. 4	0.0	100.0	4.7500
NO. 10	2.1	99.5	2.0000
NO. 20	0.5	98.5	0.8500
NO. 40	1.2	97.1	0.4250
NO. 50	1.9	95.7	0.3000
NO. 100	7.4	84.5	0.1500
NO. 200	17.6	63.8	0.0750

Air Dry Weight (gm) = 50.00

Corrected Weight (gm) = 49.08

Time	Temp.	Hyd. Rdg	Corr	% Pass	Size (mm)
1 min.	20.3	35.0	6.5	57.1	0.0431
4 min.	20.3	30.5	6.5	48.1	0.0223
15 min.	20.3	27.0	6.5	41.0	0.0118
1 hour	20.3	24.0	6.5	35.0	0.0060
4 hours	20.3	21.0	6.5	29.0	0.0031

Soil Symbol = CL (Inorganic sandy clay of low plasticity)

Gravel (%) = 0

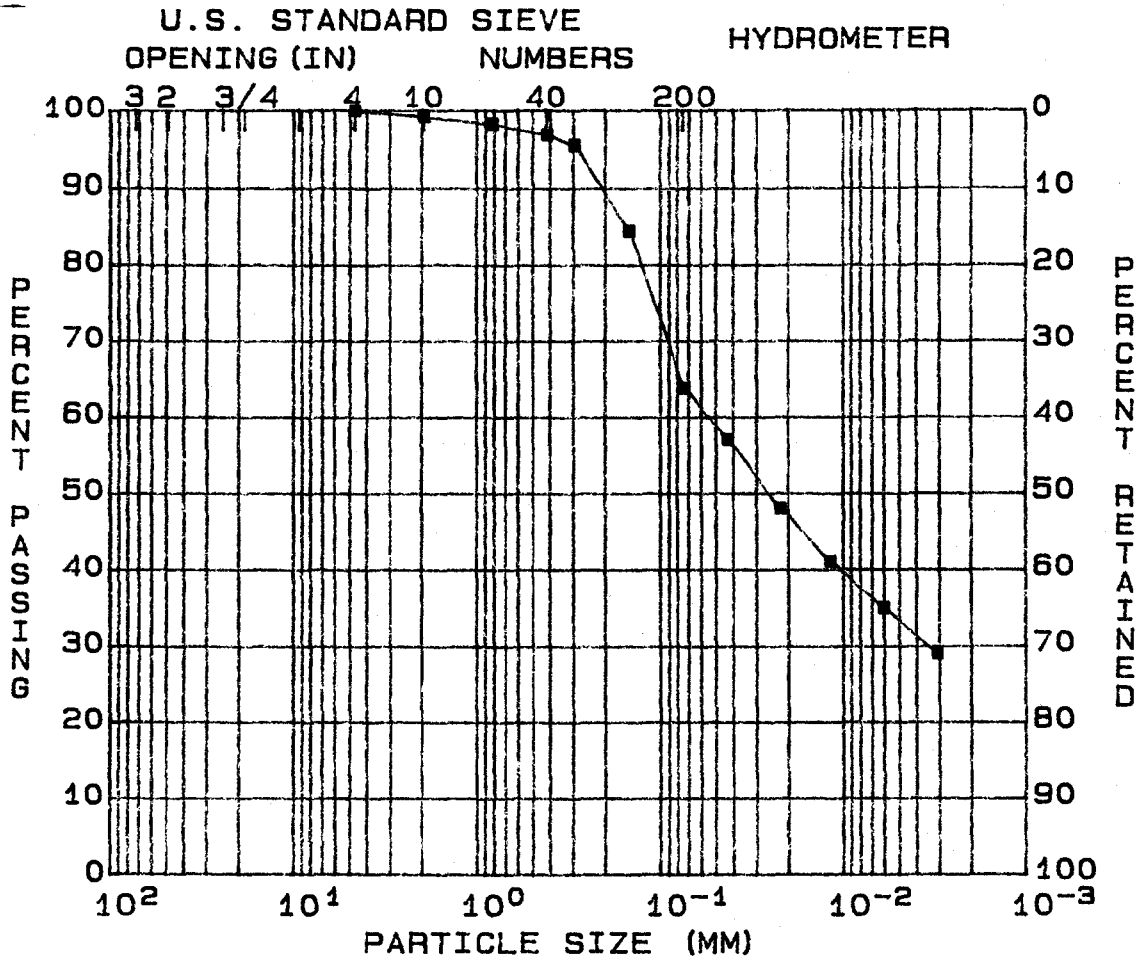
Sand (%) = 36

Silt (%) = 30

Clay (%) = 34

**SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS**

PROJECT: TVA/KINGSTON FP	BORING: SS-1 thru SS-10
FEATURE: DREDGE CELLS/CLOSURE	EL. :
STATION:	SAMPLE: Gr 6
RANGE :	DATE : 09-29-94
PART :	



GRAVEL (%) = 0	D10 (MM) = --
SAND (%) = 36	D30 (MM) = --
SILT (%) = 30	D60 (MM) = --
CLAY (%) = 34	COEF UNIF = --

SOIL SYMBOL = CL	L.L. (%) = 26	DENSITY (pcf) = --
MOISTURE (%) =	P.I. (%) = 8	SATURATION (%) = --
SP. GR. = 2.71		VOID RATIO = --

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
 Feature: DREDGE CELLS/CLOSURE
 Station:
 Range :
 Boring : SS-1 thru SS-10

El. :
 Sample: Gr 6
 Part :

FILE : 9
 TESTED BY : AEL
 Computed By: MHD
 Checked By : TAL
 Report Date: 09-29-94

Specific Gravity = 2.706
 Flask No. = 24.00
 Soil Wt.(gm) = 50.00

Temp.(deg.c.) = 22.40
 Total Wt.(gm) = 707.32

Moisture Determination
 Dry Wt.+Tare(gm)= 520.80

Tare Wt(gm) = 95.10

Hygroscopic Moisture
 Wet Wt.+Tare(gm)= 116.00
 Tare Wt(gm) = 39.80

Dry Wt.+Tare(gm)= 114.60
 Moisture(%) = 1.87

Liquid Limit
 Blows = 25.00
 Wet Wt.(gm) = 17.50
 Dry Wt.(gm) = 14.70
 Tare Wt.(gm) = 3.80
 Liquid Limit(%) = 25.69
 Plasticity Index= 7.86

Plastic Limit
 Wet Wt.(gm) = 20.23
 Dry Wt.(gm) = 17.75
 Tare Wt.(gm) = 3.84

Plastic Limit(%)= 17.83

Sieve and Hydrometer Analysis
 Total Dry Weight(gm) = 425.7

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO. 4	0.0	100.0	4.7500
NO. 10	2.1	99.5	2.0000
NO. 20	0.5	98.5	0.8500
NO. 40	1.2	97.1	0.4250
NO. 50	1.9	95.7	0.3000
NO. 100	7.4	84.5	0.1500
NO. 200	17.6	63.8	0.0750

Air Dry Weight(gm)= 50.00

Corrected Weight(gm)= 49.08

Time	Temp.	Hyd.Rdg
1 min.	20.3	35.0
4 min.	20.3	30.5
15 min.	20.3	27.0
1 hour	20.3	24.0
4 hours	20.3	21.0

Corr	% Pass	Size(mm)
6.5	57.1	0.0431
6.5	48.1	0.0223
6.5	41.0	0.0118
6.5	35.0	0.0060
6.5	29.0	0.0031

Soil Symbol= CL (Inorganic sandy clay of low plasticity)

Gravel(%)= 0

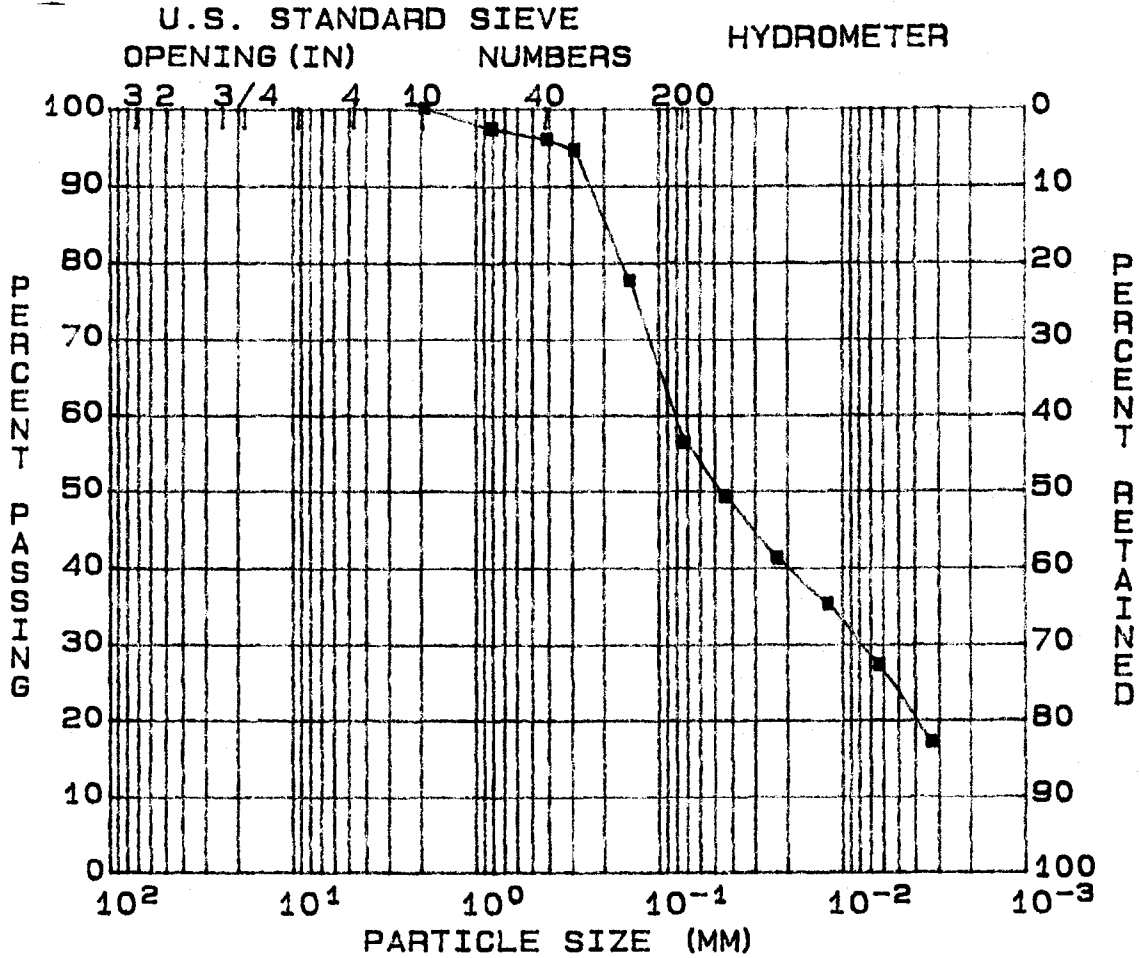
Sand(%)= 36

Silt(%)= 30

Clay(%)= 34

**SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS**

PROJECT: TVA/KINGSTON FP	BORING: SS-1 thru SS-10
FEATURE: DREDGE CELLS/CLOSURE	EL. :
STATION:	SAMPLE: Gr 7
RANGE :	DATE : 09-29-94
PART :	



GRAVEL (%) = 0	D10 (MM) = --
SAND (%) = 43	D30 (MM) = --
SILT (%) = 33	D60 (MM) = --
CLAY (%) = 24	COEF UNIF = --

SOIL SYMBOL = ML	L.L. (%) = NP	DENSITY (pcf) = --
MOISTURE (%) =	P.I. (%) = NP	SATURATION (%) = --
SP. GR. = 2.65		VOID RATIO = --

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
 Feature: DREDGE CELLS/CLOSURE
 Station:
 Range :
 Boring : SS-1 thru SS-10

El. :
 Sample: Gr 7
 Part :

FILE : 10
 TESTED BY : AEL
 Computed By: MHD
 Checked By : TAC
 Report Date: 09-29-94

Specific Gravity = 2.655
 Flask No. = 31.00 Temp.(deg.c.) = 22.40
 Soil Wt.(gm) = 50.00 Total Wt.(gm) = 709.80

Moisture Determination

Dry Wt.+Tare(gm)= 460.50 Tare Wt(gm) = 104.30

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 143.80 Dry Wt.+Tare(gm)= 142.20
 Tare Wt(gm) = 39.90 Moisture(%) = 1.56

Non-Plastic Soil

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 356.2

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO.4	0.0	100.0	4.7500
NO.10	0.0	100.0	2.0000
NO.20	0.9	98.2	0.8500
NO.40	1.6	96.7	0.4250
NO.50	2.3	95.3	0.3000
NO.100	10.7	78.3	0.1500
NO.200	21.2	56.9	0.0750

Air Dry Weight(gm)= 50.00

Corrected Weight(gm)= 49.23

Time	Temp.	Hyd.Rdg	Corr	% Pass	Size(mm)
1 min.	20.3	31.0	6.5	49.7	0.0451
4 min.	20.3	27.0	6.5	41.6	0.0232
15 min.	20.3	24.0	6.5	35.5	0.0122
1 hour	20.3	20.0	6.5	27.4	0.0063
4 hours	20.3	15.0	6.5	17.2	0.0032

Soil Symbol= ML (Inorganic sandy silt of low plasticity)

Gravel(%)= 0

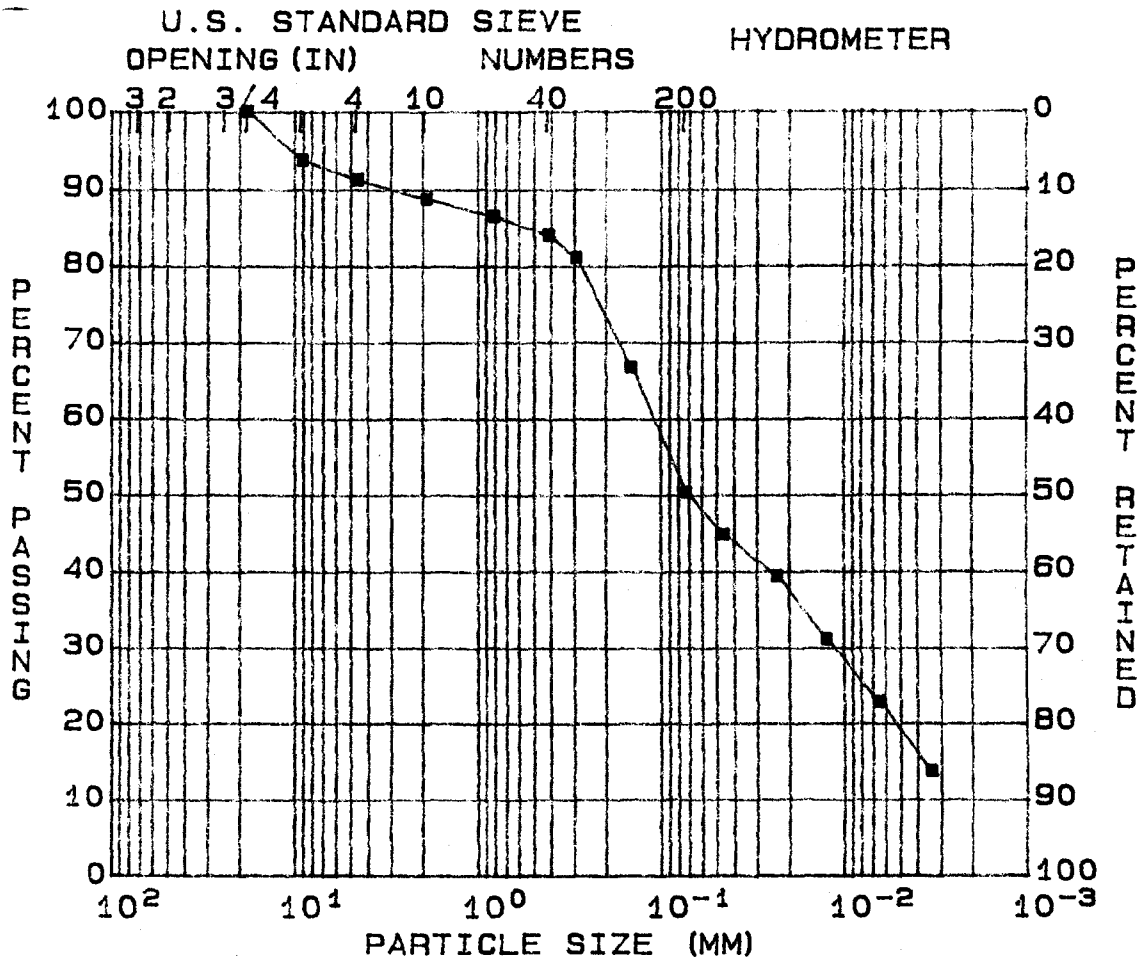
Sand(%)=43

Silt(%)= 33

Clay(%)= 24

**SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS**

PROJECT: TVA/KINGSTON FP BORING: SS-1 thru SS-10
 FEATURE: DREDGE CELLS/CLOSURE EL. :
 STATION: SAMPLE: Gr 8
 RANGE : DATE : 09-29-94
 PART : :



GRAVEL (%) = 8	D10 (MM) = --
SAND (%) = 41	D30 (MM) = --
SILT (%) = 31	D60 (MM) = --
CLAY (%) = 20	COEF UNIF = --

SOIL SYMBOL = ML	L.L. (%) = NP	DENSITY (pcf) = --
MOISTURE (%) =	P.I. (%) = NP	SATURATION (%) = --
SP. GR. = 2.56		VOID RATIO = --

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
 Feature: DREDGE CELLS/CLOSURE
 Station:
 Range :
 Boring : SS-1 thru SS-10

El. :
 Sample: Gr 8
 Part :

FILE : 11
 TESTED BY : AEL
 Computed By: MHD
 Checked By : TA
 Report Date: 09-29-94

Specific Gravity = 2.559

Flask No. = 28.00

Soil Wt.(gm) = 50.00

Temp.(deg.c.) = 22.40

Total Wt.(gm) = 700.30

Moisture Determination

Dry Wt.+Tare(gm)= 651.00

Tare Wt(gm) = 107.60

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 146.00

Dry Wt.+Tare(gm)= 145.00

Tare Wt(gm) = 38.10

Moisture(%) = 0.94

Non-Plastic Soil

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 543.4

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	29.8	94.5	9.5300
NO. 4	44.0	91.9	4.7500
NO. 10	58.2	89.3	2.0000
NO. 20	1.3	86.9	0.8500
NO. 40	2.7	84.4	0.4250
NO. 50	4.3	81.5	0.3000
NO. 100	12.3	67.1	0.1500
NO. 200	21.4	50.7	0.0750

Air Dry Weight(gm)= 50.00

Corrected Weight(gm)= 49.54

Time	Temp.	Hyd.Rdg	Corr	% Pass	Size(mm)
1 min.	20.3	31.0	6.5	45.1	0.0465
4 min.	20.3	28.0	6.5	39.6	0.0237
15 min.	20.3	23.5	6.5	31.3	0.0126
1 hour	20.3	19.0	6.5	23.0	0.0065
4 hours	20.3	14.0	6.5	13.8	0.0034

Soil Symbol= ML (Inorganic sandy silt of low plasticity)

Gravel(%)= 8

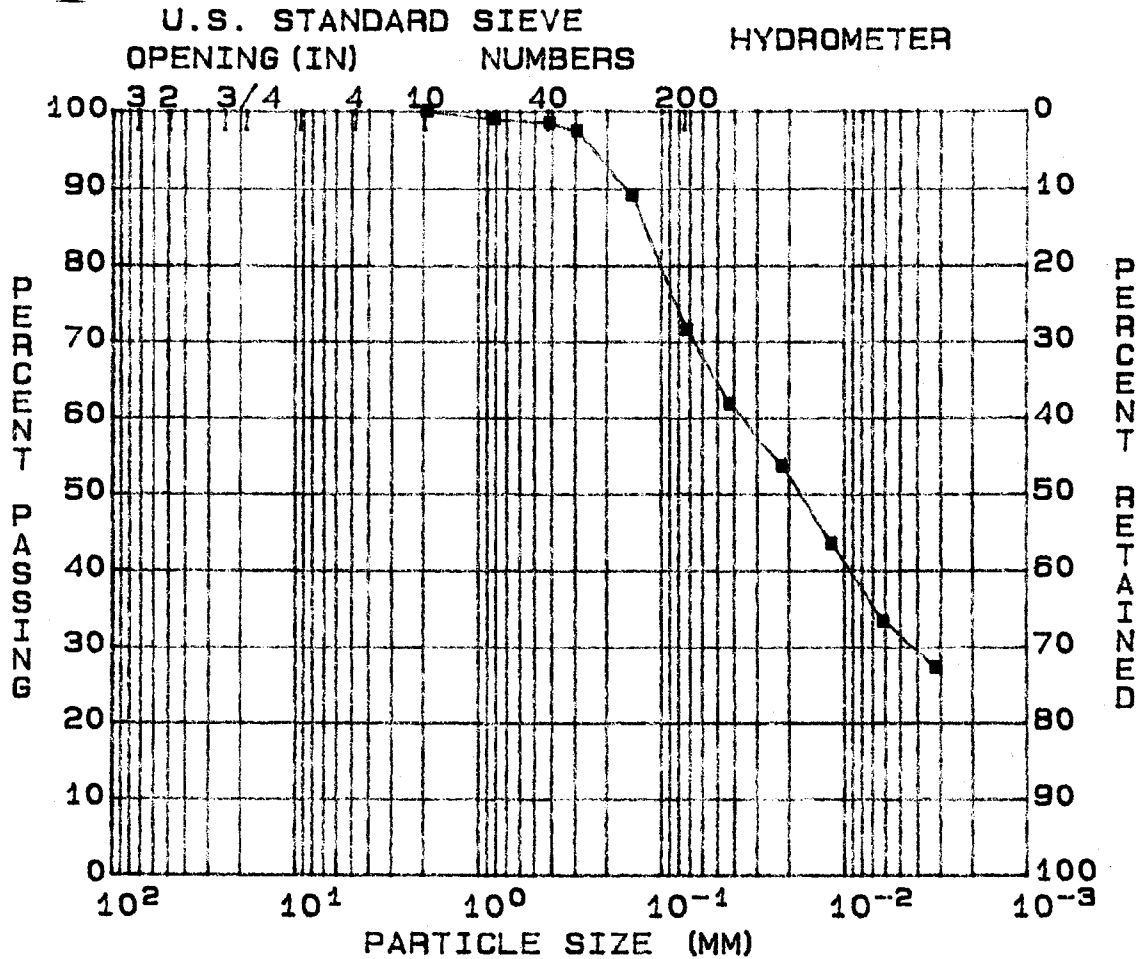
Sand(%)=41

Silt(%)= 31

Clay(%)= 20

**SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS**

PROJECT: TVA/KINGSTON FP	BORING: SS-1 thru SS-10
FEATURE: DREDGE CELLS/CLOSURE	EL. :
STATION:	SAMPLE: Gr 9
RANGE :	DATE : 09-29-94
PART :	



GRAVEL (%) = 0	D10 (MM) = --
SAND (%) = 28	D30 (MM) = --
SILT (%) = 40	D60 (MM) = --
CLAY (%) = 32	COEF UNIF = --

SOIL SYMBOL = CL	L.L. (%) = 26	DENSITY (pcf) = --
MOISTURE (%) =	P.I. (%) = 8	SATURATION (%) = --
SP. GR. = 2.64		VOID RATIO = --

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : SS-1 thru SS-10

El. :
Sample: Gr 9
Part :

FILE : 12
TESTED BY : AEL
Computed By: MHD
Checked By : TA
Report Date: 09-29-94

Specific Gravity = 2.641
Flask No. = 17.00
Soil Wt. (gm) = 50.00

Temp. (deg. c.) = 22.40
Total Wt. (gm) = 705.32

Moisture Determination

Dry Wt. + Tare (gm) = 586.30

Tare Wt (gm) = 96.50

Hygroscopic Moisture

Wet Wt. + Tare (gm) = 140.80

Dry Wt. + Tare (gm) = 139.20

Tare Wt (gm) = 39.20

Moisture (%) = 1.60

Liquid Limit

Blows = 24.00

Plastic Limit

Wet Wt. (gm) = 20.14

Wet Wt. (gm) = 18.90

Dry Wt. (gm) = 17.68

Dry Wt. (gm) = 15.80

Tare Wt. (gm) = 4.03

Tare Wt. (gm) = 4.00

Liquid Limit (%) = 26.14

Plastic Limit (%) = 18.02

Plasticity Index = 8.12

Sieve and Hydrometer Analysis

Total Dry Weight (gm) = 489.8

Sieve	Wt. Ret.	% Pass.	Size (mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO. 4	0.0	100.0	4.7500
NO. 10	0.0	100.0	2.0000
NO. 20	0.1	99.8	0.8500
NO. 40	0.4	99.2	0.4250
NO. 50	1.0	98.0	0.3000
NO. 100	5.1	89.6	0.1500
NO. 200	13.8	72.0	0.0750

Air Dry Weight (gm) = 50.00

Corrected Weight (gm) = 49.21

Time	Temp.	Hyd. Rdg
1 min.	20.3	37.0
4 min.	20.3	33.0
15 min.	20.3	28.0
1 hour	20.3	23.0
4 hours	20.3	20.0

Corr	% Pass	Size (mm)
6.5	62.1	0.0432
6.5	54.0	0.0223
6.5	43.8	0.0119
6.5	33.6	0.0062
6.5	27.5	0.0032

Soil Symbol = CL (Inorganic sandy clay of low plasticity)

Gravel (%) = 0

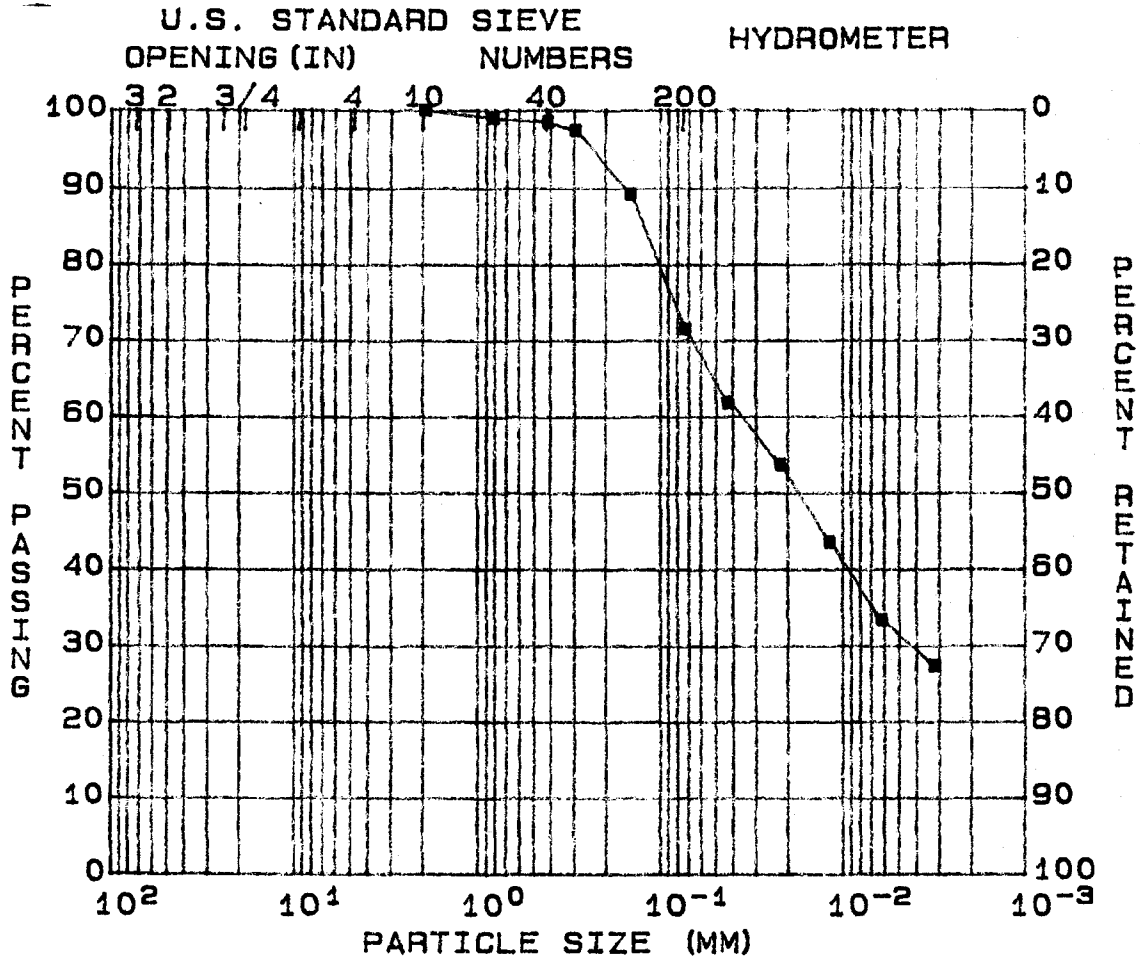
Sand (%) = 28

Silt (%) = 40

Clay (%) = 32

**SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS**

PROJECT: TVA/KINGSTON FP	BORING: SS-1 thru SS-10
FEATURE: DREDGE CELLS/CLOSURE	EL. :
STATION:	SAMPLE: Gr 9
RANGE :	DATE : 09-29-94
PART :	



GRAVEL (%) = 0	D10 (MM) = --
SAND (%) = 28	D30 (MM) = --
SILT (%) = 40	D60 (MM) = --
CLAY (%) = 32	COEF UNIF = --

SOIL SYMBOL = CL	L.L. (%) = 26	DENSITY (pcf) = --
MOISTURE (%) =	P.I. (%) = 8	SATURATION (%) = --
SP. GR. = 2.64		VOID RATIO = --

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
 Feature: DREDGE CELLS/CLOSURE
 Station:
 Range :
 Boring : SS-1 thru SS-10

El. :
 Sample: Gr 9
 Part :

FILE : 13
 TESTED BY : AEL
 Computed By: MHD
 Checked By : TA
 Report Date: 09-29-94

Specific Gravity = 2.641
 Flask No. = 17.00
 Soil Wt.(gm) = 50.00

Temp.(deg.c.) = 22.40
 Total Wt.(gm) = 705.32

Moisture Determination

Dry Wt.+Tare(gm)= 586.30

Tare Wt(gm) = 96.50

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 140.80

Dry Wt.+Tare(gm)= 139.20

Tare Wt(gm) = 39.20

Moisture(%) = 1.60

Liquid Limit

Blows = 24.00

Plastic Limit

Wet Wt.(gm) = 20.14

Wet Wt.(gm) = 20.00

Dry Wt.(gm) = 17.68

Dry Wt.(gm) = 16.68

Tare Wt.(gm) = 4.03

Tare Wt.(gm) = 3.90

Liquid Limit(%) = 25.85

Plastic Limit(%)= 18.02

Plasticity Index= 7.83

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 489.8

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO. 4	0.0	100.0	4.7500
NO. 10	0.0	100.0	2.0000
NO. 20	0.1	99.8	0.8500
NO. 40	0.4	99.2	0.4250
NO. 50	1.0	98.0	0.3000
NO. 100	5.1	89.6	0.1500
NO. 200	13.8	72.0	0.0750

Air Dry Weight(gm)= 50.00

Corrected Weight(gm)= 49.21

Time	Temp.	Hyd.Rdg
1 min.	20.3	37.0
4 min.	20.3	33.0
15 min.	20.3	28.0
1 hour	20.3	23.0
4 hours	20.3	20.0

Corr	% Pass	Size(mm)
6.5	62.1	0.0432
6.5	54.0	0.0223
6.5	43.8	0.0119
6.5	33.6	0.0062
6.5	27.5	0.0032

Soil Symbol= CL (Inorganic sandy clay of low plasticity)

Gravel(%)= 0

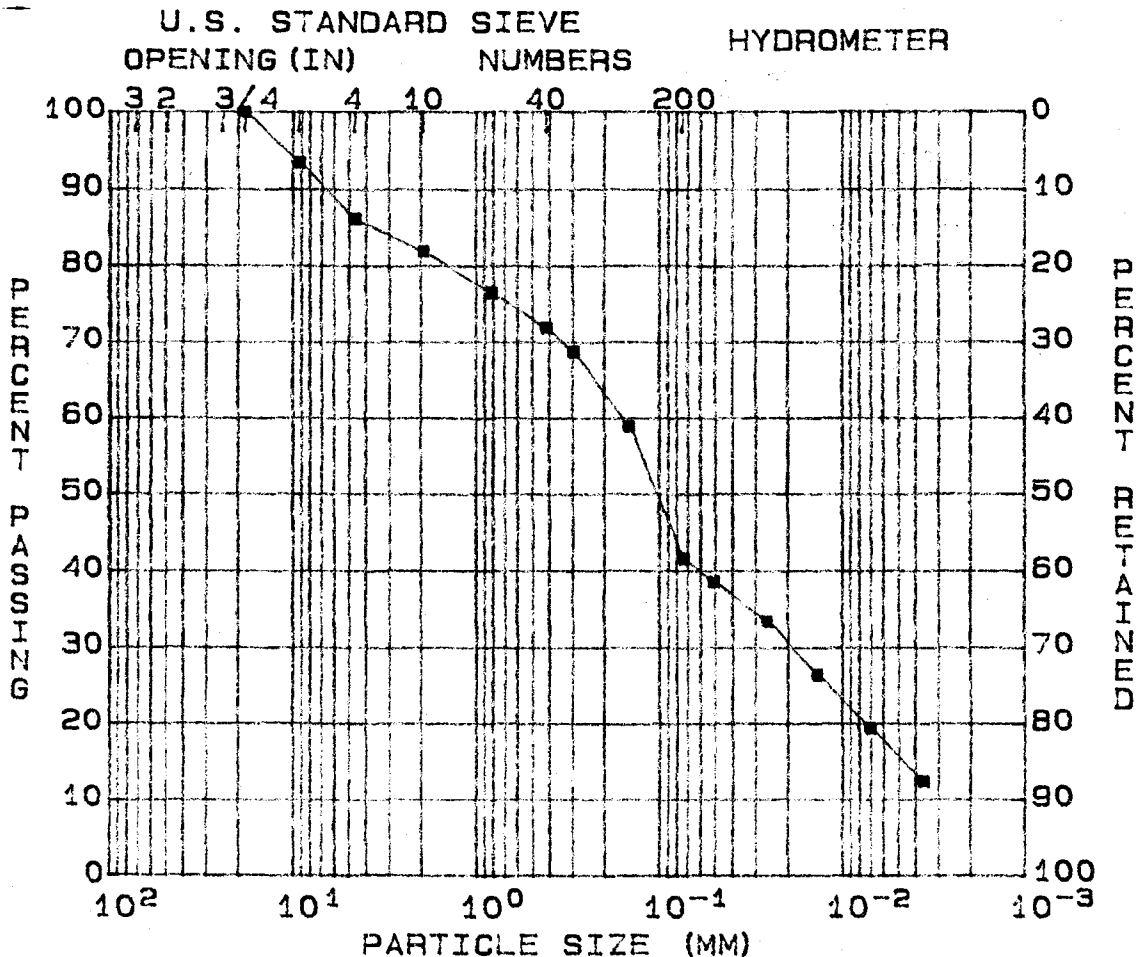
Sand(%)=28

Silt(%)= 40

Clay(%)= 32

**SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS**

PROJECT: TVA/KINGSTON FP BORING: SS-1 thru SS-10
 FEATURE: DREDGE CELLS/CLOSURE EL. :
 STATION: SAMPLE: Gr 10
 RANGE : DATE : 09-29-94
 PART :



GRAVEL (%) = 13	D10 (MM) = 0.0029
SAND (%) = 45	D30 (MM) = 0.0185
SILT (%) = 26	D60 (MM) = 0.1552
CLAY (%) = 16	COEF UNIF=54.2

SOIL SYMBOL = SM	L.L. (%) = NP	DENSITY (pcf) = --
MOISTURE (%) =	P.I. (%) = NP	SATURATION (%) = --
SP. GR. = 2.40		VOID RATIO = --

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
 Feature: DREDGE CELLS/CLOSURE
 Station:
 Range :
 Boring : SS-1 thru SS-10

El. :
 Sample: Gr 10
 Part :

FILE : 14
 TESTED BY : AEL
 Computed By: MHD
 Checked By : TA
 Report Date: 09-29-94

Specific Gravity = 2.397
 Flask No. = 27.00
 Soil Wt.(gm) = 50.00
 Temp.(deg.c.) = 22.40
 Total Wt.(gm) = 708.97

Moisture Determination

Dry Wt.+Tare(gm)= 660.10
 Tare Wt(gm) = 97.80

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 146.70
 Tare Wt(gm) = 39.50
 Dry Wt.+Tare(gm)= 146.10
 Moisture(%) = 0.56

Non-Plastic Soil

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 562.3

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	31.7	94.4	9.5300
NO.4	72.5	87.1	4.7500
NO.10	96.5	82.8	2.0000
NO.20	3.3	77.3	0.8500
NO.40	6.1	72.7	0.4250
NO.50	8.0	69.5	0.3000
NO.100	14.0	59.5	0.1500
NO.200	24.4	42.2	0.0750

Air Dry Weight(gm)= 50.00

Corrected Weight(gm)= 49.72

Time	Temp.	Hyd.Rdg	Corr	% Pass	Size(mm)
1 min.	19.7	27.0	5.0	39.2	0.0509
4 min.	19.7	24.0	5.0	33.8	0.0260
15 min.	19.7	20.0	5.0	26.7	0.0138
1 hour	19.7	16.0	5.0	19.6	0.0071
4 hours	19.8	12.0	5.0	12.5	0.0036

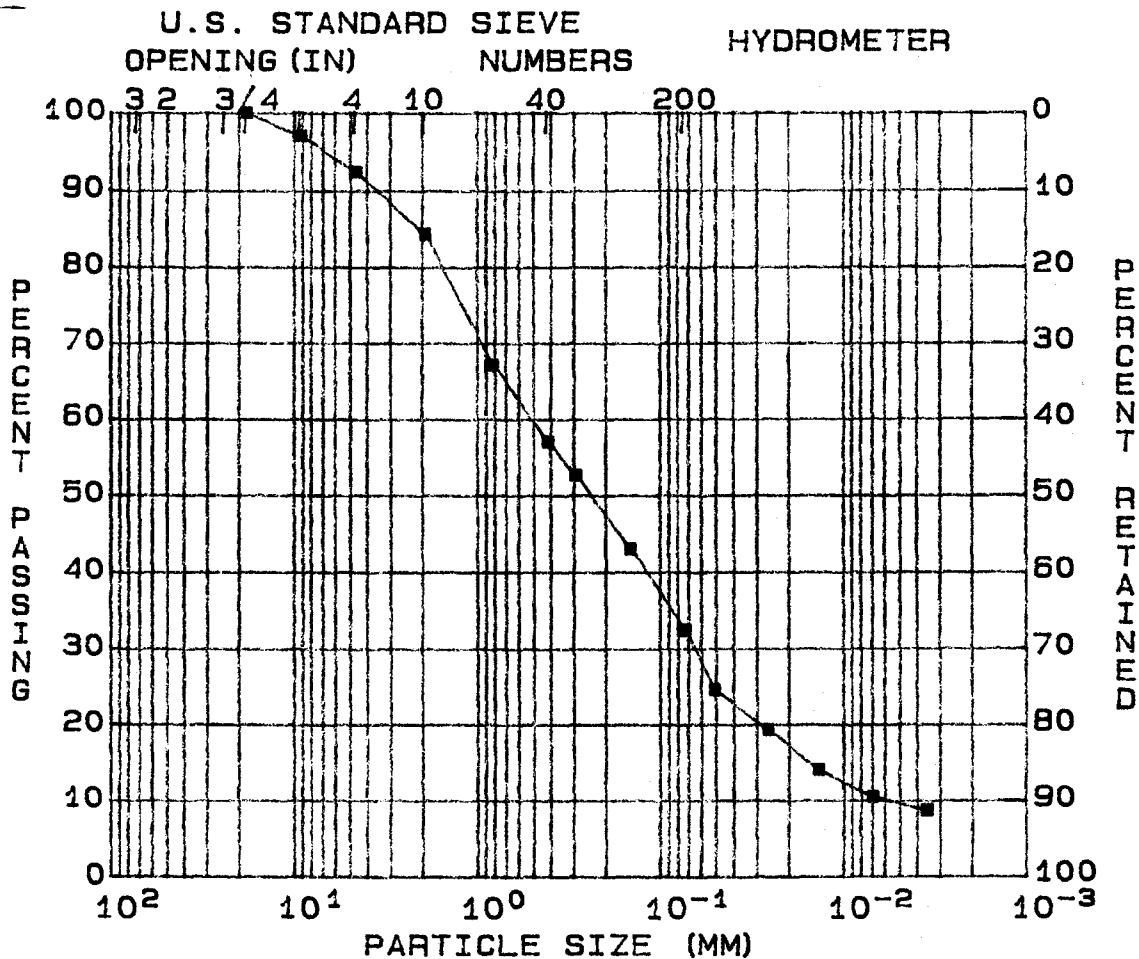
Soil Symbol= SM (Silty sand)

D10(mm) = 0.0029 D30(mm)= 0.0185 D60(mm)= 0.1552
 Gravel(%)=13 Sand(%)=45 Silt(%)= 26

Clay(%)= 16

**SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS**

PROJECT: TVA/KINGSTON FP BORING: SS-1 thru SS-10
 FEATURE: DREDGE CELLS/CLOSURE EL. :
 STATION: SAMPLE: Gr 11
 RANGE : DATE : 09-29-94
 PART :



GRAVEL (%) = 7	D10 (MM) = 0.0056
SAND (%) = 61	D30 (MM) = 0.0662
SILT (%) = 23	D60 (MM) = 0.5022
CLAY (%) = 9	COEF UNIF=90.5

SOIL SYMBOL = SM	L.L. (%) = NP	DENSITY (pcf) = --
MOISTURE (%) =	P.I. (%) = NP	SATURATION (%) = --
SP. GR. = 2.51		VOID RATIO = --

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : SS-1 thru SS-10

El. :
Sample: Gr 11
Part :

FILE : 15
TESTED BY : AEL
Computed By: MHD
Checked By : 7A
Report Date: 09-29-94

Specific Gravity = 2.509
Flask No. = 5.00
Soil Wt.(gm) = 50.00
Temp.(deg.c.) = 22.40
Total Wt.(gm) = 702.97

Moisture Determination

Dry Wt.+Tare(gm)= 527.50
Tare Wt(gm) = 96.50

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 167.20
Tare Wt(gm) = 38.10
Dry Wt.+Tare(gm)= 166.80
Moisture(%) = 0.31

Non-Plastic Soil

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 431

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	9.0	97.9	9.5300
NO.4	29.2	93.2	4.7500
NO.10	64.7	85.0	2.0000
NO.20	10.1	67.8	0.8500
NO.40	16.1	57.5	0.4250
NO.50	18.7	53.1	0.3000
NO.100	24.4	43.4	0.1500
NO.200	30.7	32.6	0.0750

Air Dry Weight(gm)= 50.00

Corrected Weight(gm)= 49.85

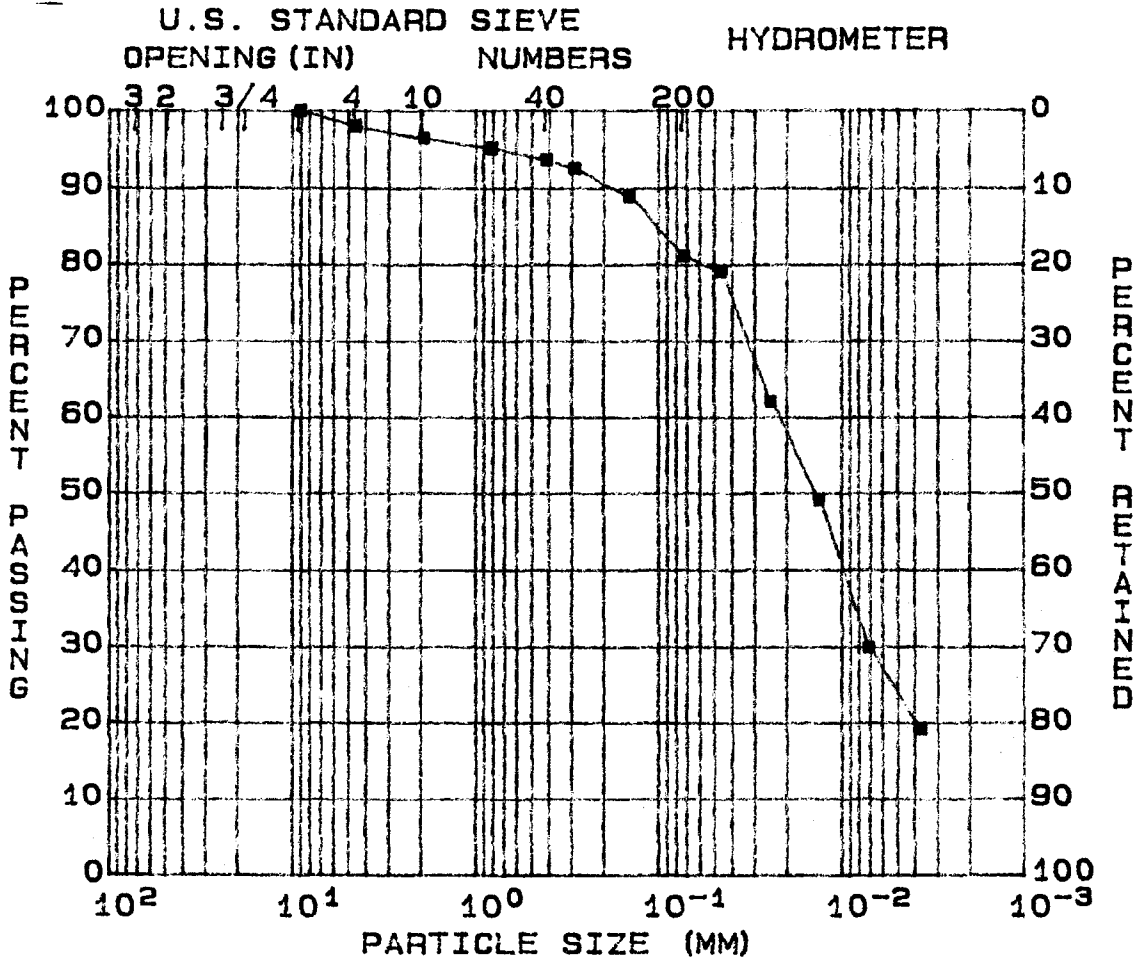
Time	Temp.	Hyd.Rdg	Corr	% Pass	Size(mm)
1 min.	19.7	19.0	5.0	24.7	0.0516
4 min.	19.7	16.0	5.0	19.4	0.0263
15 min.	19.7	13.0	5.0	14.1	0.0138
1 hour	19.7	11.0	5.0	10.6	0.0070
4 hours	19.8	10.0	5.0	8.8	0.0035

Soil Symbol= SM (Silty sand)

D10(mm) = 0.0056 D30(mm)= 0.0662 D60(mm)= 0.5022
Gravel(%)= 7 Sand(%)=61 Silt(%)= 23 Clay(%)= 9

**SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS**

PROJECT: TVA/KINGSTON FP BORING: SS-1 thru SS-10
 FEATURE: DREDGE CELLS/CLOSURE EL. :
 STATION: SAMPLE: Gr 12
 RANGE : DATE : 09-29-94
 PART :



GRAVEL (%) = 1	D10 (MM) = --
SAND (%) = 17	D30 (MM) = --
SILT (%) = 57	D60 (MM) = --
CLAY (%) = 25	COEF UNIF = --

SOIL SYMBOL = ML	L.L. (%) = NP	DENSITY (pcf) = --
MOISTURE (%) =	P.I. (%) = NP	SATURATION (%) = --
SP. GR. = 2.31		VOID RATIO = --

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
 Feature: DREDGE CELLS/CLOSURE
 Station:
 Range :
 Boring : SS-1 thru SS-10

El. :
 Sample: Gr 12
 Part :

FILE : 16
 TESTED BY : AEL
 Computed By: MHD
 Checked By : TAL
 Report Date: 09-29-94

Specific Gravity = 2.310

Flask No. = 30.00

Soil Wt. (gm) = 50.00

Temp. (deg. c.) = 22.40

Total Wt. (gm) = 694.88

Moisture Determination

Dry Wt. + Tare (gm) = 616.60

Tare Wt (gm) = 97.40

Hygroscopic Moisture

Wet Wt. + Tare (gm) = 152.90

Dry Wt. + Tare (gm) = 152.20

Tare Wt (gm) = 39.10

Moisture (%) = 0.62

Non-Plastic Soil

Sieve and Hydrometer Analysis

Total Dry Weight (gm) = 519.2

Sieve	Wt. Ret.	% Pass.	Size (mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO. 4	6.1	98.8	4.7500
NO. 10	14.8	97.1	2.0000
NO. 20	0.7	95.8	0.8500
NO. 40	1.5	94.2	0.4250
NO. 50	2.1	93.0	0.3000
NO. 100	4.0	89.3	0.1500
NO. 200	8.0	81.5	0.0750

Air Dry Weight (gm) = 50.00

Corrected Weight (gm) = 49.69

Time	Temp.	Hyd. Rdg	Corr	% Pass	Size (mm)
1 min.	19.7	42.0	5.0	79.4	0.0467
4 min.	19.7	34.0	5.0	62.2	0.0249
15 min.	19.7	28.0	5.0	49.4	0.0135
1 hour	19.7	19.0	5.0	30.0	0.0072
4 hours	19.7	14.0	5.0	19.3	0.0037

Soil Symbol = ML (Inorganic silt of low plasticity)

Gravel (%) = 1

Sand (%) = 17

Silt (%) = 57

Clay (%) = 25

TASK ASSIGNMENT No. TV-FH-SL001-045
G/C WORK ORDER No. 07-9822-026 AND TVA TAO No. GP-493-398629
KINGSTON FOSSIL PLANT - DREDGE CELLS/CLOSURE
SOIL INVESTIGATION

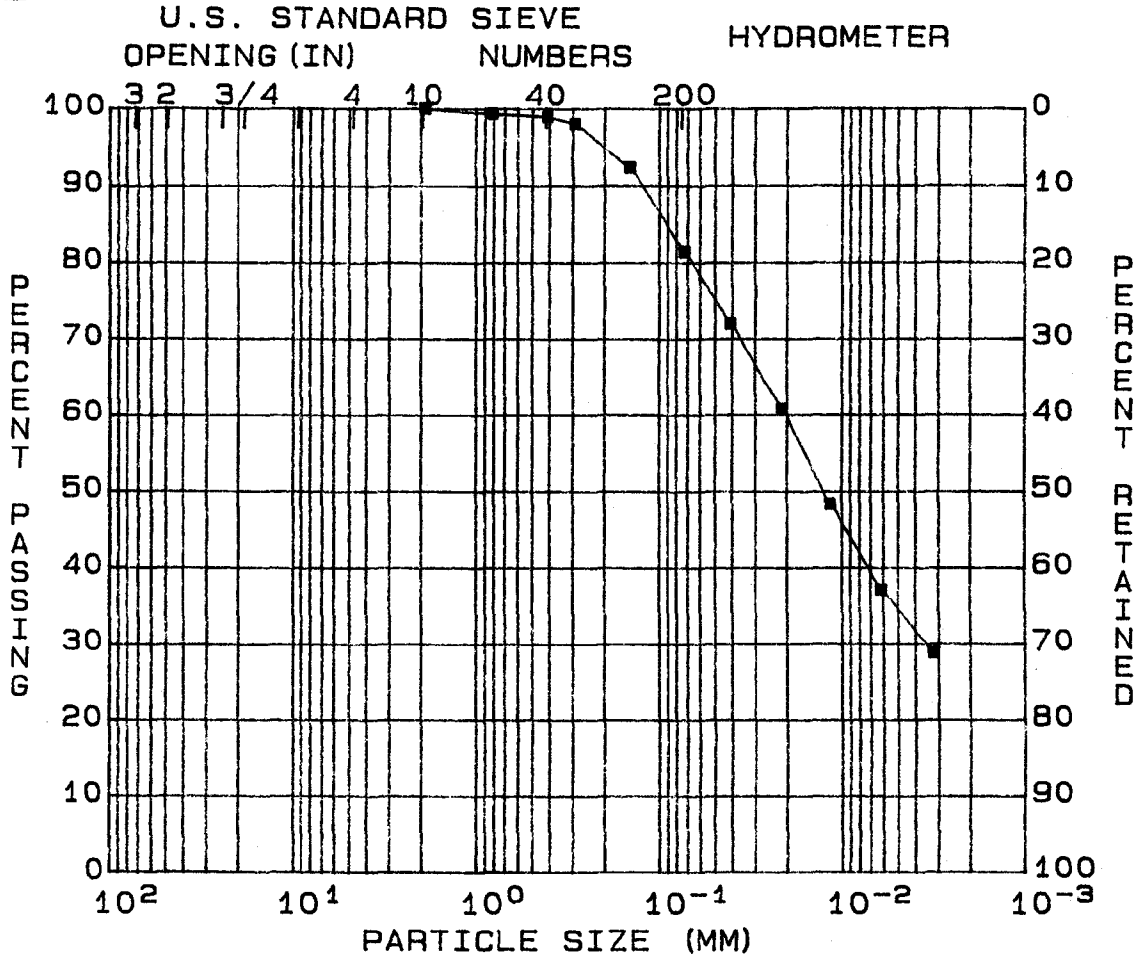
Singleton Laboratories Report 015-672-142A

APPENDIX D

LABORATORY TEST DATA FOR ALL UNDISTURBED SOIL SAMPLES

SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS

PROJECT: TVA/KINGSTON FP	BORING: US-1
FEATURE: DREDGE CELLS/CLOSURE	EL. : 8'-10'
STATION:	SAMPLE: 1
RANGE :	DATE : 09-29-94
PART : 3	



GRAVEL (%) = 0	D10 (MM) = --
SAND (%) = 18	D30 (MM) = --
SILT (%) = 47	D60 (MM) = --
CLAY (%) = 35	COEF UNIF = --

SOIL SYMBOL = CL	L.L. (%) = 30	DENSITY (pcf) = 107.3
MOISTURE (%) = 19.3	P.I. (%) = 9	SATURATION (%) = 98.05
SP. GR. = 2.60		VOID RATIO = 0.511

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : US-1

El. : 8'-10'
Sample: 1
Part : 3

FILE : 30
TESTED BY : REG
Computed By: MHD
Checked By : TAL
Report Date: 09-29-94

Specific Gravity = 2.598

Flask No. = 5.00

Soil Wt.(gm) = 50.00

Chunk Density

Wet Wt.+Tare(gm)= 166.1

Dry Wt.+Tare(gm)= 145.5

Tare Wt(gm) = 38.6

Moisture(%) = 19.3

Void Ratio =0.511

Moisture Determination

Dry Wt.+Tare(gm)= 304.90

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 59.10

Tare Wt(gm) = 37.70

Liquid Limit

Blows = 27.00

Wet Wt.(gm) = 18.10

Dry Wt.(gm) = 14.87

Tare Wt.(gm) = 4.00

Liquid Limit(%) = 29.99

Plasticity Index= 8.64

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 198.5

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO.4	0.0	100.0	4.7500
NO.10	0.0	100.0	2.0000
NO.20	0.1	99.8	0.8500
NO.40	0.3	99.4	0.4250
NO.50	0.8	98.4	0.3000
NO.100	3.6	92.7	0.1500
NO.200	9.0	81.7	0.0750

Air Dry Weight(gm)= 50.00

Time	Temp.	Hyd.Rdg
1 min.	20.8	41.0
4 min.	20.8	35.5
15 min.	20.8	29.5
1 hour	20.8	24.0
4 hours	20.8	20.0

Temp.(deg.c.) = 22.20

Total Wt.(gm) =703.68

Sample Wt.(gm) = 834.5

Sa.+ Wt.(air) = 880.7

SA.+ PA. Wt(Water) = 422.0

Density(pcf) =107.3

Saturation(%) = 98.05

Tare Wt(gm) = 106.40

Dry Wt.+Tare(gm)= 58.70

Moisture(%) = 1.90

Plastic Limit

Wet Wt.(gm) = 17.72

Dry Wt.(gm) = 15.31

Tare Wt.(gm) = 4.02

Plastic Limit(%)= 21.35

Corrected Weight(gm)= 49.07

Corr	% Pass	Size(mm)
6.0	72.2	0.0421
6.0	60.9	0.0220
6.0	48.5	0.0119
6.0	37.1	0.0062
6.0	28.9	0.0032

Soil Symbol= CL (Inorganic clay of low plasticity)

Gravel(%)= 0

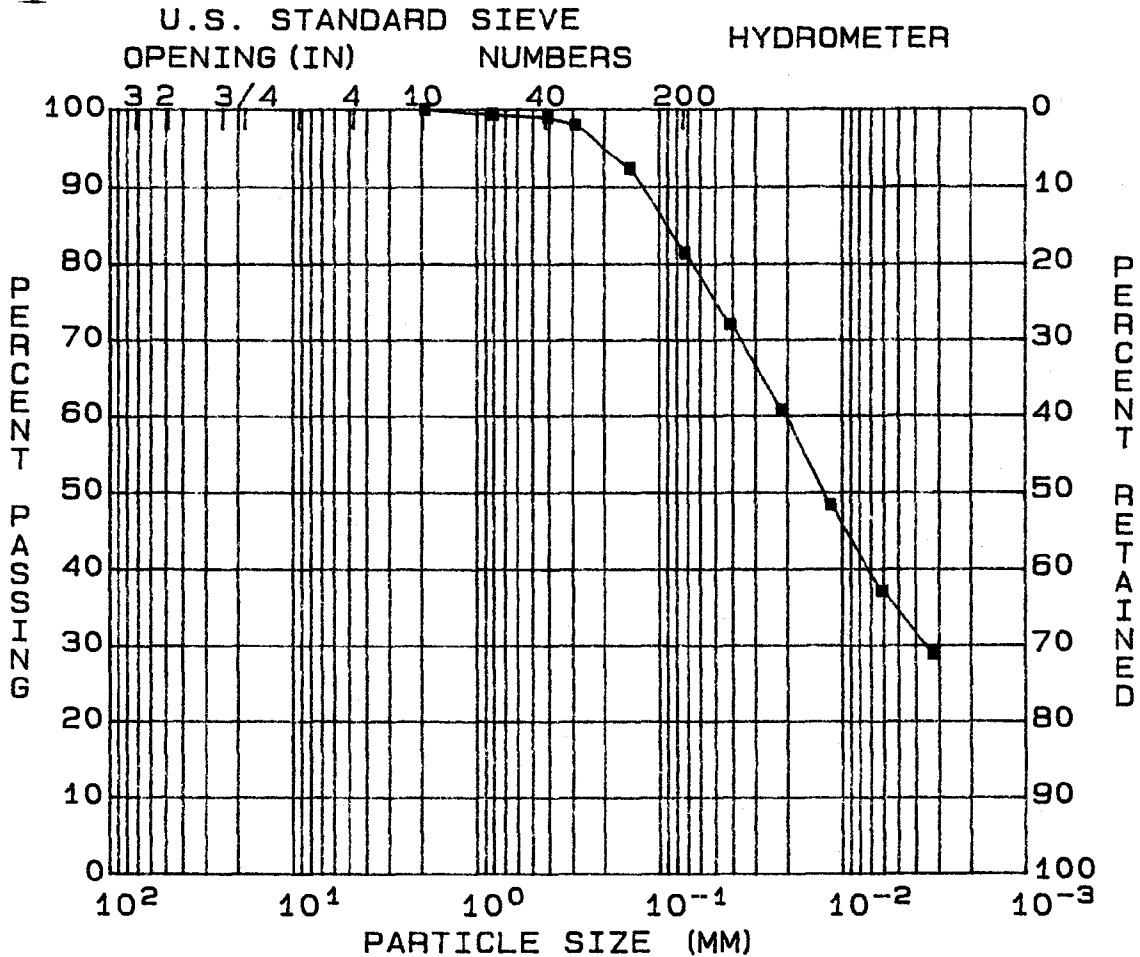
Sand(%)=18

Silt(%)= 47

Clay(%)= 35

SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS

PROJECT: TVA/KINGSTON FP	BORING: US-1
FEATURE: DREDGE CELLS/CLOSURE	EL. : 8'-10'
STATION:	SAMPLE: 1
RANGE :	DATE : 09-29-94
PART : 3	



GRAVEL (%) = 0	D10 (MM) = --
SAND (%) = 18	D30 (MM) = --
SILT (%) = 47	D60 (MM) = --
CLAY (%) = 35	COEF UNIF = --

SOIL SYMBOL = CL	L.L. (%) = 31	DENSITY (pcf) = 107.3
MOISTURE (%) = 19.3	P.I. (%) = 10	SATURATION (%) = 98.05
SP. GR. = 2.60		VOID RATIO = 0.511

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : US-1

El. : 8'-10'
Sample: 1
Part : 3

FILE : 31
TESTED BY : REG
Computed By: MHD
Checked By : TA
Report Date: 09-29-94

Specific Gravity = 2.598

Flask No. = 5.00

Soil Wt.(gm) = 50.00

Chunk Density

Wet Wt.+Tare(gm)= 166.1

Dry Wt.+Tare(gm)= 145.5

Tare Wt(gm) = 38.6

Moisture(%) = 19.3

Void Ratio = -0.511

Moisture Determination

Dry Wt.+Tare(gm)= 304.90

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 59.10

Tare Wt(gm) = 37.70

Liquid Limit

Blows = 27.00

Wet Wt.(gm) = 19.60

Dry Wt.(gm) = 15.97

Tare Wt.(gm) = 4.10

Liquid Limit(%) = 30.87

Plasticity Index= 9.52

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 198.5

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO.4	0.0	100.0	4.7500
NO.10	0.0	100.0	2.0000
NO.20	0.1	99.8	0.8500
NO.40	0.3	99.4	0.4250
NO.50	0.8	98.4	0.3000
NO.100	3.6	92.7	0.1500
NO.200	9.0	81.7	0.0750

Air Dry Weight(gm)= 50.00

Time Temp. Hyd.Rdg

1 min. 20.8 41.0

4 min. 20.8 35.5

15 min. 20.8 29.5

1 hour 20.8 24.0

4 hours 20.8 20.0

Temp.(deg.c.) = 22.20

Total Wt.(gm) = 703.68

Sample Wt.(gm) = 834.5

Sa.+ Wt.(air) = 880.7

SA.+ PA. Wt(Water) = 422.0

Density(pcf) = 107.3

Saturation(%) = 98.05

Tare Wt(gm) = 106.40

Dry Wt.+Tare(gm)= 58.70

Moisture(%) = 1.90

Plastic Limit

Wet Wt.(gm) = 17.72

Dry Wt.(gm) = 15.31

Tare Wt.(gm) = 4.02

Plastic Limit(%)= 21.35

Corrected Weight(gm)= 49.07

Corr % Pass Size(mm)

6.0 72.2 0.0421

6.0 60.9 0.0220

6.0 48.5 0.0119

6.0 37.1 0.0062

6.0 28.9 0.0032

Soil Symbol= CL (Inorganic clay of low plasticity)

Gravel(%)= 0

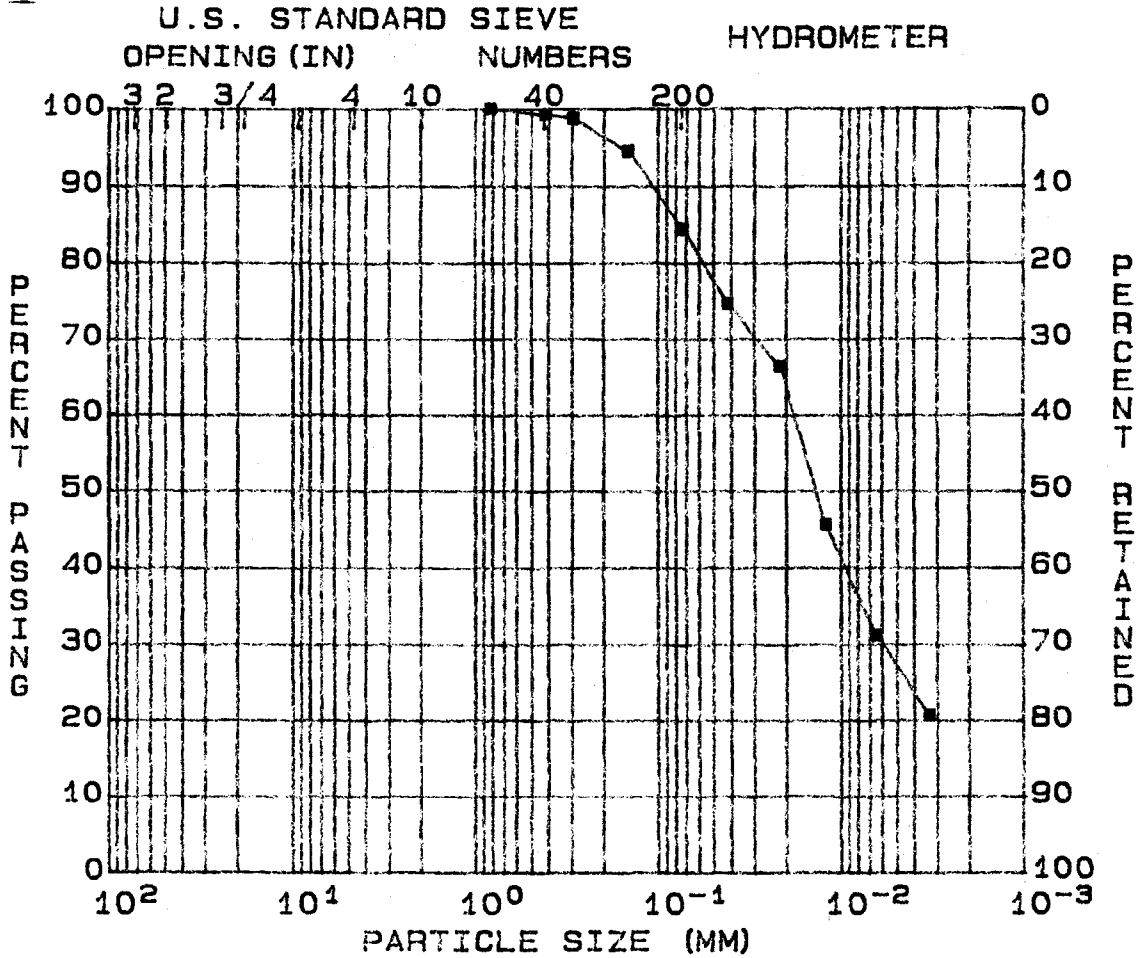
Sand(%)= 18

Silt(%)= 47

Clay(%)= 35

**SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS**

PROJECT: TVA/KINGSTON FP	BORING: US-1
FEATURE: DREDGE CELLS/CLOSURE	EL. : 22'-24'
STATION:	SAMPLE: 2
RANGE :	DATE : 09-29-94
PART : 5	



