Geotechnical Investigation Data Report
New Orleans Landbridge Shoreline Stabilization & Marsh Creation Project (PO-169)
New Orleans, Louisiana
S&ME Project No. 458517006

PREPARED FOR:
Providence Engineering and Environmental Group LLC
1201 Main Street
Baton Rouge, Louisiana 70802

PREPARED BY:
S&ME, Inc.
2736 O'Neal Lane, Suite A
Baton Rouge, Louisiana 70816

October 24, 2017

October 24, 2017

Providence Engineering and Environmental Group LLC
1201 Main Street
Baton Rouge, Louisiana 70802

Attention: Mr. Gary J. Leonards, P.E.

Reference: **Geotechnical Investigation Data Report**
New Orleans Landbridge Shoreline Stabilization and Marsh Creation (PO-169)
New Orleans, Louisiana
S&ME Project No. 458517006

Dear Mr. Leonards:

S&ME, Inc. (S&ME) has completed a subsurface exploration for the New Orleans Landbridge Shoreline Stabilization and Marsh Creation (PO-169) project, in New Orleans, Louisiana. Our services were provided pursuant to S&ME's proposal, as authorized by the Coastal Protection and Restoration Authority (CPRA) under the CPRA and Providence Engineering and Environmental Services LLC (Providence Engineering) Engineering IDIQ Contract No. 2503-15-19 dated October 29, 2014, Task 4. The purpose of our services was to explore the subsurface conditions for the PO-169 project and provide geotechnical engineering recommendations for shoreline stabilization and marsh creation design. This geotechnical investigation data report (GIDR) presents our understanding of the project, field exploration methods, and laboratory testing results. Engineering analyses and recommendations will be provided in a separate Geotechnical Engineering Report at a later date.

S&ME appreciates the opportunity to be of service to Providence Engineering. Please contact us if you have any questions.

Sincerely,

S&ME, Inc.

VENU TAMMINENI
License No. 36864

Venu Tammineni, P.E.
Senior Engineer

Gerald J. Hauske, P.E.
Principal Engineer

Senior Reviewer: Kyle Murrell, P.E.

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Appendices

1.0 Project Information

The project is located in Region 1, Pontchartrain Basin, Orleans Parish flanking U.S. Highway 90 along the east shore of Lake Pontchartrain and areas surrounding Lake St. Catherine.

Approximately 169 acres of marsh will be created and an additional 109 acres nourished using borrow material dredged from areas within Lakes Pontchartrain and St. Catherine. Earthen containment dikes will be constructed around four separate marsh creation areas to retain sediment during placement of hydraulic fill. The lake shorelines will be enhanced with an embankment stabilization berm to add additional protection from wind induced wave fetch. No water control structures are currently planned for the project. A map showing the project vicinity is included in Figure 1, and field exploration test locations completed for the project are shown on Figure 2 under Appendix I.

All vertical elevations in this report are referenced in feet to the North American Vertical Datum of 1988 (NAVD88), Geoid 12A. The horizontal datum is NAD83 State Plane, U.S. Feet.

2.0 Site Conditions

The project area was predominantly open water with areas of emergent marsh at the time of the July 2017 field exploration. During the reconnaissance site visit, S&ME observed a delineation adjacent to U.S. Highway 90 between higher elevation, fresh water vegetation and lower elevation, salt/brackish water vegetation species. S&ME also observed a variation in the vegetation from south to north along the marsh creation cell adjacent to Lake Pontchartrain. In the remaining cells, the vegetation was predominantly salt/brackish water vegetation. Based on survey information provided to S&ME and measurements at the field exploration locations, the water depth typically varied from 1.3 feet to 4.6 feet within the marsh creation areas and from 5.6 to 16 feet in the borrow areas.

Based on information provided by CPRA and that available on the National Pipeline Mapping System public viewer site, there are no known pipelines identified in the proposed marsh creation areas and borrow areas. However, we recommend CPRA complete a thorough utility search in the area prior to the final design.

3.0 Field Exploration and Laboratory Testing

3.1 Field Exploration

Field exploration program for the project included drilling and soil sampling at 8 locations in the marsh creation areas with depths varying from 30 to 50 feet below existing mudline and 7 locations in the proposed borrow areas to a depth of 20 feet below existing mudline. In addition to the soil borings, cone penetration test (CPT) soundings were completed at 20 locations in the marsh creation areas. The planned termination depth for the soundings was 30 feet below existing mudline. However, due to sand layers, the CPT soundings refused at depths varying from 18 feet to 30 feet below existing mudline. Field exploration locations and depths were provided by

CPRA. Soil borings and CPT sounding locations were staked and surveyed by Providence Engineering, and a magnetometer survey was also completed by Providence Engineering to clear a 30 feet radius at each soil boring and CPT sounding location prior to mobilization of drilling equipment to site. S&ME probed around each boring and CPT sounding to check for any utilities and underground obstructions prior to performing the explorations.

The borings and soundings were completed in open water with water depths varying from approximately 1.3 feet to 4.6 feet in the marsh creation areas and approximately 5.6 feet to 16 feet in the borrow areas. CPT soundings were performed by S&ME personnel from June 14 through June 16, 2017, using an airboat mounted Geoprobe rig. Soil borings in the marsh creation areas were completed from July 12 through July 14, 2017, using a drill rig mounted on tracked amphibious platform, and borrow area soil borings were performed on July 17, 2017, using a pontoon mounted drill rig. All soil borings were sampled continuously for the top 20 feet, and then at 5-foot centers to the respective boring completion depths. Surveyed mudline elevations provided by Providence Engineering at the soil boring locations in the marsh creation areas varied from elevation (El.) -0.5 feet to El. -3.8 feet, and the borrow areas varied from El. -5.1 feet to El. -15.47 feet. Mudline elevations at the CPT sounding locations varied from El. -0.2 feet to El. -3.8 feet.

Soil borings were drilled using wet rotary methods. Soil sampling was performed using thin-walled tube samples (ASTM D1587) in cohesive and semi-cohesive soil and Standard Penetration Test (SPT) (ASTM D1586) in cohesionless soil. In cohesive and semi-cohesive soil, a thin-walled tube sampler was hydraulically pushed into the ground approximately 24 inches per specimen using an Osterberg piston sampler. Split-spoon samples were collected for cohesionless soil with a 24 inch split-spoon that was driven approximately 18 inches. Blow counts were recorded for each 6-inch increment, and the number of blows to penetrate the last 12 inches is considered as the SPT N-value. Soil borings were grouted upon completion in accordance with Louisiana DNR requirements.

Immediately upon recovery, each sample was classified in the field by our sub-consultant's (APS Engineering and Testing, LLC (APS)) field representative based on soil exposed on both ends of the thin-walled tube. Each thin-walled tube was then sealed and stored/transported by APS in a vertical position to their laboratory in Baton Rouge, Louisiana. Thin-walled tubes were secured bottom down during transportation to minimize sample disturbance. A summary of soil boring locations, depths, and mudline elevations is presented in Table 1.

Table 1, Soil Boring Location Summary

Location	Termination Depth (feet, Below Mudline)	Survey Information Provided by Providence Engineering		
		Mudline Elevation (feet)	Northing	Easting
B-1	20	-11.5	608845	3779541
B-2	20	-15.5	608270	3778170
B-3	20	-9.4	608081	3779456
B-4	20	-13.4	602294	3787979
B-5	20	-6.1	601458	3788752
B-6	20	-5.1	600622	3789411
B-7	30	-2.4	606513	3783587

Location	Termination Depth (feet, Below Mudline)	Survey Information Provided by Providence Engineering		
		Mudline Elevation (feet)	Northing	Easting
B-8	50	-3.8	604802	3783260
B-9	30	-1.5	607836	3785708
B-10	30	-1.4	605056	3786442
B-11	50	-2.8	603025	3785971
B-17	30	-0.5	601597	3792182
B-18	50	-2.4	599857	3792698
B-19	30	-0.6	595460	3778113
B-20	20	-6.0	595459	3779694

CPT soundings were conducted using GeoProbe direct push equipment and VERTEK cones, rods, and data collection software. The push unit was mounted to a single-engine airboat. CPT soundings were conducted in general accordance with applicable ASTM standards using a 1.75-inch or 1.44-inch diameter piezo-cone with a pore pressure transducer. The CPT sensor was pushed into the subgrade at a rate of approximately 2 centimeters per second collecting tip pressure, side friction pressure, and pore pressure at one second intervals for the entire depth of the sounding. Additional specifications for S&ME's cone penetrometer are provided in the "Cone Penetrometer-Specifications" sheets in Appendix II. A summary of CPT sounding locations, termination depths and mudline elevations is presented in Table 2.

Table 2, CPT Sounding Location Summary

Location	Termination Depth (feet, Below Mudline)	Survey Information Provided by Providence Engineering		
		Mudline Elevation (feet)	Northing	Easting
C-1	20.1	-1.8	607736	3782769
C-2	17.3	-2.9	607039	3783159
C-3	17.1	-2.4	605814	3783274
C-4	19.3	-3.8	604802	3783260
C-5	19.4	-2.1	604432	3782868
C-6	20.0	-2.4	603699	3782502
C-7	21.5	-2.0	607051	3785539
C-8	20.7	-3.6	606805	3786683
C-9	22.9	-2.9	605777	3786685
C-10	18.5	-1.4	605056	3786442
C-11	19.0	0.4	604832	3785822

Location	Termination Depth (feet, Below Mudline)	Survey Information Provided by Providence Engineering		
		Mudline Elevation (feet)	Northing	Easting
C-12	27.0	-2.4	603932	3786290
C-13	29.7	-2.8	603025	3785971
C-14	19.1	0.1	602284	3791077
C-15	21.9	-0.7	602409	3793703
C-16	22.7	-0.2	601225	3791302
C-17	18.2	-1.8	601311	3793410
C-18	20.4	-2.4	600602	3792094
C-19	22.4	-1.9	600467	3793197
C-20	24.4	-2.5	599857	3792698

In addition to the soil borings and CPTs completed by S&ME for the project, there are existing United States Army Corps of Engineers (USACE) soil borings (B-3U, B-5U, B-6U, 1-RU, B-8U, B-8-AU, X-12-U, and X-14-U) within and in the vicinity of the project area boundaries as shown in Figure 2 under Appendix I. Soil boring information for USACE soil borings B-3U, B-5U, B-6U, and B-8U was provided by CPRA and is included in Appendix II.

3.2 Laboratory Testing

Soil samples obtained during the field exploration were packaged and transported to a soil mechanics laboratory for extrusion, examination and classification by a geotechnical engineer in order to confirm the field descriptions of the soil strata. Upon extrusion, soil samples were classified visually in general accordance with the Unified Soil Classification System (ASTM D2488). S&ME assigned testing for representative soil samples based on information in the extrusion logs to aid in soil classification and determine the engineering properties of the soils. The laboratory testing program included compressive strength determination (ASTM D2166/D2850), Atterberg Limits (ASTM D4318), moisture content (ASTM D2216), organic content (ASTM D2974), specific gravity (ASTM D854) and soil gradation (ASTM D422) tests. Laboratory test results are presented on the soil boring logs in Appendix II at the depth of the individually tested soil sample. Stress-strain plots, gradation charts, and consolidation test data are provided in the Appendix III.

Based on discussion and collaboration with CPRA, S&ME prepared a composite soil sample from the soil samples obtained in the Lake Pontchartrain borrow area borings (B-1, B-2, and B-3) and a second composite soil sample from Lake St. Catherine borrow area borings (B-4, B-5, & B-6). Based on discussion with CPRA, soil boring B-20 was not used in preparing composite samples. Two settling column tests were completed on the composite soil samples at SCTCS Group LLC (SCTCS) by Dr. William M. Moe, Ph.D, P.E., with assistance from CPRA and S&ME. The SCTCS report titled "Settling Properties of Fine-Grained Sediments Which May be Hydraulically Dredged: New Orleans Landbridge Shoreline Stabilization & Marsh Creation Project (PO-169)" for settling column tests is included in Appendix III. A total of two low-stress consolidation tests were completed on the composite soil samples. A report provided by APS for the low stress consolidation tests is included in Appendix III.

4.0 CPT Sounding Results

Data obtained using CPT equipment is interpreted to a soil behavior type using the tip resistance, local sleeve friction, and pore pressure measurements. The CPT data is used to determine soil stratigraphy and to estimate soil parameters such as preconsolidation stress, friction angle, and undrained shear strength. Dissipation tests were also performed at selected depths by recording pore pressure readings with time. Pore pressure readings and dissipation tests are used to determine the piezometric head as well as a soil's coefficient of consolidation and hydraulic conductivity. A total of six dissipation tests were completed for the project. However, due to very soft soils and soil layering, only three locations yielded curves from which coefficient of consolidation values can be estimated. See Appendix III for dissipation test results.

CPT sounding information was processed using Dataforensic's RapidCPT add-in to the soil data presentation software gINT. Soil stratigraphy was identified using Robertson and Campanella's non-normalized soil behavior type (SBT) charts. Due to the variation of soil properties across the site, the non-normalized SBT charts are providing a better correlation relative to normalized SBT charts for this project site. CPT sounding logs are provided in Appendix II.

Shear strength versus depth plots are being prepared for the CPT soundings and will be provided in the Geotechnical Engineering Report at a later date.

5.0 Limitations

This GIDR has been prepared in accordance with generally accepted geotechnical engineering practice for specific application to this project. The information contained in this GIDR is based on applicable standards of our practice in this geographic area at the time this report was prepared. No other representation or warranty, either express or implied, is made.

We relied on project information given to us to develop scope of services and prepare this report. Subsurface conditions can vary widely between explored areas. Some variations may not become evident until construction. Soil samples that were not altered by laboratory testing will be retained for 60 days from the date of this report and then will be discarded.

Unless specifically noted otherwise, our field exploration program did not include an assessment of regulatory compliance, environmental conditions or pollutants, or the presence of any biological materials (mold, fungi, and bacteria). If there is a concern about these items, other studies should be performed. S&ME can provide a proposal and perform these services, if requested. No warranty or other conditions expressed or implied should be understood.

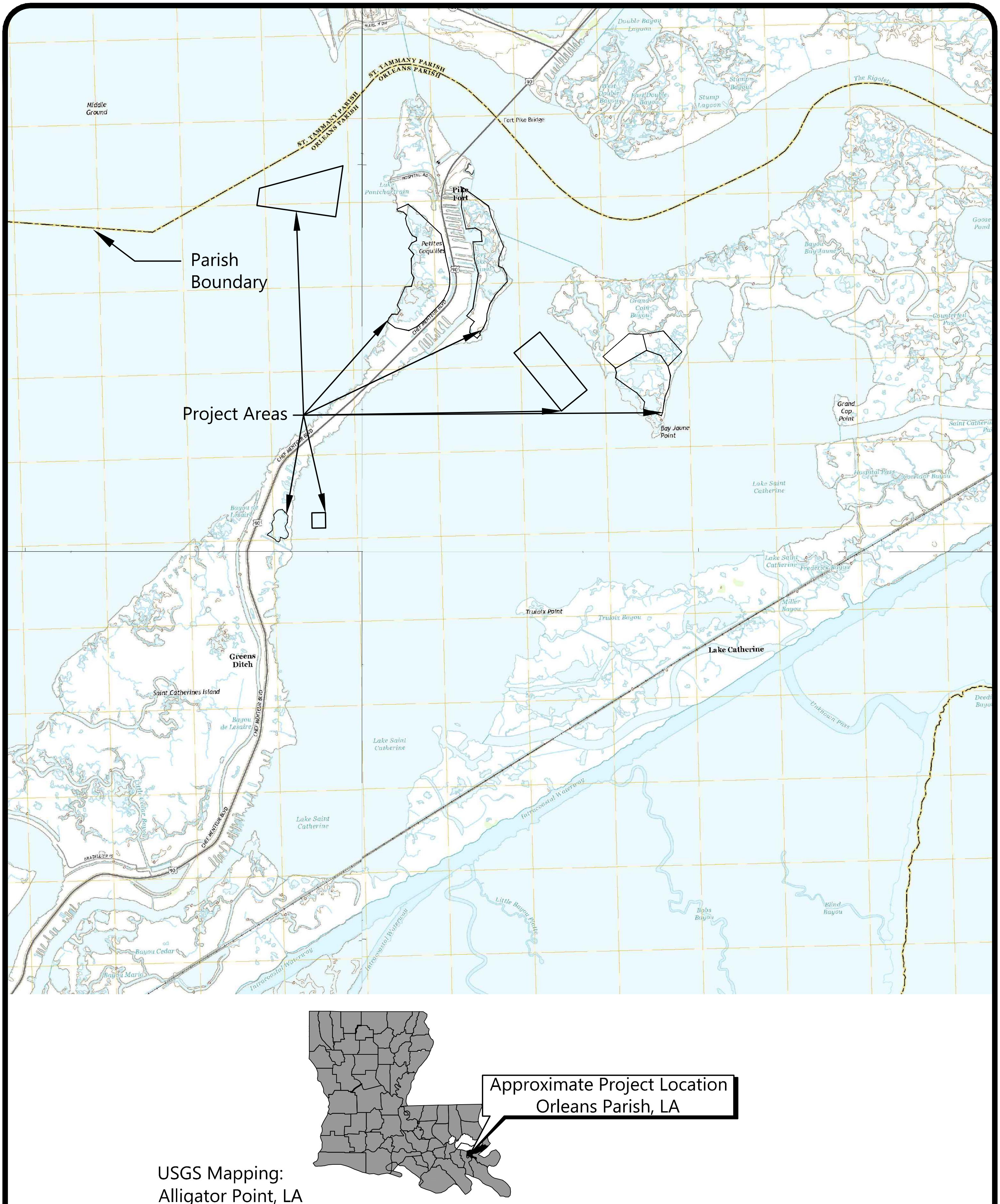
Appendices

Appendix I – Figures and Survey Information

Figure 1 – Vicinity Map

Figure 2 - Field Exploration Location Plan

Survey Information from Providence Engineering and Environmental Services LLC



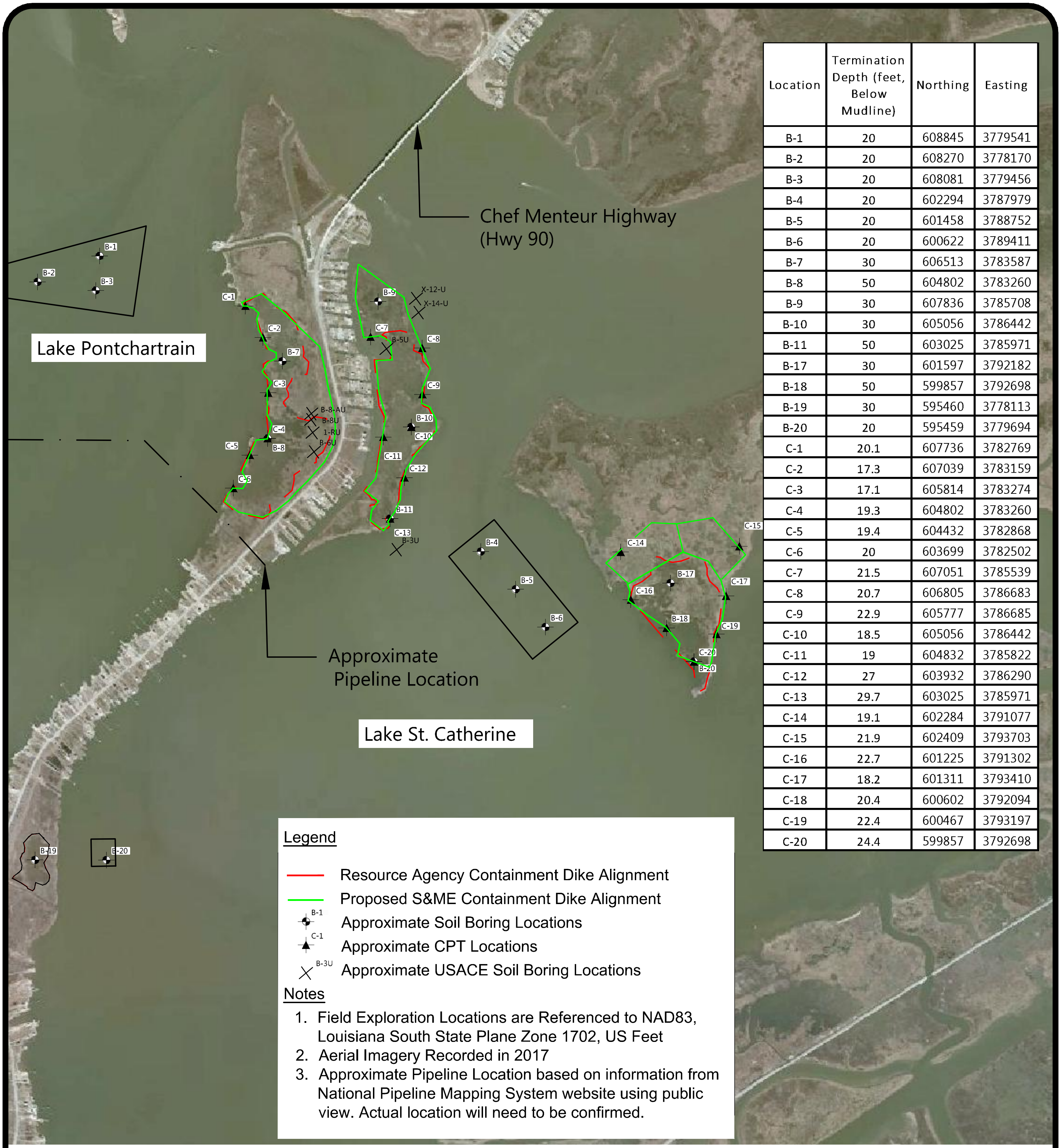
USGS Mapping:
Alligator Point, LA

VICINITY MAP

DATA REPORT
New Orleans Landbridge Shoreline Stabilization and Marsh Creation
Orleans Parish, Louisiana

SCALE:
GRAPHIC
DATE:
10-2-2017
PROJECT NUMBER
4578-17-006

FIGURE NO.
1



Location	Termination Depth (feet, Below Mudline)	Northing	Easting
B-1	20	608845	3779541
B-2	20	608270	3778170
B-3	20	608081	3779456
B-4	20	602294	3787979
B-5	20	601458	3788752
B-6	20	600622	3789411
B-7	30	606513	3783587
B-8	50	604802	3783260
B-9	30	607836	3785708
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B-11	50	603025	3785971
B-17	30	601597	3792182
B-18	50	599857	3792698
B-19	30	595460	3778113
B-20	20	595459	3779694
C-1	20.1	607736	3782769
C-2	17.3	607039	3783159
C-3	17.1	605814	3783274
C-4	19.3	604802	3783260
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C-6	20	603699	3782502
C-7	21.5	607051	3785539
C-8	20.7	606805	3786683
C-9	22.9	605777	3786685
C-10	18.5	605056	3786442
C-11	19	604832	3785822
C-12	27	603932	3786290
C-13	29.7	603025	3785971
C-14	19.1	602284	3791077
C-15	21.9	602409	3793703
C-16	22.7	601225	3791302
C-17	18.2	601311	3793410
C-18	20.4	600602	3792094
C-19	22.4	600467	3793197
C-20	24.4	599857	3792698

Legend

🟥 Resource Agency Containment Dike Alignment
🟩 Proposed S&ME Containment Dike Alignment
B-1 ⊕ Approximate Soil Boring Locations
C-1 ▲ Approximate CPT Locations
B-3U ✕ Approximate USACE Soil Boring Locations

Notes

1. Field Exploration Locations are Referenced to NAD83, Louisiana South State Plane Zone 1702, US Feet
2. Aerial Imagery Recorded in 2017
3. Approximate Pipeline Location based on information from National Pipeline Mapping System website using public view. Actual location will need to be confirmed.

Field Exploration Location Plan

Data Report
New Orleans Landbridge Shoreline Stabilization and Marsh Creation
Orleans Parish, Louisiana

SCALE:
1:3000
DATE:
10-2-2017
PROJECT NUMBER
4585-17-006

FIGURE NO.
2

NEW ORLEANS LANDBRIDGE PO 169
HORIZONTAL DATUM: NAD83 STATE PLANE, US. FEET.
VERTICAL DATUM: NAVD88 (GEIOD 12A) REFERENCE CONTROL CRMSPO SM25

PT. NUM	NORTHING	EASTING	ELEVATION (FT.)	DESCRIPTION	WATER DETPTH (FT.)	DATE
2	618174.14	3792271.06	6.34	CRMSPO SM 25		
20	606513.00	3783587.00	-2.40	B7	3.2	6/13/2017
21	604802.00	3783260.00	-3.80	B8	4.6	6/13/2017
22	607836.00	3785708.00	-1.50	B9	2.4	6/13/2017
23	605056.00	3786442.00	-1.40	B10	2.2	6/13/2017
24	601597.00	3792182.00	-0.50	B17	1.3	6/13/2017
25	600602.00	3792094.00	-2.40	B18	3.2	6/13/2017
26	595460.00	3778113.00	-0.60	B19	1.6	6/13/2017
27	607736.00	3782769.00	-1.80	C1	2.6	6/13/2017
28	607039.00	3783159.00	-2.90	C2	3.7	6/13/2017
29	605814.00	3783274.00	-2.39	C3	3.2	6/13/2017
30	604802.00	3783260.00	-3.80	C4	4.6	6/13/2017
31	604432.00	3782868.00	-2.10	C5	2.9	6/13/2017
32	603699.00	3782502.00	-2.40	C6	3.2	6/13/2017
33	607051.00	3785539.00	-2.00	C7	2.9	6/13/2017
34	606805.00	3786683.00	-3.60	C8	4.5	6/13/2017
35	605777.00	3786685.00	-2.90	C9	3.8	6/13/2017
36	605056.00	3786442.00	-1.40	C10	2.3	6/13/2017
37	604832.00	3785822.00	0.40	C11	1.3	6/13/2017
38	603932.00	3786290.00	-2.40	C12	3.2	6/13/2017
39	603025.00	3785971.00	-2.80	C13	3.7	6/13/2017
40	602284.00	3791077.00	0.10	C14	1.3	6/13/2017
41	602409.00	3793703.00	-0.70	C15	1.9	6/13/2017
42	601225.00	3791302.00	-0.20	C16	1.4	6/13/2017
43	601311.00	3793410.00	-1.80	C17	3.0	6/13/2017
44	600602.00	3792094.00	-2.40	C18	3.6	6/13/2017
45	600467.00	3793197.00	-1.90	C19	3.1	6/13/2017
46	599857.00	3792698.00	-2.50	C20	3.7	6/13/2017
150	608845.00	3779541.00	-11.51	B1	12.1	7/10/2017
151	608270.00	3778170.00	-15.47	B2	16.0	7/10/2017
152	608081.00	3779456.00	-9.39	B3	10.0	7/10/2017
153	602294.00	3787979.00	-13.41	B4	13.9	7/10/2017
154	601458.00	3788752.00	-6.08	B5	6.6	7/10/2017
155	600622.00	3789411.00	-5.09	B6	5.6	7/10/2017
156	595459.00	3779694.00	-6.00	B20	6.3	7/10/2017

Appendix II–Soil Borings Logs and CPT Sounding Logs

Legend to Soil Classification and Symbols

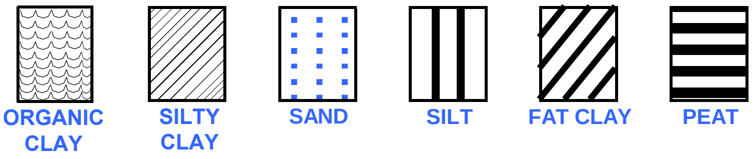
Soil Boring Logs

CPT Sounding Logs

Cone Penetrometer-Specifications

KEY TO TERMS AND SYMBOLS USED ON LOGS

SOIL TYPE



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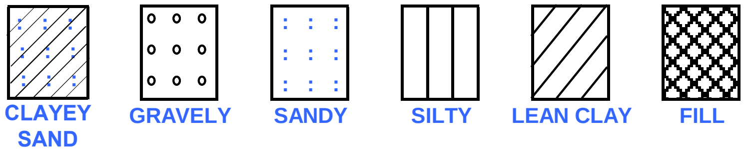

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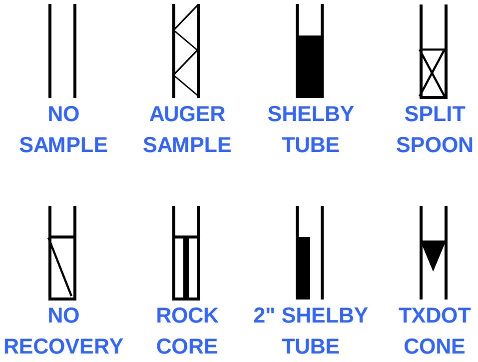


UNIFIED SOIL CLASSIFICATION SYSTEM - ASTM D 2487 (1980)

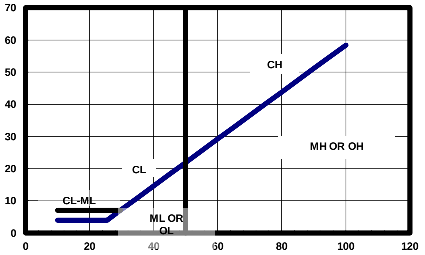
MAJOR DIVISIONS			LETTER SYMBOL	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS LESS THAN 50% PASSING NO. 200 SIEVE	GRAVEL & GRAVELY SOILS LESS THAN 50% PASSING NO. 4 SIEVE	CLEAN GRAVEL (LITTLE OR NO FINES	GW	WELL GRADED GRAVEL, GRAVEL-SAND MIXTURES WITH LITTLE OR NO FINES
			GP	POORLY GRADED GRAVEL, GRAVEL-SAND MIXTURES WITH LITTLE OR NO FINES
		W/ APPRECIABLE FINES	GM	SILTY GRAVEL, GRAVEL-SAND-SILT MIXTURES
			GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
	SANDS MORE THAN 50% PASSING NO. 4 SIEVE	CLEAN SANDS LITTLE FINES	SW	WELL GRADED SAND, GRAVELY SAND (LITTLE FINES)
			SP	POORLY GRADED SANDS, GRAVELY SAND (L.FINES)
		SANDS WITH APPREA. FINES	SM	SILTY SANDS, SAND-SILT MIXTURES
			SC	CLAYEY SANDS,SAND-CLAY MIXTURES
FINE GRAINED SOILS MORE THAN 50% PASSING NO. 200 SIEVE	SILTS AND CLAYS LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS & VERY FINE SANDS,ROCK FLOUR SILTY OR CLAYEY FINE SANDS OR CLAYEY SILT W/ LOW PI
			CL	INORGANIC CLAY OF LOW TO MEDIUM PI LEAN CLAY GRAVELY CLAYS, SANDY CLAYS, SILTY CLAYS
			OL	ORGANIC SILTS & ORGANIC SILTY CLAYS OF LOW PI
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS
			CH	INORGANIC CLAYS OF HIGH PLASTICITY FAT CLAYS
			OH	ORGANIC CLAYS OF MED TO HIGH PI, ORGANIC SILT
HIGHLY ORGANIC SOIL			PT	PEAT AND OTHER HIGHLY ORGANIC SOILS
UNCLASSIFIED FILL MATERIALS			ARTIFICIALLY DEPOSITED AND OTHER UNCLASSIFIED SOILS AND MAN-MADE SOIL MIXTURES	

CONSISTENCY OF COHESIVE SOILS

CONSISTENCY	UNCONFINED COMPRESSIVE STRENGTH IN TONS/FT^2
VERY SOFT	0.0 TO 0.25
SOFT	0.25 TO 0.50
MEDIUM	0.50 TO 1.0
STIFF	1.0 TO 2.0
VERY STIFF	2.0 TO 4.0
HARD	> 4.0 OR 4.0+

RELATIVE DENSITY - GRANULAR SOILS

CONSISTENCY	N-VALUE (BLOWS/FOOT)
VERY LOOSE	0-4
LOOSE	4-9
MEDIUM DENSE	10-29
DENSE	30-49
VERY DENSE	> 50 OR 50+



ABBREVIATIONS

HP - HAND PENETROMETER
TV - TORVANE
MV - MINIATURE VANE

UC - UNCONFINED COMPRESSION TEST
UU - UNCONSOLIDATED UNDRAINED TRAIXIAL
CU - CONSOLIDATED UNDRAINED

▼ GROUNDWATER FIRST ENCOUNTERED

▽ 24-HOUR GROUNDWATER READING

CLASSIFICATION OF GRANULAR SOILS

U.S. STANDARD SIEVE SIZE(S)

6" 3" 3/4" 4 10 40 200

BOULDERS	COBBLES	GRAVEL		SAND			SILT OR CLAY	CLAY
		COARSE	FINE	COARSE	MEDIUM	FINE		

152 76.2 19.1 4.76 2.0 0.42 0.074 0.002

GRAIN SIZE IN MM

kmv

BORING LOG

BORING NO.: B-1
PROJECT: New Orleans Landbridge Marsh Creation
PROJECT LOCATION: Orleans Parish, Louisiana
BORING LOCATION: N608845.00 E3779541.00
DATE DRILLED: 7/17/2017
WATER DEPTH: 12.10 feet
GEOL/ENGR: MB/SA

PROJECT NO.: 1706-G038
METHOD: MUD DRILLING
BORING ELEVATION: -11.51 feet
DATE COMPLETED: 07/17/2017
WATER LEVEL DATE: 07/17/2017
DRILLER: CZ

DEPTH (FEET)	SAMPLE	TORVANE (PSF)	Moisture Content (%)	LL	PI	Symbol	MATERIAL CLASSIFICATION
	■	100	35	47	31	▧	Very Loose Gray Clayey Sand (SC) @ 0'-2': -200 = 32.10%
	■	100	42	30	11	▧	Very Loose Gray Clayey Sand (SC) @ 2'-4': -200 = 47.50% - 3" of Wood at mid sample
5	■	100	92	91	71	▨	Very Soft Gray Fat Clay (CH) with Fine Sand Pockets & Organics
	■	100	60	46	28	▧	Very Soft Gray Lean Clay (CL) with Fine Sand
	■	150	65			▨	Very Soft Gray Lean Clay (CL) with Fine Sand @ 8'-10': -200 = 65.90%
10	■	100	65	79	60	▨	Very Soft Gray Fat Clay (CH)
	■	100	84			▨	Very Soft Gray Fat Clay (CH)
15	■	150	55	75	56	▨	Very Soft Gray Fat Clay (CH) with Sand Lenses
	■	100	88			▨	Very Soft Gray Fat Clay (CH) with traces of Fine Sand
	■	100	72	125	98	▨	Very Soft Gray Fat Clay (CH) with Fine Sand Lenses
20 25							Boring terminated @ 20 feet Boring grouted upon completion Elevation: NAVD 88

COMMENTS:

■ Shelby Tube

BORING LOG

BORING NO.: B-2
PROJECT: New Orleans Landbridge Marsh Creation
PROJECT LOCATION: Orleans Parish, Louisiana
BORING LOCATION: N608270.00 E3778170.00
DATE DRILLED: 7/17/2017
WATER DEPTH: 16.00 feet
GEOL/ENGR: MB/SA

PROJECT NO.: 1706-G038
METHOD: MUD DRILLING
BORING ELEVATION: -15.47 feet
DATE COMPLETED: 07/17/2017
WATER LEVEL DATE: 07/17/2017
DRILLER: CZ

DEPTH (FEET)	SAMPLE	TORVANE (PSF)	Moisture Content (%)	LL	PI	Symbol	MATERIAL CLASSIFICATION
	■	50	44	31	8	▨	Very Soft Gray Sandy Lean Clay (CL)
	■	100	40			⁙	Very Loose Gray Silty Sand (SM) with Clay Pockets @ 2'-4': -200 = 31.30%
5	■	100	34			⁙	Very Loose Gray Silty Sand (SM) with Clay Pockets @ 4'-6': -200 = 37.50%
	■	150	50			⁙	Very Loose Gray Silty Sand (SM) with Clay Pockets @ 6'-8': -200 = 47.50%
	■	100	44	32	14	▨	Very Soft Sandy Silty Clay (CL) @ 8'-10': -200 = 42.70%
10	■	150	34	77	61	▨	Very Loose Gray Clayey Sand (SC) transitioned to Sandy Clay @ 10'-12': -200 = 28.70% Atterbergs Performed
	■	200	34			⁙	Very Loose Gray Silty Clayey Sand (SM) @ 12'-14': -200 = 30.70%
15	■	150	38			⁙	Very Loose Gray Silty Sand (SM) transitioned to Clayey Sand (SC) @ 14'-16': -200 = 30.10%
	■	200	152	45	28	▨	Very Loose Gray Clayey Sand (SC) @ 16'-18': -200 = 26.80% Intermittent Clay Layers - Atterbergs Performed
	■	100	79			▥	Very Loose Gray Sandy Silt (ML) with Clay Lenses @ 18'-20': -200 = 64.50%
20							Boring terminated @ 20 feet Boring grouted upon completion Elevation: NAVD 88
25							

COMMENTS:

■ Shelby Tube

BORING LOG

BORING NO.: B-3
PROJECT: New Orleans Landbridge Marsh Creation
PROJECT LOCATION: Orleans Parish, Louisiana
BORING LOCATION: N608081.00 E3779456.00
DATE DRILLED: 7/17/2017
WATER DEPTH: 10.00 feet
GEOL/ENGR: MB/SA

PROJECT NO.: 1706-G038
METHOD: MUD DRILLING
BORING ELEVATION: -9.39 feet
DATE COMPLETED: 07/17/2017
WATER LEVEL DATE: 07/17/2017
DRILLER: CZ

DEPTH (FEET)	SAMPLE	TORVANE (PSF)	Moisture Content (%)	LL	PI	Symbol	MATERIAL CLASSIFICATION
	■		39			▥	Soft Gray Silty Clay (CL-ML)
	■	200	34			░	Very Loose Gray Silty Sand (SM) @ 2'-4': -200 = 35.20%
5	■	150	36			░	Very Loose Gray Silty Sand (SM) @ 4'-6': -200 = 37.00%
	■	150	31			░	Very Loose Gray Silty Sand (SM) @ 6'-8': -200 = 34.20% transitioned to Fat Clay (CH)
	■	150	105	107	81	▨	Very Soft Gray Fat Clay (CH)
10	■	150	98	89	66	▨	Very Soft Gray Fat Clay (CH) transitioned to 8" Sand
	■	200	29			░	Very Loose Gray Silty Sand (SM) @ 12'-14': -200 = 12.40% transitioned to Gray Clay
15	■	150	106	73	51	▨	Very Soft Gray Fat Clay (CH) with Fine Sand Lenses
	■	100	28	119	96	▨	Very Soft Gray Fat Clay (CH) with Sand Lenses transitioned to Silty Sand (SM) @ 16'-18': -200 = 10.00%
	■	150	51			░	Very Loose Gray Silty Sand (SM) @ 18'-20': -200 = 39.50% transitioned to Gray Clay with Sand Lenses
20							Boring terminated @ 20 feet Boring grouted upon completion Elevation: NAVD 88
25							

COMMENTS:

■ Shelby Tube

BORING LOG

BORING NO.: B-4
PROJECT: New Orleans Landbridge Marsh Creation
PROJECT LOCATION: Orleans Parish, Louisiana
BORING LOCATION: N602294.00 E3787979.00
DATE DRILLED: 7/17/2017
WATER DEPTH: 13.90 feet
GEOL/ENGR: MB/SA

PROJECT NO.: 1706-G038
METHOD: MUD DRILLING
BORING ELEVATION: -13.41 feet
DATE COMPLETED: 07/17/2017
WATER LEVEL DATE: 07/17/2017
DRILLER: CZ

DEPTH (FEET)	SAMPLE	TORVANE (PSF)	Moisture Content (%)	LL	PI	Symbol	MATERIAL CLASSIFICATION
	■	100	116	102	80	▨	Very Soft Gray Fat Clay (CH) with Fine Sand Pockets
	■	100	89	93	69	▨	Very Soft Gray Fat Clay (CH) with Fine Sand Lenses
5	■	150	61			▨	Very Soft Gray Fat Clay (CH) with Fine Sand Lenses
	■	250	59	69	47	▨	Very Soft to Soft Gray Fat Clay (CH) with traces of Fine Sand
	■	150	87			▨	Very Soft Gray Fat Clay (CH) with Fine Sand Lenses
10	■	250	59	54	27	▨	Very Soft to Soft Tan & Gray Fat Clay (CH) - with traces of Organics
	■	400	33			▨	Soft Tan & Gray Fat Clay (CH) - with 5" of Silty Clay (CL-ML) at the bottom
15	■	500	33	64	43	▨	Soft Tan & Gray Fat Clay (CH) - with Silt Pockets and Lenses at the bottom 5"
	■	350	35	85	59	▨	Soft Tan & Gray Fat Clay (CH) with Fine Sand lenses
	■	400	33	66	42	▨	Soft Tan & Gray Fat Clay (CH)
20							Boring terminated @ 20 feet Boring grouted upon completion Elevation: NAVD 88
25							

COMMENTS:

■ Shelby Tube

BORING LOG

BORING NO.: B-5
PROJECT: New Orleans Landbridge Marsh Creation
PROJECT LOCATION: Orleans Parish, Louisiana
BORING LOCATION: N601458.00 E3788752.00
DATE DRILLED: 7/17/2017
WATER DEPTH: 6.60 feet
GEOL/ENGR: MB/SA

PROJECT NO.: 1706-G038
METHOD: MUD DRILLING
BORING ELEVATION: -6.10 feet
DATE COMPLETED: 07/17/2017
WATER LEVEL DATE: 07/17/2017
DRILLER: CZ

DEPTH (FEET)	SAMPLE	TORVANE (PSF)	Moisture Content (%)	LL	PI	Symbol	MATERIAL CLASSIFICATION
	■	40	70	62	44	▨	Very Soft Gray Fat Clay (CH) - with traces of Sand & Organics at the bottom
	■	100	148	140	103	▨	Very Soft Gray Fat Clay (CH) - with Organics at the bottom 4"
5	■	150	55	65	45	▨	Very Soft Gray Fat Clay (CH) with Organics transitioned to Gray Lean Clay (CL)
	■	150	44	39	15	▧	Very Soft Gray Lean Clay (CL) with Fine Sand Pockets
	■		45			▧	Very Soft Gray Lean Clay (CL) - with traces of Fine Sand at the bottom
10	■	200	54	61	42	▨	Very Soft Gray Fat Clay (CH) - with traces of Fine Sand at the bottom
	■	150	56	47	28	▧	Very Soft Gray Lean Clay (CL)
15	■	600	37	69	50	▨	Medium Stiff Gray Fat Clay (CH) with Sand & Shell Pockets transitioned to Tan & Gray Fat Clay (CH)
	■	500	51			▨	Medium Stiff to Soft Gray Fat Clay (CH) with traces of Shells
	■	450	46			▨	Soft Tan & Gray Fat Clay (CH)
20							Boring terminated @ 20 feet Boring grouted upon completion Elevation: NAVD 88
25							

COMMENTS:

■ Shelby Tube

BORING LOG

BORING NO.: B-6
PROJECT: New Orleans Landbridge Marsh Creation
PROJECT LOCATION: Orleans Parish, Louisiana
BORING LOCATION: N600622.00 E3789411.00
DATE DRILLED: 7/17/2017
WATER DEPTH: 5.60 feet
GEOL/ENGR: MB/SA

PROJECT NO.: 1706-G038
METHOD: MUD DRILLING
BORING ELEVATION: -5.09 feet
DATE COMPLETED: 07/17/2017
WATER LEVEL DATE: 07/17/2017
DRILLER: CZ

DEPTH (FEET)	SAMPLE	TORVANE (PSF)	Moisture Content (%)	LL	PI	Symbol	MATERIAL CLASSIFICATION
	■	25	109	69	51	▨	Very Soft Dark Gray Fat Clay (CH)
	■	50	90	63	42	▨	Very Soft Dark Gray Fat Clay (CH)
5	■	100	69	45	23	▨	Very Soft Gray Lean Clay (CL) with traces of Organics - with Pockets of Fine Sand
	■	100	45	44	22	▨	Very Soft Gray Lean Clay (CL) with Sand Pockets
	■	200	56	67	47	▨	Very Soft Gray Fat Clay (CH) - with Shells
10	■	150	61	71	51	▨	Very Soft Gray Fat Clay (CH) with Pockets of Shell Fragments at the top
	■	200	51	66	46	▨	Very Soft Gray Fat Clay (CH) with Pockets of Shells - traces of Silt at the bottom
15	■	200	51	52	33	▨	Very Soft Gray Fat Clay (CH) - with 5" of Fine Sand at the bottom
	■	300	58			▨	Soft Gray Fat Clay (CH) - with 5" of Fine Sand at the bottom
	■	450	33			▨	Soft Tan & Gray Fat Clay (CH) with traces of Fine Sand
20							Boring terminated @ 20 feet Boring grouted upon completion Elevation: NAVD 88
25							

COMMENTS:

■ Shelby Tube

BORING LOG

BORING NO.: B-7
PROJECT: New Orleans Landbridge Marsh Creation
PROJECT LOCATION: Orleans Parish, Louisiana
BORING LOCATION: N606513.00 E3783587.00
DATE DRILLED: 7/12/2017
WATER DEPTH: 3.20 feet
GEOL/ENGR: SP/SA

PROJECT NO.: 1706-G038
METHOD: MUD DRILLING
BORING ELEVATION: -2.40 feet
DATE COMPLETED: 07/12/2017
WATER LEVEL DATE: 07/12/2017
DRILLER: CZ

DEPTH (FEET)	SAMPLE	Standard Penetration (Blows/Ft.) or Penetrometer (TSF)	Moisture Content (%)	Dry Unit Weight (PCF)	LL	PI	Symbol	MATERIAL CLASSIFICATION
	■		146	36			▨	Soft Gray Fat Clay (CH) - with Organics @ 0'-2': C = 303 psf @ 0.71 psi confining pressure
	■		81	55			▨	Soft Gray Fat Clay (CH) - with Organic Pockets @ 2'-4': C = 261 psf @ 1.26 psi confining pressure
5	■		63	65	100	70	▨	Soft Gray Fat Clay (CH) @ 4'-6': C = 301 psf @ 1.80 psi confining pressure
	■		71	61			▨	Very Soft Gray Fat Clay (CH) @ 6'-8': C = 140 psf @ 1.88 psi confining pressure @ 6'-8':- 200: 57.60% transitioned to Sand at the bottom
	■	0.25	41				▧	Gray Sand @ 8'-10': - 200: 95.80% transitioned to Gray Clay with Sand
10	■		66	63	63	41	▨	Very Soft Gray Fat Clay (CH) @ 10'-12': C = 206 psf @ 3.87 psi confining pressure
	■	0.25	57				▨	Very Soft Gray Fat Clay (CH)
15	■		39	74			▨	Very Soft Gray Clay with Fine Sand @ 14'-16': C = 158 psf @ 5.03 psi confining pressure
	■		28	97	44	25	▧	Stiff Gray Lean Clay (CL) with Fine Sand @ 16'-18': C = 1037 psf @ 5.75 psi confining pressure
	■		29				░	Gray Silty Sand (SM) @ 18'-20': -200 = 29.80%
20			29				░	
25	■		35				░▧	Gray Poorly Graded Sand with Clay (SP-SC) @ 23'-25': -200 = 9.40%
30	☒	6-7-9					░	Medium Dense Gray Silty Sand (SM) - with traces of Clay @28'-30': -200 = 25.10%
								Boring terminated @ 30 feet Boring grouted upon completion Elevation: NAVD 88
35								

COMMENTS:

■ Shelby Tube
☒ Split Spoon

BORING LOG

BORING NO.: B-7A
PROJECT: New Orleans Landbridge Marsh Creation
PROJECT LOCATION: Orleans Parish, Louisiana
BORING LOCATION: N606513.00 E3783587.00
DATE DRILLED: 7/12/2017
WATER DEPTH: 3.20 feet
GEOL/ENGR: SP/SA

PROJECT NO.: 1706-G038 MUD
METHOD: DRILLING
BORING ELEVATION: -2.40 feet
DATE COMPLETED: 07/12/2017
WATER LEVEL DATE: 07/12/2017
DRILLER: CZ

DEPTH (FEET)	SAMPLE	Moisture Content (%)	Dry Unit Weight (PCF)	LL	PI	Symbol	MATERIAL CLASSIFICATION
	■	68	61			▨	Very Soft Gray Clay - with Organics @ 0'-2': C = 189 psf @ 0.44 psi confining pressure
	■	61	67	102	75	▨	Very Soft Gray Fat Clay (CH) @ 2'-4': Organics = 4.60% @ 2'-4': C = 239 psf @ 1.51 psi confining pressure Tested for Consolidation & Specific Gravity
5							Boring terminated @ 4 feet Boring grouted upon completion Elevation: NAVD 88
10							
15							
20							
25							
30							
35							

COMMENTS:

■ Shelby Tube

BORING LOG

BORING NO.: B-8
PROJECT: New Orleans Landbridge Marsh Creation
PROJECT LOCATION: Orleans Parish, Louisiana
BORING LOCATION: N604802.00 E3783260.00
DATE DRILLED: 7/12/2017
WATER DEPTH: 4.60 feet
GEOL/ENGR: SP/SA

PROJECT NO.: 1706-G038
METHOD: MUD DRILLING
BORING ELEVATION: -3.80 feet
DATE COMPLETED: 07/12/2017
WATER LEVEL DATE: 07/12/2017
DRILLER: CZ

DEPTH (FEET)	SAMPLE	Standard Penetration (Blows/Ft.) or Penetrometer (TSF)	Moisture Content (%)	Dry Unit Weight (PCF)	LL	PI	Symbol	MATERIAL CLASSIFICATION
	■		145	33				Very Soft Gray Organic Clay (OH) @ 0'-2': Organics = 22.10% @ 0'-2': C = 92 psf @ 0.03 psi confining pressure
	■		61	66				Very Soft Gray Fat Clay (CH) @ 2'-4': C = 199 psf @ 1.23 psi confining pressure
	■		49	70	94	66		Soft Gray Fat Clay (CH) @ 4'-6': C = 380 psf @ 1.86 psi confining pressure
	■		46	75				Very Soft Gray Fat Clay (CH) @ 6'-8': C = 203 psf @ 2.48 psi confining pressure
	■		30	87	43	24		Very Soft Gray Lean Clay (CL) @ 8'-10': -200: 85.90% @ 8'-10': C = 273 psf @ 2.87 psi confining pressure Tested for Consolidation & Specific Gravity
10	■	0.25	48	101				
	■		58	69				Very Soft Gray Fat Clay (CH)
	■	1.00	27					Very Soft Gray Fat Clay (CH) - with Shells @ 12'-14': C = 174 psf @ 1.20 psi confining pressure
	■		25	97	36	18		Medium Stiff Gray Clay
	☒	3-4-6	24					Stiff Gray Lean Clay (CL) with Fine Sand @ 16'-18': C = 1107 psf @ 5.82 psi confining pressure Tested for Consolidation & Specific Gravity
20								Stiff to Medium Stiff Gray Clay
	■		31	88				Very Soft Gray Clay 23'-25': C = 210 psf @ 8.08 psi confining pressure
30	☒	1-2-3	27					Medium Stiff Gray Clay - with Fine Sand
	☒	2-2-2	34		41	22		Medium Stiff Gray Lean Clay (CL)
40	☒	7-8-10	27					Medium Dense Gray Clayey Sand (SC) @ 38.50'-40': -200 = 15.70%
	■		40	81				Medium Stiff Gray Clay @ 43'-45': C = 602 psf @ 15.02 psi
	■	0.25	32					Very Soft Gray Clay
50								4.50" of Fine Sand
								Boring terminated @ 50 feet Boring grouted upon completion Elevation: NAVD 88

COMMENTS:

■ Shelby Tube
☒ Split Spoon

BORING LOG

BORING NO.: **B-9**
PROJECT: New Orleans Landbridge Marsh Creation
PROJECT LOCATION: Orleans Parish, Louisiana
BORING LOCATION: N607836.00 E3785708.00
DATE DRILLED: 7/13/2017
WATER DEPTH: 2.40 feet
GEOL/ENGR: MB/SA

PROJECT NO.: 1706-G038
METHOD: MUD DRILLING
BORING ELEVATION: -1.50 feet
DATE COMPLETED: 07/13/2017
WATER LEVEL DATE: 07/13/2017
DRILLER: CZ

DEPTH (FEET)	SAMPLE	Standard Penetration (Blows/Ft.) or Penetrometer (TSF)	Moisture Content (%)	Dry Unit Weight (PCF)	LL	PI	Symbol	MATERIAL CLASSIFICATION
	■		90	50	158	131	▨	Very Soft Gray Fat Clay - with Organics @ 0'-2': C = 150 psf @ 0.58 psi confining pressure
	■		62	62			▨	Very Soft Gray Clay - with Organics @ 2'-4': C = 156 psf @ 1.23 psi confining pressure
5	■		36	84	41	20	▨	Very Soft Gray Lean Clay (CL) @ 4'-6': C = 191 psf @ 1.73 psi confining pressure
	■		54	68	89	64	▨	Soft Gray Fat Clay (CH) @ 6'-8': C = 401 psf @ 2.42 psi confining pressure
	■		38				▨	Very Soft Gray Clay - with Fine Sand
10	■		29	93			░	Very Loose Gray Silty Sand (SM) @ 10'-12': -200: 45.00% @ 10'-12': C = 133 psf @ 3.59 psi confining pressure
	☒	3-2-1	27				░	Very Loose Gray Silty Sand (SM) @ 12'-14': -200 = 29.50%
15	■		22				░	Gray Poorly Graded Sand with Clay (SP-SC) @ 14'-16': -200: 11.40%
	☒	3-2-3	33				▨	Medium Stiff Gray Sandy Fat Clay (CH) @ 16'-18': -200: 51.20%
20	■		33	88	65	43	▨	Medium Stiff Gray Fat Sandy Clay (CH) @ 18'-20': -200: 65.30% @ 18'-20': C = 966 psf @ 6.36 psi confining pressure
25	■		34	88			▨	Medium Stiff Gray Fat Clay (CH) - with Fine Sand Pockets @ 23'-25': C = 515 psf @ 8.00 psi confining pressure
	☒	4-3-5	25				░	Loose Gray Poorly Graded Sand with Clay (SP-SC) @ 28.5'-30': -200: 10.90%
30 35								Boring terminated @ 30 feet Boring grouted upon completion Elevation: NAVD 88

COMMENTS:

■ Shelby Tube ☒ Split Spoon

BORING LOG

BORING NO.: B-10
PROJECT: New Orleans Landbridge Marsh Creation
PROJECT LOCATION: Orleans Parish, Louisiana
BORING LOCATION: N605056.00 E3786442.00
DATE DRILLED: 7/16/2017
WATER DEPTH: 2.20 feet
GEOL/ENGR: MB/SA

PROJECT NO.: 1706-G038
METHOD: MUD DRILLING
BORING ELEVATION: -1.40 feet
DATE COMPLETED: 07/16/2017
WATER LEVEL DATE: 07/16/2017
DRILLER: CZ

DEPTH (FEET)	SAMPLE	Standard Penetration (Blows/Ft.) or Penetrometer (TSF)	Moisture Content (%)	Dry Unit Weight (PCF)	LL	PI	Symbol	MATERIAL CLASSIFICATION
	■		262	21			▨	Very Soft Black Organic Clay (OH) @ 0'-2: Organics = 18.20% @ 0'-2': C = 72 psf @ 0.55 psi confining pressure
	■		144	36			▨	Very Soft Black Organic Clay (OH) @ 2'-4': Organics = 26.10% @ 2'-4': C = 193 psf @ 1.17 psi confining pressure
5	■		82	54			▨	Very Soft Gray Clay - with traces of Organics @ 4'-6': C = 238 psf @ 1.77 psi confining pressure
	■		72	59			▨	Very Soft Gray Clay - with traces of Organics @ 6'-8': C = 240 psf @ 2.46 psi confining pressure
	■		47	77			▨	Soft Gray Clay @ 8'-10': C = 256 psf @ 3.10 psi confining pressure
10	■		46	64	40	23	▨	Soft Gray Lean Clay (CL) @ 10'-12': C = 267 psf @ 3.63 psi confining pressure
	■		48	72	55	39	▨	Very Soft Gray Fat Clay (CH) @ 12'-14': C = 162 psf @ 4.44 psi confining pressure Tested for Consolidation
15	■		38	86			▨	Soft Gray Clay @ 14'-16': C = 492 psf @ 5.15 psi confining pressure transitioned to Medium Stiff
	■		31				▨	Tan & Gray Clay
20	■		32	88	67	52	▨	Stiff Gray Fat Clay (CH) @ 18'-20': C = 1250 psf @ 6.45 psi confining pressure
25	■		30				▨	Gray Clayey Sand (SC) @ 23'-25': -200: 12.70%
30	☒	3-3-4	36				▨	Loose Gray Clayey Sand (SC) @ 28.5'-30': -200: 32.60%
35								Boring terminated @ 30 feet Boring grouted upon completion Elevation: NAVD 88

COMMENTS:

■ Shelby Tube ☒ Split Spoon

BORING LOG

BORING NO.: **B-11**
PROJECT: New Orleans Landbridge Marsh Creation
PROJECT LOCATION: Orleans Parish, Louisiana
BORING LOCATION: N603025.00 E3785971.00
DATE DRILLED: 7/14/2017
WATER DEPTH: 3.70 feet
GEOL/ENGR: MB/SA

PROJECT NO.: 1706-G038
METHOD: MUD DRILLING
BORING ELEVATION: -2.80 feet
DATE COMPLETED: 07/14/2017
WATER LEVEL DATE: 07/14/2017
DRILLER: CZ

DEPTH (FEET)	SAMPLE	Standard Penetration (Blows/Ft.) or Penetrometer (TSF)	Moisture Content (%)	Dry Unit Weight (PCF)	LL	PI	Symbol	MATERIAL CLASSIFICATION
	■		235	24	248	183	≈	Very Soft Black Organic Clay (OH) @ 0'-2': Organics = 26.00% @ 0'-2': C = 172 psf @ 0.51 psi confining pressure
	■		170	31			▨	Very Soft Gray Clay with Organics @ 2'-4': 136 psf @ 1.16 psi confining pressure
	■		67	55			▥	Very Loose Gray Clayey Silt (ML) @ 4'-6': C = 175 psf @ 1.66 psi confining pressure
	■		49	75	42	20	▨	Soft Gray Lean Clay (CL) with Fine Sand Pockets @ 6'-8': C = 304 psf @ 2.64 psi confining pressure
	■	0.25	42				▨	Very Soft Gray Clay with Fine Sand
10	■		62	66	65	47	▨	Very Soft Gray Fat Clay (CH) @ 10'-12': C = 119 psf @ 3.77 psi confining pressure
	■		55	67			▨	Very Soft Gray Fat Clay (CH) @ 12'-14': C = 138 psf @ 4.52 psi confining pressure
	■		37	88			▨	Very Soft Gray Fat Clay (CH) @ 14'-16': C = 236 psf @ 5.09 psi confining pressure
	■		31	91	58	37	▨	Stiff Tan & Gray Fat Clay (CH) @ 16'-18': C = 1599 psf @ 5.66 psi confining pressure
20	■	1.00	32	102			▨	Medium Stiff to Soft Tan & Gray Clay
	■		32	90			▨	Soft Tan & Gray Fat Clay (CH) @ 23'-25': C = 408 psf @ 8.05 psi confining pressure
30	■		33	82	33	9	▨	Soft Tan & Gray Lean Clay (CL) with Fine Sand Lenses @ 28'-30': C = 395 psf @ 9.75 psi confining pressure Tested for Consolidation
	☒	1-1-1	37				▥	Very Soft Gray Silty Clay (CL-ML) - with Fine Sand
40	☒	5-7-8	33		30	14	▨	Very Stiff Gray Lean Clay (CL) with Fine Sand Pockets
	☒	5-5-6	35				▥	Stiff Gray Silty Clay (CL-ML)
	☒	2-5-7	32				▥	Stiff Gray Silty Clay (CL-ML)
50								Boring terminated @ 50 feet Boring grouted upon completion Elevation: NAVD 88

COMMENTS:

■ Shelby Tube ☒ Split Spoon

BORING LOG

BORING NO.: **B-17**
PROJECT: New Orleans Landbridge Marsh Creation
PROJECT LOCATION: Orleans Parish, Louisiana
BORING LOCATION: N601597.00 E3792182.00
DATE DRILLED: 7/14/2017
WATER DEPTH: 1.30 feet
GEOL/ENGR: MB/SA

PROJECT NO.: 1706-G038
METHOD: MUD DRILLING
BORING ELEVATION: -0.50 feet
DATE COMPLETED: 07/14/2017
WATER LEVEL DATE: 07/14/2017
DRILLER: CZ

DEPTH (FEET)	SAMPLE	Standard Penetration (Blows/Ft.) or Penetrometer (TSF)	Moisture Content (%)	Dry Unit Weight (PCF)	LL	PI	Symbol	MATERIAL CLASSIFICATION
	■		312				▨	Grayish Black Clay - with Organics
	■		158	32	143	113		Very Soft Gray Organic Clay (OH) @ 2'-4': C = 93 psf @ 1.21 psi confining pressure
5	■		100	46			▨	Very Soft Gray Fat Clay (CH) @ 4'-6': C = 51 psf @ 1.76 psi confining pressure
	■		129	39			▨	Very Soft Gray Fat Clay (CH) - with shells @ 6'-8': C = 88 psf @ 2.53 psi confining pressure
	■	0.25	61	82			▨	Very Soft Gray Fat Clay (CH)
10	■		43	78			▨	Very Soft Gray Fat Clay (CH) @ 10'-12': C = 185 psf @ 3.80 psi confining pressure
	■		146	36	133	108	▨	Very Soft Gray Fat Clay (CH) @ 12'-14': C = 202 psf @ 4.51 psi confining pressure
15	■	0.25	73				▨	Very Soft Gray Fat Clay (CH)
	■		40	81			▨	Very Soft Gray Fat Clay (CH) @ 16'-18': C = 110 psf @ 6.08 psi confining pressure
20	■		24	100	43	28	▨	Stiff Gray Lean Clay (CL) - with Fine Sand @ 18'-20': C = 1542 psf @ 6.37 psi confining pressure Tested for Consolidation
25	■		47	72			▨	Medium Stiff Gray Fat Clay (CH) @23'-25': C = 875 psf @ 8.05 psi confining pressure
30	■	1.50	40				▨	Medium Stiff Gray Clay transitioned to Clayey Silt (ML)
35								Boring terminated @ 30 feet Boring grouted upon completion Elevation: NAVD 88

COMMENTS:

■ Shelby Tube

BORING LOG

BORING NO.: B-18
PROJECT: New Orleans Landbridge Marsh Creation
PROJECT LOCATION: Orleans Parish, Louisiana
BORING LOCATION: N600602.00 E3792094.00
DATE DRILLED: 7/17/2017
WATER DEPTH: 3.20 feet
GEOL/ENGR: MB/SA

PROJECT NO.: 1706-G038
METHOD: MUD DRILLING
BORING ELEVATION: -2.40 feet
DATE COMPLETED: 07/17/2017
WATER LEVEL DATE: 07/17/2017
DRILLER: CZ

DEPTH (FEET)	SAMPLE	Standard Penetration (Blows/Ft.) or Penetrometer (TSF)	Moisture Content (%)	Dry Unit Weight (PCF)	LL	PI	Symbol	MATERIAL CLASSIFICATION
	■		226	22	299	237	▨	Very Soft Black Organic Clay (OH) @ 0'-2': Organics = 35.80 % @ 0'-2': C = 57 psf @ 0.57 psi confining pressure Tested for Consolidation & Specific Gravity
	■		136	38			▨	
	■		134	31	96	61	▨	Very Soft Black & Gray Clay with Organics @ 2'-4': C = 58 psf @ 1.27 psi
	■	0.25	61	78			▨	Very Soft Gray Fat Clay (CH) with Fine Sand at the bottom @ 4'-6': C = 63 psf @ 1.87 psi confining pressure
	■		64	65	44	22	▨	Very Soft Gray Fat Clay (CH)
10	■		64	62			▨	Very Soft Gray Lean Clay (CL) with Shells @ 8'-10': C = 147 psf @ 3.10 psi confining pressure
	■	0.25	64				▨	Very Soft Gray Lean Clay (CL) with Fine Sand Pockets @ 10'-12': C = 117 psf @ 3.82 psi confining pressure
	■						▨	Very Soft Gray Fat Clay (CH)
	■		61	67			▨	Very Soft Gray Clay with Fine Sand @ 14'-16': C = 120 psf @ 5.05 psi confining pressure
	■	0.25	45				▨	Very Soft Gray Lean Clay (CL) - with 5" of Fine Sand
20	■		39	81	55	36	▨	Soft Gray Fat Clay (CH) @ 18'-20': C = 254 psf @ 6.53 psi confining pressure
	☒	1-1-1	59				▨	Soft & Gray Lean Clay (CL) with Fine Sand Lenses
30	■		33	89	59	41	▨	Medium Stiff Gray Fat Clay (CH) - with Fine Sand pockets @ 28'-30': C = 887 psf @ 9.78 psi confining pressure
	■		28	96			▨	Stiff Gray Fat Clay (CH) @ 33'-35': C = 1496 psf @ 11.44 psi confining pressure
40	■	0.25	44				▨	Very Soft Gray Lean Clay (CL)
	☒	7-12-28	29				▨	Dense Gray Clayey Sand (SC) @ 43'-45': -200: 12.10 %
50	☒	5-4-5	25				▨	Loose Gray Poorly Graded Sand with Clay (SP-SC) @ 48.50'-50': -200: 10.50%
								Boring terminated @ 50 feet Boring grouted upon completion Elevation: NAVD 88

COMMENTS:

■ Shelby Tube

☒ Split Spoon

BORING LOG

BORING NO.: B-19
PROJECT: New Orleans Landbridge Marsh Creation
PROJECT LOCATION: Orleans Parish, Louisiana
BORING LOCATION: N595460.00 E3778113.00
DATE DRILLED: 7/14/2017
WATER DEPTH: 1.60 feet
GEOL/ENGR: MB/SA

PROJECT NO.: 1706-G038
METHOD: MUD DRILLING
BORING ELEVATION: -0.60 feet
DATE COMPLETED: 07/14/2017
WATER LEVEL DATE: 07/14/2017
DRILLER: CZ

DEPTH (FEET)	SAMPLE	Standard Penetration (Blows/Ft.) or Penetrometer (TSF)	Moisture Content (%)	Dry Unit Weight (PCF)	LL	PI	Symbol	MATERIAL CLASSIFICATION
	■		142	36	118	86	▨	Very Soft Gray Fat Clay (CH) - with 6" of Organics at the bottom @ 0'-2': C = 197 psf @ 0.59 psi confining pressure
	■		84	54			▨	Soft Gray Fat Clay (CH) - with 3" of Organics at the top @ 2'-4': C = 492 psf @ 1.27 psi confining pressure
5	■		44	77	94	68	▨	Medium Stiff Gray Fat Clay (CH) @ 4'-6': C = 585 psf @ 1.84 psi confining pressure
	■	0.25	57				▨	Very Soft Gray Fat Clay (CH) with Traces of Organics
	■		52	70			▨	Soft Gray Fat Clay (CH) @ 8'-10': C = 332 psf @ 3.15 psi confining pressure transitioned to Silty Clay (CL-ML)
10	■		46	74			▨	Very Loose Gray Clayey Sand (SC) @ 10'-12': C = 169 psf @ 3.84 psi confining pressure transitioned to Silty Sand (SM)
	■	0.25	53				▨	Very Soft Gray Fat Clay (CH)
15	■		49	73	70	51	▨	Very Soft Gray Fat Clay (CH) - with 5" of Shells at the bottom @ 14'-16': C = 240 psf @ 5.15 psi confining pressure
	■	0.25	48				▨	Very Soft Gray Lean Clay (CL) with Fine Sand Pockets
	■		34	83			▨	Soft Gray Clay Lean Clay (CL) @ 18'-20': C =309 psf @ 6.50 psi confining pressure transitioned to Silty Sand (SM)
20							▨	
	■		38	87	27	9	▨	Soft Gray Lean Clay (CL) with Fine Sand Pockets @ 23'-25': C = 342 psf @ 8.17 psi confining pressure
25							▨	
	■		23	98			▨	Medium Stiff Gray Lean Clay (CL) @ 28'-30': C = 829 psf @ 9.89 psi confining pressure
30								Boring terminated @ 30 feet Boring grouted upon completion Note: -200 tests performed on intermittent sand layers/lenses Elevation: NAVD 88
35								

COMMENTS:

■ Shelby Tube

BORING LOG

BORING NO.: B-20
PROJECT: New Orleans Landbridge Marsh Creation
PROJECT LOCATION: Orleans Parish, Louisiana
BORING LOCATION: N595459.00 E3779694.00
DATE DRILLED: 7/17/2017
WATER DEPTH: 6.30 feet
GEOL/ENGR: MB/SA

PROJECT NO.: 1706-G038
METHOD: MUD DRILLING
BORING ELEVATION: -6.00 feet
DATE COMPLETED: 17/2017
WATER LEVEL DATE: 07/17/2017
DRILLER: CZ

DEPTH (FEET)	SAMPLE	TORVANE (PSF)	Moisture Content (%)	LL	PI	Symbol	MATERIAL CLASSIFICATION
	■	50	105	83	63	▨	Very Soft Dark Gray Fat Clay (CH) - with Organics - with traces of wood at the bottom
	■	200	77	83	59	▨	Very Soft Gray Fat Clay (CH) with Pockets of Organics
5	■	250	99	146	108	▨	Soft Dark Gray Fat Clay (CH) with traces of roots
	■	150	45	38	20	▧	Very Soft Dark Gray Lean Clay (CL) with Fine Sand transitioned to Gray Fat Clay (CH)
	■	150	96	95	70	▨	Very Soft Gray Fat Clay (CH) @ 8'-10': Organics = 3.70%
10	■	150	51	51	34	▨	Very Soft Gray Fat Clay (CH) - with Shells at the bottom transitioned to Lean Clay (CL)
	■	200	38			▧	Very Soft Gray Lean Clay (CL) with Shells
15	■	150	83	83	60	▨	Very Soft Gray Fat Clay (CH) @ 14'-16': Organics = 3.10%
	■	150	37			▧	Very Soft Gray Lean Clay (CL) with Fine Sand
	■	150	43			▧	Very Soft Gray Lean Clay (CL) with Fine Sand
20							Boring terminated @ 20 feet Boring grouted upon completion Elevation: NAVD 88
25							

COMMENTS:

■ Shelby Tube

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ZZ 30^08'47.065"    89^44'00.762" (U)
BOR. B-3U (MVN-1968-526)
STA. 155+40
50 FT. RT OF B/L
WATER TABLE N/A FT.
Date: 03/19/1968

GROUND EL. 2.2
  0.0  1.0 59  1.0CH  SISSO DGRBR    WD RT SIFOX

  1.0  2.0 31  2.0ML        DGRBR    CS RT SIF

  2.0  3.0 77  3.0CH     VSOGR BR    WD SI SIF                 77 19

  3.0  4.7 70      CH  SS VSOGR DGR   SI SIF

  4.7  5.7 50  5.7CH  SS VSOGR DGR   SI SIF                    79 29

  5.7  6.8     6.8SM        GR       CS SI SIF

  6.8  8.3     8.3SP   F    GR       CS SI SIF

  8.3  9.3 49  9.3CL  SS VSOGR DGR   SI SIF

  9.3 10.5 49      CH  SS VSOGR DGR   SI SIF

 10.5 11.6 63 11.6CH  SS VSOGR DGR   SI SIF                    70 18

 11.6 13.0 71      CH  SISSO GR BK    WD

 13.0 14.0 95      CH  SISSO GR BK    WD CC SL           299 96123 33         135

 14.0 15.0 84      CH  SISSO GR BK    WD CC                     99 26

 15.0 16.3 62      CH  SISSO GR                          327108 78 25         157

 16.3 17.3 42 17.3CH  SISSO GR

 17.3 18.3 58      CH  SS SO GR       SI SIF

 18.3 19.3 61      CH  SS VSOGR       SIF

 19.3 20.3 40 20.3CH  SS SO GR       WD SI SIF                 50 16

 20.3 21.4 36      CL  SS SO GR       SIF

 21.4 22.6 37 22.6CL  SS SO GR                                 37 20

 22.6 24.6    24.6SM        GR       CS SI SIF

 24.6 25.7 27 25.7CH  SISVSTGN

 25.7 26.8 32 26.8CL  SISVSTGN

 26.8 28.3    28.3SM        GN        S CS

 28.3 30.5 25 30.5ML        GN       CS

 30.5 32.1         SM        GN

 32.1 33.3    33.3SM        GN BR

 33.3 34.7    34.7SP   F    GN                                      .0970
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 34.7 36.1        SM        GN
 36.1 37.1        SM        GN
 37.1 38.6        SM        GN       CS
 38.6 40.0        SM        GR
 40.0 41.0        SM        GR
 41.0 42.5        SM        GR
 42.5 44.5        SM        GR        S CS
 44.5 46.3    46.3SM        GR        S CS
 46.3 47.7 30     ML        GR       WD CS
 47.7 48.7 33 48.7ML        GR       WD CS
 48.7 50.6    50.6SP   F    GR                                      .0830
 50.6 52.0        SM        GR        S
 52.0 53.0        SM        GR        S
 53.0 54.6        SM        GR        S
 54.6 56.1        SM        GR
 56.1 57.2        SM        GR
 57.2 58.6    58.6SM        GR
 58.6 61.0        SP   F    GR                                      .0820
 61.0 62.4        SP   F    GR
 62.4 63.6        SP   F    GR
 63.6 64.6        SP   F    GR                                      .0850
 64.6 66.2        SP   F    GR
 66.2 67.7    67.7SP   F    GR                       36             .0910
 67.7 69.3    69.3NS
 69.3 72.3        SP   F    GR                       39
 72.3 77.3        SP   F    GR       SIF             95             .0820
 77.3 80.0    80.0SP   F    GR       SIF             73
999.9
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```
ZZ 30^09'31.871"    89^44'06.526" (U)
BOR. B-5U (MVN-1968-526)
STA. 202+80
BASE LINE
WATER TABLE N/A FT.
Date: 03/19/1968

GROUND EL. .7
  0.0  1.1137     CH   O VSOGR DBR

  1.1  2.1231     CH   O VSODGRDBR   WD RT

  2.1  3.3372     CH   O VSODBR      WD

  3.3  4.6 92  4.6CH   O VSOGR BR    WD RT                    115 32

  4.6  5.6 61     CH  SISVSOGR       WD                 231104 87 27          51

  5.6  6.8 63     CH  SIS M GR       WD                        96 22

  6.8  8.3 42  8.3CH  SISSO GR BR    WD RT

  8.3  9.3 33  9.3ML         GR BR    CS WD

  9.3 10.7 50     CH  SISSO GR BR    WD RT

 10.7 12.0 67     CH  SISSO GR       OX                        70 24

 12.0 13.0 69     CH  SISSO GR                          378106 72 21         125

 13.0 14.7 66     CH  SISSO GR

 14.7 16.0 68 16.0CH  SISSO GR BR                              79 27

 16.0 17.0    17.0SI                 SIF

 17.0 18.4 49     CH  SS SO GR       SIF                366115 53 18         176

 18.4 19.6 34 19.6CH  SS  M GR DGR   SI SIFOX

 19.6 20.6 25 20.6CH  SISVSTGNG      OX                        45 15

 20.6 21.6 26 21.6CH  SS VSTGN       OX

 21.6 22.8 24 22.8CL  SS VSTGN       OX

 22.8 24.0 27     ML         GR GN    OX CC SI SLF

 24.0 25.0 27     ML         GR GN

 25.0 26.7 28 26.7ML         GR GN

 26.7 28.2    28.2SM         GR  T    CS

 28.2 29.2 29     ML         GR       CS OX

 29.2 30.4 31     ML         GR  T    OX

 30.4 31.5 25 31.5ML         GR

 31.5 33.2        SM         GR  T    CS

 33.2 34.6    34.6SM         GR  T     S
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 34.6 36.1 47 36.1CH  SISST GR                          1193118 58 22        356
 36.1 37.4 31 37.4CH  SS  M GR BRG
 37.4 38.7 33     CH  SIS M BRG
 38.7 40.4 33 40.4CH  SIS M GR
 40.4 41.8 29 41.8CL  SISST GR
 41.8 42.9 37 42.9CH  SISST GR                          1358117 49 21        423
 42.9 44.6    44.6SM        GR       CS
 44.6 46.6        ML        GR       CS
 46.6 48.7    48.7ML        GR       CS
 48.7 51.0    51.0NS
 51.0 52.5        SM        GR
 52.5 54.3        SM        GR        S
 54.3 56.3        SM        GR       CS SI SIF
 56.3 57.4    57.4SM        GR       CS SI SIF
 57.4 58.7 28     CL  SS  M GR
 58.7 60.4 29 60.4CL  SS  M GR
 60.4 61.5    61.5SM        GR
 61.5 62.8 28 62.8ML        GR       CS
 62.8 64.1        SM        GR       CS
 64.1 66.6        SM        GR        S
 66.6 70.0        SM        GR        S
 70.0 71.0        SM        GR        S
 71.0 74.6        SM        GR        S
 74.6 76.3    76.3SM        GR       CS
 76.3 78.2 28 78.2CH  SS ST GR
 78.2 81.1        SM        GR
 81.1 82.1    82.1SM        GR        S
999.9
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ZZ 30^09'09.482"    89^44'25.163" (U)
BOR. B-6U (MVN-1968-526)
STA. 210+30
ON B/L
WATER TABLE N/A FT.
Date: 05/08/1968

GROUND EL. .5
  0.0  1.5396  1.5PT     VSODBRGR    CS WD RT

  1.5  3.2252  3.2CH   O VSODGRDBR   WD RT

  3.2  4.7 72      CH  SISSO GR       WD

  4.7  5.7 60      CH  SISSO GR       WD                        82 18

  5.7  6.7 51      CH  SISVSOGR       WD                 243114 65 23          62

  6.7  7.7 52      CH  SISSO GR       WD

  7.7  8.7 55      CH  SISSO GR BR                              92 26

  8.7  9.7 49      CH  SISSO GR BR

  9.7 10.7 48 10.7CH  SISSO GR BR                        259107 61 19         102

 10.7 11.7 37 11.7CL  SISSO GR BR                               40 16

 11.7 13.0 66      CH  SISSO GR       WD

 13.0 14.1 65      CH  SISSO GR

 14.1 16.4 68      CH  SISSO GR                                 70 17

 16.4 17.4 52      CH  SISSO DGR      SI SIF

 17.4 18.4 49      CH  SISSO DGR      SI SIF             283108 54 14         179

 18.4 19.4 49      CH  SISSO LGR      OX

 19.4 20.4 27      CH  SISST GR  Y                              47 18

 20.4 23.3 27      CH  SISVSTGR       OX

 23.3 24.3 34 24.3CH  SISSO GR       WD OX CC

 24.3 26.6 39 26.6ML        LGR      OX

 26.6 27.6 33 27.6CL  SS SO GR  T

 27.6 28.6 34 28.6CH  SIS M LGR      OX

 28.6 33.4 29      ML        GR BR    CS SIF

 33.4 34.4 27 34.4ML        GR       CS CC OX

 34.4 35.7 40 35.7CH  SS  M GR       CC OX              551115 55 17         351

 35.7 37.6    37.6SM        GR       SIFCS

 37.6 40.0    40.0NS

 40.0 41.5    41.5SM        GR
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 41.5 42.5 29 42.5CL      M GR
 42.5 43.7 28 43.7ML        GR       WD
 43.7 47.0        SM        GR       CS
 47.0 59.8    59.8SM        GR
 59.8 63.5 27 63.5CL      M GR                       21
 63.5 64.8    64.8SM        GR
 64.8 67.3 33 67.3CH  SIS M GR
 67.3 69.5        SP   F    GR                       50
 69.5 73.3        SP   F    GR                                      .0830
 73.3 78.3        SP   F    GR                       50
 78.3 83.3        SP   F    GR                       94
 83.3 89.0    89.0SP   F    GR                       90
 89.0 92.0 38 92.0CH  SS  M GR                       36
 92.0 94.5    94.5SP   F    GR
 94.5153.0   153.0SM        GR                       50
153.0154.0 49154.0CH  SISVSTGR
999.9
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ZZ 30^09'16.639"    89^44'25.616" (U)
BOR. B-7U (MVN-1968-526)
STA. 217+50
ON B/L
WATER TABLE N/A FT.
Date: 02/29/1968

GROUND EL. 1
  0.0  1.0 79  1.0CH     VSODGRBR    RT

  1.0  2.0363      CH   O VSODBR

  2.0  3.0335      CH   O VSODBR

  3.0  4.0130  4.0CH   O VSODBR

  4.0  5.0 75      CH  SISVSOGR DGR   RT                 125 99 87 30          45

  5.0  6.0 61      CH  SIS M GR       WD

  6.0  7.0 63      CH  SIS M GR DGR   WD                       103 25

  7.0  8.0 68  8.0CH  SISVSOGR DGR

  8.0  9.6 34  9.6ML        BRG      WD CS

  9.6 10.8 55      CH  SISSO GR BR                       283108 65 25         101

 10.8 12.0 62 12.0CH  SISVSOGR BR    SL                 233103 62 29         115

 12.0 13.0 42      ML        GR BR    CS

 13.0 14.5 44 14.5ML        GR BR    CS

 14.5 15.7 75 15.7CH  SISSO GR BR    WD CC

 15.7 16.7 68      CH  SS SO GR BR    SI SIF                    84 30

 16.7 18.7 49 18.7CH  SS SO DGR      WD CC SIFSL        225109 49 17         176

 18.7 19.7 27 19.7CL  SS VSTGN GR    OX SI SIF

 19.7 20.7 31      CH  SS ST GN GR    OX CC

 20.7 21.7 29 21.7CH  SS VSTGNG                                54 19

 21.7 22.7 24 22.7CL     VSTGNG       S

 22.7 25.4 25 25.4ML        GNG      CS

 25.4 26.7         SM        BR

 26.7 28.3    28.3SM        GR  Y     S

 28.3 29.3         SP   F    GR BR    TR  M                          .0800

 29.3 30.5    30.5SP   F    GR BR    TR  M

 30.5 31.5 33      ML        GR BR

 31.5 32.5 26 32.5ML        GR BR

 32.5 33.5 36      CH  SS ST GR BR
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33.5 34.7 30 34.7CH  SS ST GR
34.7 37.4 31 37.4ML        GR        CS
37.4 39.0    39.0NS
39.0 40.0         SM        GR
40.0 42.6    42.6SM        GR
42.6 44.2    44.2SP   F    GR        SIF                            .0770
44.2 46.6         SM        GR        S
46.6 48.4         SM        GR        S
48.4 49.4    49.4SM        GR
49.4 50.6 45 50.6CH  SS  M GR        SL                605113 58 22         499
50.6 52.4 33     CH  SIS M GR        SL                661121 52 22         517
52.4 53.4 28 53.4CH  SISST GR
53.4 54.7 27 54.7ML        GR
54.7 56.3 29 56.3CL  SS  M GR
56.3 58.7 28 58.7ML        GR        CS
58.7 60.1         SM        GR
60.1 62.5         SM        GR        S
62.5 64.0    64.0SM        GR        S
64.0 65.0         SP   F    GR        TR  M
65.0 66.5    66.5SP   F    GR        TR  M                         .0750
66.5 68.4    68.4SM        GR        S
68.4 70.3    70.3NS
70.3 72.0         SP   F    GR                      26
72.0 73.7    73.7SP   F    GR        TR  M          26            .0800
73.7 77.7    77.7NS
77.7 78.7    78.7SP   F    GR        CS             36
78.7 80.3    80.3NS
80.3 82.0         SP   F    GR                      33
82.0 85.7         SP   F    GR        TR  M          37            .0820
85.7 90.7         SP   F    GR                      82
90.7 95.7         SP   F    GR                      46
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 95.7100.7        SP   F    GR       TR  M           78             .1100

100.7104.7        SP   F    GR

104.7110.7   110.7SP   F    GR       TR  M                          .0870

110.7115.7   115.7NS

115.7120.7        SP   F    GR

120.7130.8   130.8SP   F    GR                       85

130.8135.8   135.8SM        GR        S              98

135.8140.7        SP   F    GR                       91

140.7145.7        SP   F    GR       CS              83

145.7149.5   149.5SP   F    GR        M             100

999.9
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ZZ 30^09'16.639"    89^44'25.616" (U)
BOR. B-8U (MVN-1968-526)
STA. 217+50
420 FT. RT. OF B/L
WATER TABLE N/A FT.
Date: 02/27/1968