GRAVEL (%) = 0	D10 (MM) = --
SAND (%) = 15	D30 (MM) = --
SILT (%) = 58	D60 (MM) = --
CLAY (%) = 27	COEF UNIF = --

SOIL SYMBOL = CL	L.L. (%) = 27	DENSITY (pcf) = 94.2
MOISTURE (%) = 28.8	P.I. (%) = 7	SATURATION (%) = 100.00
SP. GR. = 2.53		VOID RATIO = 0.679

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : US-1

El. : 22'-24'
Sample: 2
Part : 5

FILE : 21
TESTED BY : REG
Computed By: MHD
Checked By : TAL
Report Date: 09-29-94

Specific Gravity = 2.534

Flask No. = 7.00

Soil Wt.(gm) = 50.00

Chunk Density

Wet Wt.+Tare(gm)= 183.7

Dry Wt.+Tare(gm)= 151.3

Tare Wt(gm) = 38.7

Moisture(%) = 28.8

Void Ratio = -0.679

Moisture Determination

Dry Wt.+Tare(gm)= 350.10

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 68.00

Tare Wt(gm) = 37.30

Liquid Limit

Blows = 26.00

Wet Wt.(gm) = 17.60

Dry Wt.(gm) = 14.73

Tare Wt.(gm) = 3.93

Liquid Limit(%) = 26.70

Plasticity Index= 6.87

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 251.8

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO.4	0.0	100.0	4.7500
NO.10	0.0	100.0	2.0000
NO.20	0.0	100.0	0.8500
NO.40	0.1	99.8	0.4250
NO.50	0.4	99.2	0.3000
NO.100	2.5	94.9	0.1500
NO.200	7.5	84.8	0.0750

Air Dry Weight(gm)= 50.00

Time Temp. Hyd.Rdg

1 min. 20.8 42.0

4 min. 20.8 38.0

15 min. 20.8 28.0

1 hour 20.8 21.0

4 hours 20.8 16.0

Temp.(deg.c.) = 22.20

Total Wt.(gm) = -708.56

Sample Wt.(gm) = 965.9

Sa.+ Wt.(air) = -1013.7

SA.+ PA. Wt(Water) = 463.0

Density(pcf) = 94.2

Saturation(%) = -100.00

Tare Wt(gm) = 98.30

Dry Wt.+Tare(gm)= 67.60

Moisture(%) = 1.32

Plastic Limit

Wet Wt.(gm) = 21.06

Dry Wt.(gm) = 18.20

Tare Wt.(gm) = 3.78

Plastic Limit(%)= 19.83

Corrected Weight(gm)= 49.35

Corr % Pass Size(mm)

6.0 75.0 0.0426

6.0 66.7 0.0220

6.0 45.9 0.0123

6.0 31.3 0.0064

6.0 20.8 0.0033

Soil Symbol= CL (Inorganic clay of low plasticity)

Gravel(%)= 0

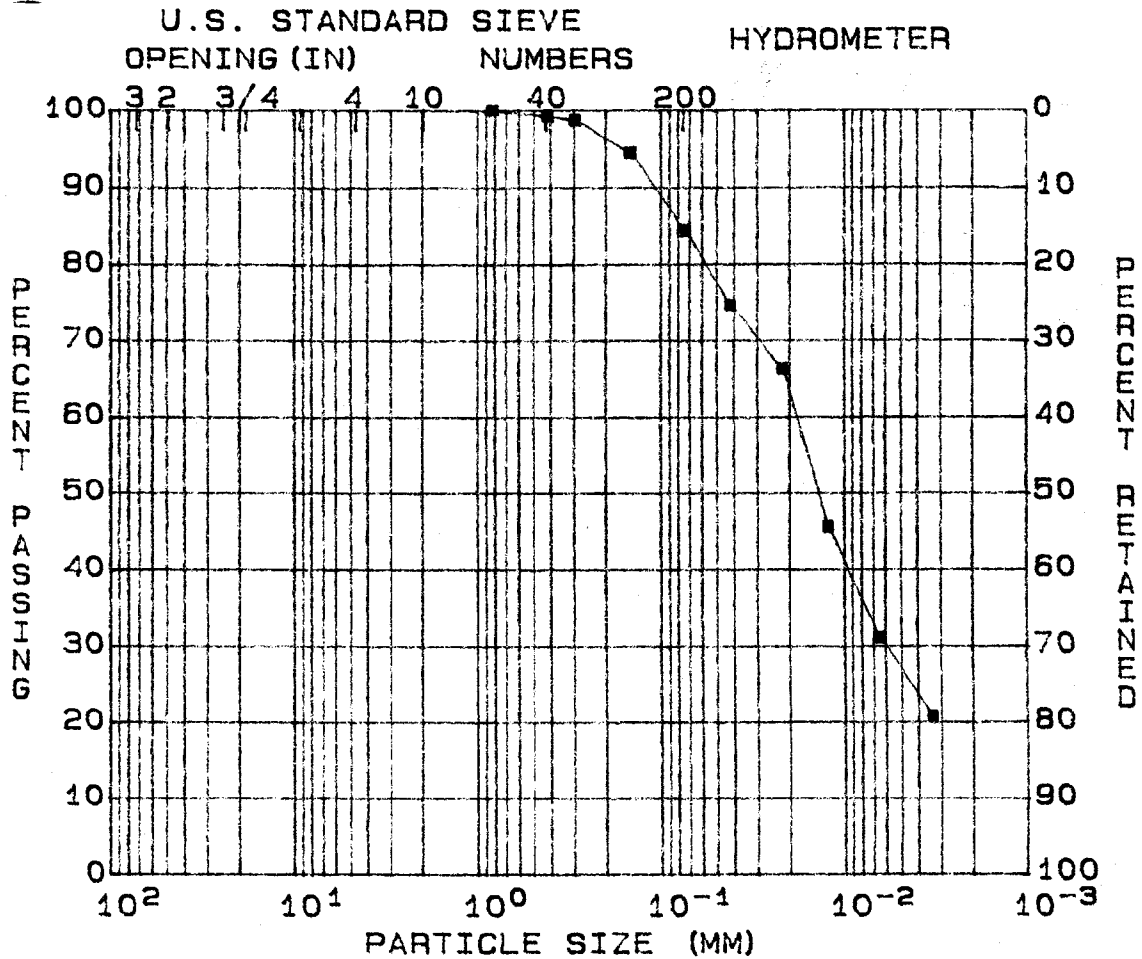
Sand(%)=15

Silt(%)= 58

Clay(%)= 27

**SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS**

PROJECT: TVA/KINGSTON FP	BORING: US-1
FEATURE: DREDGE CELLS/CLOSURE	EL. : 22'-24'
STATION:	SAMPLE: 2
RANGE :	DATE : 09-29-94
PART : 5	



GRAVEL (%) = 0	D10 (MM) = --
SAND (%) = 15	D30 (MM) = --
SILT (%) = 58	D60 (MM) = --
CLAY (%) = 27	COEF UNIF = --

SOIL SYMBOL = CL	L.L. (%) = 27	DENSITY (pcf) = 94.2
MOISTURE (%) = 28.8	P.I. (%) = 7	SATURATION (%) = 100.00
SP. GR. = 2.53		VOID RATIO = 0.679

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : US-1

El. : 22'-24'
Sample: 2
Part : 5

FILE : 22
TESTED BY : REG
Computed By: MHD
Checked By : *JAL*
Report Date: 09-29-94

Specific Gravity = 2.534
Flask No. = 7.00
Soil Wt.(gm) = 50.00

Temp.(deg.c.) = 22.20
Total Wt.(gm) = 708.56

Chunk Density

Wet Wt.+Tare(gm)= 183.7
Dry Wt.+Tare(gm)= 151.3
Tare Wt(gm) = 38.7
Moisture(%) = 28.8
Void Ratio = -0.679

Sample Wt.(gm) = 965.9
Sa. + Wt.(air) = -1013.7
SA. + PA. Wt(Water) = 463.0
Density(pcf) = 94.2
Saturation(%) = -100.00

Moisture Determination

Dry Wt.+Tare(gm)= 350.10

Tare Wt(gm) = 98.30

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 68.00
Tare Wt(gm) = 37.30

Dry Wt.+Tare(gm)= 67.60
Moisture(%) = 1.32

Liquid Limit

Blows = 26.00
Wet Wt.(gm) = 22.90
Dry Wt.(gm) = 18.93
Tare Wt.(gm) = 4.07
Liquid Limit(%) = 26.84
Plasticity Index= 7.01

Plastic Limit

Wet Wt.(gm) = 21.06
Dry Wt.(gm) = 18.20
Tare Wt.(gm) = 3.78

Plastic Limit(%)= 19.83

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 251.8

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO.4	0.0	100.0	4.7500
NO.10	0.0	100.0	2.0000
NO.20	0.0	100.0	0.8500
NO.40	0.1	99.8	0.4250
NO.50	0.4	99.2	0.3000
NO.100	2.5	94.9	0.1500
NO.200	7.5	84.8	0.0750

Air Dry Weight(gm)= 50.00

Corrected Weight(gm)= 49.35

Time	Temp.	Hyd.Rdg
1 min.	20.8	42.0
4 min.	20.8	38.0
15 min.	20.8	28.0
1 hour	20.8	21.0
4 hours	20.8	16.0

Corr	% Pass	Size(mm)
6.0	75.0	0.0426
6.0	66.7	0.0220
6.0	45.9	0.0123
6.0	31.3	0.0064
6.0	20.8	0.0033

Soil Symbol= CL (Inorganic clay of low plasticity)

Gravel(%)= 0

Sand(%)=15

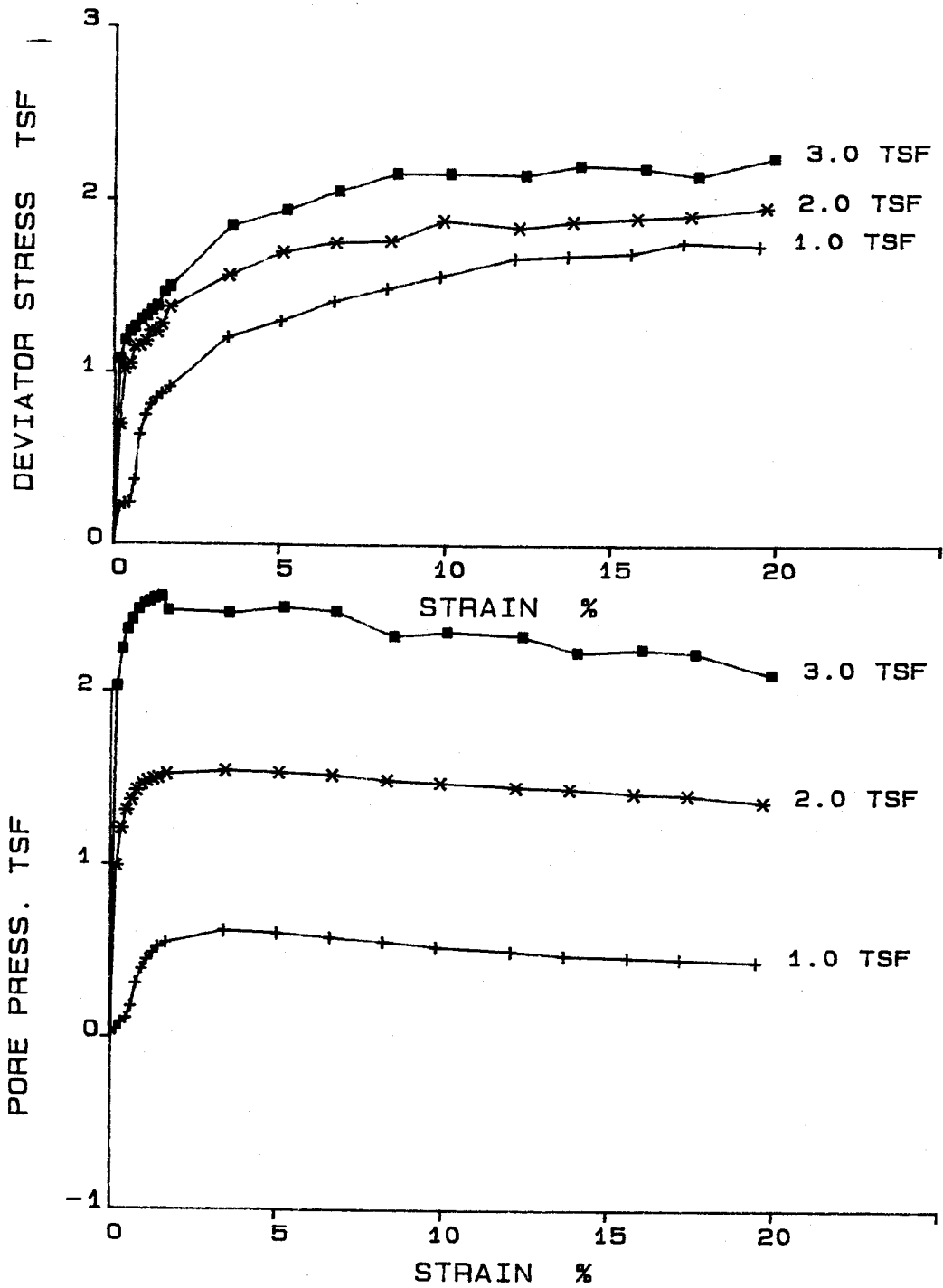
Silt(%)= 58

Clay(%)= 27

SINGLETON LABORATORIES
 CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (R) TEST

PROJECT: KINGSTON FP
 FEATURE: DREDGE CELLS
 STATION:
 RANGE :
 BORING : US-1

EL. : 22.0-24.0'
 SAMPLE : 2
 PART : 3
 SOIL SYM:
 DATE : 09-26-94

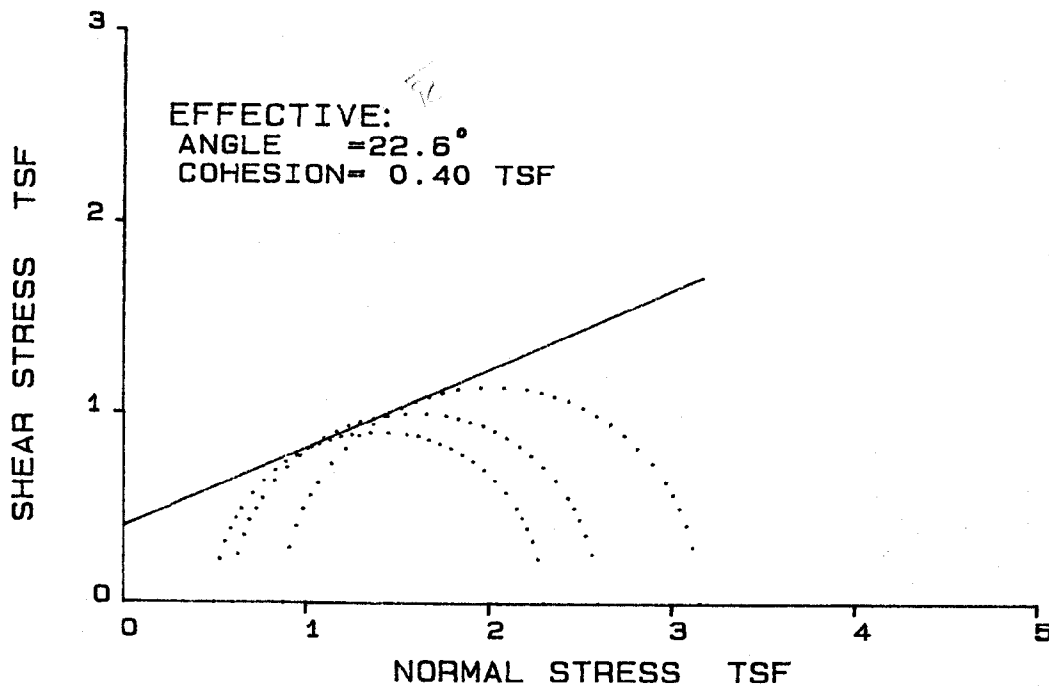
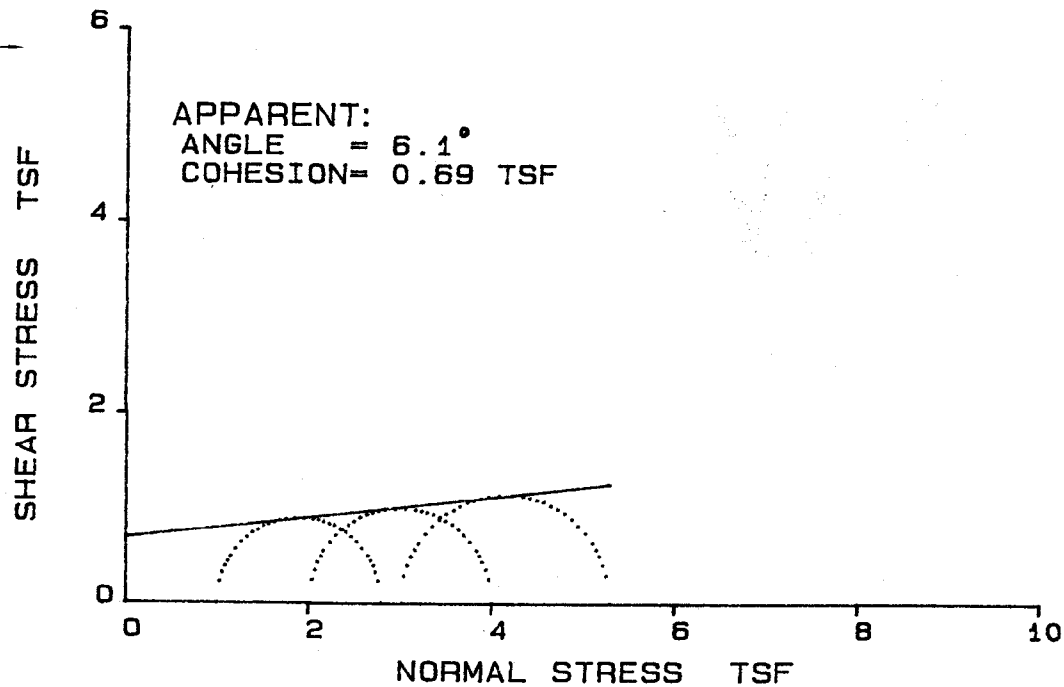


REMARKS:

SINGLETON LABORATORIES
CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (R) TEST

PROJECT: KINGSTON FP
FEATURE: DREDGE CELLS
STATION:
RANGE :
BORING : US-1

EL. : 22.0-24.0'
SAMPLE : 2
PART : 3
SOIL SYM:
DATE : 09-26-94



REMARKS:

Singleton Laboratories
 CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (R) TEST

Project: KINGSTON FP
 Feature: DREDGE CELLS/CLOSURE
 Station:
 Range :
 Boring : US-1

El. : 22.0-24.0'
 Sample: 2
 Part : 3

File : 10
 Tested By : TAL
 Computed By: MHD
 Checked By : *GPB*
 Report Date: 09-26-94

Soil Symbol=
 Sp. Gr. = 2.6

L.L.(%)=
 D10(mm)=

P.I.(%) =

Specimen Number	1	2	3	4
Initial:				
Moisture Content(%)	30.4	29.9	29.3	0.0
Dry Density(pcf)	88.6	89.1	90.7	0.0
Void Ratio	0.832	0.821	0.789	0.000
Saturation(%)	95.0	94.6	96.6	0.0
Before Shearing:				
Moisture(%) (after satur.)	32.0	31.6	30.4	0.0
Saturation(%)	100.0	100.0	100.0	0.0
Moisture(%) (after cons.)	30.0	27.9	24.6	0.0
Void Ratio (after cons.)	0.780	0.724	0.639	0.000
Final Moisture Content(%)	28.4	29.1	26.0	0.0
Minor Principal Stress(tsf)	1.01(1.01)	2.02(2.02)	3.02(3.02)	0.00(0.00)
Major Principal Stress(tsf)	2.81(2.45)	4.02(3.80)	5.31(5.10)	0.00(0.00)
Eff. Minor Prin Stress(tsf)	0.50(0.40)	0.60(0.47)	0.88(0.53)	0.00(0.00)
Eff. Major Prin Stress(tsf)	2.30(1.84)	2.60(2.25)	3.16(2.61)	0.00(0.00)
Time to Failure(min)	100	110	110	0
Rate of Strain(%/min)	0.17	0.18	0.18	0.00
Specimen Height(in.)	3.11	3.11	3.11	0.00
Specimen Dia (in.)	1.41	1.41	1.41	0.00
		Max Deviator Stress	Max Eff	Stress Ratio
Shear Strength		Deg	Deg	c(tsf)
Apparent		6.1	7.8	0.49
Effective		22.6	90.0	0.00

NOTE: Figures in parenthesis are based on the failure criteria of
 Maximum Effective Principal Stress Ratio.

Remark:

Singleton Laboratories
 CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (R) TEST

Project: KINGSTON FP
 Feature: DREDGE CELLS/CLOSURE
 Station: El. : 22.0-24.0'
 Range : Sample: 2
 Boring : US-1 Part : 3

File : 6
 Tested By : TAL
 Computed By: MHD
 Checked By : GAB
 Report Date: 09-26-94

Moisture Content	Trimming	Initial	Final
Wet Wt. and Tare(gm)=	171.4	146.7	184.0
Dry Wt. and Tare(gm)=	140.8	112.5	152.1
Wt. of Tare(gm) =	39.5	0.0	39.6
Moisture(%) =	30.2	30.4	28.4

Test Conditions and Constants:

Proving Ring No. = 2212	Tube No. = 1
Proving Ring Constant:	Sample Volume (cc) = 79.281
Slope Const. = 1	Sample Height(in.) = 3.113
Intercept = 0	Specific Gravity = 2.6
Confining Pres. (psi) = 14	Consolidation(in.) = .03
Initial Pore Pre(psi)= 100	Initial P.R. Rdg = 93

Time (Min)	Deflection (ins.)	Pro. Ring Reading	Pore Pres. (psi)	Strain (%)	±1 - ±3 (tsf)	Pore Press. (tsf)	±1 / ±3 (TSF)
1	0.006	97.6	100.6	0.19	0.22	0.04	1.22
2	0.011	98.1	101.2	0.36	0.24	0.09	1.26
3	0.016	98.3	101.6	0.52	0.25	0.12	1.28
4	0.021	101.1	102.6	0.68	0.38	0.19	1.46
5	0.026	106.8	104.5	0.84	0.65	0.32	1.94
6	0.032	109.3	105.7	1.04	0.76	0.41	2.27
7	0.037	110.7	106.5	1.20	0.83	0.47	2.53
8	0.043	111.6	107.1	1.39	0.87	0.51	2.74
9	0.048	112.2	107.6	1.56	0.89	0.55	2.94
10	0.056	113.2	108.0	1.82	0.94	0.58	3.17
20	0.110	120.0	109.0	3.57	1.23	0.65	4.42
30	0.160	122.6	108.8	5.19	1.33	0.63	4.54
40	0.210	125.8	108.5	6.81	1.44	0.61	4.65
50	0.260	128.2	108.2	8.43	1.52	0.59	4.65
60	0.310	130.6	107.8	10.06	1.60	0.56	4.58
70	0.380	134.2	107.5	12.33	1.71	0.54	4.65
80	0.430	135.4	107.2	13.95	1.72	0.52	4.52
90	0.490	136.8	107.1	15.89	1.74	0.51	4.50
100	0.539	139.2	107.0	17.48	1.80	0.50	4.57
110	0.610	140.1	106.8	19.79	1.78	0.49	4.44

Initial:

Moisture(%) = 30.4	Void Ratio = 0.832
Density(pcf) = 88.6	Saturation(%) = 95.0
After Saturation:	
Moisture(%) = 32.0	Void Ratio = 0.780

Minor Prin. Stress(tsf) = -1.01 Major Prin. Stress(tsf) = 2.81(2.45)
 Eff. Minor Prin. Stress(tsf) = 0.50(0.40) Eff. Major Prin. Stress(tsf) = 2.30(1.84)

NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

Singleton Laboratories
 CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (R) TEST

Project: KINGSTON FP
 Feature: DREDGE CELLS/CLOSURE
 Station: El. : 22.0-24.0'
 Range : Sample: 2
 Boring : US-1 Part : 3

File : 7
 Tested By : TAL
 Computed By: MHD
 Checked By : GPB
 Report Date: 09-26-94

Moisture Content	Trimming	Initial	Final
Wet Wt. and Tare(gm)=	156.8	147.0	185.1
Dry Wt. and Tare(gm)=	129.1	113.2	152.2
Wt. of Tare(gm) =	37.2	0.0	39.0
Moisture(%) =	30.1	29.9	29.1

Test Conditions and Constants:

Proving Ring No. = 2515	Tube No. = 1
Proving Ring Constant:	Sample Volume (cc) = 79.281
Slope Const. = 1	Sample Height(in.) = 3.113
Intercept = 0	Specific Gravity = 2.6
Confining Pres.(psi) = 28	Consolidation(in.) = .056
Initial Pore Pre(psi)= 100	Initial P.R. Rdg = 102

Time (Min)	Deflection (ins.)	Pro. Ring Reading	Pore Pres. (psi)	Strain (%)	±1 - ±3 (tsf)	Pore Press. (tsf)	±1 / ±3 (TSF)
1	0.006	116.5	113.8	0.20	0.70	0.99	1.68
2	0.011	123.4	116.8	0.36	1.02	1.21	2.27
3	0.016	124.1	118.3	0.52	1.06	1.32	2.51
4	0.021	126.3	119.2	0.69	1.16	1.38	2.83
5	0.026	126.5	120.0	0.85	1.17	1.44	3.03
6	0.032	127.1	120.5	1.05	1.19	1.48	3.21
7	0.037	128.5	120.8	1.21	1.26	1.50	3.43
8	0.043	128.5	121.0	1.41	1.26	1.51	3.49
9	0.048	129.6	121.2	1.57	1.31	1.53	3.67
10	0.056	131.8	121.5	1.83	1.41	1.55	4.00
20	0.111	136.4	121.8	3.63	1.59	1.57	4.57
30	0.161	140.0	121.7	5.27	1.73	1.56	4.81
40	0.210	141.9	121.5	6.87	1.79	1.55	4.81
50	0.261	142.9	121.1	8.54	1.80	1.52	4.62
60	0.310	146.4	120.9	10.14	1.92	1.50	4.75
70	0.380	146.7	120.6	12.43	1.88	1.48	4.53
80	0.430	148.4	120.5	14.07	1.92	1.48	4.55
90	0.490	150.0	120.2	16.03	1.94	1.45	4.45
100	0.540	151.4	120.1	17.66	1.95	1.45	4.44
110	0.610	154.0	119.6	19.95	2.00	1.41	4.31

Initial:

Moisture(%) = 29.9	Void Ratio = 0.821
Density(pcf) = 89.1	Saturation(%) = 94.6

After Saturation:

Moisture(%) = 31.6	Void Ratio = 0.724
--------------------	--------------------

Minor Prin. Stress(tsf) = -2.02	Major Prin. Stress(tsf) = 4.02(3.80)
Eff. Minor Prin. Stress(tsf) = 0.60(0.47)	Eff. Major Prin. Stress(tsf) = 2.60(2.25)

NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

Singleton Laboratories
 CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (R) TEST

Project: KINGSTON FP File : 6
 Feature: DREDGE CELLS/CLOSURE Tested By : TAL
 Station: El. : 22.0-24.0' Computed By: MHD
 Range : Sample: 2 Checked By : GPB
 Boring : US-1 Part : 3 Report Date: 09-26-94

Moisture Content	Trimming	Initial	Final
Wet Wt. and Tare(gm)=	145.7	149.0	184.3
Dry Wt. and Tare(gm)=	121.8	115.2	154.3
Wt. of Tare(gm) =	40.5	0.0	39.1
Moisture(%) =	29.4	29.3	26.0

Test Conditions and Constants:

Proving Ring No. = 2288	Tube No. = 1
Proving Ring Constant:	Sample Volume (cc) = 79.281
Slope Const. = 1	Sample Height(in.) = 3.113
Intercept = 0	Specific Gravity = 2.6
Confining Pres.(psi) = 42	Consolidation(in.) = 9.000001E-02
Initial Pore Pre(psi)= 100	Initial P.R. Rdg = 113

Time (Min)	Deflection (ins.)	Pro.Ring Reading	Pore Pres. (psi)	Strain (%)	$\pm 1 - \pm 3$ (tsf)	Pore Press. $\pm 1 / \pm 3$ (tsf)	(TSF)
1	0.006	135.0	128.2	0.20	1.08	2.03	2.09
2	0.011	137.3	131.2	0.36	1.19	2.25	2.53
3	0.016	138.4	132.8	0.53	1.24	2.36	2.87
4	0.021	139.0	133.7	0.69	1.27	2.43	3.12
5	0.027	140.0	134.6	0.89	1.31	2.49	3.47
6	0.033	140.5	135.1	1.09	1.34	2.53	3.69
7	0.038	141.3	135.3	1.26	1.37	2.54	3.85
8	0.043	141.9	135.6	1.42	1.40	2.56	4.04
9	0.050	143.7	135.8	1.65	1.48	2.58	4.32
10	0.056	144.5	134.7	1.85	1.52	2.50	3.89
20	0.112	152.6	134.5	3.70	1.87	2.48	4.47
30	0.162	155.3	135.0	5.36	1.97	2.52	4.90
40	0.210	158.5	134.7	6.95	2.08	2.50	4.96
50	0.263	161.7	132.7	8.70	2.18	2.35	4.26
60	0.312	162.6	133.1	10.32	2.19	2.38	4.41
70	0.381	163.7	132.8	12.60	2.18	2.36	4.29
80	0.431	166.0	131.5	14.26	2.23	2.27	3.95
90	0.491	166.9	131.8	16.24	2.22	2.29	4.02
100	0.540	166.9	131.5	17.86	2.17	2.27	3.88
110	0.610	171.2	129.8	20.18	2.28	2.15	3.60

Initial:

Moisture(%) = 29.3	Void Ratio = 0.789
Density(pcf) = 90.7	Saturation(%) = 96.6

After Saturation:

Moisture(%) = 30.4	Void Ratio = 0.639
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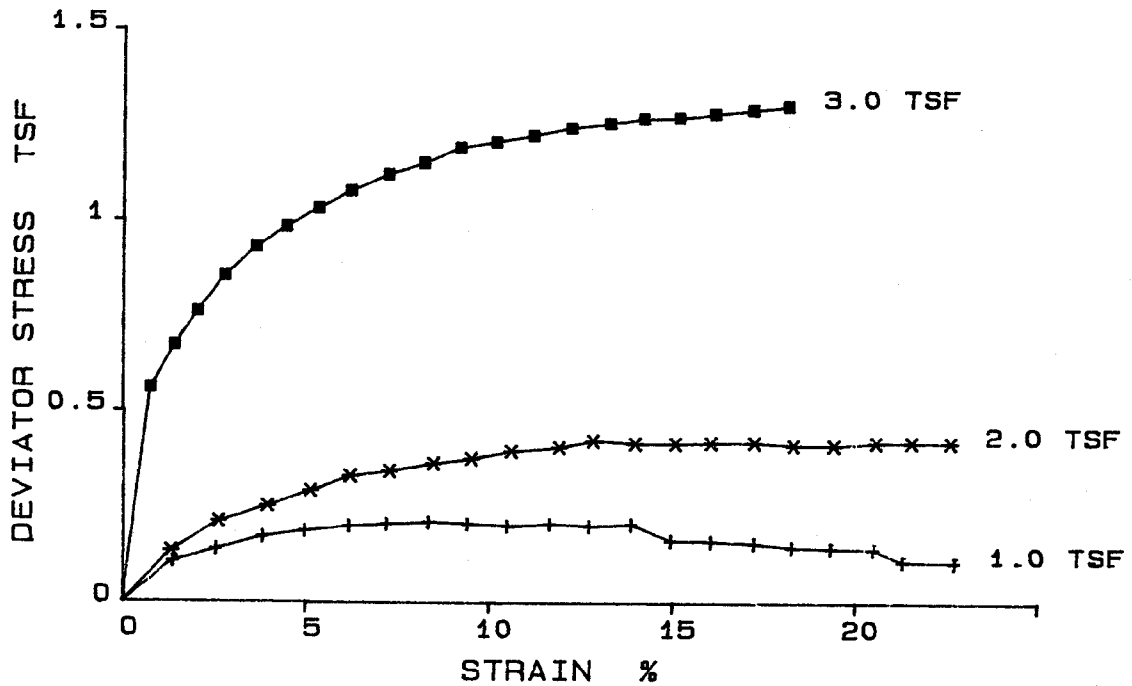
Minor Prin. Stress(tsf) = 3.02	Major Prin. Stress(tsf) = 5.31(5.10)
Eff. Minor Prin. Stress(tsf)=0.88(0.53)	Eff. Major Prin. Stress(tsf)= 3.16(2.61)

NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

SINGLETON LABORATORIES
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (Q) TEST

PROJECT: KINGSTON FP
FEATURE: DREDGE CELLS
STATION:
RANGE :
BORING : US-1

EL. : 22.0-24.0'
SAMPLE : 2
PART : 1
SOIL SYM:
DATE : 09-26-94

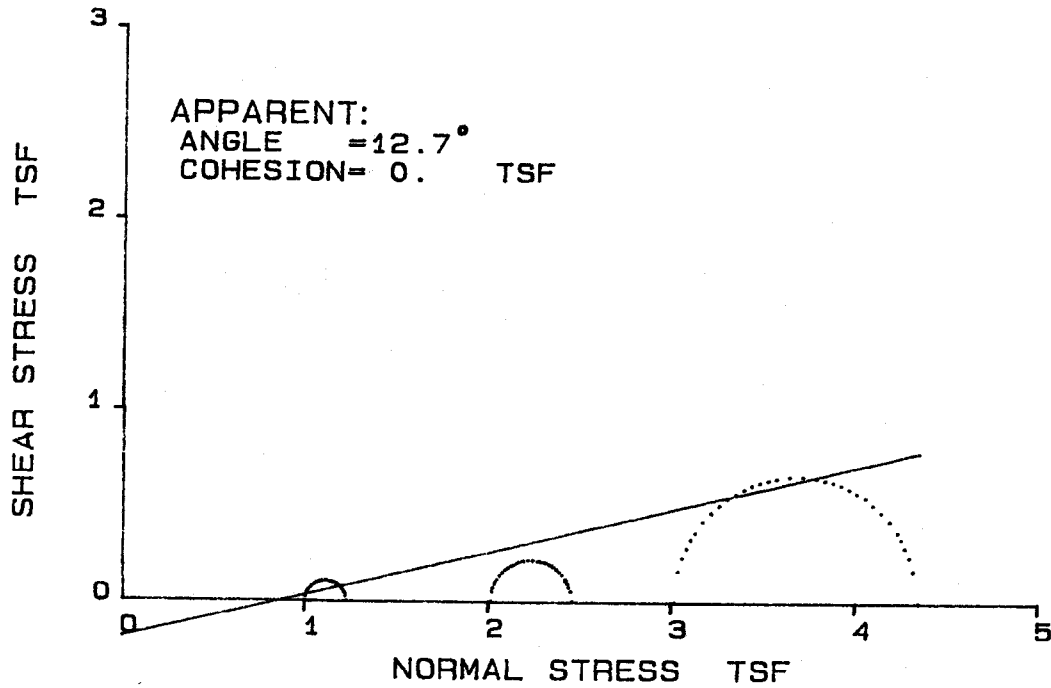


REMARKS:

SINGLETON LABORATORIES
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (Q) TEST

PROJECT: KINGSTON FP
FEATURE: DREDGE CELLS
STATION:
RANGE :
BORING : US-1

EL. : 22.0-24.0'
SAMPLE : 2
PART : 1
SOIL SYM:
DATE : 09-26-94



REMARKS:

Singleton Laboratories
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION(Q) TEST

Project: KINGSTON FP	File : 9
Feature: DREDGE CELLS/CLOSURE	Tested By : TAL
Station:	Computed By: MHD
Range :	Checked By : <i>GAB</i>
Boring : US-1	Report Date: 09-26-94
El. : 22.0-24.0'	
Sample: 2	
Part : 1	

Soil Symbol=	L.L.(%)=	P.I.(%) =
Sp. Gr. = 2.6	D10(mm)=	

Specimen Number	1	2	3	4
Initial:				
Moisture Content(%)	27.4	23.4	30.4	0.0
Dry Density(pcf)	94.5	99.5	89.1	0.0
Void Ratio	0.718	0.632	0.821	0.000
Saturation(%)	99.3	96.1	96.2	0.0
Before Shearing:				
Moisture(%) (after satur.)	--	--	--	--
Saturation(%)	--	--	--	--
Moisture(%) (after cons.)	--	--	--	--
Void Ratio (after cons.)	--	--	--	--
Final Moisture Content(%)	26.5	22.6	30.1	0.0
Minor Principal Stress(tsf)	1.01	2.02	3.02	0.00
Major Principal Stress(tsf)	1.23	2.46	4.35	0.00
Eff. Minor Prin Stress (tsf)	--	--	--	--
Eff. Major Prin Stress (tsf)	--	--	--	--
Time to Failure(min)	12	20	20	0
Rate of Strain(%/min)	1.17	1.15	0.92	0.00
Specimen Height(in.)	3.11	3.11	3.11	0.00
Specimen Dia (in.)	1.41	1.41	1.41	0.00

Shear Strength	Max Deviator Stress	Max Eff	Stress Ratio
	Deg	Deg	c(tsf)
Apparent	12.7	0	--
Effective	--	--	--

NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

Remark:

Singleton Laboratories
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION(Q) TEST

Project: KINGSTON FP	File : 8
Feature: DREDGE CELLS/CLOSURE	Tested By : TAL
Station: El. : 22.0-24.0'	Computed By: MHD
Range : Sample: 2	Checked By : <i>GPB</i>
Boring : US-1 Part : 1	Report Date: 09-26-94

Moisture Content	Trimming	Initial	Final
Wet Wt. and Tare(gm)-	155.0	152.9	188.8
Dry Wt. and Tare(gm)-	131.2	120.0	157.0
Wt. of Tare(gm) =	39.5	0.0	37.0
Moisture(%) =	26.0	27.4	26.5

Test Conditions and Constants:

Proving Ring No. = 2411	Tube No. = 1
Proving Ring Constant:	Sample Volume (cc) = 79.281
Slope Const. = 1	Sample Height(in.) = 3.113
Intercept = 0	Specific Gravity = 2.6
Confining Pres.(psi) = 14	Consolidation(in.) = 0
Initial Pore Pre(psi)= 0	Initial P.R. Rdg = 13.4

Time (Min)	Deflection (ins.)	Pro. Ring Reading	Strain (%)	±1 - ±3 (tsf)
1	0.043	15.8	1.38	0.11
2	0.080	16.6	2.57	0.14
3	0.120	17.4	3.85	0.18
4	0.156	17.8	5.01	0.19
5	0.194	18.2	6.23	0.21
6	0.226	18.4	7.26	0.21
7	0.262	18.6	8.42	0.22
8	0.295	18.6	9.48	0.22
9	0.330	18.6	10.60	0.22
10	0.366	18.8	11.76	0.22
11	0.400	18.8	12.85	0.22
12	0.436	19.0	14.01	0.22
13	0.470	18.0	15.10	0.18
14	0.505	18.0	16.22	0.18
15	0.542	18.0	17.41	0.18
16	0.574	17.8	18.44	0.17
17	0.608	17.8	19.53	0.16
18	0.644	17.8	20.69	0.16
19	0.669	17.0	21.49	0.13
20	0.714	17.0	22.94	0.13

Initial:

Moisture(%) = 27.4	Void Ratio = 0.718
Density(pcf) = 94.5	Saturation(%) = 99.3

Minor Prin. Stress(tsf) = 1.01	Major Prin. Stress(tsf) = 1.23
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NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

Singleton Laboratories
Unconsolidated Undrained Triaxial Compression (Q) Test

Project: KINGSTON FP	File : 8
Feature: DREDGE CELLS/CLOSURE	Tested By : TAL
Station: El. : 22.0-24.0'	Computed By: MHD
Range : Sample: 2	Checked By : GPB
Boring : US-1 Part : 1	Report Date: 09-26-94

Moisture Content	Trimming	Initial	Final
Wet-Wt. and Tare(gm)=	160.4	155.8	194.0
Dry Wt. and Tare(gm)=	136.5	126.3	165.4
Wt. of Tare(gm) =	38.8	0.0	39.1
Moisture(%) =	24.5	23.4	22.6

Test Conditions and Constants:

Proving Ring No. = 2515	Tube No. = 1
Proving Ring Constant:	Sample Volume (cc) = 79.281
Slope Const. = 1	Sample Height(in.) = 3.113
Intercept = 0	Specific Gravity = 2.6
Confining Pres. (psi) = 28	Consolidation(in.) = 0
Initial Pore Pre(psi) = 0	Initial P.R. Rdg = 22

Time (Min)	Deflection (ins.)	Pro. Ring Reading	Strain (%)	±1 - ±3 (tsf)
1	0.042	25.0	1.35	0.14
2	0.083	26.8	2.67	0.22
3	0.125	27.8	4.02	0.26
4	0.162	28.8	5.20	0.30
5	0.196	29.8	6.30	0.34
6	0.230	30.2	7.39	0.35
7	0.268	30.8	8.61	0.37
8	0.300	31.2	9.64	0.39
9	0.335	31.8	10.76	0.41
10	0.376	32.2	12.08	0.42
11	0.405	32.8	13.01	0.44
12	0.441	32.8	14.17	0.43
13	0.476	33.0	15.29	0.43
14	0.507	33.2	16.29	0.43
15	0.544	33.4	17.48	0.44
16	0.578	33.4	18.57	0.43
17	0.613	33.6	19.69	0.43
18	0.649	34.0	20.85	0.44
19	0.680	34.2	21.84	0.44
20	0.714	34.4	22.94	0.44

Initial:

Moisture(%) = 23.4	Void Ratio = 0.632
Density(pcf) = 99.5	Saturation(%) = 96.1

Minor Prin. Stress(tsf) = -2.02	Major Prin. Stress(tsf) = -2.46
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NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

Singleton Laboratories
Unconsolidated Undrained Triaxial Compression (Q) Test

Project: KINGSTON FP	File : 8
Feature: DREDGE CELLS/CLOSURE	Tested By : TAL
Station: El. : 22.0-24.0'	Computed By: MHD
Range : Sample: 2	Checked By : <i>GPB</i>
Boring : US-1 Part : 1	Report Date: 09-26-94

Moisture Content	Trimming	Initial	Final
Wet Wt. and Tare(gm)=	177.5	147.6	186.6
Dry Wt. and Tare(gm)=	144.9	113.2	152.5
Wt. of Tare(gm) =	38.0	0.0	39.3
Moisture(%) =	30.5	30.4	30.1

Test Conditions and Constants:

Proving Ring No. = 2288	Tube No. = 1
Proving Ring Constant:	Sample Volume (cc) = 79.281
Slope Const. = 1	Sample Height(in.) = 3.113
Intercept = 0	Specific Gravity = 2.6
Confining Pres. (psi) = 42	Consolidation(in.) = 0
Initial Pore Pre(psi) = 0	Initial P.R. Rdg = 34

Time (Min)	Deflection (ins.)	Pro. Ring Reading	Strain (%)	±1 - ±3 (tsf)
1	0.024	46.2	0.77	0.56
2	0.045	48.8	1.45	0.68
3	0.065	50.9	2.09	0.77
4	0.089	53.2	2.86	0.86
5	0.116	55.1	3.73	0.94
6	0.142	56.5	4.56	0.99
7	0.170	57.8	5.46	1.04
8	0.198	59.1	6.36	1.09
9	0.230	60.4	7.39	1.13
10	0.261	61.4	8.38	1.16
11	0.292	62.7	9.38	1.20
12	0.323	63.4	10.38	1.22
13	0.355	64.2	11.40	1.24
14	0.387	65.1	12.43	1.26
15	0.420	65.8	13.49	1.27
16	0.449	66.5	14.42	1.29
17	0.480	67.0	15.42	1.29
18	0.511	67.7	16.42	1.30
19	0.543	68.4	17.44	1.32
20	0.574	69.1	18.44	1.33

Initial:

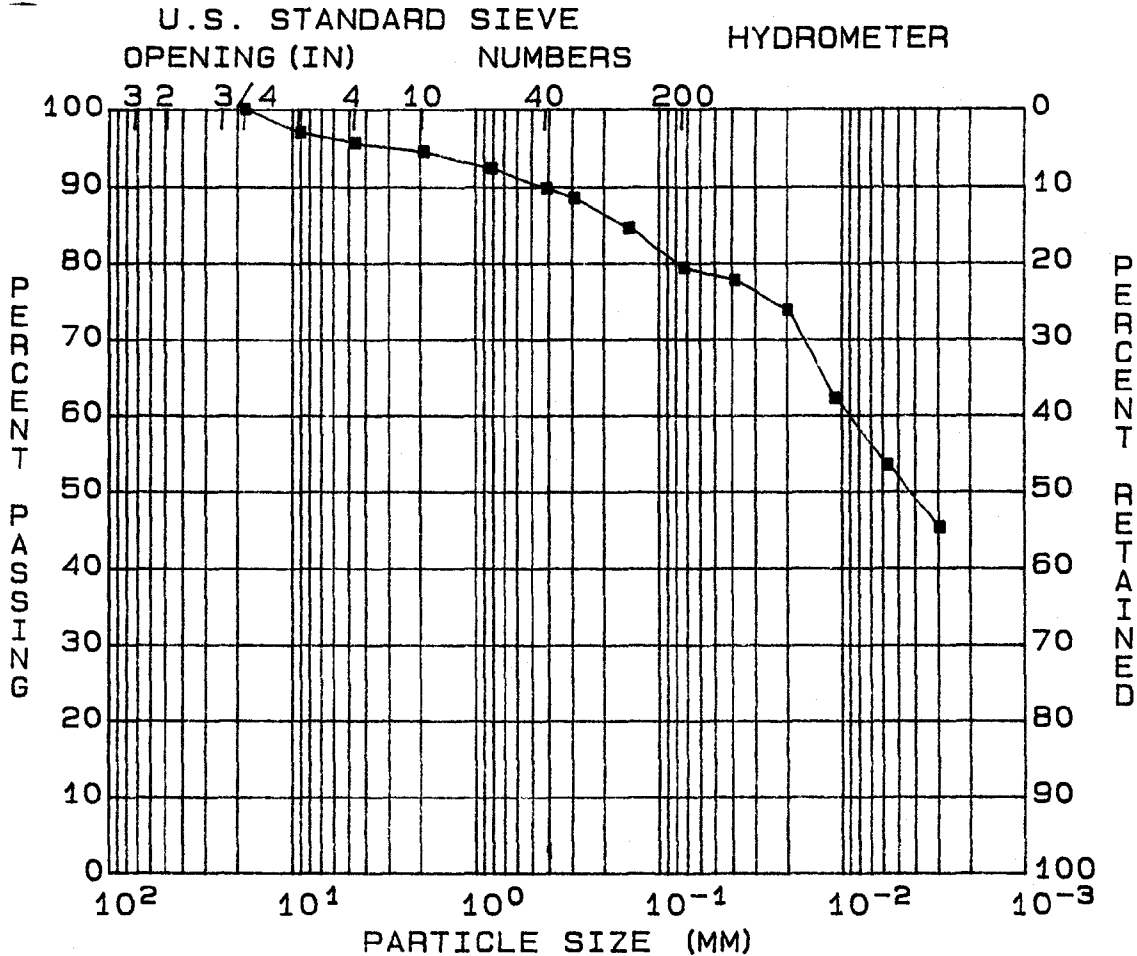
Moisture(%) = 30.4	Void Ratio = 0.821
Density(pcf) = 89.1	Saturation(%) = 96.2

Minor Prin. Stress(tsf) = 3.02	Major Prin. Stress(tsf) = 4.35
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NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS

PROJECT: TVA/KINGSTON FP	BORING: US-2
FEATURE: DREDGE CELLS/CLOSURE	EL. : 13'-15'
STATION:	SAMPLE: 1
RANGE :	DATE : 09-29-94
PART : 5	



GRAVEL (%) = 4	D10 (MM) = --
SAND (%) = 17	D30 (MM) = --
SILT (%) = 28	D60 (MM) = --
CLAY (%) = 51	COEF UNIF = --

SOIL SYMBOL = CL	L.L. (%) = 43	DENSITY (pcf) = 72.6
MOISTURE (%) = 64.2	P.I. (%) = 20	SATURATION (%) = 100.00
SP. GR. = 2.66		VOID RATIO = 1.288

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : US-2

El. : 13'-15'
Sample: 1
Part : 5

FILE : 28
TESTED BY : REG
Computed By: MHD
Checked By : TAL
Report Date: 09-29-94

Specific Gravity = 2.661

Flask No. = 9.00

Soil Wt.(gm) = 50.00

Chunk Density

Wet Wt.+Tare(gm)= 200.6

Dry Wt.+Tare(gm)= 137.9

Tare Wt(gm) = 40.2

Moisture(%) = 64.2

Void Ratio = -1.288

Moisture Determination

Dry Wt.+Tare(gm)= 508.70

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 77.80

Tare Wt(gm) = 39.50

Liquid Limit

Blows = 26.00

Wet Wt.(gm) = 16.15

Dry Wt.(gm) = 12.54

Tare Wt.(gm) = 4.14

Liquid Limit(%) = 43.18

Plasticity Index= 20.15

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 400.6

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	8.2	98.0	9.5300
NO.4	14.1	96.5	4.7500
NO.10	19.0	95.3	2.0000
NO.20	1.1	93.1	0.8500
NO.40	2.5	90.4	0.4250
NO.50	3.2	89.0	0.3000
NO.100	5.2	85.1	0.1500
NO.200	7.9	79.8	0.0750

Air Dry Weight(gm)= 50.00

Time	Temp.	Hyd.Rdg
1 min.	20.8	46.0
4 min.	20.8	44.0
15 min.	20.8	38.0
1 hour	20.8	33.5
4 hours	20.8	29.3

Temp.(deg.c.) = 22.20

Total Wt.(gm) = 707.06

Sample Wt.(gm) = 942.5

Sa.+ Wt.(air) = 990.5

SA.+ PA. Wt(Water) = 443.0

Density(pcf) = 72.6

Saturation(%) = -100.00

Tare Wt(gm) = 108.10

Dry Wt.+Tare(gm)= 76.80

Moisture(%) = 2.68

Plastic Limit

Wet Wt.(gm) = 17.15

Dry Wt.(gm) = 14.70

Tare Wt.(gm) = 4.06

Plastic Limit(%)= 23.03

Corrected Weight(gm)= 48.69

Corr	% Pass	Size(mm)
6.0	78.1	0.0394
6.0	74.2	0.0201
6.0	62.4	0.0109
6.0	53.7	0.0057
6.0	45.5	0.0029

Soil Symbol= CL (Inorganic clay of medium plasticity)

Gravel(%)= 4

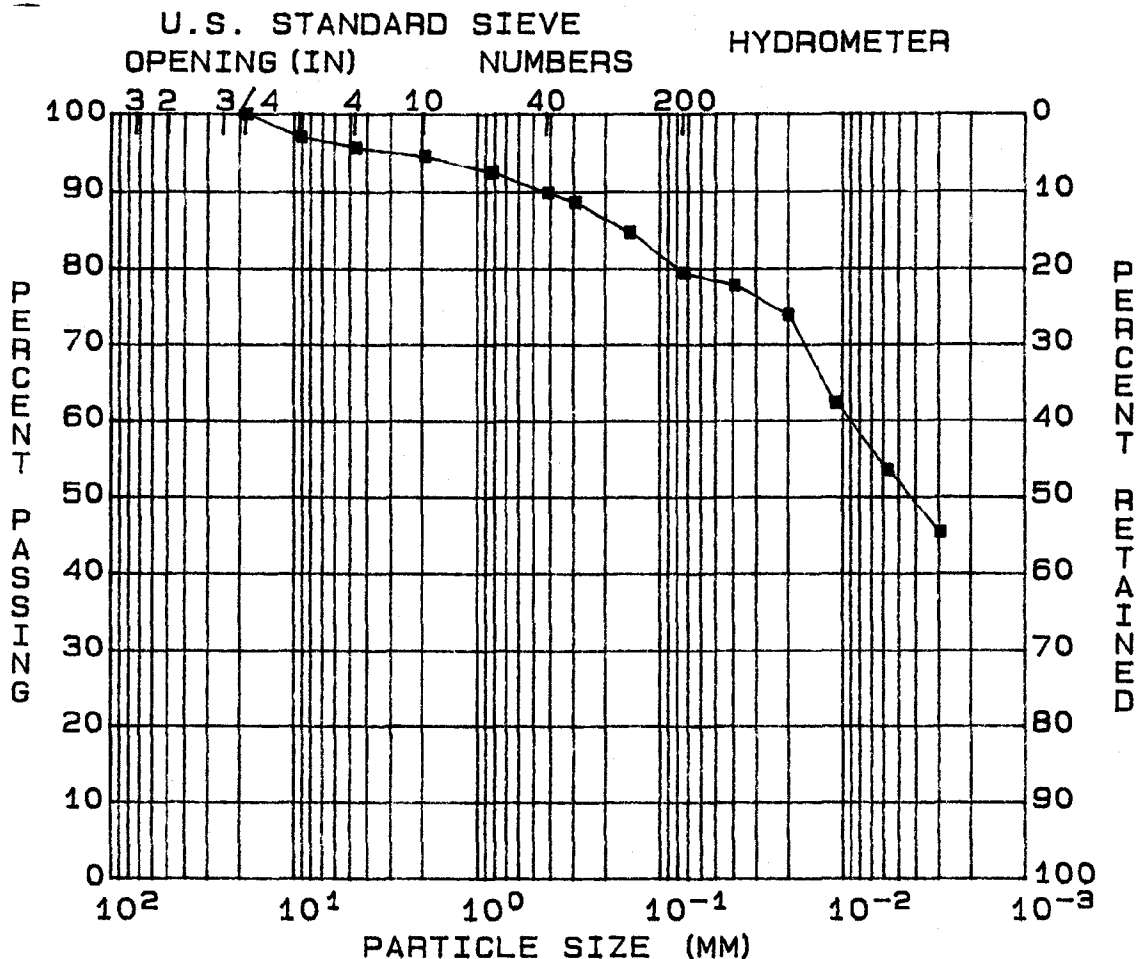
Sand(%)=17

Silt(%)= 28

Clay(%)= 51

**SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS**

PROJECT: TVA/KINGSTON FP	BORING: US-2
FEATURE: DREDGE CELLS/CLOSURE	EL. : 13'-15'
STATION:	SAMPLE: 1
RANGE :	DATE : 09-29-94
PART : 5	



GRAVEL (%) = 4	D10 (MM) = --
SAND (%) = 17	D30 (MM) = --
SILT (%) = 28	D60 (MM) = --
CLAY (%) = 51	COEF UNIF = --

SOIL SYMBOL = CL	L.L. (%) = 44	DENSITY (pcf) = 72.6
MOISTURE (%) = 64.2	P.I. (%) = 21	SATURATION (%) = 100.00
SP. GR. = 2.66		VOID RATIO = 1.288

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : US-2

El. : 13'-15'
Sample: 1
Part : 5

FILE : 29
TESTED BY : REG
Computed By: MHD
Checked By : TAL
Report Date: 09-29-94

Specific Gravity = 2.661

Flask No. = 9.00

Soil Wt.(gm) = 50.00

Chunk Density

Wet Wt.+Tare(gm)= 200.6

Dry Wt.+Tare(gm)= 137.9

Tare Wt(gm) = 40.2

Moisture(%) = 64.2

Void Ratio = -1.288

Moisture Determination

Dry Wt.+Tare(gm)= 508.70

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 77.80

Tare Wt(gm) = 39.50

Liquid Limit

Blows = 26.00

Wet Wt.(gm) = 16.67

Dry Wt.(gm) = 12.90

Tare Wt.(gm) = 4.23

Liquid Limit(%) = 43.69

Plasticity Index= 20.66

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 400.6

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	8.2	98.0	9.5300
NO. 4	14.1	96.5	4.7500
NO. 10	19.0	95.3	2.0000
NO. 20	1.1	93.1	0.8500
NO. 40	2.5	90.4	0.4250
NO. 50	3.2	89.0	0.3000
NO. 100	5.2	85.1	0.1500
NO. 200	7.9	79.8	0.0750

Air Dry Weight(gm)= 50.00

Time Temp. Hyd.Rdg

1 min. 20.8 46.0

4 min. 20.8 44.0

15 min. 20.8 38.0

1 hour 20.8 33.5

4 hours 20.8 29.3

Temp.(deg.c.) = 22.20

Total Wt.(gm) = 707.06

Sample Wt.(gm) = 942.5

Sa.+ Wt.(air) = 990.5

SA.+ PA. Wt(Water) = 443.0

Density(pcf) = 72.6

Saturation(%) = 100.00

Tare Wt(gm) = 108.10

Dry Wt.+Tare(gm)= 76.80

Moisture(%) = 2.68

Plastic Limit

Wet Wt.(gm) = 17.15

Dry Wt.(gm) = 14.70

Tare Wt.(gm) = 4.06

Plastic Limit(%)= 23.03

Corrected Weight(gm)= 48.69

Corr % Pass Size(mm)

6.0 78.1 0.0394

6.0 74.2 0.0201

6.0 62.4 0.0109

6.0 53.7 0.0057

6.0 45.5 0.0029

Soil Symbol= CL (Inorganic clay of medium plasticity)

Gravel(%)= 4

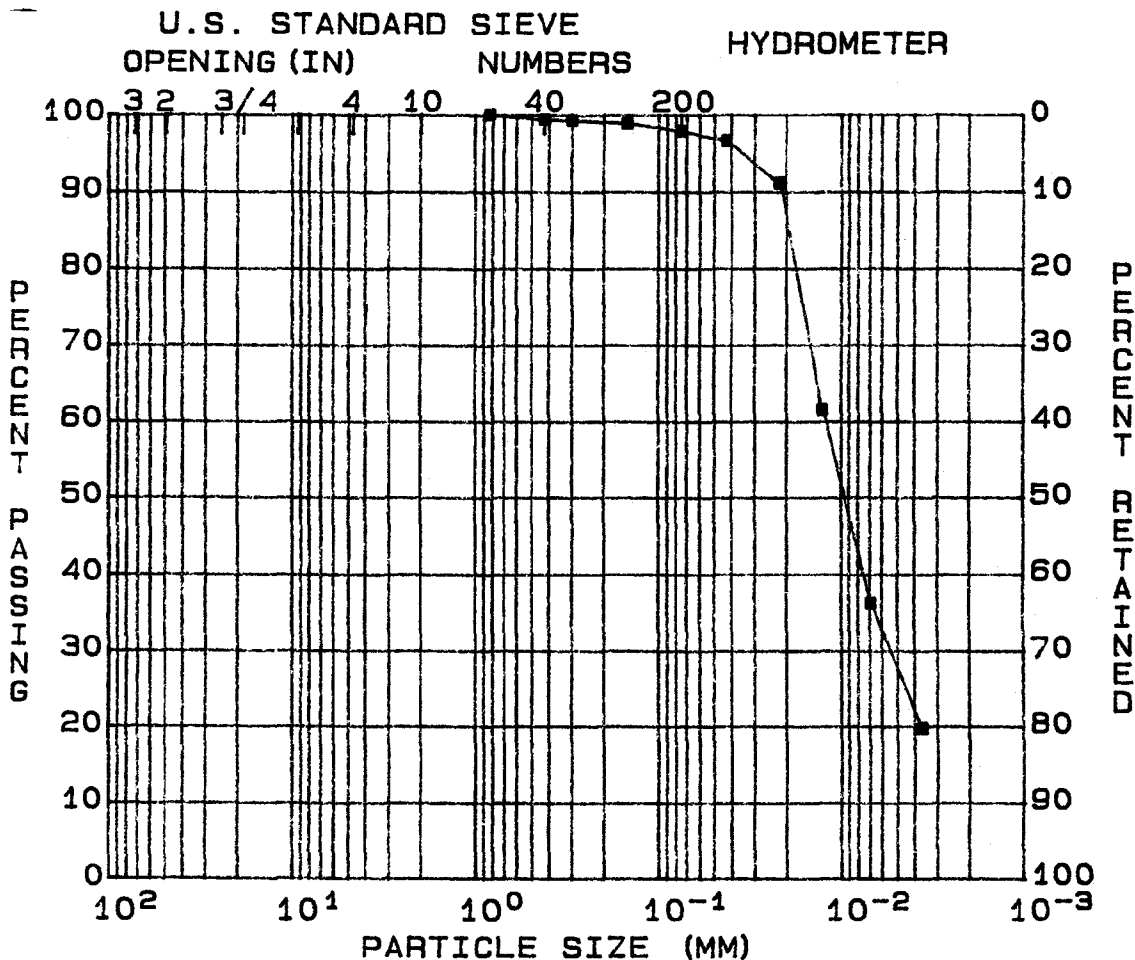
Sand(%)= 17

Silt(%)= 28

Clay(%)= 51

**SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS**

PROJECT: TVA/KINGSTON FP	BORING: US-3
FEATURE: DREDGE CELLS/CLOSURE	EL. : 15.0'-17.0'
STATION:	SAMPLE: 1
RANGE :	DATE : 09-28-94
PART : 4	



GRAVEL (%) = 0	D10 (MM) = --
SAND (%) = 2	D30 (MM) = --
SILT (%) = 70	D60 (MM) = --
CLAY (%) = 28	COEF UNIF = --

SOIL SYMBOL = ML	L.L. (%) = NP	DENSITY (pcf) = 77.9
MOISTURE (%) = 34.5	P.I. (%) = NP	SATURATION (%) = 93.49
SP. GR. = 2.32		VOID RATIO = 0.855

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : US-3

El. : 15.0' -17.0'
Sample: 1
Part : 4

FILE : 93
TESTED BY : REG
Computed By: MHD
Checked By : TAL
Report Date: 09-28-94

Specific Gravity = 2.315

Flask No. = 10.00

Soil Wt.(gm) = 50.00

Chunk Density

Wet Wt.+Tare(gm)= 206.6

Dry Wt.+Tare(gm)= 163.7

Tare Wt(gm) = 39.4

Moisture(%) = 34.5

Void Ratio = -0.855

Moisture Determination

Dry Wt.+Tare(gm)= 450.70

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 100.00

Tare Wt(gm) = 38.30

Non-Plastic Soil

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 354.3

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO.4	0.0	100.0	4.7500
NO.10	0.0	100.0	2.0000
NO.20	0.0	100.0	0.8500
NO.40	0.1	99.8	0.4250
NO.50	0.2	99.6	0.3000
NO.100	0.4	99.2	0.1500
NO.200	0.9	98.2	0.0750

Air Dry Weight(gm)= 50.00

Time	Temp.	Hyd.Rdg
1 min.	20.8	50.0
4 min.	20.8	47.5
15 min.	20.8	34.0
1 hour	20.8	22.5
4 hours	20.8	15.0

Corrected Weight(gm)= 49.76

Time	Temp.	Hyd.Rdg	Corr	% Pass	Size(mm)
1 min.	20.8	50.0	6.0	96.9	0.0426
4 min.	20.8	47.5	6.0	91.4	0.0218
15 min.	20.8	34.0	6.0	61.7	0.0127
1 hour	20.8	22.5	6.0	36.3	0.0069
4 hours	20.8	15.0	6.0	19.8	0.0036