GROUND EL. 1.2
  0.0  1.1 74  1.1CH  SISSO DGRBR     O WD

  1.1  2.9313  2.9PT     SO DGRDBR

  2.9  4.1109     CH  SISVSOGR DGR    O

  4.1  5.4 87     CH  SISVSOGR       WD                        93 32

  5.4  6.5 56     CH  SISVSOGR DGR   RT  O              245107 69 23      56  60

  6.5  8.5 43  8.5CH  SISSO GR        O WD OX CC

  8.5  9.5 30  9.5ML        GR       CS WD

  9.5 10.7 50     CH  SISSO GR BR    OX                        60 22

 10.7 12.2 49 12.2CH  SISSO GR                                 63 23

 12.2 14.5 45 14.5CL  SISSO GR BR

 14.5 15.9 76 15.9CH  SISVSOGR BR    SIF                       81 27

 15.9 17.0 50     CH  SS SO GR       WD CC SIF

 17.0 18.0 49     CH  SS SO GR       WD CC SIF        336113 49 19      47 176

 18.0 19.0 36     CH  SS  M GR LGR   OX

 19.0 21.2 29 21.2CH  SS VSTLGRGN                              46 19

 21.2 22.6        SM        LGR      CS

 22.6 24.4        SM        GR        S

 24.4 26.4        SM        GR        S

 26.4 28.6        SM        GR GN     S

 28.6 30.0        SM        GR

 30.0 32.3    32.3SM        GNG       S

 32.3 33.3        SP   F    GNG

 33.3 34.3    34.3SP   F    GNG                                     .0800

 34.3 39.0    39.0NS

 39.0 40.2        SM        GR        S

 40.2 41.2        SM        GR        S

 41.2 42.2    42.2SM        GR        S

 42.2 43.2        SP   F    GR                                      .0990
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 43.2 44.2         SP   F    GR
 44.2 45.2         SP   F    GR                                      .0900
 45.2 47.7         SP   F    GR
 47.7 48.7         SP   F    GR                                      .0850
 48.7 49.9         SP   F    GR
 49.9 51.5         SP   F    GR                                      .1300
 51.5 52.5         SP   F    GR
 52.5 53.5         SP   F    GR                                      .1200
 53.5 54.7     54.7SP   F    GR
 54.7 59.0     59.0NS
 59.0 61.3         SP   F    GR                       34
 61.3 63.5         SP   F    GR       TR  M           49             .0810
 63.5 66.0         SP   F    GR                       46
 66.0 69.8         SP   F    GR       CS TR  M        42             .0860
 69.8 74.8         SP   F    GR       CS SIF          65
 74.8 79.8         SP   F    GR                       67             .0830
 79.8 84.8         SP   F    GR                       78
 84.8 89.8         SP   F    GR                       40
 89.8 94.9         SP   F    GR                       50             .0890
 94.9 99.5     99.5SP   F    GR                       39
999.9
```
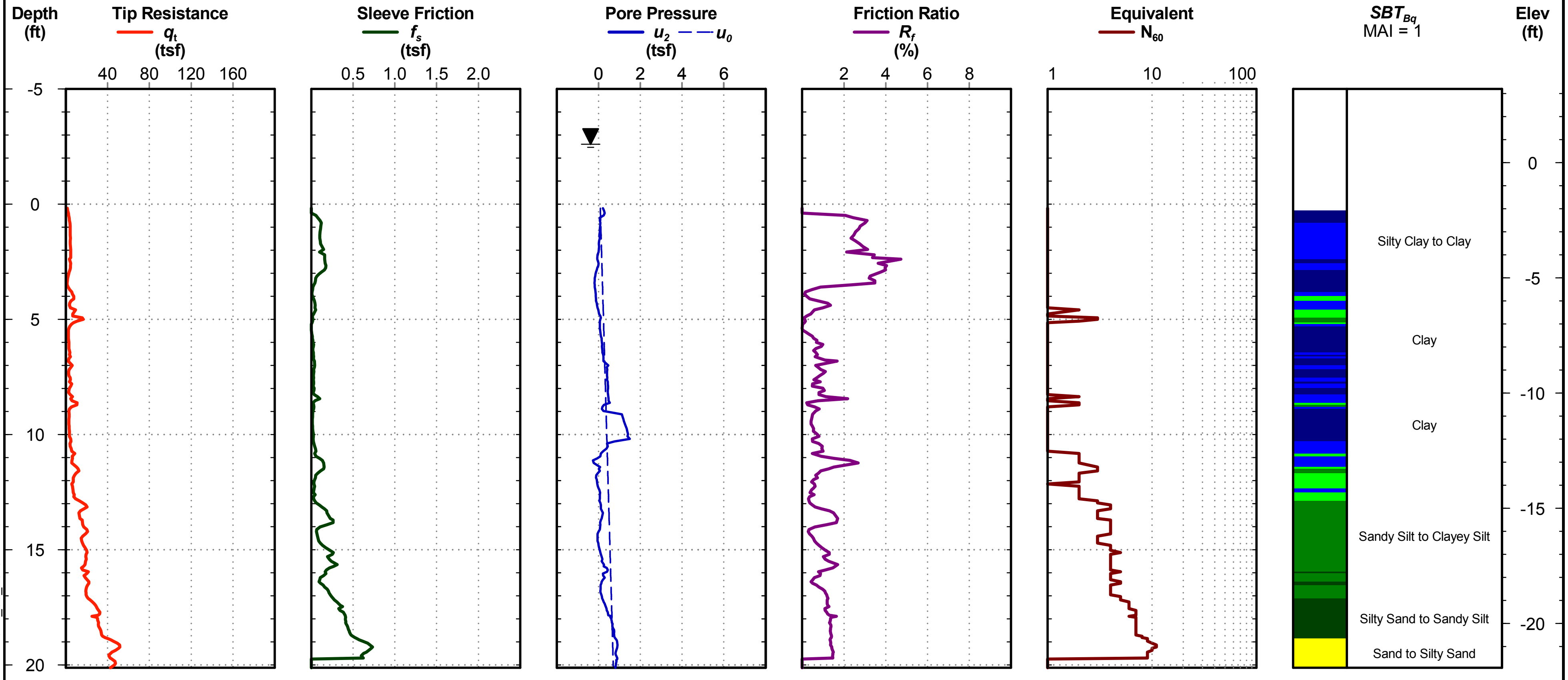

New Orleans Landbridge Marsh Creation (PO-169)
New Orleans, LA
S&ME Project No: 4585-17-006

Northing: 607736
Easting: 3782769
Mudline Elevation: -1.8 ft
Date: Jun. 15, 2017
Estimated Water Elevation: 0.8 ft
Rig/Operator: Airboat Mounted Geoprobe/Mike | David

Sounding ID: C-1

Total Depth: 20.1 ft
Termination Criteria: Refusal
Cone Size: 1.75



🟥 1 - Sensitive, Fine Grained Soils	🟦 4 - Silty Clay to Clay	🟩 7 - Silty Sand to Sandy Silt	🟫 10 - Gravelly Sand to Sand
🟧 2 - Organic Soils, Peats	🟩 5 - Clayey Silt to Silty Clay	🟨 8 - Sand to Silty Sand	⬜ 11 - Very Stiff Fine Grained - Overconsolidated or Cemented
🟦 3 - Clay	🟩 6 - Sandy Silt to Clayey Silt	🟫 9 - Sand	⬛ 12 - Sand to Clayey Sand - Overconsolidated or Cemented

Cone Penetration Test

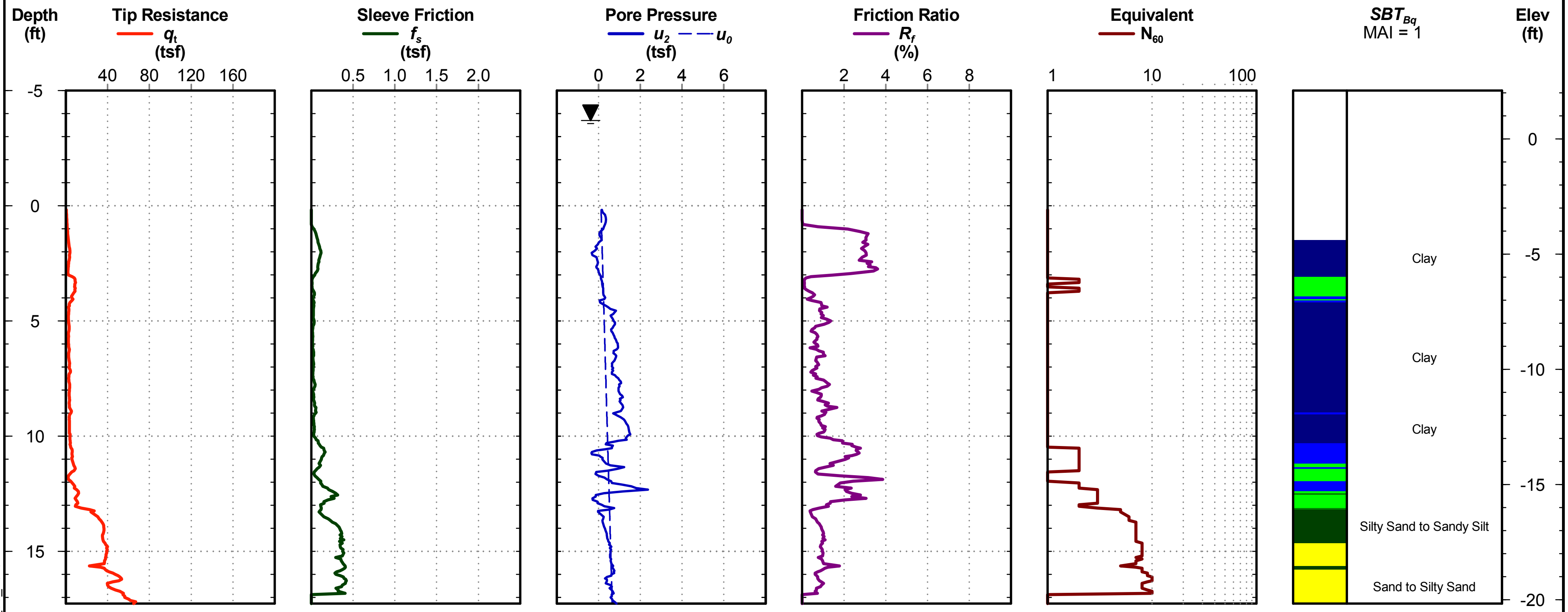
Electronic Filename: S15U1712C.DAT

New Orleans Landbridge Marsh Creation (PO-169)
New Orleans, LA
S&ME Project No: 4585-17-006

Sounding ID: C-2

Northing: 607039
Easting: 3783159
Mudline Elevation: -2.9 ft
Date: Jun. 15, 2017
Estimated Water Elevation: 0.8 ft
Rig/Operator: Airboat Mounted Geoprobe/Mike | David

Total Depth: 17.3 ft
Termination Criteria: Refusal
Cone Size: 1.75



- 🟥 1 - Sensitive, Fine Grained Soils
- 🟧 2 - Organic Soils, Peats
- 🟦 3 - Clay
- 🟦 4 - Silty Clay to Clay
- 🟩 5 - Clayey Silt to Silty Clay
- 🟩 6 - Sandy Silt to Clayey Silt
- 🟩 7 - Silty Sand to Sandy Silt
- 🟨 8 - Sand to Silty Sand
- 🟫 9 - Sand
- 🟫 10 - Gravelly Sand to Sand
- ⬜ 11 - Very Stiff Fine Grained - Overconsolidated or Cemented
- ⬛ 12 - Sand to Clayey Sand - Overconsolidated or Cemented

Cone Penetration Test

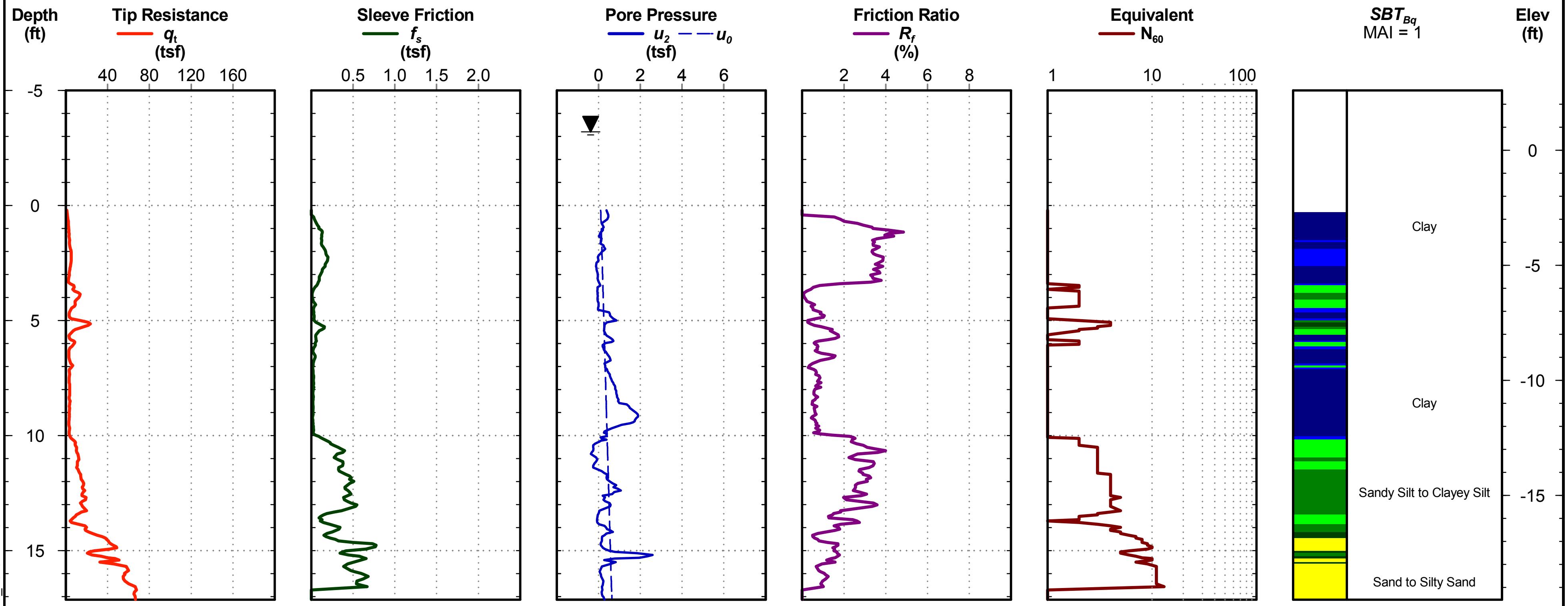
Electronic Filename: S15U1707C.DAT

New Orleans Landbridge Marsh Creation (PO-169)
New Orleans, LA
S&ME Project No: 4585-17-006

Northing: 605814
Easting: 3783274
Mudline Elevation: -2.4 ft
Date: Jun. 15, 2017
Estimated Water Elevation: 0.8 ft
Rig/Operator: Airboat Mounted Geoprobe/Mike | David

Sounding ID: C-3

Total Depth: 17.1 ft
Termination Criteria: Refusal
Cone Size: 1.75



- 🟥 **1 - Sensitive, Fine Grained Soils**
- 🟧 **2 - Organic Soils, Peats**
- 🟦 **3 - Clay**
- 🟦 **4 - Silty Clay to Clay**
- 🟩 **5 - Clayey Silt to Silty Clay**
- 🟩 **6 - Sandy Silt to Clayey Silt**
- 🟩 **7 - Silty Sand to Sandy Silt**
- 🟨 **8 - Sand to Silty Sand**
- 🟫 **9 - Sand**
- 🟫 **10 - Gravelly Sand to Sand**
- ⬜ **11 - Very Stiff Fine Grained - Overconsolidated or Cemented**
- ⬛ **12 - Sand to Clayey Sand - Overconsolidated or Cemented**

Cone Penetration Test

CPT REPORT - DYNAMIC PO-169 CPT.GPJ LIBRARY 2011_06_28.GDT 10/24/17

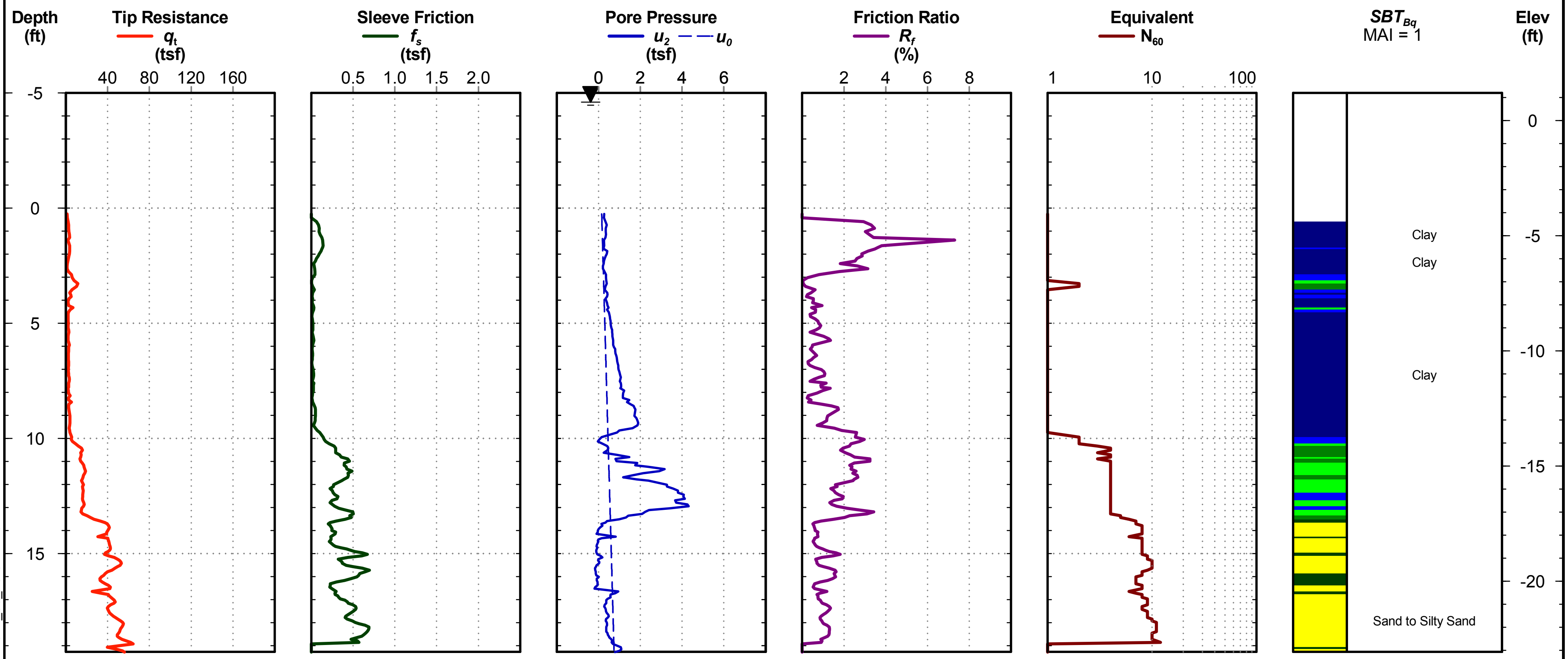
Electronic Filename: S15U1708C.DAT

New Orleans Landbridge Marsh Creation (PO-169)
New Orleans, LA
S&ME Project No: 4585-17-006

Northing: 604802
Easting: 3783260
Mudline Elevation: -3.8 ft
Date: Jun. 15, 2017
Estimated Water Elevation: 0.8 ft
Rig/Operator: Airboat Mounted Geoprobe/Mike | David

Sounding ID: C-4

Total Depth: 19.3 ft
Termination Criteria: Refusal
Cone Size: 1.75



- 🟥 1 - Sensitive, Fine Grained Soils
- 🟧 2 - Organic Soils, Peats
- 🟦 3 - Clay
- 🟦 4 - Silty Clay to Clay
- 🟩 5 - Clayey Silt to Silty Clay
- 🟩 6 - Sandy Silt to Clayey Silt
- 🟩 7 - Silty Sand to Sandy Silt
- 🟨 8 - Sand to Silty Sand
- 🟫 9 - Sand
- 🟫 10 - Gravelly Sand to Sand
- ⬜ 11 - Very Stiff Fine Grained - Overconsolidated or Cemented
- ⬛ 12 - Sand to Clayey Sand - Overconsolidated or Cemented

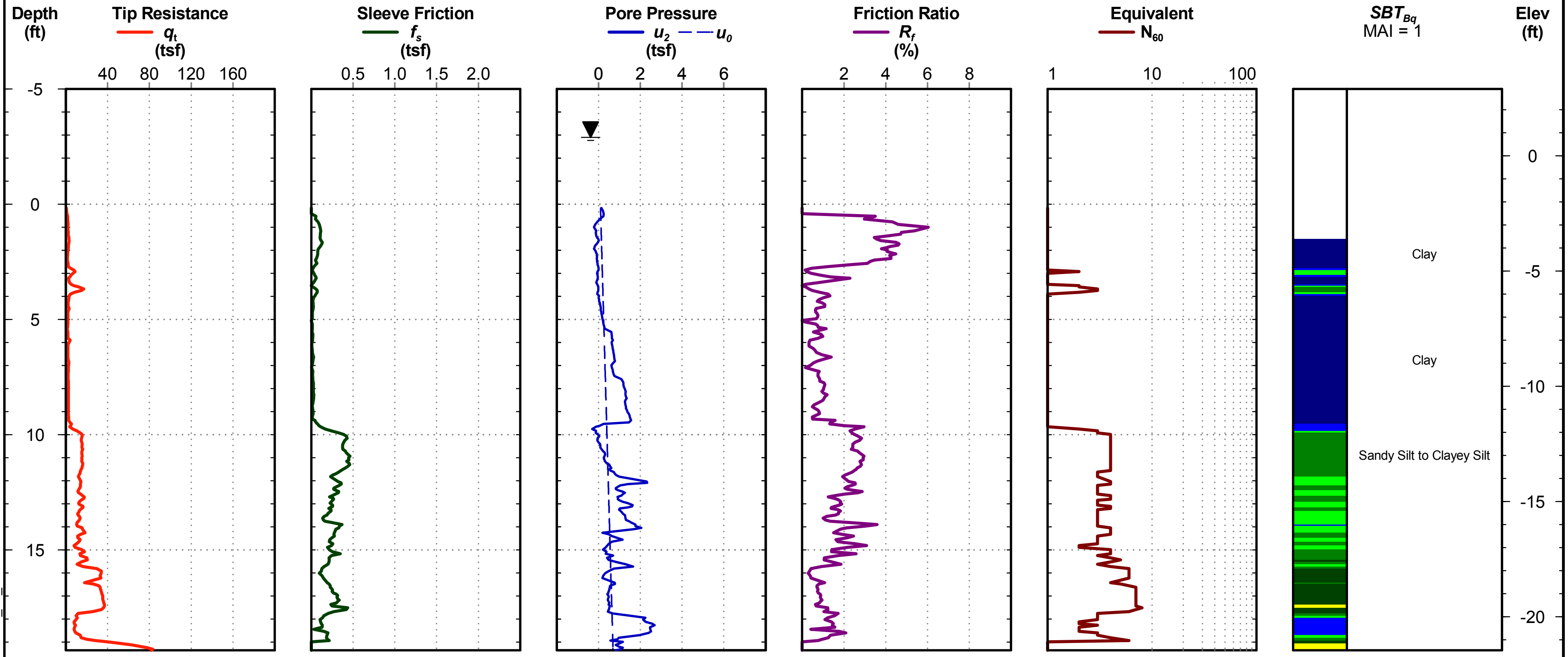
Cone Penetration Test

New Orleans Landbridge Marsh Creation (PO-169)
New Orleans, LA
S&ME Project No: 4585-17-006

Northing: 604432
Easting: 3782868
Mudline Elevation: -2.1 ft
Date: Jun. 15, 2017
Estimated Water Elevation: 0.8 ft
Rig/Operator: Airboat Mounted Geoprobe/Mike | David

Sounding ID: C-5

Total Depth: 19.4 ft
Termination Criteria: Refusal
Cone Size: 1.75



- 🟥 1 - Sensitive, Fine Grained Soils
- 🟧 2 - Organic Soils, Peats
- 🟦 3 - Clay
- 🟦 4 - Silty Clay to Clay
- 🟩 5 - Clayey Silt to Silty Clay
- 🟩 6 - Sandy Silt to Clayey Silt
- 🟩 7 - Silty Sand to Sandy Silt
- 🟨 8 - Sand to Silty Sand
- 🟫 9 - Sand
- 🟫 10 - Gravelly Sand to Sand
- ⬜ 11 - Very Stiff Fine Grained - Overconsolidated or Cemented
- ⬛ 12 - Sand to Clayey Sand - Overconsolidated or Cemented

Cone Penetration Test

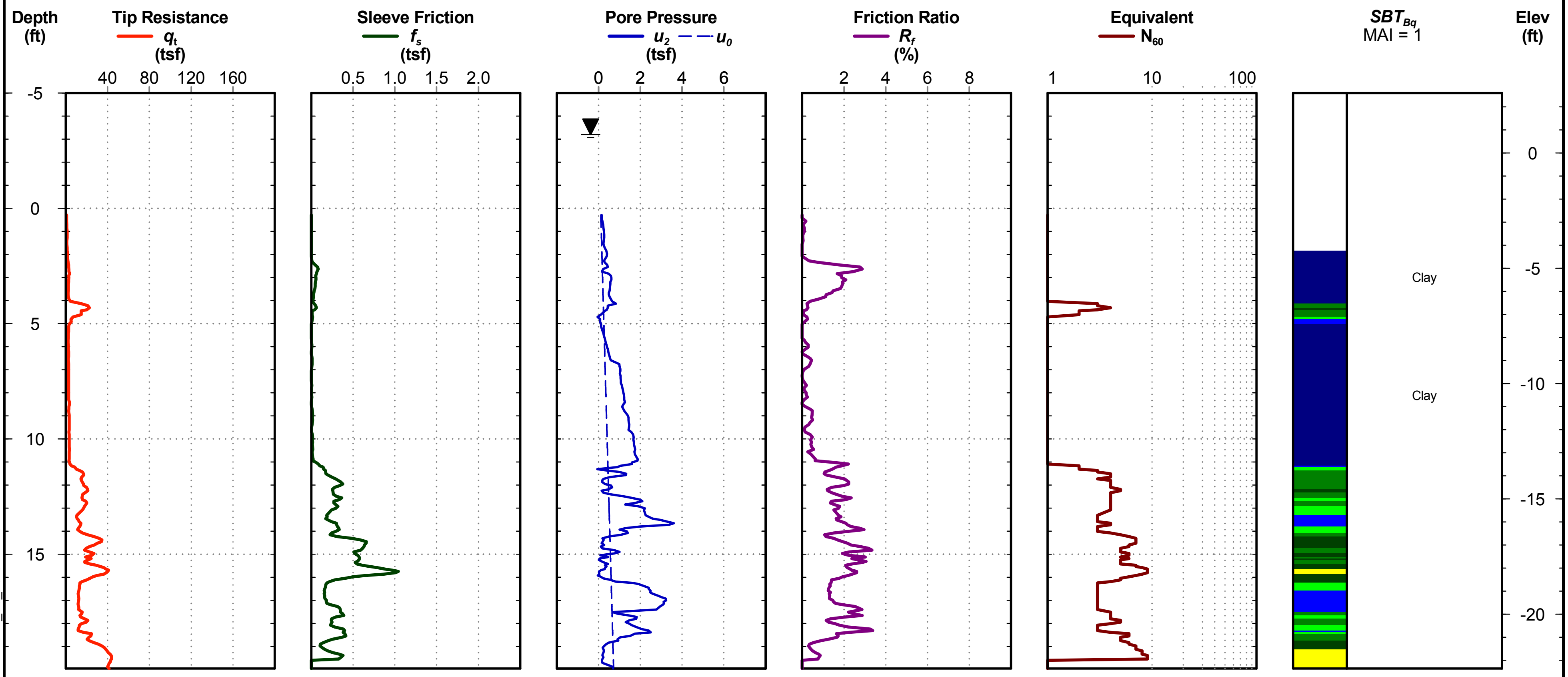
Electronic Filename: S15U1709C.DAT

New Orleans Landbridge Marsh Creation (PO-169)
New Orleans, LA
S&ME Project No: 4585-17-006

Northing: 603699
Easting: 3782502
Mudline Elevation: -2.4 ft
Date: Jun. 15, 2017
Estimated Water Elevation: 0.8 ft
Rig/Operator: Airboat Mounted Geoprobe/Mike | David

Sounding ID: C-6

Total Depth: 20.0 ft
Termination Criteria: Refusal
Cone Size: 1.75



- 🟥 1 - Sensitive, Fine Grained Soils
- 🟧 2 - Organic Soils, Peats
- 🟦 3 - Clay
- 🟦 4 - Silty Clay to Clay
- 🟩 5 - Clayey Silt to Silty Clay
- 🟩 6 - Sandy Silt to Clayey Silt
- 🟩 7 - Silty Sand to Sandy Silt
- 🟨 8 - Sand to Silty Sand
- 🟫 9 - Sand
- 🟫 10 - Gravelly Sand to Sand
- ⬜ 11 - Very Stiff Fine Grained - Overconsolidated or Cemented
- ⬛ 12 - Sand to Clayey Sand - Overconsolidated or Cemented

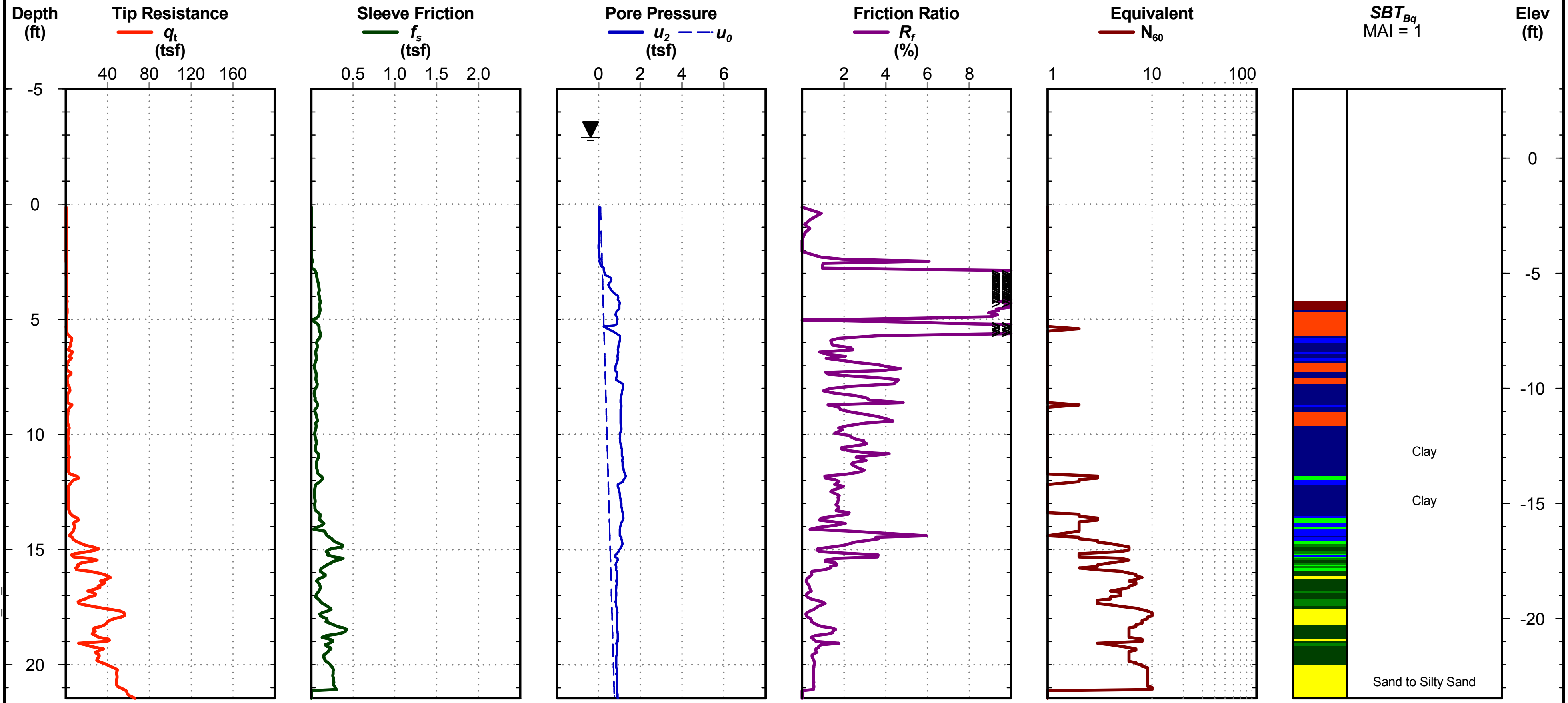
Cone Penetration Test

New Orleans Landbridge Marsh Creation (PO-169)
New Orleans, LA
S&ME Project No: 4585-17-006

Northing: 607051
Easting: 3785539
Mudline Elevation: -2 ft
Date: Jun. 14, 2017
Estimated Water Elevation: 0.9 ft
Rig/Operator: Airboat Mounted Geoprobe/Mike | David

Sounding ID: C-7

Total Depth: 21.5 ft
Termination Criteria: Refusal
Cone Size: 1.44



Cone Penetration Test

🟥 1 - Sensitive, Fine Grained Soils
🟧 2 - Organic Soils, Peats
🟦 3 - Clay
🟦 4 - Silty Clay to Clay
🟩 5 - Clayey Silt to Silty Clay
🟩 6 - Sandy Silt to Clayey Silt
🟩 7 - Silty Sand to Sandy Silt
🟨 8 - Sand to Silty Sand
🟨 9 - Sand
🟫 10 - Gravelly Sand to Sand
⬜ 11 - Very Stiff Fine Grained - Overconsolidated or Cemented
⬛ 12 - Sand to Clayey Sand - Overconsolidated or Cemented

CPT REPORT - DYNAMIC PO-169 CPT.GPJ LIBRARY 2011_06_28.GDT 10/24/17

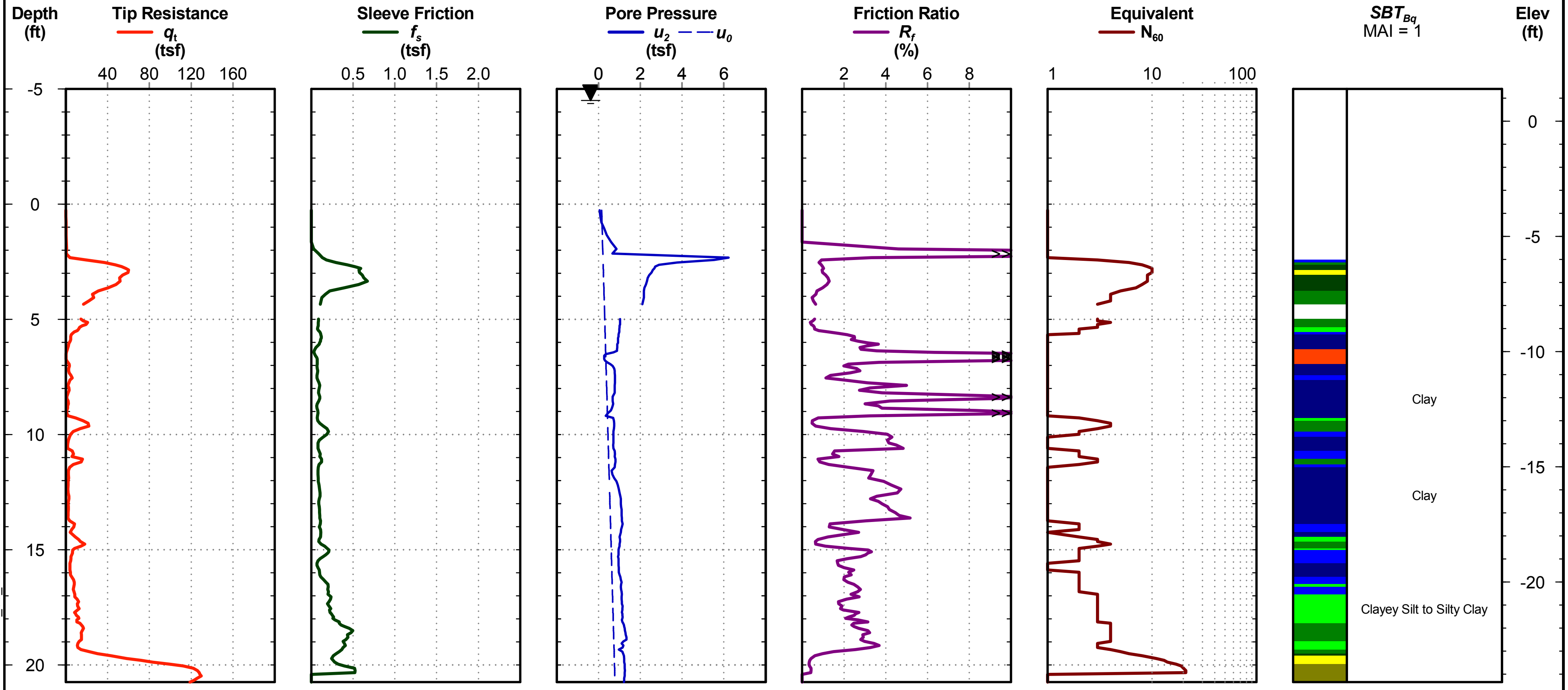
Electronic Filename: S14U1708C.DAT

New Orleans Landbridge Marsh Creation (PO-169)
New Orleans, LA
S&ME Project No: 4585-17-006

Northing: 606805
Easting: 3786683
Mudline Elevation: -3.6 ft
Date: Jun. 14, 2017
Estimated Water Elevation: 0.9 ft
Rig/Operator: Airboat Mounted Geoprobe/Mike | David

Sounding ID: C-8

Total Depth: 20.7 ft
Termination Criteria: Refusal
Cone Size: 1.44



🟥 1 - Sensitive, Fine Grained Soils
🟧 2 - Organic Soils, Peats
🟦 3 - Clay
🟦 4 - Silty Clay to Clay
🟩 5 - Clayey Silt to Silty Clay
🟩 6 - Sandy Silt to Clayey Silt
🟩 7 - Silty Sand to Sandy Silt
🟨 8 - Sand to Silty Sand
🟫 9 - Sand
🟫 10 - Gravelly Sand to Sand
⬜ 11 - Very Stiff Fine Grained - Overconsolidated or Cemented
⬛ 12 - Sand to Clayey Sand - Overconsolidated or Cemented

Cone Penetration Test

CPT REPORT - DYNAMIC PO-169 CPT.GPJ LIBRARY 2011_06_28.GDT 10/24/17

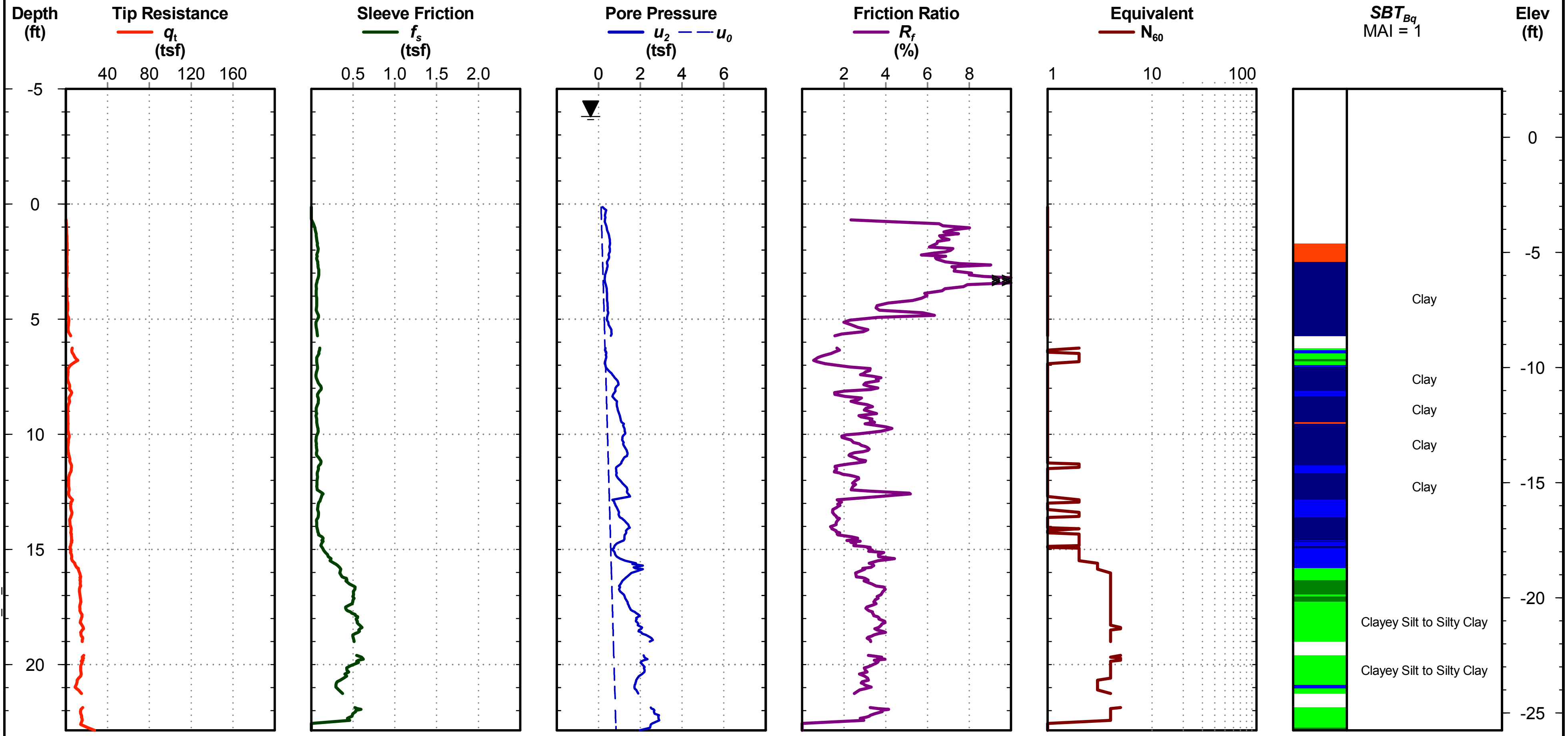
Electronic Filename: S14U1704C.DAT

New Orleans Landbridge Marsh Creation (PO-169)
New Orleans, LA
S&ME Project No: 4585-17-006

Northing: 605777
Easting: 3786685
Mudline Elevation: -2.9 ft
Date: Jun. 14, 2017
Estimated Water Elevation: 0.9 ft
Rig/Operator: Airboat Mounted Geoprobe/Mike | David

Sounding ID: C-9

Total Depth: 22.9 ft
Termination Criteria: Refusal
Cone Size: 1.44



- 🟥 1 - Sensitive, Fine Grained Soils
- 🟧 2 - Organic Soils, Peats
- 🟦 3 - Clay
- 🟦 4 - Silty Clay to Clay
- 🟩 5 - Clayey Silt to Silty Clay
- 🟩 6 - Sandy Silt to Clayey Silt
- 🟩 7 - Silty Sand to Sandy Silt
- 🟨 8 - Sand to Silty Sand
- 🟫 9 - Sand
- 🟫 10 - Gravelly Sand to Sand
- ⬜ 11 - Very Stiff Fine Grained - Overconsolidated or Cemented
- ⬛ 12 - Sand to Clayey Sand - Overconsolidated or Cemented

Cone Penetration Test

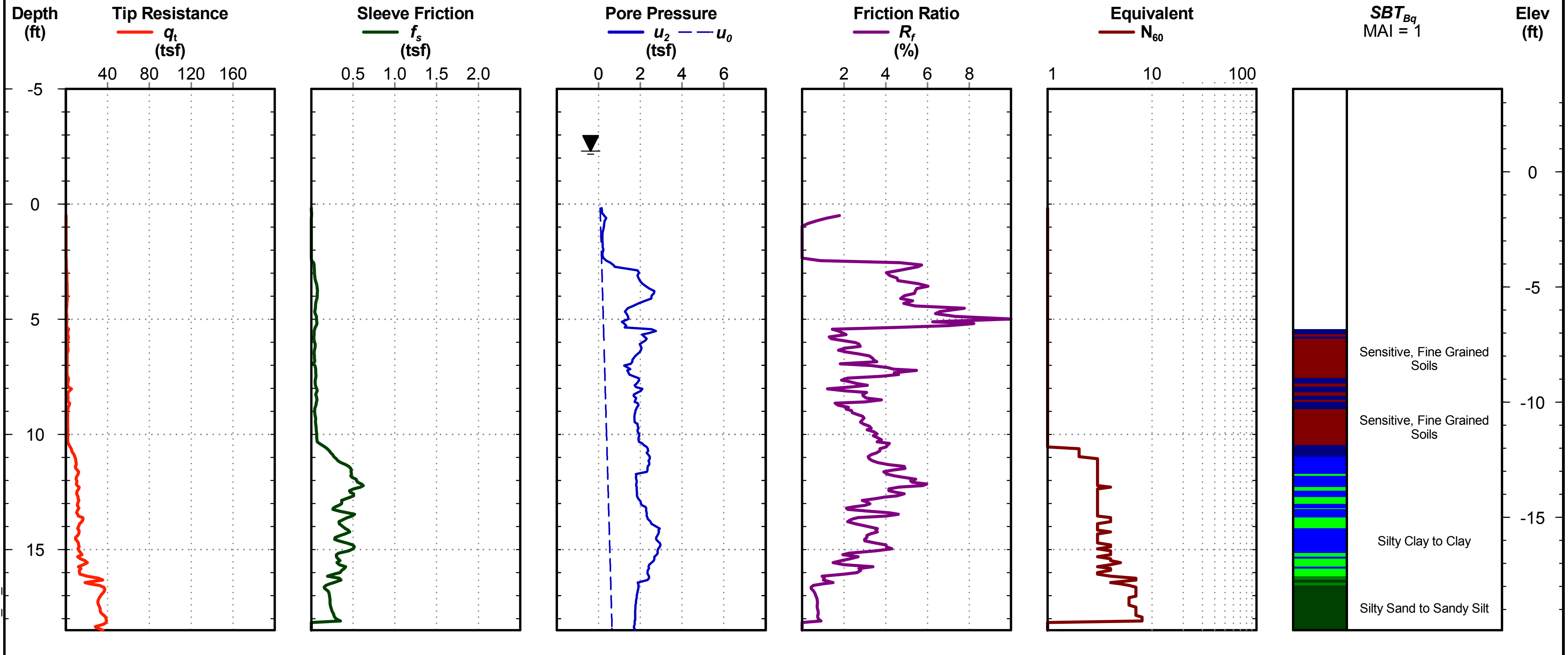
Electronic Filename: S14U1701C.DAT

New Orleans Landbridge Marsh Creation (PO-169)
New Orleans, LA
S&ME Project No: 4585-17-006

Northing: 605056
Easting: 3786442
Mudline Elevation: -1.4 ft
Date: Jun. 14, 2017
Estimated Water Elevation: 0.9 ft
Rig/Operator: Airboat Mounted Geoprobe/Mike | David

Sounding ID: C-10

Total Depth: 18.5 ft
Termination Criteria: Refusal
Cone Size: 1.44



- 🟥 1 - Sensitive, Fine Grained Soils
- 🟥 2 - Organic Soils, Peats
- 🟦 3 - Clay
- 🟦 4 - Silty Clay to Clay
- 🟩 5 - Clayey Silt to Silty Clay
- 🟩 6 - Sandy Silt to Clayey Silt
- 🟩 7 - Silty Sand to Sandy Silt
- 🟨 8 - Sand to Silty Sand
- 🟫 9 - Sand
- 🟫 10 - Gravelly Sand to Sand
- ⬜ 11 - Very Stiff Fine Grained - Overconsolidated or Cemented
- ⬛ 12 - Sand to Clayey Sand - Overconsolidated or Cemented

Cone Penetration Test

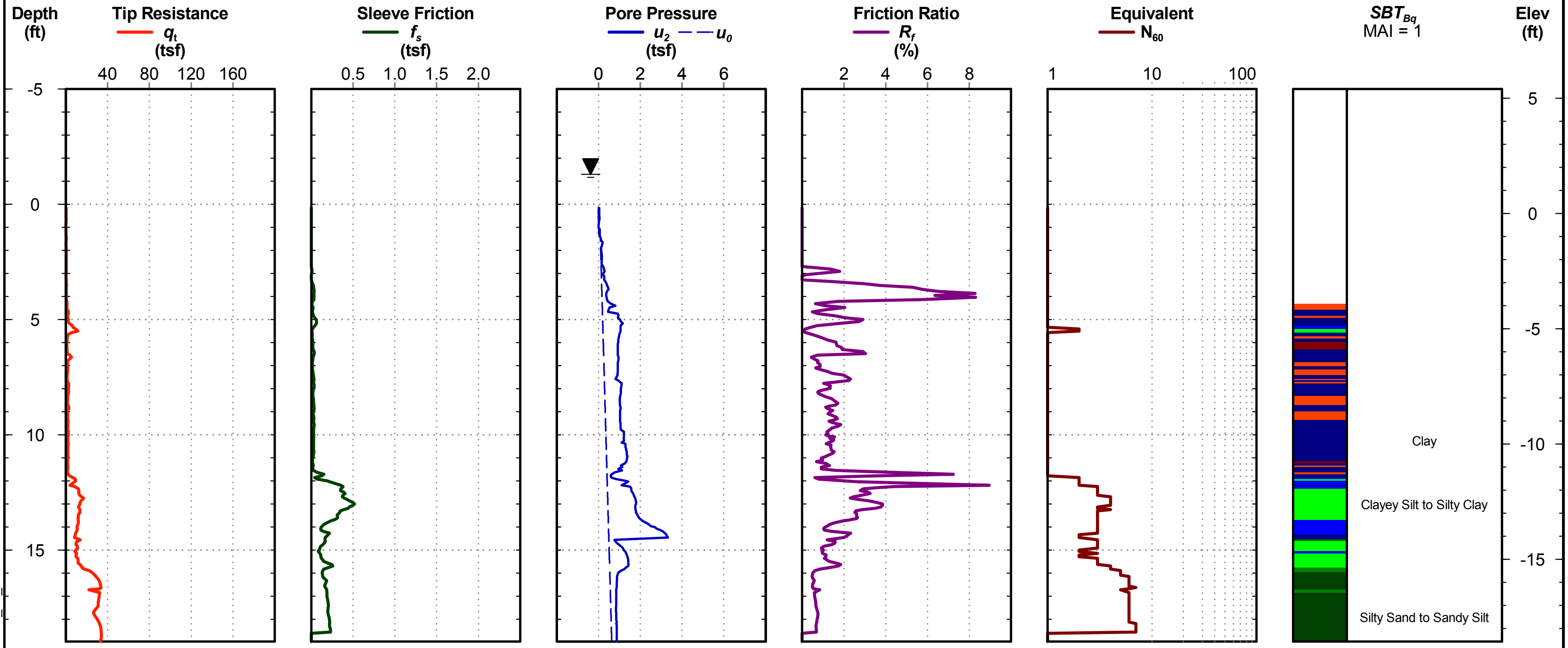
Electronic Filename: S14U1706C.DAT

New Orleans Landbridge Marsh Creation (PO-169)
New Orleans, LA
S&ME Project No: 4585-17-006

Northing: 604832
Easting: 3785822
Mudline Elevation: 0.4 ft
Date: Jun. 14, 2017
Estimated Water Elevation: 1.7 ft
Rig/Operator: Airboat Mounted Geoprobe/Mike | David

Sounding ID: C-11

Total Depth: 19.0 ft
Termination Criteria: Refusal
Cone Size: 1.44



🟥 1 - Sensitive, Fine Grained Soils
🟧 2 - Organic Soils, Peats
🟦 3 - Clay
🟦 4 - Silty Clay to Clay
🟩 5 - Clayey Silt to Silty Clay
🟩 6 - Sandy Silt to Clayey Silt
🟩 7 - Silty Sand to Sandy Silt
🟨 8 - Sand to Silty Sand
🟫 9 - Sand
🟫 10 - Gravelly Sand to Sand
⬜ 11 - Very Stiff Fine Grained - Overconsolidated or Cemented
⬛ 12 - Sand to Clayey Sand - Overconsolidated or Cemented

Cone Penetration Test

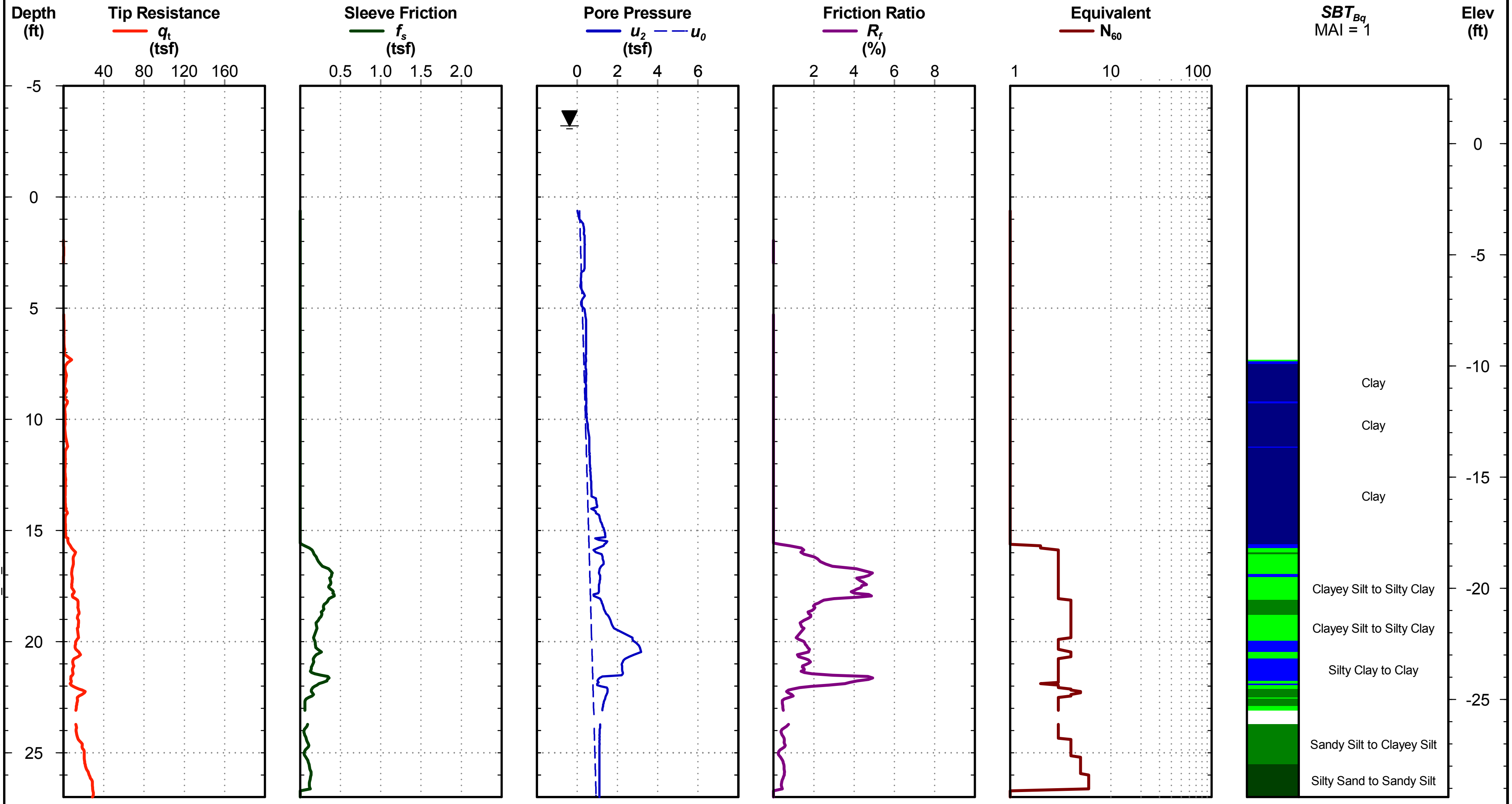
Electronic Filename: S14U1707C.DAT

New Orleans Landbridge Marsh Creation (PO-169)
New Orleans, LA
S&ME Project No: 4585-17-006

Northing: 603932
Easting: 3786290
Mudline Elevation: -2.4 ft
Date: Jun. 14, 2017
Estimated Water Elevation: 0.8 ft
Rig/Operator: Airboat Mounted Geoprobe/Mike | David

Sounding ID: C-12

Total Depth: 27.0 ft
Termination Criteria: Refusal
Cone Size: 1.44



🟥 1 - Sensitive, Fine Grained Soils
🟧 2 - Organic Soils, Peats
🟦 3 - Clay
🟦 4 - Silty Clay to Clay
🟩 5 - Clayey Silt to Silty Clay
🟩 6 - Sandy Silt to Clayey Silt
🟩 7 - Silty Sand to Sandy Silt
🟨 8 - Sand to Silty Sand
🟫 9 - Sand
🟫 10 - Gravelly Sand to Sand
⬜ 11 - Very Stiff Fine Grained - Overconsolidated or Cemented
⬛ 12 - Sand to Clayey Sand - Overconsolidated or Cemented

Cone Penetration Test

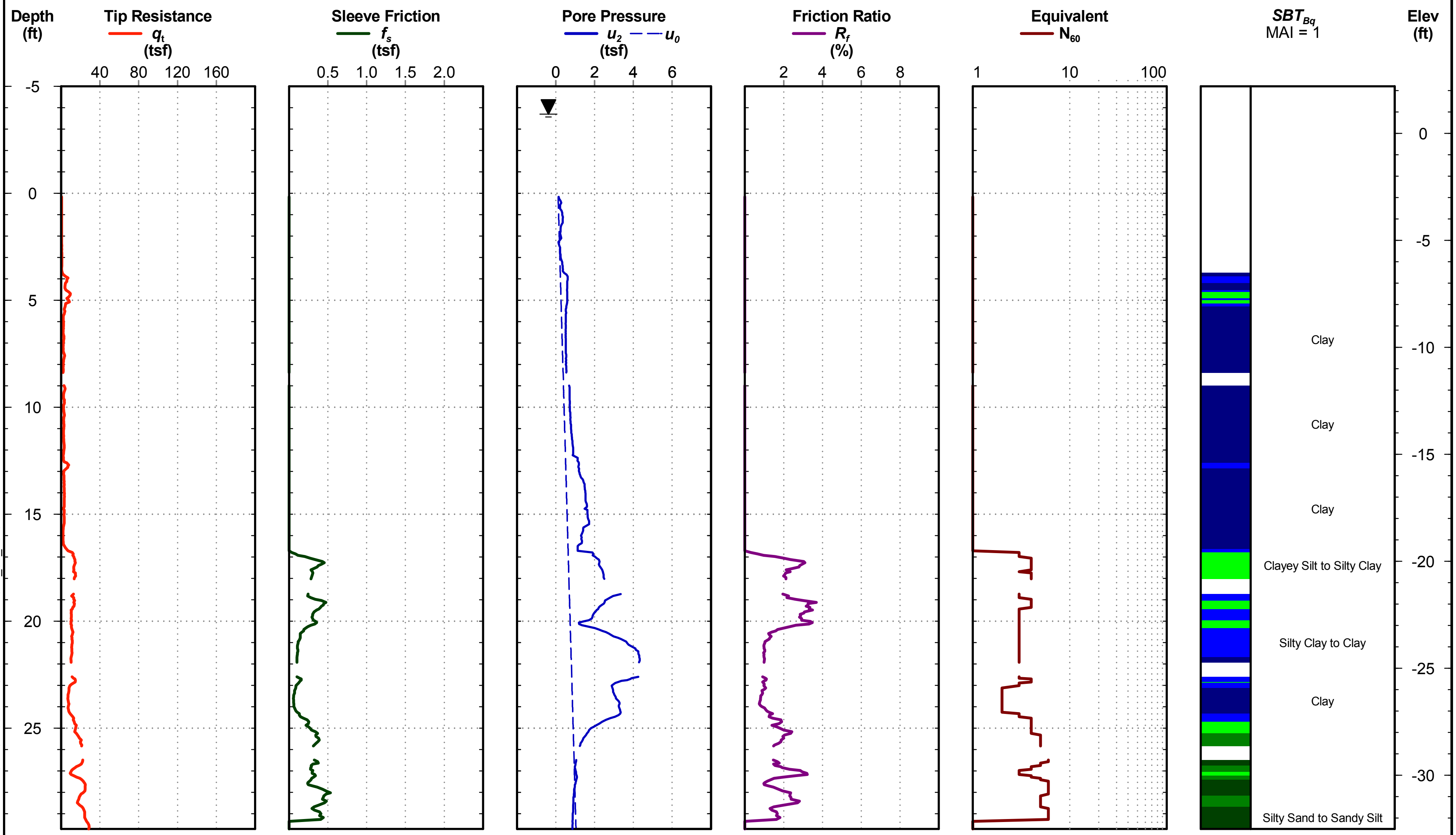
Electronic Filename: S14U1702C.DAT

New Orleans Landbridge Marsh Creation (PO-169)
New Orleans, LA
S&ME Project No: 4585-17-006

Northing: 603025
Easting: 3785971
Mudline Elevation: -2.8 ft
Date: Jun. 14, 2017
Estimated Water Elevation: 0.9 ft
Rig/Operator: Airboat Mounted Geoprobe/Mike | David

Sounding ID: C-13

Total Depth: 29.7 ft
Termination Criteria: Target Depth
Cone Size: 1.44



🟥 1 - Sensitive, Fine Grained Soils
🟥 2 - Organic Soils, Peats
🟦 3 - Clay
🟦 4 - Silty Clay to Clay
🟩 5 - Clayey Silt to Silty Clay
🟩 6 - Sandy Silt to Clayey Silt
🟩 7 - Silty Sand to Sandy Silt
🟨 8 - Sand to Silty Sand
🟫 9 - Sand
🟫 10 - Gravelly Sand to Sand
⬜ 11 - Very Stiff Fine Grained - Overconsolidated or Cemented
⬛ 12 - Sand to Clayey Sand - Overconsolidated or Cemented

Cone Penetration Test

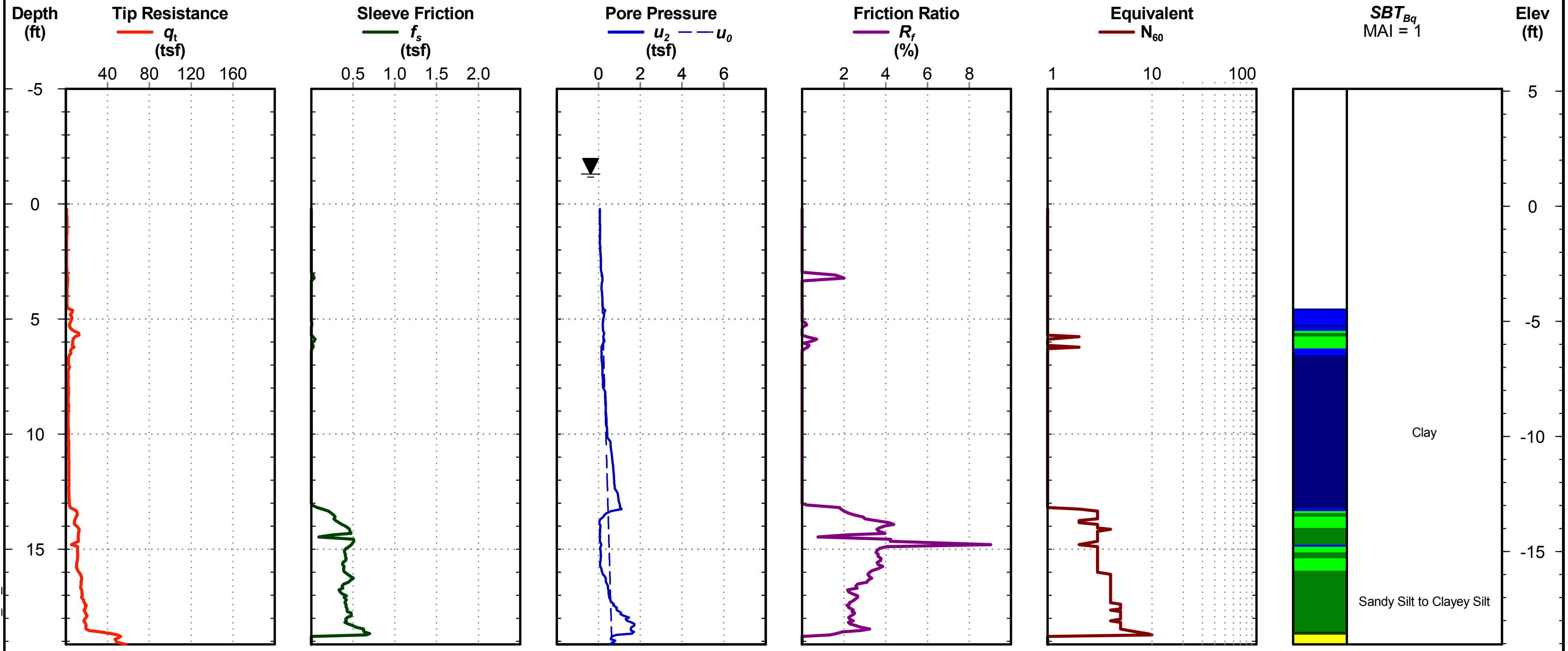
Electronic Filename: S14U1703C.DAT

New Orleans Landbridge Marsh Creation (PO-169)
New Orleans, LA
S&ME Project No: 4585-17-006

Northing: 602284
Easting: 3791077
Mudline Elevation: 0.1 ft
Date: Jun. 15, 2017
Estimated Water Elevation: 1.4 ft
Rig/Operator: Airboat Mounted Geoprobe/Mike | David

Sounding ID: C-14

Total Depth: 19.1 ft
Termination Criteria: Refusal
Cone Size: 1.75



🟥 1 - Sensitive, Fine Grained Soils
🟧 2 - Organic Soils, Peats
🟦 3 - Clay
🟦 4 - Silty Clay to Clay
🟩 5 - Clayey Silt to Silty Clay
🟩 6 - Sandy Silt to Clayey Silt
🟩 7 - Silty Sand to Sandy Silt
🟨 8 - Sand to Silty Sand
🟫 9 - Sand
🟫 10 - Gravelly Sand to Sand
⬜ 11 - Very Stiff Fine Grained - Overconsolidated or Cemented
⬛ 12 - Sand to Clayey Sand - Overconsolidated or Cemented

Cone Penetration Test

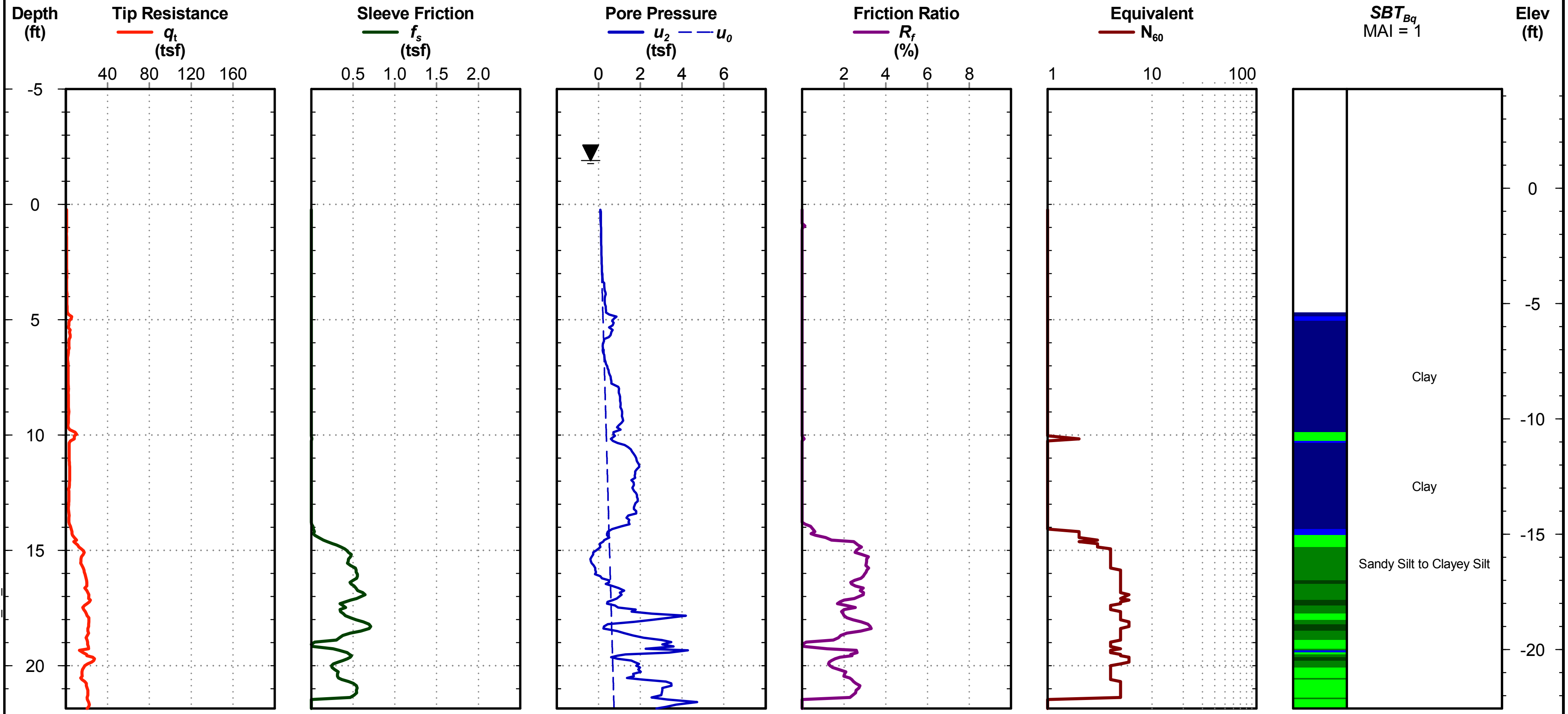
Electronic Filename: S15U1714C.DAT

New Orleans Landbridge Marsh Creation (PO-169)
New Orleans, LA
S&ME Project No: 4585-17-006

Sounding ID: C-15

Northing: 602409
Easting: 3793703
Mudline Elevation: -0.7 ft
Date: Jun. 16, 2017
Estimated Water Elevation: 1.2 ft
Rig/Operator: Airboat Mounted Geoprobe/Mike | David

Total Depth: 21.9 ft
Termination Criteria: Refusal
Cone Size: 1.75



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🟥 1 - Sensitive, Fine Grained Soils
🟧 2 - Organic Soils, Peats
🟦 3 - Clay

🟦 4 - Silty Clay to Clay
🟩 5 - Clayey Silt to Silty Clay
🟩 6 - Sandy Silt to Clayey Silt

🟩 7 - Silty Sand to Sandy Silt
🟨 8 - Sand to Silty Sand
🟫 9 - Sand

🟫 10 - Gravelly Sand to Sand
⬜ 11 - Very Stiff Fine Grained - Overconsolidated or Cemented
⬛ 12 - Sand to Clayey Sand - Overconsolidated or Cemented

Cone Penetration Test

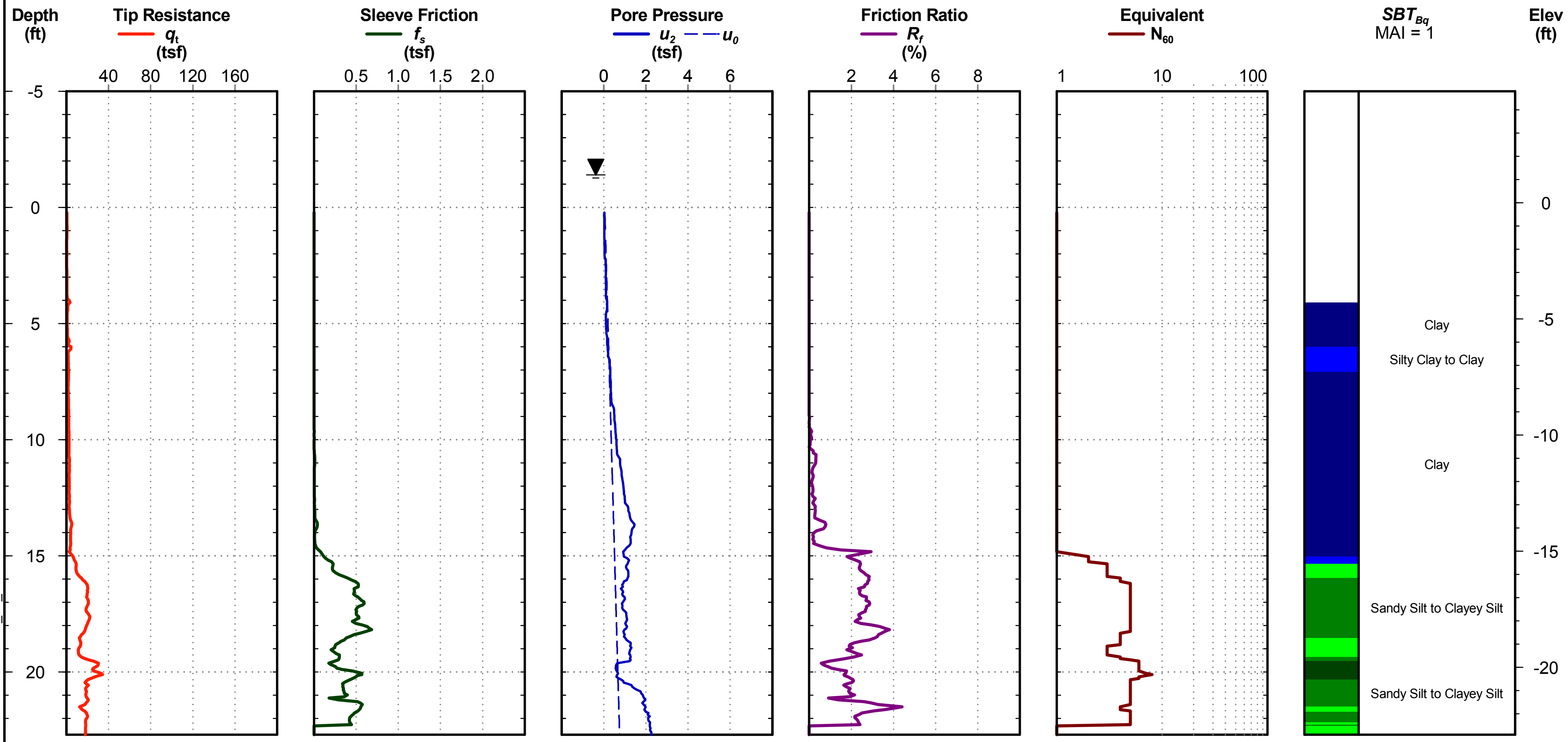
Electronic Filename: S16U1705C.DAT

New Orleans Landbridge Marsh Creation (PO-169)
New Orleans, LA
S&ME Project No: 4585-17-006

Northing: 601225
Easting: 3791302
Mudline Elevation: -0.2 ft
Date: Jun. 15, 2017
Estimated Water Elevation: 1.2 ft
Rig/Operator: Airboat Mounted Geoprobe/Mike | David

Sounding ID: C-16

Total Depth: 22.7 ft
Termination Criteria: Refusal
Cone Size: 1.75



🟥 **1 - Sensitive, Fine Grained Soils**
🟧 **2 - Organic Soils, Peats**
🟦 **3 - Clay**
🟦 **4 - Silty Clay to Clay**
🟩 **5 - Clayey Silt to Silty Clay**
🟩 **6 - Sandy Silt to Clayey Silt**
🟩 **7 - Silty Sand to Sandy Silt**
🟨 **8 - Sand to Silty Sand**
🟫 **9 - Sand**
🟫 **10 - Gravelly Sand to Sand**
⬜ **11 - Very Stiff Fine Grained - Overconsolidated or Cemented**
⬛ **12 - Sand to Clayey Sand - Overconsolidated or Cemented**

Cone Penetration Test

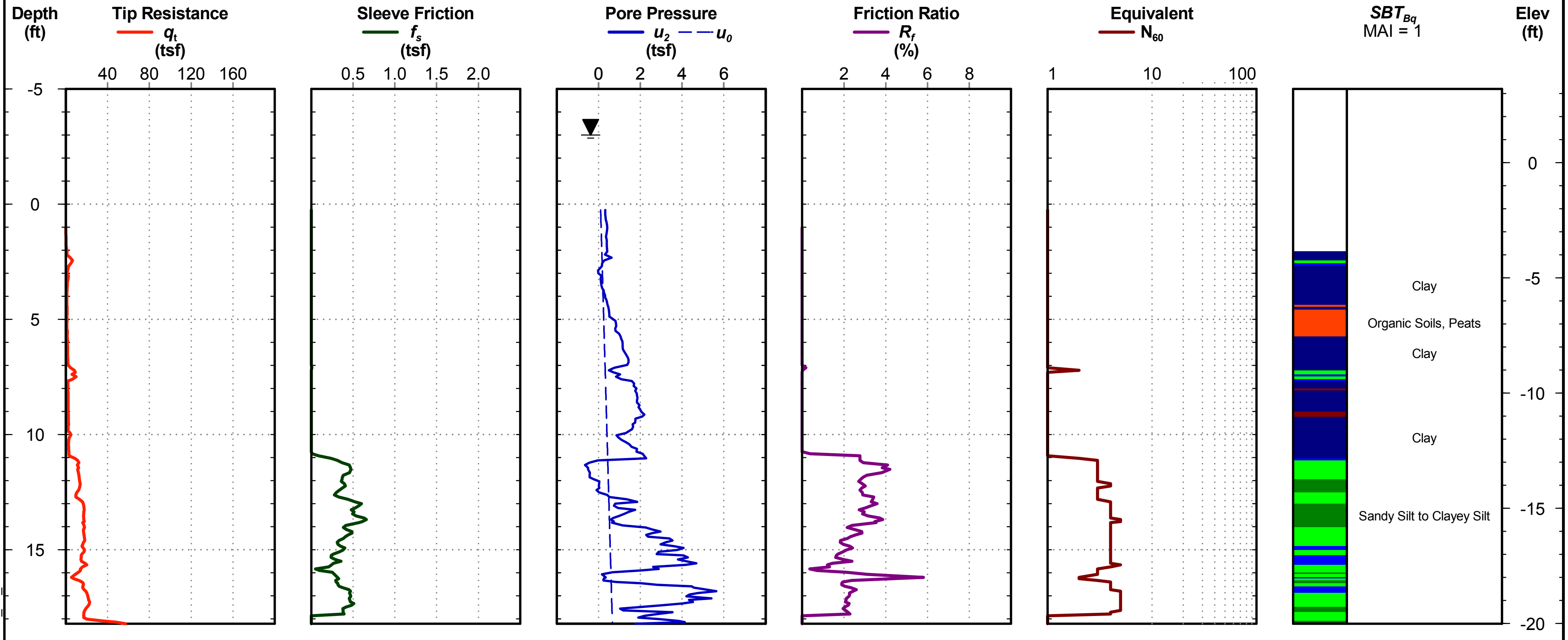
Electronic Filename: S15U1713C.DAT

New Orleans Landbridge Marsh Creation (PO-169)
New Orleans, LA
S&ME Project No: 4585-17-006

Northing: 601311
Easting: 3793410