Soil Symbol= ML (Inorganic silt of low plasticity)

Gravel(%)= 0

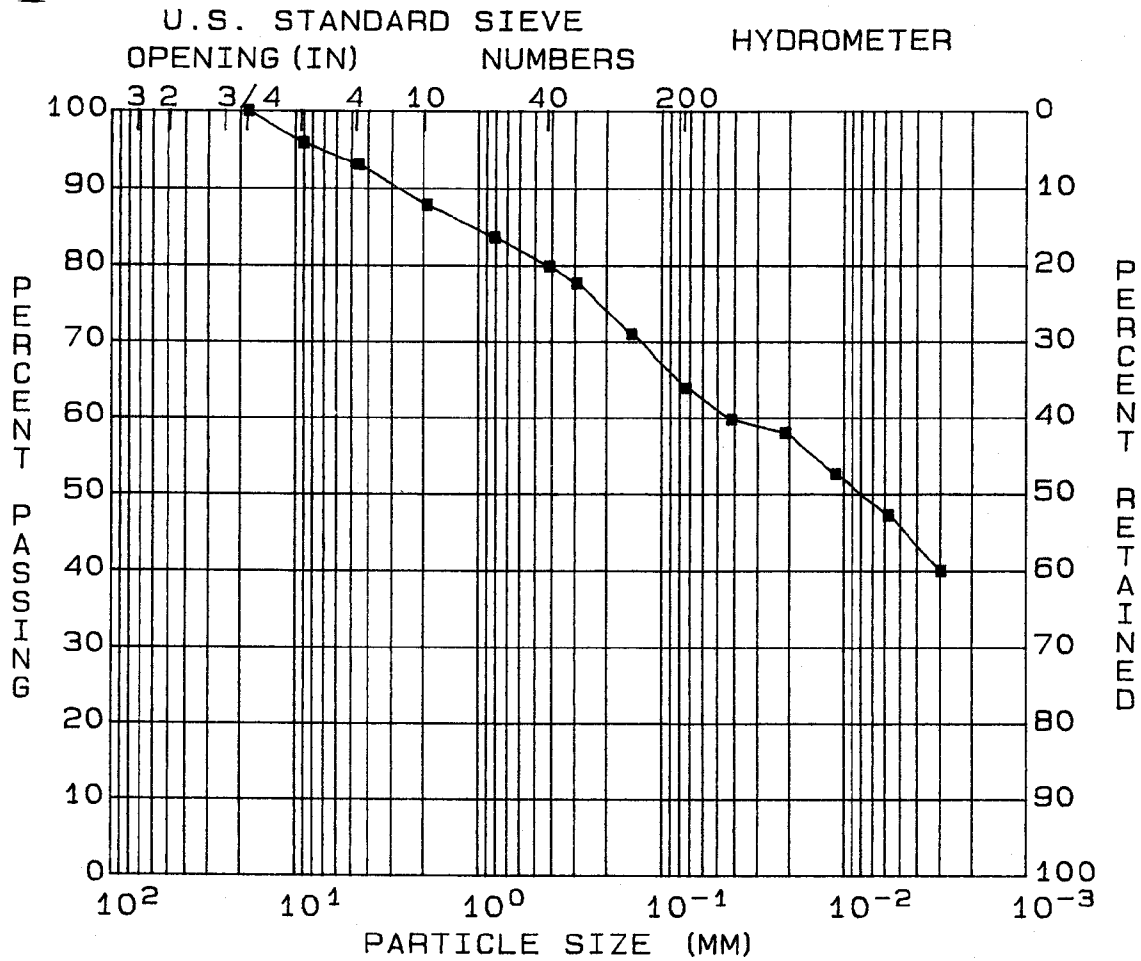
Sand(%)= 2

Silt(%)= 70

Clay(%)= 28

SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS

PROJECT: TVA/KINGSTON FP	BORING: US-3
FEATURE: DREDGE CELLS/CLOSURE	EL. : 33'-35'
STATION:	SAMPLE: 2
RANGE :	DATE : 09-29-94
PART : 1	



GRAVEL (%) = 6	D10 (MM) = --
SAND (%) = 30	D30 (MM) = --
SILT (%) = 18	D60 (MM) = --
CLAY (%) = 46	COEF UNIF = --

SOIL SYMBOL = CL	L.L. (%) = 41	DENSITY (pcf) = 97.8
MOISTURE (%) = 22.8	P.I. (%) = 18	SATURATION (%) = 88.41
SP. GR. = 2.63		VOID RATIO = 0.676

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : US-3

El. : 33'-35'
Sample: 2
Part : 1

FILE : 25
TESTED BY : REG
Computed By: MHD
Checked By : TAC
Report Date: 09-29-94

Specific Gravity = 2.627

Flask No. = 13.00
Soil Wt.(gm) = 50.00

Temp.(deg.c.) = 22.40
Total Wt.(gm) = 704.43

Chunk Density

Wet Wt.+Tare(gm)= 138.4
Dry Wt.+Tare(gm)= 120.1
Tare Wt(gm) = 39.7
Moisture(%) = 22.8
Void Ratio = 0.676

Sample Wt.(gm) = 1058.0
Sa.+ Wt.(air) = 1115.6
SA.+ PA. Wt(Water) = 501.0
Density(pcf) = 97.8
Saturation(%) = 88.41

Moisture Determination

Dry Wt.+Tare(gm)= 280.10

Tare Wt(gm) = 70.80

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 64.10
Tare Wt(gm) = 39.90

Dry Wt.+Tare(gm)= 63.60
Moisture(%) = 2.11

Liquid Limit

Blows = 27.00
Wet Wt.(gm) = 11.10
Dry Wt.(gm) = 9.00
Tare Wt.(gm) = 3.86
Liquid Limit(%) = 41.24
Plasticity Index= 17.61

Plastic Limit

Wet Wt.(gm) = 20.84
Dry Wt.(gm) = 17.65
Tare Wt.(gm) = 4.15

Plastic Limit(%)= 23.63

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 209.3

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	6.7	96.8	9.5300
NO.4	12.7	93.9	4.7500
NO.10	23.9	88.6	2.0000
NO.20	2.4	84.2	0.8500
NO.40	4.5	80.4	0.4250
NO.50	5.8	78.1	0.3000
NO.100	9.5	71.4	0.1500
NO.200	13.5	64.2	0.0750

Air Dry Weight(gm)= 50.00

Corrected Weight(gm)= 48.97

Time	Temp.	Hyd.Rdg
1 min.	20.8	39.0
4 min.	20.8	38.0
15 min.	20.8	35.0
1 hour	20.8	32.0
4 hours	20.8	28.0

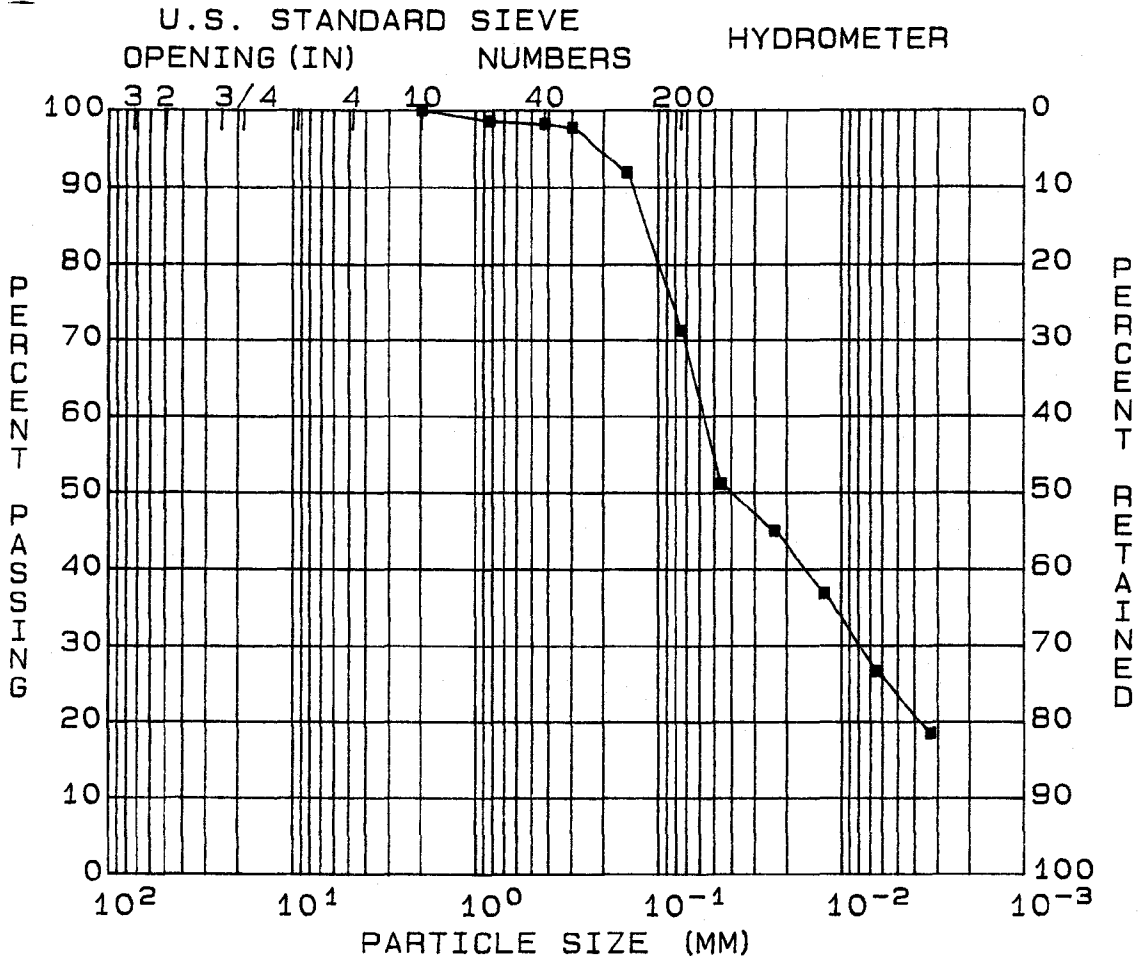
Corr	% Pass	Size(mm)
6.0	60.0	0.0424
6.0	58.2	0.0214
6.0	52.7	0.0113
6.0	47.3	0.0058
6.0	40.0	0.0030

Soil Symbol= CL (Inorganic sandy clay of medium plasticity)
Gravel(%)= 6 Sand(%)=30 Silt(%)= 18

Clay(%)= 46

SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS

PROJECT: TVA/KINGSTON FP	BORING: US-4
FEATURE: DREDGE CELLS/CLOSURE	EL. : 8'-10'
STATION:	SAMPLE: 1
RANGE :	DATE : 09-29-94
PART : 3	



GRAVEL (%) = 0	D10 (MM) = --
SAND (%) = 28	D30 (MM) = --
SILT (%) = 48	D60 (MM) = --
CLAY (%) = 24	COEF UNIF = --

SOIL SYMBOL = CL-ML	L.L. (%) = 23	DENSITY (pcf) = 103.6
MOISTURE (%) = 17.8	P.I. (%) = 6	SATURATION (%) = 82.07
SP. GR. = 2.59		VOID RATIO = 0.561

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : US-4

El. : 8'-10'
Sample: 1
Part : 3

FILE : 26
TESTED BY : REG
Computed By: MHD
Checked By : TR
Report Date: 09-29-94

Specific Gravity = 2.591

Flask No. = 19.00

Soil Wt.(gm) = 50.00

Chunk Density

Wet Wt.+Tare(gm)= 155.6

Dry Wt.+Tare(gm)= 137.9

Tare Wt(gm) = 38.3

Moisture(%) = 17.8

Void Ratio = 0.561

Moisture Determination

Dry Wt.+Tare(gm)= 309.30

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 73.70

Tare Wt(gm) = 39.00

Liquid Limit

Blows = 26.00

Wet Wt.(gm) = 20.68

Dry Wt.(gm) = 17.56

Tare Wt.(gm) = 4.10

Liquid Limit(%) = 23.29

Plasticity Index= 5.95

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 205.7

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO.4	0.0	100.0	4.7500
NO.10	0.0	100.0	2.0000
NO.20	0.4	99.2	0.8500
NO.40	0.6	98.8	0.4250
NO.50	0.9	98.2	0.3000
NO.100	3.8	92.3	0.1500
NO.200	14.0	71.6	0.0750

Air Dry Weight(gm)= 50.00

Time Temp. Hyd.Rdg

1 min. 20.8 31.0

4 min. 20.8 28.0

15 min. 20.8 24.0

1 hour 20.8 19.0

4 hours 20.8 15.0

Temp.(deg.c.) = 22.20

Total Wt.(gm) = 711.74

Sample Wt.(gm) = 1026.8

Sa. + Wt.(air) = 1079.6

SA. + PA. Wt(Water) = 495.0

Density(pcf) = 103.6

Saturation(%) = 82.07

Tare Wt(gm) = 103.60

Dry Wt.+Tare(gm)= 73.20

Moisture(%) = 1.46

Plastic Limit

Wet Wt.(gm) = 23.23

Dry Wt.(gm) = 20.40

Tare Wt.(gm) = 4.08

Plastic Limit(%)= 17.34

Corrected Weight(gm)= 49.28

Corr % Pass Size(mm)

6.0 51.4 0.0457

6.0 45.3 0.0234

6.0 37.0 0.0124

6.0 26.7 0.0064

6.0 18.5 0.0033

Soil Symbol= CL-ML (Inorganic sandy clayey silt)

Gravel(%)= 0

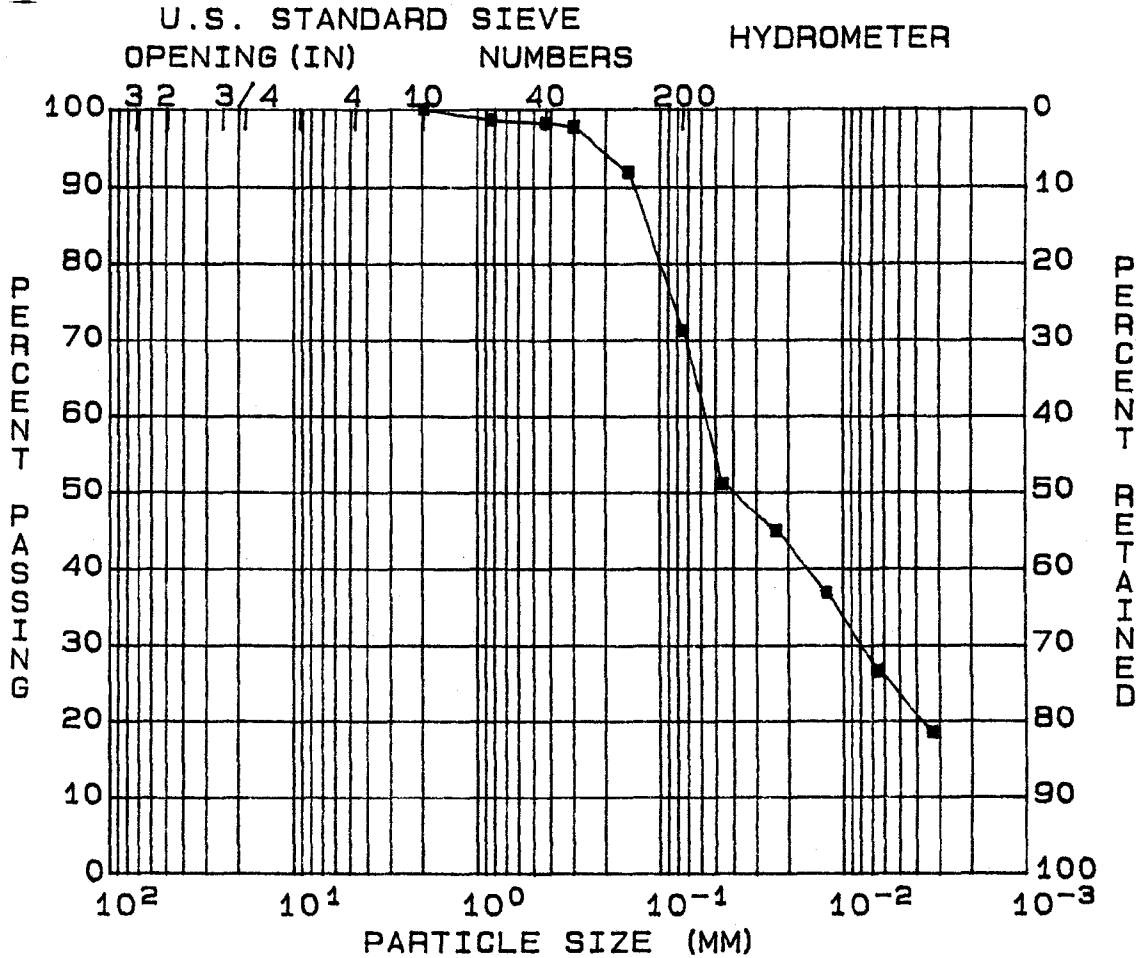
Sand(%)= 28

Silt(%)= 48

Clay(%)= 24

**SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS**

PROJECT: TVA/KINGSTON FP	BORING: US-4
FEATURE: DREDGE CELLS/CLOSURE	EL. : 8'-10'
STATION:	SAMPLE: 1
RANGE :	DATE : 09-29-94
PART : 3	



GRAVEL (%) = 0	D10 (MM) = --
SAND (%) = 28	D30 (MM) = --
SILT (%) = 48	D60 (MM) = --
CLAY (%) = 24	COEF UNIF = --

SOIL SYMBOL = CL-ML	L.L. (%) = 24	DENSITY (pcf) = 103.6
MOISTURE (%) = 17.8	P.I. (%) = 6	SATURATION (%) = 82.07
SP. GR. = 2.59		VOID RATIO = 0.561

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : US-4

El. : 8'-10'
Sample: 1
Part : 3

FILE : 27
TESTED BY : REG
Computed By: MHD
Checked By : *TAL*
Report Date: 09-29-94

Specific Gravity = 2.591

Flask No. = 19.00
Soil Wt.(gm) = 50.00

Temp.(deg.c.) = 22.20
Total Wt.(gm) = 711.74

Chunk Density

Wet Wt.+Tare(gm)= 155.6
Dry Wt.+Tare(gm)= 137.9
Tare Wt(gm) = 38.3
Moisture(%) = 17.8
Void Ratio = 0.561

Sample Wt.(gm) = 1026.8
Sa. + Wt.(air) = 1079.6
SA. + PA. Wt(Water) = 495.0
Density(pcf) = 103.6
Saturation(%) = 82.07

Moisture Determination

Dry Wt.+Tare(gm)= 309.30

Tare Wt(gm) = 103.60

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 73.70
Tare Wt(gm) = 39.00

Dry Wt.+Tare(gm)= 73.20
Moisture(%) = 1.46

Liquid Limit

Blows = 26.00
Wet Wt.(gm) = 14.61
Dry Wt.(gm) = 12.56
Tare Wt.(gm) = 3.82
Liquid Limit(%) = 23.57
Plasticity Index= 6.23

Plastic Limit

Wet Wt.(gm) = 23.23
Dry Wt.(gm) = 20.40
Tare Wt.(gm) = 4.08

Plastic Limit(%)= 17.34

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 205.7

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO.4	0.0	100.0	4.7500
NO.10	0.0	100.0	2.0000
NO.20	0.4	99.2	0.8500
NO.40	0.6	98.8	0.4250
NO.50	0.9	98.2	0.3000
NO.100	3.8	92.3	0.1500
NO.200	14.0	71.6	0.0750

Air Dry Weight(gm)= 50.00

Corrected Weight(gm)= 49.28

Time	Temp.	Hyd.Rdg
1 min.	20.8	31.0
4 min.	20.8	28.0
15 min.	20.8	24.0
1 hour	20.8	19.0
4 hours	20.8	15.0

Corr	% Pass	Size(mm)
6.0	51.4	0.0457
6.0	45.3	0.0234
6.0	37.0	0.0124
6.0	26.7	0.0064
6.0	18.5	0.0033

Soil Symbol= CL-ML (Inorganic sandy clayey silt)

Gravel(%)= 0

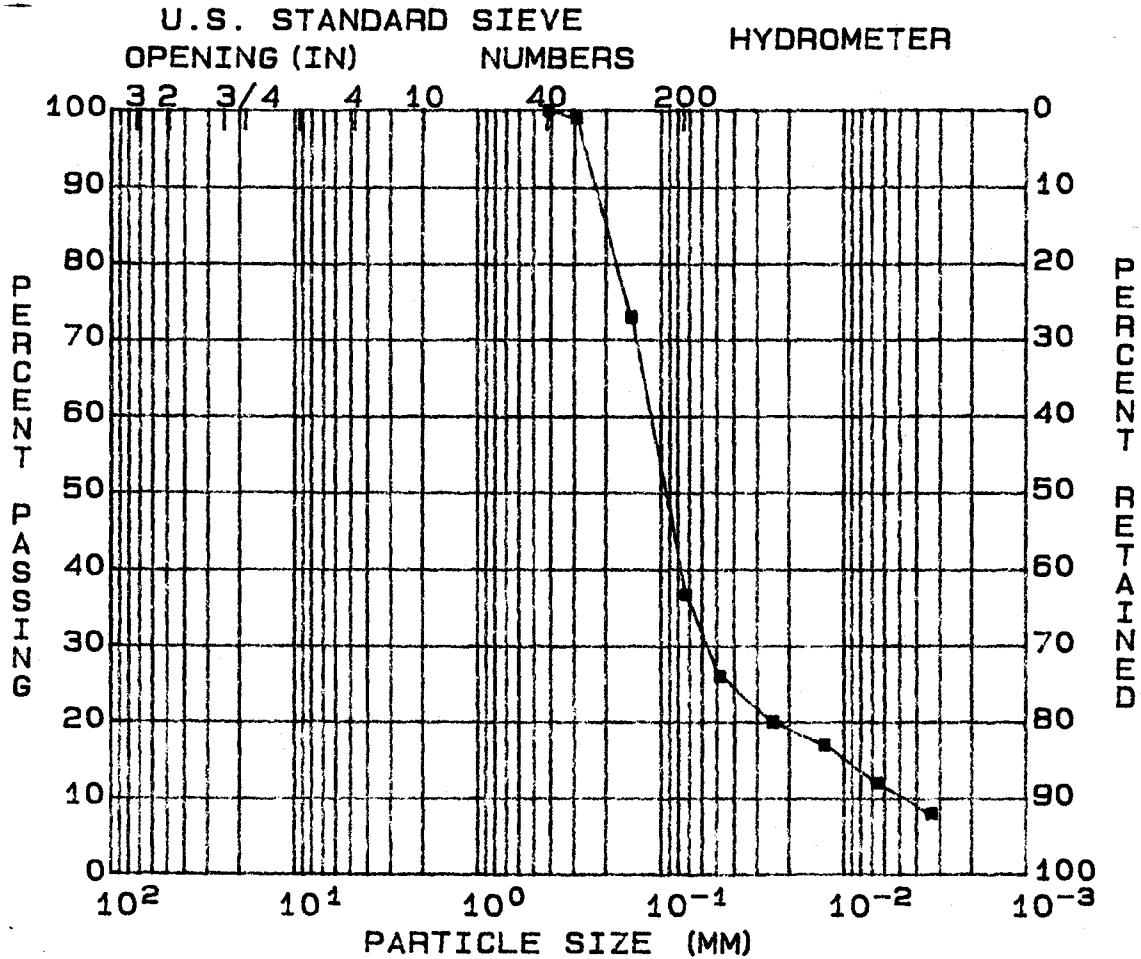
Sand(%)=28

Silt(%)= 48

Clay(%)= 24

**SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS**

PROJECT: TVA/KINGSTON FP	BORING: US-4
FEATURE: DREDGE CELLS/CLOSURE	EL. : 22.0'-24.0'
STATION:	SAMPLE: 2
RANGE :	DATE : 09-28-94
PART : 4	



GRAVEL (%) = 0	D10 (MM) = 0.0046
SAND (%) = 63	D30 (MM) = 0.0566
SILT (%) = 27	D60 (MM) = 0.1162
CLAY (%) = 10	COEF UNIF = 25.3

SOIL SYMBOL = SM	L.L. (%) = NP	DENSITY (pcf) = 106.8
MOISTURE (%) = 19.9	P.I. (%) = NP	SATURATION (%) = 100.00
SP. GR. = 2.57		VOID RATIO = 0.498

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : US-4

El. : 22.0'-24.'
Sample: 2
Part : 4

FILE : 96
TESTED BY : REG
Computed By: MHD
Checked By : TAL
Report Date: 09-28-94

Specific Gravity = 2.565

Flask No. = 23.00

Soil Wt.(gm) = 50.00

Chunk Density

Wet Wt.+Tare(gm)= 209.7

Dry Wt.+Tare(gm)= 181.3

Tare Wt(gm) = 38.5

Moisture(%) = 19.9

Void Ratio = 0.498

Temp.(deg.c.) = 22.20

Total Wt.(gm) = 706.04

Sample Wt.(gm) = 1066.8

Sa.+ Wt.(air) = 1124.5

SA.+ PA. Wt(Water) = 540.0

Density(pcf) = 106.8

Saturation(%) = 100.00

Moisture Determination

Dry Wt.+Tare(gm)= 302.80

Tare Wt(gm) = 70.90

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 73.80

Dry Wt.+Tare(gm)= 73.50

Tare Wt(gm) = 39.70

Moisture(%) = 0.89

Non-Plastic Soil

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 231.9

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO.4	0.0	100.0	4.7500
NO.10	0.0	100.0	2.0000
NO.20	0.0	100.0	0.8500
NO.40	0.0	100.0	0.4250
NO.50	0.3	99.4	0.3000
NO.100	13.2	73.4	0.1500
NO.200	31.2	37.0	0.0750

Air Dry Weight(gm)= 50.00

Corrected Weight(gm)= 49.56

Time	Temp.	Hyd.Rdg	Corr	% Pass	Size(mm)
1 min.	20.8	19.0	6.0	26.2	0.0487
4 min.	20.8	16.0	6.0	20.2	0.0248
15 min.	20.8	14.5	6.0	17.2	0.0129
1 hour	20.8	12.0	6.0	12.1	0.0066
4 hours	20.8	10.0	6.0	8.1	0.0033

Soil Symbol= SM (Silty sand)

D10(mm) = 0.0046

D30(mm)= 0.0566

D60(mm)= 0.1162

Gravel(%)= 0

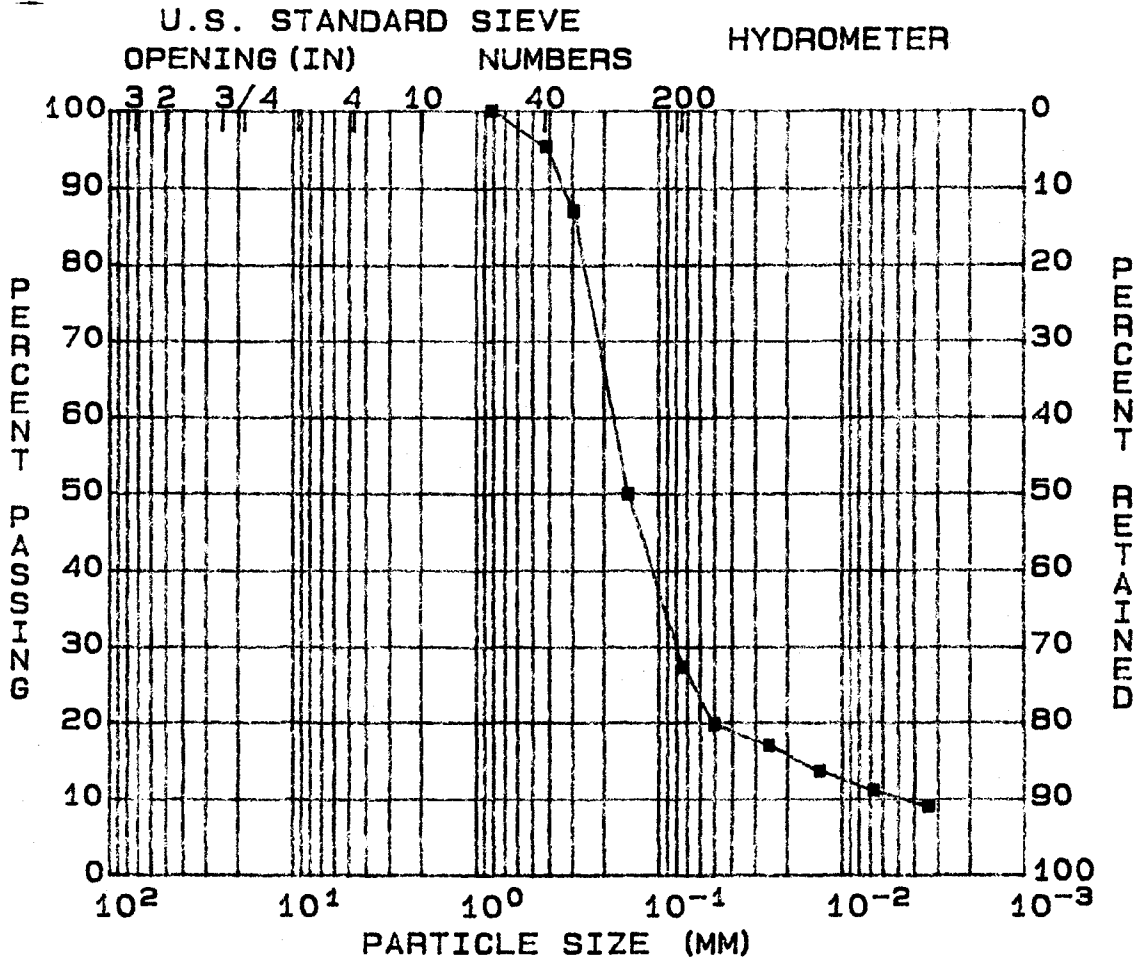
Sand(%)=63

Silt(%)= 27

Clay(%)= 10

**SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS**

PROJECT: TVA/KINGSTON FP	BORING: US-4
FEATURE: DREDGE CELLS/CLOSURE	EL. : 24.0'-26.0'
STATION:	SAMPLE: 3
RANGE :	DATE : 09-28-94
PART : 2	



GRAVEL (%) = 0	D10 (MM) = 0.0046
SAND (%) = 72	D30 (MM) = 0.0808
SILT (%) = 17	D60 (MM) = 0.1800
CLAY (%) = 11	COEF UNIF = 39.4

SOIL SYMBOL = SM	L.L. (%) = NP	DENSITY (pcf) = 116.9
MOISTURE (%) = 11.5	P.I. (%) = NP	SATURATION (%) = 72.76
SP. GR. = 2.66		VOID RATIO = 0.418

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : US-4

El. : 24.0'-26.0'
Sample: 3
Part : 2

FILE : 95
TESTED BY : REG
Computed By: MHD
Checked By : *TA*
Report Date: 09-28-94

Specific Gravity = 2.656

Flask No. = 24.00
Soil Wt.(gm) = 50.00

Temp.(deg.c.) = 22.20
Total Wt.(gm) = 707.00

Chunk Density

Wet Wt.+Tare(gm)= 231.4
Dry Wt.+Tare(gm)= 211.5
Tare Wt(gm) = 37.8
Moisture(%) = 11.5
Void Ratio = -0.418

Sample Wt.(gm) = -1100.2
Sa.+ Wt.(air) = -1158.4
SA.+ PA. Wt(Water) = 566.0
Density(pcf) = -116.9
Saturation(%) = 72.76

Moisture Determination

Dry Wt.+Tare(gm)= 409.90

Tare Wt(gm) = 104.80

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 98.90
Tare Wt(gm) = 39.60

Dry Wt.+Tare(gm)= 98.70
Moisture(%) = 0.34

Non-Plastic Soil

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 305.1

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO.4	0.0	100.0	4.7500
NO.10	0.0	100.0	2.0000
NO.20	0.0	100.0	0.8500
NO.40	2.1	95.8	0.4250
NO.50	6.3	87.4	0.3000
NO.100	24.8	50.2	0.1500
NO.200	36.1	27.6	0.0750

Air Dry Weight(gm)= 50.00

Corrected Weight(gm)= 49.83

Time	Temp.	Hyd.Rdg	Corr	% Pass	Size(mm)
1 min.	19.0	16.0	6.0	20.0	0.0506
4 min.	19.0	14.6	6.0	17.2	0.0255
15 min.	19.0	12.9	6.0	13.8	0.0133
1 hour	19.0	11.6	6.0	11.2	0.0067
4 hours	19.4	10.5	6.0	9.0	0.0034

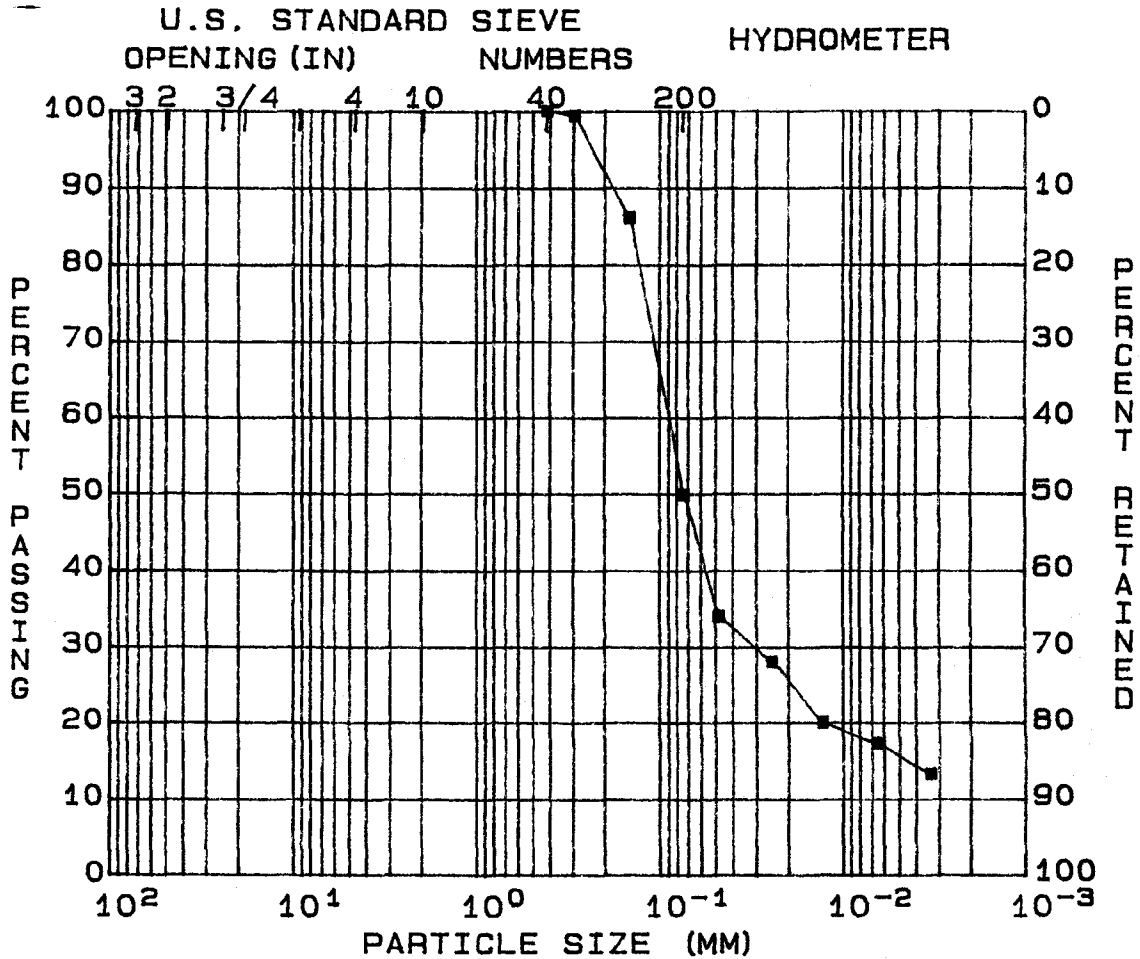
Soil Symbol= SM (Silty sand)

D10(mm) = 0.0046 D30(mm)= 0.0808 D60(mm)= 0.1800
Gravel(%)= 0 Sand(%)= 72 Silt(%)= 17

Clay(%)= 11

**SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS**

PROJECT: TVA/KINGSTON FP	BORING: US-4
FEATURE: DREDGE CELLS/CLOSURE	EL. : 30.0'-32.0'
STATION:	SAMPLE: 4
RANGE :	DATE : 09-28-94
PART : 4	



GRAVEL (%) = 0	D10 (MM) = --
SAND (%) = 50	D30 (MM) = --
SILT (%) = 34	D60 (MM) = --
CLAY (%) = 16	COEF UNIF = --

SOIL SYMBOL = ML	L.L. (%) = NP	DENSITY (pcf) = 105.6
MOISTURE (%) = 20.6	P.I. (%) = NP	SATURATION (%) = 95.59
SP. GR. = 2.66		VOID RATIO = 0.573

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : US-4

El. : 30.0'-32.0'
Sample: 4
Part : 4

FILE : 97
TESTED BY : REG
Computed By: MHD
Checked By : *TA*
Report Date: 09-28-94

Specific Gravity = 2.662

Flask No. = 22.00

Soil Wt.(gm) = 50.00

Chunk Density

Wet Wt.+Tare(gm)= 187.4

Dry Wt.+Tare(gm)= 162.0

Tare Wt(gm) = 38.5

Moisture(%) = 20.6

Void Ratio = 0.573

Temp.(deg.c.) = 22.20

Total Wt.(gm) = 708.00

Sample Wt.(gm) = 1016.9

Sa. + Wt.(air) = 1070.3

SA. + PA. Wt(Water) = 512.0

Density(pcf) = 105.6

Saturation(%) = 95.59

Moisture Determination

Dry Wt.+Tare(gm)= 294.50

Tare Wt(gm) = 96.50

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 80.50

Dry Wt.+Tare(gm)= 80.10

Tare Wt(gm) = 37.80

Moisture(%) = 0.95

Non-Plastic Soil

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 198

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO.4	0.0	100.0	4.7500
NO.10	0.0	100.0	2.0000
NO.20	0.0	100.0	0.8500
NO.40	0.0	100.0	0.4250
NO.50	0.1	99.8	0.3000
NO.100	6.7	86.5	0.1500
NO.200	24.7	50.1	0.0750

Air Dry Weight(gm)= 50.00

Corrected Weight(gm)= 49.53

Time	Temp.	Hyd.Rdg	Corr	% Pass	Size(mm)
1 min.	19.0	23.0	6.0	34.2	0.0484
4 min.	19.0	20.0	6.0	28.2	0.0247
15 min.	19.0	16.0	6.0	20.1	0.0131
1 hour	19.0	14.6	6.0	17.3	0.0066
4 hours	19.4	12.6	6.0	13.3	0.0033

Soil Symbol= ML (Inorganic sandy silt of low plasticity)

Gravel(%)= 0

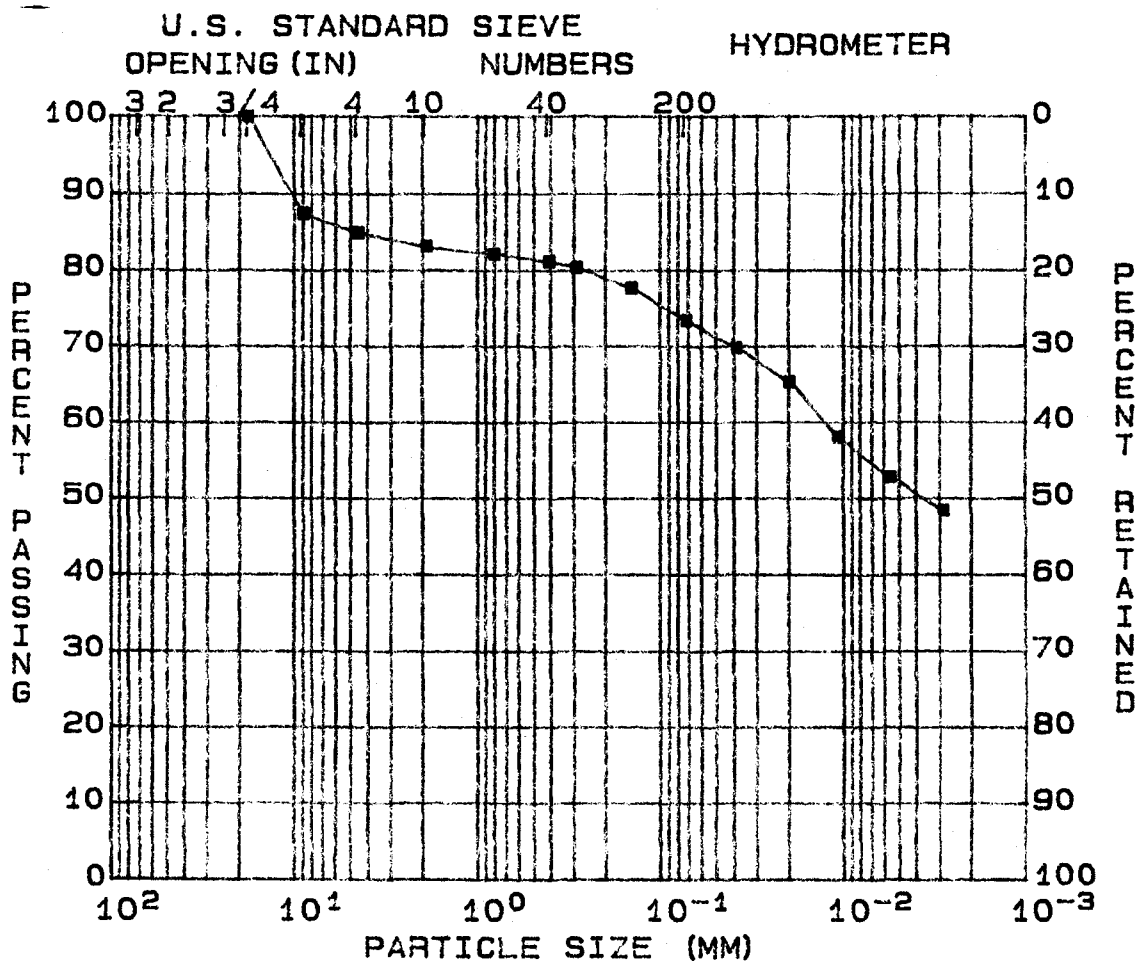
Sand(%)= 50

Silt(%)= 34

Clay(%)= 16

SINGLETON LABORATORIES PARTICLE SIZE ANALYSIS

PROJECT: TVA/KINGSTON FP BORING: US-5
 FEATURE: DREDGE CELLS/CLOSURE EL. : 13'-15'
 STATION: SAMPLE: 1
 RANGE : DATE : 09-29-94
 PART : 2



GRAVEL (%) = 14	D10 (MM) = --
SAND (%) = 12	D30 (MM) = --
SILT (%) = 22	D60 (MM) = --
CLAY (%) = 52	COEF UNIF = --

SOIL SYMBOL = MH/CH	L.L. (%) = 58	DENSITY (pcf) = 101.0
MOISTURE (%) = 25.2	P.I. (%) = 27	SATURATION (%) = 100.00
SP. GR. = 2.69		VOID RATIO = 0.661

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : US-5

El. : 13'-15'
Sample: 1
Part : 2

FILE : 20
TESTED BY : REG
Computed By: MHD
Checked By : *TAC*
Report Date: 09-29-94

Specific Gravity = 2.688

Flask No. = 7.00
Soil Wt.(gm) = 50.00

Temp.(deg.c.) = 22.40
Total Wt.(gm) = 709.67

Chunk Density

Wet Wt.+Tare(gm)= 140.7
Dry Wt.+Tare(gm)= 120.0
Tare Wt(gm) = 37.7
Moisture(%) = 25.2
Void Ratio = 0.661

Sample Wt.(gm) = 1021.3
Sa. + Wt.(air) = 1087.7
SA. + PA. Wt(Water) = 509.0
Density(pcf) = 101.0
Saturation(%) = 100.00

Moisture Determination

Dry Wt.+Tare(gm)= 362.90

Tare Wt(gm) = 105.80

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 63.80
Tare Wt(gm) = 38.50

Dry Wt.+Tare(gm)= 63.10
Moisture(%) = 2.85

Liquid Limit

Blows = 27.00
Wet Wt.(gm) = 12.60
Dry Wt.(gm) = 9.50
Tare Wt.(gm) = 4.10

Plastic Limit
Wet Wt.(gm) = 17.67
Dry Wt.(gm) = 14.44
Tare Wt.(gm) = 4.04

Liquid Limit(%) = 57.94

Plastic Limit(%) = 31.06

Plasticity Index = 26.88

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 257.1

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	30.0	88.3	9.5300
NO.4	36.6	85.8	4.7500
NO.10	41.4	83.9	2.0000
NO.20	0.6	82.9	0.8500
NO.40	1.2	81.8	0.4250
NO.50	1.7	81.0	0.3000
NO.100	3.3	78.2	0.1500
NO.200	5.8	73.9	0.0750

Air Dry Weight(gm)= 50.00

Corrected Weight(gm)= 48.62

Time	Temp.	Hyd.Rdg
1 min.	19.0	47.0
4 min.	19.0	44.3
15 min.	19.0	40.0
1 hour	19.0	36.9
4 hours	19.4	34.3

Corr	% Pass	Size(mm)
6.0	70.1	0.0396
6.0	65.5	0.0203
6.0	58.2	0.0109
6.0	52.9	0.0056
6.0	48.4	0.0028

Soil Symbol= MH/CH (Inorganic clayey silt of high plasticity)

Gravel(%)=14

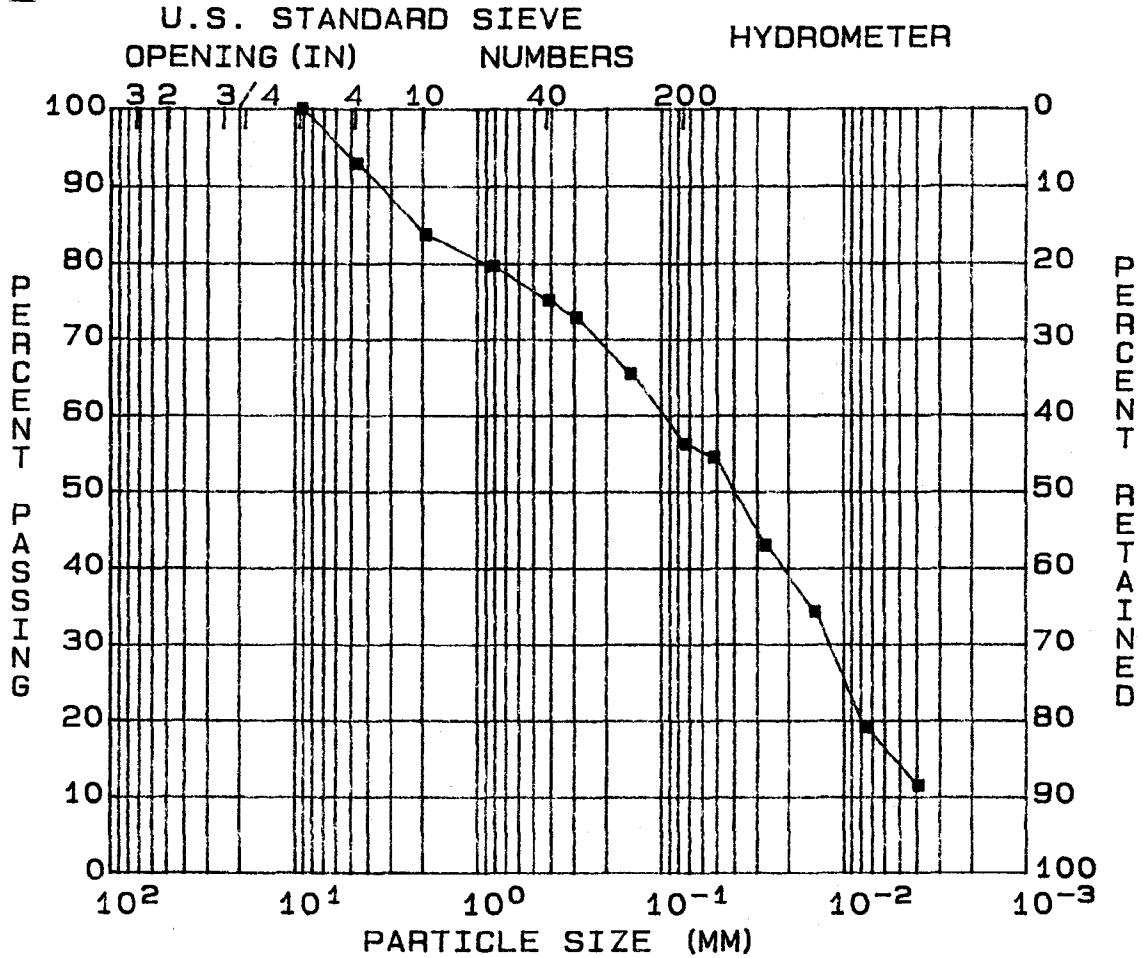
Sand(%)=12

Silt(%)= 22

Clay(%)= 52

**SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS**

PROJECT: TVA/KINGSTON FP	BORING: US-6
FEATURE: DREDGE CELLS/CLOSURE	EL. : 13'-15'
STATION:	SAMPLE: 1
RANGE :	DATE : 09-29-94
PART : 1	



GRAVEL (%) = 6	D10 (MM) = --
SAND (%) = 37	D30 (MM) = --
SILT (%) = 42	D60 (MM) = --
CLAY (%) = 15	COEF UNIF = --

SOIL SYMBOL = ML	L.L. (%) = NP	DENSITY (pcf) = 87.1
MOISTURE (%) = 22.3	P.I. (%) = NP	SATURATION (%) = 84.67
SP. GR. = 2.21		VOID RATIO = 0.582

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : US-6

El. : 13'-15'
Sample: 1
Part : 1

FILE : 34
TESTED BY : REG
Computed By: MHD
Checked By : *TA*
Report Date: 09-29-94

Specific Gravity = 2.207

Flask No. = 11.00

Soil Wt.(gm) = 50.00

Chunk Density

Wet Wt.+Tare(gm)= 168.0

Dry Wt.+Tare(gm)= 144.6

Tare Wt(gm) = 39.7

Moisture(%) = 22.3

Void Ratio = 0.582

Moisture Determination

Dry Wt.+Tare(gm)= 332.00

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 84.00

Tare Wt(gm) = 38.80

Non-Plastic Soil

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 233.9

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO. 4	15.1	93.5	4.7500
NO. 10	36.9	84.2	2.0000
NO. 20	2.5	80.0	0.8500
NO. 40	5.2	75.5	0.4250
NO. 50	6.6	73.1	0.3000
NO. 100	11.0	65.7	0.1500
NO. 200	16.5	56.4	0.0750

Air Dry Weight(gm)= 50.00

Corrected Weight(gm)= 50.00

Time	Temp.	Hyd.Rdg	Corr	% Pass	Size(mm)
1 min.	19.7	33.5	5.0	54.7	0.0522
4 min.	19.7	27.5	5.0	43.1	0.0273
15 min.	19.7	23.0	5.0	34.5	0.0145
1 hour	19.7	15.0	5.0	19.2	0.0076
4 hours	19.8	11.0	5.0	11.5	0.0039

Soil Symbol= ML (Inorganic sandy silt of low plasticity)

Gravel(%)= 6

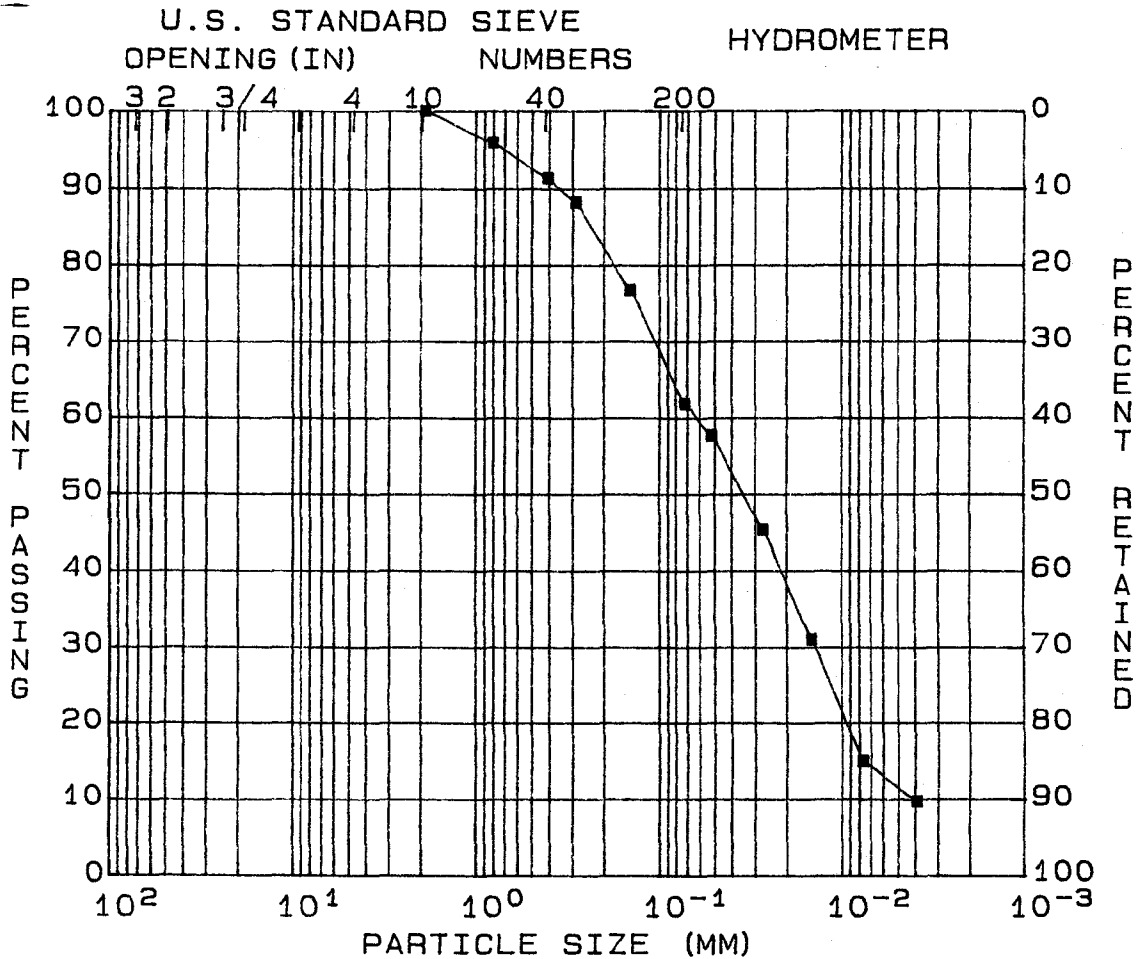
Sand(%)=37

Silt(%)= 42

Clay(%)= 15

SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS

PROJECT: TVA/KINGSTON FP	BORING: US-6
FEATURE: DREDGE CELLS/CLOSURE	EL. : 15.0'-17.0'
STATION:	SAMPLE: 2
RANGE :	DATE : 09-28-94
PART : 1	



GRAVEL (%) = 0	D10 (MM) = --
SAND (%) = 38	D30 (MM) = --
SILT (%) = 50	D60 (MM) = --
CLAY (%) = 12	COEF UNIF = --

SOIL SYMBOL = ML	L.L. (%) = NP	DENSITY (pcf) = 82.8
MOISTURE (%) = 26.3	P.I. (%) = NP	SATURATION (%) = 86.84
SP. GR. = 2.22		VOID RATIO = 0.673

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : US-6

El. : 15.0'-17.0'
Sample: 2
Part : 1

FILE : 94
TESTED BY : REG
Computed By: MHD
Checked By : TAC
Report Date: 09-28-94

Specific Gravity = 2.221

Flask No. = 13.00

Soil Wt.(gm) = 50.00

Chunk Density

Wet Wt.+Tare(gm)= 137.0

Dry Wt.+Tare(gm)= 116.7

Tare Wt(gm) = 39.6

Moisture(%) = 26.3

Void Ratio = -0.673

Temp.(deg.c.) = 22.20

Total Wt.(gm) = 700.97

Sample Wt.(gm) = 590.9

Sa.+ Wt.(air) = 627.1

SA.+ PA. Wt(Water) = 234.0

Density(pcf) = 82.8

Saturation(%) = 86.84

Moisture Determination

Dry Wt.+Tare(gm)= 192.60

Tare Wt(gm) = 104.10

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 50.40

Dry Wt.+Tare(gm)= 50.30

Tare Wt(gm) = 39.30

Moisture(%) = 0.91

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 88.50001

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO.4	0.0	100.0	4.7500
NO.10	0.0	100.0	2.0000
NO.20	1.8	96.4	0.8500
NO.40	4.1	91.7	0.4250
NO.50	5.7	88.5	0.3000
NO.100	11.4	77.0	0.1500
NO.200	18.8	62.1	0.0750

Air Dry Weight(gm)= 50.00

Corrected Weight(gm)= 49.55

Time	Temp.	Hyd.Rdg	Corr	% Pass	Size(mm)
1 min.	19.0	31.3	6.0	57.8	0.0532
4 min.	19.0	25.9	6.0	45.5	0.0277
15 min.	19.0	19.6	6.0	31.1	0.0149
1 hour	19.0	12.6	6.0	15.1	0.0078
4 hours	19.4	10.3	6.0	9.8	0.0039

Gravel(%)= 0

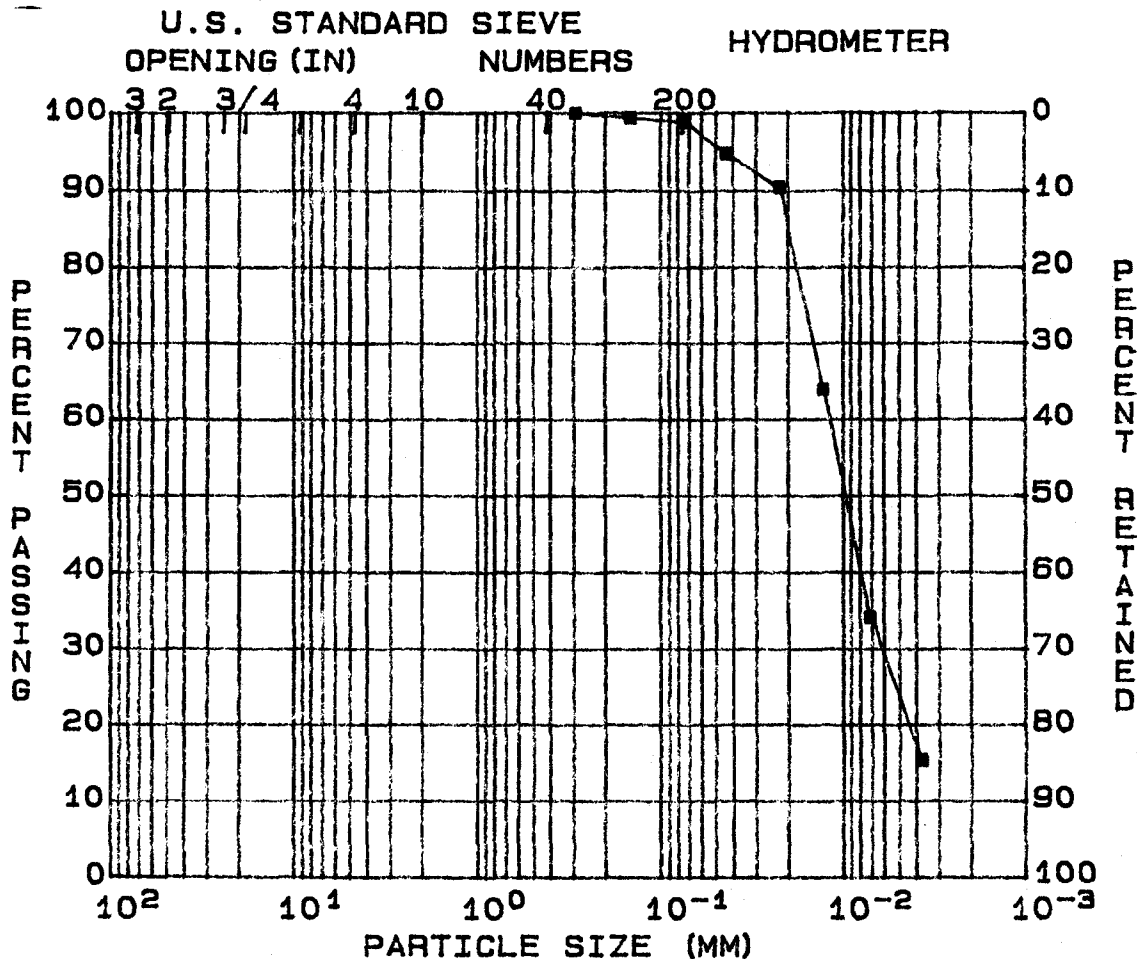
Sand(%)=38

Silt(%)= 50

Clay(%)= 12

**SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS**

PROJECT: TVA/KINGSTON FP	BORING: US-6
FEATURE: DREDGE CELLS/CLOSURE	EL. : 30.0'-32.0'
STATION:	SAMPLE: 3
RANGE :	DATE : 09-28-94
PART : 1	



GRAVEL (%) = 0	D10 (MM) = --
SAND (%) = 1	D30 (MM) = --
SILT (%) = 75	D60 (MM) = --
CLAY (%) = 24	COEF UNIF = --

SOIL SYMBOL = ML	L.L. (%) = NP	DENSITY (pcf) = 84.9
MOISTURE (%) = 25.8	P.I. (%) = NP	SATURATION (%) = 86.40
SP. GR. = 2.30		VOID RATIO = 0.687

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : US-6

El. : 30.0'-32.0'
Sample: 3
Part : 1

FILE : 98
TESTED BY : REG
Computed By: MHD
Checked By : *TAL*
Report Date: 09-28-94

Specific Gravity = 2.296

Flask No. = 15.00

Soil Wt.(gm) = 50.00

Chunk Density

Wet Wt.+Tare(gm)= 143.3

Dry Wt.+Tare(gm)= 122.0

Tare Wt(gm) = 39.6

Moisture(%) = 25.8

Void Ratio = 0.687

Moisture Determination

Dry Wt.+Tare(gm)= 375.90

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 97.60

Tare Wt(gm) = 38.70

Non-Plastic Soil

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 267.3

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO.4	0.0	100.0	4.7500
NO.10	0.0	100.0	2.0000
NO.20	0.0	100.0	0.8500
NO.40	0.0	100.0	0.4250
NO.50	0.0	100.0	0.3000
NO.100	0.1	99.8	0.1500
NO.200	0.4	99.2	0.0750

Air Dry Weight(gm)= 50.00

Corrected Weight(gm)= 49.92

Time	Temp.	Hyd. Rdg	Corr	% Pass	Size(mm)
1 min.	19.0	49.0	6.0	95.0	0.0443
4 min.	19.0	47.0	6.0	90.6	0.0226
15 min.	19.0	35.0	6.0	64.1	0.0130
1 hour	19.0	21.5	6.0	34.2	0.0071
4 hours	19.4	13.0	6.0	15.5	0.0037

Soil Symbol= ML (Inorganic silt of low plasticity)

Gravel(%)= 0

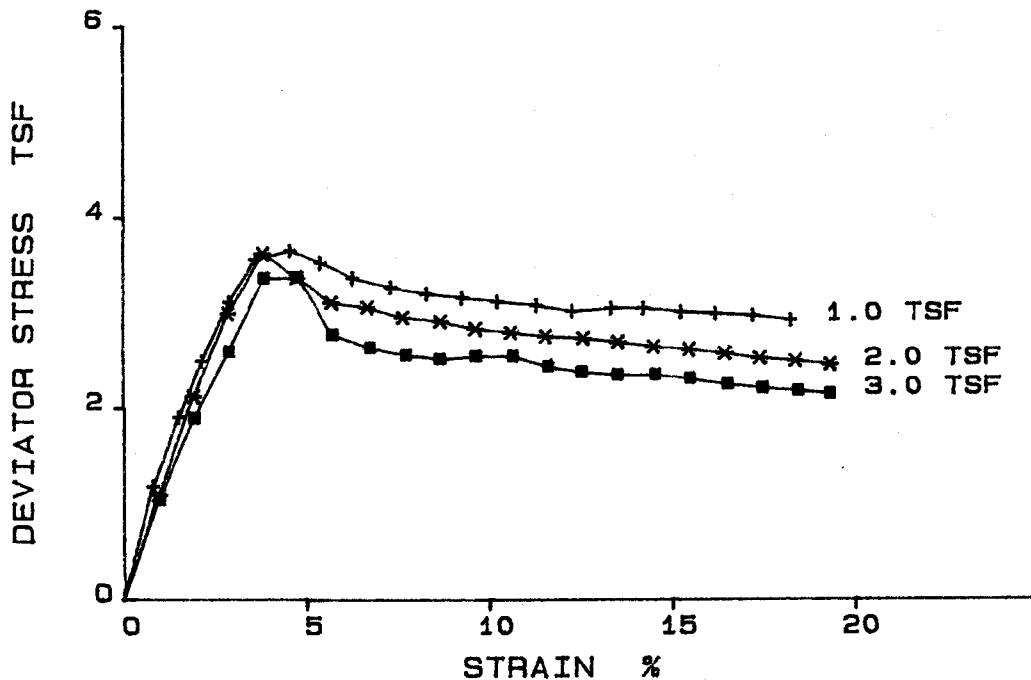
Sand(%)= 1

Silt(%)= 75

Clay(%)= 24

SINGLETON LABORATORIES
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (Q) TEST