Mudline Elevation: -1.8 ft
Date: Jun. 16, 2017
Estimated Water Elevation: 1.2 ft
Rig/Operator: Airboat Mounted Geoprobe/Mike | David

Sounding ID: C-17

Total Depth: 18.2 ft
Termination Criteria: Refusal
Cone Size: 1.75



🟥 1 - Sensitive, Fine Grained Soils
🟧 2 - Organic Soils, Peats
🟦 3 - Clay
🟦 4 - Silty Clay to Clay
🟩 5 - Clayey Silt to Silty Clay
🟩 6 - Sandy Silt to Clayey Silt
🟩 7 - Silty Sand to Sandy Silt
🟨 8 - Sand to Silty Sand
🟫 9 - Sand
🟫 10 - Gravelly Sand to Sand
⬜ 11 - Very Stiff Fine Grained - Overconsolidated or Cemented
⬛ 12 - Sand to Clayey Sand - Overconsolidated or Cemented

Cone Penetration Test

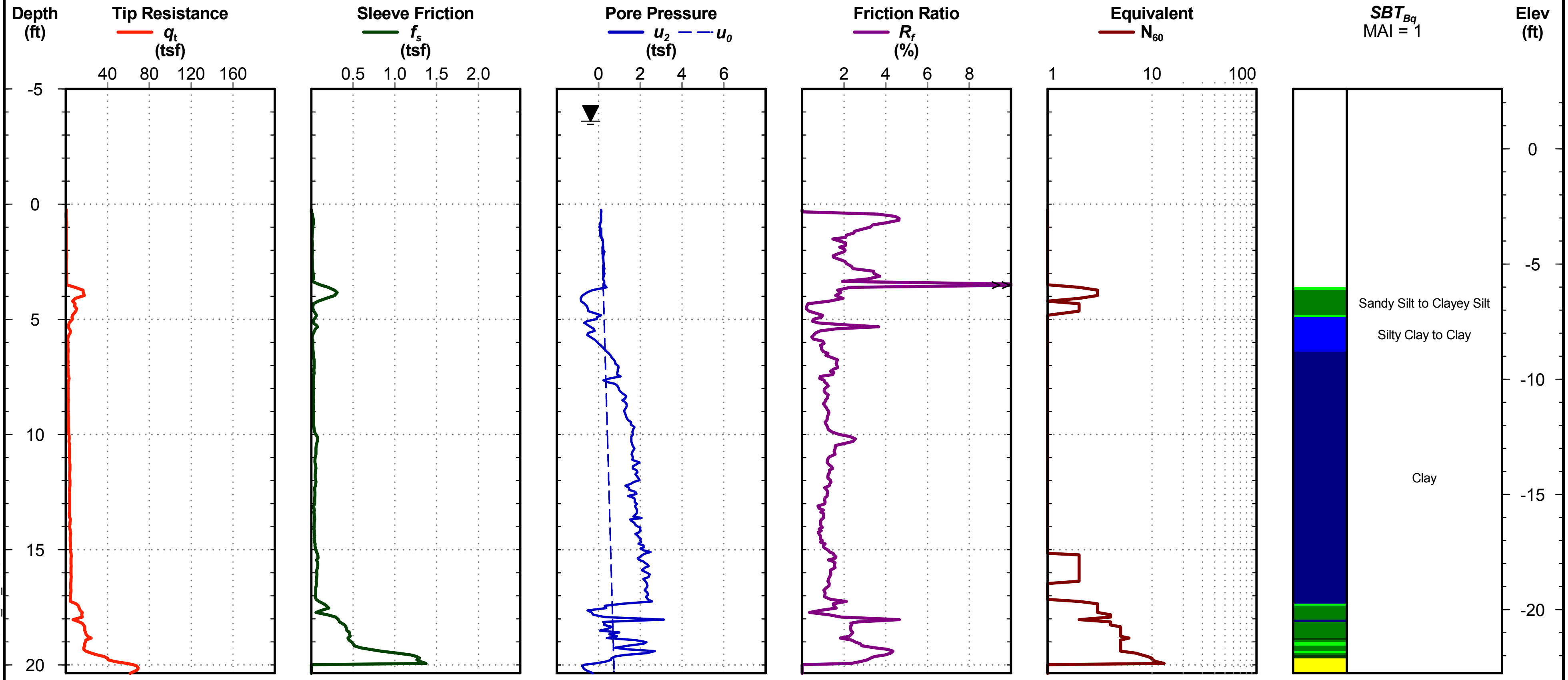
Electronic Filename: S16U1703C.DAT

New Orleans Landbridge Marsh Creation (PO-169)
New Orleans, LA
S&ME Project No: 4585-17-006

Northing: 600602
Easting: 3792094
Mudline Elevation: -2.4 ft
Date: Jun. 16, 2017
Estimated Water Elevation: 1.2 ft
Rig/Operator: Airboat Mounted Geoprobe/Mike | David

Sounding ID: C-18

Total Depth: 20.4 ft
Termination Criteria: Refusal
Cone Size: 1.75



🟥 1 - Sensitive, Fine Grained Soils
🟧 2 - Organic Soils, Peats
🟦 3 - Clay
🟦 4 - Silty Clay to Clay
🟩 5 - Clayey Silt to Silty Clay
🟩 6 - Sandy Silt to Clayey Silt
🟩 7 - Silty Sand to Sandy Silt
🟨 8 - Sand to Silty Sand
🟫 9 - Sand
🟫 10 - Gravelly Sand to Sand
⬜ 11 - Very Stiff Fine Grained - Overconsolidated or Cemented
⬛ 12 - Sand to Clayey Sand - Overconsolidated or Cemented

Cone Penetration Test

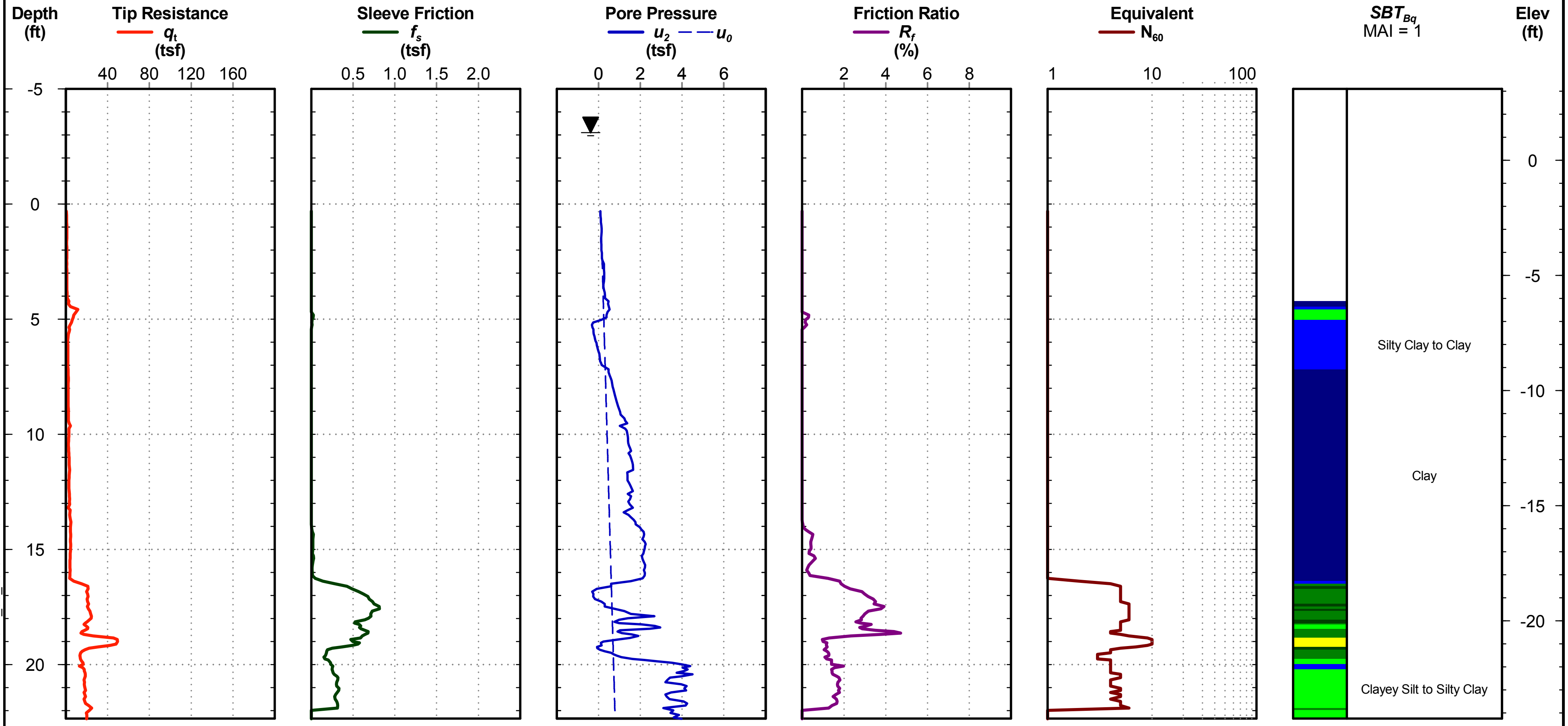
Electronic Filename: S16U1701C.DAT

New Orleans Landbridge Marsh Creation (PO-169)
New Orleans, LA
S&ME Project No: 4585-17-006

Northing: 600467
Easting: 3793197
Mudline Elevation: -1.9 ft
Date: Jun. 16, 2017
Estimated Water Elevation: 1.2 ft
Rig/Operator: Airboat Mounted Geoprobe/Mike | David

Sounding ID: C-19

Total Depth: 22.4 ft
Termination Criteria: Refusal
Cone Size: 1.75



🟥 **1 - Sensitive, Fine Grained Soils**
🟧 **2 - Organic Soils, Peats**
🟦 **3 - Clay**
🟦 **4 - Silty Clay to Clay**
🟩 **5 - Clayey Silt to Silty Clay**
🟩 **6 - Sandy Silt to Clayey Silt**
🟩 **7 - Silty Sand to Sandy Silt**
🟨 **8 - Sand to Silty Sand**
🟫 **9 - Sand**
🟫 **10 - Gravelly Sand to Sand**
⬜ **11 - Very Stiff Fine Grained - Overconsolidated or Cemented**
⬛ **12 - Sand to Clayey Sand - Overconsolidated or Cemented**

Cone Penetration Test

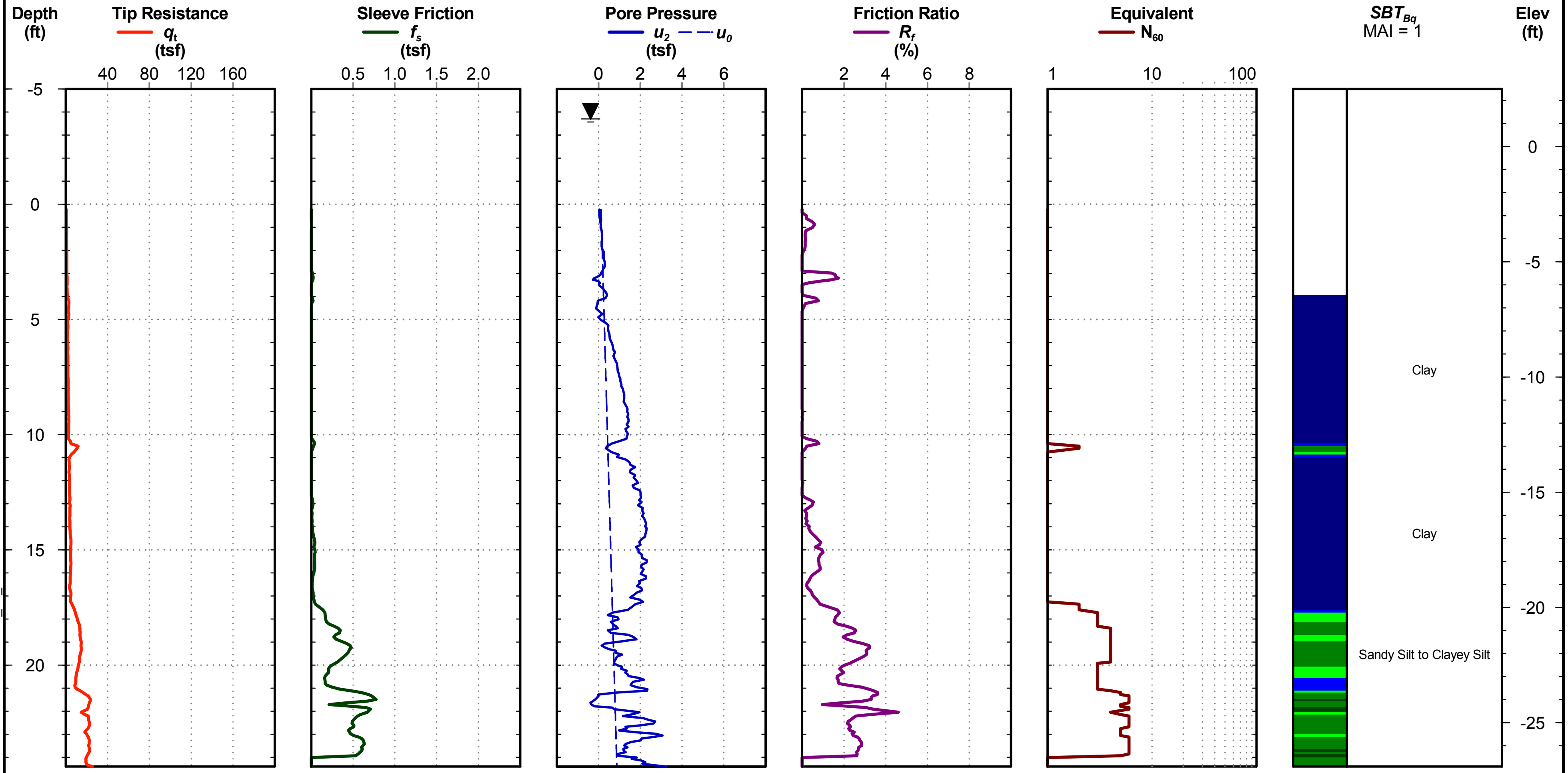
Electronic Filename: S16U1704C.DAT

New Orleans Landbridge Marsh Creation (PO-169)
New Orleans, LA
S&ME Project No: 4585-17-006

Sounding ID: C-20

Northing: 599857
Easting: 3792698
Mudline Elevation: -2.5 ft
Date: Jun. 16, 2017
Estimated Water Elevation: 1.2 ft
Rig/Operator: Airboat Mounted Geoprobe/Mike | David

Total Depth: 24.4 ft
Termination Criteria: Refusal
Cone Size: 1.75



🟥 **1 - Sensitive, Fine Grained Soils**
🟧 **2 - Organic Soils, Peats**
🟦 **3 - Clay**
🟦 **4 - Silty Clay to Clay**
🟩 **5 - Clayey Silt to Silty Clay**
🟩 **6 - Sandy Silt to Clayey Silt**
🟩 **7 - Silty Sand to Sandy Silt**
🟨 **8 - Sand to Silty Sand**
🟫 **9 - Sand**
🟫 **10 - Gravelly Sand to Sand**
⬜ **11 - Very Stiff Fine Grained - Overconsolidated or Cemented**
⬛ **12 - Sand to Clayey Sand - Overconsolidated or Cemented**

Cone Penetration Test

CPT REPORT - DYNAMIC PO-169 CPT.GPJ LIBRARY 2011_06_28.GDT 10/24/17

Electronic Filename: S16U1702C.DAT

Cone Penetrometer Specifications

S&ME's CPT equipment consists of a VERTEK seismic system using 10-cm^2 cone, designed for a 10 ton loading. This cone system is capable of measuring tip resistance, sleeve friction, pore pressure, inclination, and/or seismic waves (S- and P-waves). As the cone is advanced into the soil at a rate of 2 cm/s, data is collected every second and displayed on screen allowing "real time" verification.

VERTEK'S cone combines high load capacity with sensitive resolution by decoupling the tip and sleeve load cells (i.e., sensing each strain gage bridge independently). Independent measurement of each load cell and accurate temperature compensation results in a higher degree of accuracy in friction sleeve measurement (when compared to subtraction type cones). Subtraction type cones measure the tip resistance and total load (tip and sleeve resistance) and computes sleeve friction by subtracting the tip resistance from the total.

For pore pressure measurement, we use silicon oil and pre-saturate our porous filters. Silicon oil has a higher viscosity than other saturation mediums (i.e., water or glycerin); thus, our porous filters remain saturated for longer periods of time. Pore pressure readings are continuously monitored during penetration. Where zones of high pore pressures are developed, dissipation tests can be performed by monitoring and recording pore pressure readings with time. Pore pressure readings and dissipation tests can be used to determine the piezometric head as well as a soil's coefficient of consolidation and hydraulic conductivity.

The seismic cone can be used to quickly and accurately measure shear and compression wavespeed profiles while performing a standard CPT test. Our seismic system uses VERTEK'S specially designed triaxial velocity gauges for monitoring, software modules for data acquisition and interpretation, and special heavy duty trigger assemblies. Seismic information can be obtained during a CPT test simply by pausing at the desired depth.

Cone Specifications	
Dimensions	
Cone Base Area	10 cm^2
Sleeve Area	150 cm^2
Range and Accuracy	
Tip Load Cell	
Range	20,000 lbs
Overload Capacity	150 %
Accuracy (FSO)	0.5 %
Sleeve Load Cell	
Range	4,400 lbs
Overload Capacity	150 %
Accuracy (FSO)	0.5 %
Pore Pressure Transducer	
Range	1,000 psi
Burst Pressure	200 %
Accuracy (FSO)	1.0 %
Inclinometer	
Range	15 degrees

Cone Penetrometer Specifications

S&ME's CPT equipment consists of a VERTEK seismic system using 15-cm^2 cone, designed for a 25 ton loading. This cone system is capable of measuring tip resistance, sleeve friction, pore pressure, inclination, and/or seismic waves (S- and P-waves). As the cone is advanced into the soil at a rate of 2 cm/s, data is collected every second and displayed on screen allowing "real time" verification.

VERTEK'S cone combines high load capacity with sensitive resolution by decoupling the tip and sleeve load cells (i.e., sensing each strain gage bridge independently). Independent measurement of each load cell and accurate temperature compensation results in a higher degree of accuracy in friction sleeve measurement (when compared to subtraction type cones). Subtraction type cones measure the tip resistance and total load (tip and sleeve resistance) and computes sleeve friction by subtracting the tip resistance from the total.

For pore pressure measurement, we use silicon oil and pre-saturate our porous filters. Silicon oil has a higher viscosity than other saturation mediums (i.e., water or glycerin); thus, our porous filters remain saturated for longer periods of time. Pore pressure readings are continuously monitored during penetration. Where zones of high pore pressures are developed, dissipation tests can be performed by monitoring and recording pore pressure readings with time. Pore pressure readings and dissipation tests can be used to determine the piezometric head as well as a soil's coefficient of consolidation and hydraulic conductivity.

The seismic cone can be used to quickly and accurately measure shear and compression wavespeed profiles while performing a standard CPT test. Our seismic system uses VERTEK'S specially designed triaxial velocity gauges for monitoring, software modules for data acquisition and interpretation, and special heavy duty trigger assemblies. Seismic information can be obtained during a CPT test simply by pausing at the desired depth.

Cone Specifications	
Dimensions	
Cone Base Area	15 cm^2
Sleeve Area	225 cm^2
Range and Accuracy	
Tip Load Cell	
Range	50,000 lbs
Overload Capacity	150 %
Accuracy (FSO)	0.5 %
Sleeve Load Cell	
Range	10,000 lbs
Overload Capacity	150 %
Accuracy (FSO)	1.0 %
Pore Pressure Transducer	
Range	1,000 psi
Burst Pressure	200 %
Accuracy (FSO)	1.0 %
Inclinometer	
Range	15 degrees

Appendix III– Laboratory Testing Results

CPT Dissipation Test Results

Results from APS Engineering and Testing, LLC

Low Stress Consolidation Test Results Report Dated October 20, 2017

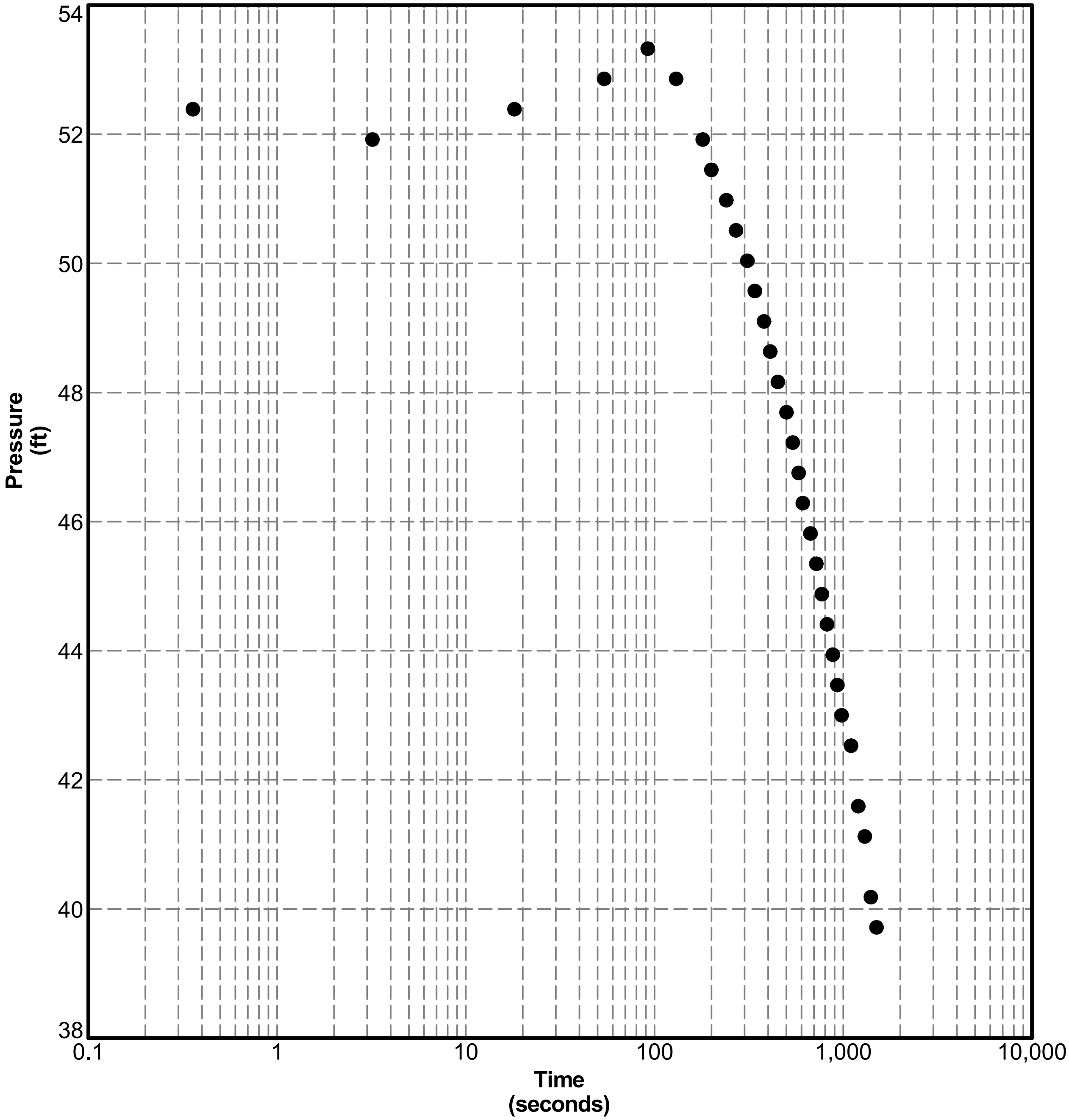
Settling Column Test Report SCTCS Group LLC: Settling Properties of Fine-Grained Sediments Which May be Hydraulically Dredged: new Orleans Landbridge Shoreline Stabilization & Marsh Creation Project (PO-169)

NO Landbridge
New Orleans, LA

Project No: 4585-17-006

Date: Jun. 15, 2017
Estimated Water Depth: 4.6 ft
Rig/Operator: Mike | David

Total Depth: 19.3 ft
Termination Criteria: Target Depth
Test Depth: 8.6 ft



Pore Pressure Dissipation

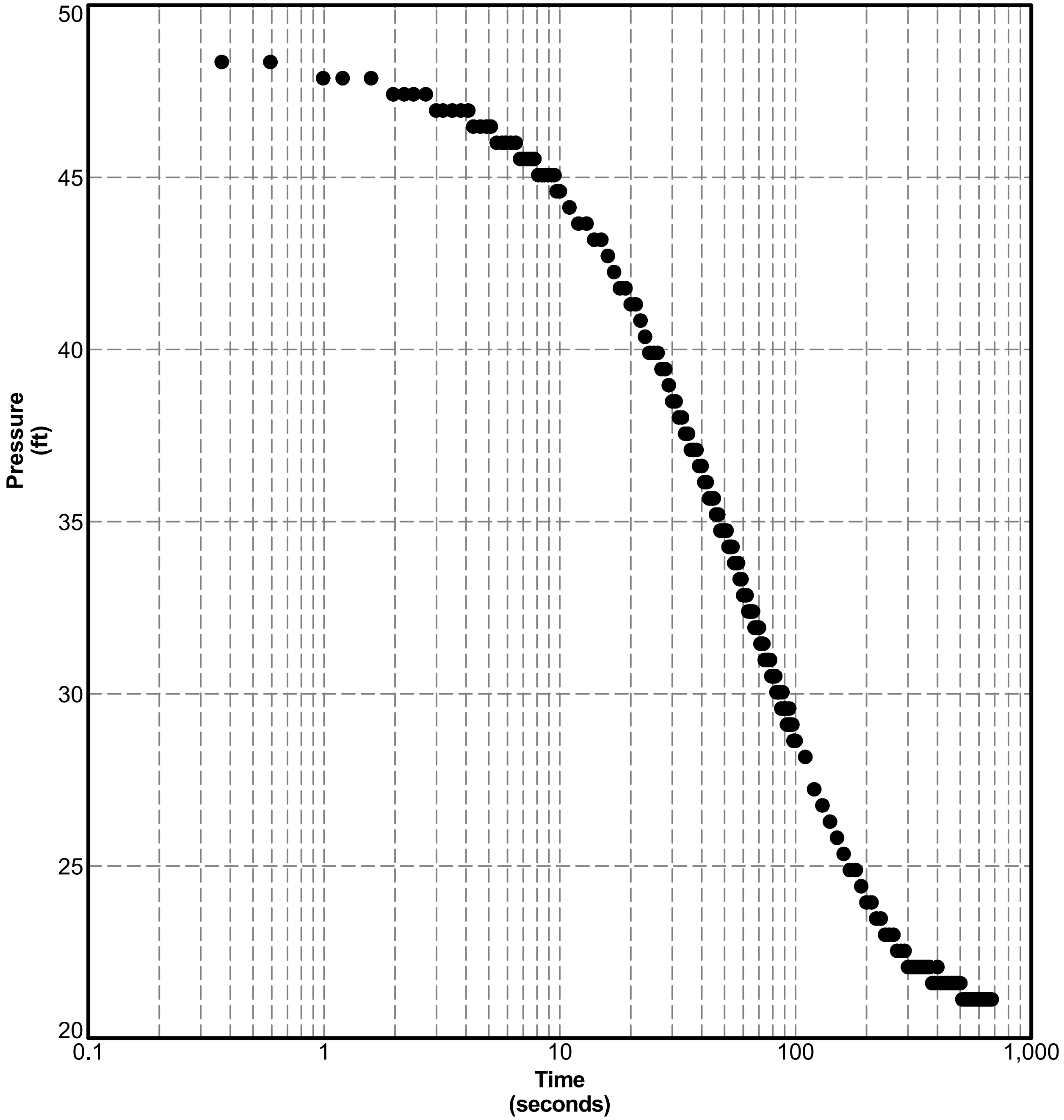
C-4

NO Landbridge
New Orleans, LA

Project No: 4585-17-006

Date: Jun. 15, 2017
Estimated Water Depth: 2.9 ft
Rig/Operator: Mike | David

Total Depth: 19.4 ft
Termination Criteria: Target Depth
Test Depth: 14.1 ft



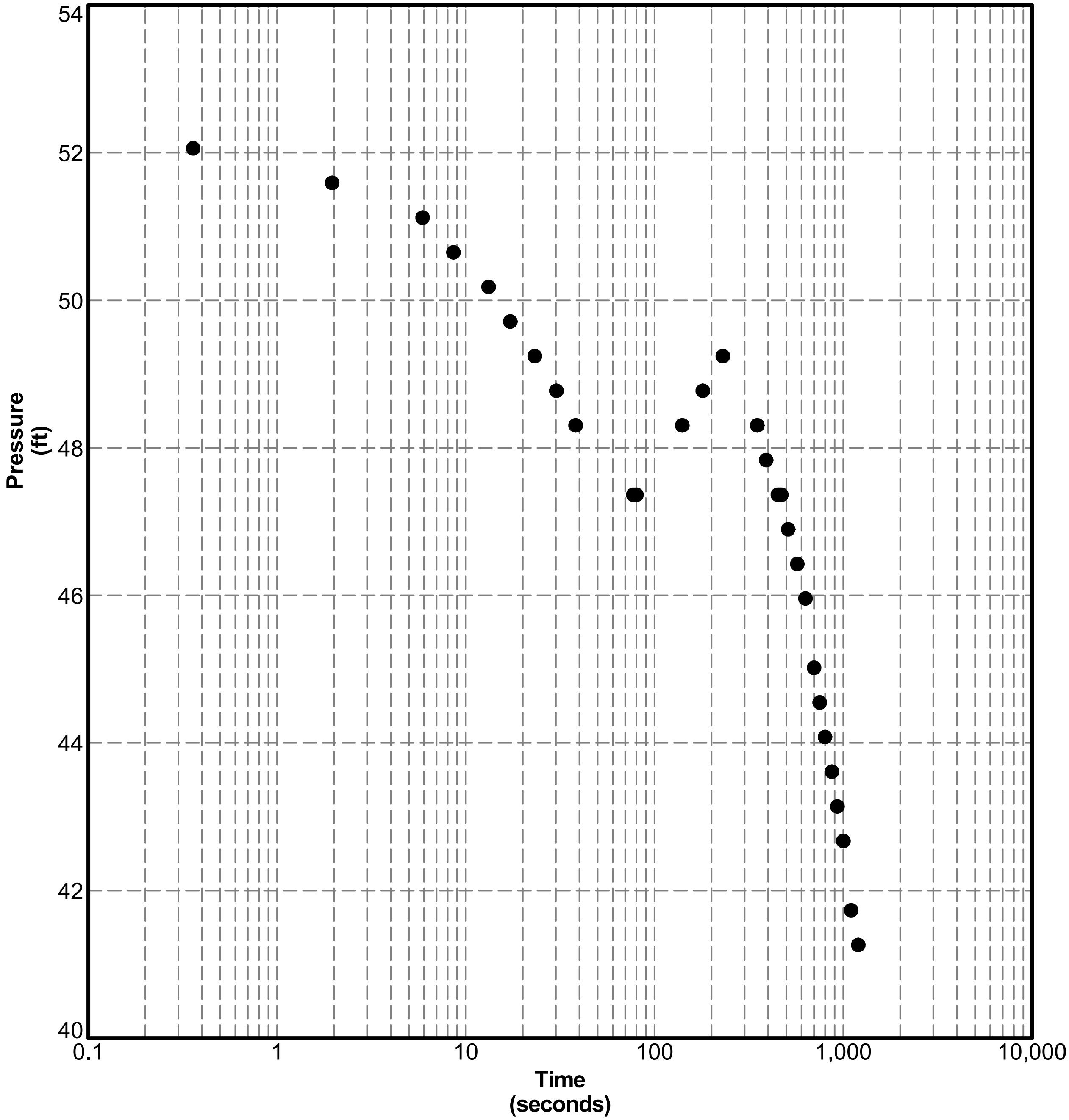
Pore Pressure Dissipation

NO Landbridge
New Orleans, LA

Project No: 4585-17-006

Date: Jun. 15, 2017
Estimated Water Depth: 3.2 ft
Rig/Operator: Mike | David

Total Depth: 20.0 ft
Termination Criteria: Target Depth
Test Depth: 10.9 ft

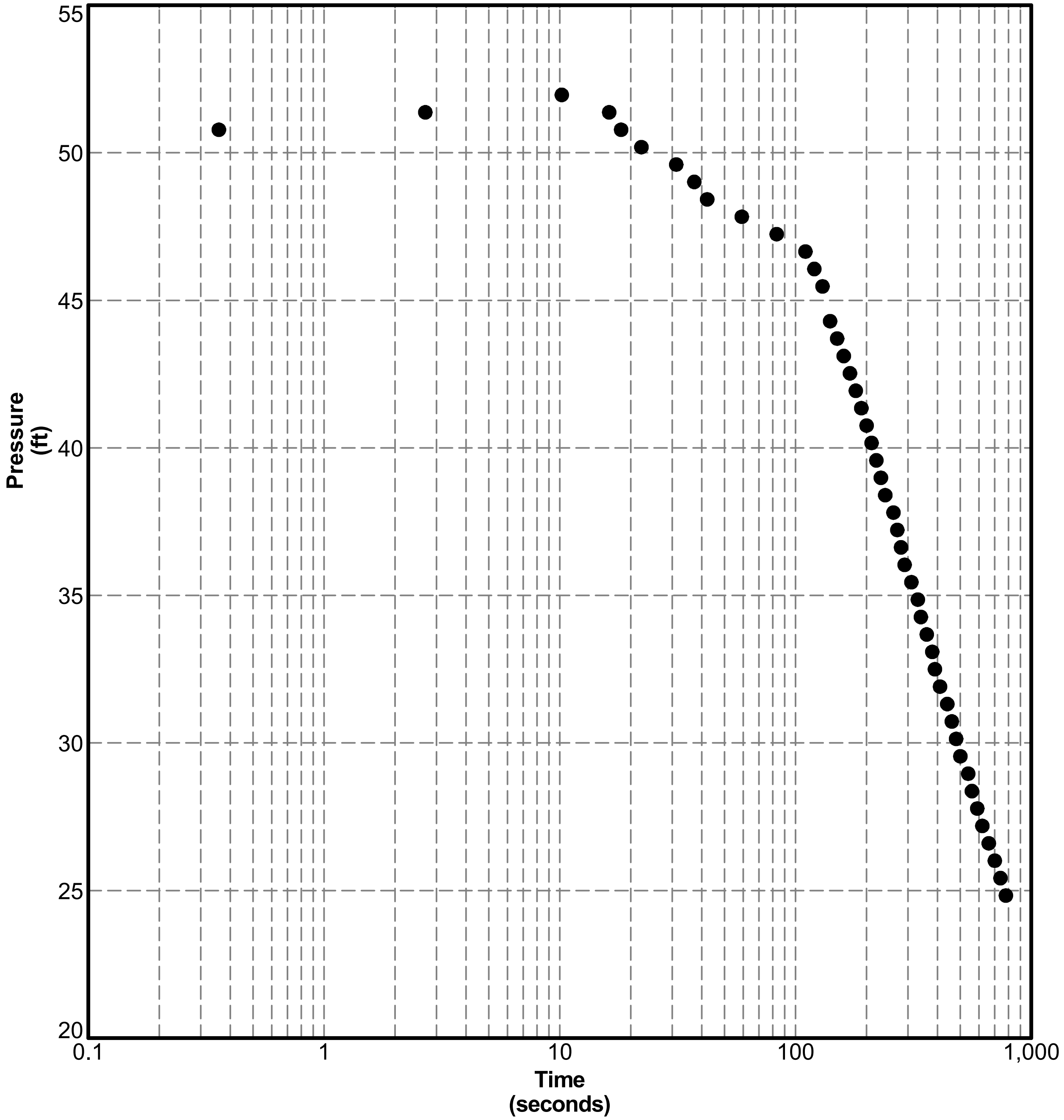


Pore Pressure Dissipation

NO Landbridge
New Orleans, LA

Project No: 4585-17-006

Date: Jun. 14, 2017
Estimated Water Depth: 3.8 ft
Rig/Operator: Mike | David
Total Depth: 22.9 ft
Termination Criteria: Target Depth
Test Depth: 12.6 ft



Pore Pressure Dissipation

NO Landbridge
New Orleans, LA

Project No: 4585-17-006

Date: Jun. 14, 2017

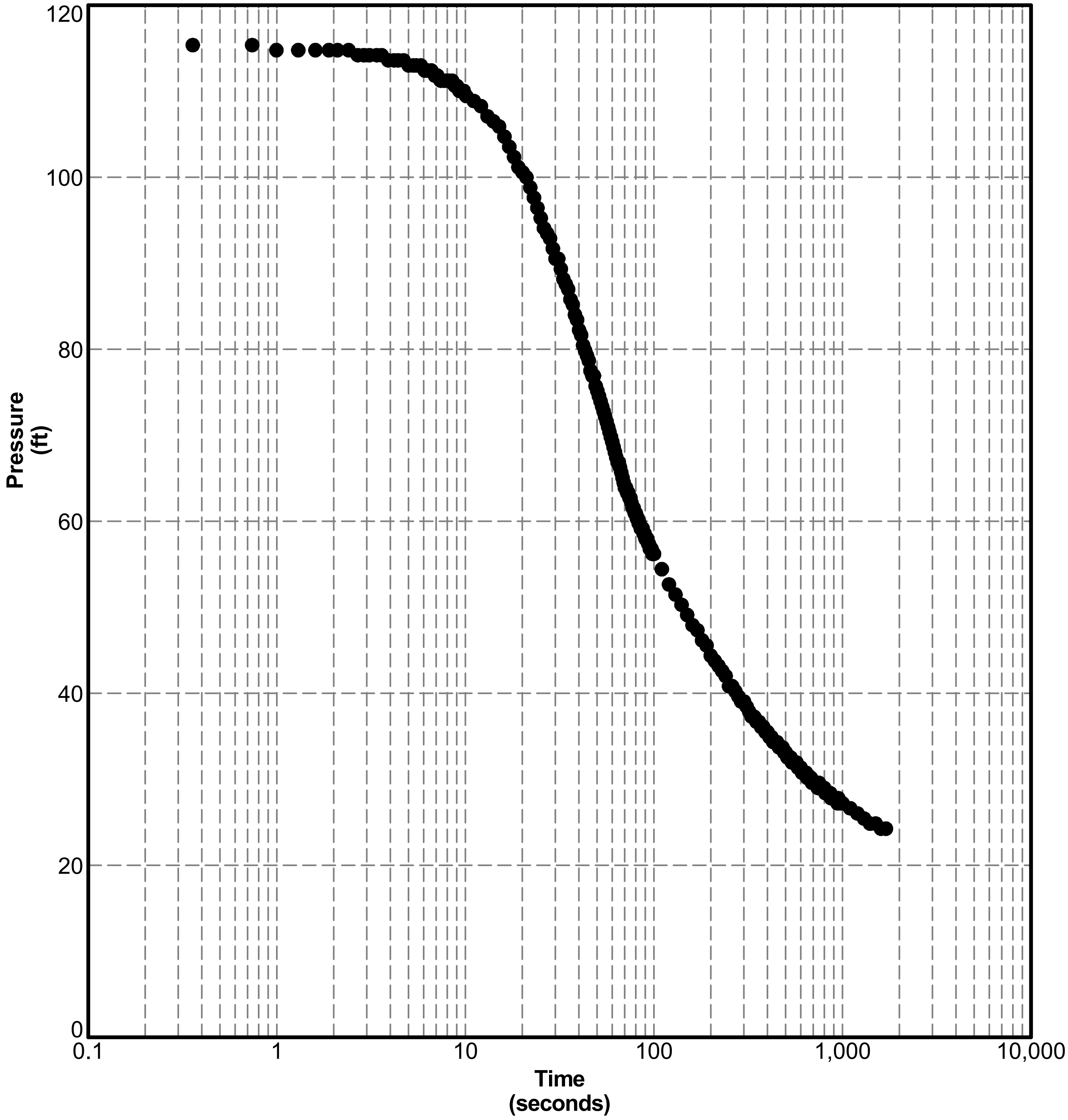
Estimated Water Depth: 1.3 ft

Rig/Operator: Mike | David

Total Depth: 19.0 ft

Termination Criteria: Target Depth

Test Depth: 14.5 ft

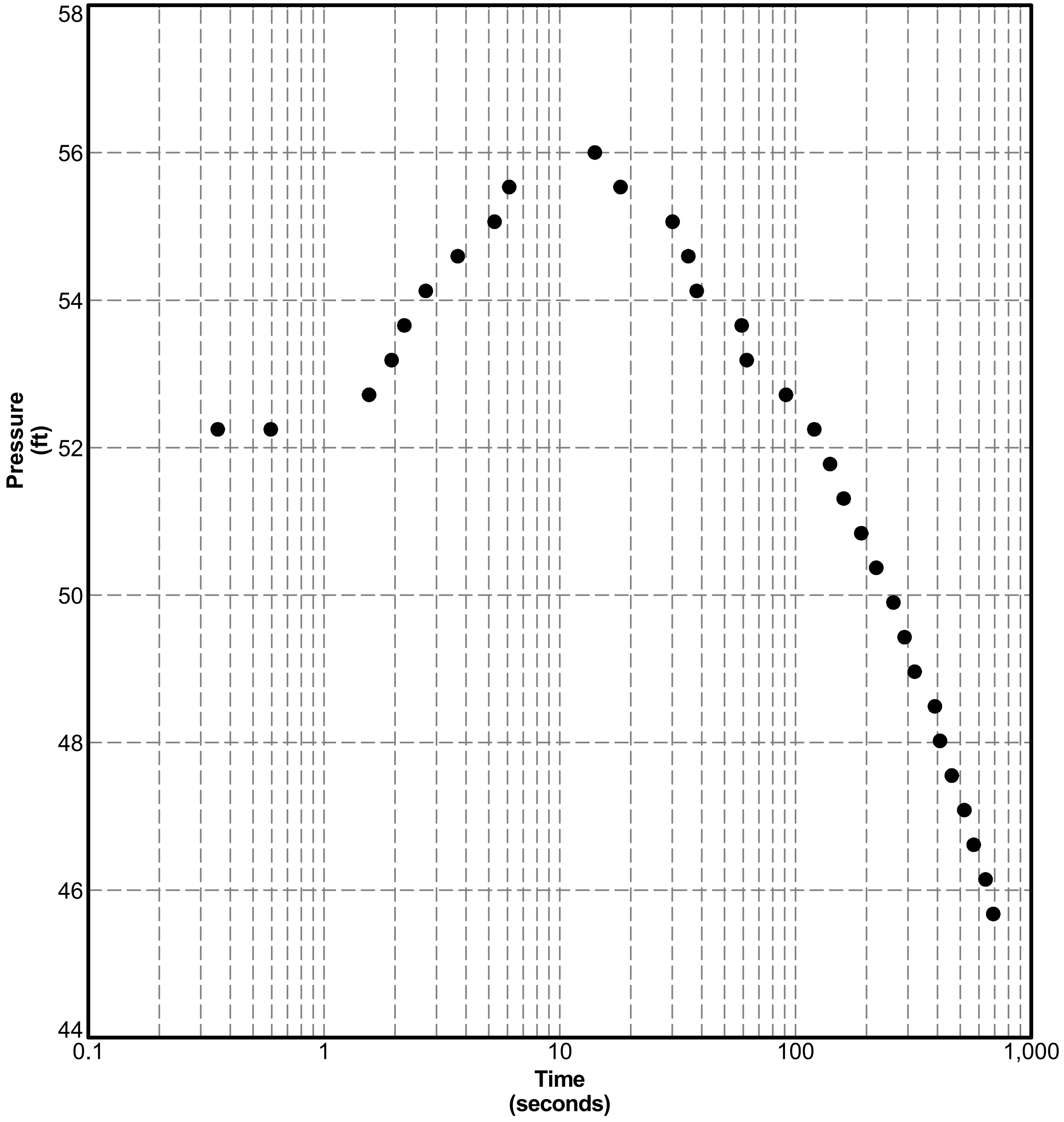


Pore Pressure Dissipation

NO Landbridge
New Orleans, LA
Project No: 4585-17-006

Date: Jun. 16, 2017
Estimated Water Depth: 3.6 ft
Rig/Operator: Mike | David

Total Depth: 20.4 ft
Termination Criteria: Target Depth
Test Depth: 10.3 ft

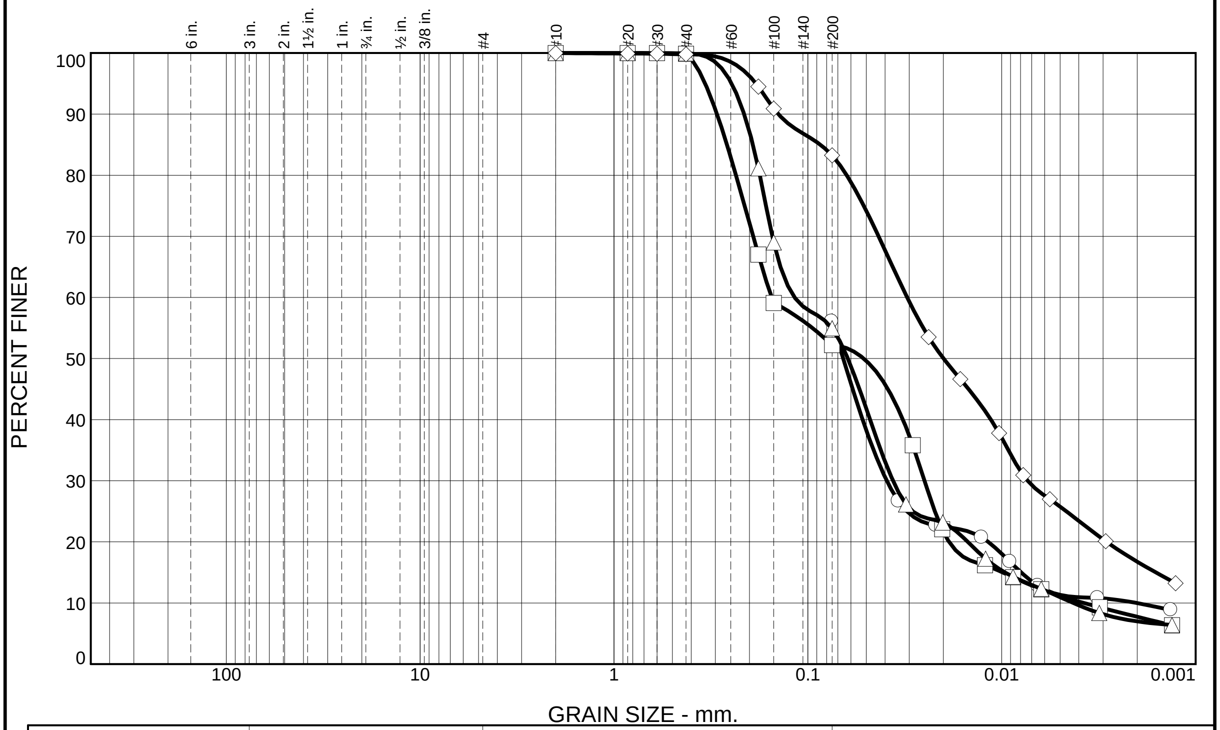


Pore Pressure Dissipation

C-18

Hydrometers & Sieve Results

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○						43.9	44.8	11.3
□	0.0	0.0	0.0	0.0	0.1	47.7	41.0	11.2
△	0.0	0.0	0.0	0.0	0.0	45.1	43.9	11.0
◇	0.0	0.0	0.0	0.0	0.2	16.5	57.5	25.8

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	51	18			0.0657	0.0392	0.0079	0.0020		
□	49	18	0.2614	0.1537	0.0515	0.0250	0.0099	0.0038	1.08	40.69
△	50	18	0.1921	0.1170	0.0622	0.0364	0.0096	0.0043	2.65	27.39
◇	61	20	0.0861	0.0307	0.0200	0.0073	0.0016			

Material Description	USCS	AASHTO
○ Gray Fat Clay	CH	A-7-6(14)
□ Gray Lean Clay	CL	A-7-6(12)
△ Gray Fat Clay	CH	A-7-6(14)
◇ Gray Fat Clay	CH	A-7-6(36)

Project No. 1706G038 **Client:** S&ME

Project: Marsh Creation

○ **Source:** Composite Samples **Depth:** B1, B2, B3 **Sample No.:** 1

□ **Source:** Composite Samples **Depth:** B1, B2, B3 **Sample No.:** 2

△ **Source:** Composite Samples **Depth:** B1, B2, B3 **Sample No.:** 3

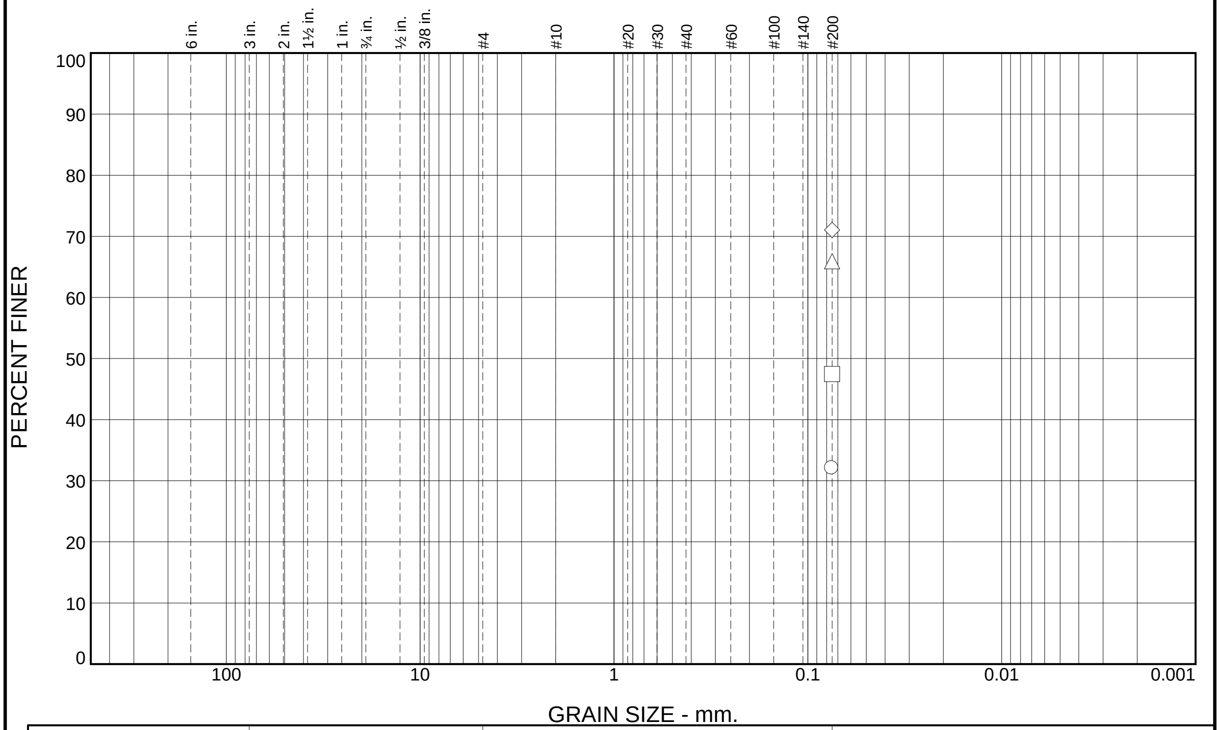
◇ **Source:** Composite Samples **Depth:** B4, B5, B6 **Sample No.:** 4

APS Engineering and Testing

APS Design and Testing, LLC

Baton Rouge, Louisiana

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○							32.1	
□							47.5	
△							65.9	
◇							71.1	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	47	16								
□	30	19								
△										
◇	79	19								

Material Description	USCS	AASHTO
○ B1(0-2): Very Loose Gray Clayey Sand (SC)		
□ B1(2-4): Very Loose Gray Clayey Sand (SC)		
△ B-1(8-10): Very Soft Gray Lean Clay (CL) with Fine Sand		
◇ B1(10-12): Very Soft Gray Fat Clay with Sand (CH)		

Project No. APS1706-G038 **Client:** S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

○ **Source of Sample:** B-1

□ **Source of Sample:** B-1

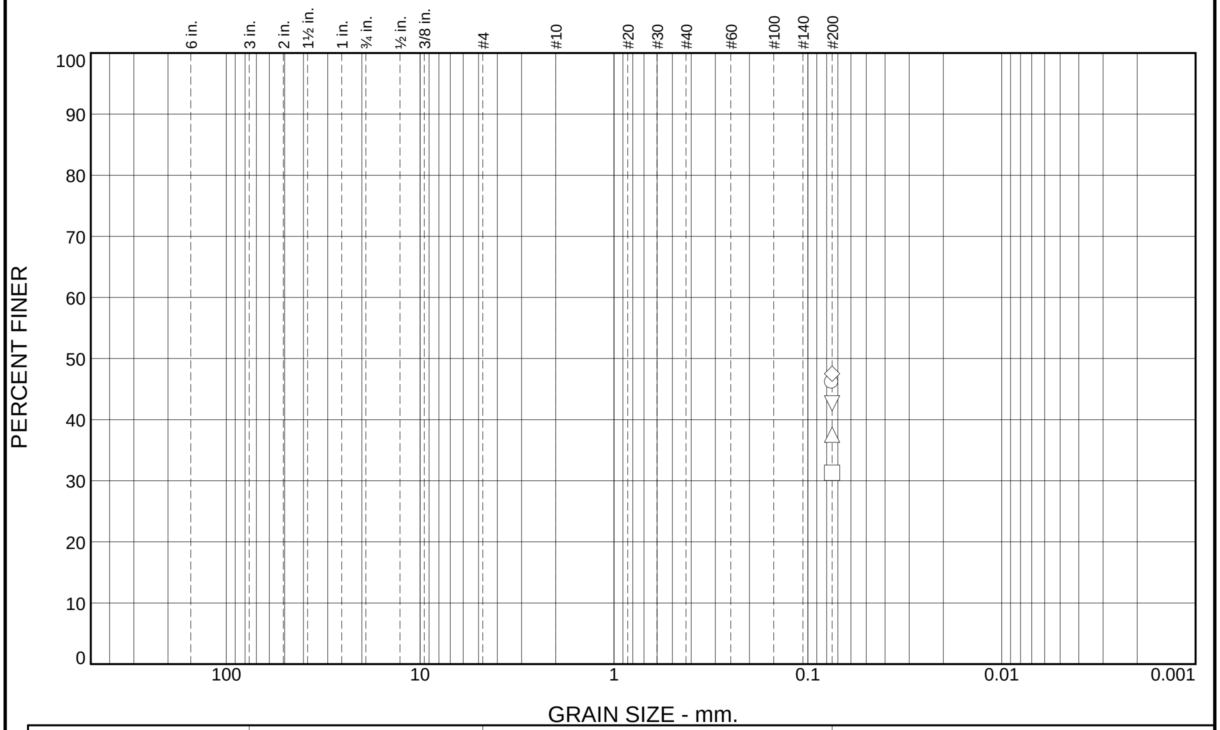
△ **Source of Sample:** B-1

◇ **Source of Sample:** B-1

APS Engineering and Testing, LLC

Baton Rouge, Louisiana

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○							46.1	
□							31.3	
△							37.5	
◇							47.5	
▽							42.7	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	30	23								
□										
△	27	NP								
◇										
▽	32	18								

Material Description	USCS	AASHTO
○ B2(0-2): Very Soft Gray Sandy Lean Clay (CL)		
□ B2(2-4): Very Loose Gray Silty Sand (SM) with Clay Pockets		
△ B2(4-6): Very Loose Gray Silty Sand (SM) with Clay Pockets		
◇ B2(6-8): Very Loose Gray Silty Sand (SM) with Clay Pockets		
▽ B2(8-10): Very Soft Gray Sandy Silty Clay (CL)		

Project No. APS1706-G038 **Client:** S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

○ **Source of Sample:** B-2

□ **Source of Sample:** B-2

△ **Source of Sample:** B-2

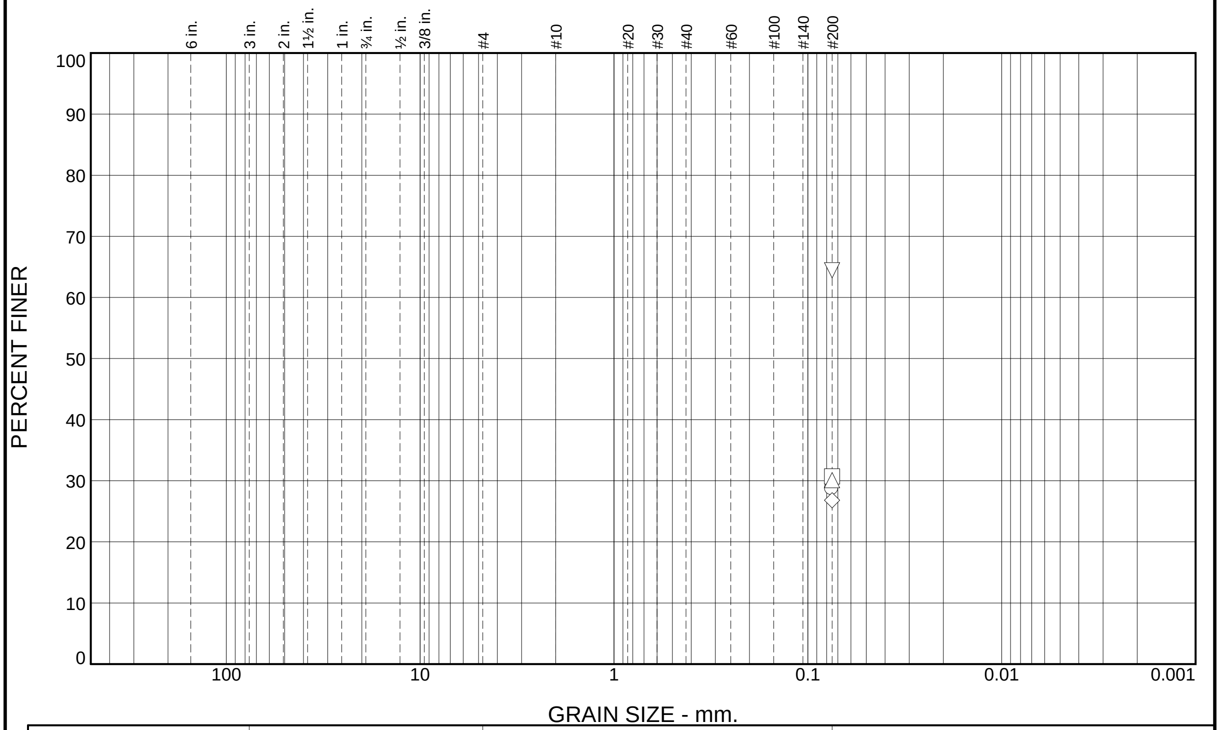
◇ **Source of Sample:** B-2

▽ **Source of Sample:** B-2

APS Engineering and Testing, LLC

Baton Rouge, Louisiana

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○							28.7	
□							30.7	
△							30.1	
◇							26.8	
▽							64.5	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	77	16								
□										
△										
◇	45	17								
▽										

Material Description	USCS	AASHTO
○ B2(10-12): Very Loose Gray Clayey Sand (SC)		
□ B2(12-14): Very Loose Gray Silty Clayey Sand (SM)		
△ B2(14-16): Very Loose Gray Silty Sand (SM)		
◇ B2(16-18): Very Loose Gray Clayey Sand (SC)		
▽ B2(18-20): Very Loose Gray Sandy Silt (ML) with Clay Lenses		

Project No. APS1706-G038 **Client:** S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

○ **Source of Sample:** B-2

□ **Source of Sample:** B-2

△ **Source of Sample:** B-2

◇ **Source of Sample:** B-2

▽ **Source of Sample:** B-2

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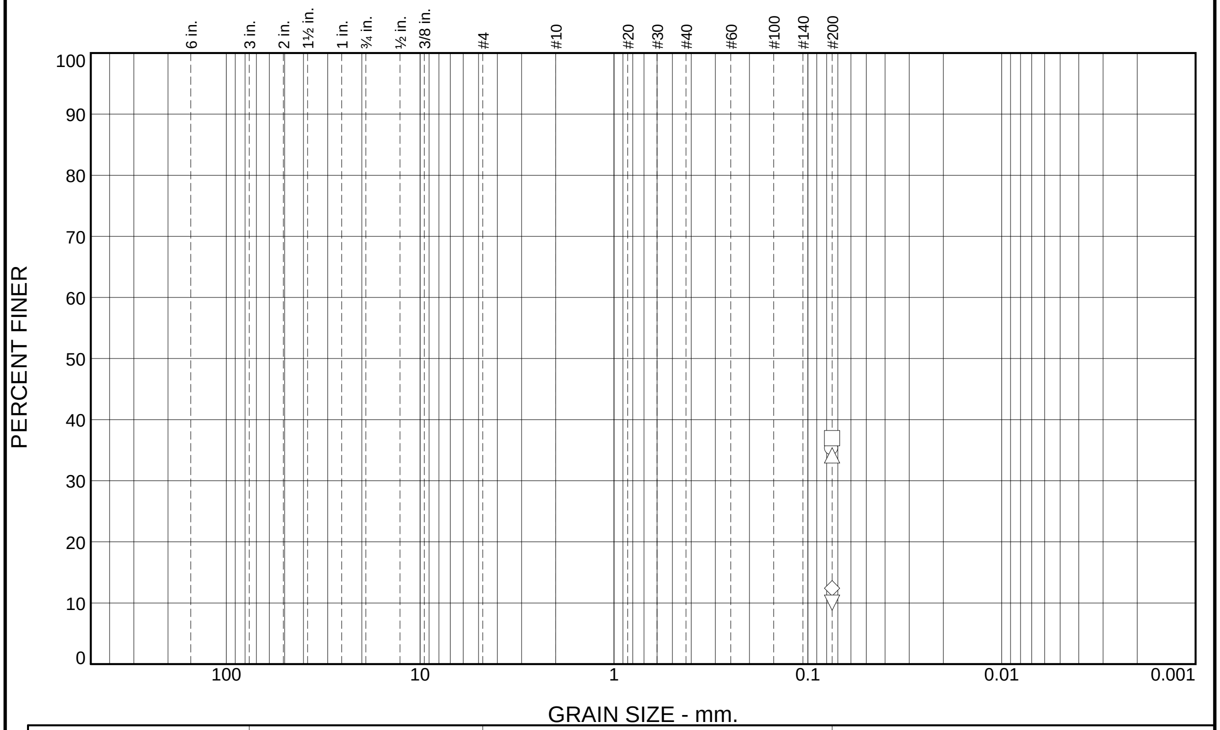
Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○							35.2	
□							37.0	
△							34.2	
◇							12.4	
▽							10.0	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○										
□										
△										
◇										
▽	119	23								

Material Description	USCS	AASHTO
○ B3(2-4): Very Loose Gray Silty Sand (SM)		
□ B3(4-6): Very Loose Gray Silty Sand (SM)		
△ B3(6-8): Very Loose Gray Silty Sand (SM)		
◇ B3(12-14): Very Loose Gray Silty Sand (SM)		
▽ B3(16-18): Very Soft Gray Fat Clay (CH) with Sand Lenses -transitioned to Silty Sand (SM)		

Project No. APS1706- **Client:** S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

○ **Source of Sample:** B-3

□ **Source of Sample:** B-3

△ **Source of Sample:** B-3

◇ **Source of Sample:** B-3

▽ **Source of Sample:** B-3

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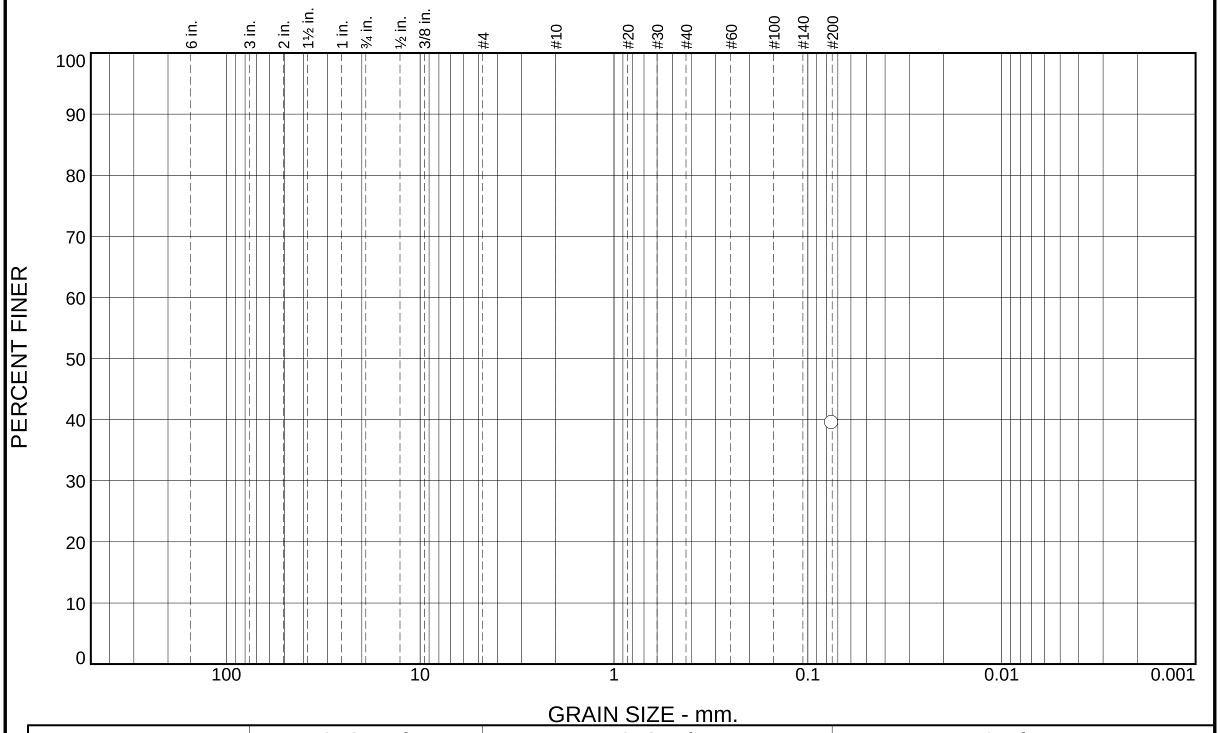
Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○							39.5	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○										

Material Description	USCS	AASHTO
○ B3(18-20): Very Loose Gray Silty Sand (SM)		

Project No. APS1706-G038 **Client:** S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

○ **Source of Sample:** B-3

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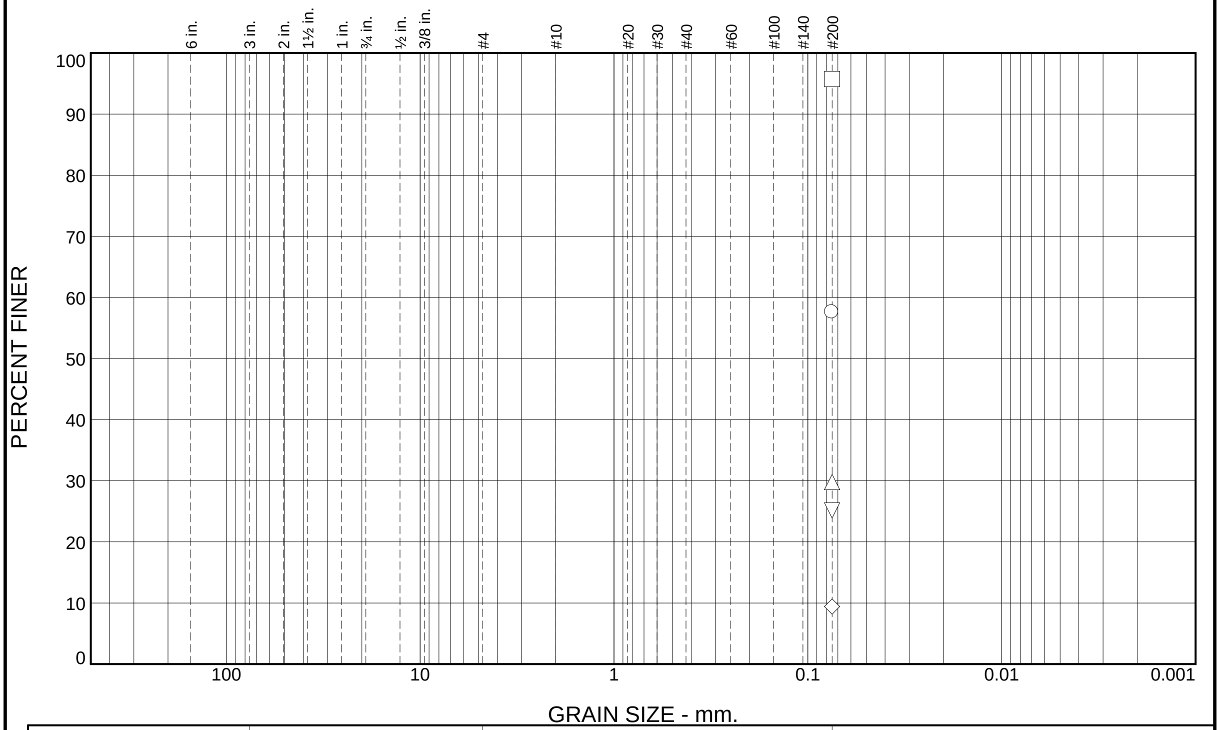
Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○							57.6	
□							95.7	
△							29.8	
◇							9.4	
▽							25.1	

☒	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○										
□										
△										
◇										
▽										

Material Description	USCS	AASHTO
○ B7(6-8): Very Soft Gray Fat Clay (CH) - transitioned to sand at the bottom		
□ B7(8-10): Gray Silt (ML)		
△ B7(18-20): Gray Silty Sand (SM)		
◇ B7(23-25): Gray Poorly Graded Sand with Clay (SP-SC)		
▽ B7(28-30): Medium Dense Gray Silty Sand (SM) with traces of Clay		

Project No. APS1706-G038 **Client:** S & ME

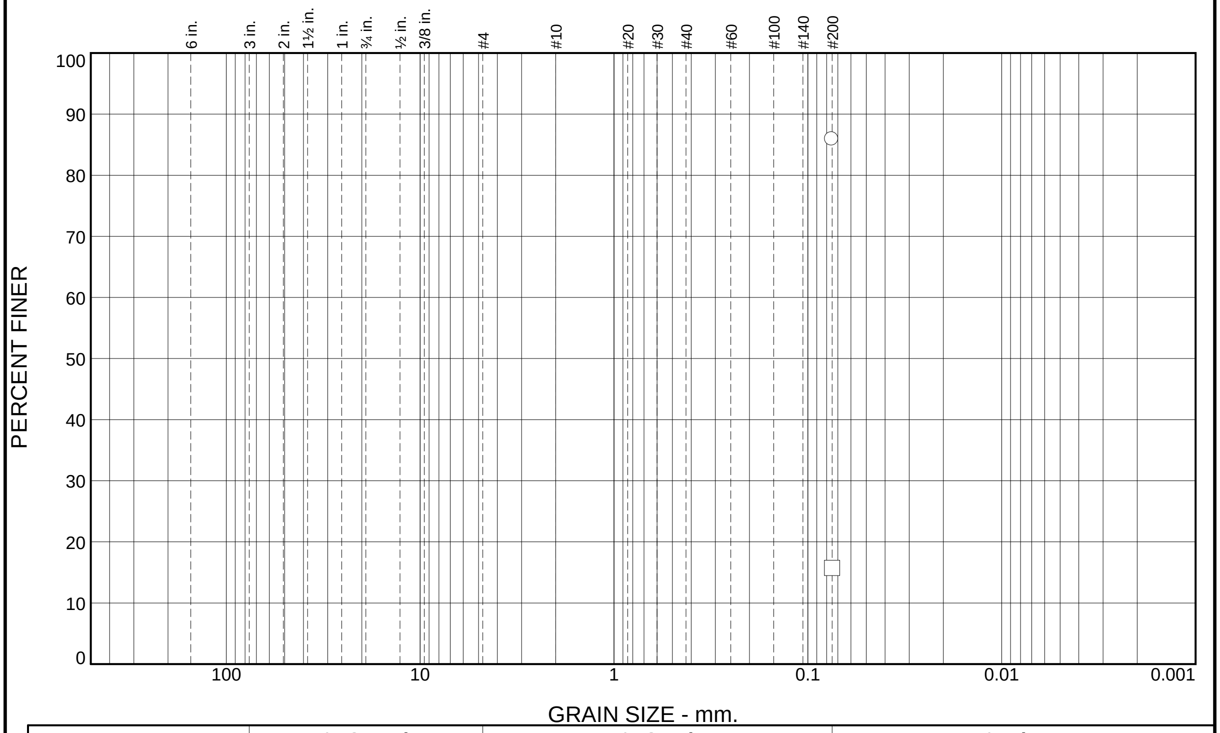
Project: New Orleans Landbridge Marsh Creation (PO-169)

○ **Source of Sample:** B-7
□ **Source of Sample:** B-7
△ **Source of Sample:** B-7
◇**Source of Sample:** B-7
▽**Source of Sample:** B-7

APS Engineering and Testing, LLC

Baton Rouge, Louisiana

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○							85.9	
☐							15.7	

☒	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	43	19								
☐										

Material Description	USCS	AASHTO
○ B8(8-10): Very Soft Gray Lean Clay (CL)		
☐ B8(38.5-40): Medium Dense Gray Clayey Sand (SC)		

Project No. APS1706-G038 **Client:** S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