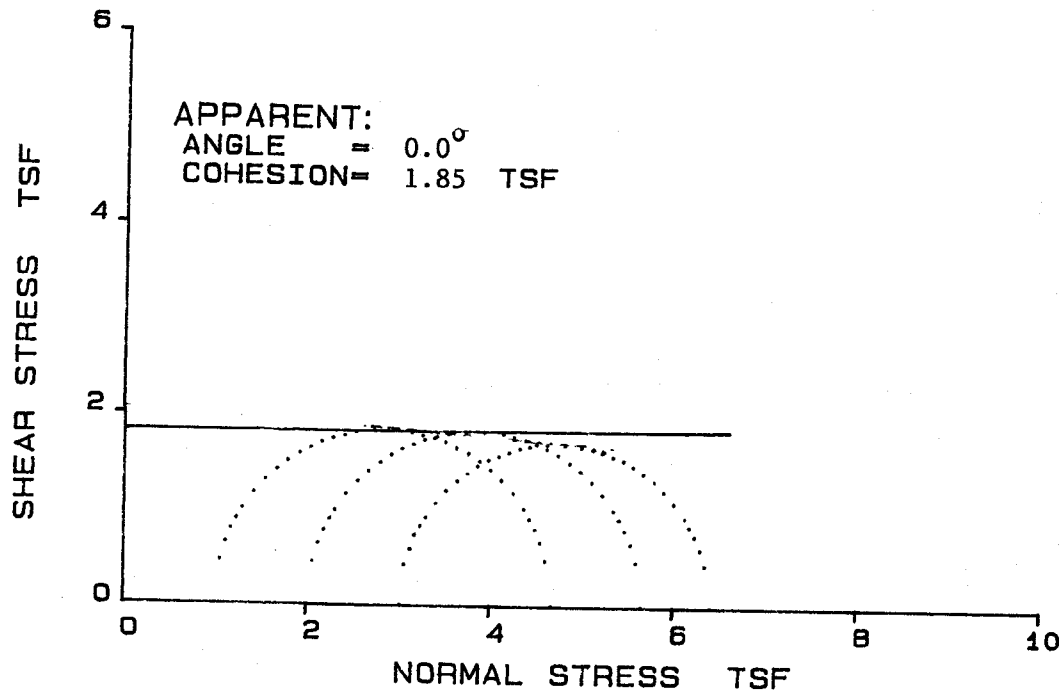
PROJECT: TVA/KINGSTON FP	EL. : 30.0'-32.0'
FEATURE: DREDGE CELLS	SAMPLE : 3
STATION:	PART : 2
RANGE :	SOIL SYM:
BORING : US-6	DATE : 09-28-94



REMARKS:

SINGLETON LABORATORIES
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (Q) TEST

PROJECT: TVA/KINGSTON FP	EL. : 30.0'-32.0'
FEATURE: DREDGE CELLS	SAMPLE : 3
STATION:	PART : 2
RANGE :	SOIL SYM:
BORING : US-6	DATE : 09-28-94



REMARKS:

Singleton Laboratories
Unconsolidated Undrained Triaxial Compression (Q) Test

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : US-6

El. : 30.0'-32.0'
Sample: 3
Part : 2

File : 17
Tested By : TAL
Computed By: MHD
Checked By : *GPB*
Report Date: 09-28-94

Soil Symbol=
Sp. Gr. = 2.5

L.L.(%)=
D10(mm)=

P.I.(%) =

Specimen Number	1	2	3	4
Initial:				
Moisture Content(%)	31.0	31.3	32.2	0.0
Dry Density(pcf)	81.4	80.5	80.6	0.0
Void Ratio	0.917	0.939	0.937	0.000
Saturation(%)	84.6	83.3	85.8	0.0
Before Shearing:				
Moisture(%) (after satur.)	--	--	--	--
Saturation(%)	--	--	--	--
Moisture(%) (after cons.)	--	--	--	--
Void Ratio (after cons.)	--	--	--	--
Final Moisture Content(%)	29.6	30.0	29.5	0.0
Minor Principal Stress(tsf)	1.01	2.02	3.02	0.00
Major Principal Stress(tsf)	4.69	5.67	6.42	0.00
Eff. Minor Prin Stress (tsf)	--	--	--	--
Eff. Major Prin Stress (tsf)	--	--	--	--
Time to Failure(min)	6	4	5	0
Rate of Strain(%/min)	0.77	0.96	0.96	0.00
Specimen Height(in.)	3.11	3.11	3.11	0.00
Specimen Dia (in.)	1.41	1.41	1.41	0.00
		Max Deviator Stress	Max Eff	Stress Ratio
Shear Strength		Deg	Deg	c(tsf)
Apparent		0		1.85
Effective		--		--

NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

Remark:

Singleton Laboratories
Unconsolidated Undrained Triaxial Compression (Q) Test

Project: TVA/KINGSTON FP	File :
Feature: DREDGE CELLS/CLOSURE	Tested By : TAL
Station:	Computed By: MHD
Range :	Checked By : <i>GPB</i>
Boring : US-6	Report Date: 09-28-94
El. : 30.0'-32.0'	
Sample: 3	
Part : 2	

Moisture Content	Trimming	Initial	Final
Wet-Wt. and Tare(gm)=	147.6	135.5	173.1
Dry Wt. and Tare(gm)=	122.4	103.4	142.5
Wt. of Tare(gm) =	40.4	0.0	39.1
Moisture(%) =	30.7	31.0	29.6

Test Conditions and Constants:

Proving Ring No. = 2212	Tube No. = 1
Proving Ring Constant:	Sample Volume (cc) = 79.281
Slope Const. = 1	Sample Height(in.) = 3.113
Intercept = 0	Specific Gravity = 2.5
Confining Pres. (psi) = 14	Consolidation(in.) = 0
Initial Pore Pre(psi)= 0	Initial P.R. Rdg = 13

Time (Min)	Deflection (ins.)	Pro. Ring Reading	Strain (%)	±1 - ±3 (tsf)
1	0.025	39.0	0.80	1.19
2	0.047	55.0	1.51	1.92
3	0.067	68.3	2.15	2.51
4	0.091	82.6	2.92	3.13
5	0.114	93.3	3.66	3.58
6	0.144	96.3	4.63	3.68
7	0.170	94.1	5.46	3.55
8	0.198	91.3	6.36	3.40
9	0.231	89.9	7.42	3.30
10	0.262	89.2	8.42	3.23
11	0.293	89.1	9.41	3.19
12	0.323	89.1	10.38	3.16
13	0.357	89.1	11.47	3.12
14	0.388	88.6	12.46	3.07
15	0.422	90.5	13.56	3.10
16	0.450	91.4	14.46	3.11
17	0.482	91.5	15.48	3.07
18	0.512	92.1	16.45	3.06
19	0.544	92.8	17.48	3.05
20	0.576	92.5	18.50	3.00

Initial:

Moisture(%) = 31.0	Void Ratio = 0.917
Density(pcf)= 81.4	Saturation(%)= 84.6

Minor Prin. Stress(tsf) = -1.01		Major Prin. Stress(tsf) = 4.69
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NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

Singleton Laboratories
Unconsolidated Undrained Triaxial Compression (Q) Test

Project: TVA/KINGSTON FP	File :
Feature: DREDGE CELLS/CLOSURE	Tested By : TAL
Station:	Computed By: MHD
Range :	Checked By : <i>GPB</i>
Boring : US-6	Report Date: 09-28-94
El. : 30.0'-32.0'	
Sample: 3	
Part : 2	

Moisture Content	Trimming	Initial	Final
Wet Wt. and Tare(gm)=	147.8	134.2	171.5
Dry Wt. and Tare(gm)=	122.0	102.2	140.8
Wt. of Tare(gm) =	38.4	0.0	38.6
Moisture(%) =	30.9	31.3	30.0

Test Conditions and Constants:

Proving Ring No. = 2212	Tube No. = 1
Proving Ring Constant:	Sample Volume (cc) = 79.281
Slope Const. = 1	Sample Height(in.) = 3.113
Intercept = 0	Specific Gravity = 2.5
Confining Pres.(psi) = 28	Consolidation(in.) = 0
Initial Pore Pre(psi)= 0	Initial P.R. Rdg = 23

Time (Min)	Deflection (ins.)	Pro.Ring Reading	Strain (%)	±1 - ±3 (tsf)
1	0.030	47.0	0.96	1.10
2	0.060	70.0	1.93	2.14
3	0.090	90.0	2.89	3.01
4	0.120	105.0	3.85	3.65
5	0.149	100.0	4.79	3.40
6	0.179	95.0	5.75	3.14
7	0.210	94.7	6.75	3.10
8	0.241	93.1	7.74	3.00
9	0.273	93.1	8.77	2.96
10	0.303	92.0	9.73	2.89
11	0.334	91.9	10.73	2.85
12	0.364	91.9	11.69	2.82
13	0.396	92.3	12.72	2.80
14	0.426	92.3	13.68	2.77
15	0.457	91.9	14.68	2.72
16	0.488	92.1	15.68	2.70
17	0.519	92.0	16.67	2.66
18	0.549	91.7	17.64	2.62
19	0.580	92.0	18.63	2.60
20	0.610	92.0	19.60	2.57

Initial:

Moisture(%) = 31.3	Void Ratio = 0.939
Density(pcf)= 80.5	Saturation(%)= 83.3

Minor Prin. Stress(tsf)	-2.02	Major Prin. Stress(tsf)	= 5.67
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NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

Singleton Laboratories
Unconsolidated Undrained Triaxial Compression (Q) Test

Project: TVA/KINGSTON FP	File :
Feature: DREDGE CELLS/CLOSURE	Tested By : TAL
Station: El. : 30.0'-32.0'	Computed By: MHD
Range : Sample: 3	Checked By : <i>GPB</i>
Boring : US-6 Part : 2	Report Date: 09-28-94

Moisture Content	Trimming	Initial	Final
Wet Wt. and Tare(gm)=	169.2	135.2	169.7
Dry Wt. and Tare(gm)=	140.8	102.3	139.5
Wt. of Tare(gm) =	39.5	0.0	37.2
Moisture(%) =	28.0	32.2	29.5

Test Conditions and Constants:

Proving Ring No. = 2212	Tube No. = 1
Proving Ring Constant:	Sample Volume (cc) = 79.281
Slope Const. = 1	Sample Height(in.) = 3.113
Intercept = 0	Specific Gravity = 2.5
Confining Pres.(psi) = 42	Consolidation(in.) = 0
Initial Pore Pre(psi)= 0	Initial P.R. Rdg = 34

Time (Min)	Deflection (ins.)	Pro. Ring Reading	Strain (%)	±1 - ±3 (tsf)
1	0.031	57.0	1.00	1.05
2	0.061	76.0	1.96	1.91
3	0.091	92.0	2.92	2.61
4	0.121	110.0	3.89	3.38
5	0.150	111.0	4.82	3.40
6	0.180	98.0	5.78	2.79
7	0.212	95.6	6.81	2.66
8	0.243	94.6	7.81	2.59
9	0.272	94.4	8.74	2.55
10	0.303	95.8	9.73	2.58
11	0.335	96.6	10.76	2.59
12	0.365	94.8	11.73	2.49
13	0.394	94.0	12.66	2.43
14	0.425	94.0	13.65	2.40
15	0.457	95.0	14.68	2.41
16	0.487	94.8	15.64	2.38
17	0.519	94.2	16.67	2.32
18	0.549	94.0	17.64	2.29
19	0.580	94.0	18.63	2.26
20	0.608	94.0	19.53	2.24

Initial:

Moisture(%) = 32.2	Void Ratio = 0.937
Density(pcf) = 80.6	Saturation(%) = 85.8

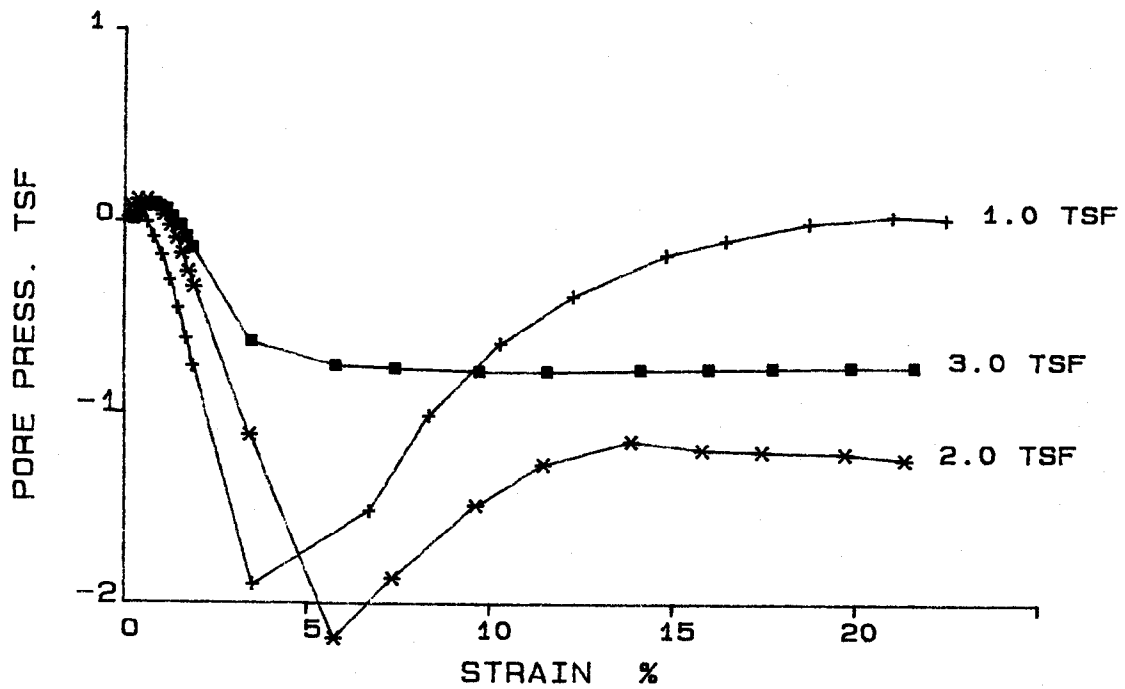
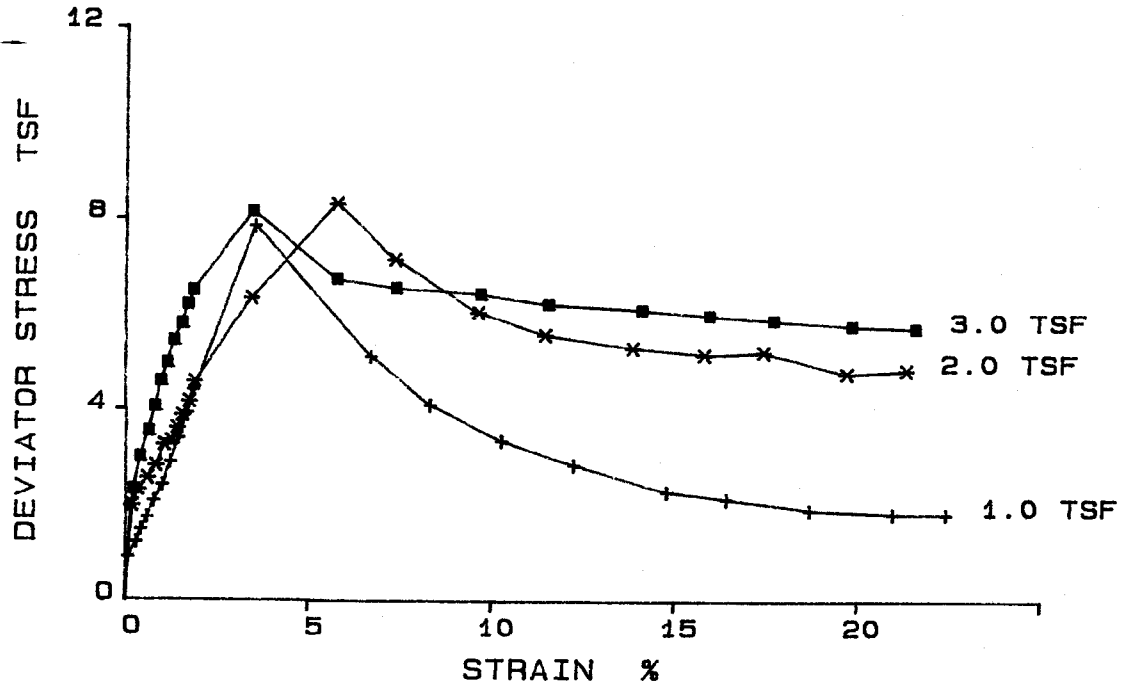
Minor Prin. Stress(tsf) = 3.02	Major Prin. Stress(tsf) = 6.42
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NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

SINGLETON LABORATORIES
 CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (R) TEST

PROJECT: KINGSTON FP
 FEATURE: DREDGE CELLS
 STATION:
 RANGE :
 BORING : US-6

EL. : 30.0-32.0
 SAMPLE : 3
 PART : 1
 SOIL SYM:
 DATE : 09-26-94

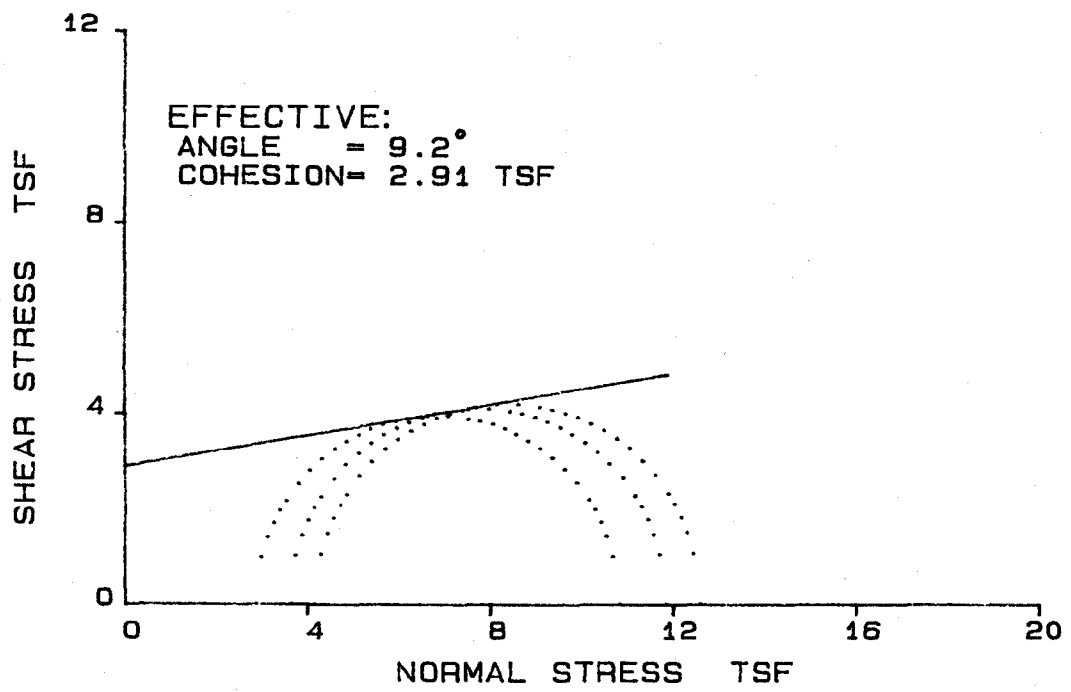
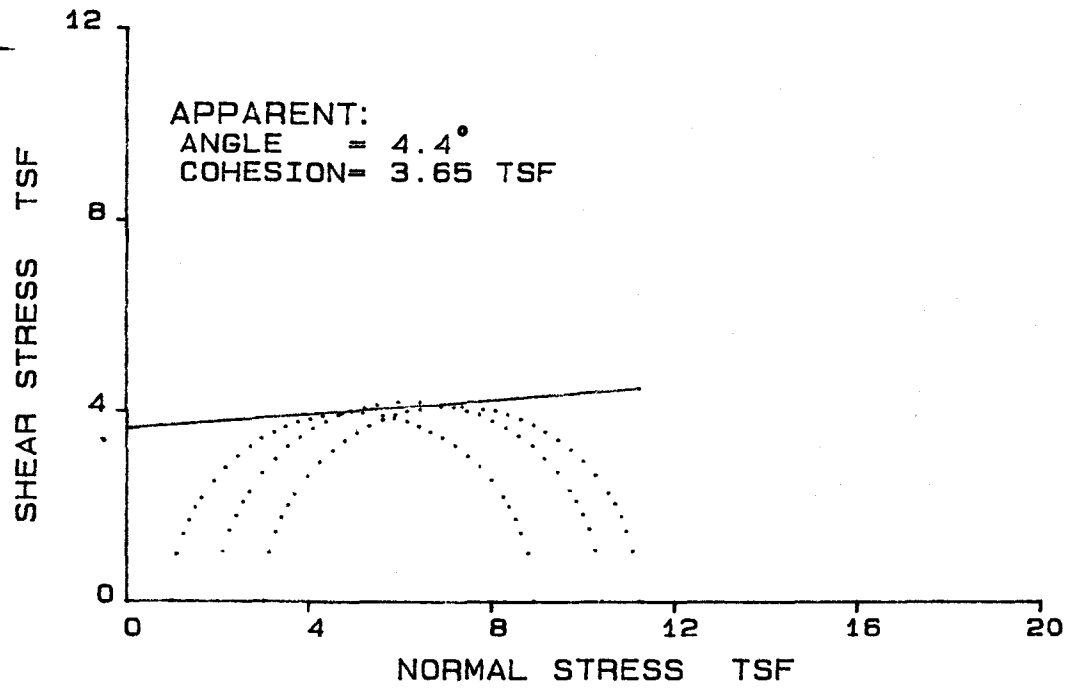


REMARKS:

SINGLETON LABORATORIES
CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (R) TEST

PROJECT: KINGSTON FP
FEATURE: DREDGE CELLS
STATION:
RANGE :
BORING : US-6

EL. : 30.0-32.0
SAMPLE : 3
PART : 1
SOIL SYM:
DATE : 09-26-94



REMARKS:

Singleton Laboratories
 CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (R) TEST

Project: KINGSTON FP
 Feature: DREDGE CELLS
 Station:
 Range :
 Boring : US-6

E1. : 30.0-32.0
 Sample: 3
 Part : 1

File : 10
 Tested By : TAL
 Computed By: MHD
 Checked By : *GPB*
 Report Date: 09-26-94

Soil Symbol=
 Sp. Gr. = 2.5

L.L.(%)=
 D10(mm)=

P.I.(%) =

Specimen Number	1	2	3	4
Initial:				
Moisture Content(%)	32.9	32.0	31.1	0.0
Dry Density(pcf)	81.9	82.4	81.1	0.0
Void Ratio	0.906	0.893	0.924	0.000
Saturation(%)	90.8	89.6	84.0	0.0
Before Shearing:				
Moisture(%) (after satur.)	36.2	35.7	37.0	0.0
Saturation(%)	100.0	100.0	100.0	0.0
Moisture(%) (after cons.)	33.3	31.4	31.9	0.0
Void Ratio (after cons.)	0.833	0.786	0.797	0.000
Final Moisture Content(%)	30.8	30.9	28.3	0.0
Minor Principal Stress(tsf)	1.01(1.01)	2.02(2.02)	3.02(3.02)	0.00(0.00)
Major Principal Stress(tsf)	8.95(8.95)	10.44(8.47)	11.26(11.26)	0.00(0.00)
Eff. Minor Prin Stress(tsf)	2.89(2.89)	4.17(3.11)	3.63(3.63)	0.00(0.00)
Eff. Major Prin Stress(tsf)	10.83(10.83)	12.60(9.56)	11.86(11.86)	0.00(0.00)
Time to Failure(min)	20	30	20	0
Rate of Strain(%/min)	0.18	0.20	0.18	0.00
Specimen Height(in.)	3.11	3.11	3.11	0.00
Specimen Dia (in.)	1.41	1.41	1.41	0.00
	Max Deviator Stress		Max Eff Stress Ratio	
Shear Strength	Deg		Deg	
Apparent	c(tsf)		c(tsf)	
Effective	4.4	3.65	12.5	2.58
	9.2	2.91	90.0	0.00

NOTE: Figures in parenthesis are based on the failure criteria of
 Maximum Effective Principal Stress Ratio.

Remark:

Singleton Laboratories
 CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (R) TEST

Project: KINGSTON FP
 Feature: DREDGE CELLS
 Station: El. : 30.0-32.0
 Range : Sample: 3
 Boring : US-6 Part : 1

File : 10
 Tested By : TAL
 Computed By: MHD
 Checked By : GAB
 Report Date: 09-26-94

Moisture Content	Trimming	Initial	Final
Wet Wt. and Tare(gm)=	188.5	138.2	175.7
Dry Wt. and Tare(gm)=	154.8	104.0	143.7
Wt. of Tare(gm) =	39.3	0.0	39.7
Moisture(%) =	29.2	32.9	30.8

Test Conditions and Constants:

Proving Ring No. = 2212	Tube No. = 1
Proving Ring Constant:	Sample Volume (cc) = 79.281
Slope Const. = 1	Sample Height(in.) = 3.113
Intercept = 0	Specific Gravity = 2.5
Confining Pres.(psi) = 14	Consolidation(in.) = .04
Initial Pore Pre(psi)= 100	Initial P.R. Rdg = 93

Time (Min)	Deflection (ins.)	Pro.Ring Reading	Pore Pres. (psi)	Strain (%)	$\pm 1 - \pm 3$ (tsf)	Pore Press. $\pm 1 / \pm 3$ (tsf)	(TSF)
1	0.003	112.0	100.3	0.10	0.90	0.02	1.91
2	0.010	118.9	100.7	0.33	1.23	0.05	2.28
3	0.014	124.7	100.5	0.46	1.50	0.04	2.54
4	0.020	130.3	100.0	0.65	1.76	0.00	2.75
5	0.026	137.6	99.0	0.85	2.10	-0.07	2.95
6	0.033	145.0	97.7	1.07	2.45	-0.17	3.08
7	0.040	155.7	95.9	1.30	2.94	-0.30	3.26
8	0.047	166.7	93.9	1.53	3.45	-0.44	3.38
9	0.054	178.5	91.7	1.76	3.99	-0.60	3.49
10	0.060	189.2	89.7	1.95	4.48	-0.74	3.56
20	0.112	266.3	73.9	3.64	7.94	-1.88	3.75
30	0.210	210.6	79.3	6.83	5.21	-1.49	3.08
40	0.260	189.7	86.3	8.46	4.21	-0.99	3.11
50	0.320	174.3	91.6	10.41	3.46	-0.60	3.15
6	0.381	164.2	95.1	12.40	2.97	-0.35	3.18
70	0.460	152.7	98.1	14.97	2.41	-0.14	3.11
80	0.510	150.0	99.2	16.60	2.26	-0.06	3.12
90	0.580	146.4	100.5	18.87	2.06	0.04	3.12
100	0.650	146.1	101.0	21.15	1.99	0.07	3.13
110	0.695	147.6	100.8	22.62	2.01	0.06	3.11

Initial:

Moisture(%) = 32.9
 Density(pcf)= 81.9

Void Ratio = 0.906
 Saturation(%)= 90.8

After Saturation:

Moisture(%) = 36.2

Void Ratio = 0.833

Minor Prin. Stress(tsf) = -1.01 Major Prin. Stress(tsf) = 8.95(8.95)
 Eff. Minor Prin. Stress(tsf)=2.89(2.89) Eff. Major Prin. Stress(tsf)=10.83(10.83)

NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

Singleton Laboratories
 CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (R) TEST

Project: KINGSTON FP
 Feature: DREDGE CELLS
 Station:
 Range :
 Boring : US-6

El. : 30.0-32.0
 Sample: 3
 Part : 1

File : 10
 Tested By : TAL
 Computed By: MHD
 Checked By : *GPB*
 Report Date: 09-26-94

Moisture Content	Trimming	Initial	Final
Wet Wt. and Tare(gm)-	168.1	138.2	176.0
Dry Wt. and Tare(gm)-	138.0	104.7	143.6
Wt. of Tare(gm) =	40.1	0.0	38.9
Moisture(%) =	30.7	32.0	30.9

Test Conditions and Constants:

Proving Ring No. = 2411
 Proving Ring Constant:
 Slope Const. = 1
 Intercept = 0
 Confining Pres.(psi) = 28
 Initial Pore Pre(psi) = 100

Tube No. = 1
 Sample Volume (cc) = 79.281
 Sample Height(in.) = 3.113
 Specific Gravity = 2.5
 Consolidation(in.) = .06
 Initial P.R. Rdg = 60

Time (Min)	Deflection (ins.)	Pro.Ring Reading	Pore Pres. (psi)	Strain (%)	$\pm 1 - \pm 3$ (tsf)	Pore Press. $\pm 1 / \pm 3$ (tsf)	(TSF)
1	0.006	101.2	101.1	0.20	1.98	0.08	2.02
2	0.012	108.6	101.6	0.39	2.33	0.12	2.23
3	0.020	114.0	101.6	0.66	2.58	0.12	2.36
4	0.027	119.8	101.3	0.88	2.85	0.09	2.49
5	0.034	129.2	100.6	1.11	3.30	0.04	2.67
6	0.040	131.2	99.9	1.31	3.38	-0.01	2.67
7	0.046	137.4	99.0	1.51	3.67	-0.07	2.76
8	0.051	143.2	97.9	1.67	3.94	-0.15	2.82
9	0.057	150.0	96.6	1.87	4.25	-0.24	2.88
10	0.062	159.4	95.5	2.03	4.69	-0.32	3.00
20	0.110	199.0	84.8	3.60	6.45	-1.09	3.07
30	0.181	246.0	70.1	5.93	8.43	-2.15	3.02
40	0.230	223.2	74.5	7.53	7.27	-1.84	2.89
50	0.300	202.2	79.8	9.83	6.18	-1.45	2.78
60	0.356	194.2	82.8	11.66	5.71	-1.24	2.75
70	0.430	191.4	84.5	14.08	5.44	-1.12	2.74
80	0.490	191.4	83.9	16.05	5.31	-1.16	2.67
90	0.540	195.6	83.8	17.69	5.38	-1.17	2.69
100	0.610	187.8	83.7	19.98	4.93	-1.17	2.54
110	0.660	192.6	83.3	21.62	5.01	-1.20	2.56

Initial:

Moisture(%) = 32.0
 Density(pcf) = 82.4

Void Ratio = 0.893
 Saturation(%) = 89.6

After Saturation:

Moisture(%) = 35.7

Void Ratio = 0.786

Minor Prin. Stress(tsf) = -2.02 Major Prin. Stress(tsf) = -10.44(8.47)
 Eff. Minor Prin. Stress(tsf) = 4.17(3.11) Eff. Major Prin. Stress(tsf) = 12.60(9.56)

NOTE: Figures in parenthesis are based on the failure criteria of
 Maximum Effective Principal Stress Ratio.

Singleton Laboratories
 CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (R) TEST

Project: KINGSTON FP
 Feature: DREDGE CELLS
 Station:
 Range :
 Boring : US-6

El. : 30.0-32.0
 Sample: 3
 Part : 1

File : 10
 Tested By : TAL
 Computed By: MHD
 Checked By : *GPA*
 Report Date: 09-26-94

Moisture Content	Trimming	Initial	Final
Wet Wt. and Tare(gm)=	172.5	135.0	170.2
Dry Wt. and Tare(gm)=	141.1	103.0	141.0
Wt. of Tare(gm) =	37.0	0.0	38.0
Moisture(%) =	30.2	31.1	28.3

Test Conditions and Constants:

Proving Ring No. = 2284
 Proving Ring Constant:
 Slope Const. = 1
 Intercept = 0
 Confining Pres.(psi) = 42
 Initial Pore Pre(psi)= 100

Tube No. = 1
 Sample Volume (cc) = 79.282
 Sample Height(in.) = 3.113
 Specific Gravity = 2.5
 Consolidation(in.) = .07
 Initial P.R. Rdg = 85

Time (Min)	Deflection (ins.)	Pro.Ring Reading	Pore Pres. (psi)	Strain (%)	$\pm 1 - \pm 3$ (tsf)	Pore Press. (tsf)	$\pm 1 / \pm 3$ (TSF)
1	0.007	133.0	100.2	0.23	2.32	0.01	1.77
2	0.013	147.2	100.9	0.43	3.00	0.06	2.01
3	0.020	158.8	101.2	0.66	3.55	0.09	2.21
4	0.026	169.8	101.4	0.85	4.08	0.10	2.39
5	0.031	181.2	101.2	1.02	4.62	0.09	2.57
6	0.037	189.6	101.0	1.22	5.01	0.07	2.70
7	0.043	200.0	100.5	1.41	5.50	0.04	2.84
8	0.050	208.0	99.9	1.64	5.87	-0.01	2.94
9	0.055	216.8	99.1	1.81	6.27	-0.06	3.03
10	0.060	223.6	98.4	1.97	6.59	-0.12	3.10
20	0.110	261.2	91.6	3.61	8.23	-0.60	3.27
30	0.180	234.8	89.9	5.92	6.83	-0.73	2.82
40	0.230	233.8	89.7	7.56	6.67	-0.74	2.77
50	0.300	235.2	89.5	9.86	6.56	-0.76	2.74
60	0.357	233.4	89.5	11.73	6.35	-0.76	2.68
70	0.435	235.0	89.7	14.30	6.23	-0.74	2.66
80	0.492	235.8	89.8	16.17	6.13	-0.73	2.63
90	0.546	236.8	89.9	17.94	6.04	-0.73	2.61
100	0.612	238.2	90.0	20.11	5.93	-0.72	2.58
110	0.665	240.4	90.0	21.85	5.89	-0.72	2.57

Initial:

Moisture(%) = 31.1
 Density(pcf)= 81.1

Void Ratio = 0.924
 Saturation(%)= 84.0

After Saturation:

Moisture(%) = 37.0

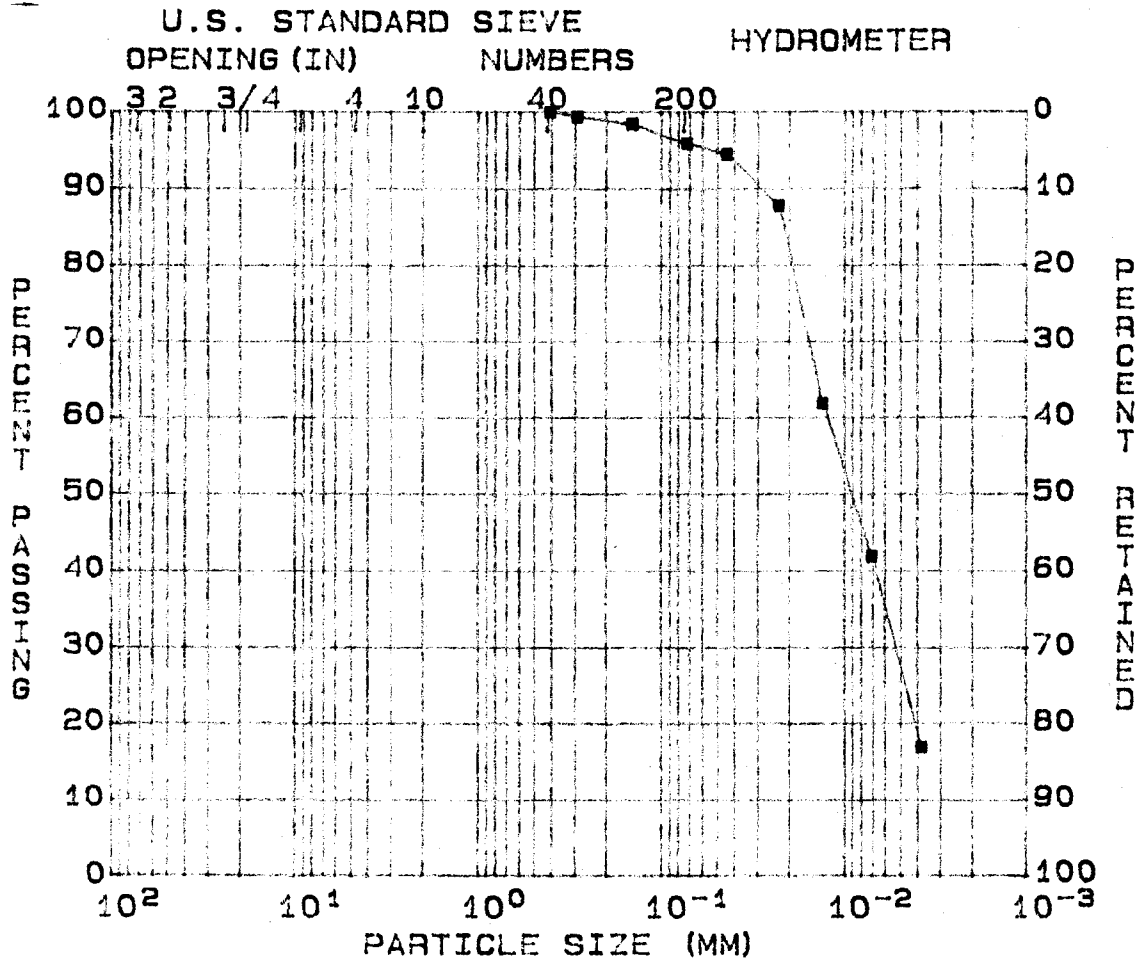
Void Ratio = 0.797

Minor Prin. Stress(tsf) = -3.02 Major Prin. Stress(tsf) = -11.26(11.26)
 Eff. Minor Prin. Stress(tsf)=3.63(3.63) Eff. Major Prin. Stress(tsf)=11.86(11.86)

NOTE: Figures in parenthesis are based on the failure criteria of
 Maximum Effective Principal Stress Ratio.

**SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS**

PROJECT: TVA/KINGSTON FP BORING: US-7
 FEATURE: DREDGE CELLS/CLOSURE EL. : 5.0'-7.0'
 STATION: SAMPLE: 1
 RANGE : DATE : 09-29-94
 PART : 4



GRAVEL (%) = 0	D10 (MM) = ---
SAND (%) = 4	D30 (MM) = ---
SILT (%) = 68	D60 (MM) = ---
CLAY (%) = 28	COEF UNIF = ---

SOIL SYMBOL = ML	L.L. (%) = NP	DENSITY (pcf) = 74.4
MOISTURE (%) = 42.0	P.I. (%) = NP	SATURATION (%) = 100.00
SP. GR. = 2.25		VOID RATIO = 0.884

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : US-7

El. : 5.0'-7.0'
Sample: 1
Part : 4

FILE : 23
TESTED BY : REG
Computed By: MHD
Checked By : *TAK*
Report Date: 09-29-94

Specific Gravity = 2.247
Flask No. = 35.00
Soil Wt.(gm) = 50.00

Temp.(deg.c.) = 22.20
Total Wt.(gm) = 706.90

Chunk Density

Wet Wt.+Tare(gm)= 169.6
Dry Wt.+Tare(gm)= 130.8
Tare Wt(gm) = 38.5
Moisture(%) = 42.0
Void Ratio = -0.884

Sample Wt.(gm) = 849.7
Sa.+ Wt.(air) = 915.0
SA.+ PA. Wt(Water) = 340.0
Density(pcf) = 74.4
Saturation(%) = -100.00

Moisture Determination

Dry Wt.+Tare(gm)= 267.60

Tare Wt(gm) = 104.30

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 77.30
Tare Wt(gm) = 38.30

Dry Wt.+Tare(gm)= 77.10
Moisture(%) = 0.52

Non-Plastic Soil

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 163.3

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO.4	0.0	100.0	4.7500
NO.10	0.0	100.0	2.0000
NO.20	0.0	100.0	0.8500
NO.40	0.0	100.0	0.4250
NO.50	0.1	99.8	0.3000
NO.100	0.6	98.8	0.1500
NO.200	1.9	96.2	0.0750

Air Dry Weight(gm)= 50.00

Corrected Weight(gm)= 49.74

Time	Temp.	Hyd.Rdg	Corr	% Pass	Size(mm)
1 min.	19.6	48.0	6.0	94.7	0.0453
4 min.	19.6	45.0	6.0	88.0	0.0233
15 min.	19.6	33.5	6.0	62.0	0.0133
1 hour	19.6	24.6	6.0	41.9	0.0071
4 hours	19.9	13.5	6.0	16.9	0.0038

Soil Symbol= ML (Inorganic silt of low plasticity)

Gravel(%)= 0

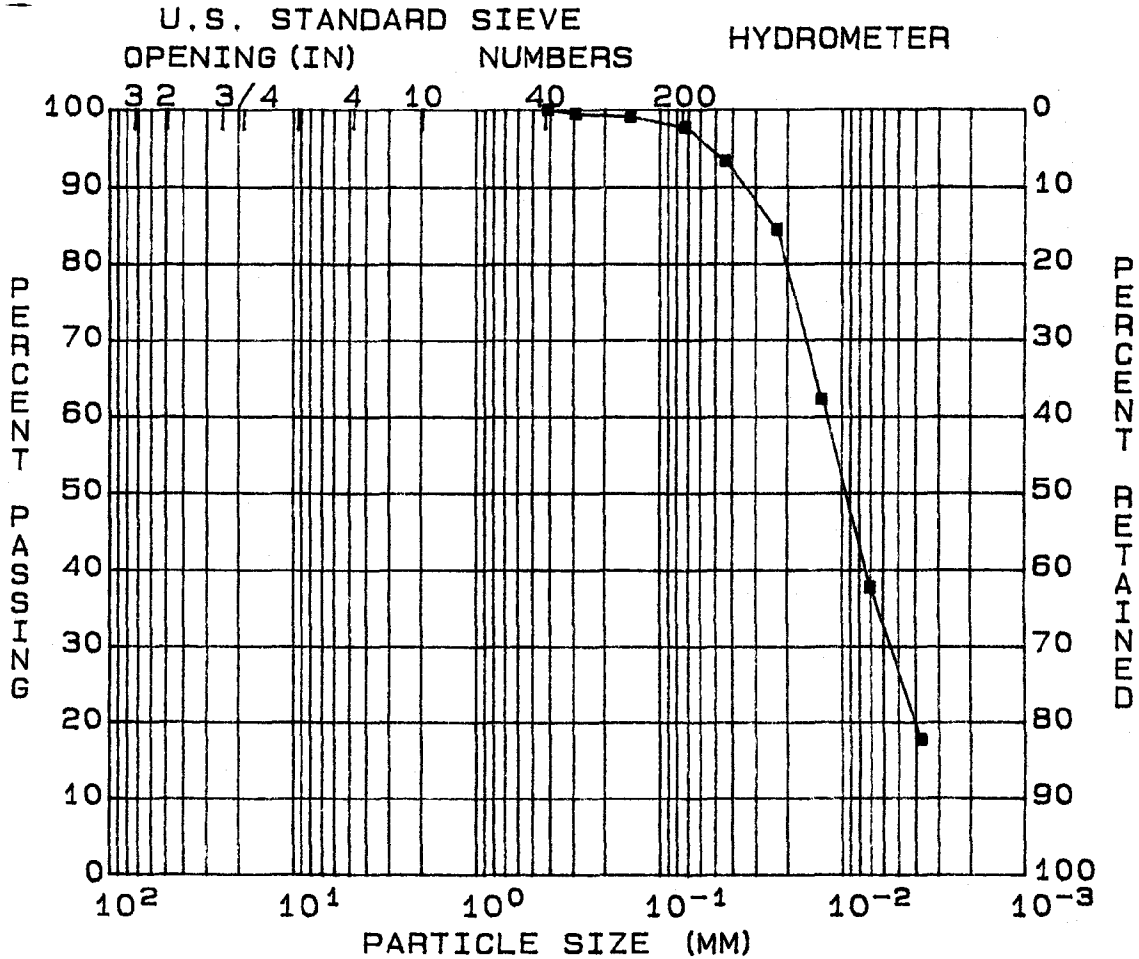
Sand(%)= 4

Silt(%)= 68

Clay(%)= 28

SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS

PROJECT: TVA/KINGSTON FP	BORING: US-7
FEATURE: DREDGE CELLS/CLOSURE	EL. : 7.0'-9.0'
STATION:	SAMPLE: 2
RANGE :	DATE : 09-28-94
PART : 2	



GRAVEL (%) = 0	D10 (MM) = --
SAND (%) = 2	D30 (MM) = --
SILT (%) = 71	D60 (MM) = --
CLAY (%) = 27	COEF UNIF = --

SOIL SYMBOL = ML	L.L. (%) = NP	DENSITY (pcf) = 79.1
MOISTURE (%) = 34.5	P.I. (%) = NP	SATURATION (%) = 98.63
SP. GR. = 2.28		VOID RATIO = 0.796

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : US-7

El. : 7.0'-9.0'
Sample: 2
Part : 2

FILE : 4
TESTED BY : REG
Computed By: MHD
Checked By : 7A
Report Date: 09-28-94

Specific Gravity = 2.278

Flask No. = 36.00

Soil Wt.(gm) = 50.00

Chunk Density

Wet Wt.+Tare(gm)= 136.9

Dry Wt.+Tare(gm)= 111.8

Tare Wt(gm) = 39.0

Moisture(%) = 34.5

Void Ratio = 0.796

Temp.(deg.c.) = 22.20

Total Wt.(gm) = 707.64

Sample Wt.(gm) = 847.2

Sa.+ Wt.(air) = 915.0

SA.+ PA. Wt(Water) = 342.0

Density(pcf) = 79.1

Saturation(%) = 98.63

Moisture Determination

Dry Wt.+Tare(gm)= 216.40

Tare Wt(gm) = 102.10

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 68.10

Dry Wt.+Tare(gm)= 68.00

Tare Wt(gm) = 39.50

Moisture(%) = 0.35

Non-Plastic Soil

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 114.3

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO.4	0.0	100.0	4.7500
NO.10	0.0	100.0	2.0000
NO.20	0.0	100.0	0.8500
NO.40	0.0	100.0	0.4250
NO.50	0.1	99.8	0.3000
NO.100	0.3	99.4	0.1500
NO.200	1.0	98.0	0.0750

Air Dry Weight(gm)= 50.00

Corrected Weight(gm)= 49.83

Time	Temp.	Hyd.Rdg	Corr	% Pass	Size(mm)
1 min.	19.6	48.0	6.0	93.6	0.0447
4 min.	19.6	44.0	6.0	84.7	0.0232
15 min.	19.6	34.0	6.0	62.4	0.0131
1 hour	19.6	23.0	6.0	37.9	0.0071
4 hours	19.9	14.0	6.0	17.8	0.0037

Soil Symbol= ML (Inorganic silt of low plasticity)

Gravel(%)= 0

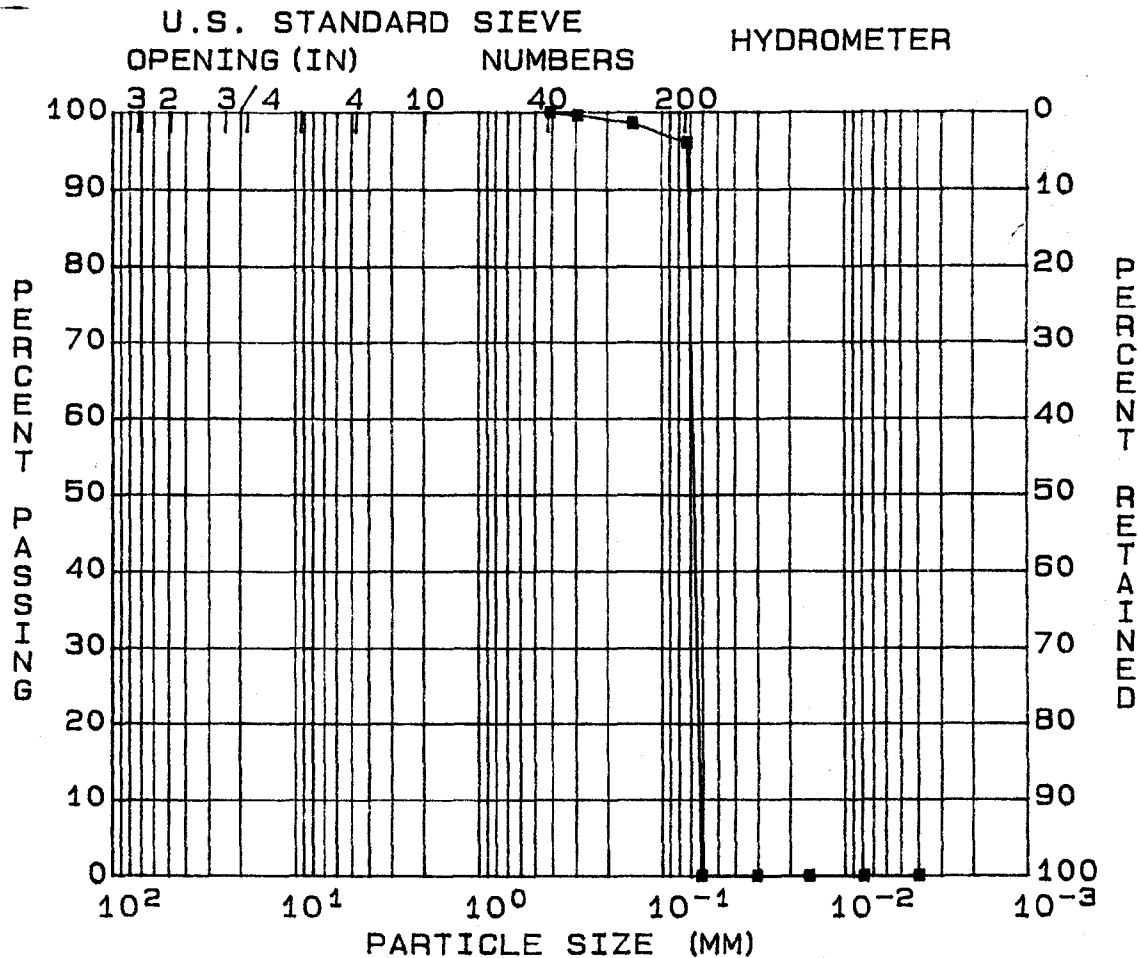
Sand(%)= 2

Silt(%)= 71

Clay(%)= 27

SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS

PROJECT: TVA/KINGSTON FP	BORING: US-7
FEATURE: DREDGE CELLS/CLOSURE	EL. : 9.0'-11.0'
STATION:	SAMPLE: 3
RANGE :	DATE : 09-28-94
PART : 1	



GRAVEL (%) = 0	D10 (MM) = --
SAND (%) = 4	D30 (MM) = --
SILT (%) = 96	D60 (MM) = --
CLAY (%) = 0	COEF UNIF = --

SOIL SYMBOL = ML	L.L. (%) = NP	DENSITY (pcf) = 81.6
MOISTURE (%) = 33.2	P.I. (%) = NP	SATURATION (%) = 99.99
SP. GR. = 2.31		VOID RATIO = 0.767

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : US-7

El. : 9.0'-11.0'
Sample: 3
Part : 1

FILE : 5
TESTED BY : REG
Computed By: MHD
Checked By : TA
Report Date: 09-28-94

Specific Gravity = 2.312
Flask No. = 28.00
Soil Wt.(gm) = 50.00

Temp.(deg.c.) = 22.20
Total Wt.(gm) = 698.24

Chunk Density

Wet Wt.+Tare(gm)= 154.0
Dry Wt.+Tare(gm)= 125.3
Tare Wt(gm) = 38.8
Moisture(%) = 33.2
Void Ratio = 0.767

Sample Wt.(gm) = 721.1
Sa. + Wt.(air) = 780.0
SA. + PA. Wt(Water) = 300.0
Density(pcf) = 81.6
Saturation(%) = 99.99

Moisture Determination

Dry Wt.+Tare(gm)= 213.90

Tare Wt(gm) = 95.40

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 69.60
Tare Wt(gm) = 38.20

Dry Wt.+Tare(gm)= 69.50
Moisture(%) = 0.32

Non-Plastic Soil

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 118.5

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO. 4	0.0	100.0	4.7500
NO. 10	0.0	100.0	2.0000
NO. 20	0.0	100.0	0.8500
NO. 40	0.0	100.0	0.4250
NO. 50	0.1	99.8	0.3000
NO. 100	0.6	98.8	0.1500
NO. 200	1.9	96.2	0.0750

Air Dry Weight(gm)= 50.00

Corrected Weight(gm)= 49.84

Time	Temp.	Hyd. Rdg	Corr	% Pass	Size(mm)
1 min.	19.6	0.0	0.0	0.0	0.0617
4 min.	19.6	0.0	0.0	0.0	0.0309
15 min.	19.6	0.0	0.0	0.0	0.0159
1 hour	19.6	0.0	0.0	0.0	0.0080
4 hours	19.9	0.0	0.0	0.0	0.0040

Soil Symbol= ML (Inorganic silt of low plasticity)

Gravel(%)= 0

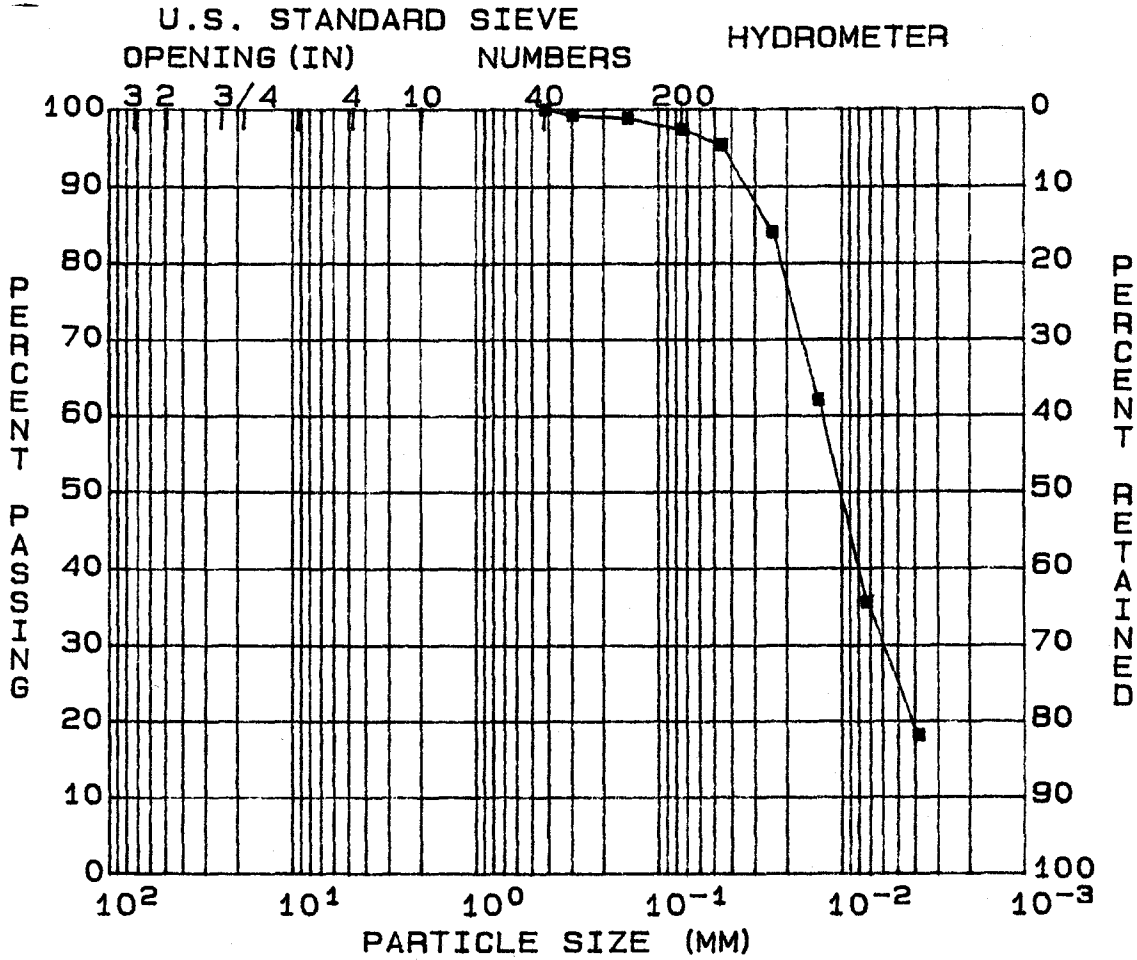
Sand(%)= 4

Silt(%)= 96

Clay(%)= 0

**SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS**

PROJECT: TVA/KINGSTON FP BORING: US-7
 FEATURE: DREDGE CELLS/CLOSURE EL. : 11.0'-13.0'
 STATION: SAMPLE: 4
 RANGE : DATE : 09-28-94
 PART : 4



GRAVEL (%) = 0	D10 (MM) = --
SAND (%) = 2	D30 (MM) = --
SILT (%) = 72	D60 (MM) = --
CLAY (%) = 26	COEF UNIF = --

SOIL SYMBOL = ML	L.L. (%) = NP	DENSITY (pcf) = 79.9
MOISTURE (%) = 35.2	P.I. (%) = NP	SATURATION (%) = 100.00
SP. GR. = 2.22		VOID RATIO = 0.731

REMARKS:

**Singleton Laboratories
General Classification Tests**

Project: TVA/KINGSTON FP
 Feature: DREDGE CELLS/CLOSURE
 Station:
 Range :
 Boring : US-7

El. : 11.0'-13.0'
 Sample: 4
 Part : 4

FILE : 6
 TESTED BY : REG
 Computed By: MHD
 Checked By : TAL
 Report Date: 09-28-94

Specific Gravity = 2.217

Flask No. = 27.00

Soil Wt.(gm) = 50.00

Chunk Density

Wet Wt.+Tare(gm)= 140.0

Dry Wt.+Tare(gm)= 113.6

Tare Wt(gm) = 38.7

Moisture(%) = 35.2

Void Ratio = 0.731

Moisture Determination

Dry Wt.+Tare(gm)= 262.90

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 80.10

Tare Wt(gm) = 38.80

Non-Plastic Soil

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 160.2

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO.4	0.0	100.0	4.7500
NO.10	0.0	100.0	2.0000
NO.20	0.0	100.0	0.8500
NO.40	0.0	100.0	0.4250
NO.50	0.1	99.8	0.3000
NO.100	0.3	99.4	0.1500
NO.200	1.1	97.8	0.0750

Air Dry Weight(gm)= 50.00

Corrected Weight(gm)= 49.76

Time	Temp.	Hyd.Rdg	Corr	% Pass	Size(mm)
1 min.	19.6	48.0	6.0	95.7	0.0459
4 min.	19.6	43.0	6.0	84.3	0.0240
15 min.	19.6	33.3	6.0	62.2	0.0135
1 hour	19.6	21.7	6.0	35.8	0.0073
4 hours	19.9	14.0	6.0	18.2	0.0038

Soil Symbol= ML (Inorganic silt of low plasticity)

Gravel(%)= 0

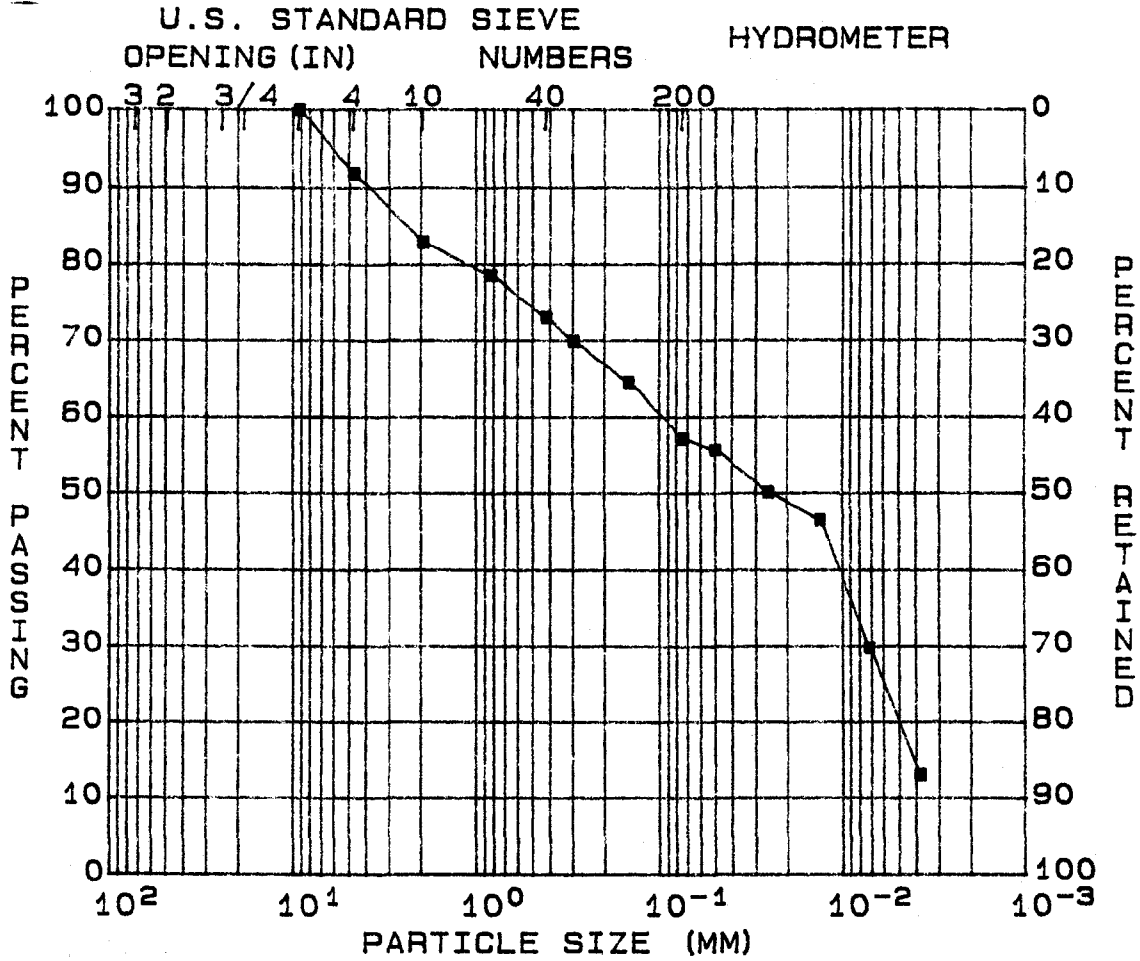
Sand(%)= 2

Silt(%)= 72

Clay(%)= 26

**SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS**

PROJECT: TVA/KINGSTON FP	BORING: US-8
FEATURE: DREDGE CELLS/CLOSURE	EL. : 8'-10'
STATION:	SAMPLE: 1
RANGE :	DATE : 09-29-94
PART : 1	



GRAVEL (%) = 7	D10 (MM) = --
SAND (%) = 35	D30 (MM) = --
SILT (%) = 37	D60 (MM) = --
CLAY (%) = 21	COEF UNIF = --

SOIL SYMBOL = ML	L.L. (%) = NP	DENSITY (pcf) = 94.4
MOISTURE (%) = 14.1	P.I. (%) = NP	SATURATION (%) = 62.87
SP. GR. = 2.29		VOID RATIO = 0.512

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : US-8

El. : 8'-10'
Sample: 1
Part : 1

FILE : 33
TESTED BY : REG
Computed By: MHD
Checked By : *TAL*
Report Date: 09-29-94

Specific Gravity = 2.287

Flask No. = 9.00

Soil Wt.(gm) = 50.00

Chunk Density

Wet Wt.+Tare(gm)= 102.4

Dry Wt.+Tare(gm)= 94.7

Tare Wt(gm) = 40.0

Moisture(%) = 14.1

Void Ratio = 0.512

Moisture Determination

Dry Wt.+Tare(gm)= 225.90

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 70.30

Tare Wt(gm) = 39.70

Non-Plastic Soil

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 154.6

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO. 4	11.1	92.8	4.7500
NO.10	24.9	83.9	2.0000
NO.20	2.6	79.5	0.8500
NO.40	5.9	73.9	0.4250
NO.50	7.8	70.7	0.3000
NO.100	11.0	65.3	0.1500
NO.200	15.4	57.8	0.0750

Air Dry Weight(gm)= 50.00

Time Temp. Hyd.Rdg

1 min. 19.7 35.0

4 min. 19.7 32.0

15 min. 19.7 30.0

1 hour 19.7 21.0

4 hours 19.8 12.0

Corrected Weight(gm)= 49.51

Corr % Pass Size(mm)

5.0 56.2 0.0499

5.0 50.6 0.0256

5.0 46.9 0.0134

5.0 30.0 0.0071

5.0 13.1 0.0038

Soil Symbol= ML (Inorganic sandy silt of low plasticity)

Gravel(%)= 7

Sand(%)=35

Silt(%)= 37

Clay(%)= 21

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : US-8

El. : 40.0'-42.0'
Sample: 2
Part : 1

FILE : 99
TESTED BY : REG
Computed By: MHD
Checked By : TAL
Report Date: 09-28-94

Specific Gravity = 2.290
Flask No. = 16.00
Soil Wt.(gm) = 50.00

Temp.(deg.c.) = 22.20
Total Wt.(gm) = 704.25

Chunk Density

Wet Wt.+Tare(gm)= 153.6
Dry Wt.+Tare(gm)= 133.4
Tare Wt(gm) = 38.6
Moisture(%) = 21.3
Void Ratio = 0.544

Sample Wt.(gm) = 804.5
Sa. + Wt.(air) = 865.0
SA. + PA. Wt(Water) = 350.0
Density(pcf) = 92.6
Saturation(%) = 89.76

Moisture Determination

Dry Wt.+Tare(gm)= 245.70

Tare Wt(gm) = 97.90

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 63.80
Tare Wt(gm) = 39.00

Dry Wt.+Tare(gm)= 63.70
Moisture(%) = 0.40

Non-Plastic Soil

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 147.8

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO.4	0.0	100.0	4.7500
NO.10	0.0	100.0	2.0000
NO.20	0.0	100.0	0.8500
NO.40	0.0	100.0	0.4250
NO.50	0.1	99.8	0.3000
NO.100	0.6	98.8	0.1500
NO.200	1.6	96.8	0.0750

Air Dry Weight(gm)= 50.00

Corrected Weight(gm)= 49.80

Time	Temp.	Hyd.Rdg	Corr	% Pass	Size(mm)
1 min.	19.0	47.6	6.0	92.3	0.0450
4 min.	19.0	45.5	6.0	87.7	0.0230
15 min.	19.0	36.6	6.0	67.9	0.0128
1 hour	19.0	23.6	6.0	39.1	0.0071
4 hours	19.4	14.0	6.0	17.8	0.0037

Soil Symbol= ML (Inorganic silt of low plasticity)

Gravel(%)= 0

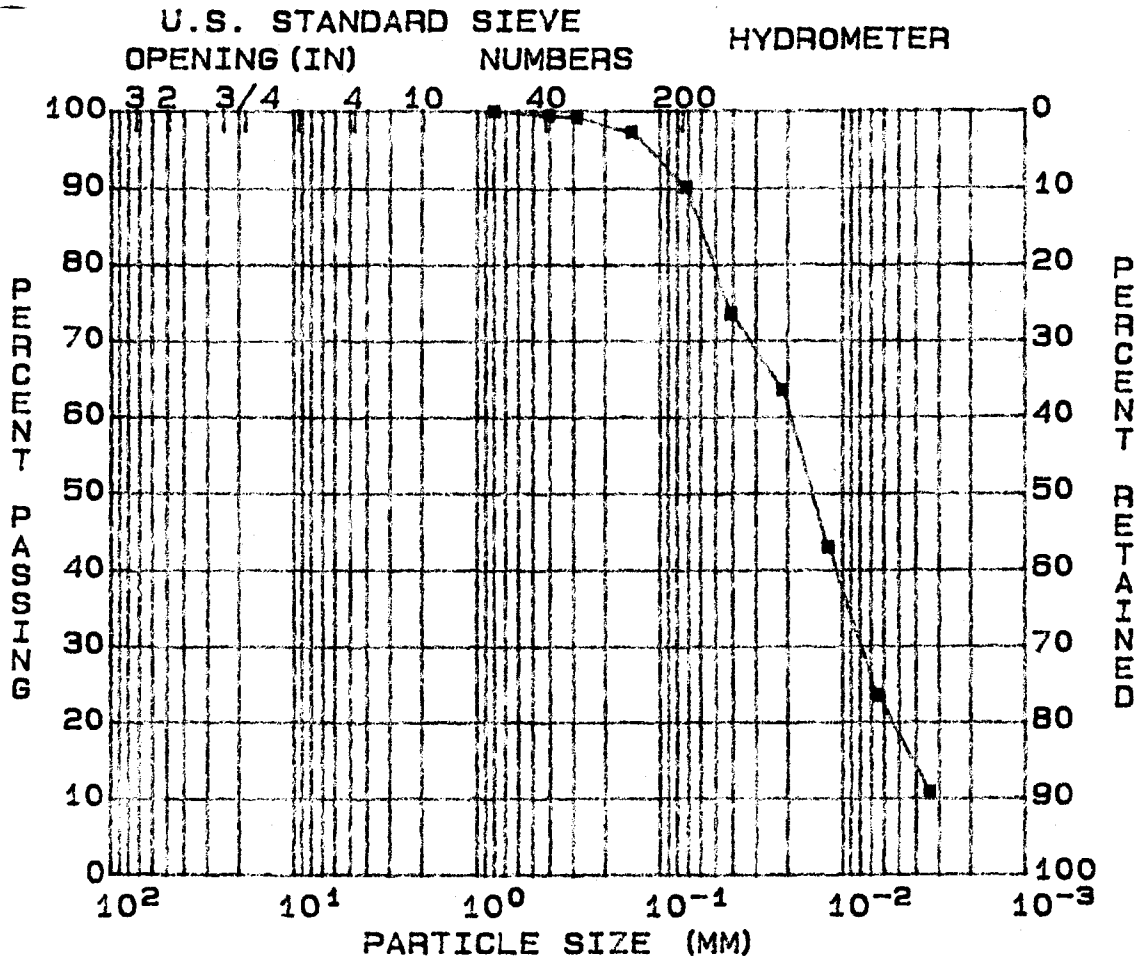
Sand(%)= 3

Silt(%)= 69

Clay(%)= 28

SINGLETON LABORATORIES PARTICLE SIZE ANALYSIS

PROJECT: TVA/KINGSTON FP BORING: US-8
 FEATURE: DREDGE CELLS/CLOSURE EL. : 42.0'-44.0'
 STATION: SAMPLE: 3
 RANGE : DATE : 09-28-94
 PART : 1



GRAVEL (%) = 0	D10 (MM) = ---
SAND (%) = 10	D30 (MM) = ---
SILT (%) = 72	D60 (MM) = ---
CLAY (%) = 18	COEF UNIF = ---

SOIL SYMBOL = ML	L.L. (%) = NP	DENSITY (pcf) = 90.0
MOISTURE (%) = 24.9	P.I. (%) = NP	SATURATION (%) = 80.10
SP. GR. = 2.62		VOID RATIO = 0.816

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : US-8

El. : 42.0'-44.0'
Sample: 3
Part : 1

FILE : 100
TESTED BY : REG
Computed By: MHD
Checked By : *TAL*
Report Date: 09-28-94

Specific Gravity = 2.619

Flask No. = 17.00

Soil Wt.(gm) = 50.00

Chunk Density

Wet Wt.+Tare(gm)= 154.0

Dry Wt.+Tare(gm)= 130.8

Tare Wt(gm) = 37.8

Moisture(%) = 24.9

Void Ratio = 0.816

Moisture Determination

Dry Wt.+Tare(gm)= 343.50

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 71.50

Tare Wt(gm) = 40.40

Non-Plastic Soil

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 247.9

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO.4	0.0	100.0	4.7500
NO.10	0.0	100.0	2.0000
NO.20	0.0	100.0	0.8500
NO.40	0.1	99.8	0.4250
NO.50	0.2	99.6	0.3000
NO.100	1.2	97.6	0.1500
NO.200	4.7	90.4	0.0750

Air Dry Weight(gm)= 50.00

Time	Temp.	Hyd.Rdg
1 min.	19.0	41.9
4 min.	19.0	37.0
15 min.	19.0	27.0
1 hour	19.0	17.5
4 hours	19.4	11.3

Corrected Weight(gm)= 49.04

Time	Temp.	Hyd.Rdg	Corr	% Pass	Size(mm)
1 min.	19.0	41.9	6.0	73.7	0.0424
4 min.	19.0	37.0	6.0	63.7	0.0221
15 min.	19.0	27.0	6.0	43.1	0.0123
1 hour	19.0	17.5	6.0	23.6	0.0066
4 hours	19.4	11.3	6.0	10.9	0.0034

Soil Symbol= ML (Inorganic silt of low plasticity)

Gravel(%)= 0

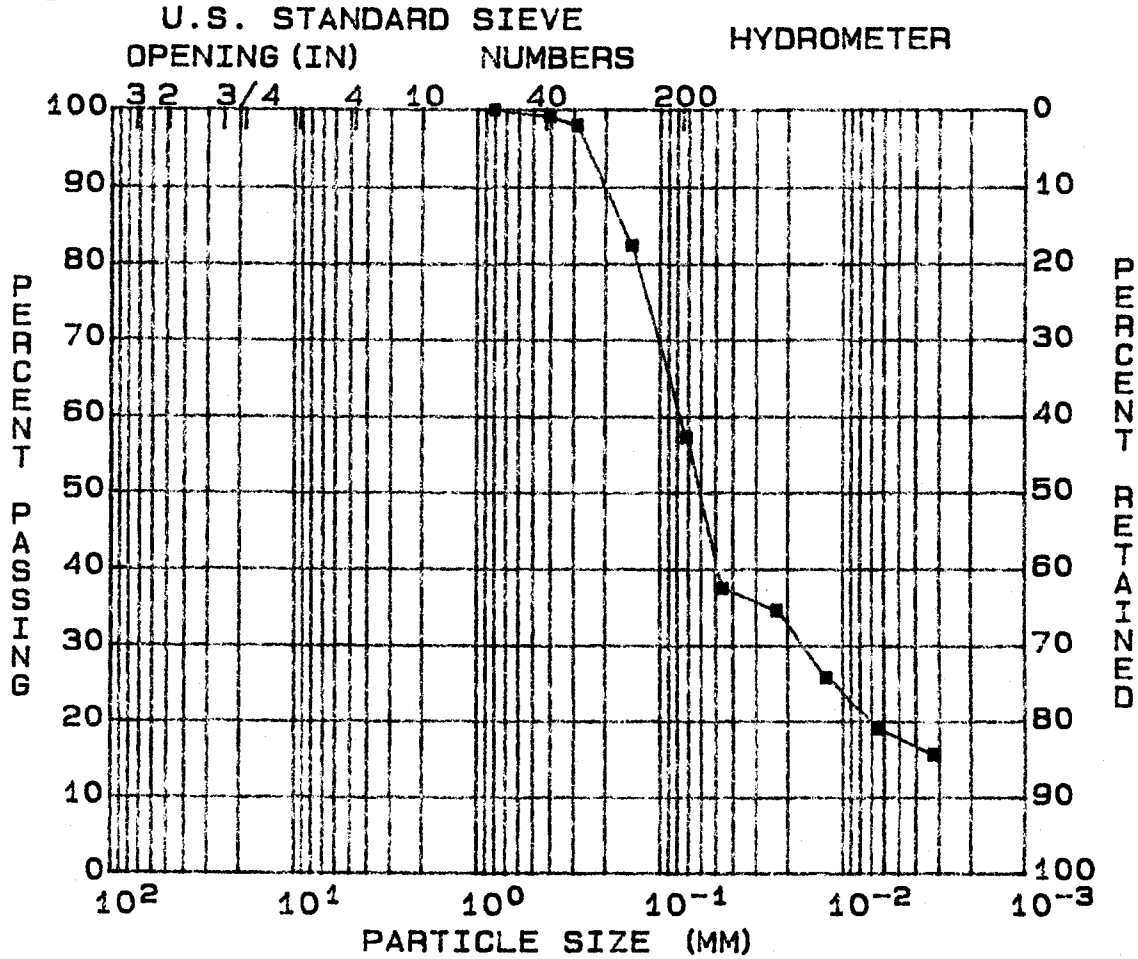
Sand(%)=10

Silt(%)= 72

Clay(%)= 18

**SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS**

PROJECT: TVA/KINGSTON FP	BORING: US-8
FEATURE: DREDGE CELLS/CLOSURE	EL. : 58.0'-60.0'
STATION:	SAMPLE: 4
RANGE :	DATE : 09-28-94
PART : 4	



GRAVEL (%) = 0	D10 (MM) = ---
SAND (%) = 42	D30 (MM) = ---
SILT (%) = 40	D60 (MM) = ---
CLAY (%) = 18	COEF UNIF = ---

SOIL SYMBOL = ML	L.L. (%) = NP	DENSITY (pcf) = 117.4
MOISTURE (%) = 13.6	P.I. (%) = NP	SATURATION (%) = 82.91
SP. GR. = 2.72		VOID RATIO = 0.445

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
 Feature: DREDGE CELLS/CLOSURE
 Station:
 Range :
 Boring : US-8

El. : 58.0'-60.0'
 Sample: 4
 Part : 4

FILE : 1
 TESTED BY : REG
 Computed By: MHD
 Checked By : *TAL*
 Report Date: 09-28-94

Specific Gravity = 2.717

Flask No. = 22.00

Soil Wt.(gm) = 50.00

Chunk Density

Wet Wt.+Tare(gm)= 165.7

Dry Wt.+Tare(gm)= 150.3

Tare Wt(gm) = 36.8

Moisture(%) = 13.6

Void Ratio = 0.445

Temp.(deg.c.) = 22.20

Total Wt.(gm) = 708.38

Sample Wt.(gm) = 1141.7

Sa. + Wt.(air) = 1200.0

SA. + PA. Wt(Water) = 600.0

Density(pcf) = 117.4

Saturation(%) = 82.91

Moisture Determination

Dry Wt.+Tare(gm)= 352.20

Tare Wt(gm) = 95.70

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 91.90

Dry Wt.+Tare(gm)= 91.40

Tare Wt(gm) = 37.10

Moisture(%) = 0.92

Non-Plastic Soil

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 256.5

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO.4	0.0	100.0	4.7500
NO.10	0.0	100.0	2.0000
NO.20	0.0	100.0	0.8500
NO.40	0.1	99.8	0.4250
NO.50	0.7	98.6	0.3000
NO.100	8.5	82.8	0.1500
NO.200	21.0	57.6	0.0750

Air Dry Weight(gm)= 50.00

Corrected Weight(gm)= 49.54

Time	Temp.	Hyd.Rdg	Corr	% Pass	Size(mm)
1 min.	19.0	25.0	6.0	37.8	0.0469
4 min.	19.0	23.5	6.0	34.8	0.0237
15 min.	19.0	19.0	6.0	25.9	0.0126
1 hour	19.0	15.6	6.0	19.1	0.0064
4 hours	19.4	13.9	6.0	15.7	0.0032

Soil Symbol= ML (Inorganic sandy silt of low plasticity)

Gravel(%)= 0

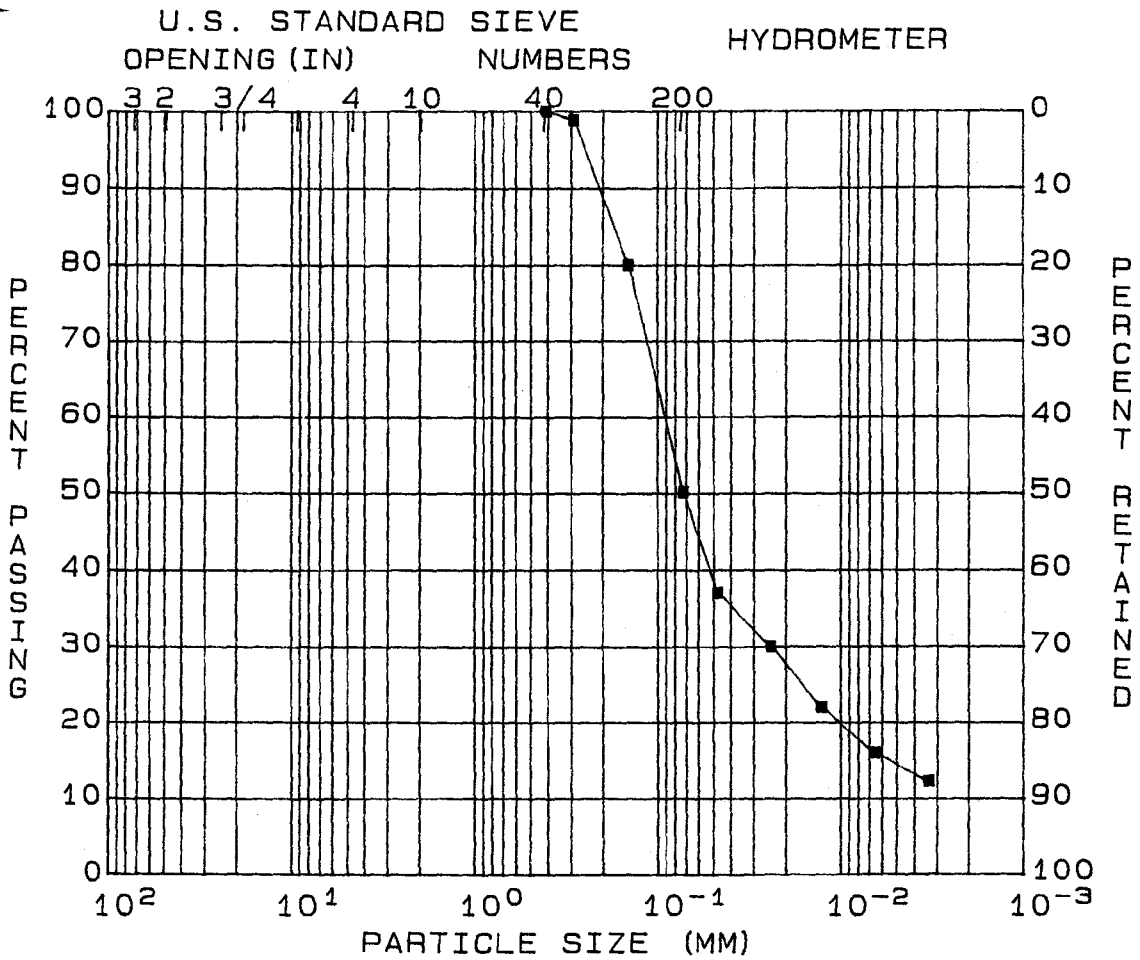
Sand(%)= 42

Silt(%)= 40

Clay(%)= 18

SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS

PROJECT: TVA/KINGSTON FP BORING: US-8
 FEATURE: DREDGE CELLS/CLOSURE EL. : 71.0'-73.0'
 STATION: SAMPLE: 5
 RANGE : DATE : 09-28-94
 PART : 4



GRAVEL (%) = 0	D10 (MM) = --
SAND (%) = 50	D30 (MM) = --
SILT (%) = 36	D60 (MM) = --
CLAY (%) = 14	COEF UNIF = --

SOIL SYMBOL = ML	L.L. (%) = NP	DENSITY (pcf) = 112.9
MOISTURE (%) = 18.6	P.I. (%) = NP	SATURATION (%) = 100.00
SP. GR. = 2.64		VOID RATIO = 0.460

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : US-8

El. : 71.0'-73.0'
Sample: 5
Part : 4

FILE : 2
TESTED BY : REG
Computed By: MHD
Checked By : TA
Report Date: 09-28-94

Specific Gravity = 2.642

Flask No. = 24.00

Soil Wt.(gm) = 50.00

Chunk Density

Wet Wt.+Tare(gm)= 165.6

Dry Wt.+Tare(gm)= 145.8

Tare Wt(gm) = 39.3

Moisture(%) = 18.6

Void Ratio = -0.460

Temp.(deg.c.) = 22.20

Total Wt.(gm) = -706.90

Sample Wt.(gm) = -1095.0

Sa.+ Wt.(air) = -1174.0

SA.+ PA. Wt(Water) = 575.0

Density(pcf) = -112.9

Saturation(%) = -100.00

Moisture Determination

Dry Wt.+Tare(gm)= 324.30

Tare Wt(gm) = 70.40

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 101.40

Dry Wt.+Tare(gm)= 101.00

Tare Wt(gm) = 40.90

Moisture(%) = 0.67

Non-Plastic Soil

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 253.9

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO.4	0.0	100.0	4.7500
NO.10	0.0	100.0	2.0000
NO.20	0.0	100.0	0.8500
NO.40	0.0	100.0	0.4250
NO.50	0.3	99.4	0.3000
NO.100	9.7	80.5	0.1500
NO.200	24.6	50.5	0.0750

Air Dry Weight(gm)= 50.00

Corrected Weight(gm)= 49.67

Time	Temp.	Hyd.Rdg	Corr	% Pass	Size(mm)
1 min.	19.0	24.5	6.0	37.3	0.0482
4 min.	19.0	21.0	6.0	30.3	0.0246
15 min.	19.0	17.0	6.0	22.2	0.0130
1 hour	19.0	14.0	6.0	16.1	0.0066
4 hours	19.4	12.1	6.0	12.3	0.0033

Soil Symbol= ML (Inorganic sandy silt of low plasticity)

Gravel(%)= 0

Sand(%)=50

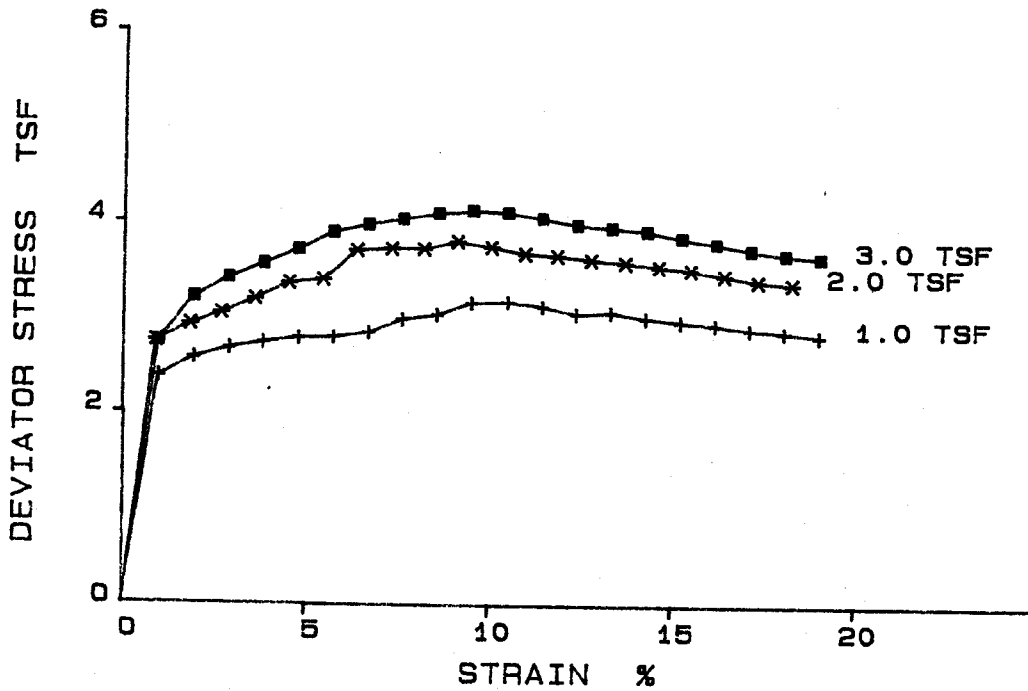
Silt(%)= 36

Clay(%)= 14

SINGLETON LABORATORIES
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (Q) TEST

PROJECT: KINGSTON FP
FEATURE: DREDGE CELLS
STATION:
RANGE :
BORING : US-8

EL. : 71.0'-73.0'
SAMPLE : 5
PART : 3
SOIL SYM:
DATE : 09-27-94

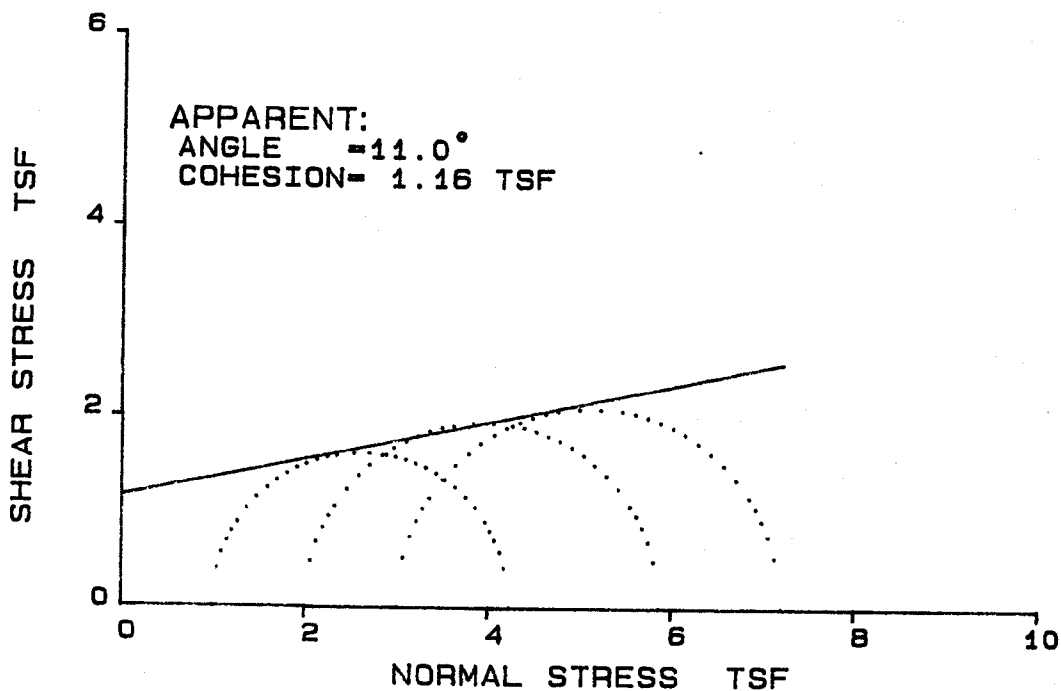


REMARKS:

SINGLETON LABORATORIES
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (Q) TEST

PROJECT: KINGSTON FP
FEATURE: DREDGE CELLS
STATION:
RANGE :
BORING : US-8

EL. : 71.0'-73.0'
SAMPLE : 5
PART : 3
SOIL SYM:
DATE : 09-27-94



REMARKS:

Singleton Laboratories
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION(Q) TEST

Project: KINGSTON FP
Feature: DREDGE CELLS
Station:
Range :
Boring : US-8

El. : 71.0'-73.0'
Sample: 5
Part : 3

File : 14
Tested By : REG
Computed By: MHD
Checked By : *TA*
Report Date: 09-27-94

Soil Symbol=
Sp. Gr. = 2.5

L.L.(%)=
D10(mm)=

P.I.(%) =

Specimen Number	1	2	3	4
Initial:				
Moisture Content(%)	21.0	20.0	19.0	0.0
Dry Density(pcf)	104.8	106.3	107.2	0.0
Void Ratio	0.489	0.468	0.456	0.000
Saturation(%)	107.5	106.8	104.3	0.0
Before Shearing:				
Moisture(%) (after satur.)	--	--	--	--
Saturation(%)	--	--	--	--
Moisture(%) (after cons.)	--	--	--	--
Void Ratio (after cons.)	--	--	--	--
Final Moisture Content(%)	20.8	19.5	18.4	0.0
Minor Principal Stress(tsf)	1.01	2.02	3.02	0.00
Major Principal Stress(tsf)	4.25	5.89	7.21	0.00
Eff. Minor Prin Stress (tsf)	--	--	--	--
Eff. Major Prin Stress (tsf)	--	--	--	--
Time to Failure(min)	11	10	10	0
Rate of Strain(%/min)	0.97	0.92	0.96	0.00
Specimen Height(in.)	3.11	3.11	3.11	0.00
Specimen Dia (in.)	1.41	1.41	1.41	0.00
Shear Strength	Max Deviator Stress		Max Eff	Stress Ratio
Apparent	Deg	c(tsf)	Deg	c(tsf)
Effective	11.0	1.16	--	--

NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

Remark:

Singleton Laboratories
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION(Q) TEST

Project: KINGSTON FP	File : 13
Feature: DREDGE CELLS	Tested By : REG
Station: El. : 71.0'-73.0'	Computed By: MHD
Range : Sample: 5	Checked By : <i>TAL</i>
Boring : US-8 Part : 3	Report Date: 09-27-94

Moisture Content	Trimming	Initial	Final
Wet Wt. and Tare(gm)=	149.5	161.1	200.4
Dry Wt. and Tare(gm)=	131.2	133.1	172.7
Wt. of Tare(gm) =	40.2	0.0	39.6
Moisture(%) =	20.1	21.0	20.8

Test Conditions and Constants:

Proving Ring No. = 2212	Tube No. = 1
Proving Ring Constant:	Sample Volume (cc) = 79.281
Slope Const. = 1	Sample Height(in.) = 3.113
Intercept = 0	Specific Gravity = 2.5
Confining Pres.(psi) = 14	Consolidation(in.) = 0
Initial Pore Pre(psi)= 0	Initial P.R. Rdg = 13

Time (Min)	Deflection (ins.)	Pro. Ring Reading	Strain (%)	±1 - ±3 (tsf)
1	0.030	65.0	0.96	2.39
2	0.060	70.1	1.93	2.59
3	0.091	73.0	2.92	2.70
4	0.120	75.1	3.85	2.77
5	0.151	77.0	4.85	2.82
6	0.181	78.1	5.81	2.84
7	0.211	80.0	6.78	2.89
8	0.240	84.0	7.71	3.04
9	0.270	86.1	8.67	3.09
10	0.300	90.0	9.64	3.22
11	0.331	91.3	10.63	3.24
12	0.361	91.0	11.60	3.19
13	0.390	90.0	12.53	3.12
14	0.420	91.4	13.49	3.14
15	0.450	91.0	14.46	3.09
16	0.480	91.1	15.42	3.06
17	0.510	91.3	16.38	3.03
18	0.540	91.0	17.35	2.99
19	0.570	91.3	18.31	2.96
20	0.600	91.4	19.27	2.93

Initial:

Moisture(%) = 21.0	Void Ratio = 0.489
Density(pcf)=104.8	Saturation(%)=107.5

Minor Prin. Stress(tsf) = -1.01 Major Prin. Stress(tsf) = 4.25

NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

Singleton Laboratories
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION(Q) TEST

Project: KINGSTON FP
 Feature: DREDGE CELLS
 Station: El. : 71.0'-73.0'
 Range : Sample: 5
 Boring : US-8 Part : 3

File : 13
 Tested By : REG
 Computed By: MHD
 Checked By : TA
 Report Date: 09-27-94

Moisture Content	Trimming	Initial	Final
Wet Wt. and Tare(gm)=	149.0	162.0	200.9
Dry Wt. and Tare(gm)=	130.3	135.0	174.6
Wt. of Tare(gm) =	39.7	0.0	39.6
Moisture(%) =	20.6	20.0	19.5

Test Conditions and Constants:

Proving Ring No. = 2212	Tube No. = 1
Proving Ring Constant:	Sample Volume (cc) = 79.281
Slope Const. = 1	Sample Height(in.) = 3.113
Intercept = 0	Specific Gravity = 2.5
Confining Pres.(psi) = 28	Consolidation(in.) = 0
Initial Pore Pre(psi) = 0	Initial P.R. Rdg = 23

Time (Min)	Deflection (ins.)	Pro. Ring Reading	Strain (%)	±1 - ±3 (tsf)
1	0.028	83.0	0.90	2.75
2	0.057	87.7	1.83	2.94
3	0.084	91.1	2.70	3.07
4	0.113	95.3	3.63	3.23
5	0.142	100.0	4.56	3.40
6	0.171	101.7	5.49	3.45
7	0.200	109.6	6.42	3.75
8	0.230	111.0	7.39	3.78
9	0.258	112.0	8.29	3.78
10	0.287	115.0	9.22	3.87
11	0.316	114.6	10.15	3.81
12	0.345	114.0	11.08	3.75
13	0.373	114.6	11.98	3.74
14	0.402	114.7	12.91	3.70
15	0.431	115.0	13.85	3.67
16	0.460	115.0	14.78	3.63
17	0.488	115.3	15.68	3.61
18	0.517	114.9	16.61	3.55
19	0.546	114.6	17.54	3.50
20	0.575	114.9	18.47	3.47

Initial:

Moisture(%) = 20.0
 Density(pcf)=106.3

Void Ratio =0.468
 Saturation(%)=106.8

Minor Prin. Stress(tsf) = -2.02 Major Prin. Stress(tsf) = 5.89

NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

Singleton Laboratories
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION(Q) TEST

Project: KINGSTON FP	El. : 71.0'-73.0'	File : 13
Feature: DREDGE CELLS	Sample: 5	Tested By : REG
Station:	Part : 3	Computed By: MHD
Range :		Checked By : <u>7AL</u>
Boring : US-8		Report Date: 09-27-94

Moisture Content	Trimming	Initial	Final
Wet Wt. and Tare(gm)=	151.0	162.0	200.9
Dry Wt. and Tare(gm)=	132.3	136.1	175.8
Wt. of Tare(gm) =	39.6	0.0	39.7
Moisture(%) =	20.2	19.0	18.4

Test Conditions and Constants:

Proving Ring No. = 2212	Tube No. = 1
Proving Ring Constant:	Sample Volume (cc) = 79.281
Slope Const. = 1	Sample Height(in.) = 3.113
Intercept = 0	Specific Gravity = 2.5
Confining Pres.(psi) = 42	Consolidation(in.) = 0
Initial Pore Pre(psi) = 0	Initial P.R. Rdg = 35

Time (Min)	Deflection (ins.)	Pro. Ring Reading	Strain (%)	±1 - ±3 (tsf)
1	0.030	95.0	0.96	2.75
2	0.060	106.0	1.93	3.23
3	0.090	111.3	2.89	3.43
4	0.120	115.6	3.85	3.59
5	0.150	120.0	4.82	3.75
6	0.180	125.1	5.78	3.93
7	0.210	128.0	6.75	4.02
8	0.240	130.6	7.71	4.09
9	0.271	133.1	8.71	4.15
10	0.300	135.0	9.64	4.19
11	0.330	135.6	10.60	4.17
12	0.360	135.3	11.56	4.11
13	0.390	134.9	12.53	4.05
14	0.420	135.4	13.49	4.02
15	0.450	136.0	14.46	4.00
16	0.480	135.5	15.42	3.94
17	0.510	135.3	16.38	3.89
18	0.540	134.9	17.35	3.83
19	0.570	135.0	18.31	3.78
20	0.600	135.6	19.27	3.76

Initial:

Moisture(%) = 19.0	Void Ratio = 0.456
Density(pcf)=107.2	Saturation(%)=104.3

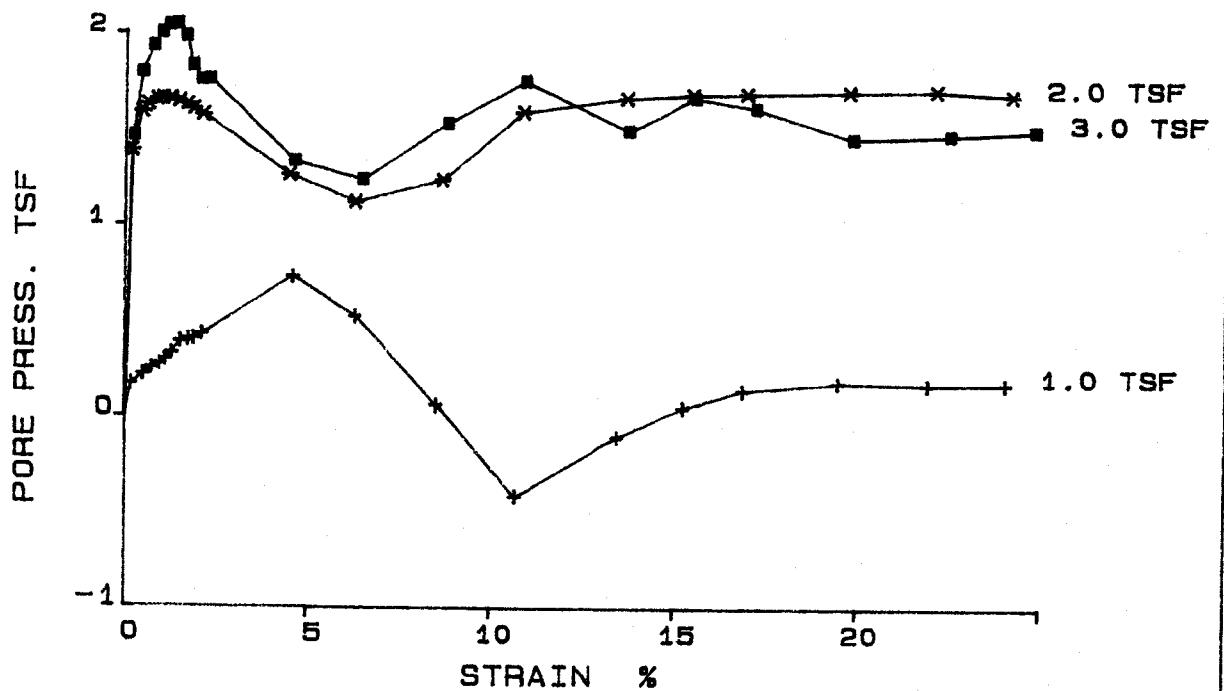
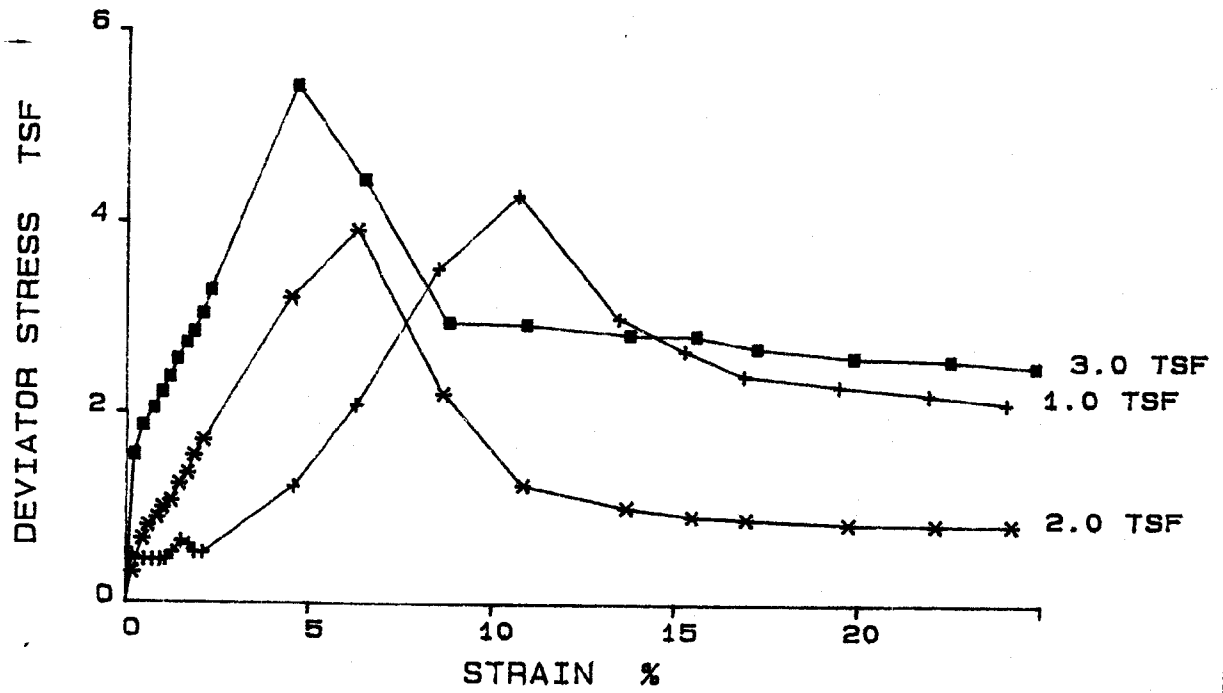
Minor Prin. Stress(tsf) = 3.02		Major Prin. Stress(tsf) = 7.21
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NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

SINGLETON LABORATORIES
CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (R) TEST

PROJECT: KINGSTON FP
 FEATURE: DREDGE CELLS
 STATION:
 RANGE :
 BORING : US-8

EL. : 71.0'-73.0'
 SAMPLE : 5
 PART : 2
 SOIL SYM:
 DATE : 09-28-94

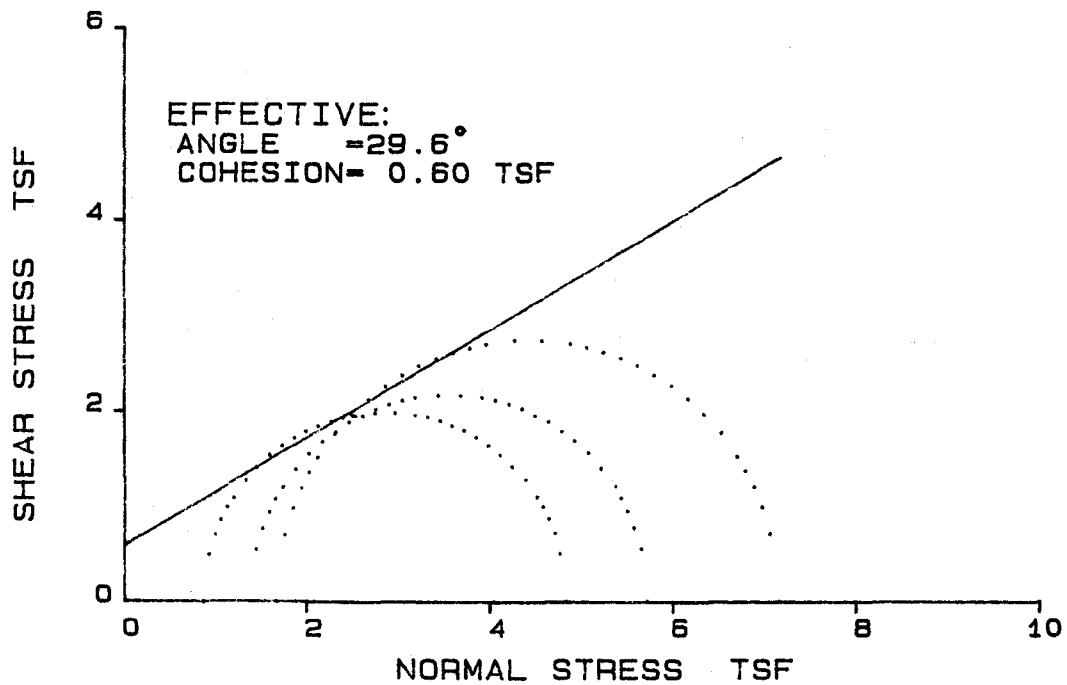
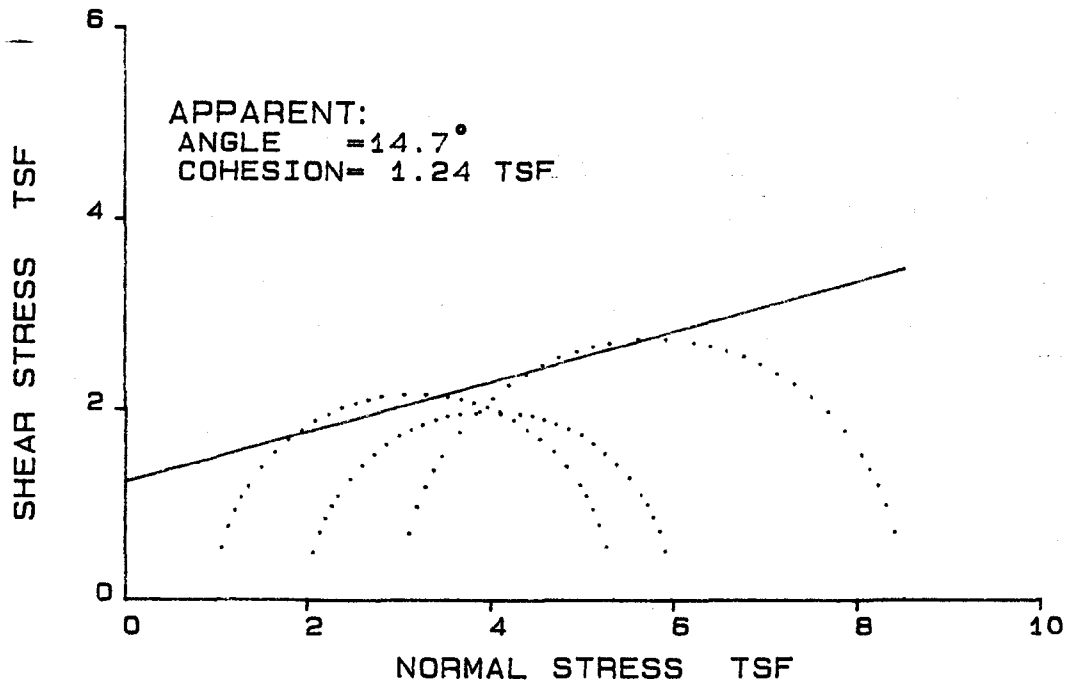


REMARKS:

SINGLETON LABORATORIES
CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (R) TEST

PROJECT: KINGSTON FP
FEATURE: DREDGE CELLS
STATION:
RANGE :
BORING : US-8

EL. : 71.0'-73.0'
SAMPLE : 5
PART : 2
SOIL SYM:
DATE : 09-28-94



REMARKS:

Singleton Laboratories
 CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (R) TEST

Project: KINGSTON FP
 Feature: DREDGE CELLS
 Station:
 Range :
 Boring : US-8

E1. : 71.0'-73.0'
 Sample: 5
 Part : 2

File : 16
 Tested By : TAL
 Computed By: MHD
 Checked By : GPB
 Report Date: 09-28-94

Soil Symbol=
 Sp. Gr. = 2.5

L.L.(%)=
 D10(mm)=

P.I.(%) =

Specimen Number	1	2	3	4
Initial:				
Moisture Content(%)	21.0	20.1	24.3	0.0
Dry Density(pcf)	106.7	108.7	105.1	0.0
Void Ratio	0.463	0.436	0.485	0.000
Saturation(%)	113.6	115.4	125.6	0.0
Before Shearing:				
Moisture(%) (after satur.)	18.5	17.4	19.4	0.0
Saturation(%)	100.0	100.0	100.0	0.0
Moisture(%) (after cons.)	15.2	12.6	12.7	0.0
Void Ratio (after cons.)	0.380	0.315	0.317	0.000
Final Moisture Content(%)	18.5	18.6	16.7	0.0
Minor Principal Stress(tsf)	1.01(1.01)	2.02(2.02)	3.02(3.02)	0.00(0.00)
Major Principal Stress(tsf)	5.35(2.29)	5.99(5.99)	8.52(8.52)	0.00(0.00)
Eff. Minor Prin Stress(tsf)	1.39(0.25)	0.87(0.87)	1.67(1.67)	0.00(0.00)
Eff. Major Prin Stress(tsf)	5.73(1.53)	4.85(4.85)	7.16(7.16)	0.00(0.00)
Time to Failure(min)	50	30	20	0
Rate of Strain(%/min)	0.22	0.22	0.23	0.00
Specimen Height(in.)	3.11	3.11	3.11	0.00
Specimen Dia (in.)	1.41	1.41	1.41	0.00
	Max Deviator Stress		Max Eff Stress Ratio	
Shear Strength	Deg	c(tsf)	Deg	c(tsf)
Apparent	14.7	1.24	30.9	-0.19
Effective	29.6	0.60	37.0	0.19

NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

Remark:

Singleton Laboratories
 CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (R) TEST

Project: KINGSTON FP	File : 16
Feature: DREDGE CELLS	Tested By : TAL
Station:	Computed By: MHD
Range :	Checked By : GPB
Boring : US-8	Report Date: 09-28-94
El. : 71.0' -73.0'	
Sample: 5	
Part : 2	

Moisture Content	Trimming	Initial	Final
Wet Wt. and Tare(gm)=	198.5	164.0	199.8
Dry Wt. and Tare(gm)=	172.2	135.5	174.7
Wt. of Tare(gm) =	38.2	0.0	39.2
Moisture(%) =	19.6	21.0	18.5

Test Conditions and Constants:

Proving Ring No. = 2212	Tube No. = 1
Proving Ring Constant:	Sample Volume (cc) = 79.281
Slope Const. = 1	Sample Height(in.) = 3.113
Intercept = 0	Specific Gravity = 2.5
Confining Pres.(psi) = 14	Consolidation(in.) = .06
Initial Pore Pre(psi)= 100	Initial P.R. Rdg = 93

Time (Min)	Deflection (ins.)	Pro. Ring Reading	Pore Pres. (psi)	Strain (%)	±1 - ±3 (tsf)	Pore Press. (tsf)	±1 / ±3 (TSF)
1	0.006	103.5	102.3	0.20	0.50	0.17	1.60
2	0.016	102.6	103.0	0.52	0.46	0.22	1.58
3	0.023	102.8	103.5	0.75	0.47	0.25	1.62
4	0.030	102.9	103.8	0.98	0.47	0.27	1.64
5	0.035	103.3	104.2	1.15	0.49	0.30	1.70
6	0.041	104.8	104.7	1.34	0.56	0.34	1.84
7	0.048	107.4	105.6	1.57	0.68	0.40	2.13
8	0.055	106.6	105.8	1.80	0.64	0.42	2.09
9	0.060	105.0	105.9	1.97	0.57	0.42	1.97
10	0.067	105.2	106.3	2.19	0.57	0.45	2.04
20	0.143	120.9	110.5	4.68	1.28	0.76	6.08
30	0.195	140.5	107.7	6.39	2.14	0.55	5.72
40	0.263	174.3	101.3	8.61	3.58	0.09	4.91
50	0.330	194.1	94.7	10.81	4.34	-0.38	4.13
60	0.415	166.7	99.1	13.59	3.07	-0.06	3.86
70	0.470	160.0	101.3	15.39	2.73	0.09	3.99
80	0.520	155.0	102.6	17.03	2.48	0.19	4.02
90	0.600	154.3	103.2	19.65	2.37	0.23	4.05
100	0.675	153.9	103.1	22.11	2.28	0.22	3.91
110	0.740	153.4	103.2	24.24	2.20	0.23	3.83

Initial:

Moisture(%) = 21.0	Void Ratio = 0.463
Density(pcf)=106.7	Saturation(%)=113.6

After Saturation:

Moisture(%) = 18.5	Void Ratio = 0.380
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Minor Prin. Stress(tsf) = -1.01	Major Prin. Stress(tsf) = 5.35(2.29)
Eff. Minor Prin. Stress(tsf)=1.39(0.25)	Eff. Major Prin. Stress(tsf)= 5.73(1.53)

NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

Singleton Laboratories
 CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (R) TEST

Project: KINGSTON FP
 Feature: DREDGE CELLS
 Station:
 Range :
 Boring : US-8

El. : 71.0'-73.0'
 Sample: 5
 Part : 2

File : 16
 Tested By : TAL
 Computed By: MHD
 Checked By : *CPB*
 Report Date: 09-28-94

Moisture Content	Trimming	Initial	Final
Wet Wt. and Tare(gm)=	189.1	165.8	202.5
Dry Wt. and Tare(gm)=	165.2	138.0	176.9
Wt. of Tare(gm) =	40.3	0.0	38.9
Moisture(%) =	19.1	20.1	18.6

Test Conditions and Constants:

Proving Ring No. = 2515	Tube No. = 1
Proving Ring Constant:	Sample Volume (cc) = 79.281
Slope Const. = 1	Sample Height(in.) = 3.113
Intercept = 0	Specific Gravity = 2.5
Confining Pres.(psi) = 28	Consolidation(in.) = 9.000001E-02
Initial Pore Pre(psi)= 100	Initial P.R. Rdg = 98

Time (Min)	Deflection (ins.)	Pro. Ring Reading	Pore Pres. (psi)	Strain (%)	$\pm 1 - \pm 3$ (tsf)	Pore Press. $\pm 1 / \pm 3$ (TSF)
1	0.006	104.7	119.3	0.20	0.33	1.39
2	0.015	111.9	122.1	0.50	0.68	1.59
3	0.020	114.8	122.7	0.66	0.82	1.63
4	0.028	116.5	123.1	0.93	0.90	1.66
5	0.033	118.8	123.2	1.09	1.01	1.67
6	0.040	120.4	123.2	1.32	1.09	1.67
7	0.047	124.3	123.0	1.55	1.27	1.66
8	0.054	126.8	122.8	1.79	1.39	1.64
9	0.060	131.0	122.5	1.98	1.59	1.62
10	0.068	134.5	122.1	2.25	1.75	1.59
20	0.140	167.5	117.8	4.63	3.26	1.28
30	0.195	184.5	115.9	6.45	3.98	1.14
40	0.267	148.5	117.5	8.83	2.26	1.26
50	0.334	127.8	122.5	11.05	1.30	1.62
60	0.420	123.4	123.6	13.89	1.07	1.70
70	0.475	121.8	123.9	15.71	0.99	1.72
80	0.520	121.6	124.0	17.20	0.96	1.73
90	0.605	121.3	124.2	20.01	0.92	1.74
100	0.677	121.9	124.3	22.39	0.91	1.75
110	0.740	122.6	124.0	24.48	0.91	1.73

Initial:

Moisture(%) = 20.1	Void Ratio = 0.436
Density(pcf)=108.7	Saturation(%)=115.4
After Saturation:	
Moisture(%) = 17.4	Void Ratio = 0.315

Minor Prin. Stress(tsf) = -2.02 Major Prin. Stress(tsf) = 5.99 (5.99)
 Eff. Minor Prin. Stress(tsf)=0.87(0.87) Eff. Major Prin. Stress(tsf)= 4.85(4.85)

NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

Singleton Laboratories
 CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (R) TEST

Project: KINGSTON FP
 Feature: DREDGE CELLS
 Station:
 Range :
 Boring : US-8

El. : 71.0' - 73.0'
 Sample: 5
 Part : 2

File : 16
 Tested By : TAL
 Computed By: MHD
 Checked By : GPB
 Report Date: 09-28-94

Moisture Content	Trimming	Initial	Final
Wet Wt. and Tare(gm)=	207.6	166.0	195.8
Dry Wt. and Tare(gm)=	180.3	133.5	173.5
Wt. of Tare(gm) =	39.7	0.0	40.0
Moisture(%) =	19.4	24.3	16.7

Test Conditions and Constants:

Proving Ring No. = 2288	Tube No. = 1
Proving Ring Constant:	Sample Volume (cc) = 79.281
Slope Const. = 1	Sample Height(in.) = 3.113
Intercept = 0	Specific Gravity = 2.5
Confining Pres.(psi) = 42	Consolidation(in.) = .122
Initial Pore Pre(psi)= 100	Initial P.R. Rdg = 113

Time (Min)	Deflection (ins.)	Pro.Ring Reading	Pore Pres. (psi)	Strain (%)	±1 - ±3 (tsf)	Pore Press. (tsf)	±1 / ±3 (TSF)
1	0.007	144.0	120.3	0.23	1.55	1.46	1.99
2	0.014	150.3	124.9	0.47	1.86	1.79	2.51
3	0.023	154.2	126.9	0.77	2.05	1.94	2.89
4	0.030	157.9	127.9	1.00	2.23	2.01	3.20
5	0.036	161.4	128.5	1.20	2.40	2.05	3.47
6	0.042	165.5	128.6	1.40	2.60	2.06	3.69
7	0.050	169.1	127.7	1.67	2.77	1.99	3.69
8	0.056	171.8	125.6	1.87	2.90	1.84	3.45
9	0.063	176.0	124.6	2.11	3.10	1.77	3.47
10	0.070	181.4	124.7	2.34	3.35	1.78	3.69
20	0.140	227.8	118.8	4.68	5.49	1.35	4.29
30	0.196	209.0	117.5	6.55	4.50	1.26	3.55
40	0.266	179.2	121.6	8.89	3.03	1.56	3.06
50	0.330	180.5	124.7	11.03	3.01	1.78	3.42
60	0.415	180.5	121.1	13.87	2.92	1.52	2.94
70	0.470	181.8	123.6	15.71	2.91	1.70	3.20
80	0.520	180.2	122.9	17.39	2.79	1.65	3.03
90	0.600	180.1	120.7	20.06	2.69	1.49	2.76
100	0.680	181.8	121.0	22.73	2.67	1.51	2.76
110	0.750	182.3	121.4	25.08	2.61	1.54	2.76

Initial:

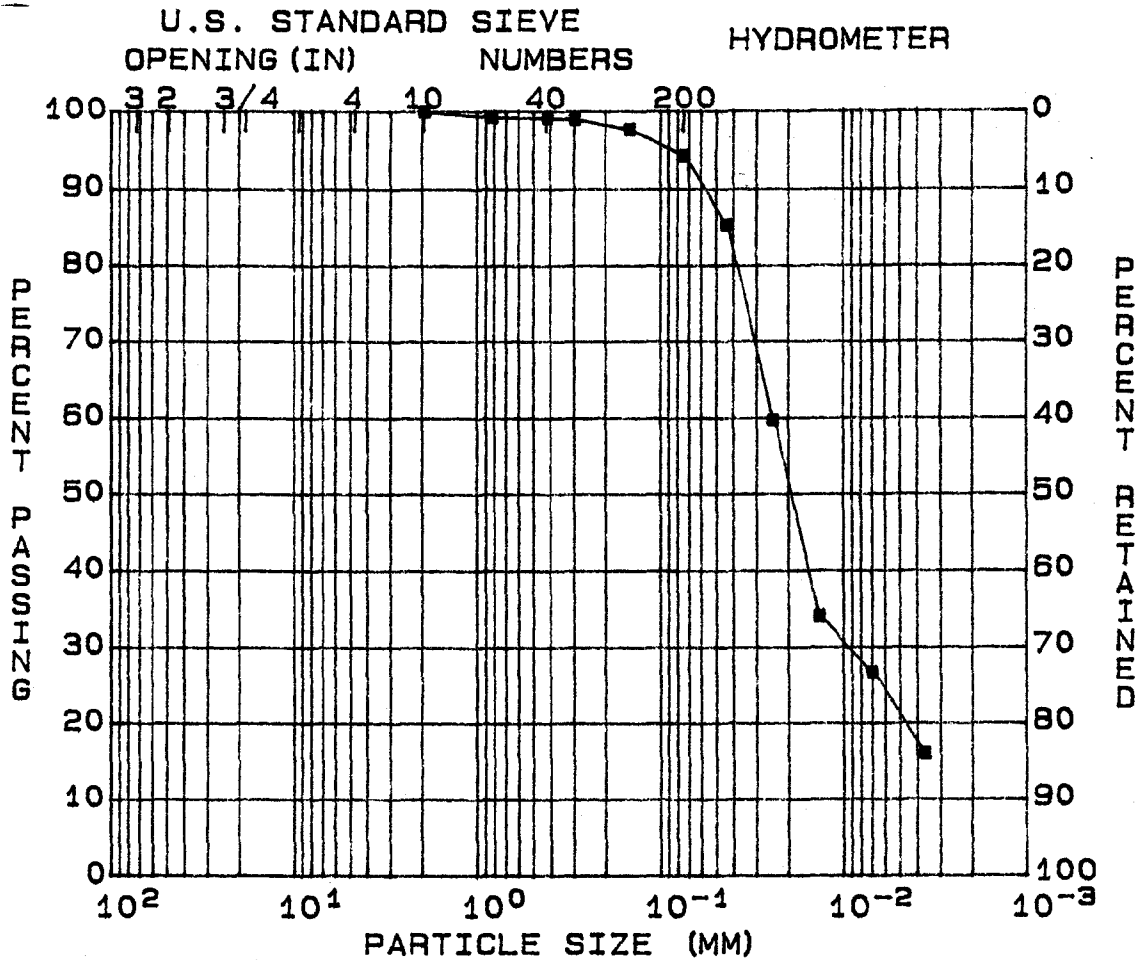
Moisture(%) = 24.3	Void Ratio = 0.485
Density(pcf)=105.1	Saturation(%)=125.6
After Saturation:	
Moisture(%) = 19.4	Void Ratio = 0.317

Minor Prin. Stress(tsf) = 3.02 Major Prin. Stress(tsf) = 8.52 (8.52)
 Eff. Minor Prin. Stress(tsf)=1.67(1.67) Eff. Major Prin. Stress(tsf)= 7.16(7.16)

NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

**SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS**

PROJECT: TVA/KINGSTON FP	BORING: US-9
FEATURE: DREDGE CELLS/CLOSURE	EL. : 20'-22'
STATION:	SAMPLE: 1
RANGE :	DATE : 09-29-94
PART : 1	



GRAVEL (%) = 0	D10 (MM) = --
SAND (%) = 5	D30 (MM) = --
SILT (%) = 73	D60 (MM) = --
CLAY (%) = 22	COEF UNIF = --

SOIL SYMBOL = ML	L.L. (%) = NP	DENSITY (pcf) = 84.6
MOISTURE (%) = 19.7	P.I. (%) = NP	SATURATION (%) = 61.52
SP. GR. = 2.39		VOID RATIO = 0.766

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : US-9

El. : 20'-22'
Sample: 1
Part : 1

FILE : 32
TESTED BY : REG
Computed By: MHD
Checked By : *TAL*
Report Date: 09-29-94

Specific Gravity = 2.394

Flask No. = 10.00

Soil Wt.(gm) = 50.00

Temp.(deg.c.) = 22.40

Total Wt.(gm) = 705.00

Chunk Density

Wet Wt.+Tare(gm)= 112.7

Dry Wt.+Tare(gm)= 100.5

Tare Wt(gm) = 38.5

Moisture(%) = 19.7

Void Ratio = 0.766

Sample Wt.(gm) = 306.3

Sa. + Wt.(air) = 335.0

SA. + PA. Wt(Water) = 114.0

Density(pcf) = 84.6

Saturation(%) = 61.52

Moisture Determination

Dry Wt.+Tare(gm)= 259.80

Tare Wt(gm) = 103.40

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 70.90

Tare Wt(gm) = 37.10

Dry Wt.+Tare(gm)= 70.90

Moisture(%) = 0.00

Non-Plastic Soil

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 156.4

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO.4	0.0	100.0	4.7500
NO.10	0.0	100.0	2.0000
NO.20	0.1	99.8	0.8500
NO.40	0.2	99.6	0.4250
NO.50	0.3	99.4	0.3000
NO.100	1.0	98.0	0.1500
NO.200	2.7	94.6	0.0750

Air Dry Weight(gm)= 50.00

Corrected Weight(gm)= 50.00

Time	Temp.	Hyd.Rdg	Corr	% Pass	Size(mm)
1 min.	19.7	45.0	5.0	85.5	0.0440
4 min.	19.7	33.0	5.0	59.9	0.0244
15 min.	19.7	21.0	5.0	34.2	0.0137
1 hour	19.7	17.5	5.0	26.7	0.0070
4 hours	19.8	12.5	5.0	16.0	0.0036

Soil Symbol= ML (Inorganic silt of low plasticity)

Gravel(%)= 0

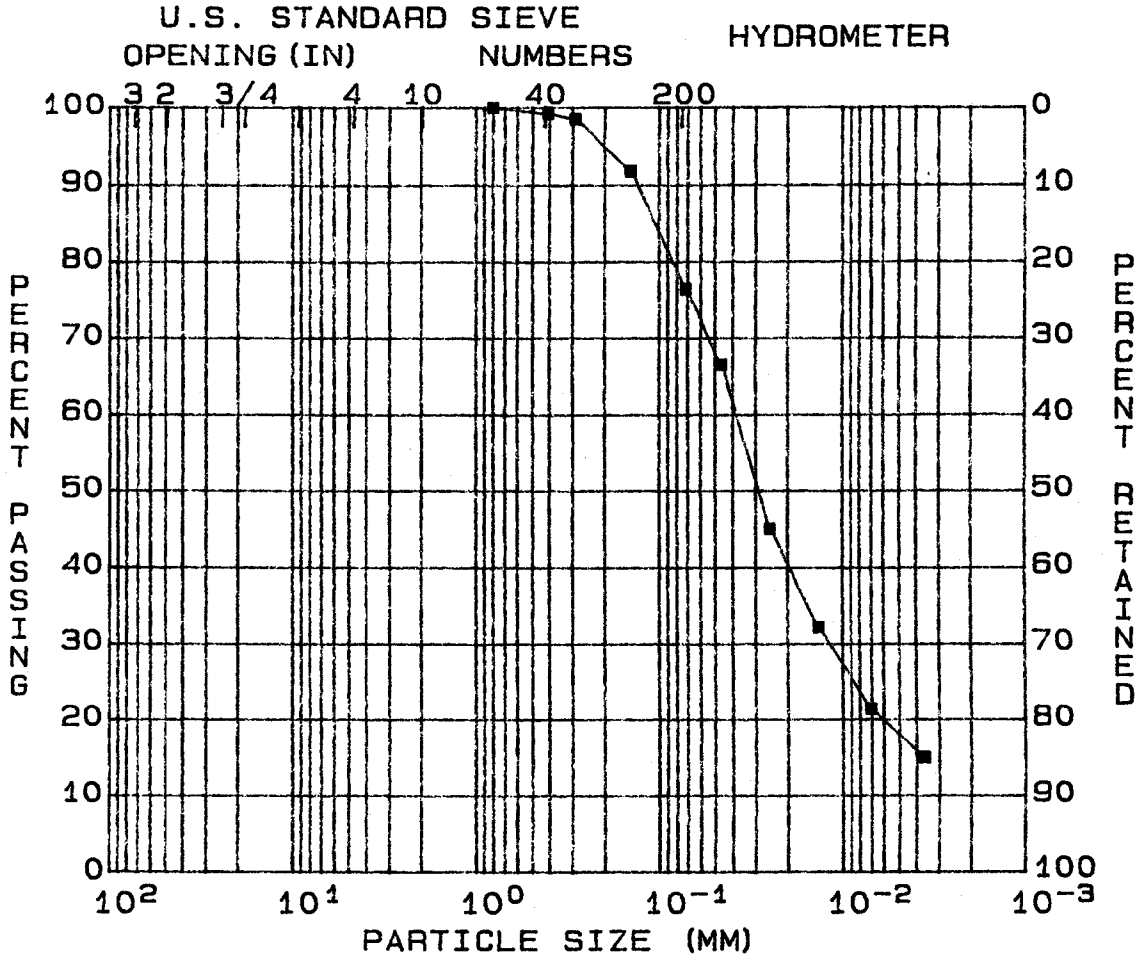
Sand(%)= 5

Silt(%)= 73

Clay(%)= 22

SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS

PROJECT: TVA/KINGSTON FP	BORING: US-9
FEATURE: DREDGE CELLS/CLOSURE	EL. : 32'-34'
STATION:	SAMPLE: 2
RANGE :	DATE : 09-29-94
PART : 4	



GRAVEL (%) = 0	D10 (MM) = --
SAND (%) = 23	D30 (MM) = --
SILT (%) = 59	D60 (MM) = --
CLAY (%) = 18	COEF UNIF = --

SOIL SYMBOL = ML	L.L. (%) = NP	DENSITY (pcf) = 90.7
MOISTURE (%) = 30.3	P.I. (%) = NP	SATURATION (%) = 100.00
SP. GR. = 2.37		VOID RATIO = 0.633

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : US-9

El. : 32'-34'
Sample: 2
Part : 4

FILE : 35
TESTED BY : REG
Computed By: MHD
Checked By : *TAL*
Report Date: 09-29-94

Specific Gravity = 2.374

Flask No. = 22.00

Soil Wt.(gm) = 50.00

Chunk Density

Wet Wt.+Tare(gm)= 170.7

Dry Wt.+Tare(gm)= 140.1

Tare Wt(gm) = 39.2

Moisture(%) = 30.3

Void Ratio = 0.633

Temp.(deg.c.) = 22.40

Total Wt.(gm) = 705.70

Sample Wt.(gm) = 894.8

Sa.+ Wt.(air) = 956.0

SA.+ PA. Wt(Water) = 415.0

Density(pcf) = 90.7

Saturation(%) = 100.00

Moisture Determination

Dry Wt.+Tare(gm)= 300.80

Tare Wt(gm) = 68.40

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 99.10

Dry Wt.+Tare(gm)= 99.00

Tare Wt(gm) = 38.00

Moisture(%) = 0.16

Non-Plastic Soil

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 232.4

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO.4	0.0	100.0	4.7500
NO.10	0.0	100.0	2.0000
NO.20	0.0	100.0	0.8500
NO.40	0.1	99.8	0.4250
NO.50	0.5	99.0	0.3000
NO.100	3.9	92.2	0.1500
NO.200	11.6	76.8	0.0750

Air Dry Weight(gm)= 50.00

Corrected Weight(gm)= 49.92

Time	Temp.	Hyd.Rdg
1 min.	19.6	37.0
4 min.	19.6	27.0
15 min.	19.6	21.0
1 hour	19.6	16.0
4 hours	19.9	13.0

Corr	% Pass	Size(mm)
6.0	66.8	0.0476
6.0	45.3	0.0257
6.0	32.3	0.0138
6.0	21.6	0.0071
6.0	15.1	0.0036

1 min.