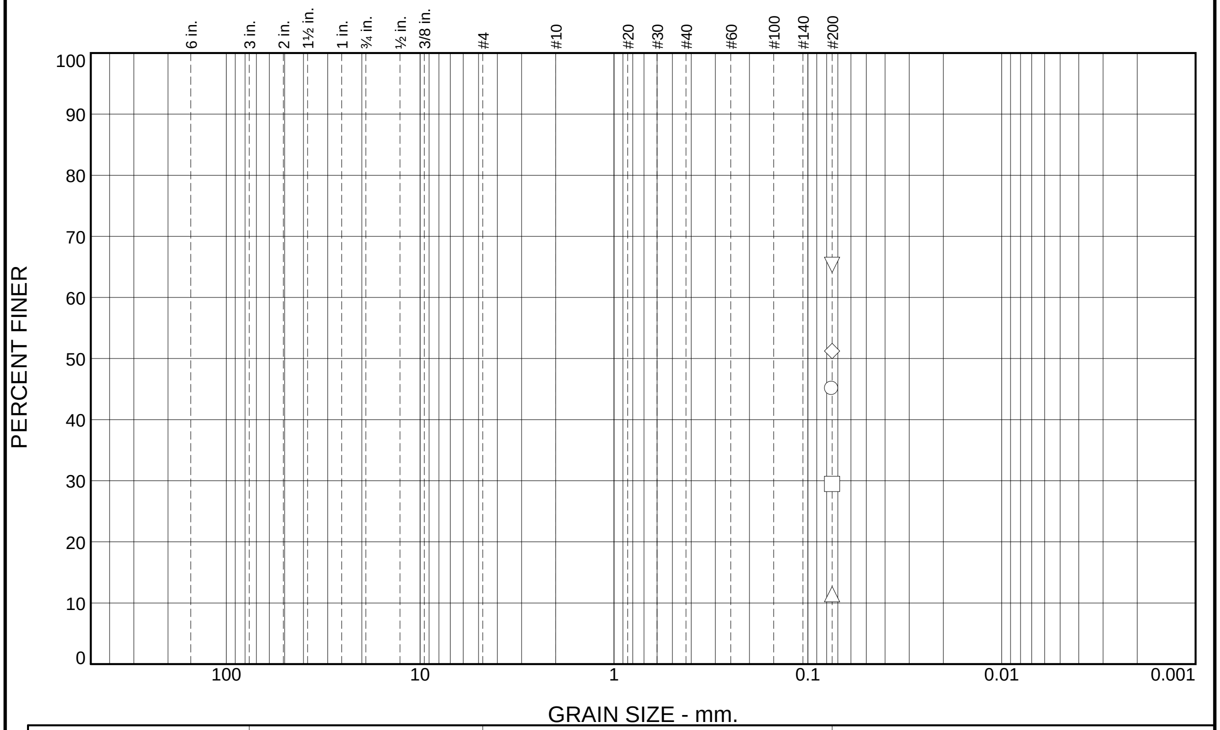
○ **Source of Sample:** B-8

☐ **Source of Sample:** B-8

APS Engineering and Testing, LLC

Baton Rouge, Louisiana

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○							45.0	
□							29.5	
△							11.4	
◇							51.2	
▽							65.3	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	28	NP								
□										
△										
◇										
▽	73	22								

Material Description	USCS	AASHTO
○ B9(10-12): Very Loose Gray Silty Sand (SM)		
□ B9(12-14): Very Loose Gray Silty Sand (SM)		
△ B9(14-16): Gray Poorly Graded Sand with Clay (SP-SC)		
◇ B9(16-18): Medium Stiff Gray Sandy Fat Clay (CH)		
▽ B9(18-20): Medium Stiff Gray Sandy Fat Clay (CH)		

Project No. APS1706-G038 **Client:** S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

○ **Source of Sample:** B-9

□ **Source of Sample:** B-9

△ **Source of Sample:** B-9

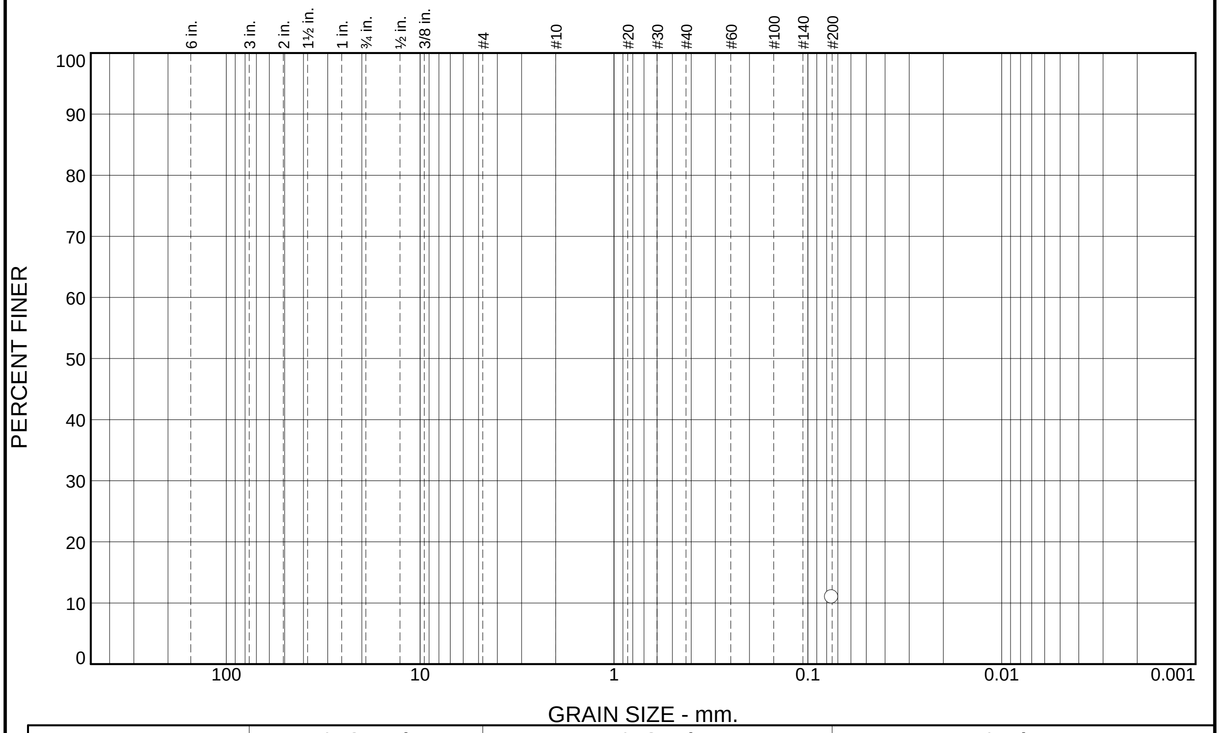
◇**Source of Sample:** B-9

▽**Source of Sample:** B-9

APS Engineering and Testing, LLC

Baton Rouge, Louisiana

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○							10.9	

╳	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○										

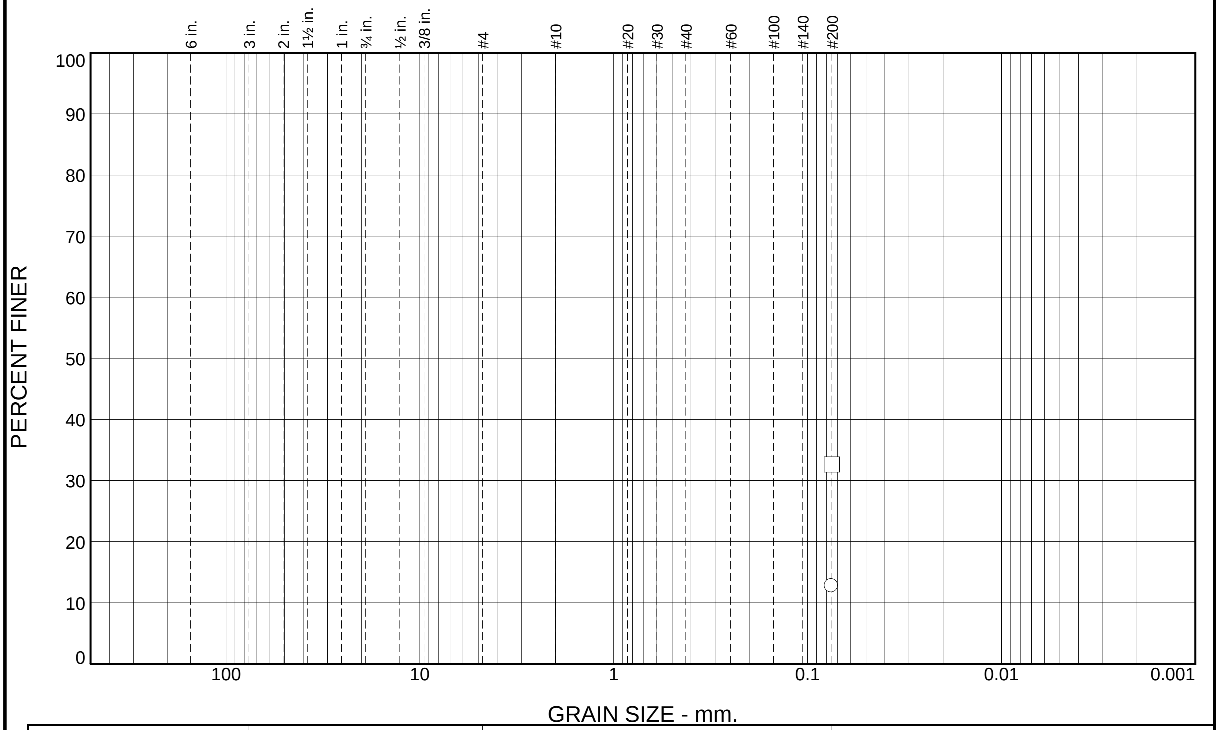
Material Description	USCS	AASHTO
○ B9(28.5-30): Loose Gray Poorly Graded Sand with Clay (SP-SC)		

Project No. APS1706-G038 **Client:** S & ME
Project: New Orleans Landbridge Marsh Creation (PO-169)
○ **Source of Sample:** B-9

APS Engineering and Testing, LLC

Baton Rouge, Louisiana

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○							12.7	
□							32.6	

╳	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○										
□										

Material Description	USCS	AASHTO
○ B10(23-25): Gray Clayey Sand (SC)		
□ B10(28.5-30): Loose Gray Clayey Sand (SC)		

Project No. APS1706-G038 **Client:** S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

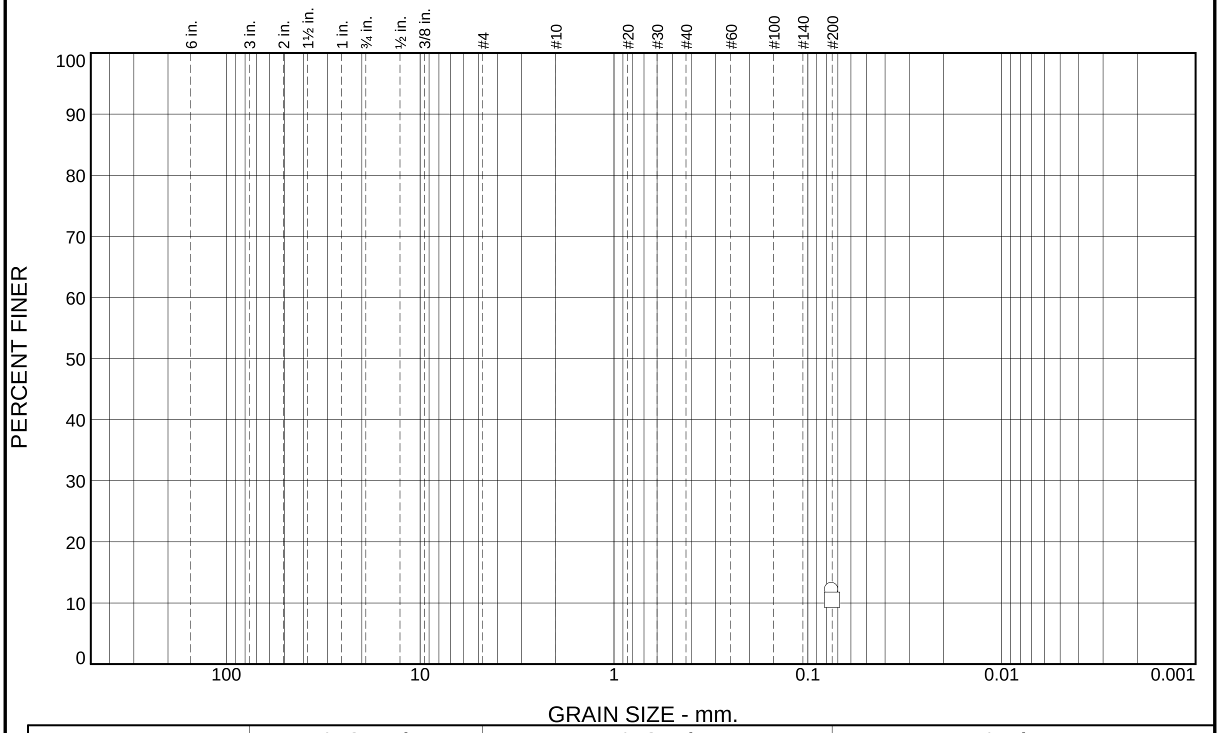
○ **Source of Sample:** B-10

□ **Source of Sample:** B-10

APS Engineering and Testing, LLC

Baton Rouge, Louisiana

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○							12.1	
☐							10.5	

╳	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○										
☐										

Material Description	USCS	AASHTO
○ B18(43-45): Dense Gray Clayey Sand (SC)		
☐ B18(48.5-50): Loose Gray Poorly Graded Sand with Clay (SP-SC)		

Project No. APS1706-G038 **Client:** S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

○ **Source of Sample:** B-18

☐ **Source of Sample:** B-18

APS Engineering and Testing, LLC

Baton Rouge, Louisiana

Specific Gravity & Consolidation

Specific Gravity of Soils by ASTM D854

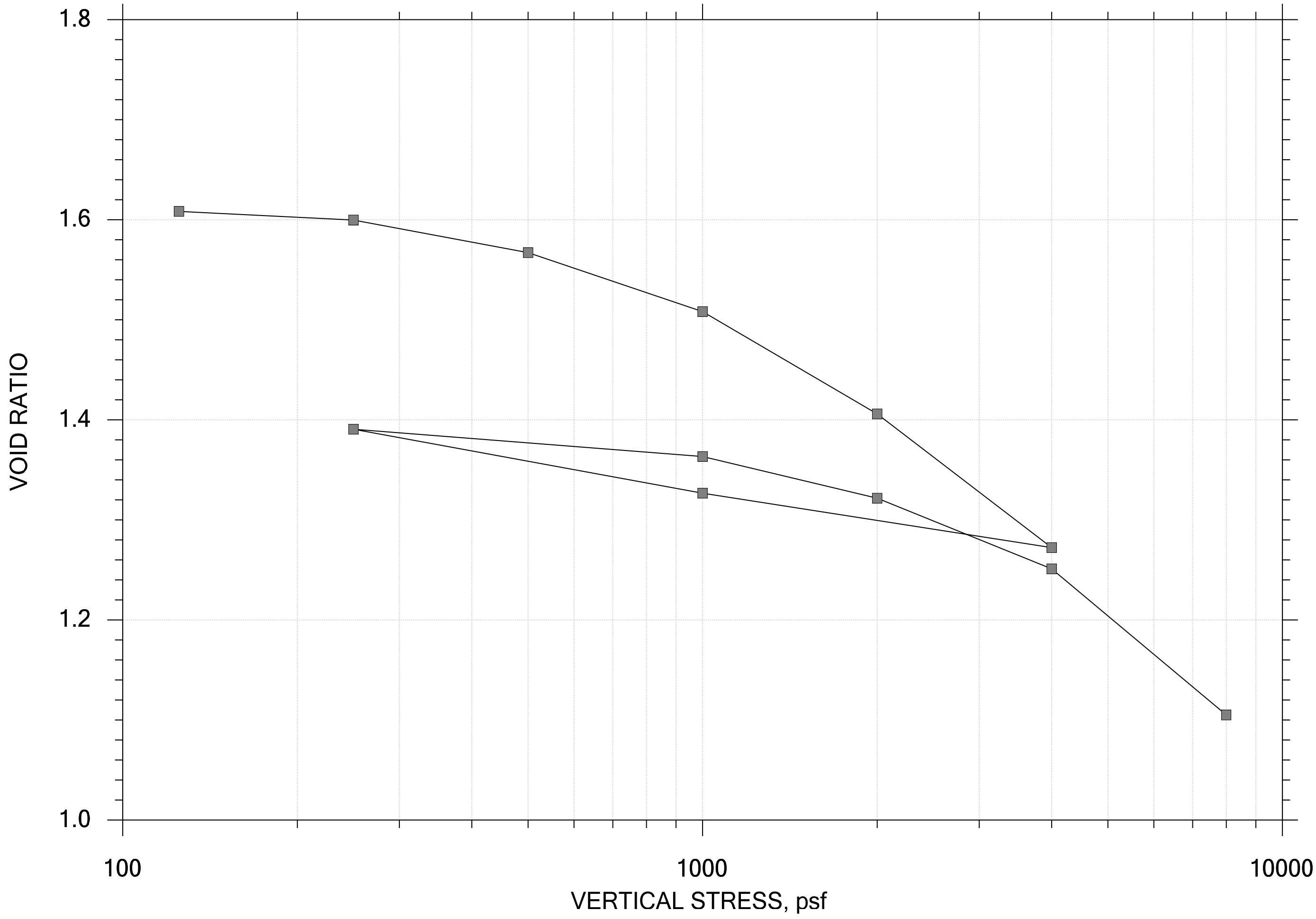
Boring ID	Sample ID	Depth	Visual Description	Specific Gravity	Comment
B-8	5	8-10 ft	Soft Gray lean clay	2.65	LL = 43 PI = 24
B-8	9	16-18 ft	Stiff Gray lean clay	2.65	LL = 36 PI = 18
B-11	1	0-2 ft	Soft black & brown organic clay	2.61	LL =248 PI = 183 Organic = 26.00%
B-18	1	0-2 ft	Soft black & brown clay	2.17	LL =299 PI = 237 Organic = 35.80%

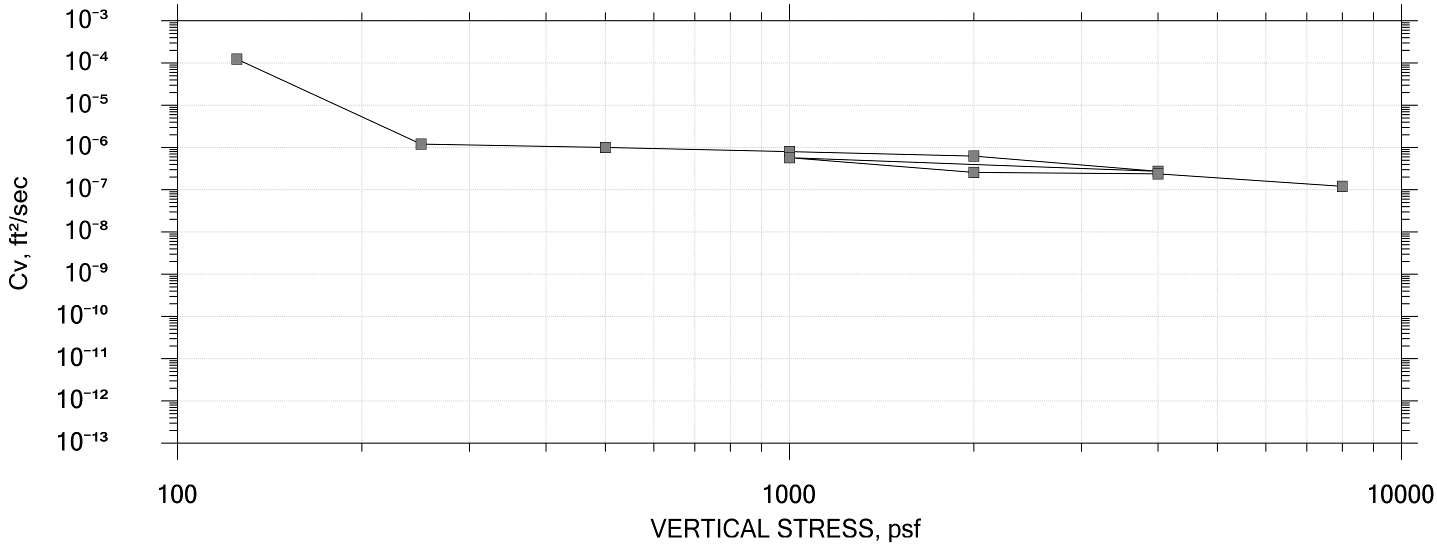
Notes: Specific Gravity performed by using method A (moist specimens) of ASTM D854

Moisture Content determined by ASTM D2216.

One-Dimensional Consolidation by ASTM D2435 - Method B

SUMMARY REPORT



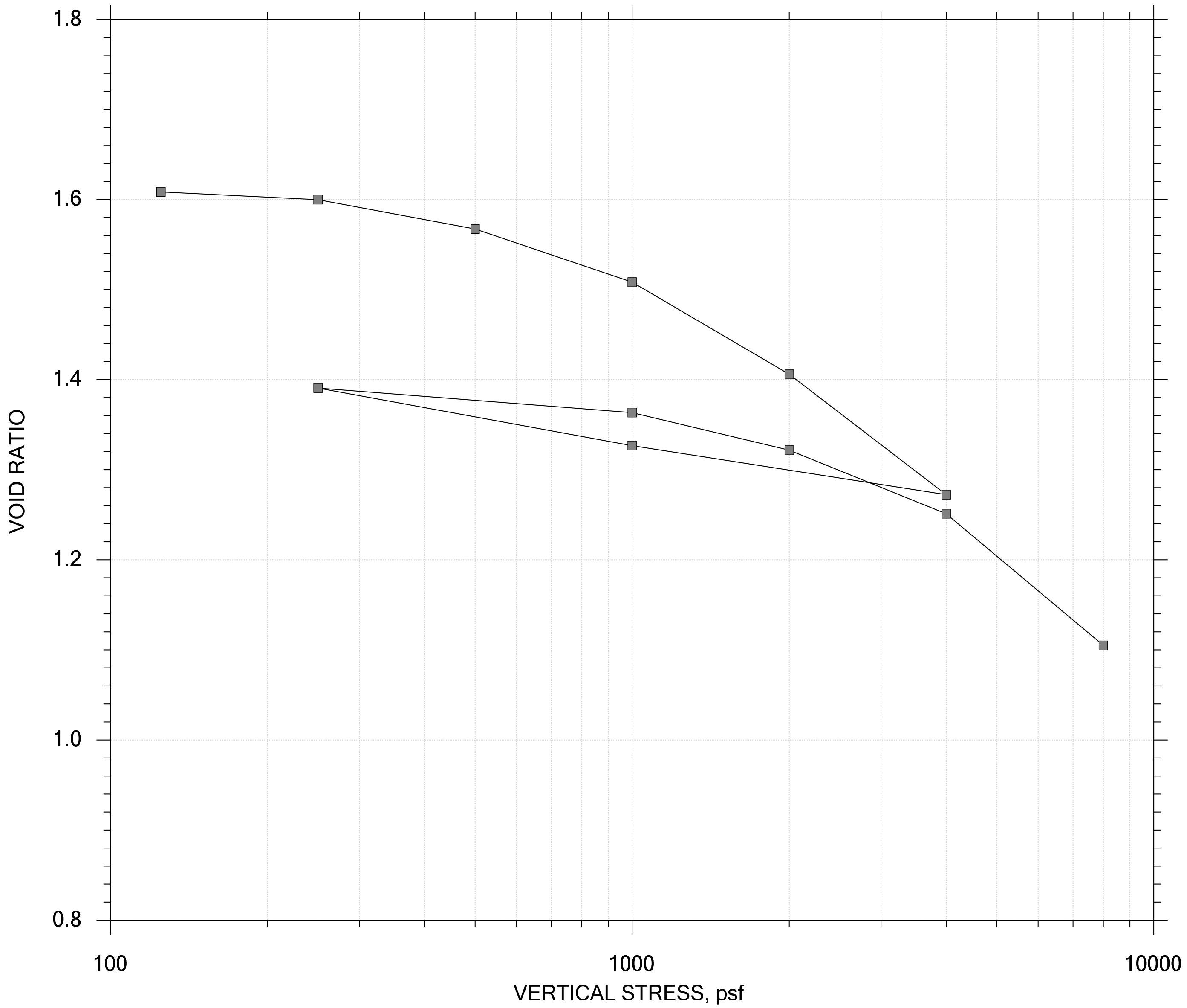


APS Engineering and Testing

Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
Boring No.: B-7A	Tested By: SA	Checked By: SE
Sample No.: 2	Test Date: 7/28/17	Elevation: N/A
Depth: 2-4 ft	Sample Type: intact	
Description: Very Soft Gray Clay		
Displacement at End of Increment		

One-Dimensional Consolidation by ASTM D2435 - Method B

SUMMARY REPORT



Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
Boring No.: B-7A	Tested By: SA	Checked By: SE
Sample No.: 2	Test Date: 7/28/17	Elevation: N/A
Depth: 2-4 ft	Sample Type: intact	
Description: Very Soft Gray Clay		
Displacement at End of Increment		

APS Engineering and Testing

One-Dimensional Consolidation by ASTM D2435 - Method B

Project: PO-169
Boring No.: B-7A
Sample No.: 2

Location: Lake Saint Catherine
Tested By: SA
Test Date: 7/28/17
Sample Type: intact

Project No.: APS1706-G038
Checked By: SE
Depth: 2-4 ft
Elevation: N/A

Soil Description: Very Soft gray clay

Estimated Specific Gravity: 2.76
Initial Void Ratio: 1.61
Final Void Ratio: 1.19

Liquid Limit:102
Plastic Limit:27
Plasticity Index:75

Specimen Diameter: 2.50 in
Initial Height: 1.00 in
Final Height: 0.84 in

	Before Consolidation		After Consolidation	
	Trimmings	Specimen+Ring	Specimen+Ring	Trimmings
Container ID	a32	RING	sh-15	sh-15
Wt. Container + Wet Soil, gm	99.380	142.44	129.65	129.65
Wt. Container + Dry Soil, gm	68.710	92.930	92.930	92.930
Wt. Container, gm	16.980	8.1600	8.1600	8.1600
Wt. Dry Soil, gm	51.730	84.770	84.770	84.770
Water Content, %	59.29	58.41	43.32	43.32
Void Ratio	---	1.61	1.19	---
Degree of Saturation, %	---	99.68	100.00	---
Dry Unit Weight, pcf	---	65.789	78.413	---

Note: Specific Gravity and Void Ratios are calculated assuming the degree of saturation equals 100% at the end of the test. Therefore, values may not represent actual values for the specimen.

One-Dimensional Consolidation by ASTM D2435 - Method B

Project: PO-169
Boring No.: B-7A
Sample No.: 2

Location: Lake Saint Catherine
Tested By: SA
Test Date: 7/28/17
Sample Type: intact

Project No.: APS1706-G038
Checked By: SE
Depth: 2-4 ft
Elevation: N/A

Soil Description: Very Soft gray clay

Displacement at End of Increment

	Applied Stress psf	Final Displacement in	Void Ratio	Strain at End %	Sq.Rt T90 min	Cv ft²/sec	Mv 1/psf	k cm/sec
1	125.	0.002236	1.61	0.224	0.238	1.03e-004	1.79e-005	3.49e-006
2	250.	0.005573	1.60	0.557	23.852	1.02e-006	2.67e-005	5.19e-008
3	500.	0.01803	1.57	1.80	24.164	9.92e-007	4.98e-005	9.40e-008
4	1.00e+003	0.04057	1.51	4.06	22.260	1.04e-006	4.51e-005	8.91e-008
5	2.00e+003	0.07970	1.41	7.97	32.571	6.65e-007	3.91e-005	4.96e-008
6	4.00e+003	0.1308	1.27	13.1	68.420	2.87e-007	2.56e-005	1.40e-008
7	1.00e+003	0.1100	1.33	11.0	61.252	3.10e-007	6.94e-006	4.09e-009
8	250.	0.08554	1.39	8.55	160.284	1.25e-007	3.26e-005	7.74e-009
9	1.00e+003	0.09597	1.36	9.60	35.684	5.68e-007	1.39e-005	1.50e-008
10	2.00e+003	0.1119	1.32	11.2	78.745	2.50e-007	1.59e-005	7.58e-009
11	4.00e+003	0.1389	1.25	13.9	83.892	2.24e-007	1.35e-005	5.75e-009
12	8.00e+003	0.1948	1.11	19.5	140.833	1.21e-007	1.40e-005	3.21e-009

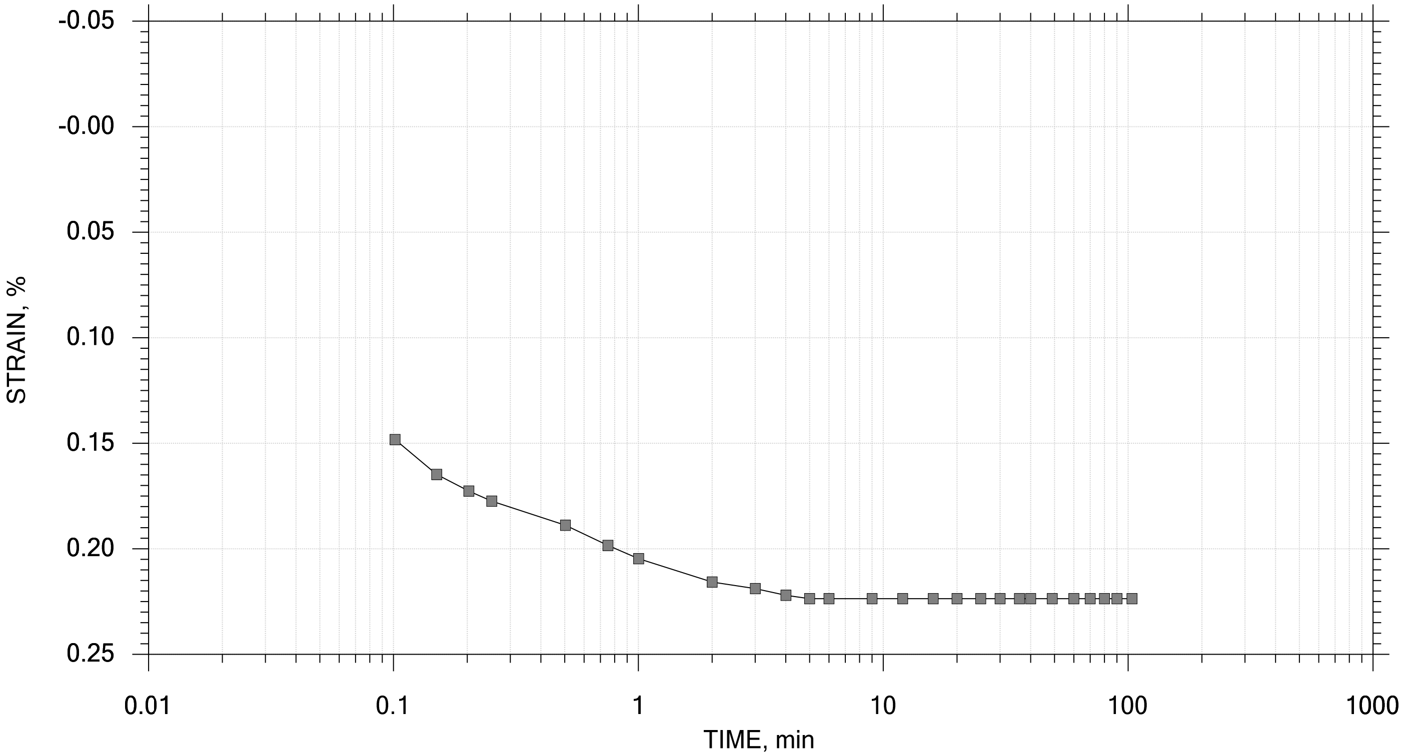
	Applied Stress psf	Final Displacement in	Void Ratio	Strain at End %	Log T50 min	Cv ft²/sec	Mv 1/psf	k cm/sec	Ca %
1	125.	0.002236	1.61	0.224	0.000	0.00e+000	1.79e-005	0.00e+000	0.00e+000
2	250.	0.005573	1.60	0.557	0.000	0.00e+000	2.67e-005	0.00e+000	0.00e+000
3	500.	0.01803	1.57	1.80	0.000	0.00e+000	4.98e-005	0.00e+000	0.00e+000
4	1.00e+003	0.04057	1.51	4.06	7.535	7.13e-007	4.51e-005	6.11e-008	0.00e+000
5	2.00e+003	0.07970	1.41	7.97	0.000	0.00e+000	3.91e-005	0.00e+000	0.00e+000
6	4.00e+003	0.1308	1.27	13.1	0.000	0.00e+000	2.56e-005	0.00e+000	0.00e+000
7	1.00e+003	0.1100	1.33	11.0	13.135	3.36e-007	6.94e-006	4.43e-009	0.00e+000
8	250.	0.08554	1.39	8.55	0.000	0.00e+000	3.26e-005	0.00e+000	0.00e+000
9	1.00e+003	0.09597	1.36	9.60	0.000	0.00e+000	1.39e-005	0.00e+000	0.00e+000
10	2.00e+003	0.1119	1.32	11.2	17.579	2.60e-007	1.59e-005	7.89e-009	0.00e+000
11	4.00e+003	0.1389	1.25	13.9	17.278	2.52e-007	1.35e-005	6.49e-009	0.00e+000
12	8.00e+003	0.1948	1.11	19.5	0.000	0.00e+000	1.40e-005	0.00e+000	0.00e+000

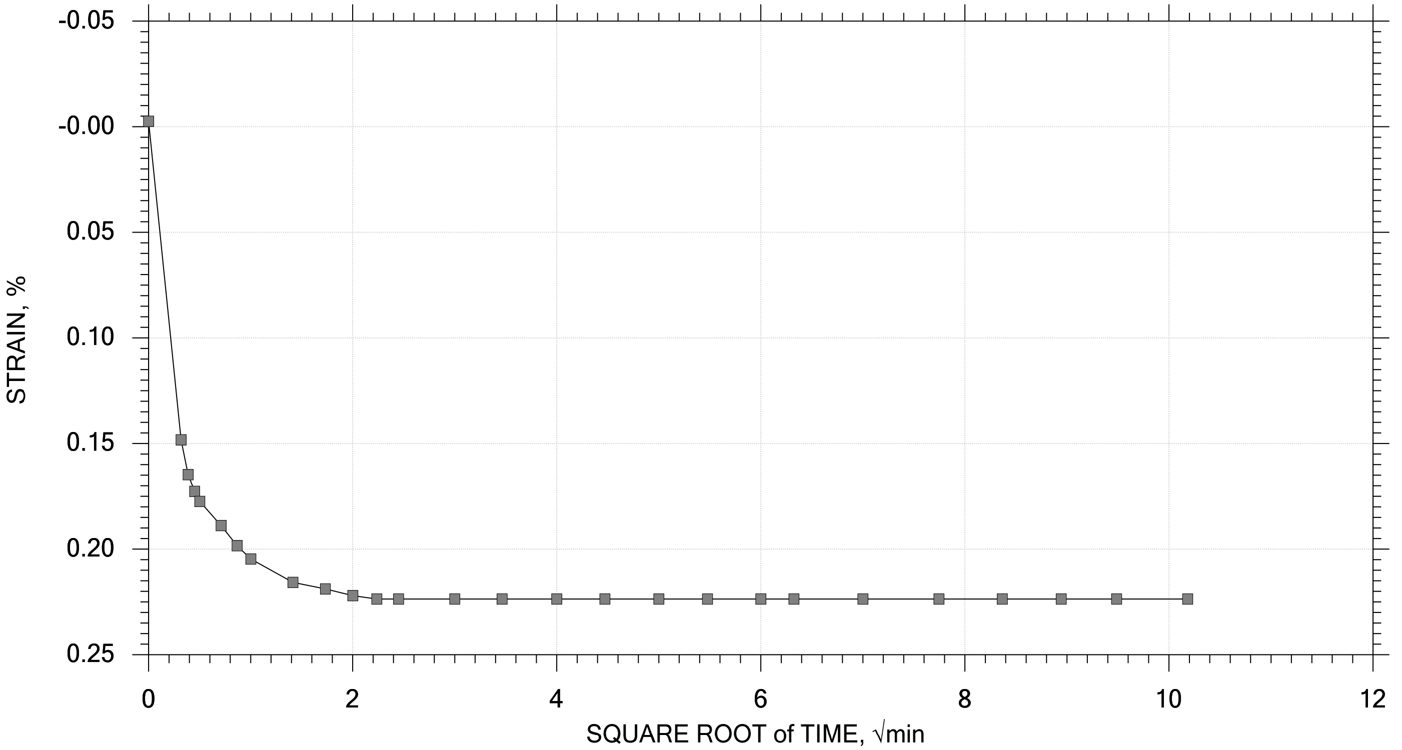
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 1 of 12

Stress: 125 psf





APS Engineering and Testing

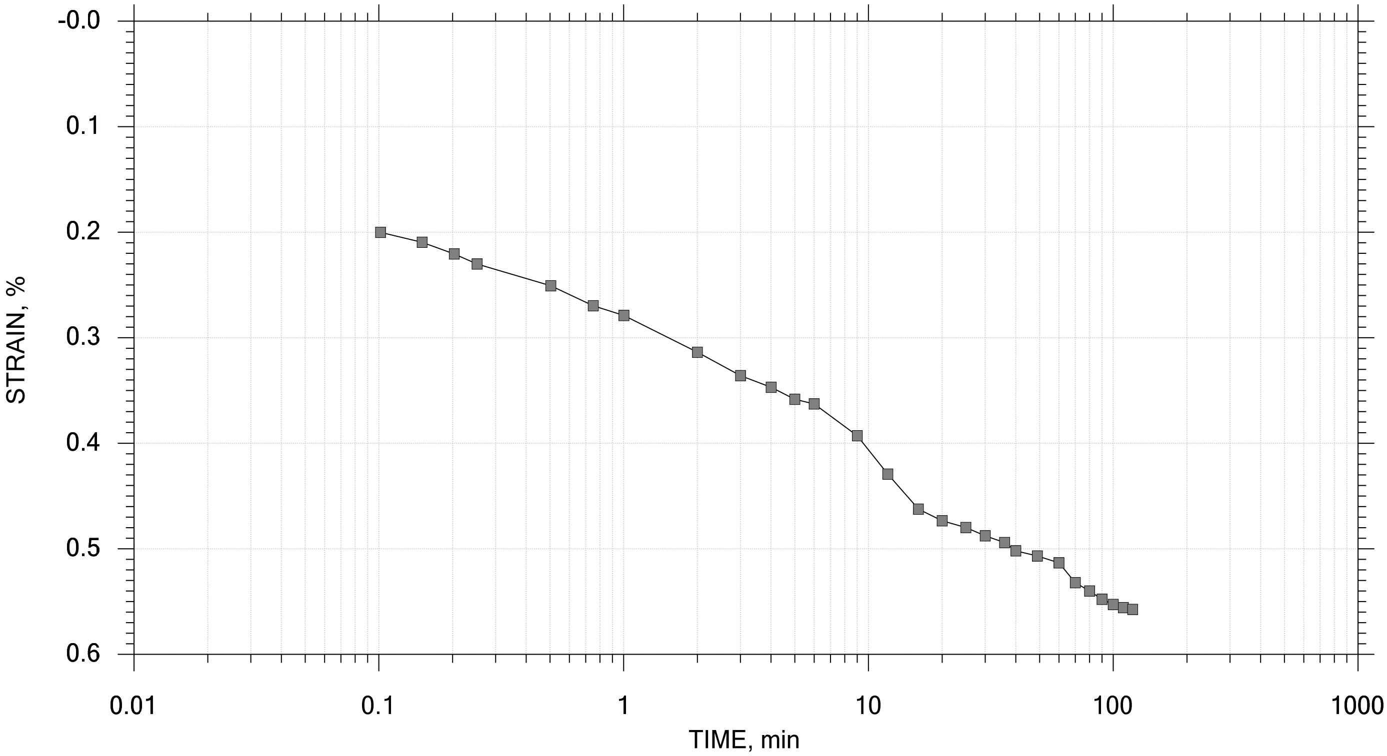
Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
Boring No.: B-7A	Tested By: SA	Checked By: SE
Sample No.: 2	Test Date: 7/28/17	Elevation: N/A
Depth: 2-4 ft	Sample Type: intact	
Description: Very Soft Gray Clay		
Displacement at End of Increment		

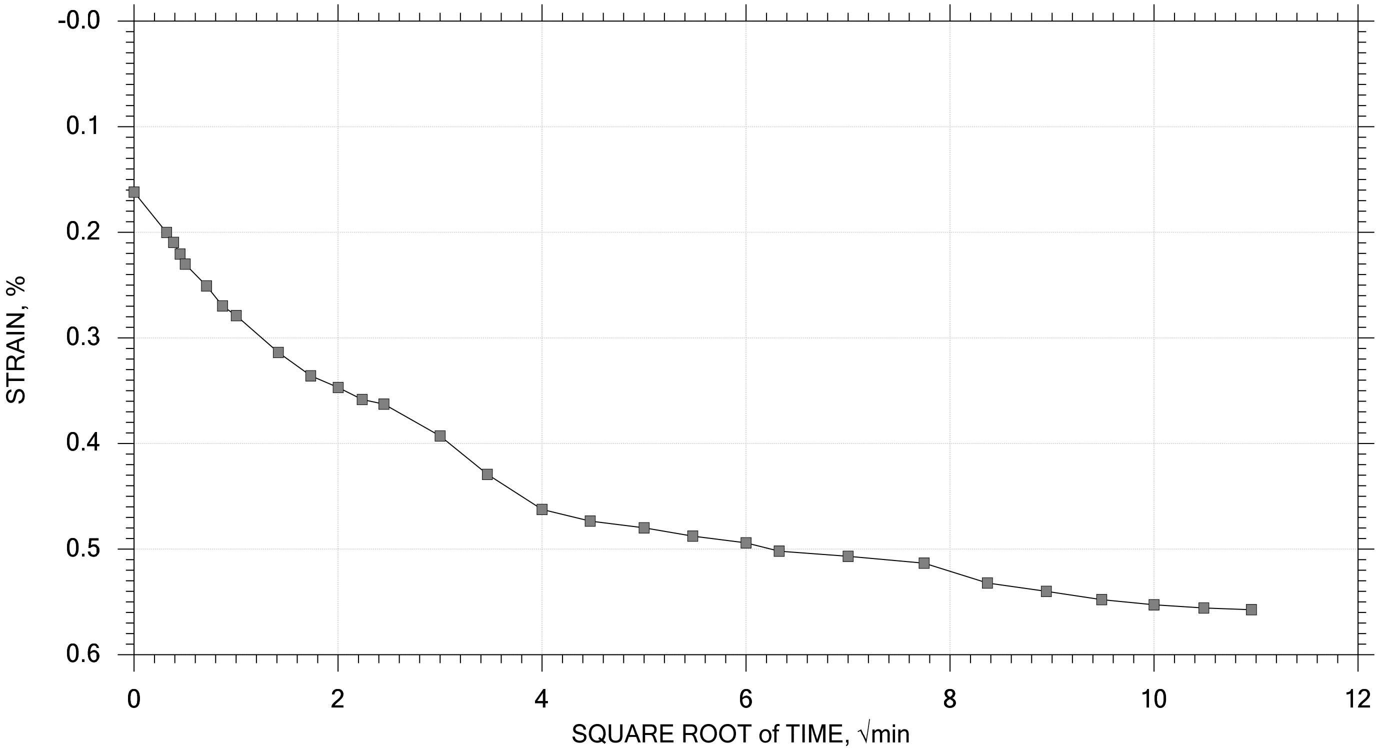
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 2 of 12

Stress: 250 psf





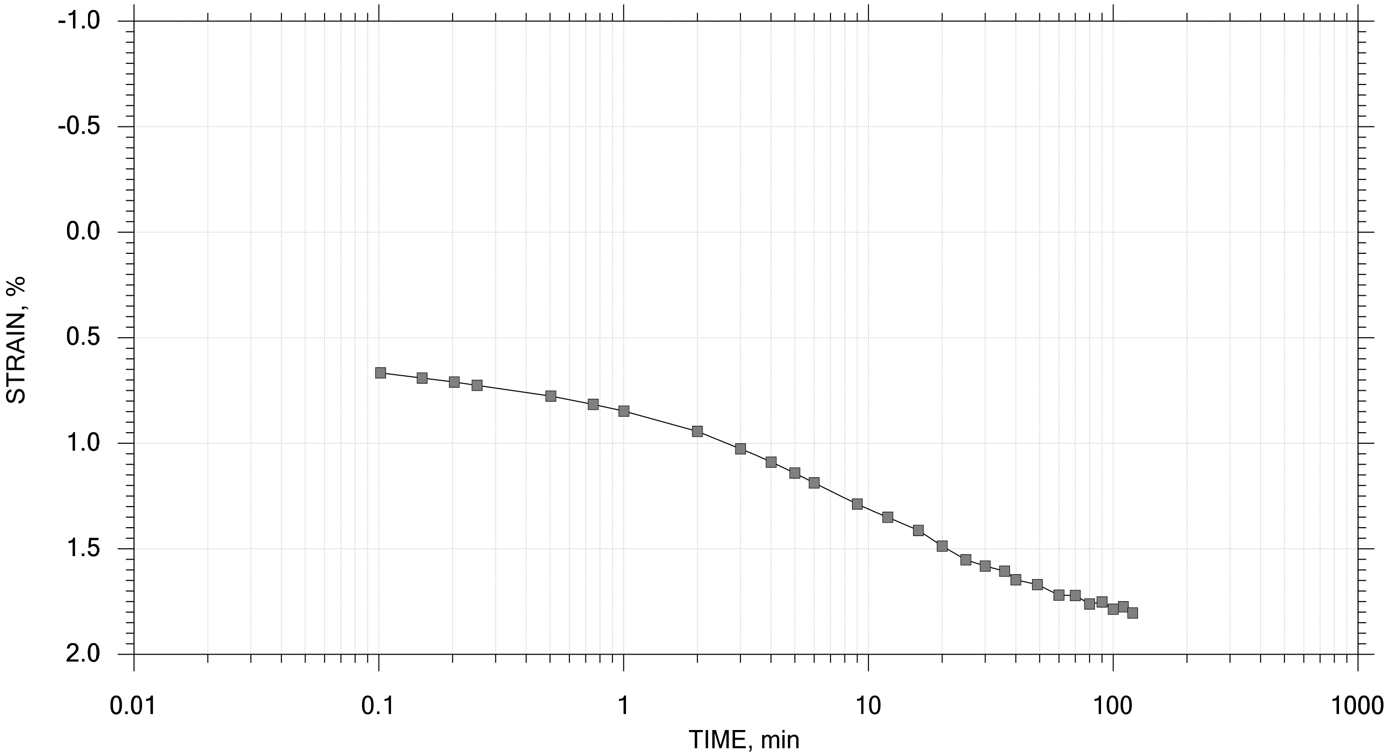
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-7A	Tested By: SA	Checked By: SE
	Sample No.: 2	Test Date: 7/28/17	Elevation: N/A
	Depth: 2-4 ft	Sample Type: intact	
	Description: Very Soft Gray Clay		
	Displacement at End of Increment		