Temp.

Hyd.Rdg

4 min.

Temp.

Hyd.Rdg

15 min.

Temp.

Hyd.Rdg

1 hour

Temp.

Hyd.Rdg

4 hours

Temp.

Hyd.Rdg

Soil Symbol= ML (Inorganic sandy silt of low plasticity)

Gravel(%)= 0

Sand(%)=23

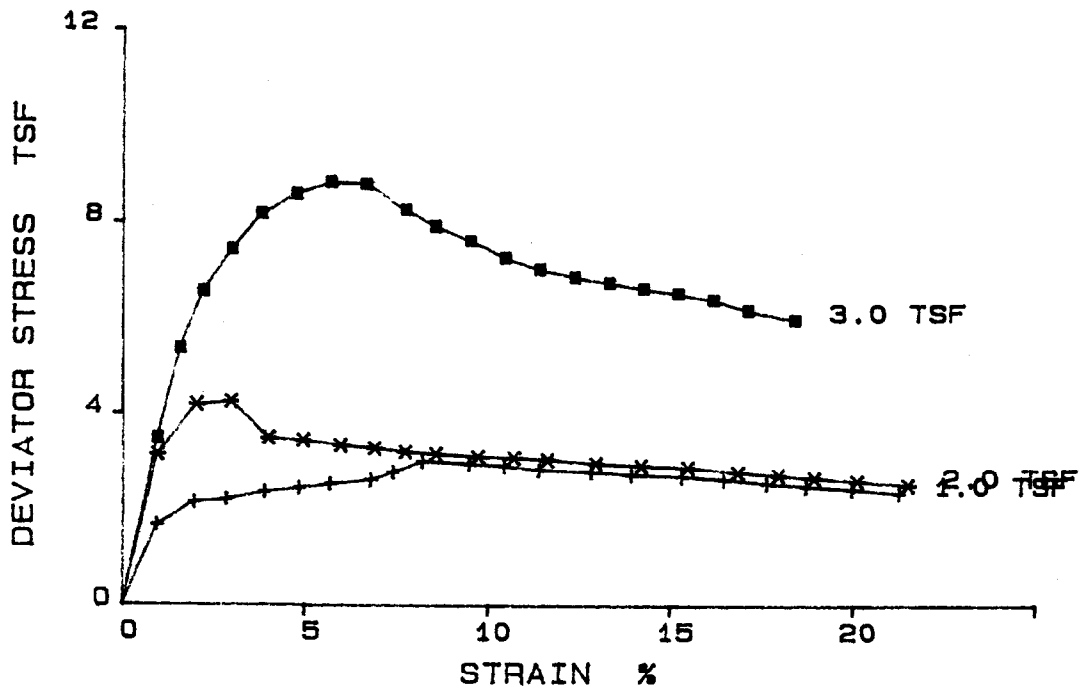
Silt(%)= 59

Clay(%)= 18

SINGLETON LABORATORIES
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (Q) TEST

PROJECT: KINGSTON FP
FEATURE: DREDGE CELLS
STATION:
RANGE :
BORING : US-9

EL. : 32.0'-34.0'
SAMPLE : 2
PART : 2
SOIL SYM:
DATE : 09-27-94

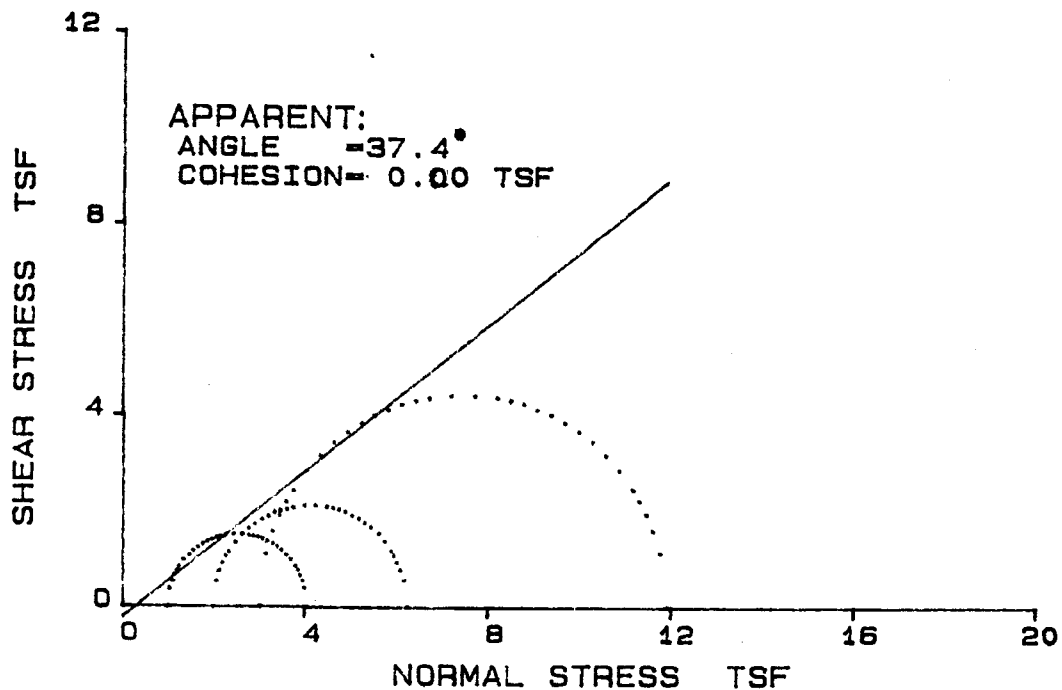


REMARKS:

SINGLETON LABORATORIES
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (Q) TEST

PROJECT: KINGSTON FP
FEATURE: DREDGE CELLS
STATION:
RANGE :
BORING : US-9

EL. : 32.0'-34.0'
SAMPLE : 2
PART : 2
SOIL SYM:
DATE : 09-27-94



REMARKS:

Singleton Laboratories
Unconsolidated Undrained Triaxial Compression (Q) Test

Project: KINGSTON FP	File : 12
Feature: DREDGE CELLS	Tested By : REG
Station:	Computed By: MHD
Range :	Checked By : TA
Boring : US-9	Report Date: 09-27-94
E1. : 32.0'-34.0'	
Sample: 2	
Part : 2	

Soil Symbol=	L.L.(%)=	P.I.(%) =
Sp. Gr. = 2.5	D10(mm)=	

Specimen Number	1	2	3	4
Initial:				
Moisture Content(%)	30.4	23.8	25.3	0.0
Dry Density(pcf)	87.9	100.9	96.1	0.0
Void Ratio	0.776	0.546	0.625	0.000
Saturation(%)	97.9	108.9	101.4	0.0
Before Shearing:				
Moisture(%) (after satur.)	--	--	--	--
Saturation(%)	--	--	--	--
Moisture(%) (after cons.)	--	--	--	--
Void Ratio (after cons.)	--	--	--	--
Final Moisture Content(%)	30.1	22.9	24.3	0.0
Minor Principal Stress(tsf)	1.01	2.02	3.02	0.00
Major Principal Stress(tsf)	4.08	6.28	11.92	0.00
Eff. Minor Prin Stress (tsf)	--	--	--	--
Eff. Major Prin Stress (tsf)	--	--	--	--
Time to Failure(min)	9	3	7	0
Rate of Strain(%/min)	0.93	1.01	0.83	0.00
Specimen Height(in.)	3.11	3.11	3.11	0.00
Specimen Dia (in.)	1.41	1.41	1.41	0.00
	Max Deviator Stress	Max Eff	Stress Ratio	
Shear Strength	Deg	c(tsf)	Deg	c(tsf)
Apparent	37.4	0.0		
Effective	--	--		

NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

Remark:

Singleton Laboratories
Unconsolidated Undrained Triaxial Compression (Q) Test

Project: KINGSTON FP	El. : 32.0'-34.0'	File :
Feature: DREDGE CELLS	Sample: 2	Tested By : REG
Station:	Part : 2	Computed By: MHD
Range :		Checked By : <i>TAL</i>
Boring : US-9		Report Date: 09-27-94

Moisture Content	Trimming	Initial	Final
Wet Wt. and Tare(gm)=	186.3	145.5	184.0
Dry Wt. and Tare(gm)=	154.7	111.6	150.4
Wt. of Tare(gm) =	38.7	0.0	38.8
Moisture(%) =	27.2	30.4	30.1

Test Conditions and Constants:

Proving Ring No. = 2411	Tube No. = 1
Proving Ring Constant:	Sample Volume (cc) = 79.281
Slope Const. = 1	Sample Height(in.) = 3.113
Intercept = 0	Specific Gravity = 2.5
Confining Pres.(psi) = 14	Consolidation(in.) = 0
Initial Pore Pre(psi) = 0	Initial P.R. Rdg = 13

Time (Min)	Deflection (ins.)	Pro. Ring Reading	Strain (%)	±1 - ±3 (tsf)
1	0.030	50.0	0.96	1.70
2	0.062	61.1	1.99	2.18
3	0.090	63.3	2.89	2.26
4	0.123	67.6	3.95	2.43
5	0.153	70.1	4.91	2.52
6	0.180	72.5	5.78	2.60
7	0.215	75.1	6.91	2.68
8	0.235	79.3	7.55	2.84
9	0.260	85.3	8.35	3.07
10	0.300	85.0	9.64	3.01
11	0.330	84.9	10.60	2.98
12	0.360	84.0	11.56	2.91
13	0.405	84.3	13.01	2.87
14	0.440	83.9	14.13	2.82
15	0.484	84.1	15.55	2.78
16	0.520	83.6	16.70	2.72
17	0.556	83.0	17.86	2.66
18	0.590	82.6	18.95	2.61
19	0.630	82.6	20.24	2.57
20	0.670	82.0	21.52	2.51

Initial:

Moisture(%) = 30.4	Void Ratio = 0.776
Density(pcf) = 87.9	Saturation(%) = 97.9

Minor Prin. Stress(tsf) = -1.01 Major Prin. Stress(tsf) = 4.08

NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

Singleton Laboratories
Unconsolidated Undrained Triaxial Compression (Q) Test

Project: KINGSTON FP	File :
Feature: DREDGE CELLS	Tested By : REG
Station:	Computed By: MHD
Range :	Checked By : <u>TAC</u>
Boring : US-9	Report Date: 09-27-94

Moisture Content	Trimming	Initial	Final
Wet Wt. and Tare(gm)=	184.3	158.7	195.3
Dry Wt. and Tare(gm)=	155.6	128.2	165.9
Wt. of Tare(gm) =	39.0	0.0	37.7
Moisture(%) =	24.6	23.8	22.9

Test Conditions and Constants:

Proving Ring No. = 2284	Tube No. = 1
Proving Ring Constant:	Sample Volume (cc) = 79.281
Slope Const. = 1	Sample Height(in.) = 3.113
Intercept = 0	Specific Gravity = 2.5
Confining Pres.(psi) = 28	Consolidation(in.) = 0
Initial Pore Pre(psi)= 0	Initial P.R. Rdg = 19

Time (Min)	Deflection (ins.)	Pro.Ring Reading	Strain (%)	±1 - ±3 (tsf)
1	0.030	87.6	0.96	3.15
2	0.064	111.4	2.06	4.19
3	0.094	113.8	3.02	4.26
4	0.126	98.0	4.05	3.51
5	0.156	97.6	5.01	3.46
6	0.188	96.4	6.04	3.37
7	0.217	95.8	6.97	3.31
8	0.244	95.0	7.84	3.24
9	0.270	94.8	8.67	3.21
10	0.306	94.4	9.83	3.15
11	0.337	95.0	10.83	3.14
12	0.366	95.2	11.76	3.12
13	0.408	94.6	13.11	3.04
14	0.447	95.2	14.36	3.02
15	0.487	95.6	15.64	2.99
16	0.530	94.4	17.03	2.90
17	0.565	94.0	18.15	2.84
18	0.596	93.8	19.15	2.80
19	0.633	93.6	20.33	2.75
20	0.677	92.8	21.75	2.68

Initial:

Moisture(%) = 23.8	Void Ratio = 0.546
Density(pcf)=100.9	Saturation(%)=108.9

Minor Prin. Stress(tsf) = 2.02		Major Prin. Stress(tsf) = 6.28
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NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

Singleton Laboratories
Unconsolidated Undrained Triaxial Compression (Q) Test

Project: KINGSTON FP	File : 12
Feature: DREDGE CELLS	Tested By : REG
Station:	Computed By: MHD
Range :	Checked By : TAC
Boring : US-9	Report Date: 09-27-94
El. : 32.0'-34.0'	
Sample: 2	
Part : 2	

Moisture Content	Trimming	Initial	Final
Wet Wt. and Tare(gm)=	185.5	152.9	192.0
Dry Wt. and Tare(gm)=	157.6	122.0	162.4
Wt. of Tare(gm) =	39.3	0.0	40.4
Moisture(%) =	23.6	25.3	24.3

Test Conditions and Constants:

Proving Ring No. = 2212	Tube No. = 1
Proving Ring Constant:	Sample Volume (cc) = 79.281
Slope Const. = 1	Sample Height(in.) = 3.113
Intercept = 0	Specific Gravity = 2.5
Confining Pres. (psi) = 42	Consolidation(in.) = 0
Initial Pore Pre(psi) = 0	Initial P.R. Rdg = 33

Time (Min)	Deflection (ins.)	Pro. Ring Reading	Strain (%)	±1 - ±3 (tsf)
1	0.030	109.0	0.96	3.49
2	0.050	150.9	1.61	5.37
3	0.070	178.6	2.25	6.59
4	0.095	199.7	3.05	7.49
5	0.120	217.8	3.85	8.23
6	0.150	229.0	4.82	8.64
7	0.180	236.7	5.78	8.89
8	0.210	238.2	6.75	8.87
9	0.245	228.4	7.87	8.34
10	0.270	222.4	8.67	8.01
11	0.300	217.4	9.64	7.72
12	0.330	210.9	10.60	7.37
13	0.360	207.0	11.56	7.13
14	0.390	205.4	12.53	6.99
15	0.420	204.4	13.49	6.87
16	0.450	203.6	14.46	6.76
17	0.480	203.3	15.42	6.67
18	0.510	201.7	16.38	6.54
19	0.540	198.4	17.35	6.33
20	0.580	196.0	18.63	6.14

Initial:

Moisture(%) = 25.3	Void Ratio = 0.625
Density(pcf) = 96.1	Saturation(%) = 101.4

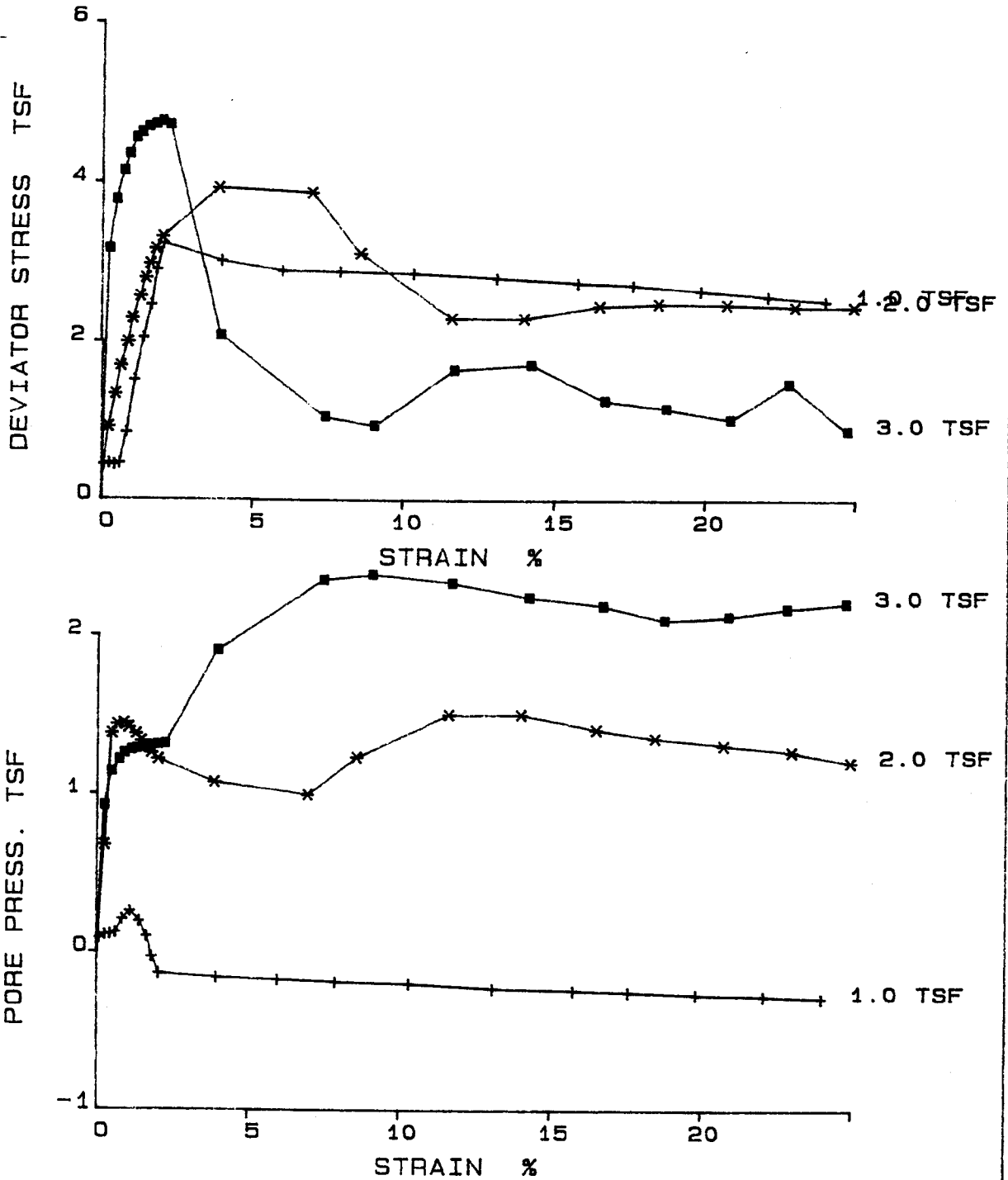
Minor Prin. Stress(tsf) = 3.02	Major Prin. Stress(tsf) = 11.92
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NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

SINGLETON LABORATORIES
 CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (R) TEST

PROJECT: KINGSTON FP
 FEATURE: DREDGE CELLS
 STATION:
 RANGE :
 BORING : US-9

EL. : 32.0'34.0'
 SAMPLE : 2
 PART : 1
 SOIL SYM:
 DATE : 09-26-94

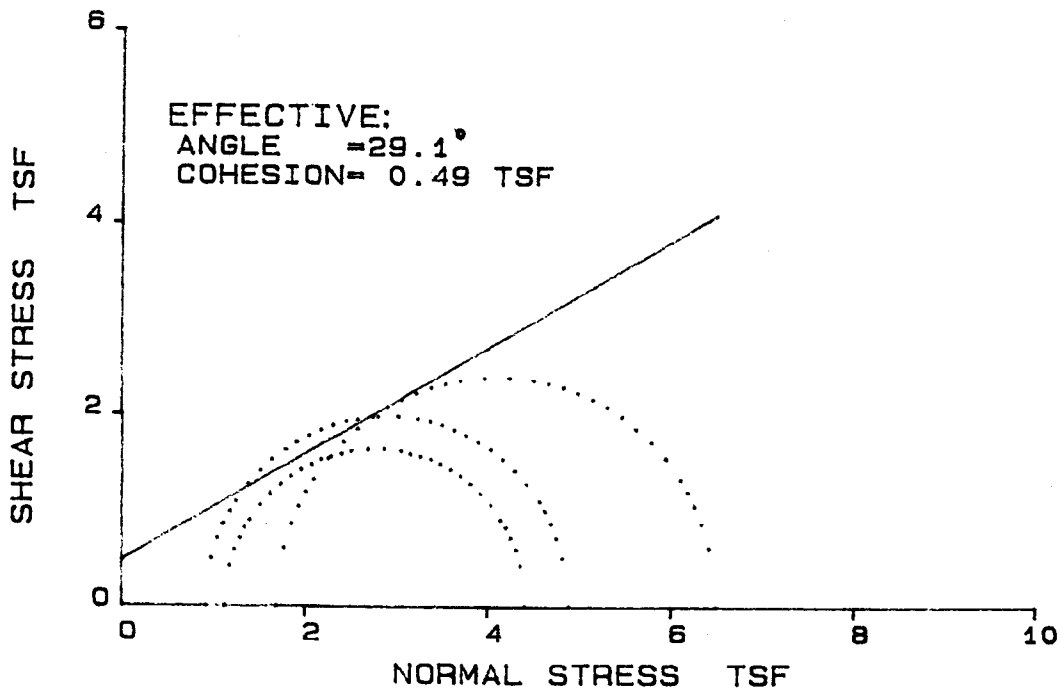
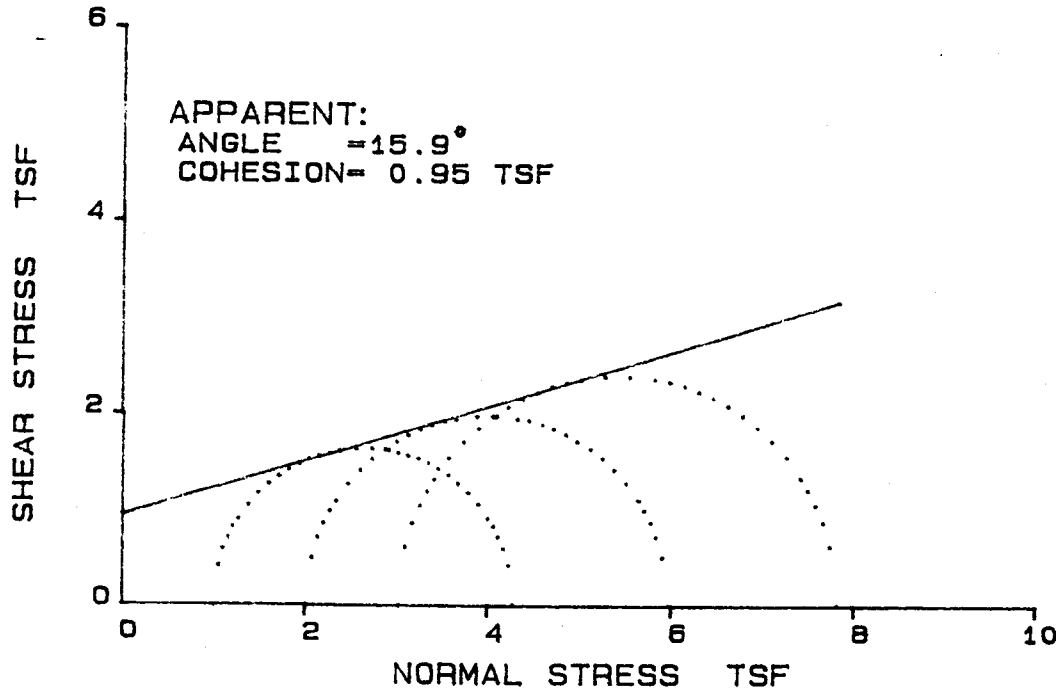


REMARKS:

SINGLETON LABORATORIES
CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (R) TEST

PROJECT: KINGSTON FP
FEATURE: DREDGE CELLS
STATION:
RANGE :
BORING : US-9

EL. : 32.0'-34.0'
SAMPLE : 2
PART : 1
SOIL SYM:
DATE : 09-26-94



REMARKS:

Singleton Laboratories
 CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (R) TEST

Project: KINGSTON FP	El. : 32.0'-34.0'	File : 11
Feature: DREDGE CELLS	Sample: 2	Tested By : TAL
Station:	Part : 1	Computed By: MHD
Range :		Checked By : GPB
Boring : US-9		Report Date: 09-26-94

Soil Symbol=	L.L.(%)=	P.I.(%) =
Sp. Gr. = 2.5	D10(mm)=	

Specimen Number	1	2	3	4
Initial:				
Moisture Content(%)	30.2	36.3	40.6	0.0
Dry Density(pcf)	86.7	82.1	82.3	0.0
Void Ratio	0.800	0.902	0.897	0.000
Saturation(%)	94.2	100.5	113.1	0.0
Before Shearing:				
Moisture(%) (after satur.)	32.0	36.1	35.9	0.0
Saturation(%)	100.0	100.0	100.0	0.0
Moisture(%) (after cons.)	29.9	32.1	30.9	0.0
Void Ratio (after cons.)	0.749	0.801	0.772	0.000
Final Moisture Content(%)	32.9	35.7	32.8	0.0
Minor Principal Stress(tsf)	1.01(1.01)	2.02(2.02)	3.02(3.02)	0.00(0.00)
Major Principal Stress(tsf)	4.30(4.30)	5.99(4.37)	7.83(7.83)	0.00(0.00)
Eff. Minor Prin Stress(tsf)	1.13(1.13)	0.92(0.48)	1.69(1.69)	0.00(0.00)
Eff. Major Prin Stress(tsf)	4.42(4.42)	4.89(2.83)	6.50(6.50)	0.00(0.00)
Time to Failure(min)	10	20	9	0
Rate of Strain(%/min)	0.22	0.20	0.23	0.00
Specimen Height(in.)	3.11	3.11	3.11	0.00
Specimen Dia (in.)	1.41	1.41	1.41	0.00

	Max Deviator Stress	Max Eff	Stress Ratio
Shear Strength	Deg	c(tsf)	Deg c(tsf)
Apparent	15.9	0.95	20.7 0.44
Effective	29.1	0.49	30.4 0.35

NOTE: Figures in parenthesis are based on the failure criteria of
 Maximum Effective Principal Stress Ratio.

Remark:

Singleton Laboratories
 CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (R) TEST

Project: KINGSTON FP
 Feature: DREDGE CELLS
 Station: El. : 32.0'-34.0'
 Range : Sample: 2
 Boring : US-9 Part : 1

File : 1
 Tested By : TAL
 Computed By: MHD
 Checked By : GPB
 Report Date: 09-26-94

Moisture Content	Trimming	Initial	Final
Wet Wt. and Tare(gm)-	162.6	143.3	184.9
Dry Wt. and Tare(gm)-	134.2	110.1	148.7
Wt. of Tare(gm) =	36.9	0.0	38.6
Moisture(%) =	29.2	30.2	32.9

Test Conditions and Constants:

Proving Ring No. = 2212	Tube No. = 1
Proving Ring Constant:	Sample Volume (cc) = 79.281
Slope Const. = 1	Sample Height(in.) = 3.113
Intercept = 0	Specific Gravity = 2.5
Confining Pres.(psi) = 14	Consolidation(in.) = .03
Initial Pore Pre(psi)= 100	Initial P.R. Rdg = 93

Time (Min)	Deflection (ins.)	Pro.Ring Reading	Pore Pres. (psi)	Strain (%)	$\pm 1 - \pm 3$ (tsf)	Pore Press. $\pm 1 / \pm 3$ (tsf)	(TSF)
1	0.003	102.4	101.2	0.10	0.44	0.09	1.48
2	0.009	102.9	101.5	0.29	0.47	0.11	1.52
3	0.015	102.7	101.6	0.49	0.46	0.12	1.51
4	0.021	103.2	101.8	0.68	0.48	0.13	1.54
5	0.028	111.7	103.0	0.91	0.88	0.22	2.11
6	0.036	126.1	103.7	1.17	1.55	0.27	3.08
7	0.046	137.9	102.8	1.49	2.09	0.20	3.59
8	0.054	147.0	101.5	1.75	2.51	0.11	3.78
9	0.060	156.9	99.7	1.95	2.96	-0.02	3.87
10	0.067	164.2	98.3	2.17	3.29	-0.12	3.91
20	0.127	161.0	98.0	4.12	3.08	-0.14	3.67
30	0.190	159.7	97.8	6.16	2.96	-0.16	3.53
40	0.250	160.9	97.6	8.11	2.95	-0.17	3.50
50	0.325	162.5	97.5	10.54	2.94	-0.18	3.47
60	0.410	163.3	97.1	13.30	2.88	-0.21	3.37
70	0.493	164.1	97.0	15.99	2.82	-0.22	3.30
80	0.550	165.0	96.9	17.84	2.79	-0.22	3.27
90	0.620	165.3	96.7	20.11	2.73	-0.24	3.19
100	0.690	165.7	96.6	22.38	2.67	-0.24	3.13
110	0.750	165.9	96.4	24.33	2.61	-0.26	3.06

Initial:

Moisture(%) = 30.2	Void Ratio = 0.800
Density(pcf) = 86.7	Saturation(%) = 94.2

After Saturation:

Moisture(%) = 32.0	Void Ratio = 0.749
--------------------	--------------------

Minor Prin. Stress(tsf) = 1.01	Major Prin. Stress(tsf) = 4.30(4.30)
Eff. Minor Prin. Stress(tsf)=1.13(1.13)	Eff. Major Prin. Stress(tsf)= 4.42(4.42)

NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

Singleton Laboratories
 CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (R) TEST

Project: KINGSTON FP
 Feature: DREDGE CELLS
 Station: El. : 32.0'-34.0'
 Range : Sample: 2
 Boring : US-9 Part : 1

File : 1
 Tested By : TAL
 Computed By: MHD
 Checked By : GPB
 Report Date: 09-26-94

Moisture Content	Trimming	Initial	Final
Wet-Wt. and Tare(gm)=	210.7	142.0	178.6
Dry Wt. and Tare(gm)=	171.0	104.2	141.4
Wt. of Tare(gm) =	38.8	0.0	37.2
Moisture(%) =	30.0	36.3	35.7

Test Conditions and Constants:

Proving Ring No. = 2288	Tube No. = 1
Proving Ring Constant:	Sample Volume (cc) = 79.281
Slope Const. = 1	Sample Height(in.) = 3.113
Intercept = 0	Specific Gravity = 2.5
Confining Pres.(psi) = 28	Consolidation(in.) = .056
Initial Pore Pre(psi)= 100	Initial P.R. Rdg = 96

Time (Min)	Deflection (ins.)	Pro.Ring Reading	Pore Pres. (psi)	Strain (%)	±1 - ±3 (tsf)	Pore Press. (tsf)	±1 / ±3 (TSF)
1	0.007	115.2	109.4	0.23	0.92	0.68	1.69
2	0.014	123.9	119.2	0.46	1.33	1.38	3.11
3	0.020	131.7	120.0	0.65	1.70	1.44	3.96
4	0.027	138.1	120.2	0.88	2.00	1.45	4.57
5	0.032	144.5	119.8	1.05	2.31	1.43	4.91
6	0.040	150.6	119.3	1.31	2.59	1.39	5.13
7	0.046	155.6	118.7	1.50	2.82	1.35	5.21
8	0.051	159.7	118.3	1.67	3.01	1.32	5.31
9	0.057	164.0	117.7	1.86	3.21	1.27	5.32
10	0.064	167.4	117.2	2.09	3.36	1.24	5.32
20	0.122	182.1	115.2	3.99	3.97	1.09	5.31
30	0.217	183.7	114.1	7.10	3.91	1.02	4.91
40	0.267	168.0	117.5	8.73	3.16	1.26	5.18
50	0.360	151.3	121.3	11.78	2.34	1.53	5.86
60	0.433	153.0	121.3	14.16	2.35	1.53	5.87
70	0.510	158.9	120.0	16.68	2.52	1.44	5.37
80	0.570	161.2	119.3	18.65	2.55	1.39	5.07
90	0.640	163.0	118.7	20.94	2.54	1.35	4.80
100	0.710	164.2	118.2	23.23	2.52	1.31	4.56
110	0.770	166.2	117.3	25.19	2.52	1.25	4.27

Initial:

Moisture(%) = 36.3	Void Ratio = 0.902
Density(pcf) = 82.1	Saturation(%) = 100.5

After Saturation:

Moisture(%) = 36.1	Void Ratio = 0.801
--------------------	--------------------

Minor Prin. Stress(tsf) = 2.02	Major Prin. Stress(tsf) = 5.99(4.37)
Eff. Minor Prin. Stress(tsf) = 0.92(0.48)	Eff. Major Prin. Stress(tsf) = 4.89(2.83)

NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

Singleton Laboratories
 CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (R) TEST

Project: KINGSTON FP	File : 1
Feature: DREDGE CELLS	Tested By : TAL
Station:	El. : 32.0'-34.0'
Range :	Sample: 2
Boring : US-9	Part : 1
	Computed By: MHD
	Checked By : <i>GPS</i>
	Report Date: 09-26-94

Moisture Content	Trimming	Initial	Final
Wet Wt. and Tare(gm)=	182.0	146.9	178.2
Dry Wt. and Tare(gm)=	150.9	104.5	143.9
Wt. of Tare(gm) =	38.7	0.0	39.4
Moisture(%) =	27.7	40.6	32.8

Test Conditions and Constants:

Proving Ring No. = 2515	Tube No. = 1
Proving Ring Constant:	Sample Volume (cc) = 79.281
Slope Const. = 1	Sample Height(in.) = 3.113
Intercept = 0	Specific Gravity = 2.5
Confining Pres.(psi) = 42	Consolidation(in.) = .07
Initial Pore Pre(psi)= 100	Initial P.R. Rdg = 120

Time (Min)	Deflection (ins.)	Pro. Ring Reading	Pore Pres. (psi)	Strain (%)	±1 - ±3 (tsf)	Pore Press. (tsf)	±1 / ±3 (TSF)
1	0.007	185.7	112.9	0.23	3.18	0.93	2.52
2	0.014	198.5	115.9	0.46	3.79	1.14	3.02
3	0.022	206.2	117.0	0.72	4.15	1.22	3.31
4	0.028	210.9	117.6	0.92	4.37	1.27	3.49
5	0.035	215.4	117.9	1.15	4.57	1.29	3.63
6	0.041	217.1	118.1	1.35	4.64	1.30	3.70
7	0.048	219.0	118.2	1.58	4.72	1.31	3.76
8	0.055	220.0	118.2	1.81	4.76	1.31	3.78
9	0.062	221.2	118.5	2.04	4.81	1.33	3.84
10	0.070	220.6	118.6	2.30	4.77	1.34	3.83
20	0.123	165.7	126.8	4.04	2.13	1.93	2.94
30	0.230	144.5	133.0	7.56	1.10	2.38	2.69
40	0.280	142.5	133.5	9.20	0.99	2.41	2.62
50	0.360	160.0	132.8	11.83	1.71	2.36	3.58
60	0.437	163.0	131.6	14.36	1.79	2.28	3.38
70	0.512	153.1	130.9	16.83	1.33	2.22	2.67
80	0.575	151.6	129.7	18.90	1.24	2.14	2.40
90	0.640	149.0	130.1	21.03	1.11	2.17	2.30
100	0.700	162.2	130.8	23.00	1.58	2.22	2.95
110	0.760	147.0	131.3	24.98	0.98	2.25	2.27

Initial:

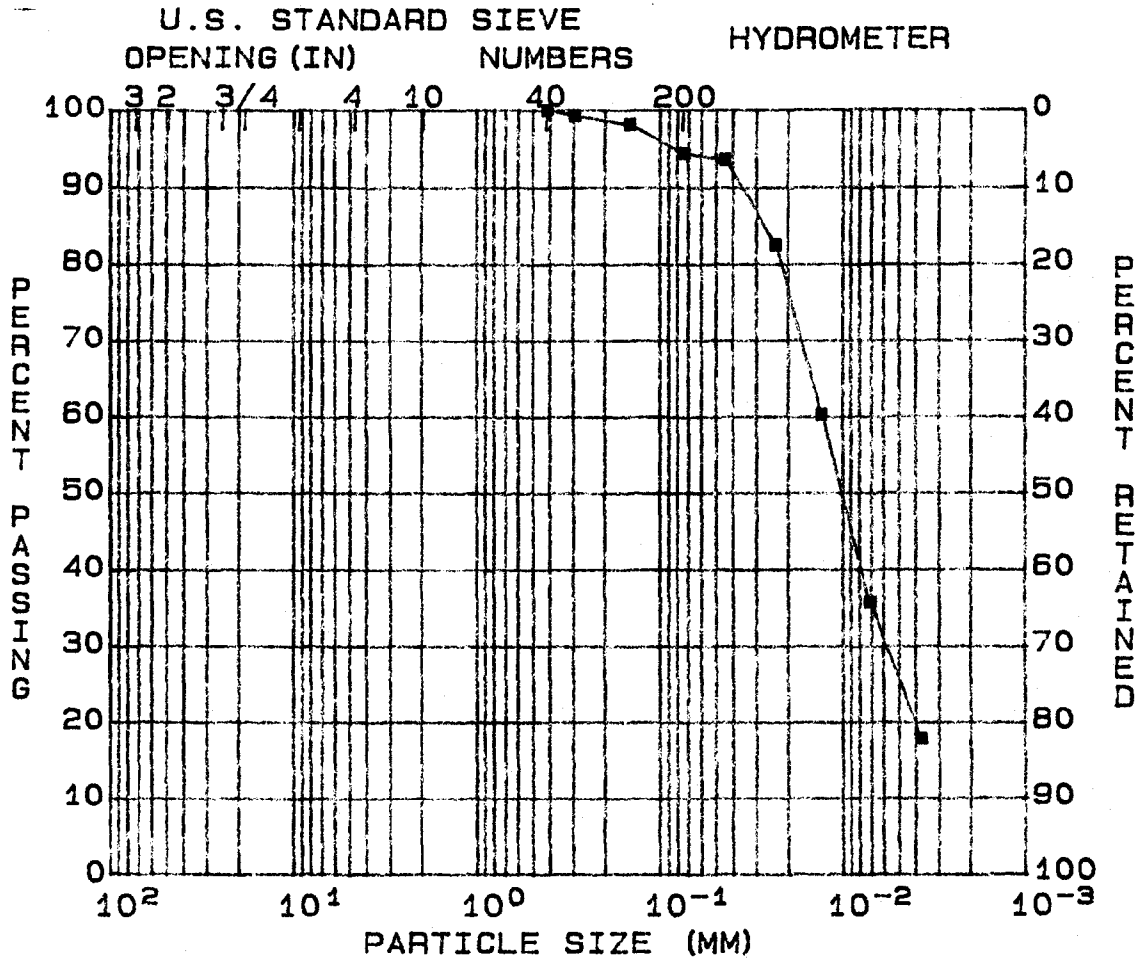
Moisture(%) = 40.6	Void Ratio = 0.897
Density(pcf) = 82.3	Saturation(%) = 113.1
After Saturation:	
Moisture(%) = 35.9	Void Ratio = 0.772

Minor Prin. Stress(tsf) = 3.02	Major Prin. Stress(tsf) = 7.83(7.83)
Eff. Minor Prin. Stress(tsf) = 1.69(1.69)	Eff. Major Prin. Stress(tsf) = 6.50(6.50)

NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

**SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS**

PROJECT: TVA/KINGSTON FP	BORING: US-9
FEATURE: DREDGE CELLS/CLOSURE	EL. : 45.0' - 47.0'
STATION:	SAMPLE: 3
RANGE :	DATE : 09-28-94
PART : 5	



GRAVEL (%) = 0	D10 (MM) = --
SAND (%) = 5	D30 (MM) = --
SILT (%) = 69	D60 (MM) = --
CLAY (%) = 26	COEF UNIF = --

SOIL SYMBOL = ML	L.L. (%) = NP	DENSITY (pcf) = 75.7
MOISTURE (%) = 31.2	P.I. (%) = NP	SATURATION (%) = 81.44
SP. GR. = 2.27		VOID RATIO = 0.871

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : US-9

El. : 45.0'-47.0'
Sample: 3
Part : 5

FILE : 7
TESTED BY : REG
Computed By: MHD
Checked By : *TAL*
Report Date: 09-28-94

Specific Gravity = 2.270

Flask No. = 34.00

Soil Wt.(gm) = 50.00

Chunk Density

Wet Wt.+Tare(gm)= 131.8

Dry Wt.+Tare(gm)= 109.9

Tare Wt(gm) = 39.8

Moisture(%) = 31.2

Void Ratio = 0.871

Moisture Determination

Dry Wt.+Tare(gm)= 243.00

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 100.00

Tare Wt(gm) = 37.70

Non-Plastic Soil

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 175.2

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO.4	0.0	100.0	4.7500
NO.10	0.0	100.0	2.0000
NO.20	0.0	100.0	0.8500
NO.40	0.0	100.0	0.4250
NO.50	0.1	99.8	0.3000
NO.100	0.7	98.6	0.1500
NO.200	2.6	94.8	0.0750

Air Dry Weight(gm)= 50.00

Time	Temp.	Hyd.Rdg
1 min.	19.6	48.0
4 min.	19.6	43.0
15 min.	19.6	33.0
1 hour	19.6	22.0
4 hours	19.9	14.0

Corrected Weight(gm)= 49.76

Corr	% Pass	Size(mm)
6.0	93.9	0.0449
6.0	82.7	0.0235
6.0	60.4	0.0132
6.0	35.8	0.0071
6.0	17.9	0.0037

Soil Symbol= ML (Inorganic silt of low plasticity)

Gravel(%)= 0

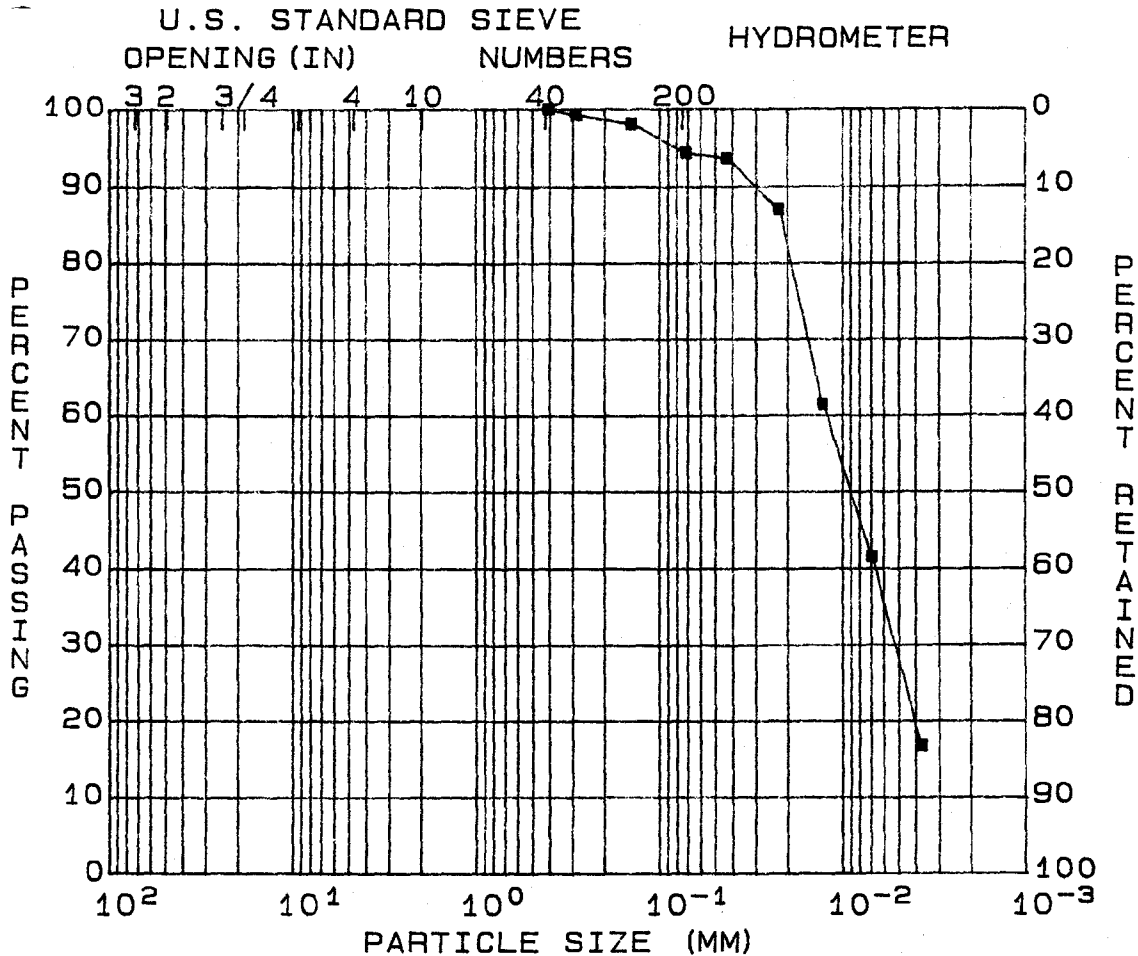
Sand(%)= 5

Silt(%)= 69

Clay(%)= 26

SINGLETON LABORATORIES PARTICLE SIZE ANALYSIS

PROJECT: TVA/KINGSTON FP	BORING: US-9
FEATURE: DREDGE CELLS/CLOSURE	EL. : 45.0'-47.0'
STATION:	SAMPLE: 3
RANGE :	DATE : 09-28-94
PART : 5	



Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : US-9

El. : 45.0'-47.0'
Sample: 3
Part : 5

FILE : 7
TESTED BY : REG
Computed By: MHD
Checked By : TA
Report Date: 09-28-94

Specific Gravity = 2.270
Flask No. = 34.00
Soil Wt.(gm) = 50.00

Temp.(deg.c.) = 22.20
Total Wt.(gm) = 706.58

Chunk Density

Wet Wt.+Tare(gm)= 131.8
Dry Wt.+Tare(gm)= 109.9
Tare Wt(gm) = 39.8
Moisture(%) = 31.2
Void Ratio = 0.871

Sample Wt.(gm) = 928.0
Sa. + Wt.(air) = 890.0
SA. + PA. Wt(Water) = 350.0
Density(pcf) = 75.7
Saturation(%) = 81.44

Moisture Determination

Dry Wt.+Tare(gm)= 243.00

Tare Wt(gm) = 67.80

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 100.00
Tare Wt(gm) = 37.70

Dry Wt.+Tare(gm)= 99.70
Moisture(%) = 0.48

Non-Plastic Soil

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 175.2

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO.4	0.0	100.0	4.7500
NO.10	0.0	100.0	2.0000
NO.20	0.0	100.0	0.8500
NO.40	0.0	100.0	0.4250
NO.50	0.1	99.8	0.3000
NO.100	0.7	98.6	0.1500
NO.200	2.6	94.8	0.0750

Air Dry Weight(gm)= 50.00

Corrected Weight(gm)= 49.76

Time	Temp.	Hyd.Rdg
1 min.	19.6	48.0
4 min.	19.6	45.0
15 min.	19.6	33.5
1 hour	19.6	24.6
4 hours	19.9	13.5

Corr	% Pass	Size(mm)
6.0	93.9	0.0449
6.0	87.2	0.0231
6.0	61.5	0.0131
6.0	41.6	0.0070
6.0	16.8	0.0037

Soil Symbol= ML (Inorganic silt of low plasticity)

Gravel(%)= 0

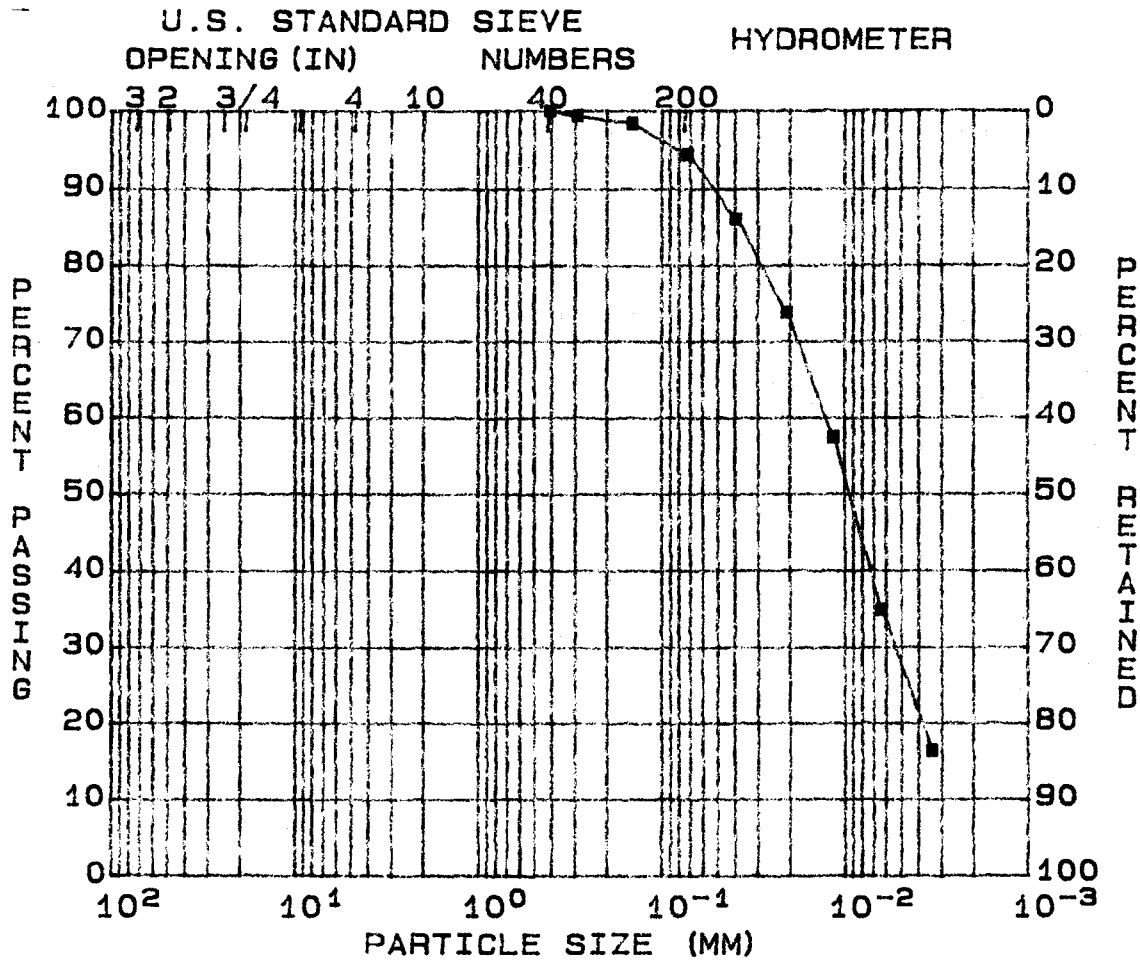
Sand(%)= 5

Silt(%)= 67

Clay(%)= 28

**SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS**

PROJECT: TVA/KINGSTON FP	BORING: US-9
FEATURE: DREDGE CELLS/CLOSURE	EL. : 57.0'-59.0'
STATION:	SAMPLE: 4
RANGE :	DATE : 09-28-94
PART : 2	



GRAVEL (%) = 0	D10 (MM) = --
SAND (%) = 5	D30 (MM) = --
SILT (%) = 67	D60 (MM) = --
CLAY (%) = 28	COEF UNIF = --

SOIL SYMBOL = ML	L.L. (%) = NP	DENSITY (pcf) = 85.2
MOISTURE (%) = 29.7	P.I. (%) = NP	SATURATION (%) = 86.93
SP. GR. = 2.56		VOID RATIO = 0.873

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : US-9

El. : 57.0'-59.0'
Sample: 4
Part : 2

FILE : 8
TESTED BY : REG
Computed By: MHD
Checked By : *TAL*
Report Date: 09-28-94

Specific Gravity = 2.558
Flask No. = 30.00
Soil Wt.(gm) = 50.00

Temp.(deg.c.) = 22.20
Total Wt.(gm) = 697.00

Chunk Density

Wet Wt.+Tare(gm)= 155.0
Dry Wt.+Tare(gm)= 128.3
Tare Wt(gm) = 38.3
Moisture(%) = 29.7
Void Ratio = 0.873

Sample Wt.(gm) = 1034.0
Sa.+ Wt.(air) = 1100.0
SA.+ PA. Wt(Water) = 442.0
Density(pcf) = 85.2
Saturation(%) = 86.93

Moisture Determination

Dry Wt.+Tare(gm)= 271.60

Tare Wt(gm) = 104.10

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 74.40
Tare Wt(gm) = 38.80

Dry Wt.+Tare(gm)= 74.20
Moisture(%) = 0.56

Non-Plastic Soil

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 167.5

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO.4	0.0	100.0	4.7500
NO.10	0.0	100.0	2.0000
NO.20	0.0	100.0	0.8500
NO.40	0.0	100.0	0.4250
NO.50	0.1	99.8	0.3000
NO.100	0.6	98.8	0.1500
NO.200	2.6	94.8	0.0750

Air Dry Weight(gm)= 50.00

Corrected Weight(gm)= 49.72

Time	Temp.	Hyd.Rdg	Corr	% Pass	Size(mm)
1 min.	19.6	48.0	6.0	86.4	0.0405
4 min.	19.6	42.0	6.0	74.0	0.0214
15 min.	19.6	34.0	6.0	57.6	0.0118
1 hour	19.6	23.0	6.0	35.0	0.0064
4 hours	19.9	14.0	6.0	16.4	0.0034

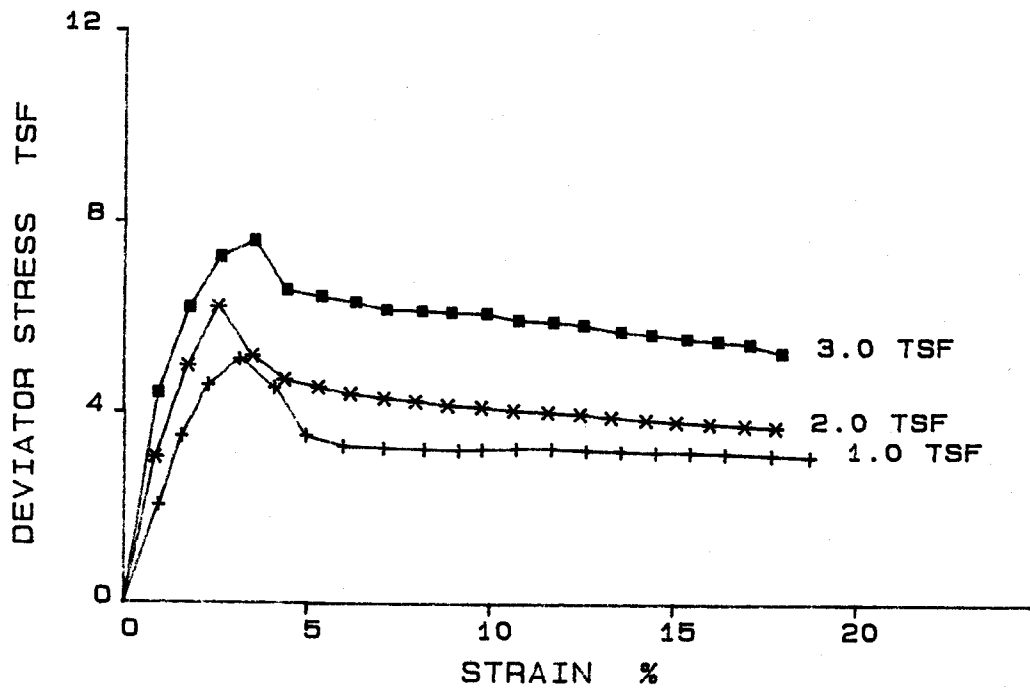
Soil Symbol= ML (Inorganic silt of low plasticity)
Gravel(%)= 0 Sand(%)= 5 Silt(%)= 67

Clay(%)= 28

SINGLETON LABORATORIES
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (Q) TEST

PROJECT: KINGSTON FP
FEATURE: DREDGE CELLS
STATION:
RANGE :
BORING : US-9

EL. : 57.0'-59.0'
SAMPLE : 4
PART : 4
SOIL SYM:
DATE : 09-27-94

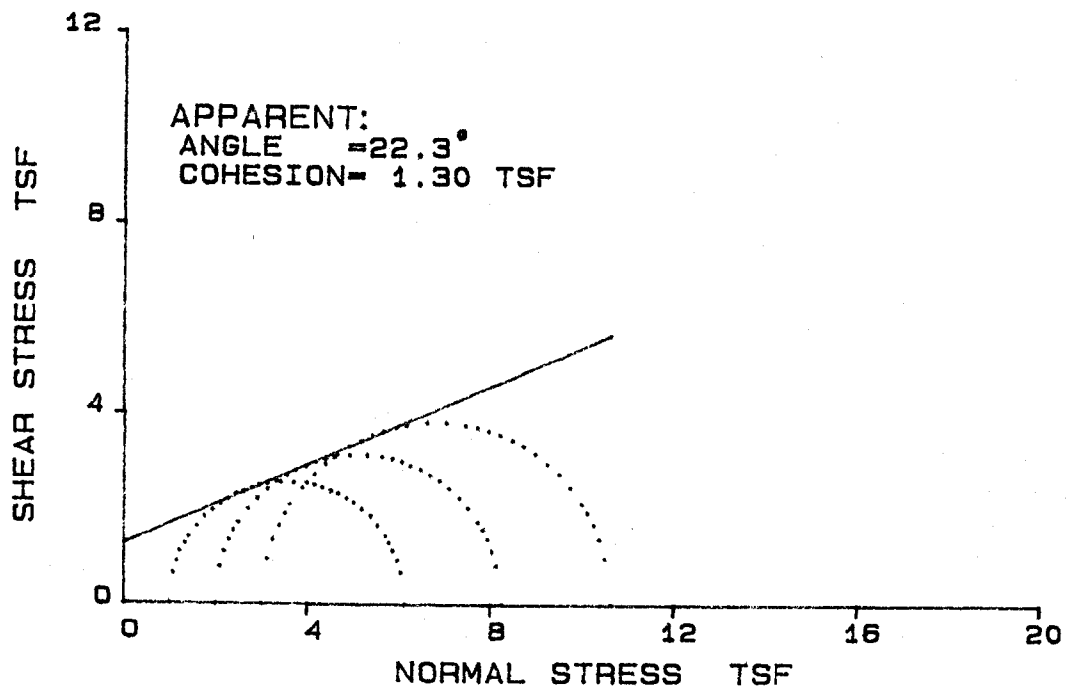


REMARKS:

SINGLETON LABORATORIES
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (Q) TEST

PROJECT: KINGSTON FP
FEATURE: DREDGE CELLS
STATION:
RANGE :
BORING : US-9

EL. : 57.0'-59.0'
SAMPLE : 4
PART : 4
SOIL SYM:
DATE : 09-27-94



REMARKS:

Singleton Laboratories
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION(Q) TEST

Project: KINGSTON FP		File : 13
Feature: DREDGE CELLS	57.0'-59.0'	Tested By : TAL
Station:	El.	Computed By: MHD
Range :	Sample: 4	Checked By : <i>Reg</i>
Boring : US-9	Part : 4	Report Date: 09-27-94

Soil Symbol=	L.L.(%)=	P.I.(%) =
Sp. Gr. = 2.5	D10(mm)=	

Specimen Number	1	2	3	4
Initial:				
Moisture Content(%)	29.0	31.1	31.2	0.0
Dry Density(pcf)	86.3	82.3	83.9	0.0
Void Ratio	0.808	0.897	0.861	0.000
Saturation(%)	89.7	86.7	90.5	0.0
Before Shearing:				
Moisture(%) (after satur.)	--	--	--	--
Saturation(%)	--	--	--	--
Moisture(%) (after cons.)	--	--	--	--
Void Ratio (after cons.)	--	--	--	--
Final Moisture Content(%)	28.3	30.0	30.2	0.0
Minor Principal Stress(tsf)	1.01	2.02	3.02	0.00
Major Principal Stress(tsf)	6.16	8.28	10.65	0.00
Eff. Minor Prin Stress (tsf)	--	--	--	--
Eff. Major Prin Stress (tsf)	--	--	--	--
Time to Failure(min)	4	3	4	0
Rate of Strain(%/min)	0.80	0.87	0.90	0.00
Specimen Height(in.)	3.11	3.11	3.11	0.00
Specimen Dia (in.)	1.41	1.41	1.41	0.00
	Max Deviator Stress	Max Eff	Stress Ratio	
Shear Strength	Deg	c(tsf)	Deg	c(tsf)
Apparent	22.3	1.30		
Effective	--	--		

NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

Remark:

Singleton Laboratories
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION(Q) TEST

Project: KINGSTON FP	File : 12
Feature: DREDGE CELLS	Tested By : TAL
Station:	El. : 57.0'-59.0'
Range :	Sample: 4
Boring : US-9	Part : 4
	Computed By: MHD
	Checked By : <i>REG</i>
	Report Date: 09-27-94

Moisture Content	Trimming	Initial	Final
Wet Wt. and Tare(gm)=	173.9	141.4	179.6
Dry Wt. and Tare(gm)=	142.2	109.6	148.6
Wt. of Tare(gm) =	37.6	0.0	39.0
Moisture(%) =	30.3	29.0	28.3

Test Conditions and Constants:

Proving Ring No. = 2515	Tube No. = 1
Proving Ring Constant:	Sample Volume (cc) = 79.281
Slope Const. = 1	Sample Height(in.) = 3.113
Intercept = 0	Specific Gravity = 2.5
Confining Pres. (psi) = 14	Consolidation(in.) = 0
Initial Pore Pre(psi) = 0	Initial P.R. Rdg = 13

Time (Min)	Deflection (ins.)	Pro. Ring Reading	Strain (%)	±1 - ±3 (tsf)
1	0.030	57.9	0.96	2.06
2	0.050	90.0	1.61	3.51
3	0.073	114.7	2.35	4.60
4	0.100	128.0	3.21	5.16
5	0.130	115.9	4.18	4.57
6	0.158	93.7	5.08	3.55
7	0.190	89.6	6.10	3.33
8	0.225	90.0	7.23	3.31
9	0.260	90.7	8.35	3.30
10	0.290	91.3	9.32	3.29
11	0.310	92.4	9.96	3.31
12	0.340	93.9	10.92	3.34
13	0.370	94.9	11.89	3.34
14	0.400	95.2	12.85	3.32
15	0.430	95.8	13.81	3.31
16	0.460	96.6	14.78	3.30
17	0.490	97.6	15.74	3.30
18	0.520	98.4	16.70	3.30
19	0.560	99.2	17.99	3.28
20	0.593	99.5	19.05	3.24

Initial:

Moisture(%) = 29.0	Void Ratio = 0.808
Density(pcf) = 86.3	Saturation(%) = 89.7

Minor Prin. Stress(tsf) = 1.01	Major Prin. Stress(tsf) = 6.16
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NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

Singleton Laboratories
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION(Q) TEST

Project: KINGSTON FP
 Feature: DREDGE CELLS
 Station: El. : 57.0'-59.0'
 Range : Sample: 4
 Boring : US-9 Part : 4

File : 12
 Tested By : TAL
 Computed By: MHD
 Checked By : REG
 Report Date: 09-27-94

Moisture Content	Trimming	Initial	Final
Wet Wt. and Tare(gm)=	166.1	137.0	174.7
Dry Wt. and Tare(gm)=	136.2	104.5	143.4
Wt. of Tare(gm) =	40.2	0.0	38.9
Moisture(%) =	31.1	31.1	30.0

Test Conditions and Constants:

Proving Ring No. = 221	Tube No. = 1
Proving Ring Constant:	Sample Volume (cc) = 79.281
Slope Const. = 1	Sample Height(in.) = 3.113
Intercept = 0	Specific Gravity = 2.5
Confining Pres.(psi) = 28	Consolidation(in.) = 0
Initial Pore Pre(psi)= 0	Initial P.R. Rdg = 24

Time (Min)	Deflection (ins.)	Pro. Ring Reading	Strain (%)	±1 - ±3 (tsf)
1	0.027	90.9	0.87	3.07
2	0.055	134.1	1.77	5.01
3	0.081	162.8	2.60	6.26
4	0.111	141.1	3.57	5.23
5	0.139	131.0	4.47	4.74
6	0.168	128.5	5.40	4.58
7	0.196	126.5	6.30	4.45
8	0.225	125.6	7.23	4.37
9	0.252	125.4	8.10	4.32
10	0.280	124.7	8.99	4.25
11	0.309	125.2	9.93	4.22
12	0.337	125.1	10.83	4.18
13	0.367	125.5	11.79	4.15
14	0.395	125.7	12.69	4.11
15	0.422	125.7	13.56	4.07
16	0.452	125.6	14.52	4.02
17	0.478	125.8	15.35	3.99
18	0.507	126.1	16.29	3.96
19	0.537	126.6	17.25	3.93
20	0.564	126.9	18.12	3.90

Initial:

Moisture(%) = 31.1
 Density(pcf)= 82.3

Void Ratio = 0.897
 Saturation(%)= 86.7

Minor Prin. Stress(tsf) = -2.02 Major Prin. Stress(tsf) = 8.28

NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

Singleton Laboratories
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION(Q) TEST

Project: KINGSTON FP
 Feature: DREDGE CELLS
 Station: El. : 57.0'-59.0'
 Range : Sample: 4
 Boring : US-9 Part : 4

File : 12
 Tested By : TAL
 Computed By: MHD
 Checked By : REG
 Report Date: 09-27-94

Moisture Content	Trimming	Initial	Final
Wet Wt. and Tare(gm)=	187.7	139.7	178.5
Dry Wt. and Tare(gm)=	152.9	106.5	146.3
Wt. of Tare(gm) =	39.1	0.0	39.8
Moisture(%) =	30.6	31.2	30.2

Test Conditions and Constants:

Proving Ring No. = 2288	Tube No. = 1
Proving Ring Constant:	Sample Volume (cc) = 79.281
Slope Const. = 1	Sample Height(in.) = 3.113
Intercept = 0	Specific Gravity = 2.5
Confining Pres.(psi) = 42	Consolidation(in.) = 0
Initial Pore Pre(psi)= 0	Initial P.R. Rdg = 34

Time (Min)	Deflection (ins.)	Pro. Ring Reading	Strain (%)	±1 - ±3 (tsf)
1	0.029	130.0	0.93	4.41
2	0.056	170.6	1.80	6.21
3	0.083	195.5	2.67	7.28
4	0.112	204.7	3.60	7.62
5	0.140	183.2	4.50	6.60
6	0.170	181.9	5.46	6.48
7	0.199	180.8	6.39	6.37
8	0.226	178.8	7.26	6.22
9	0.257	180.1	8.26	6.21
10	0.282	180.8	9.06	6.18
11	0.312	182.3	10.02	6.18
12	0.340	180.5	10.92	6.05
13	0.370	181.4	11.89	6.02
14	0.396	181.6	12.72	5.97
15	0.428	180.3	13.75	5.85
16	0.454	180.5	14.58	5.80
17	0.485	180.6	15.58	5.73
18	0.512	180.8	16.45	5.68
19	0.540	181.3	17.35	5.64
20	0.568	178.3	18.25	5.47

Initial:

Moisture(%) = 31.2	Void Ratio = 0.861
Density(pcf) = 83.9	Saturation(%) = 90.5

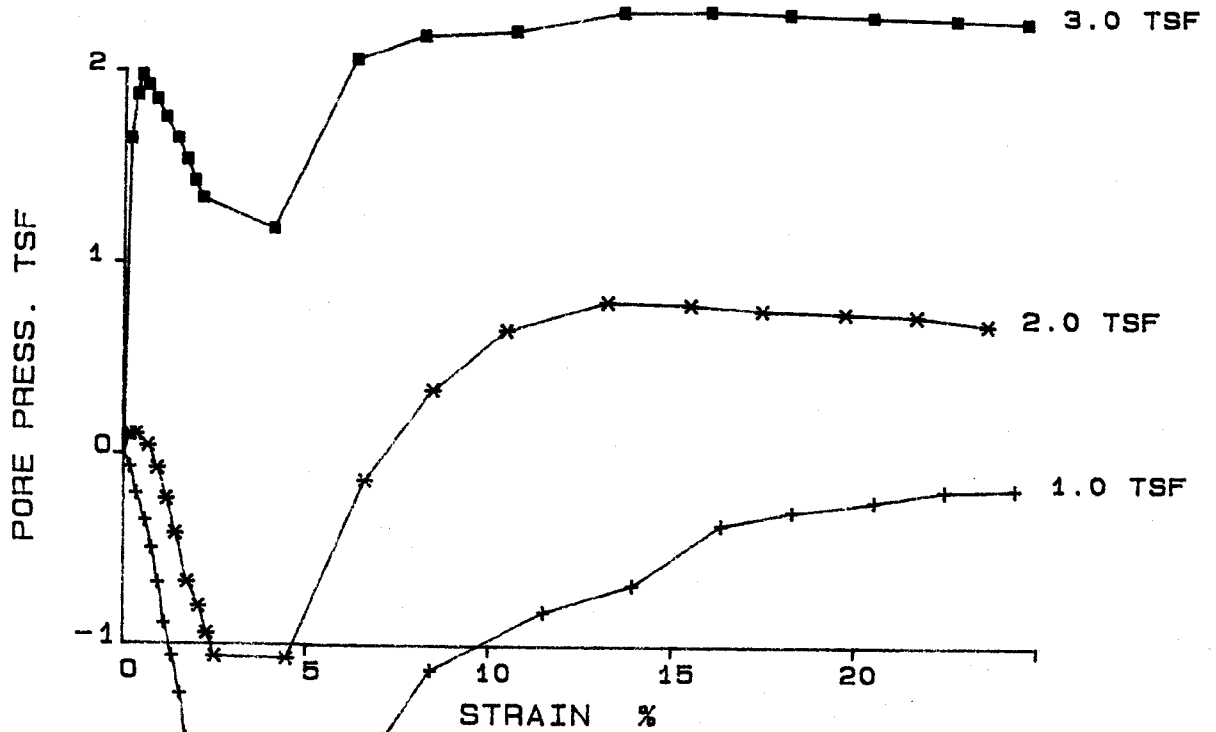
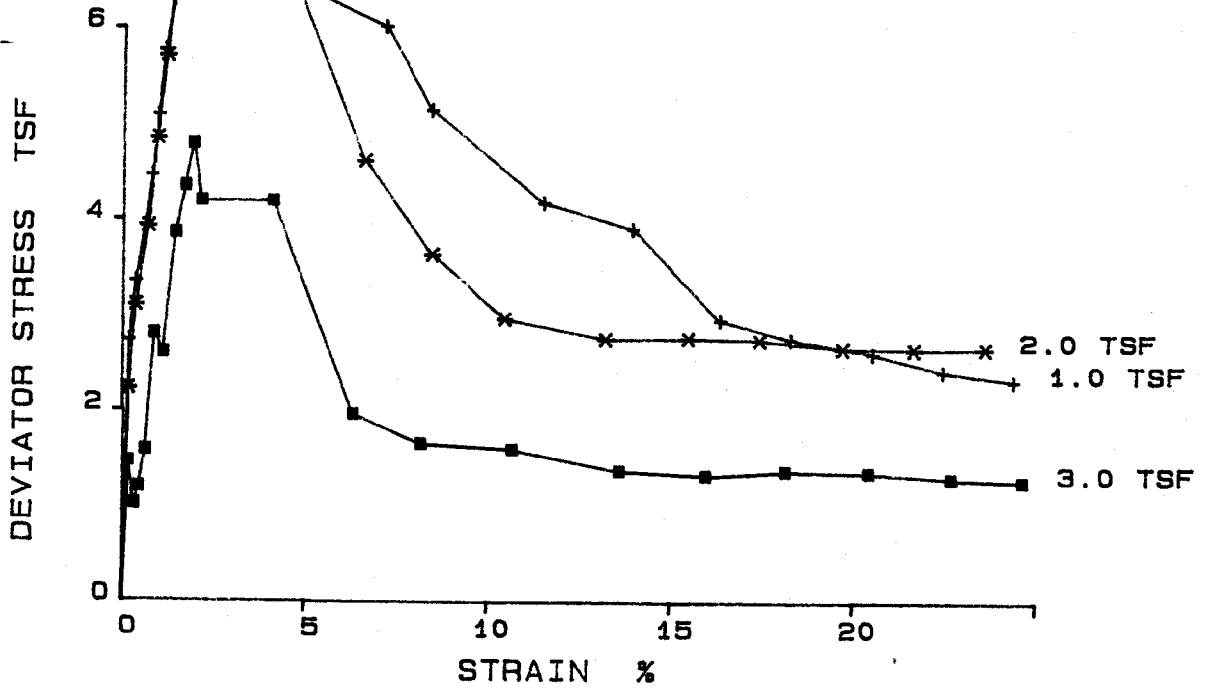
Minor Prin. Stress(tsf) = 3.02 Major Prin. Stress(tsf) = 10.65

NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

SINGLETON LABORATORIES
 CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (R) TEST

PROJECT: KINGSTON FP
 FEATURE: DREDGE CELLS
 STATION:
 RANGE:
 BORING: US 3

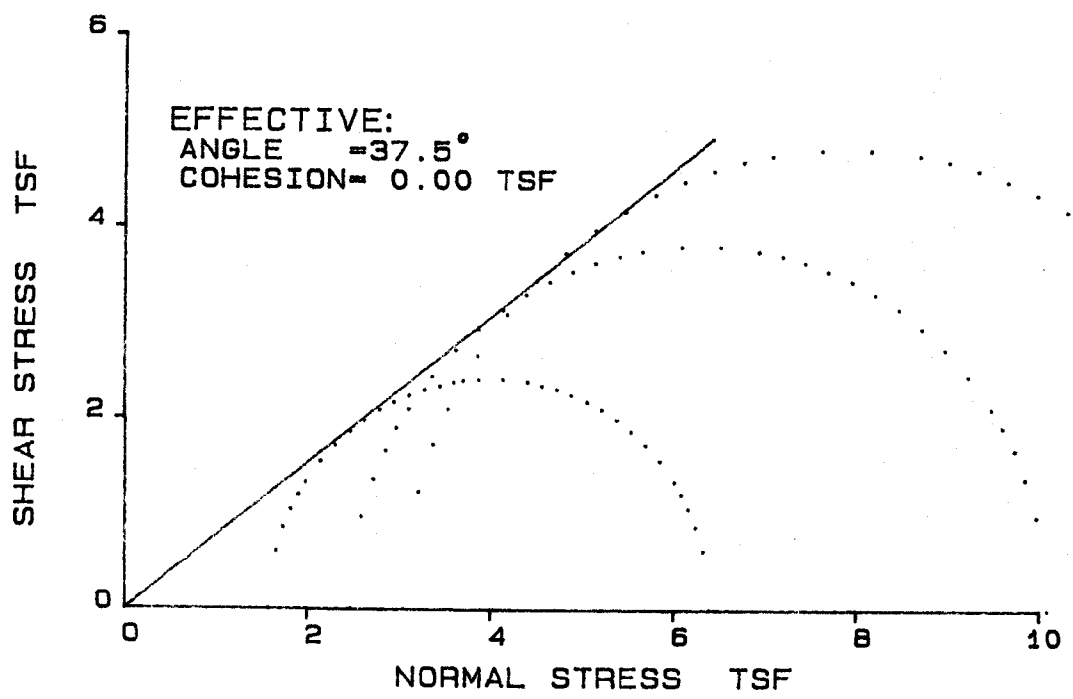
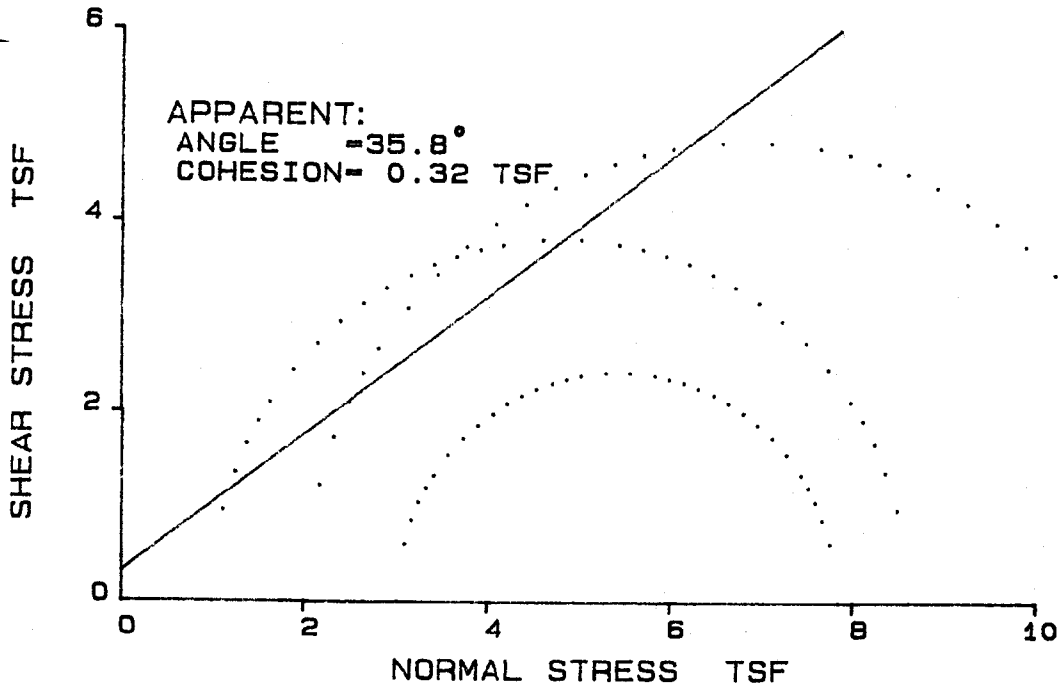
EL. : 57.0'-59.0'
 SAMPLE : 4
 PART : 3
 SOIL SYM:
 DATE : 09-27-94



REMARKS:

SINGLETON LABORATORIES
CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (R) TEST

PROJECT: KINGSTON FP EL. : 57.0'-59.0'
FEATURE: DREDGE CELLS SAMPLE : 4
STATION: PART : 3
RANGE : SOIL SYM:
BORING : US-9 DATE : 09-27-94



REMARKS:

Singleton Laboratories
 CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (R) TEST

Project: KINGSTON FP
 Feature: DREDGE CELLS
 Station: El. : 57.0'-59.0'
 Range : Sample: 4
 Boring : US-9 Part : 3

File : 14
 Tested By : TAL
 Computed By: MHD
 Checked By : REG
 Report Date: 09-27-94

Moisture Content	Trimming	Initial	Final
Wet Wt. and Tare(gm)=	175.2	139.2	179.5
Dry Wt. and Tare(gm)=	144.6	105.9	146.4
Wt. of Tare(gm) =	38.6	0.0	40.5
Moisture(%) =	28.9	31.4	31.3

Test Conditions and Constants:

Proving Ring No. = 2212	Tube No. = 1
Proving Ring Constant:	Sample Volume (cc) = 79.281
Slope Const. = 1	Sample Height(in.) = 3.113
Intercept = 0	Specific Gravity = 2.5
Confining Pres.(psi) = 14	Consolidation(in.) = .03
Initial Pore Pre(psi)= 100	Initial P.R. Rdg = 93

Time (Min)	Deflection (ins.)	Pro.Ring Reading	Pore Pres. (psi)	Strain (%)	$\pm 1 - \pm 3$ (tsf)	Pore Press. (tsf)	$\pm 1 / \pm 3$ (TSF)
1	0.006	151.3	99.0	0.19	2.75	-0.07	3.54
2	0.012	164.8	97.1	0.39	3.38	-0.21	3.78
3	0.020	177.4	95.2	0.65	3.96	-0.35	3.93
4	0.026	188.8	93.2	0.84	4.49	-0.49	4.00
5	0.032	202.6	90.7	1.04	5.12	-0.67	4.05
6	0.038	217.4	87.8	1.23	5.80	-0.88	4.08
7	0.045	229.1	85.5	1.46	6.33	-1.04	4.09
8	0.052	242.5	82.8	1.69	6.94	-1.24	4.09
9	0.058	257.5	79.6	1.88	7.62	-1.47	4.08
10	0.065	255.0	76.8	2.11	7.49	-1.67	3.80
20	0.120	240.0	78.0	3.89	6.67	-1.58	3.57
30	0.225	231.7	79.8	7.30	6.07	-1.45	3.47
40	0.265	213.3	84.8	8.60	5.19	-1.09	3.47
50	0.360	194.5	89.1	11.68	4.23	-0.78	3.36
60	0.435	190.8	91.1	14.11	3.97	-0.64	3.41
70	0.510	169.7	95.5	16.54	3.02	-0.32	3.27
80	0.570	166.5	96.5	18.49	2.83	-0.25	3.25
90	0.640	164.6	97.3	20.76	2.68	-0.19	3.23
100	0.700	161.4	98.1	22.71	2.50	-0.14	3.18
110	0.760	160.4	98.3	24.65	2.40	-0.12	3.12

Initial:

Moisture(%) = 31.4	Void Ratio = 0.872
Density(pcf) = 83.4	Saturation(%) = 90.2
After Saturation:	
Moisture(%) = 34.9	Void Ratio = 0.818

Minor Prin. Stress(tsf) = -1.01 Major Prin. Stress(tsf) = 8.63(7.95)
 Eff. Minor Prin. Stress(tsf)=2.48(2.25) Eff. Major Prin. Stress(tsf)=10.10(9.19)

NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

Singleton Laboratories
 CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (R) TEST

Project: KINGSTON FP
 Feature: DREDGE CELLS
 Station:
 Range :
 Boring : US-9

El. : 57.0'-59.0'
 Sample: 4
 Part : 3

File : 14
 Tested By : TAL
 Computed By: MHD
 Checked By : *REG*
 Report Date: 09-27-94

Moisture Content	Trimming	Initial	Final
Wet-Wt. and Tare(gm)=	155.6	139.8	180.9
Dry Wt. and Tare(gm)=	130.0	108.4	147.5
Wt. of Tare(gm) =	40.1	0.0	39.1
Moisture(%) =	28.5	29.0	30.8

Test Conditions and Constants:

Proving Ring No. = 2284	Tube No. = 1
Proving Ring Constant:	Sample Volume (cc) = 79.281
Slope Const. = 1	Sample Height(in.) = 3.113
Intercept = 0	Specific Gravity = 2.5
Confining Pres.(psi) = 28	Consolidation(in.) = .04
Initial Pore Pre(psi)= 100	Initial P.R. Rdg = 67.2

Time (Min)	Deflection (ins.)	Pro.Ring Reading	Pore Pres. (psi)	Strain (%)	±1 - ±3 (tsf)	Pore Press. ±1 / ±3 (tsf)	(TSF)
1	0.006	114.4	101.4	0.20	2.24	0.10	2.17
2	0.012	133.2	101.4	0.39	3.13	0.10	2.63
3	0.022	150.8	100.6	0.72	3.95	0.04	3.00
4	0.030	170.6	99.0	0.98	4.87	-0.07	3.33
5	0.038	189.4	96.8	1.24	5.74	-0.23	3.55
6	0.046	210.6	94.3	1.50	6.72	-0.41	3.77
7	0.056	235.0	90.8	1.82	7.83	-0.66	3.92
8	0.066	250.4	89.1	2.15	8.52	-0.78	4.04
9	0.073	264.4	87.2	2.38	9.15	-0.92	4.12
10	0.080	275.4	85.6	2.60	9.64	-1.04	4.16
20	0.140	215.4	85.5	4.56	6.72	-1.04	3.20
30	0.206	172.8	98.5	6.70	4.68	-0.11	3.21
40	0.263	152.8	105.1	8.56	3.72	0.37	3.26
50	0.325	139.0	109.5	10.58	3.05	0.68	3.29
60	0.410	136.4	111.6	13.34	2.85	0.84	3.41
70	0.480	138.6	111.4	15.62	2.86	0.82	3.40
80	0.540	139.8	111.0	17.57	2.85	0.79	3.32
90	0.610	139.6	110.8	19.85	2.76	0.78	3.23
100	0.670	141.4	110.6	21.80	2.76	0.76	3.20
110	0.730	143.6	110.0	23.76	2.77	0.72	3.14

Initial:

Moisture(%) = 29.0
 Density(pcf)= 85.4

Void Ratio =0.828
 Saturation(%)= 87.4

After Saturation:

Moisture(%) = 33.1

Void Ratio =0.759

Minor Prin. Stress(tsf) =-2.02 Major Prin. Stress(tsf) =-11.66(11.66)
 Eff. Minor Prin. Stress(tsf)=3.05(3.05) Eff. Major Prin. Stress(tsf)=12.69(12.69)

NOTE: Figures in parenthesis are based on the failure criteria of
 Maximum Effective Principal Stress Ratio.

Singleton Laboratories
 CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (R) TEST

Project: KINGSTON FP
 Feature: DREDGE CELLS
 Station: El. : 57.0'-59.0'
 Range : Sample: 4
 Boring : US-9 Part : 3

File : 14
 Tested By : TAL
 Computed By: MHD
 Checked By: REG
 Report Date: 09-27-94

Moisture Content	Trimming	Initial	Final
Wet Wt. and Tare(gm)=	178.5	139.6	178.3
Dry Wt. and Tare(gm)=	147.2	105.2	144.0
Wt. of Tare(gm) =	38.4	0.0	38.8
Moisture(%) =	28.8	32.7	32.6

Test Conditions and Constants:

Proving Ring No. = 2515	Tube No. = 1
Proving Ring Constant:	Sample Volume (cc) = 79.281
Slope Const. = 1	Sample Height(in.) = 3.113
Intercept = 0	Specific Gravity = 2.5
Confining Pres.(psi) = 42	Consolidation(in.) = .06
Initial Pore Pre(psi)= 100	Initial P.R. Rdg = 113.6

Time (Min)	Deflection (ins.)	Pro.Ring Reading	Pore Pres. (psi)	Strain (%)	$\pm 1 - \pm 3$ (tsf)	Pore Press. (tsf)	$\pm 1 / \pm 3$ (TSF)
1	0.006	144.1	122.8	0.20	1.47	1.64	2.06
2	0.011	134.8	126.0	0.36	1.02	1.87	1.88
3	0.015	138.6	127.5	0.49	1.20	1.98	2.15
4	0.021	147.0	126.8	0.69	1.60	1.93	2.46
5	0.028	173.0	125.8	0.92	2.83	1.86	3.43
6	0.036	169.0	124.5	1.18	2.64	1.76	3.09
7	0.046	195.7	123.0	1.51	3.89	1.66	3.85
8	0.054	206.3	121.5	1.77	4.39	1.55	3.97
9	0.061	215.9	120.0	2.00	4.83	1.44	4.05
10	0.068	203.4	118.8	2.23	4.23	1.35	3.53
20	0.128	205.4	116.7	4.19	4.24	1.20	3.33
30	0.196	158.2	129.1	6.42	2.01	2.10	3.16
40	0.253	152.1	130.9	8.29	1.70	2.22	3.13
50	0.330	151.9	131.3	10.81	1.65	2.25	3.14
60	0.420	148.1	132.8	13.76	1.43	2.36	3.16
70	0.493	147.9	132.9	16.15	1.39	2.37	3.11
80	0.560	150.1	132.7	18.34	1.44	2.35	3.14
90	0.630	150.8	132.5	20.64	1.42	2.34	3.08
100	0.700	150.5	132.3	22.93	1.37	2.33	2.96
110	0.760	150.7	132.1	24.89	1.34	2.31	2.88

Initial:

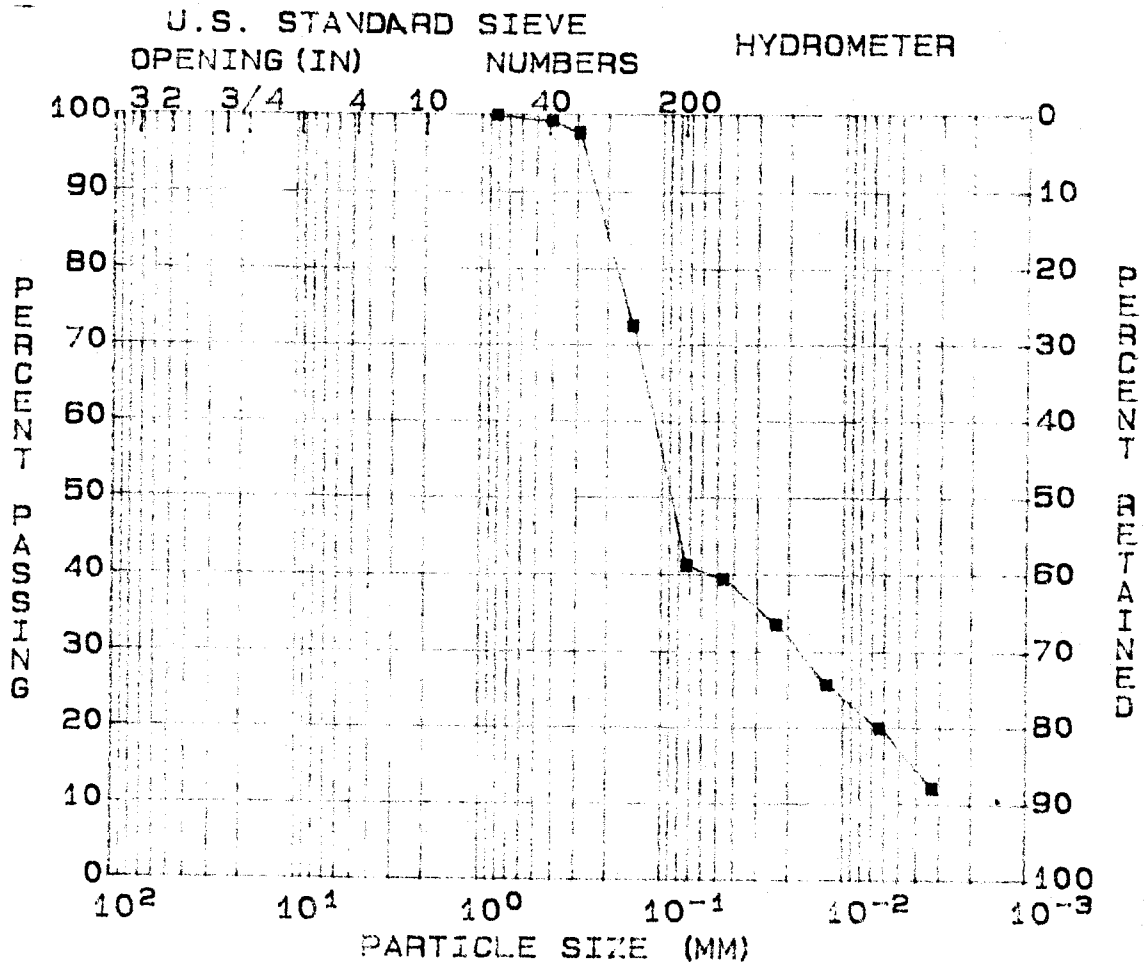
Moisture(%) = 32.7	Void Ratio = 0.884
Density(pcf) = 82.8	Saturation(%) = 92.5
After Saturation:	
Moisture(%) = 35.4	Void Ratio = 0.777

Minor Prin. Stress(tsf) = 3.02 Major Prin. Stress(tsf) = 7.85(7.85)
 Eff. Minor Prin. Stress(tsf)=1.58(1.58) Eff. Major Prin. Stress(tsf)= 6.41(6.41)

NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

**SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS**

PROJECT: TVA/KINGSTON FP	BORING: US-9
FEATURE: DREDGE CELLS/CLOSURE	EL. : 78'-80'
STATION:	SAMPLE: 5
RANGE :	DATE : 09-29-94
PART : 3	



GRAVEL (%) = 0	D10 (MM) = 0.0027
SAND (%) = 58	D30 (MM) = 0.0175
SILT (%) = 24	D60 (MM) = 0.1125
CLAY (%) = 18	COEF UNIF=41.3

SOIL SYMBOL = SM	L.L. (%) = NP	DENSITY (pcf) = 112.6
MOISTURE (%) = 17.2	P.I. (%) = NP	SATURATION (%) = 93.35
SP. GR. = 2.71		VOID RATIO = 0.500

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : US-9

El. : 78'-80'
Sample: 5
Part : 3

FILE : 24
TESTED BY : REG
Computed By: MHD
Checked By : TA
Report Date: 09-29-94

Specific Gravity = 2.705

Flask No. = 22.00

Soil Wt.(gm) = 50.00

Chunk Density

Wet Wt.+Tare(gm)= 166.0

Dry Wt.+Tare(gm)= 147.4

Tare Wt(gm) = 39.5

Moisture(%) = 17.2

Void Ratio = 0.500

Moisture Determination

Dry Wt.+Tare(gm)= 390.70

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 83.60

Tare Wt(gm) = 37.30

Non-Plastic Soil

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 284.5

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO.4	0.0	100.0	4.7500
NO.10	0.0	100.0	2.0000
NO.20	0.0	100.0	0.8500
NO.40	0.1	99.8	0.4250
NO.50	0.9	98.2	0.3000
NO.100	13.4	73.0	0.1500
NO.200	29.0	41.6	0.0750

Air Dry Weight(gm)= 50.00

Time	Temp.	Hyd.Rdg
1 min.	19.6	26.0
4 min.	19.6	23.0
15 min.	19.6	19.0
1 hour	19.6	16.1
4 hours	19.9	12.1

Corrected Weight(gm)= 49.68

Corr	% Pass	Size(mm)
6.0	39.8	0.0464
6.0	33.8	0.0237
6.0	25.8	0.0126
6.0	20.1	0.0064
6.0	12.1	0.0033

Soil Symbol= SM (Silty sand)

D10(mm) = 0.0027

D30(mm)= 0.0175

D60(mm)= 0.1125

Gravel(%)= 0

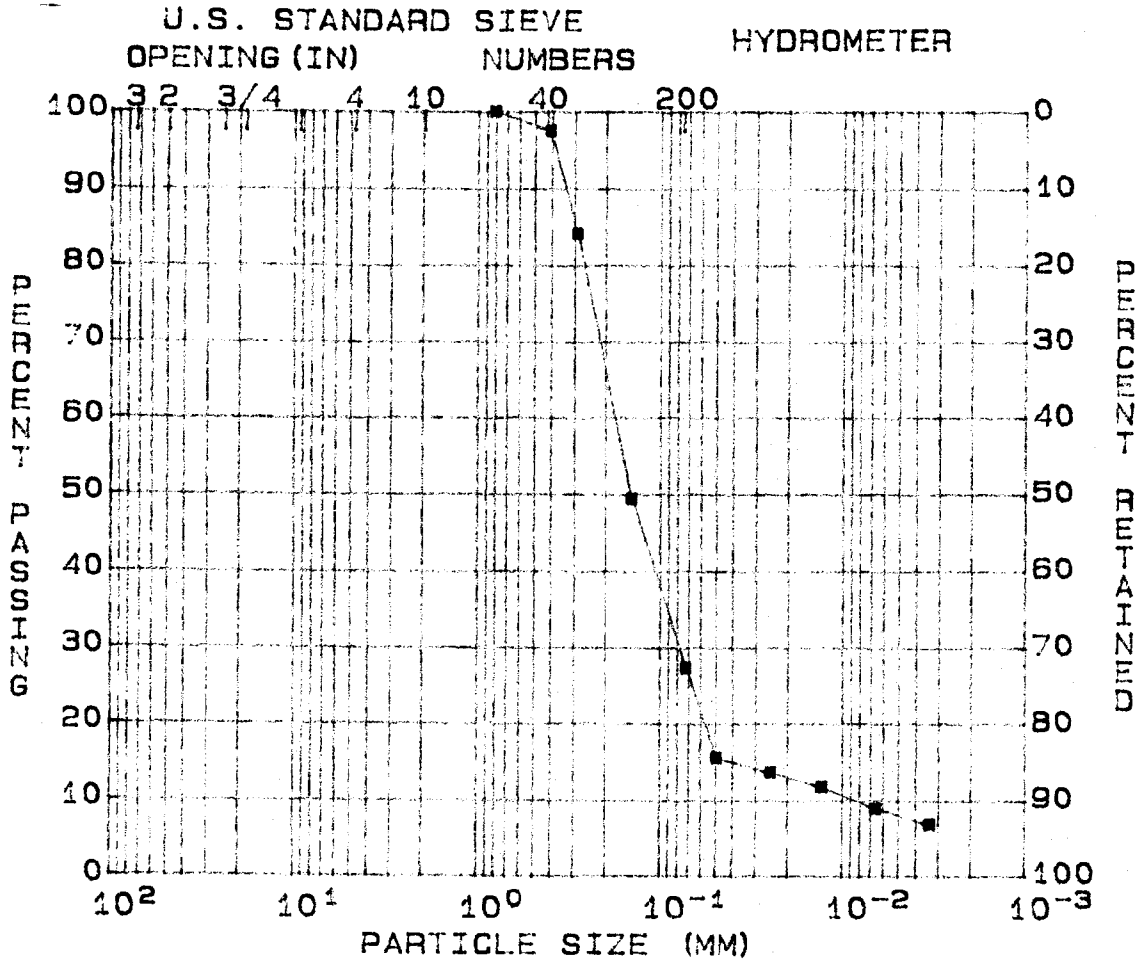
Sand(%)=58

Silt(%)= 24

Clay(%)= 18

**SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS**

PROJECT: TVA/KINGSTON FP BORING: US-9
 FEATURE: DREDGE CELLS/CLOSURE EL. : 85.0'-87'
 STATION: SAMPLE: 6
 RANGE : DATE : 09-29-94
 PART : 4



GRAVEL (%) = 0	D10 (MM) = 0.0082
SAND (%) = 72	D30 (MM) = 0.0801
SILT (%) = 20	D60 (MM) = 0.1833
CLAY (%) = 8	COEF UNIF=22.4

SOIL SYMBOL = SM	L.L. (%) = NP	DENSITY (pcf) = 103.5
MOISTURE (%) = 22.0	P.I. (%) = NP	SATURATION (%) = 96.24
SP. GR. = 2.67		VOID RATIO = 0.611

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring : US-9

El. : 85.0'-87'
Sample: 6
Part : 4

FILE : 19
TESTED BY : REG
Computed By: MHD
Checked By : TA
Report Date: 09-29-94

Specific Gravity = 2.671

Flask No. = 24.00

Soil Wt.(gm) = 50.00

Temp.(deg.c.) = 22.20

Total Wt.(gm) = 707.10

Chunk Density

Wet Wt.+Tare(gm)= 149.9

Dry Wt.+Tare(gm)= 129.9

Tare Wt(gm) = 39.0

Moisture(%) = 22.0

Void Ratio = 0.611

Sample Wt.(gm) = 1045.5

Sa.+ Wt.(air) = 1116.0

SA.+ PA. Wt(Water) = 520.0

Density(pcf) = 103.5

Saturation(%) = 96.24

Moisture Determination

Dry Wt.+Tare(gm)= 352.20

Tare Wt(gm) = 106.10

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 108.20

Dry Wt.+Tare(gm)= 108.10

Tare Wt(gm) = 39.50

Moisture(%) = 0.15

Non-Plastic Soil

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 246.1

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO.4	0.0	100.0	4.7500
NO.10	0.0	100.0	2.0000
NO.20	0.0	100.0	0.8500
NO.40	0.9	98.2	0.4250
NO.50	7.6	84.8	0.3000
NO.100	25.0	49.9	0.1500
NO.200	36.0	27.9	0.0750

Air Dry Weight(gm)= 50.00

Corrected Weight(gm)= 49.93

Time	Temp.	Hyd.Rdg	Corr	% Pass	Size(mm)
1 min.	19.6	14.0	6.0	15.9	0.0506
4 min.	19.6	13.0	6.0	14.0	0.0255
15 min.	19.6	12.0	6.0	12.0	0.0132
1 hour	19.6	10.6	6.0	9.2	0.0067
4 hours	19.9	9.5	6.0	7.0	0.0033

Soil Symbol= SM (Silty sand)

D10(mm) = 0.0082

D30(mm)= 0.0801

D60(mm)= 0.1833

Gravel(%)= 0

Sand(%)= 72

Silt(%)= 20

Clay(%)= 8

TASK ASSIGNMENT No. TV-FH-SL001-045
G/C WORK ORDER No. 07-9822-026 AND TVA TAO No. GP-493-398629
KINGSTON FOSSIL PLANT - DREDGE CELLS/CLOSURE
SOIL INVESTIGATION

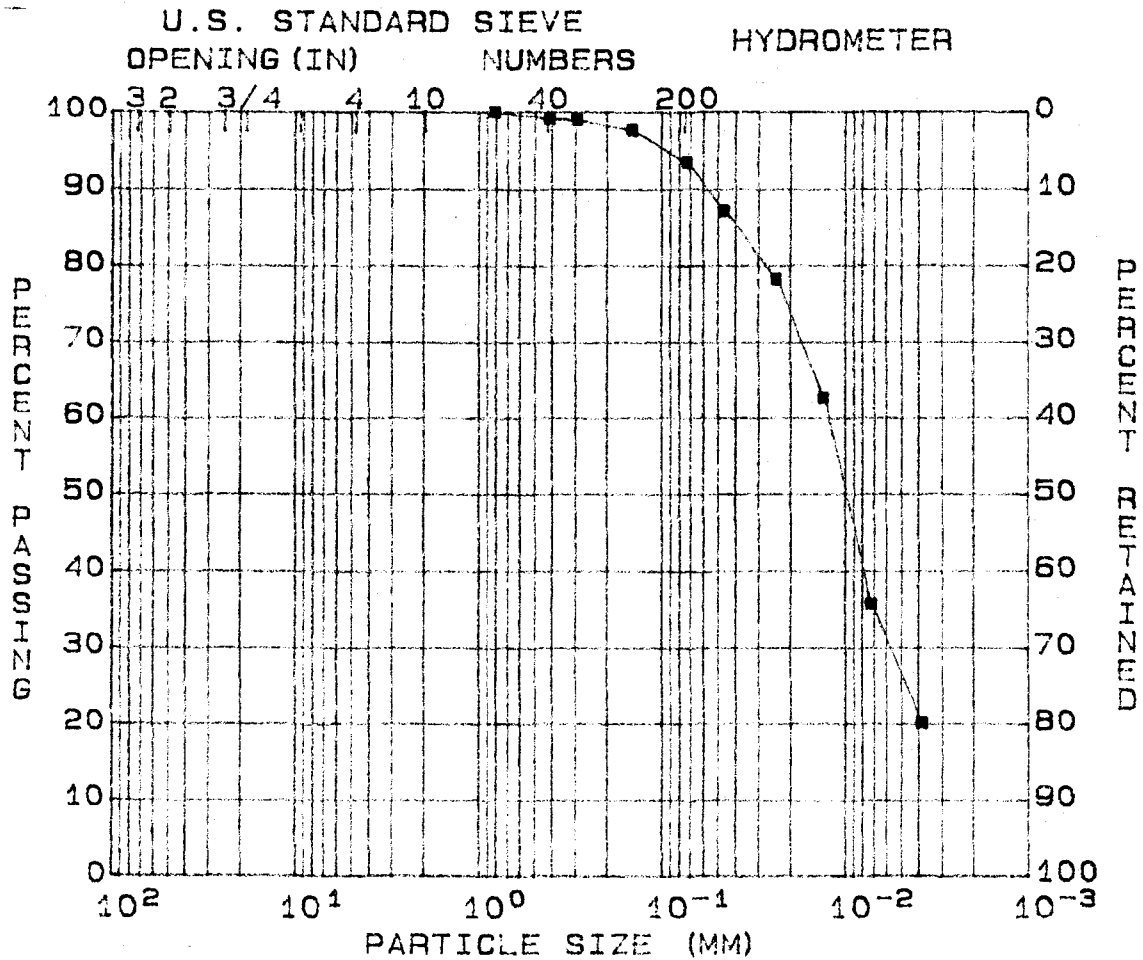
Singleton Laboratories Report 015-672-142A

APPENDIX E

LABORATORY TEST DATA FOR BORROW SOILS

**SINGLETON LABORATORIES
PARTICLE SIZE ANALYSIS**

PROJECT: TVA/KINGSTON FP BORING: :
 FEATURE: DREDGE CELLS/CLOSURE EL. :
 STATION: SAMPLE: CLASS I
 RANGE : DATE : 09-29-94
 PART : :



GRAVEL (%) = 0	D10 (MM) = ---
SAND (%) = 6	D30 (MM) = ---
SILT (%) = 67	D60 (MM) = ---
CLAY (%) = 27	COEF UNIF = ---

SOIL SYMBOL = ML	L.L. (%) = NP	DENSITY (pcf) = ---
MOISTURE (%) = ---	P.I. (%) = NP	SATURATION (%) = ---
SP. GR. = 2.25		VOID RATIO = ---

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring :

El. :
Sample: CLASS I
Part :

FILE : 17
TESTED BY : REG
Computed By: MHD
Checked By : TA
Report Date: 09-29-94

Specific Gravity = 2.245

Flask No. = 15.00

Soil Wt.(gm) = 50.00

Temp.(deg.c.) = 22.40

Total Wt.(gm) = 705.64

Moisture Determination

Dry Wt.+Tare(gm)= 294.20

Tare Wt(gm) = 97.30

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 93.90

Dry Wt.+Tare(gm)= 93.90

Tare Wt(gm) = 39.60

Moisture(%) = 0.00

Non-Plastic Soil

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 196.9

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO.4	0.0	100.0	4.7500
NO.10	0.0	100.0	2.0000
NO.20	0.0	100.0	0.8500
NO.40	0.1	99.8	0.4250
NO.50	0.2	99.6	0.3000
NO.100	0.9	98.2	0.1500
NO.200	3.0	94.0	0.0750

Air Dry Weight(gm)= 50.00

Corrected Weight(gm)= 50.00

Time	Temp.	Hyd.Rdg	Corr	% Pass	Size(mm)
1 min.	19.7	44.0	5.0	87.6	0.0470
4 min.	19.7	40.0	5.0	78.6	0.0244
15 min.	19.7	33.0	5.0	62.9	0.0133
1 hour	19.7	21.0	5.0	35.9	0.0072
4 hours	19.8	14.0	5.0	20.2	0.0038

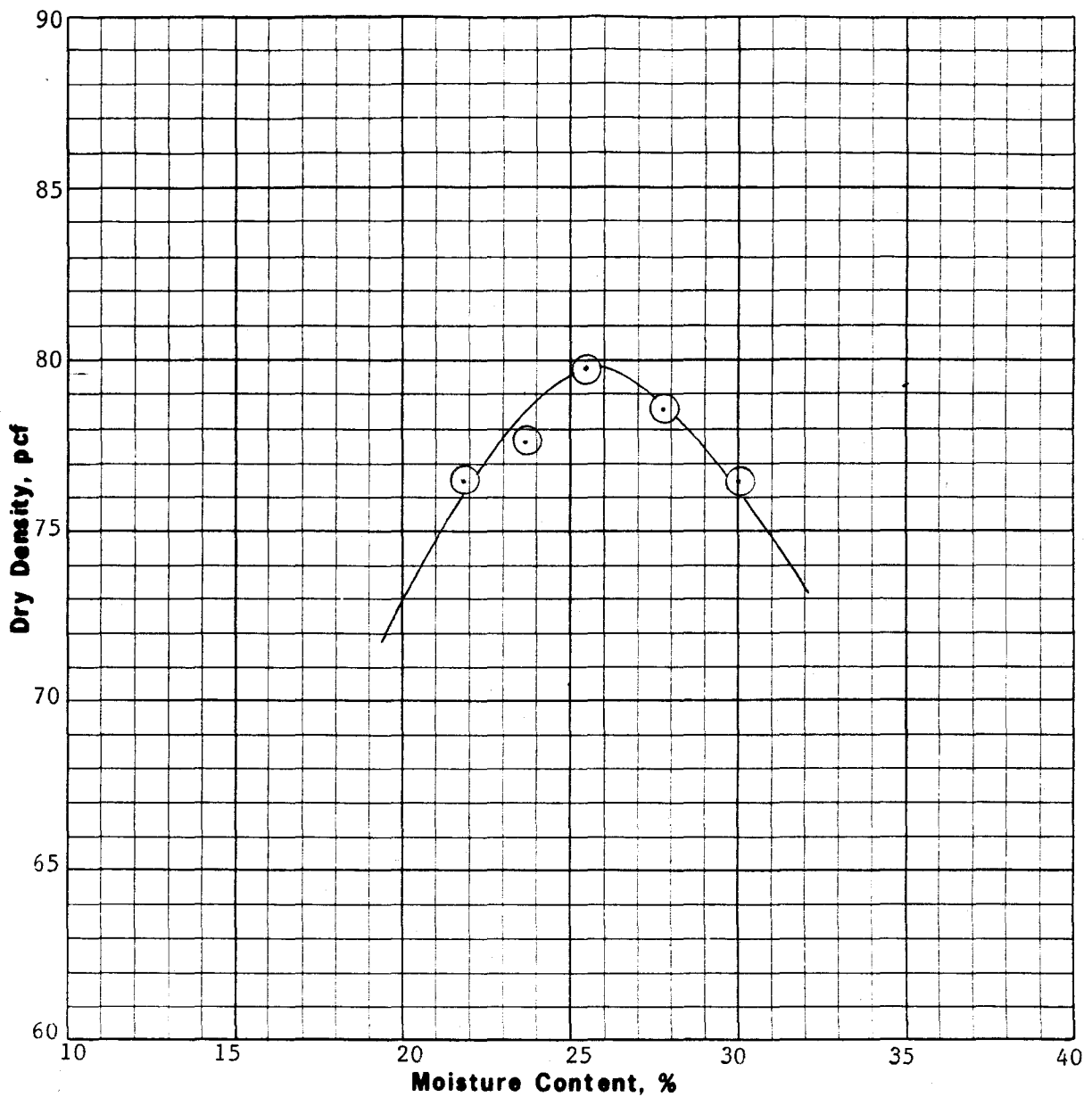
Soil Symbol= ML (Inorganic silt of low plasticity)

Gravel(%)= 0

Sand(%)= 6

Silt(%)= 67

Clay(%)= 27



Soil Class	Gravel %	Sand %	Silt %	Clay %	Specific Gravity	LL %	PI %	Optimum Moisture, %	Maximum Density, pcf
ML - I	0	6	67	27	2.25	NP	NP	25.4	79.8

Plus No. 4 Specific Gravity, S S D
 Plus No. 4 Absorption, %

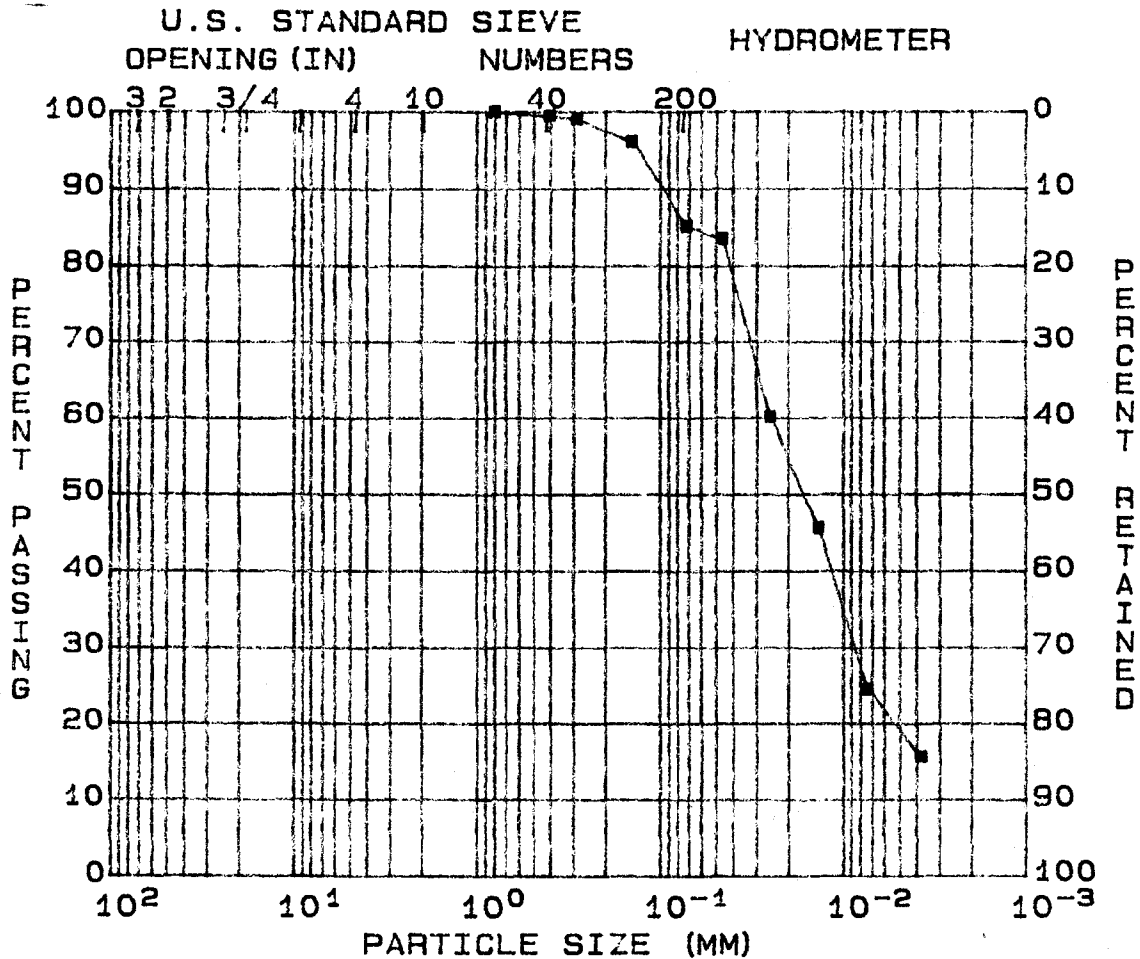
Remarks:
 Fly Ash

Project Kingston FP
 Dredge Cells Closure
 Feature Borrow
 ASTM Designation D 698A
 Date Tested 9/19/94
COMPACTION TEST (FAMILY OF CURVES)

Tested by: RER Reviewed by: TAL

SINGLETON LABORATORIES PARTICLE SIZE ANALYSIS

PROJECT: TVA/KINGSTON FP	BORING:
FEATURE: DREDGE CELLS/CLOSURE	EL. :
STATION:	SAMPLE: CLASS II
RANGE :	DATE : 09-29-94
PART :	



GRAVEL (%) = 0	D10 (MM) = --
SAND (%) = 15	D30 (MM) = --
SILT (%) = 66	D60 (MM) = --
CLAY (%) = 19	COEF UNIF = --

SOIL SYMBOL = ML	L.L. (%) = NP	DENSITY (pcf) = --
MOISTURE (%) = --	P.I. (%) = NP	SATURATION (%) = --
SP. GR. = 2.26		VOID RATIO = --

REMARKS:

Singleton Laboratories
General Classification Tests

Project: TVA/KINGSTON FP
Feature: DREDGE CELLS/CLOSURE
Station:
Range :
Boring :

El. :
Sample: CLASS II
Part :

FILE : 18
TESTED BY : REG
Computed By: MHD
Checked By : TA
Report Date: 09-29-94

Specific Gravity = 2.260
Flask No. = 12.00
Soil Wt.(gm) = 50.00

Temp.(deg.c.) = 22.40
Total Wt.(gm) = 702.04

Moisture Determination

Dry Wt.+Tare(gm)= 265.10

Tare Wt(gm) = 98.00

Hygroscopic Moisture

Wet Wt.+Tare(gm)= 88.10

Dry Wt.+Tare(gm)= 88.10

Tare Wt(gm) = 39.40

Moisture(%) = 0.00

Non-Plastic Soil

Sieve and Hydrometer Analysis

Total Dry Weight(gm) = 167.1

Sieve	Wt.Ret.	% Pass.	Size(mm)
3 in.	0.0	100.0	76.2000
2 in.	0.0	100.0	50.8000
1.5 in.	0.0	100.0	38.1000
1 in.	0.0	100.0	25.4000
3/4 in.	0.0	100.0	19.0500
3/8 in.	0.0	100.0	9.5300
NO.4	0.0	100.0	4.7500
NO.10	0.0	100.0	2.0000
NO.20	0.0	100.0	0.8500
NO.40	0.1	99.8	0.4250
NO.50	0.3	99.4	0.3000
NO.100	1.8	96.4	0.1500
NO.200	7.3	85.4	0.0750

Air Dry Weight(gm)= 50.00

Corrected Weight(gm)= 50.00

Time	Temp.	Hyd.Rdg	Corr	% Pass	Size(mm)
1 min.	19.7	42.5	5.0	83.8	0.0474
4 min.	19.7	32.0	5.0	60.3	0.0258
15 min.	19.7	25.5	5.0	45.8	0.0140
1 hour	19.7	16.0	5.0	24.6	0.0074
4 hours	19.8	12.0	5.0	15.6	0.0038

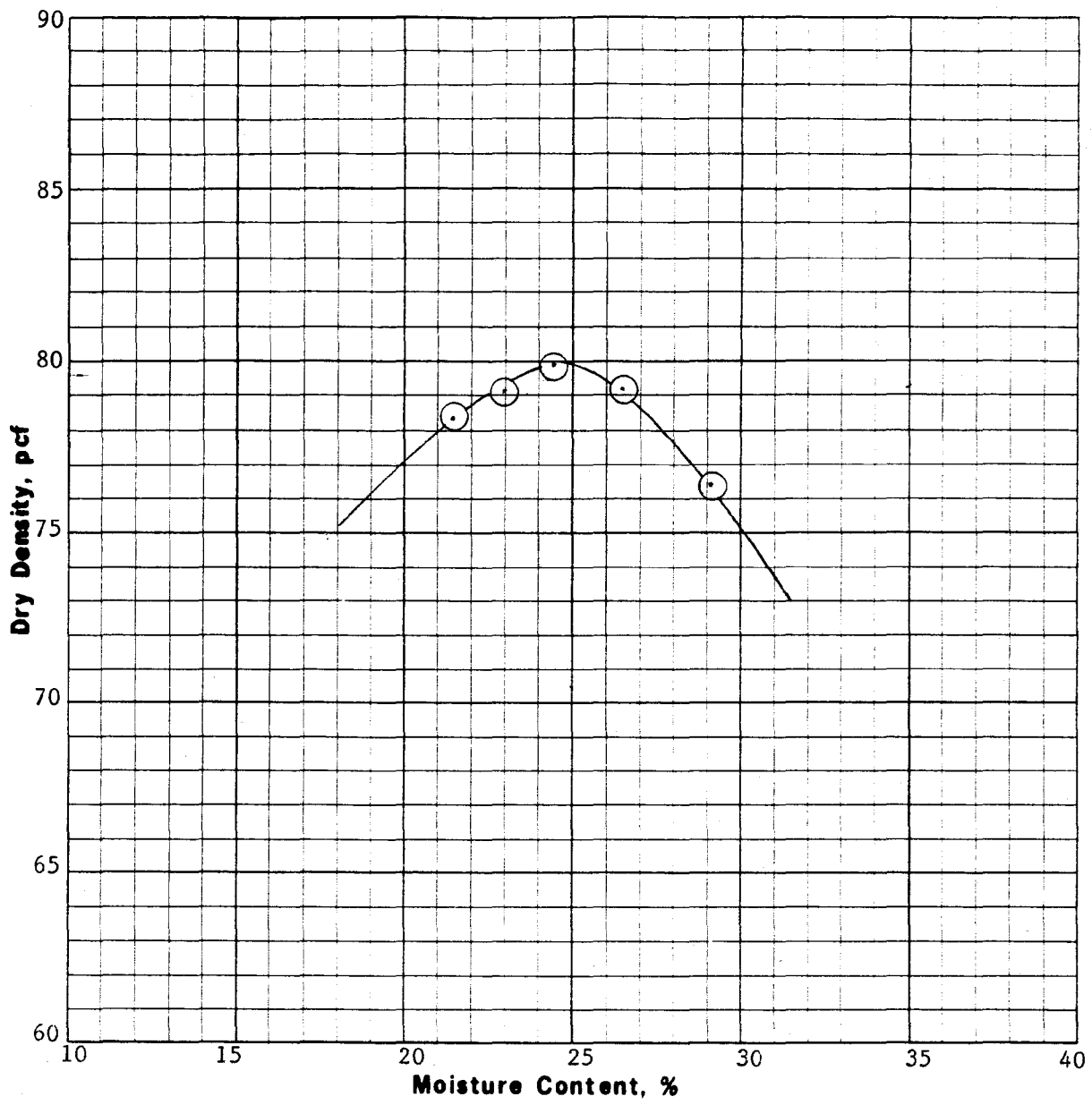
Soil Symbol= ML (Inorganic silt of low plasticity)

Gravel(%)= 0

Sand(%)=15

Silt(%)= 66

Clay(%)= 19



Soil Class	Gravel %	Sand %	Silt %	Clay %	Specific Gravity	LL %	PI %	Optimum Moisture, %	Maximum Density, pcf
ML - II	0	15	66	19	2.26	NP	NP	24.5	79.9

Plus No. 4 Specific Gravity, S S D	
Plus No. 4 Absorption, %	
Remarks:	
Fly Ash	

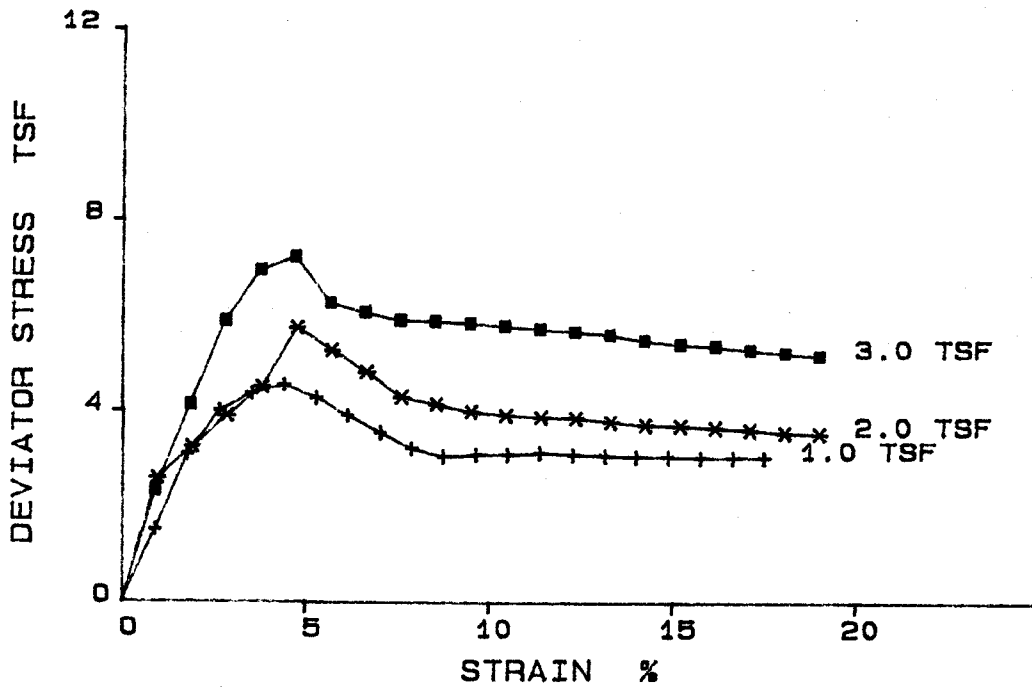
Project	Kingston FP
	Dredge Cells Closure
Feature	Borrow
	ASTM Designation D 698A
Date Tested	9/19/94
COMPACTION TEST (FAMILY OF CURVES)	

Tested by: RER Reviewed by: TAL

SINGLETON LABORATORIES
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (Q) TEST

PROJECT: TVA/KINGSTON
FEATURE: DREDGE CELLS
STATION:
RANGE :
BORING :

EL. :
SAMPLE : CLASS I & II
PART : BORROW
SOIL SYM:
DATE : 09-29-94

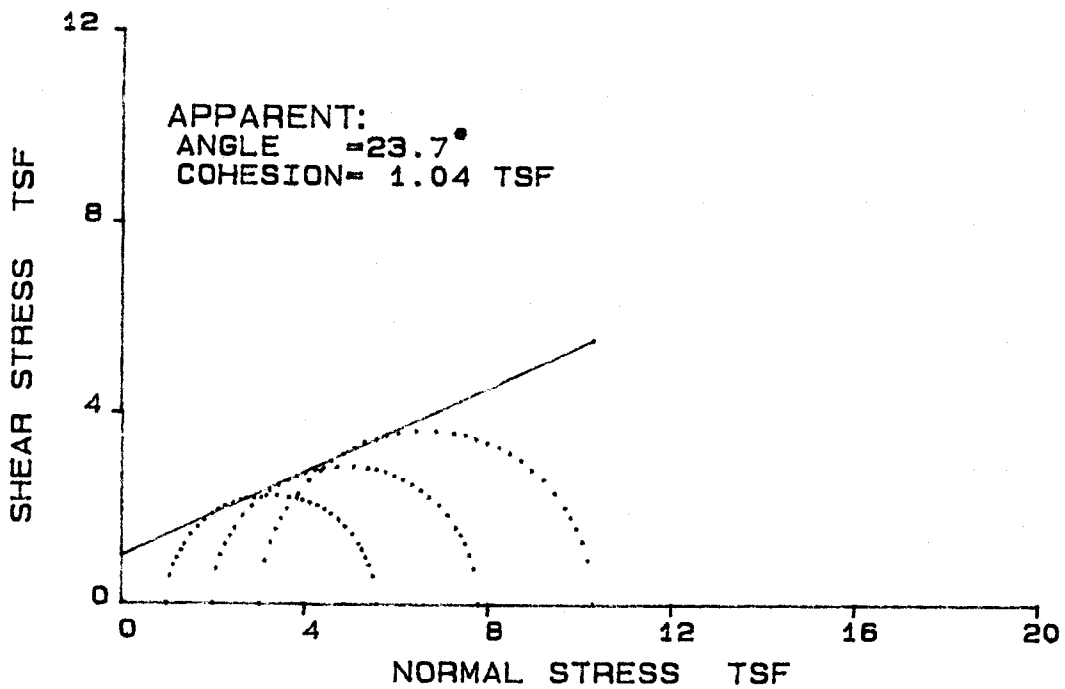


REMARKS: REMOLDED AT OPTIMUM MOISTURE AND AT
95% MAXIMUM UNIT WEIGHT.

SINGLETON LABORATORIES
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (Q) TEST

PROJECT: TVA/KINGSTON
FEATURE: DREDGE CELLS
STATION:
RANGE :
BORING :

EL. :
SAMPLE : CLASS I & II
PART : BORROW
SOIL SYM:
DATE : 09-29-94



REMARKS: REMOLDED AT OPTIMUM MOISTURE AND AT
95% MAXIMUM UNIT WEIGHT.

Singleton Laboratories
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION(Q) TEST

Project: TVA/KINGSTON	El. :	File : 19
Feature: DREDGE CELLS	Sample: CLASS I & II	Tested By : TAL
Station:	Part : BORROW	Computed By: MHD
Range :		Checked By : JMH
Boring :		Report Date: 09-29-94

Soil Symbol=	L.L.(%)=	P.I.(%) =
Sp. Gr. - 2.26	D10(mm)=	

Specimen Number	1	2	3	4
Initial:				
Moisture Content(%)	25.5	25.5	25.5	0.0
Dry Density(pcf)	75.8	75.8	75.8	0.0
Void Ratio	0.863	0.863	0.863	0.000
Saturation(%)	66.9	66.9	66.9	0.0
Before Shearing:				
Moisture(%) (after satur.)	--	--	--	--
Saturation(%)	--	--	--	--
Moisture(%) (after cons.)	--	--	--	--
Void Ratio (after cons.)	--	--	--	--
Final Moisture Content(%)	25.4	25.5	25.6	0.0
Minor Principal Stress(tsf)	1.01	2.02	3.02	0.00
Major Principal Stress(tsf)	5.59	7.82	10.31	0.00
Eff. Minor Prin Stress (tsf)	--	--	--	--
Eff. Major Prin Stress (tsf)	--	--	--	--
Time to Failure(min)	5	5	5	0
Rate of Strain(%/min)	0.90	0.96	0.95	0.00
Specimen Height(in.)	3.14	3.14	3.14	0.00
Specimen Dia (in.)	1.40	1.40	1.40	0.00
	Max Deviator Stress	Max Eff	Stress Ratio	
Shear Strength	Deg	c(tsf)	Deg	c(tsf)
Apparent	23.7	1.04		
Effective	--	--		

NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

Remark: REMOLDED AT OPTIMUM MOISTURE AND AT 95% MAXIMUM UNIT WEIGHT.

Singleton Laboratories
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION(Q) TEST

Project: TVA/KINGSTON
 Feature: DREDGE CELLS
 Station: El. :
 Range : Sample: CLASS I & II
 Boring : Part : BORROW

File : 18
 Tested By : TAL
 Computed By: MHD
 Checked By : J.M.H.
 Report Date: 09-29-94

Moisture Content	Trimming	Initial	Final
Wet Wt. and Tare(gm)=	156.1	121.0	159.5
Dry Wt. and Tare(gm)=	132.3	96.4	135.0
Wt. of Tare(gm) =	39.0	0.0	38.6
Moisture(%) =	25.5	25.5	25.4

Test Conditions and Constants:

Proving Ring No. = 2515	Tube No. = 1
Proving Ring Constant:	Sample Volume (cc) = 79.445
Slope Const. = 1	Sample Height(in.) = 3.136
Intercept = 0	Specific Gravity = 2.26
Confining Pres.(psi) = 14	Consolidation(in.) = 0
Initial Pore Pre(psi)= 0	Initial P.R. Rdg = 12

Time (Min)	Deflection (ins.)	Pro. Ring Reading	Strain (%)	±1 - ±3 (tsf)
1	0.029	45.0	0.92	1.52
2	0.057	80.0	1.82	3.11
3	0.085	101.0	2.71	4.03
4	0.113	109.9	3.60	4.40
5	0.141	115.0	4.50	4.58
6	0.169	110.0	5.39	4.32
7	0.196	102.3	6.25	3.94
8	0.225	95.0	7.17	3.59
9	0.252	88.0	8.04	3.26
10	0.280	85.0	8.93	3.10
11	0.309	87.0	9.85	3.15
12	0.336	88.0	10.71	3.16
13	0.364	90.0	11.61	3.21
14	0.393	90.2	12.53	3.19
15	0.421	90.9	13.42	3.18
16	0.448	91.6	14.29	3.18
17	0.476	92.6	15.18	3.18
18	0.505	93.0	16.10	3.16
19	0.533	94.0	17.00	3.17
20	0.560	95.3	17.86	3.19

Initial:

Moisture(%) = 25.5	Void Ratio = 0.863
Density(pcf) = 75.8	Saturation(%) = 66.9

Minor Prin. Stress(tsf) = 1.01 Major Prin. Stress(tsf) = 5.59

NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

Singleton Laboratories
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION(Q) TEST

Project: TVA/KINGSTON
 Feature: DREDGE CELLS
 Station: El. :
 Range : Sample: CLASS I & II
 Boring : Part : BORROW

File : 18
 Tested By : TAL
 Computed By: MHD
 Checked By : JAK
 Report Date: 09-29-94

Moisture Content	Trimming	Initial	Final
Wet Wt. and Tare(gm)=	160.7	121.0	160.6
Dry Wt. and Tare(gm)=	136.0	96.4	136.0
Wt. of Tare(gm) =	38.6	0.0	39.6
Moisture(%) =	25.4	25.5	25.5

Test Conditions and Constants:

Proving Ring No. = 2515	Tube No. = 1
Proving Ring Constant:	Sample Volume (cc) = 79.445
Slope Const. = 1	Sample Height(in.) = 3.136
Intercept = 0	Specific Gravity = 2.26
Confining Pres.(psi) = 28	Consolidation(in.) = 0
Initial Pore Pre(psi)= 0	Initial P.R. Rdg = 23.5

Time (Min)	Deflection (ins.)	Pro. Ring Reading	Strain (%)	±1 - ±3 (tsf)
1	0.030	80.0	0.96	2.61
2	0.060	95.0	1.91	3.27
3	0.090	110.0	2.87	3.91
4	0.120	125.0	3.83	4.55
5	0.150	154.3	4.78	5.80
6	0.180	145.0	5.74	5.33
7	0.210	136.1	6.70	4.89
8	0.240	125.0	7.65	4.37
9	0.270	123.0	8.61	4.24
10	0.300	120.6	9.57	4.09
11	0.330	120.0	10.52	4.02
12	0.360	120.1	11.48	3.98
13	0.390	120.9	12.44	3.97
14	0.420	120.0	13.39	3.89
15	0.450	119.9	14.35	3.85
16	0.480	120.6	15.31	3.83
17	0.510	121.0	16.26	3.80
18	0.540	121.1	17.22	3.76
19	0.570	120.7	18.18	3.70
20	0.600	121.6	19.13	3.69

Initial:

Moisture(%) = 25.5	Void Ratio = 0.863
Density(pcf) = 75.8	Saturation(%) = 66.9

Minor Prin. Stress(tsf) = -2.02 Major Prin. Stress(tsf) = 7.82

NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

Singleton Laboratories
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION(Q) TEST

Project: TVA/KINGSTON
 Feature: DREDGE CELLS
 Station: El. :
 Range : Sample: CLASS I & II
 Boring : Part : BORROW

File : 18
 Tested By : TAL
 Computed By: MHD
 Checked By : Jm4
 Report Date: 09-29-94

Moisture Content	Trimming	Initial	Final
Wet Wt. and Tare(gm)=	151.3	121.0	160.7
Dry Wt. and Tare(gm)=	128.7	96.4	136.0
Wt. of Tare(gm) =	39.4	0.0	39.6
Moisture(%) =	25.3	25.5	25.6

Test Conditions and Constants:

Proving Ring No. = 2515	Tube No. = 1
Proving Ring Constant:	Sample Volume (cc) = 79.445
Slope Const. = 1	Sample Height(in.) = 3.136
Intercept = 0	Specific Gravity = 2.26
Confining Pres.(psi) = 42	Consolidation(in.) = 0
Initial Pore Pre(psi)= 0	Initial P.R. Rdg = 34.1

Time (Min)	Deflection (ins.)	Pro. Ring Reading	Strain (%)	±1 - ±3 (tsf)
1	0.029	85.0	0.92	2.35
2	0.059	125.0	1.88	4.15
3	0.089	165.0	2.84	5.92
4	0.119	190.1	3.79	6.99
5	0.149	198.3	4.75	7.28
6	0.179	178.0	5.71	6.32
7	0.209	175.0	6.66	6.12
8	0.239	173.0	7.62	5.98
9	0.269	174.0	8.58	5.96
10	0.299	175.0	9.53	5.94
11	0.329	175.3	10.49	5.89
12	0.359	175.5	11.45	5.83
13	0.389	176.0	12.40	5.79
14	0.419	176.4	13.36	5.74
15	0.449	175.3	14.32	5.63
16	0.480	175.0	15.31	5.56
17	0.510	175.6	16.26	5.52
18	0.540	175.6	17.22	5.46
19	0.570	176.0	18.18	5.41
20	0.600	176.3	19.13	5.36

Initial:

Moisture(%) = 25.5	Void Ratio = 0.863
Density(pcf)= 75.8	Saturation(%)= 66.9

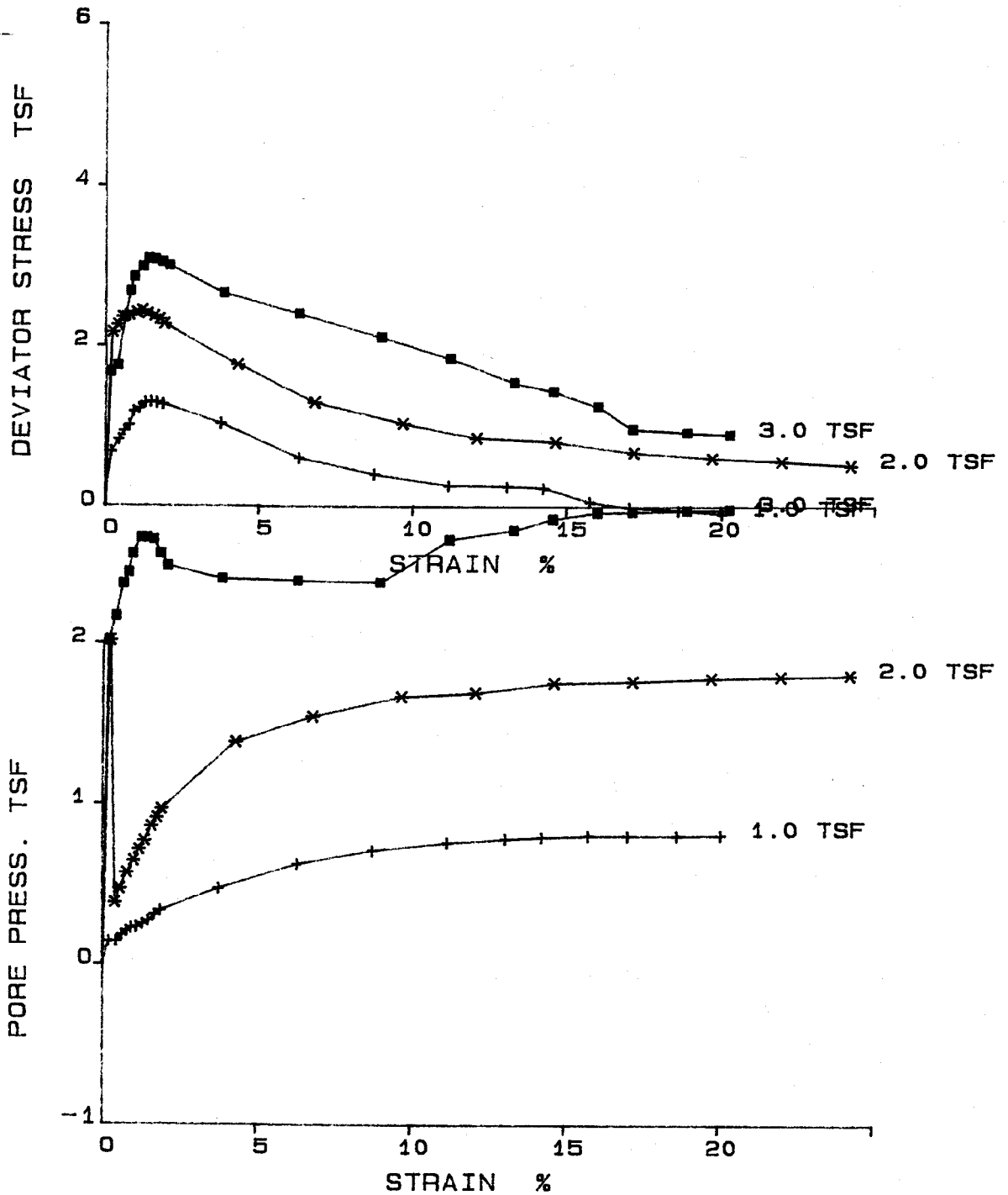
Minor Prin. Stress(tsf) = -3.02 Major Prin. Stress(tsf) = -10.31

NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

SINGLETON LABORATORIES
 CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (R) TEST

PROJECT: TVA/KINGSTON
 FEATURE: DREDGE CELLS
 STATION:
 RANGE :
 BORING :

EL. :
 SAMPLE : CLASS I & II
 PART : BORROW
 SOIL SYM:
 DATE : 09-29-94

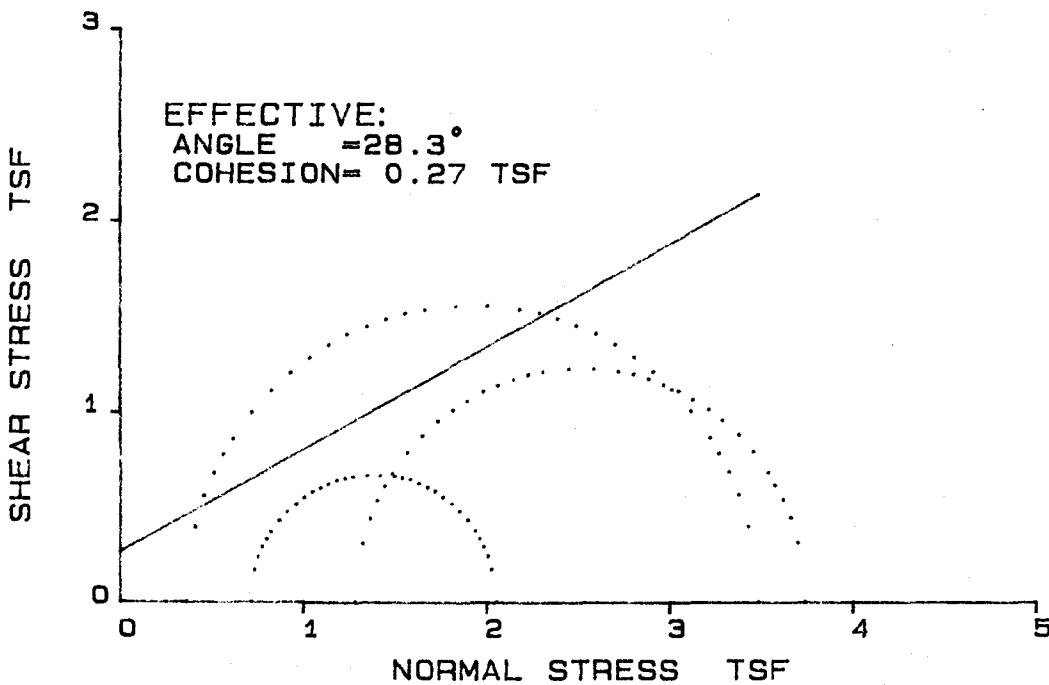
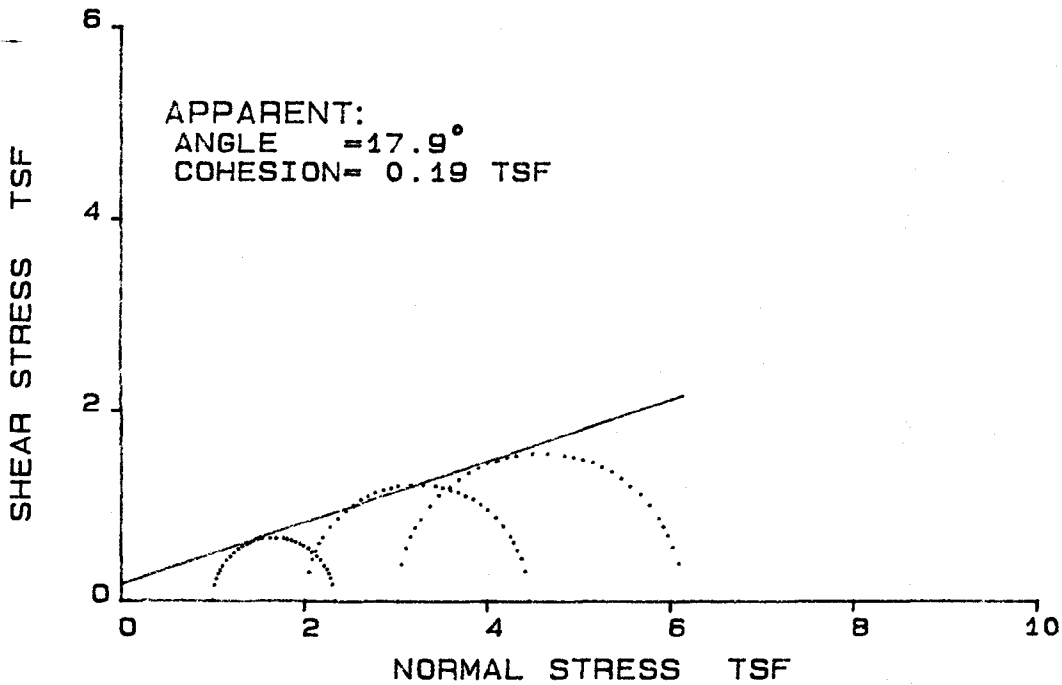


REMARKS: REMOLDED AT OPTIMUM MOISTURE AND AT 95% MAXIMUM UNIT WEIGHT.

SINGLETON LABORATORIES
CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (R) TEST

PROJECT: TVA/KINGSTON
FEATURE: DREDGE CELLS
STATION:
RANGE :
BORING :

EL. :
SAMPLE : CLASS I & II
PART : BORROW
SOIL SYM:
DATE : 09-29-94



REMARKS: REMOLDED AT OPTIMUM MOISTURE AND AT
95% MAXIMUM UNIT WEIGHT.

Singleton Laboratories
Consolidated Undrained Triaxial Compression (R) Test

Project: TVA/KINGSTON	File : 18
Feature: DREDGE CELLS/CLOSURE	Tested By : TAL
Station:	Computed By: MHD
Range :	Checked By : JMA
Boring :	Report Date: 09-29-94
E1. :	
Sample: CLASS I & II	
Part : BORROW	

Soil Symbol=	L.L.(%)=	P.I.(%) =
Sp. Gr. = 2.26	D10(mm)=	

Specimen Number	1	2	3	4
Initial:				
Moisture Content(%)	25.5	25.5	25.5	0.0
Dry Density(pcf)	75.8	75.8	75.8	0.0
Void Ratio	0.863	0.863	0.863	0.000
Saturation(%)	66.9	66.9	66.9	0.0
Before Shearing:				
Moisture(%) (after satur.)	38.2	38.2	38.2	0.0
Saturation(%)	100.0	100.0	100.0	0.0
Moisture(%) (after cons.)	37.0	36.2	35.1	0.0
Void Ratio (after cons.)	0.836	0.818	0.792	0.000
Final Moisture Content(%)	36.4	38.3	38.4	0.0
Minor Principal Stress(tsf)	1.01(1.01)	2.02(2.02)	3.02(3.02)	0.00(0.00)
Major Principal Stress(tsf)	2.35(2.10)	4.47(4.19)	6.15(6.15)	0.00(0.00)
Eff. Minor Prin Stress(tsf)	0.72(0.50)	1.29(0.00)	0.36(0.36)	0.00(0.00)
Eff. Major Prin Stress(tsf)	2.06(1.59)	3.75(2.17)	3.48(3.48)	0.00(0.00)
Time to Failure(min)	8	6	7	0
Rate of Strain(%/min)	0.20	0.20	0.21	0.00
Specimen Height(in.)	3.14	3.14	3.14	0.00
Specimen Dia (in.)	1.40	1.40	1.40	0.00

Shear Strength	Max Deviator Stress	Max Eff	Stress Ratio
	Deg	Deg	c(tsf)
Apparent	17.9	19.6	0.03
Effective	28.3	90.0	0.00
	c(tsf)	c(tsf)	

NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

Remark: REMOLDED AT OPTIMUM MOISTURE AND AT 95% MAXIMUM UNIT WEIGHT.

Singleton Laboratories
Consolidated Undrained Triaxial Compression (R) Test

Project: TVA/KINGSTON
 Feature: DREDGE CELLS/CLOSURE
 Station: El. :
 Range : Sample: CLASS I & II
 Boring : Part : BORROW

File : 18
 Tested By : TAL
 Computed By: MHD
 Checked By : JMA
 Report Date: 09-29-94

Moisture Content	Trimming	Initial	Final
Wet Wt. and Tare(gm)=	115.2	121.0	161.0
Dry Wt. and Tare(gm)=	99.8	96.4	128.4
Wt. of Tare(gm) =	39.1	0.0	38.9
Moisture(%) =	25.4	25.5	36.4

Test Conditions and Constants:

Proving Ring No. = 2212	Tube No. = 1
Proving Ring Constant:	Sample Volume (cc) = 79.445
Slope Const. = 1	Sample Height(in.) = 3.136
Intercept = 0	Specific Gravity = 2.26
Confining Pres.(psi) = 14	Consolidation(in.) = .015
Initial Pore Pre(psi)= 100	Initial P.R. Rdg = 93

Time (Min)	Deflection (ins.)	Pro. Ring Reading	Pore Pres. (psi)	Strain (%)	$\pm 1 - \pm 3$ (tsf)	Pore Press. (tsf)	$\pm 1 / \pm 3$ (TSF)
1	0.007	107.5	102.0	0.22	0.68	0.14	1.79
2	0.015	110.9	102.0	0.48	0.84	0.14	1.97
3	0.021	113.4	102.6	0.67	0.95	0.19	2.16
4	0.026	115.1	103.0	0.83	1.03	0.22	2.30
5	0.031	119.0	103.3	0.99	1.21	0.24	2.57
6	0.037	120.0	103.4	1.19	1.25	0.24	2.64
7	0.044	121.7	103.7	1.41	1.33	0.27	2.79
8	0.050	122.0	104.0	1.60	1.34	0.29	2.86
9	0.057	122.0	104.6	1.83	1.34	0.33	2.98
10	0.064	121.8	105.0	2.05	1.33	0.36	3.05
20	0.123	117.1	107.0	3.94	1.09	0.50	3.16
30	0.203	108.1	109.1	6.50	0.66	0.66	2.88
40	0.280	104.0	110.3	8.97	0.47	0.74	2.77
50	0.356	101.0	111.0	11.41	0.33	0.79	2.54
60	0.415	101.0	111.4	13.30	0.33	0.82	2.74
70	0.453	100.7	111.6	14.51	0.31	0.84	2.79
80	0.500	96.7	111.8	16.02	0.15	0.85	1.92
90	0.540	95.0	111.8	17.30	0.08	0.85	1.49
100	0.590	94.0	111.8	18.90	0.04	0.85	1.24
110	0.635	93.0	111.9	20.35	0.00	0.86	1.00

Initial:

Moisture(%) = 25.5	Void Ratio = 0.863
Density(pcf) = 75.8	Saturation(%) = 66.9
After Saturation:	
Moisture(%) = 38.2	Void Ratio = 0.836

Minor Prin. Stress(tsf) = 1.01 Major Prin. Stress(tsf) = 2.35(2.10)
 Eff. Minor Prin. Stress(tsf) = 0.72(0.50) Eff. Major Prin. Stress(tsf) = 2.06(1.59)

NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

Singleton Laboratories
Consolidated Undrained Triaxial Compression (R) Test

Project: TVA/KINGSTON	File : 18
Feature: DREDGE CELLS/CLOSURE	Tested By : TAL
Station:	Computed By: MHD
Range :	Sample: CLASS I & II
Boring :	Part : BORROW
	Checked By : JmH
	Report Date: 09-29-94

Moisture Content	Trimming	Initial	Final
Wet Wt. and Tare(gm)=	103.5	121.0	167.6
Dry Wt. and Tare(gm)=	90.5	96.4	132.3
Wt. of Tare(gm) =	39.2	0.0	40.1
Moisture(%) =	25.3	25.5	38.3

Test Conditions and Constants:

Proving Ring No. = 2284	Tube No. = 1
Proving Ring Constant:	Sample Volume (cc) = 79.445
Slope Const. = 1	Sample Height(in.) = 3.136
Intercept = 0	Specific Gravity = 2.26
Confining Pres.(psi) = 28	Consolidation(in.) = .025
Initial Pore Pre(psi)= 100	Initial P.R. Rdg = 100

Time (Min)	Deflection (ins.)	Pro.Ring Reading	Pore Pres. (psi)	Strain (%)	±1 - ±3 (tsf)	Pore Press. ±1 / ±3 (tsf)	(TSF)
1	0.007	146.0	128.0	0.23	2.17	2.02	% 1.701412E+38
2	0.013	148.0	105.3	0.42	2.26	0.38	2.38
3	0.018	150.4	106.6	0.58	2.37	0.48	2.54
4	0.025	151.0	108.0	0.80	2.39	0.58	2.66
5	0.032	152.0	109.1	1.03	2.44	0.66	2.79
6	0.038	152.6	110.1	1.22	2.46	0.73	2.91
7	0.044	152.0	110.9	1.41	2.43	0.78	2.97
8	0.051	151.6	112.2	1.64	2.40	0.88	3.11
9	0.057	151.0	113.0	1.83	2.37	0.94	3.19
10	0.062	150.0	113.8	1.99	2.32	0.99	3.27
20	0.137	140.0	119.6	4.40	1.81	1.41	3.99
30	0.215	130.6	121.8	6.91	1.35	1.57	4.02
40	0.305	125.6	123.6	9.80	1.09	1.70	4.45
50	0.380	122.0	124.0	12.21	0.91	1.73	4.17
60	0.460	121.6	124.9	14.79	0.87	1.79	4.90
70	0.540	119.0	125.1	17.36	0.74	1.81	4.56
80	0.620	118.0	125.4	19.93	0.68	1.83	4.64
90	0.690	117.6	125.6	22.18	0.65	1.84	4.75
100	0.760	117.0	125.8	24.43	0.61	1.86	4.84

Initial:

Moisture(%) = 25.5	Void Ratio = 0.863
Density(pcf)= 75.8	Saturation(%)= 66.9
After Saturation:	
Moisture(%) = 38.2	Void Ratio = 0.818

Minor Prin. Stress(tsf) = 2.02	Major Prin. Stress(tsf) = 4.47(4.19)
Eff. Minor Prin. Stress(tsf)=1.29(0.00)	Eff. Major Prin. Stress(tsf)= 3.75(2.17)

NOTE: Figures in parenthesis are based on the failure criteria of
Maximum Effective Principal Stress Ratio.

Singleton Laboratories
Consolidated Undrained Triaxial Compression (R) Test

Project: TVA/KINGSTON
 Feature: DREDGE CELLS/CLOSURE
 Station: El. :
 Range : Sample: CLASS I & II
 Boring : Part : BORROW

File : 18
 Tested By : TAL
 Computed By: MHD
 Checked By : JMH
 Report Date: 09-29-94

Moisture Content	Trimming	Initial	Final
Wet Wt. and Tare(gm)=	103.1	121.0	171.7
Dry Wt. and Tare(gm)=	90.1	96.4	135.0
Wt. of Tare(gm) =	39.0	0.0	39.4
Moisture(%) =	25.4	25.5	38.4

Test Conditions and Constants:

Proving Ring No. = 2212	Tube No. = 1
Proving Ring Constant:	Sample Volume (cc) = 79.445
Slope Const. = 1	Sample Height(in.) = 3.136
Intercept = 0	Specific Gravity = 2.26
Confining Pres.(psi) = 42	Consolidation(in.) = .04
Initial Pore Pre(psi)= 100	Initial P.R. Rdg = 113

Time (Min)	Deflection (ins.)	Pro. Ring Reading	Pore Pres. (psi)	Strain (%)	$\pm 1 - \pm 3$ (tsf)	Pore Press. (tsf)	$\pm 1 / \pm 3$ (TSF)
1	0.006	148.1	128.0	0.19	1.67	2.02	2.66
2	0.013	150.0	130.1	0.42	1.76	2.17	3.05
3	0.020	163.0	133.0	0.65	2.37	2.38	4.66
4	0.026	170.0	134.0	0.84	2.70	2.45	5.69
5	0.030	174.0	135.6	0.97	2.89	2.56	7.26
6	0.039	177.0	137.0	1.26	3.02	2.66	9.39
7	0.045	179.3	137.0	1.45	3.12	2.66	9.67
8	0.052	179.4	136.9	1.68	3.12	2.66	9.50
9	0.059	179.0	135.7	1.91	3.09	2.57	7.82
10	0.066	178.1	134.7	2.13	3.04	2.50	6.79
20	0.121	172.1	133.6	3.91	2.71	2.42	5.49
30	0.197	168.0	133.4	6.36	2.46	2.40	4.97
40	0.280	163.0	133.3	9.04	2.17	2.40	4.47
50	0.350	158.0	137.1	11.30	1.91	2.67	6.41
60	0.415	152.0	138.0	13.40	1.61	2.74	6.60
70	0.455	150.0	139.0	14.70	1.51	2.81	7.98
80	0.500	146.0	139.6	16.15	1.32	2.85	8.65
90	0.535	139.6	139.7	17.28	1.05	2.86	7.35
100	0.590	139.3	139.9	19.06	1.02	2.87	7.73
110	0.633	139.1	140.0	20.45	0.99	2.88	7.89

Initial:

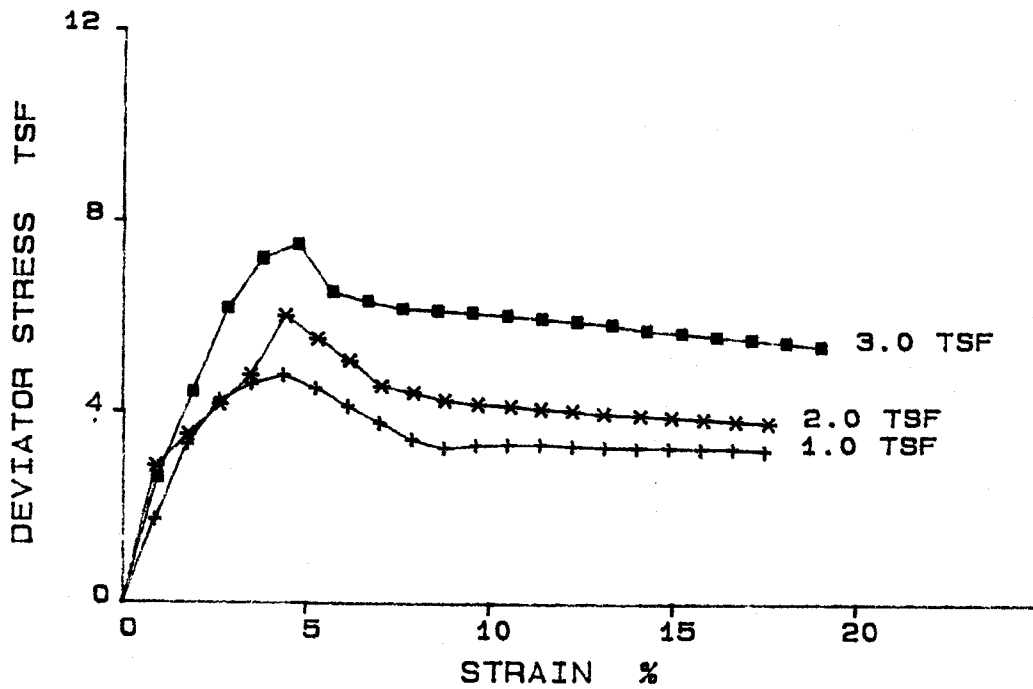
Moisture(%) = 25.5	Void Ratio = 0.863
Density(pcf) = 75.8	Saturation(%) = 66.9
After Saturation:	
Moisture(%) = 38.2	Void Ratio = 0.792

Minor Prin. Stress(tsf) = 3.02	Major Prin. Stress(tsf) = 6.15 (6.15)
Eff. Minor Prin. Stress(tsf) = 0.36 (0.36)	Eff. Major Prin. Stress(tsf) = 3.48 (3.48)

NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

SINGLETON LABORATORIES
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (Q) TEST

PROJECT: TVA/KINGSTON	EL. :
FEATURE: DREDGE CELLS	SAMPLE : CLASS I & II
STATION:	PART : BORROW
RANGE :	SOIL SYM:
BORING :	DATE : 09-29-94

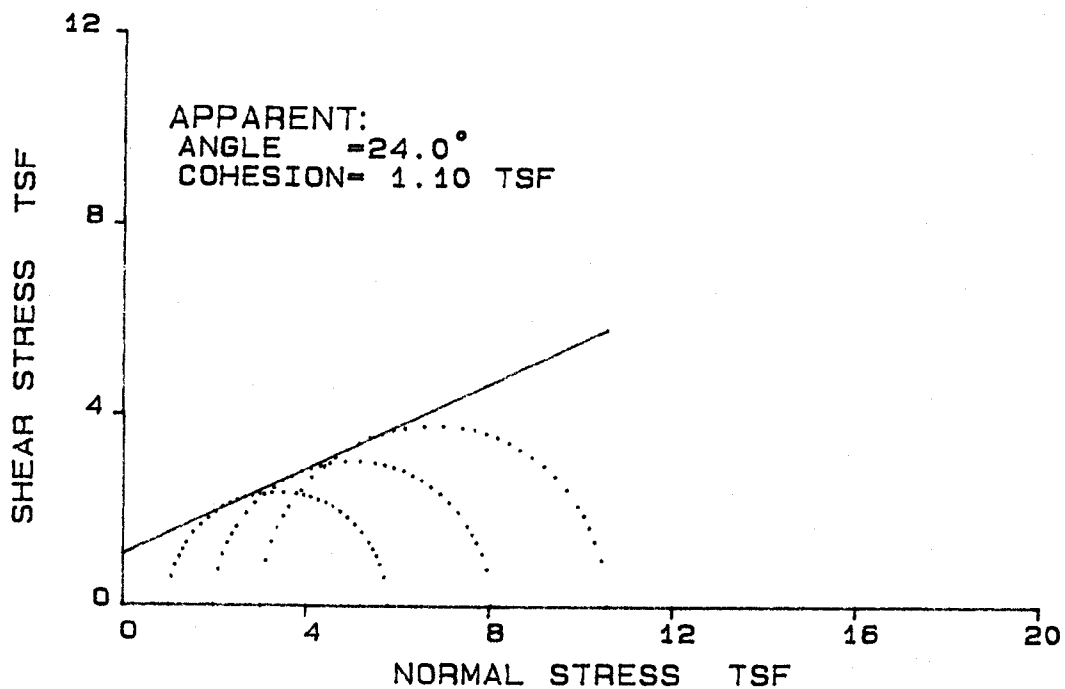


REMARKS: REMOLDED AT OPTIMUM MOISTURE AND AT
100% MAXIMUM UNIT WEIGHT

SINGLETON LABORATORIES
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (Q) TEST

PROJECT: TVA/KINGSTON
FEATURE: DREDGE CELLS
STATION:
RANGE :
BORING :

EL. :
SAMPLE : CLASS I & II
PART : BORROW
SOIL SYM:
DATE : 09-29-94



REMARKS: REMOLDED AT OPTIMUM MOISTURE AND AT
100% MAXIMUM UNIT WEIGHT

Singleton Laboratories
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION(Q) TEST

Project: TVA/KINGSTON	El. :	File : 21
Feature: DREDGE CELLS	Sample: CLASS I & II	Tested By : TAL
Station:	Part : BORROW	Computed By: MHD
Range :		Checked By : JMH
Boring :		Report Date: 09-29-94

Soil Symbol=	L.L.(%)=	P.I.(%) =
Sp. Gr. = 2.26	D10(mm)=	

Specimen Number	1	2	3	4
Initial:				
Moisture Content(%)	25.4	25.4	25.4	0.0
Dry Density(pcf)	79.8	79.8	79.8	0.0
Void Ratio	0.769	0.769	0.769	0.000
Saturation(%)	74.7	74.7	74.7	0.0
Before Shearing:				
Moisture(%) (after satur.)	--	--	--	--
Saturation(%)	--	--	--	--
Moisture(%) (after cons.)	--	--	--	--
Void Ratio (after cons.)	--	--	--	--
Final Moisture Content(%)	25.3	25.3	25.5	0.0
Minor Principal Stress(tsf)	1.01	2.02	3.02	0.00
Major Principal Stress(tsf)	5.81	8.08	10.59	0.00
Eff. Minor Prin Stress (tsf)	--	--	--	--
Eff. Major Prin Stress (tsf)	--	--	--	--
Time to Failure(min)	5	5	5	0
Rate of Strain(%/min)	0.89	0.90	0.96	0.00
Specimen Height(in.)	3.14	3.14	3.14	0.00
Specimen Dia (in.)	1.40	1.40	1.40	0.00

	Max Deviator Stress		Max Eff Stress Ratio
Shear Strength	Deg	c(tsf)	Deg c(tsf)
Apparent	24.0	1.10	
Effective	--	--	

NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

Remark: REMOLDED AT OPTIMUM MOISTURE AND AT 100% MAXIMUM UNIT WEIGHT

Singleton Laboratories
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION(Q) TEST

Project: TVA/KINGSTON
 Feature: DREDGE CELLS
 Station: El. :
 Range : Sample: CLASS I & II
 Boring : Part : BORROW

File : 20
 Tested By : TAL
 Computed By: MHD
 Checked By : JMH
 Report Date: 09-29-94

Moisture Content	Trimming	Initial	Final
Wet Wt. and Tare(gm)=	118.9	127.3	166.9
Dry Wt. and Tare(gm)=	102.5	101.5	141.2
Wt. of Tare(gm) =	38.0	0.0	39.7
Moisture(%) =	25.4	25.4	25.3

Test Conditions and Constants:

Proving Ring No. = 2515	Tube No. = 1
Proving Ring Constant:	Sample Volume (cc) = 79.445
Slope Const. = 1	Sample Height(in.) = 3.136
Intercept = 0	Specific Gravity = 2.26
Confining Pres. (psi) = 14	Consolidation(in.) = 0
Initial Pore Pre(psi) = 0	Initial P.R. Rdg = 12

Time (Min)	Deflection (ins.)	Pro. Ring Reading	Strain (%)	±1 - ±3 (tsf)
1	0.028	50.0	0.89	1.75
2	0.056	85.0	1.79	3.34
3	0.084	106.0	2.68	4.26
4	0.112	114.9	3.57	4.62
5	0.140	120.0	4.46	4.81
6	0.168	115.0	5.36	4.54
7	0.196	107.3	6.25	4.16
8	0.224	100.0	7.14	3.81
9	0.252	93.0	8.04	3.47
10	0.280	90.0	8.93	3.31
20	0.308	92.3	9.82	3.37
30	0.336	93.9	10.71	3.41
40	0.364	94.9	11.61	3.41
50	0.392	95.2	12.50	3.39
60	0.420	95.9	13.39	3.38
70	0.448	96.6	14.29	3.38
80	0.476	97.6	15.18	3.38
90	0.504	98.0	16.07	3.36
100	0.532	99.0	16.96	3.36
110	0.560	99.3	17.86	3.34

Initial:

Moisture(%) = 25.4	Void Ratio = 0.769
Density(pcf) = 79.8	Saturation(%) = 74.7

Minor Prin. Stress(tsf) = 1.01 Major Prin. Stress(tsf) = 5.81

NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

Singleton Laboratories
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION(Q) TEST

Project: TVA/KINGSTON
 Feature: DREDGE CELLS
 Station:
 Range :
 Boring :

El. :
 Sample: CLASS I & II
 Part : BORROW

File : 20
 Tested By : TAL
 Computed By: MHD
 Checked By : Jmt
 Report Date: 09-29-94

Moisture Content	Trimming	Initial	Final
Wet Wt. and Tare(gm)=	144.1	127.3	166.2
Dry Wt. and Tare(gm)=	122.7	101.5	140.5
Wt. of Tare(gm) =	38.6	0.0	39.0
Moisture(%) =	25.4	25.4	25.3

Test Conditions and Constants:

Proving Ring No. = 2515	Tube No. = 1
Proving Ring Constant:	Sample Volume (cc) = 79.448
Slope Const. = 1	Sample Height(in.) = 3.136
Intercept = 0	Specific Gravity = 2.26
Confining Pres. (psi) = 28	Consolidation(in.) = 0
Initial Pore Pre(psi) = 0	Initial P.R. Rdg = 23

Time (Min)	Deflection (ins.)	Pro. Ring Reading	Strain (%)	±1 - ±3 (tsf)
1	0.029	85.0	0.92	2.86
2	0.057	100.0	1.82	3.52
3	0.085	115.1	2.71	4.17
4	0.111	130.0	3.54	4.81
5	0.141	159.3	4.50	6.06
6	0.169	150.0	5.39	5.60
7	0.197	141.1	6.28	5.15
8	0.225	130.0	7.17	4.63
9	0.253	128.0	8.07	4.50
10	0.280	125.5	8.93	4.35
11	0.309	125.0	9.85	4.28
12	0.338	125.1	10.78	4.24
13	0.364	124.7	11.61	4.19
14	0.391	125.0	12.47	4.16
15	0.418	124.9	13.33	4.11
16	0.450	125.3	14.35	4.08
17	0.477	125.6	15.21	4.05
18	0.505	126.1	16.10	4.03
19	0.533	126.3	17.00	3.99
20	0.562	126.6	17.92	3.96

Initial:

Moisture(%) = 25.4	Void Ratio = 0.769
Density(pcf) = 79.8	Saturation(%) = 74.7

Minor Prin. Stress(tsf) -2.02 Major Prin. Stress(tsf) - 8.08

NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

Singleton Laboratories
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION(Q) TEST

Project: TVA/KINGSTON
 Feature: DREDGE CELLS
 Station:
 Range :
 Boring :

El. :
 Sample: CLASS I & II
 Part : BORROW

File : 20
 Tested By : TAL
 Computed By: MHD
 Checked By : JMD
 Report Date: 09-29-94

Moisture Content	Trimming	Initial	Final
Wet Wt. and Tare(gm)=	151.1	127.3	166.0
Dry Wt. and Tare(gm)=	128.3	101.5	140.1
Wt. of Tare(gm) =	38.5	0.0	38.6
Moisture(%) =	25.4	25.4	25.5

Test Conditions and Constants:

Proving Ring No. = 2515	Tube No. = 1
Proving Ring Constant:	Sample Volume (cc) = 79.445
Slope Const. = 1	Sample Height(in.) = 3.136
Intercept = 0	Specific Gravity = 2.26
Confining Pres.(psi) = 42	Consolidation(in.) = 0
Initial Pore Pre(psi)= 0	Initial P.R. Rdg = 33

Time (Min)	Deflection (ins.)	Pro.Ring Reading	Strain (%)	±1 - ±3 (tsf)
1	0.030	90.0	0.96	2.63
2	0.060	130.0	1.91	4.43
3	0.090	170.0	2.87	6.20
4	0.120	195.0	3.83	7.26
5	0.150	203.7	4.78	7.57
6	0.180	183.0	5.74	6.59
7	0.210	180.0	6.70	6.39
8	0.240	178.0	7.65	6.24
9	0.270	179.0	8.61	6.21
10	0.300	180.0	9.57	6.19
11	0.330	180.3	10.52	6.14
12	0.360	180.5	11.48	6.08
13	0.390	181.0	12.44	6.04
14	0.420	181.4	13.39	5.99
15	0.450	180.3	14.35	5.88
16	0.480	180.5	15.31	5.82
17	0.510	180.6	16.26	5.76
18	0.540	180.9	17.22	5.70
19	0.570	181.3	18.18	5.65
20	0.600	181.1	19.13	5.58

Initial:

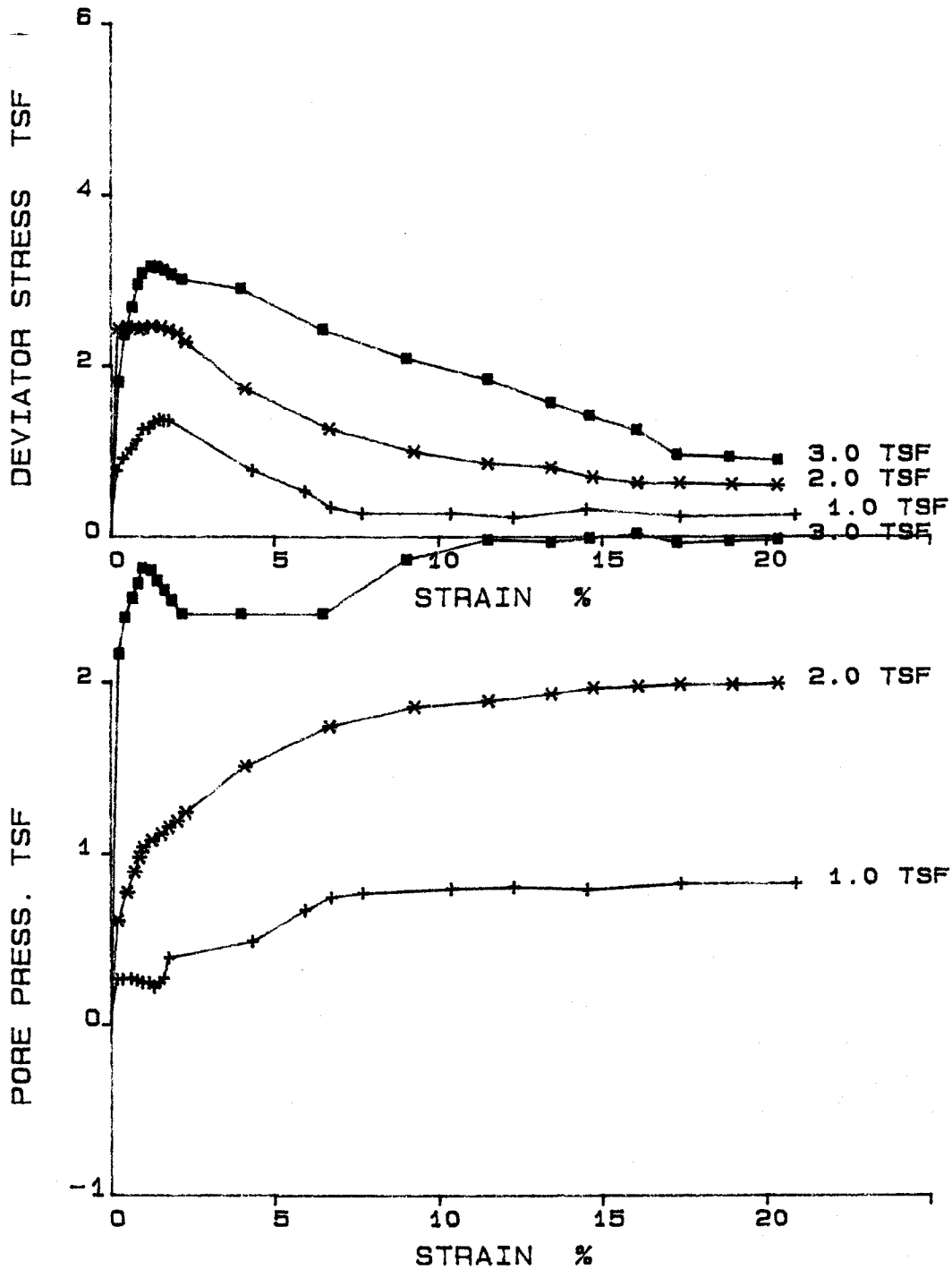
Moisture(%) = 25.4	Void Ratio = 0.769
Density(pcf) = 79.8	Saturation(%) = 74.7

Minor Prin. Stress(tsf) = -3.02 Major Prin. Stress(tsf) = -10.59

NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

SINGLETON LABORATORIES
 CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (R) TEST

PROJECT: TVA/KINGSTON	EL. :
FEATURE: DREDGE CELLS	SAMPLE : CLASS I & II
STATION:	PART : BORROW
RANGE :	SOIL SYM:
BORING :	DATE : 09-29-94

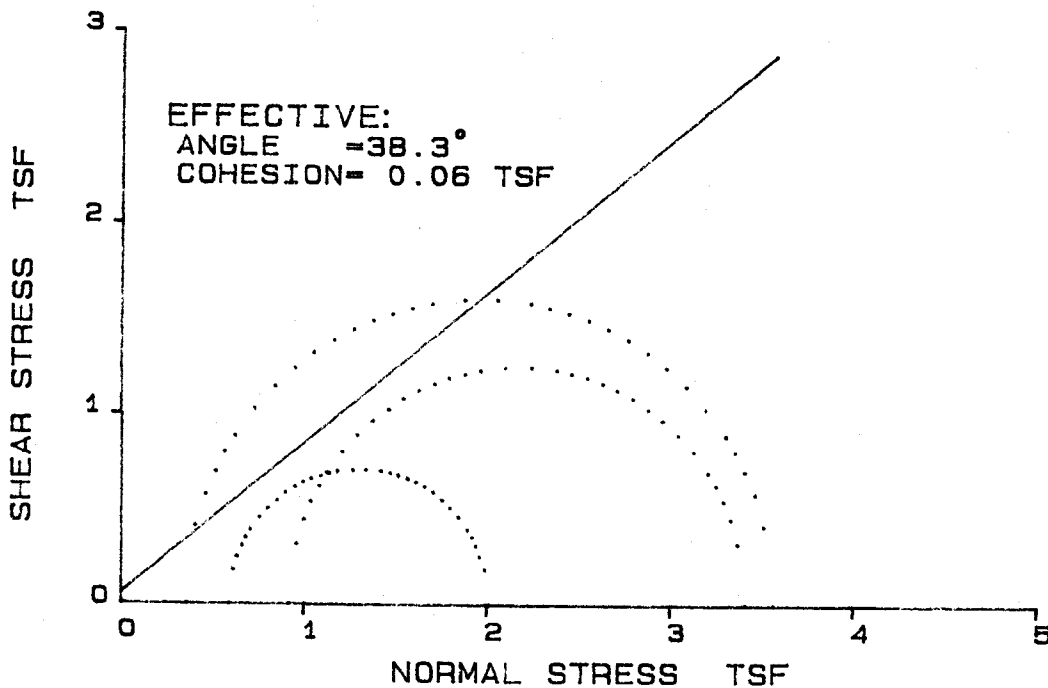
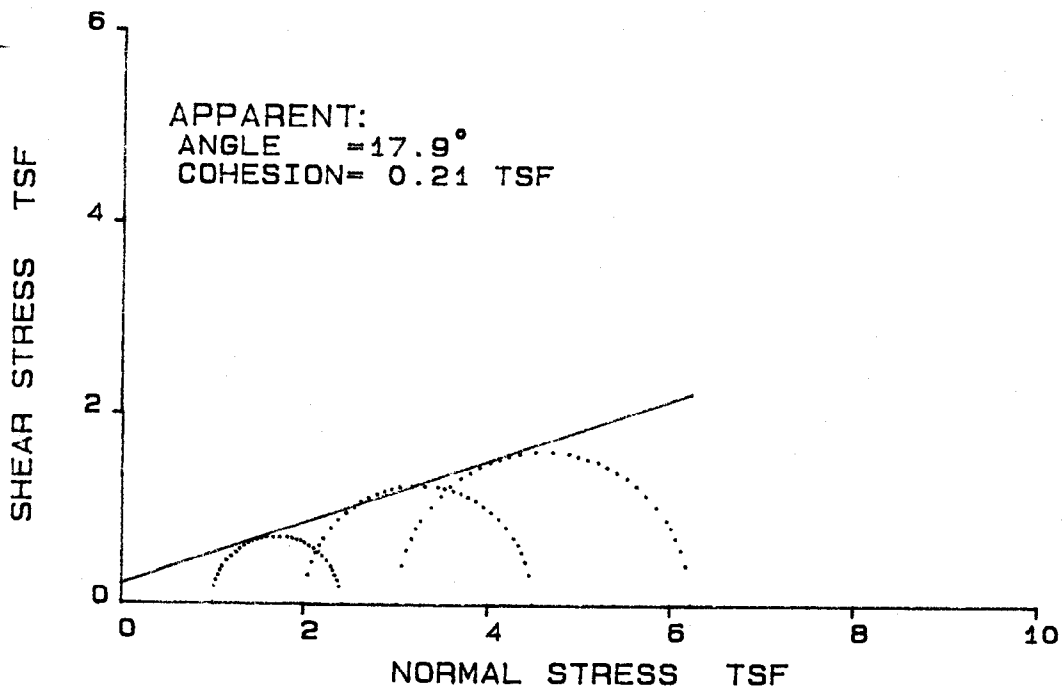


REMARKS: REMOLDED AT OPTIMUM MOISTURE AND AT
 100% MAXIMUM UNIT WEIGHT

SINGLETON LABORATORIES
CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (R) TEST

PROJECT: TVA/KINGSTON
FEATURE: DREDGE CELLS
STATION:
RANGE :
BORING :

EL. :
SAMPLE : CLASS I & II
PART : BORROW
SOIL SYM:
DATE : 09-29-94



REMARKS: REMOLDED AT OPTIMUM MOISTURE AND AT
100% MAXIMUM UNIT WEIGHT

Singleton Laboratories
 CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (R) TEST

Project: TVA/KINGSTON
 Feature: DREDGE CELLS
 Station:
 Range :
 Boring :

El. :
 Sample: CLASS I & II
 Part : BORROW

File : 20
 Tested By : TAL
 Computed By: MHD
 Checked By : JMH
 Report Date: 09-29-94

Soil Symbol=
 Sp. Gr. = 2.26

L.L.(%)=
 D10(mm)=

P.I.(%) =

Specimen Number	1	2	3	4
Initial:				
Moisture Content(%)	25.4	25.4	25.4	0.0
Dry Density(pcf)	79.8	79.8	79.8	0.0
Void Ratio	0.769	0.769	0.769	0.000
Saturation(%)	74.7	74.7	74.7	0.0
Before Shearing:				
Moisture(%) (after satur.)	34.0	34.0	34.0	0.0
Saturation(%)	100.0	100.0	100.0	0.0
Moisture(%) (after cons.)	32.9	31.4	31.1	0.0
Void Ratio (after cons.)	0.744	0.710	0.702	0.000
Final Moisture Content(%)	37.4	39.2	37.3	0.0
Minor Principal Stress(tsf)	1.01(1.01)	2.02(2.02)	3.02(3.02)	0.00(0.00)
Major Principal Stress(tsf)	2.43(1.38)	4.51(2.74)	6.23(4.95)	0.00(0.00)
Eff. Minor Prin Stress(tsf)	0.60(0.14)	0.92(0.01)	0.36(0.17)	0.00(0.00)
Eff. Major Prin Stress(tsf)	2.02(0.51)	3.42(0.73)	3.57(2.09)	0.00(0.00)
Time to Failure(min)	10	6	6	0
Rate of Strain(%/min)	0.19	0.21	0.22	0.00
Specimen Height(in.)	3.14	3.14	3.14	0.00
Specimen Dia (in.)	1.40	1.40	1.40	0.00
		Max Deviator Stress	Max Eff	Stress Ratio
Shear Strength		Deg	Deg	c(tsf)
Apparent		17.9	16.5	-0.22
Effective		38.3	90.0	0.00

NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

Remark: REMOLDED AT OPTIMUM MOISTURE AND AT
 100% MAXIMUM UNIT WEIGHT

Singleton Laboratories
 CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (R) TEST

Project: TVA/KINGSTON
 Feature: DREDGE CELLS
 Station: El. :
 Range : Sample: CLASS I & II
 Boring : Part : BORROW

File : 19
 Tested By : TAL
 Computed By: MHD
 Checked By : Jm
 Report Date: 09-29-94

Moisture Content	Trimming	Initial	Final
Wet-Wt. and Tare(gm)=	118.7	127.3	176.0
Dry Wt. and Tare(gm)=	102.3	101.5	138.9
Wt. of Tare(gm) =	37.9	0.0	39.7
Moisture(%) =	25.5	25.4	37.4

Test Conditions and Constants:

Proving Ring No. = 2515	Tube No. = 1
Proving Ring Constant:	Sample Volume (cc) = 79.445
Slope Const. = 1	Sample Height(in.) = 3.136
Intercept = 0	Specific Gravity = 2.26
Confining Pres.(psi) = 14	Consolidation(in.) = .015
Initial Pore Pre(psi)= 100	Initial P.R. Rdg = 93

Time (Min)	Deflection (ins.)	Pro.Ring Reading	Pore Pres. (psi)	Strain (%)	$\pm 1 - \pm 3$ (tsf)	Pore Press. $\pm 1 / \pm 3$ (tsf)	(TSF)
1	0.007	109.5	103.7	0.22	0.77	0.27	2.04
2	0.013	112.9	103.7	0.42	0.93	0.27	2.26
3	0.021	115.5	103.8	0.67	1.05	0.27	2.43
4	0.027	117.8	103.7	0.87	1.16	0.27	2.56
5	0.033	120.7	103.5	1.06	1.29	0.25	2.70
6	0.040	121.0	103.5	1.28	1.30	0.25	2.72
7	0.045	122.7	103.2	1.44	1.38	0.23	2.77
8	0.050	123.6	103.6	1.60	1.42	0.26	2.89
9	0.055	123.6	104.0	1.76	1.41	0.29	2.96
10	0.060	123.8	105.7	1.92	1.42	0.41	3.38
20	0.140	111.7	107.1	4.49	0.84	0.51	2.69
30	0.190	106.8	109.6	6.09	0.61	0.69	2.92
40	0.215	102.7	110.7	6.89	0.42	0.77	2.79
50	0.245	101.4	111.1	7.85	0.36	0.80	2.74
60	0.330	101.7	111.5	10.57	0.37	0.83	3.03
70	0.390	100.7	111.7	12.50	0.32	0.84	2.91
80	0.460	103.6	111.5	14.74	0.42	0.83	3.36
90	0.550	101.9	112.0	17.62	0.34	0.86	3.39
100	0.660	102.9	112.0	21.15	0.37	0.86	3.55

Initial:

Moisture(%) = 25.4	Void Ratio = 0.769
Density(pcf) = 79.8	Saturation(%) = 74.7
After Saturation:	
Moisture(%) = 34.0	Void Ratio = 0.744

Minor Prin. Stress(tsf) = -1.01 Major Prin. Stress(tsf) = 2.43(1.38)
 Eff. Minor Prin. Stress(tsf) = 0.60(0.14) Eff. Major Prin. Stress(tsf) = 2.02(0.51)

NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

Singleton Laboratories
 CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (R) TEST

Project: TVA/KINGSTON
 Feature: DREDGE CELLS
 Station: El. :
 Range : Sample: CLASS I & II
 Boring : Part : BORROW

File : 19
 Tested By : TAL
 Computed By: MHD
 Checked By : *Δ wjt*
 Report Date: 09-29-94

Moisture Content	Trimming	Initial	Final
Wet Wt. and Tare(gm)=	114.5	127.3	161.5
Dry Wt. and Tare(gm)=	99.4	101.5	126.8
Wt. of Tare(gm) =	40.1	0.0	38.3
Moisture(%) =	25.5	25.4	39.2

Test Conditions and Constants:

Proving Ring No. = 2288	Tube No. = 1
Proving Ring Constant:	Sample Volume (cc) = 79.445
Slope Const. = 1	Sample Height(in.) = 3.136
Intercept = 0	Specific Gravity = 2.26
Confining Pres.(psi) = 28	Consolidation(in.) = .035
Initial Pore Pre(psi)= 100	Initial P.R. Rdg = 100

Time (Min)	Deflection (ins.)	Pro. Ring Reading	Pore Pres. (psi)	Strain (%)	±1 - ±3 (tsf)	Pore Press. (tsf)	±1 / ±3 (TSF)
1	0.007	151.4	108.5	0.23	2.44	0.61	2.74
2	0.016	152.1	110.8	0.52	2.47	0.78	2.99
3	0.023	152.1	112.5	0.74	2.46	0.90	3.21
4	0.028	151.9	113.7	0.90	2.45	0.99	3.38
5	0.032	152.4	114.6	1.03	2.47	1.05	3.56
6	0.040	153.1	115.2	1.29	2.50	1.09	3.71
7	0.050	153.1	115.7	1.61	2.49	1.13	3.81
8	0.057	152.5	116.3	1.84	2.45	1.17	3.91
9	0.065	151.9	116.8	2.10	2.42	1.21	4.00
10	0.073	150.1	117.5	2.35	2.33	1.26	4.08
20	0.130	139.1	121.3	4.19	1.78	1.53	4.70
30	0.210	129.8	124.5	6.77	1.32	1.76	6.25
40	0.290	124.6	126.1	9.35	1.06	1.88	8.76
50	0.360	122.1	126.6	11.61	0.93	1.92	10.23
60	0.420	121.6	127.2	13.54	0.89	1.96	16.44
70	0.460	119.4	127.7	14.83	0.79	1.99	37.43
80	0.503	118.2	127.9	16.22	0.73	2.01	101.87
90	0.543	118.5	128.1	17.51	0.73	2.02	-99.95
100	0.593	118.4	128.1	19.12	0.71	2.02	-97.44
110	0.636	118.6	128.2	20.51	0.70	2.03	-47.91

Initial:

Moisture(%) = 25.4	Void Ratio = 0.769
Density(pcf) = 79.8	Saturation(%) = 74.7
After Saturation:	
Moisture(%) = 34.0	Void Ratio = 0.710

Minor Prin. Stress(tsf) = -2.02 Major Prin. Stress(tsf) = 4.51(2.74)
 Eff. Minor Prin. Stress(tsf) = 0.92(0.01) Eff. Major Prin. Stress(tsf) = 3.42(0.73)

NOTE: Figures in parenthesis are based on the failure criteria of Maximum Effective Principal Stress Ratio.

Singleton Laboratories
 CONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION (R) TEST

Project: TVA/KINGSTON
 Feature: DREDGE CELLS
 Station:
 Range :
 Boring :

El. :
 Sample: CLASS I & II
 Part : BORROW

File : 19
 Tested By : TAL
 Computed By: MHD
 Checked By : JMA
 Report Date: 09-29-94

Moisture Content	Trimming	Initial	Final
Wet Wt. and Tare(gm)=	121.1	127.3	174.8
Dry Wt. and Tare(gm)=	104.6	101.5	137.6
Wt. of Tare(gm) =	39.7	0.0	37.9
Moisture(%) =	25.4	25.4	37.3

Test Conditions and Constants:

Proving Ring No. = 2515
 Proving Ring Constant:
 Slope Const. = 1
 Intercept = 0
 Confining Pres.(psi) = 42
 Initial Pore Pre(psi)= 100

Tube No. = 1
 Sample Volume (cc) = 79.445
 Sample Height(in.) = 3.136
 Specific Gravity = 2.26
 Consolidation(in.) = .04
 Initial P.R. Rdg = 113

Time (Min)	Deflection (ins.)	Pro.Ring Reading	Pore Pres. (psi)	Strain (%)	±1 - ±3 (tsf)	Pore Press. (tsf)	±1 / ±3 (TSF)
1	0.008	151.0	130.1	0.26	1.81	2.17	3.11
2	0.014	163.0	133.1	0.45	2.38	2.38	4.71
3	0.021	170.0	134.7	0.68	2.71	2.50	6.15
4	0.027	176.0	135.9	0.87	2.98	2.58	7.79
5	0.031	179.0	137.2	1.00	3.12	2.68	10.03
6	0.040	181.0	137.0	1.29	3.21	2.66	9.91
7	0.046	181.0	136.2	1.49	3.20	2.61	8.67
8	0.053	180.7	135.5	1.71	3.18	2.56	7.79
9	0.060	180.0	134.7	1.94	3.14	2.50	6.97
10	0.070	179.1	133.6	2.26	3.09	2.42	6.10
20	0.126	178.0	133.6	4.07	2.98	2.42	5.93
30	0.204	169.1	133.6	6.59	2.50	2.42	5.14
40	0.283	163.0	138.1	9.14	2.17	2.74	8.73
50	0.360	158.6	139.7	11.63	1.93	2.86	12.63
60	0.420	153.0	139.5	13.57	1.65	2.84	10.18
70	0.457	150.0	139.9	14.76	1.51	2.87	10.97
80	0.502	146.6	140.3	16.21	1.35	2.90	11.99
90	0.540	140.0	139.6	17.44	1.07	2.85	7.16
100	0.590	140.0	139.8	19.06	1.04	2.87	7.59
110	0.636	139.6	140.0	20.54	1.01	2.88	8.01

Initial:

Moisture(%) = 25.4
 Density(pcf)= 79.8

Void Ratio =0.769
 Saturation(%)= 74.7

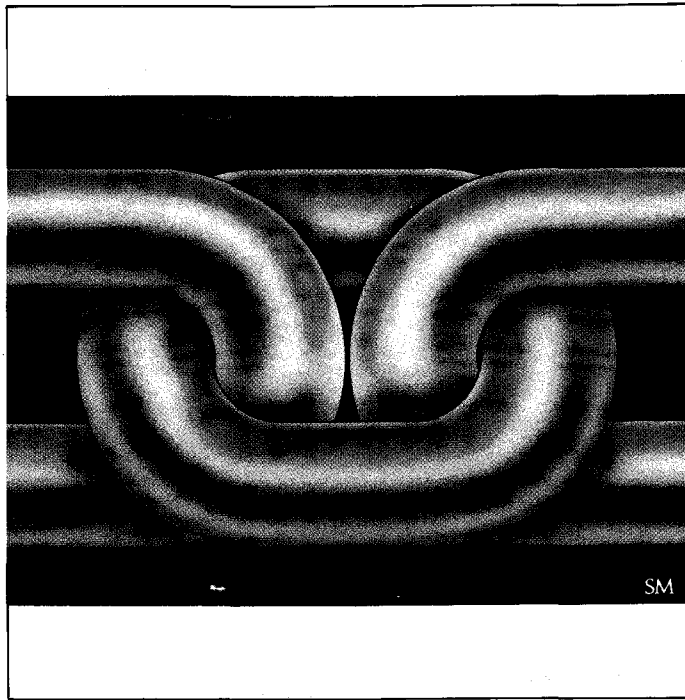
After Saturation:

Moisture(%) = 34.0

Void Ratio =0.702

Minor Prin. Stress(tsf) =3.02 Major Prin. Stress(tsf) = 6.23(4.95)
 Eff. Minor Prin. Stress(tsf)=0.36(0.17) Eff. Major Prin. Stress(tsf)= 3.57(2.09)

NOTE: Figures in parenthesis are based on the failure criteria of
 Maximum Effective Principal Stress Ratio.



The Critical Link.SM



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