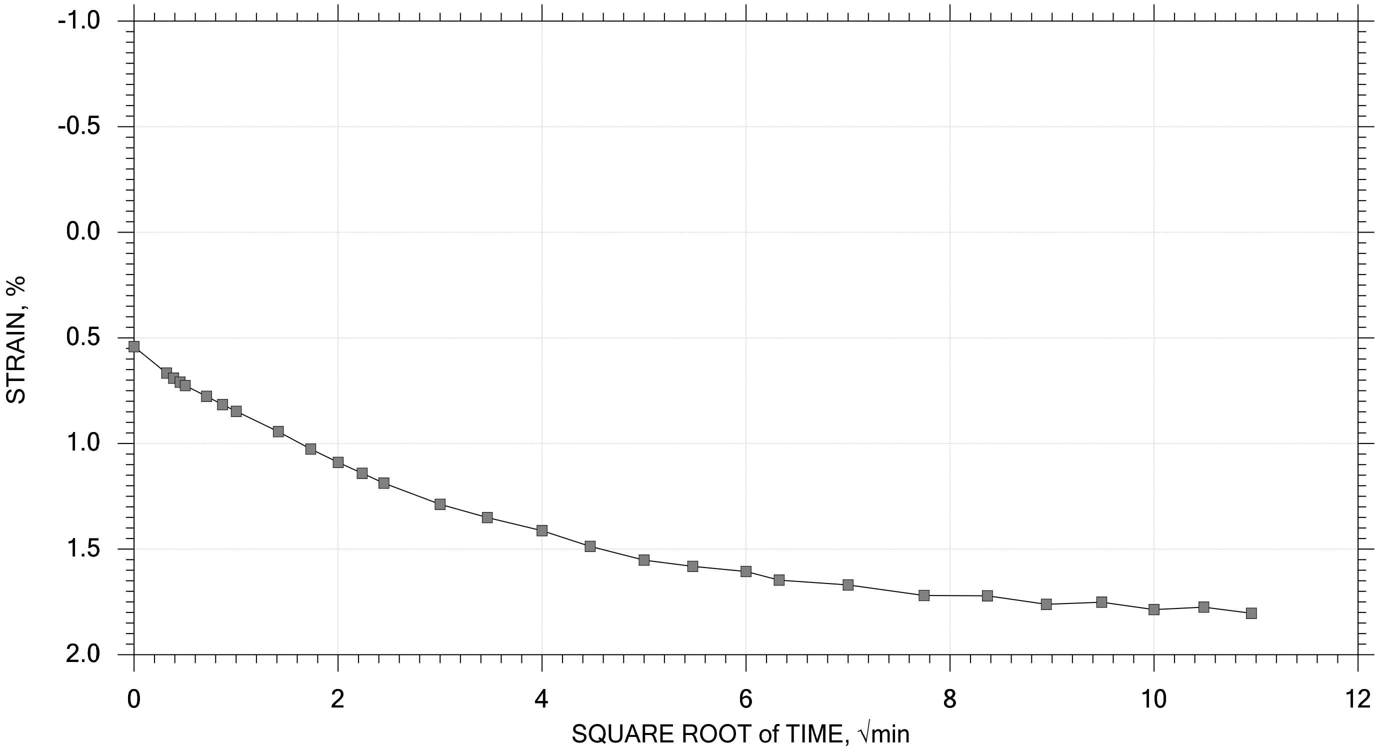
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 3 of 12

Stress: 500 psf





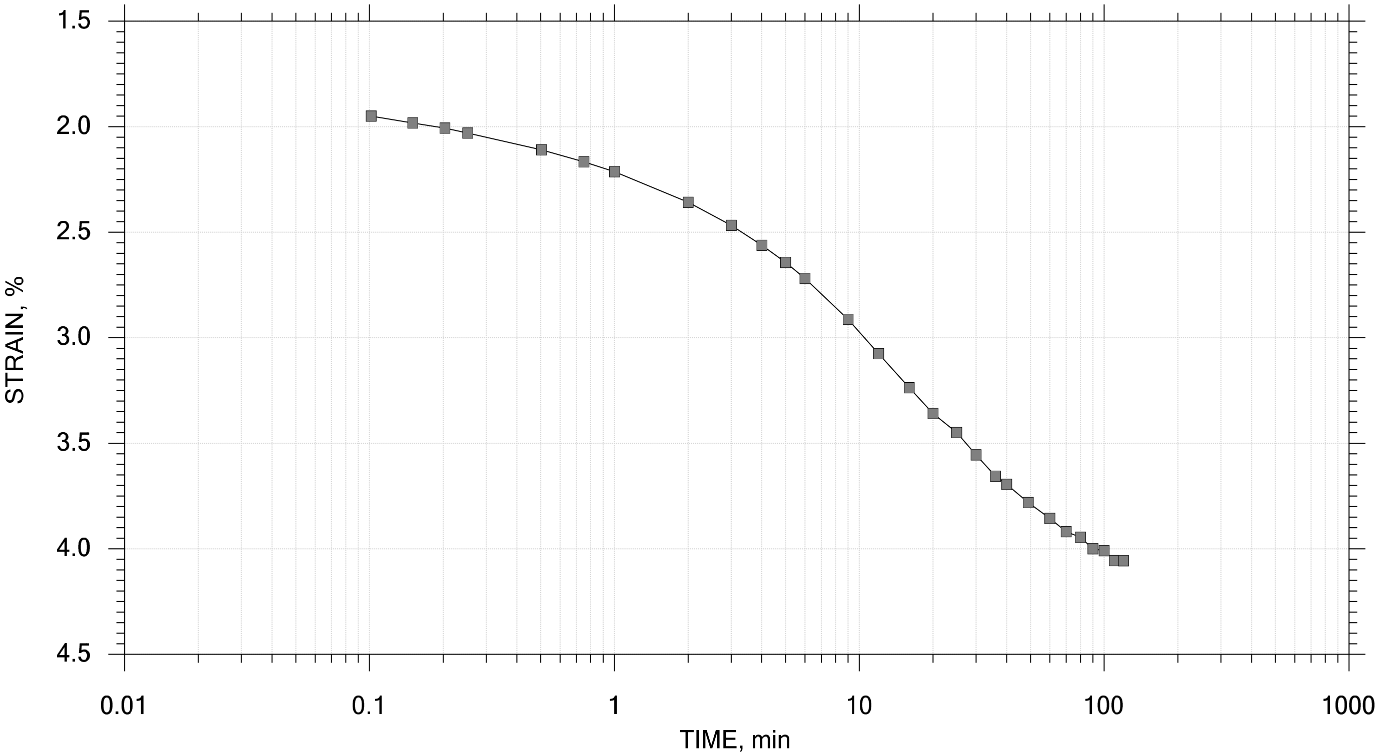
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-7A	Tested By: SA	Checked By: SE
	Sample No.: 2	Test Date: 7/28/17	Elevation: N/A
	Depth: 2-4 ft	Sample Type: intact	
	Description: Very Soft Gray Clay		
	Displacement at End of Increment		

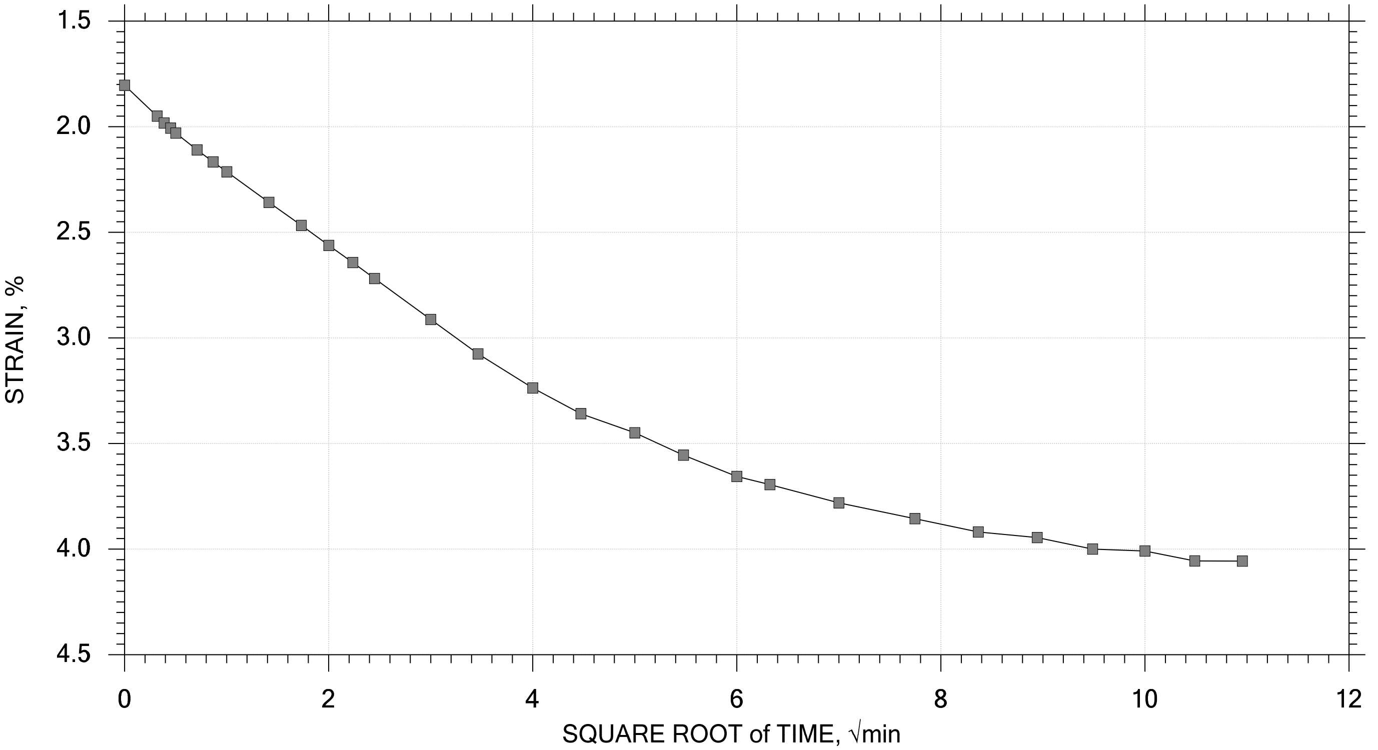
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 4 of 12

Stress: 1000 psf





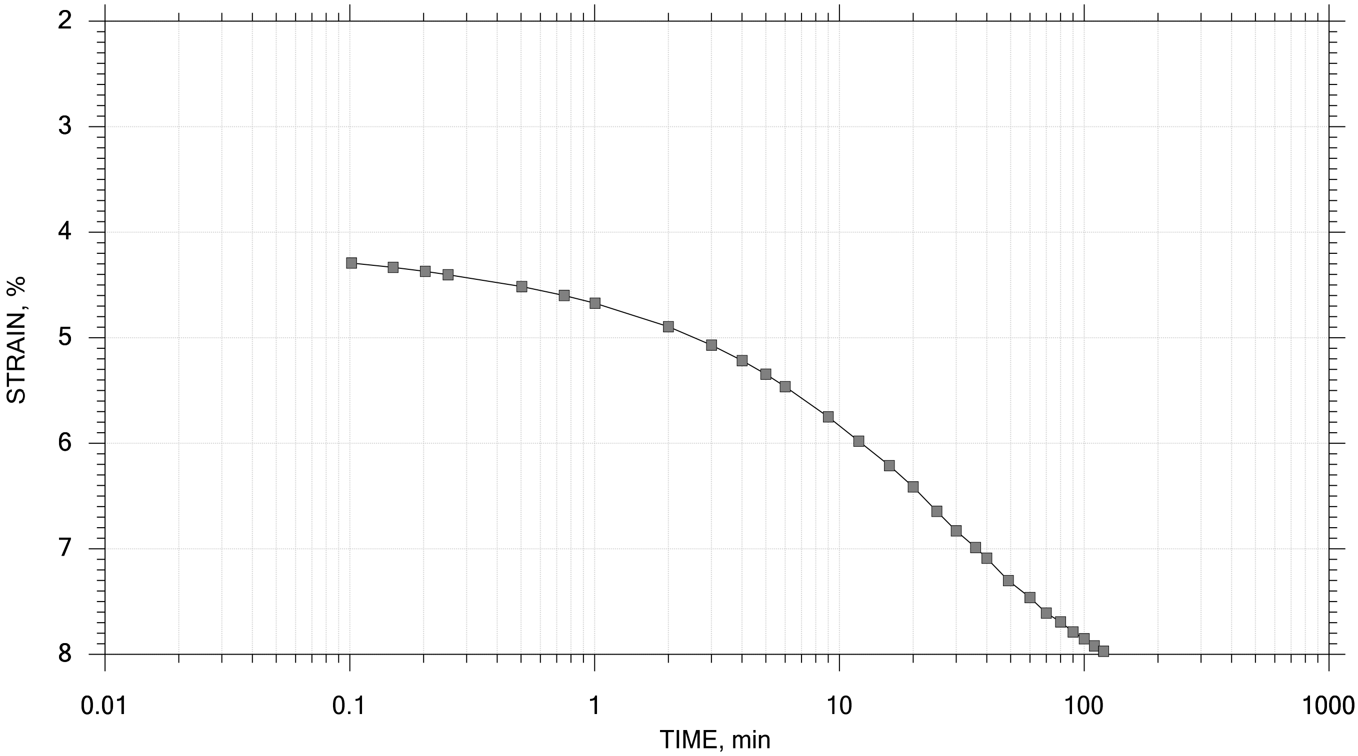
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-7A	Tested By: SA	Checked By: SE
	Sample No.: 2	Test Date: 7/28/17	Elevation: N/A
	Depth: 2-4 ft	Sample Type: intact	
	Description: Very Soft Gray Clay		
	Displacement at End of Increment		

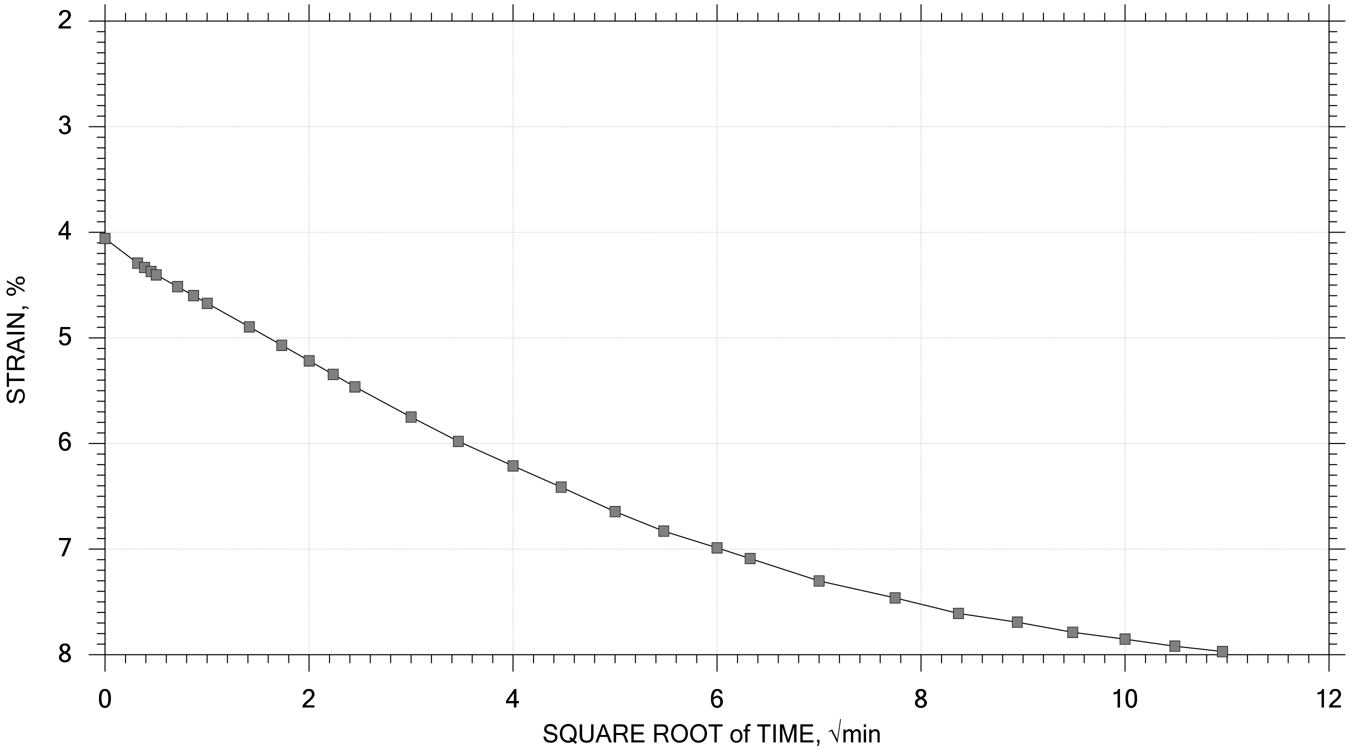
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 5 of 12

Stress: 2000 psf





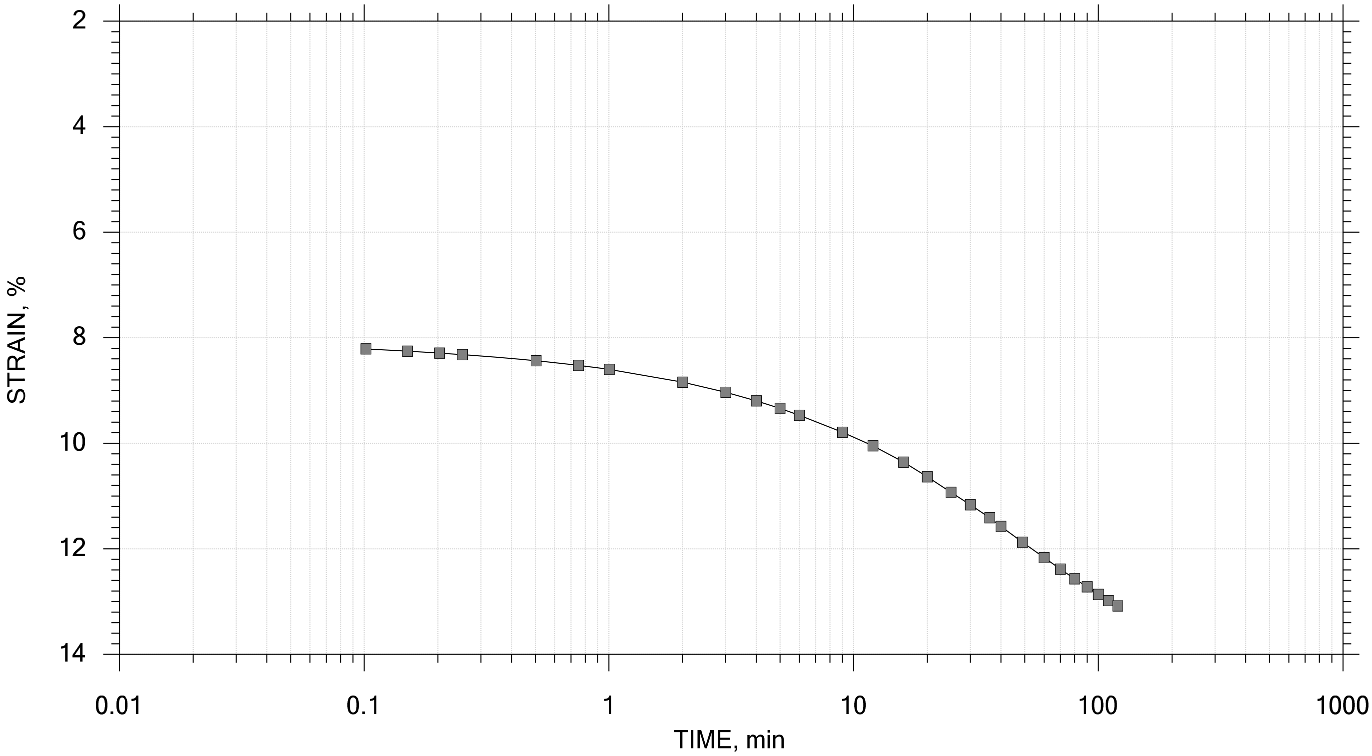
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-7A	Tested By: SA	Checked By: SE
	Sample No.: 2	Test Date: 7/28/17	Elevation: N/A
	Depth: 2-4 ft	Sample Type: intact	
	Description: Very Soft Gray Clay		
	Displacement at End of Increment		

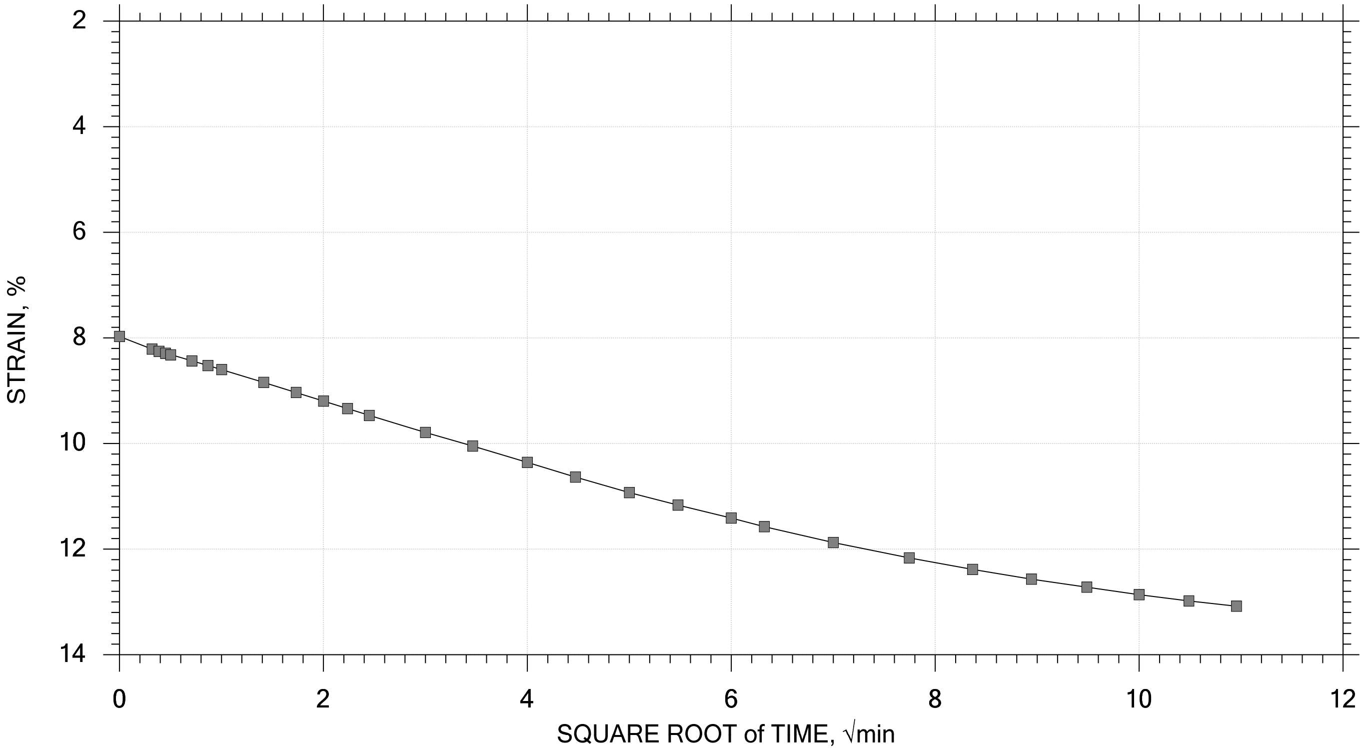
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 6 of 12

Stress: 4000 psf





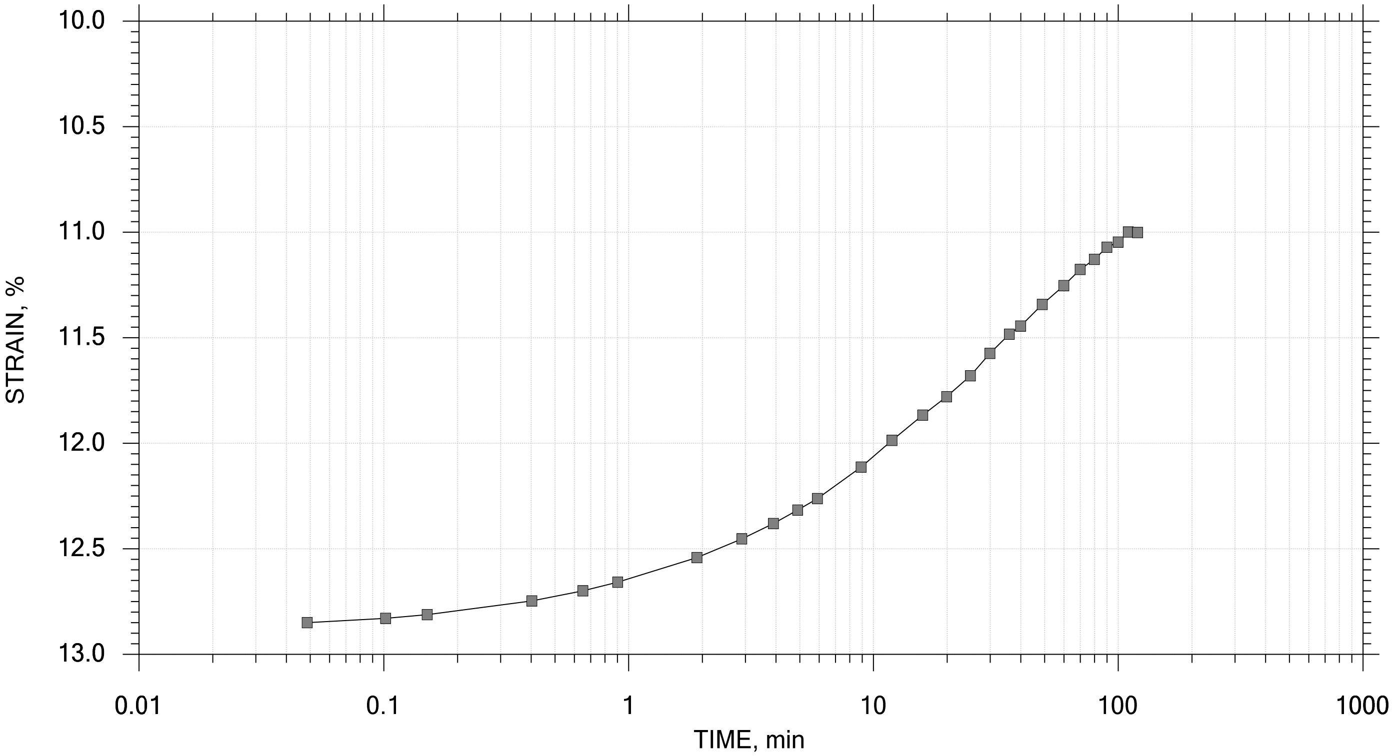
APS Engineering and Testing			
	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-7A	Tested By: SA	Checked By: SE
	Sample No.: 2	Test Date: 7/28/17	Elevation: N/A
	Depth: 2-4 ft	Sample Type: intact	
	Description: Very Soft Gray Clay		
	Displacement at End of Increment		

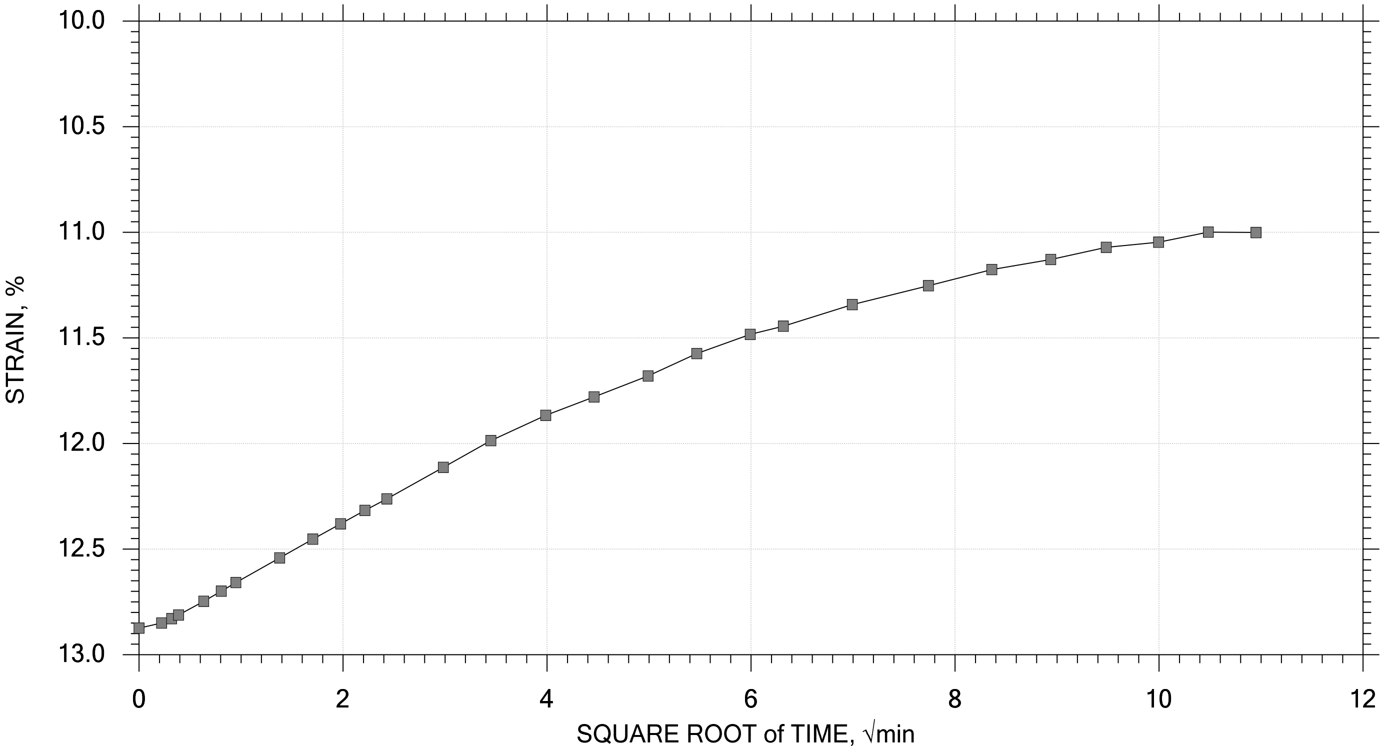
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 7 of 12

Stress: 1000 psf





APS Engineering and Testing

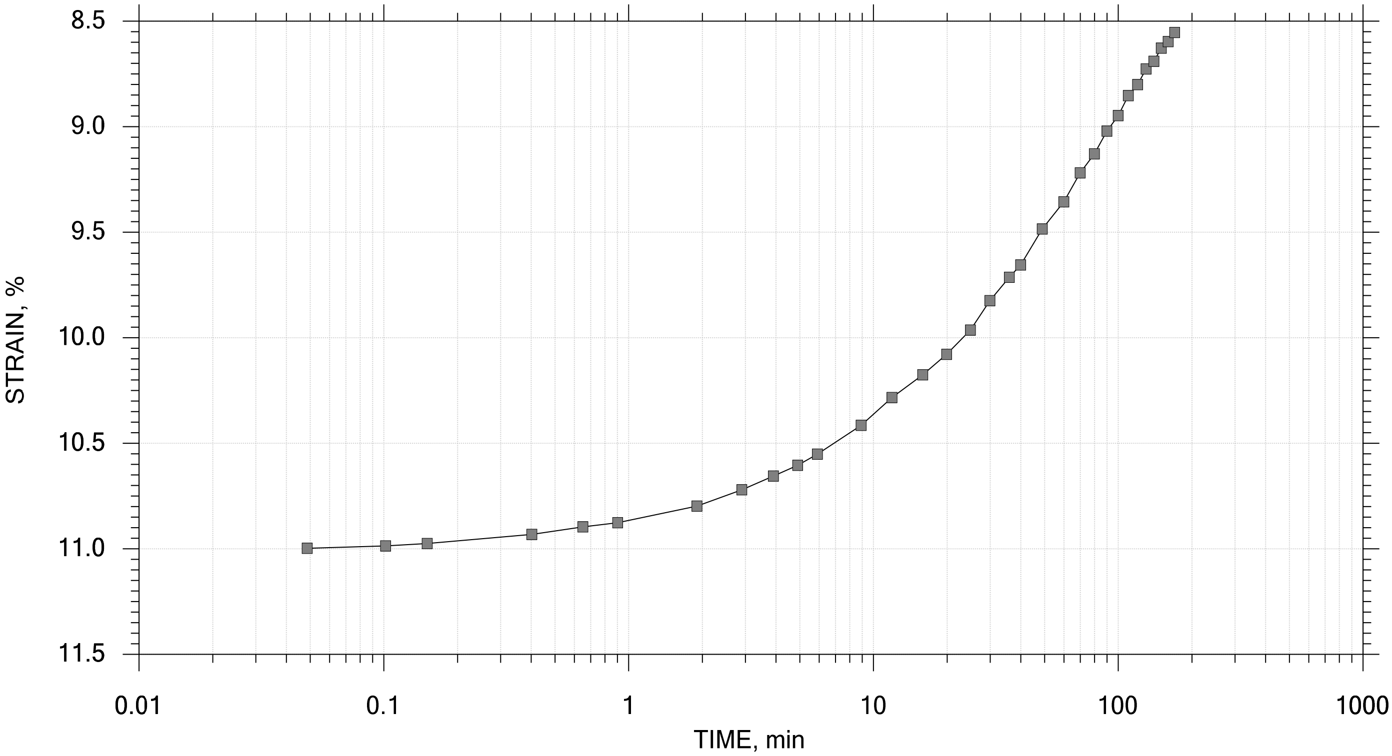
Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
Boring No.: B-7A	Tested By: SA	Checked By: SE
Sample No.: 2	Test Date: 7/28/17	Elevation: N/A
Depth: 2-4 ft	Sample Type: intact	
Description: Very Soft Gray Clay		
Displacement at End of Increment		

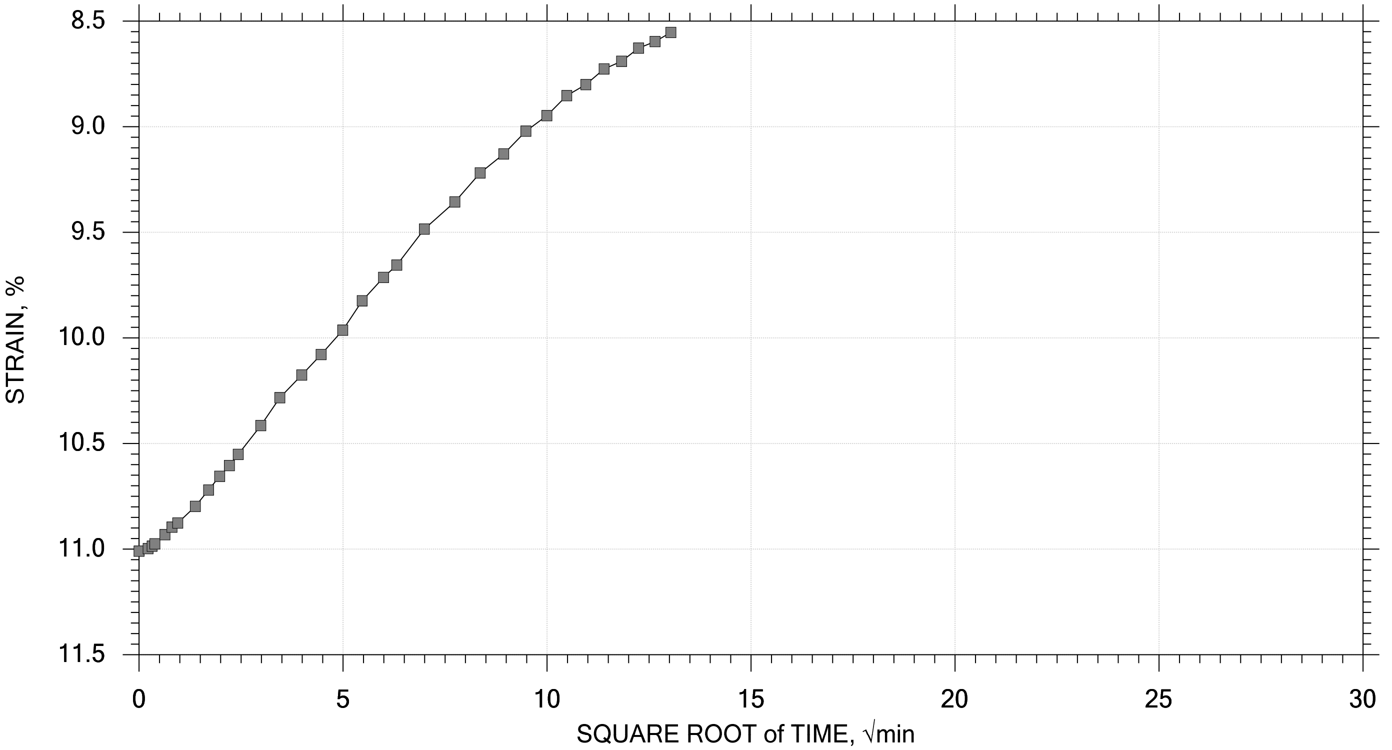
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 8 of 12

Stress: 250 psf





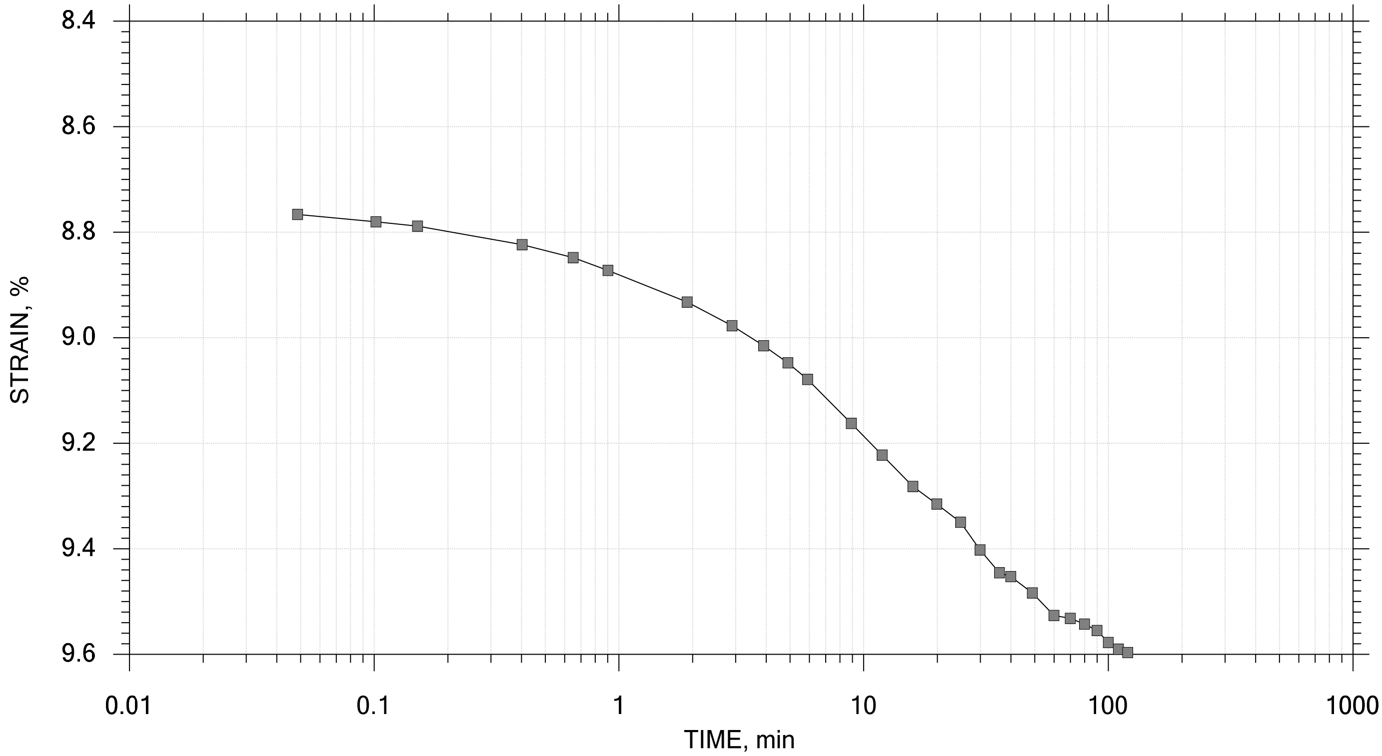
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-7A	Tested By: SA	Checked By: SE
	Sample No.: 2	Test Date: 7/28/17	Elevation: N/A
	Depth: 2-4 ft	Sample Type: intact	
	Description: Very Soft Gray Clay		
	Displacement at End of Increment		

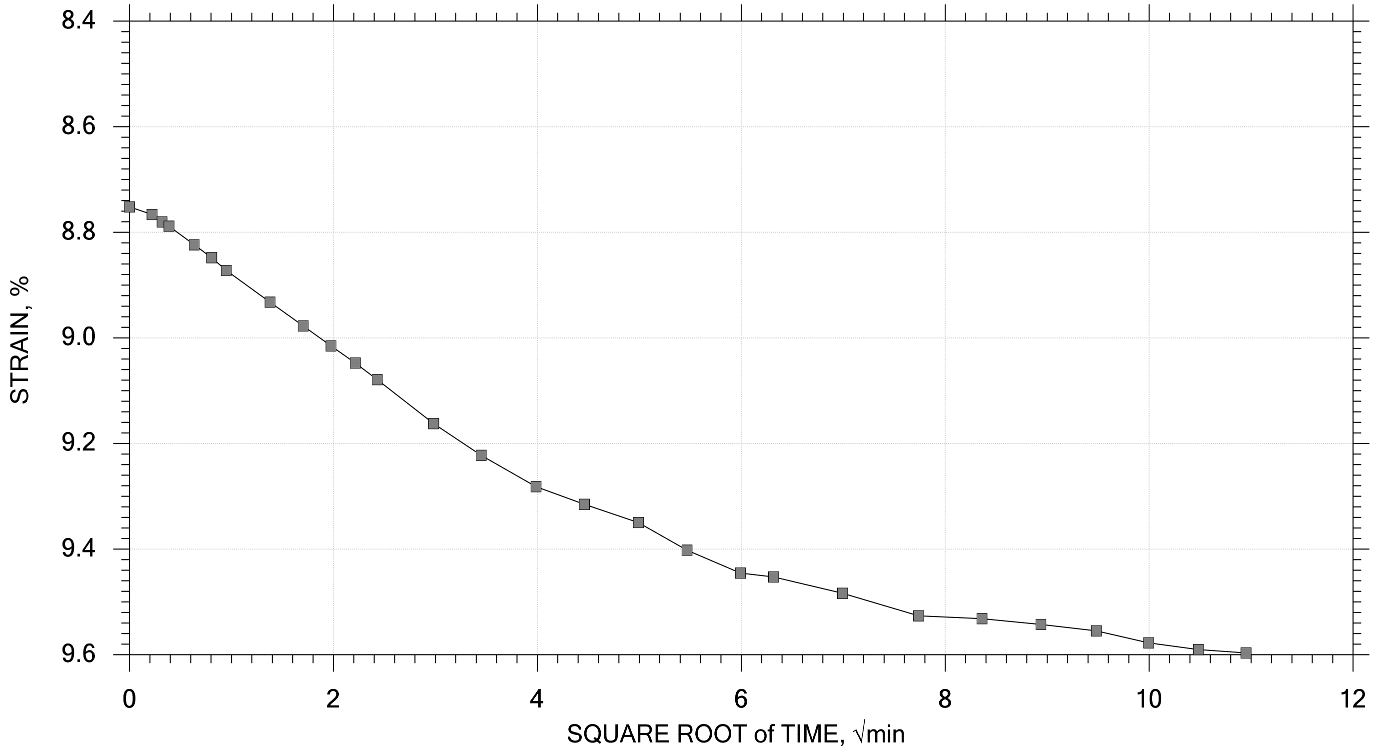
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 9 of 12

Stress: 1000 psf





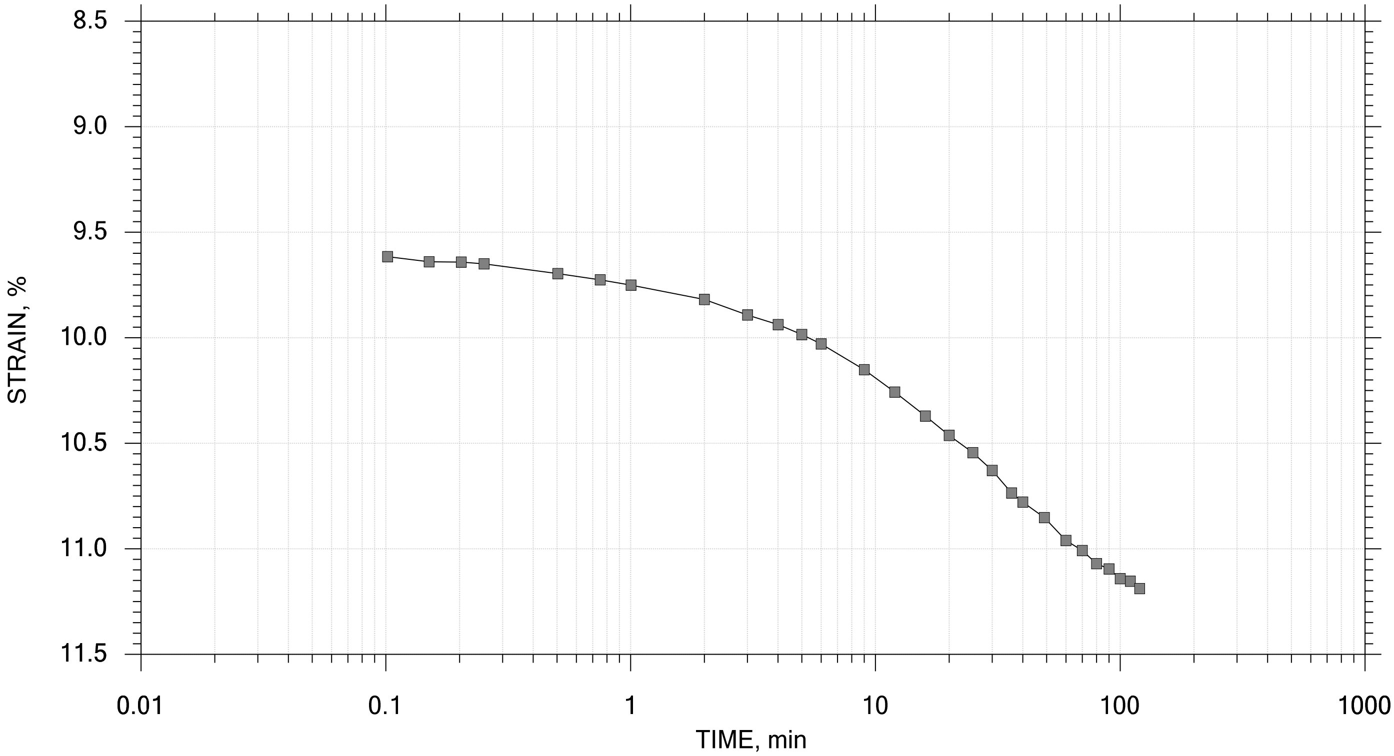
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-7A	Tested By: SA	Checked By: SE
	Sample No.: 2	Test Date: 7/28/17	Elevation: N/A
	Depth: 2-4 ft	Sample Type: intact	
	Description: Very Soft Gray Clay		
	Displacement at End of Increment		

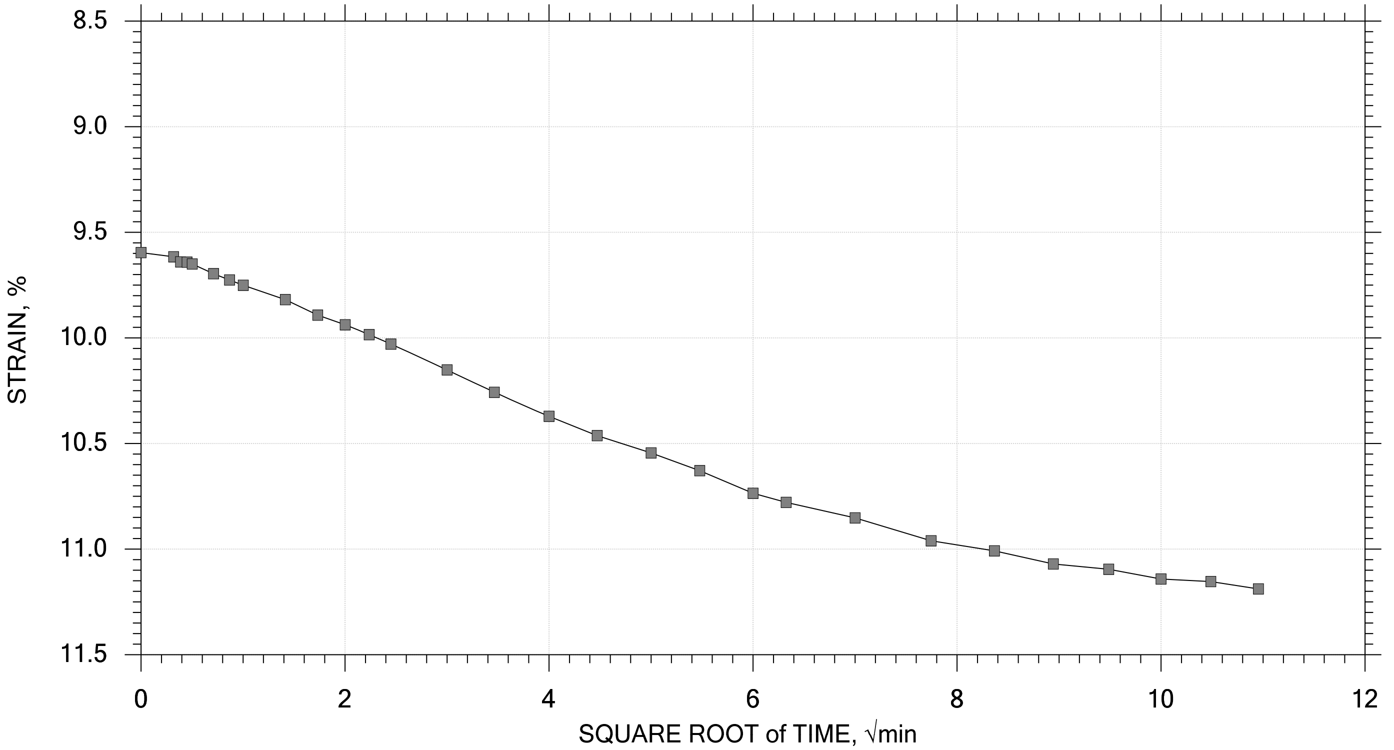
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 10 of 12

Stress: 2000 psf





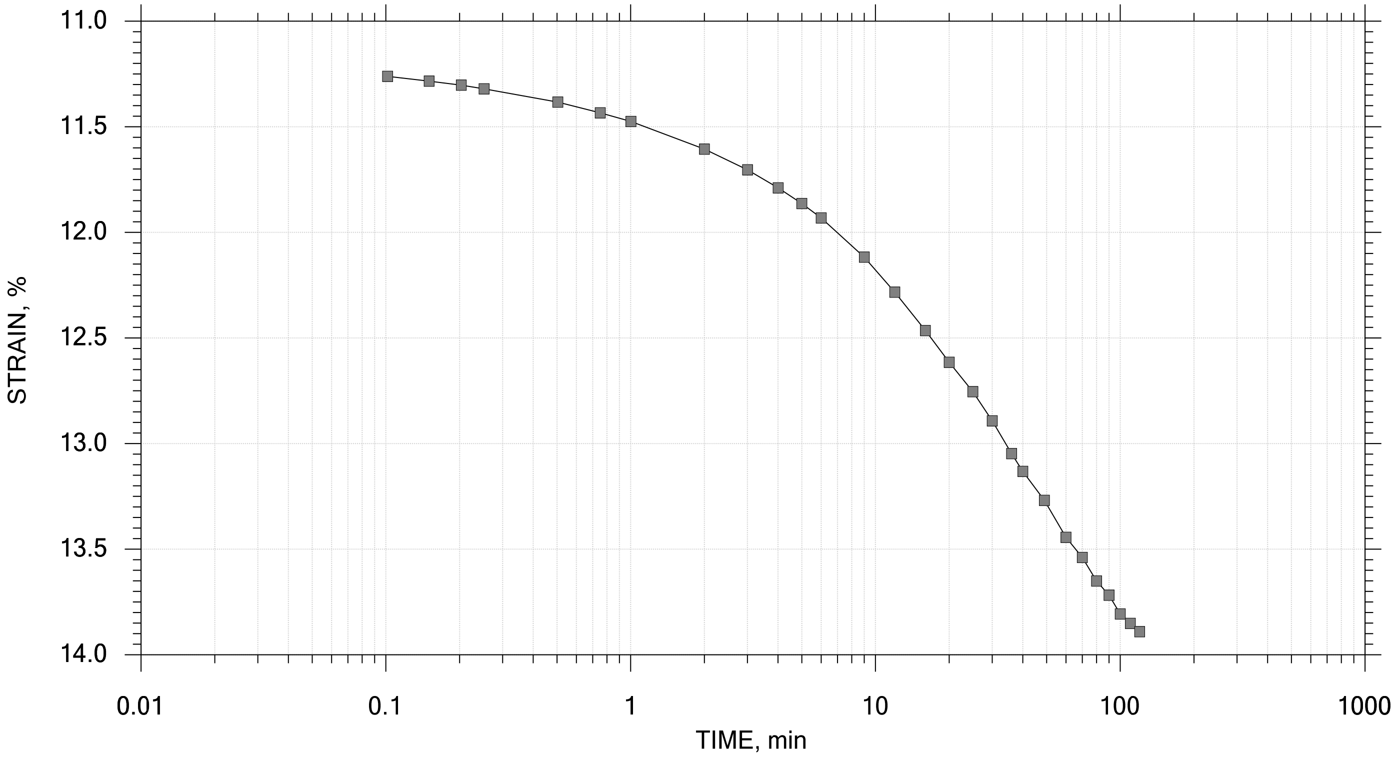
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-7A	Tested By: SA	Checked By: SE
	Sample No.: 2	Test Date: 7/28/17	Elevation: N/A
	Depth: 2-4 ft	Sample Type: intact	
	Description: Very Soft Gray Clay		
	Displacement at End of Increment		

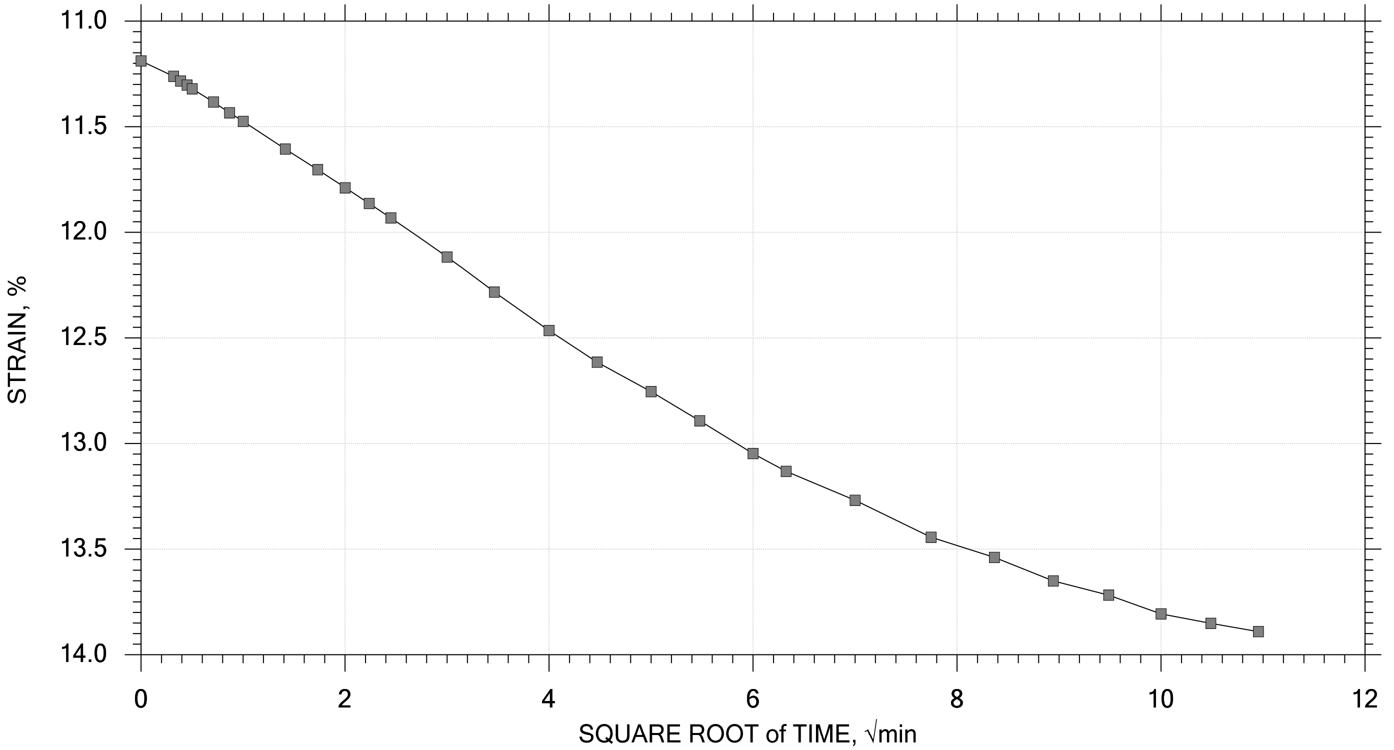
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 11 of 12

Stress: 4000 psf





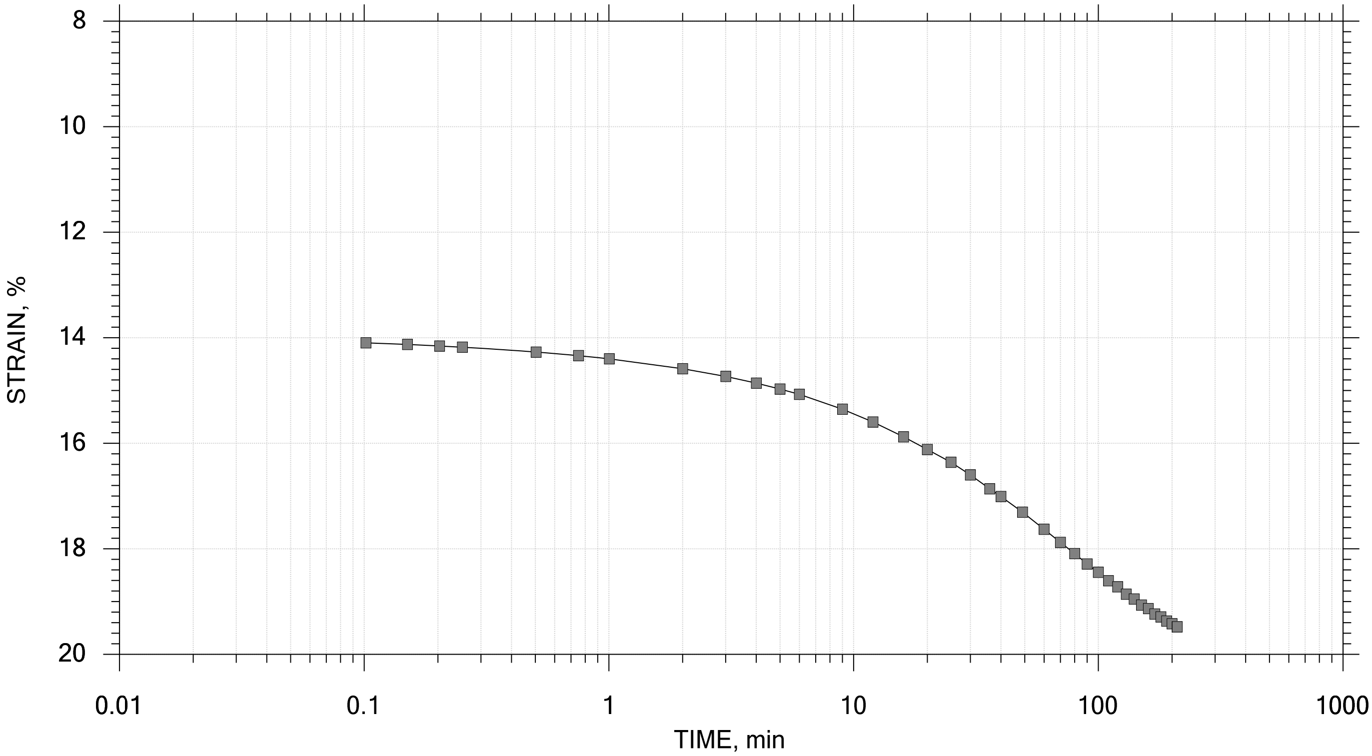
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-7A	Tested By: SA	Checked By: SE
	Sample No.: 2	Test Date: 7/28/17	Elevation: N/A
	Depth: 2-4 ft	Sample Type: intact	
	Description: Very Soft Gray Clay		
	Displacement at End of Increment		

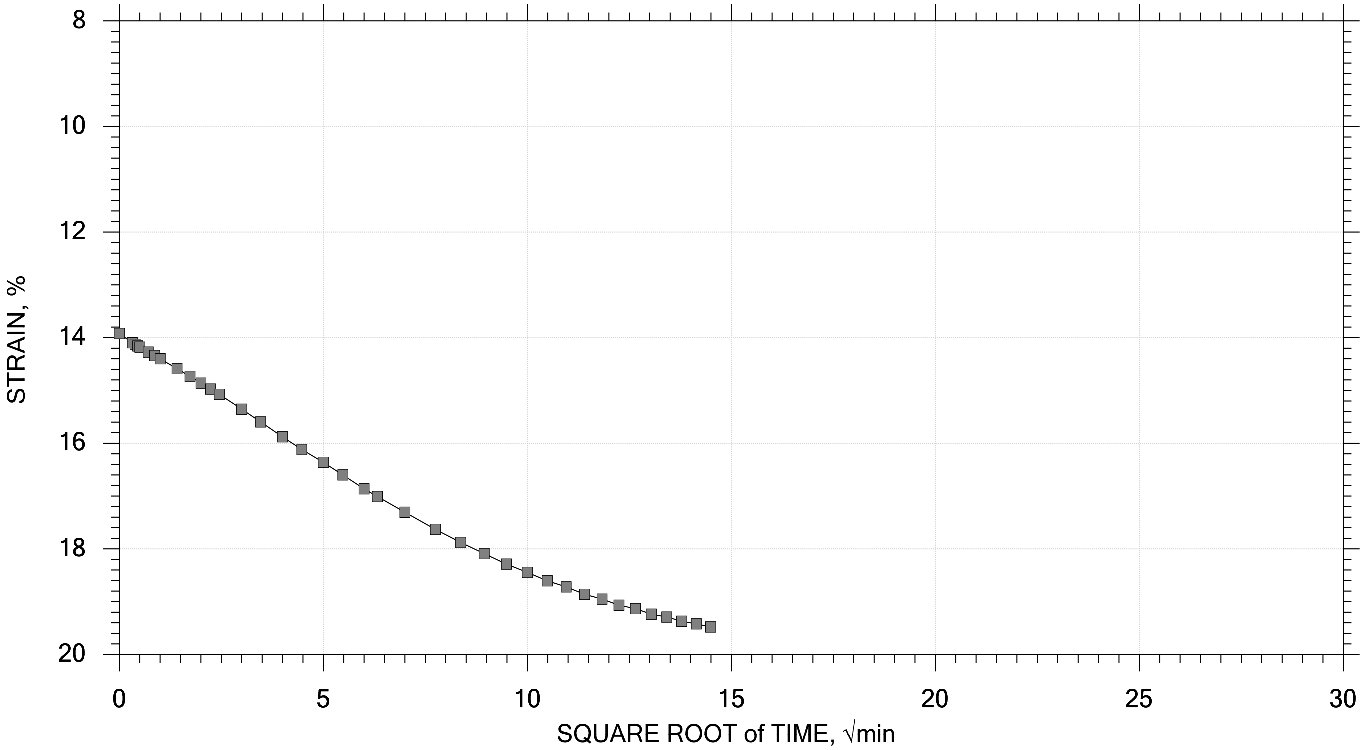
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 12 of 12

Stress: 8000 psf

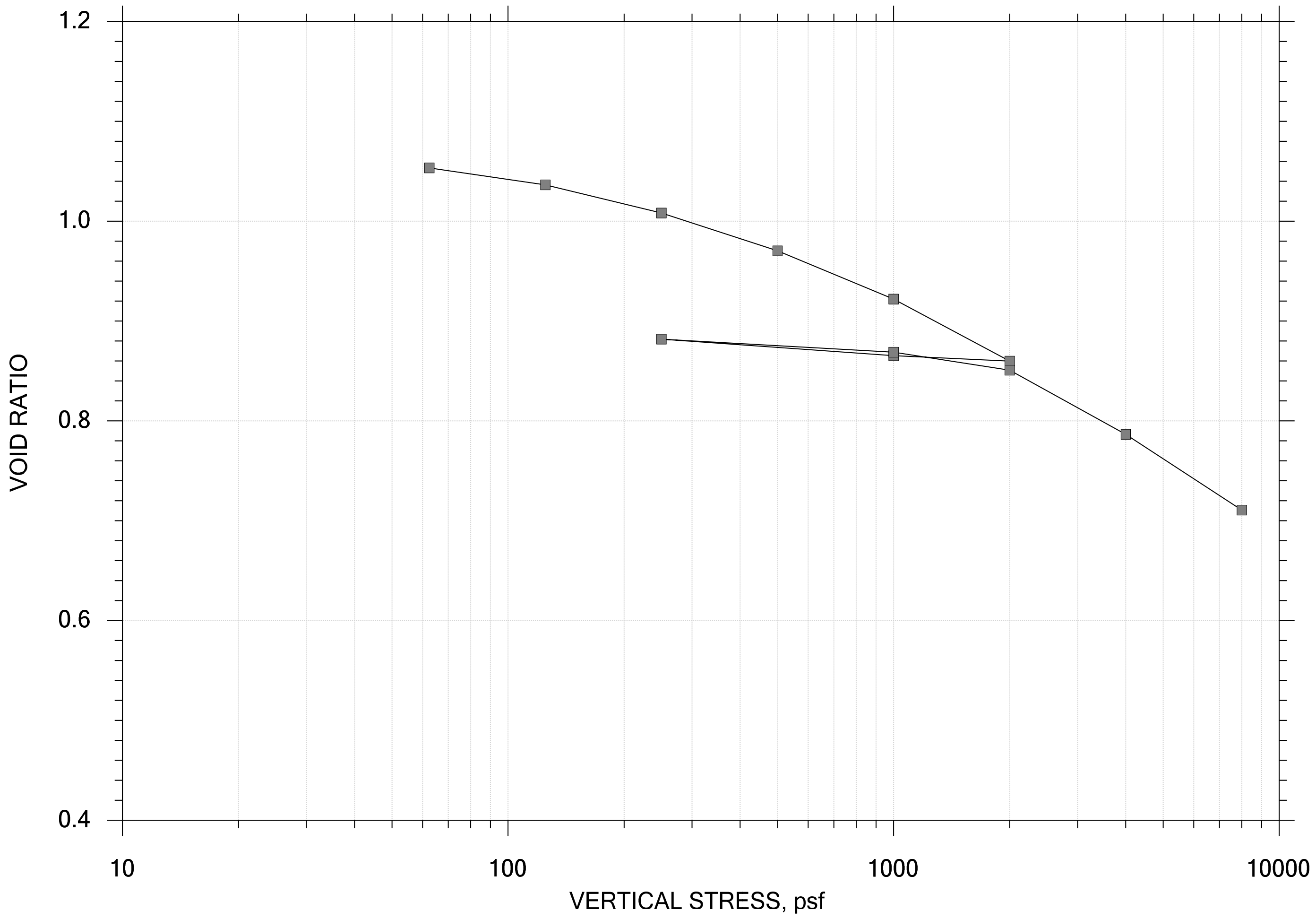


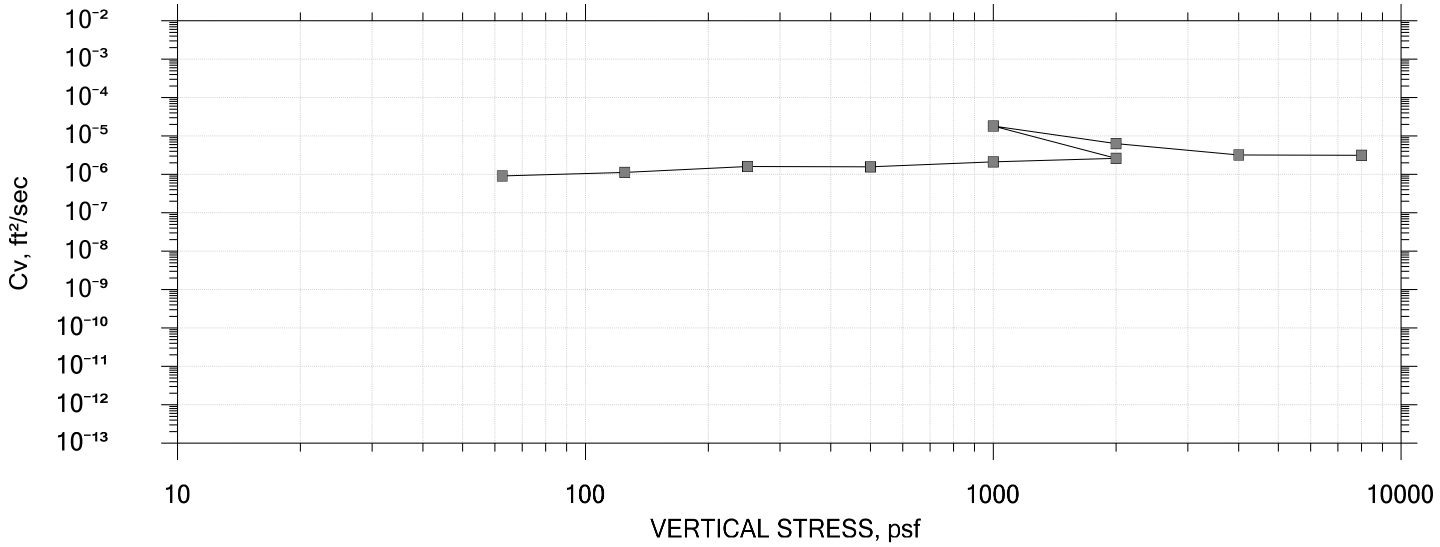


APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-7A	Tested By: SA	Checked By: SE
	Sample No.: 2	Test Date: 7/28/17	Elevation: N/A
	Depth: 2-4 ft	Sample Type: intact	
	Description: Very Soft Gray Clay		
	Displacement at End of Increment		

One-Dimensional Consolidation by ASTM D2435 - Method B

SUMMARY REPORT

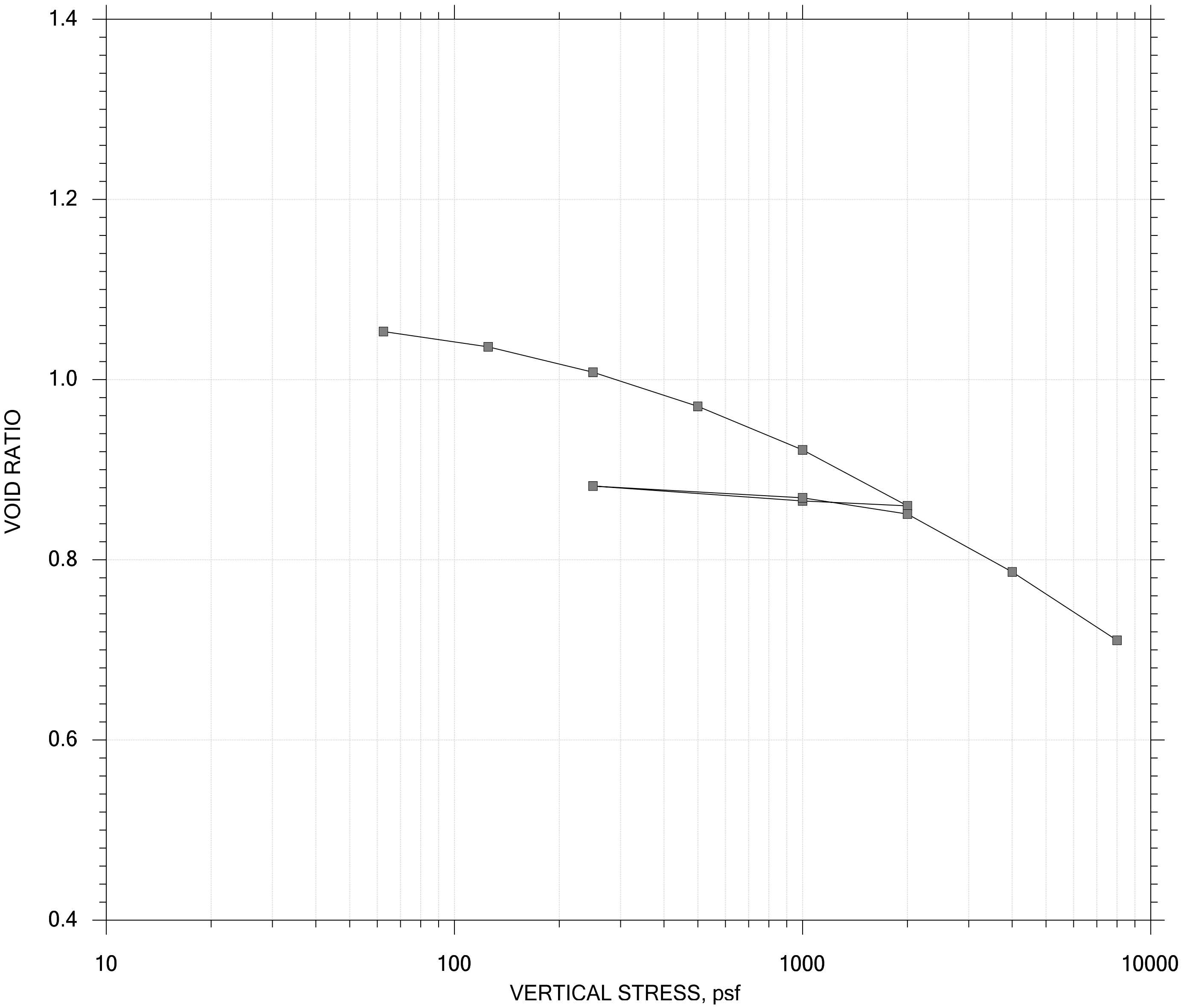




APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-8	Tested By: SA	Checked By: SE
	Sample No.: 5	Test Date: 7/28/17	Elevation: -3.80 ft
	Depth: 8-10 ft	Sample Type: intact	
	Description: Soft Gray Lean Clay		
	Displacement at End of Increment		

One-Dimensional Consolidation by ASTM D2435 - Method B

SUMMARY REPORT



Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
Boring No.: B-8	Tested By: SA	Checked By: SE
Sample No.: 5	Test Date: 7/28/17	Elevation: -3.80 ft
Depth: 8-10 ft	Sample Type: intact	
Description: Soft Gray Lean Clay		
Displacement at End of Increment		

APS Engineering and Testing

One-Dimensional Consolidation by ASTM D2435 - Method B

Project: PO-1609
Boring No.: B-8
Sample No.: 5

Location: Lake Saint Catherine
Tested By: SA
Test Date: 7/28/17
Sample Type: Intact

Project No.: APS1706-G038
Checked By: SE
Depth: 8-10 ft
Elevation: -3.80 ft

Soil Description: Very Soft Gray Lean Clay

Measured Specific Gravity: 2.65
Initial Void Ratio: 1.06
Final Void Ratio: 0.740

Liquid Limit:43
Plastic Limit:19
Plasticity Index: 24

Specimen Diameter: 2.50 in
Initial Height: 1.00 in
Final Height: 0.84 in

	Before Consolidation		After Consolidation	
	Trimmings	Specimen+Ring	Specimen+Ring	Trimmings
Container ID	a11	RING	ash	ash
Wt. Container + Wet Soil, gm	91.800	151.27	140.36	140.36
Wt. Container + Dry Soil, gm	72.080	111.50	111.50	111.50
Wt. Container, gm	16.550	8.1800	8.1800	8.1800
Wt. Dry Soil, gm	55.530	103.32	103.32	103.32
Water Content, %	35.51	38.50	27.94	27.94
Void Ratio	---	1.06	0.740	---
Degree of Saturation, %	---	95.95	100.00	---
Dry Unit Weight, pcf	---	80.181	95.057	---

One-Dimensional Consolidation by ASTM D2435 - Method B

Project: PO-169
Boring No.: B-8
Sample No.: 5

Location: Lake Saint Catherine
Tested By: SA
Test Date: 7/28/17
Sample Type: Intact

Project No.: APS1706-G038
Checked By: SE
Depth: 8-10 ft
Elevation: -3.80 ft

Soil Description: Very Soft Gray Lean Clay

Displacement at End of Increment

	Applied Stress psf	Final Displacement in	Void Ratio	Strain at End %	Sq.Rt T90 min	Cv ft²/sec	Mv 1/psf	k cm/sec
1	62.5	0.004742	1.05	0.474	26.265	9.30e-007	7.59e-005	1.34e-007
2	125.	0.01299	1.04	1.30	16.403	1.47e-006	1.32e-004	3.69e-007
3	250.	0.02665	1.01	2.66	13.189	1.79e-006	1.09e-004	3.72e-007
4	500.	0.04500	0.970	4.50	13.164	1.73e-006	7.34e-005	2.42e-007
5	1.00e+003	0.06845	0.922	6.84	10.238	2.13e-006	4.69e-005	1.90e-007
6	2.00e+003	0.09855	0.860	9.85	7.705	2.67e-006	3.01e-005	1.53e-007
7	1.00e+003	0.09592	0.865	9.59	0.634	3.16e-005	2.63e-006	1.58e-007
8	250.	0.08788	0.882	8.79	4.894	4.13e-006	1.07e-005	8.43e-008
9	1.00e+003	0.09422	0.869	9.42	1.174	1.73e-005	8.45e-006	2.78e-007
10	2.00e+003	0.1029	0.851	10.3	3.792	5.26e-006	8.71e-006	8.71e-008
11	4.00e+003	0.1341	0.787	13.4	6.879	2.77e-006	1.56e-005	8.22e-008
12	8.00e+003	0.1709	0.711	17.1	5.407	3.26e-006	9.20e-006	5.71e-008

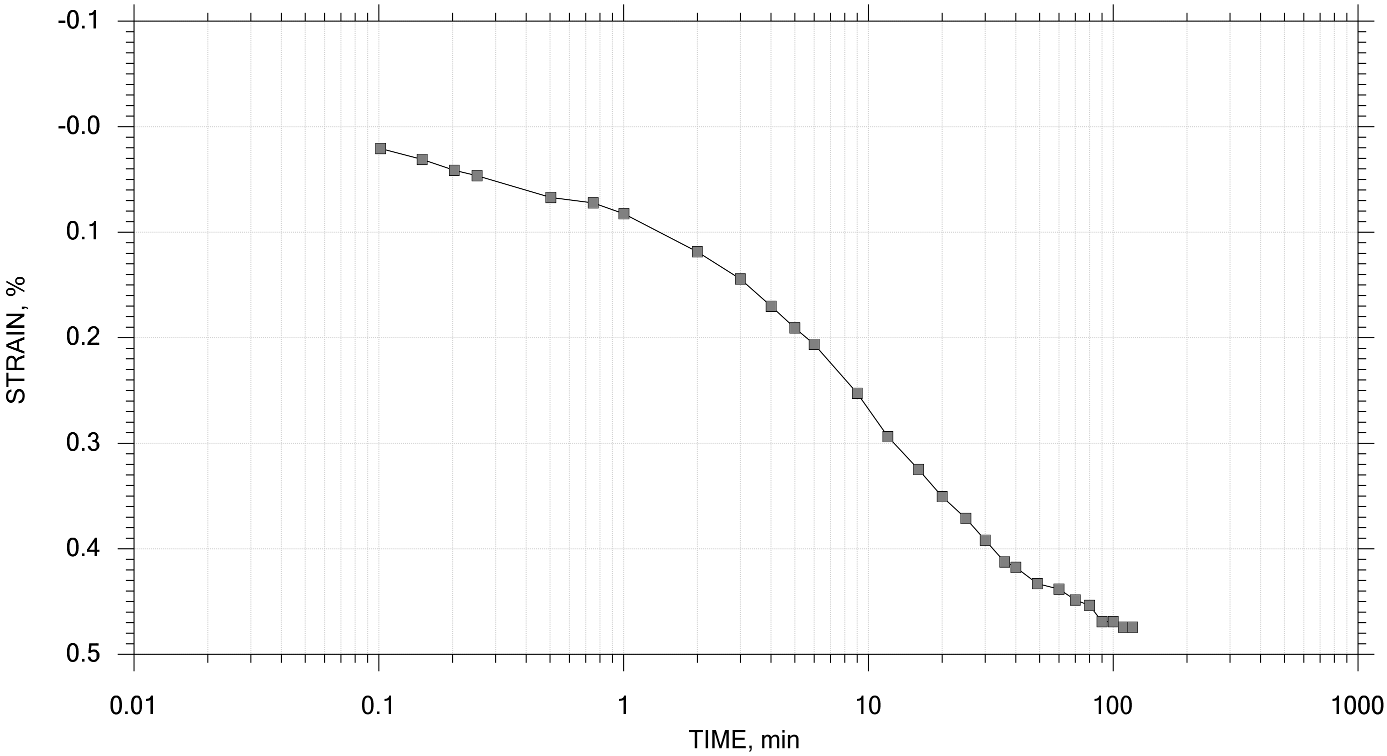
	Applied Stress psf	Final Displacement in	Void Ratio	Strain at End %	Log T50 min	Cv ft²/sec	Mv 1/psf	k cm/sec	Ca %
1	62.5	0.004742	1.05	0.474	6.198	9.15e-007	7.59e-005	1.32e-007	0.00e+000
2	125.	0.01299	1.04	1.30	6.192	9.04e-007	1.32e-004	2.27e-007	0.00e+000
3	250.	0.02665	1.01	2.66	3.775	1.45e-006	1.09e-004	3.02e-007	0.00e+000
4	500.	0.04500	0.970	4.50	3.616	1.47e-006	7.34e-005	2.05e-007	0.00e+000
5	1.00e+003	0.06845	0.922	6.84	2.429	2.09e-006	4.69e-005	1.86e-007	0.00e+000
6	2.00e+003	0.09855	0.860	9.85	1.970	2.43e-006	3.01e-005	1.39e-007	0.00e+000
7	1.00e+003	0.09592	0.865	9.59	0.000	0.00e+000	2.63e-006	0.00e+000	0.00e+000
8	250.	0.08788	0.882	8.79	1.107	4.25e-006	1.07e-005	8.66e-008	0.00e+000
9	1.00e+003	0.09422	0.869	9.42	0.254	1.86e-005	8.45e-006	2.99e-007	0.00e+000
10	2.00e+003	0.1029	0.851	10.3	0.602	7.70e-006	8.71e-006	1.28e-007	0.00e+000
11	4.00e+003	0.1341	0.787	13.4	1.294	3.42e-006	1.56e-005	1.02e-007	0.00e+000
12	8.00e+003	0.1709	0.711	17.1	1.459	2.81e-006	9.20e-006	4.91e-008	0.00e+000

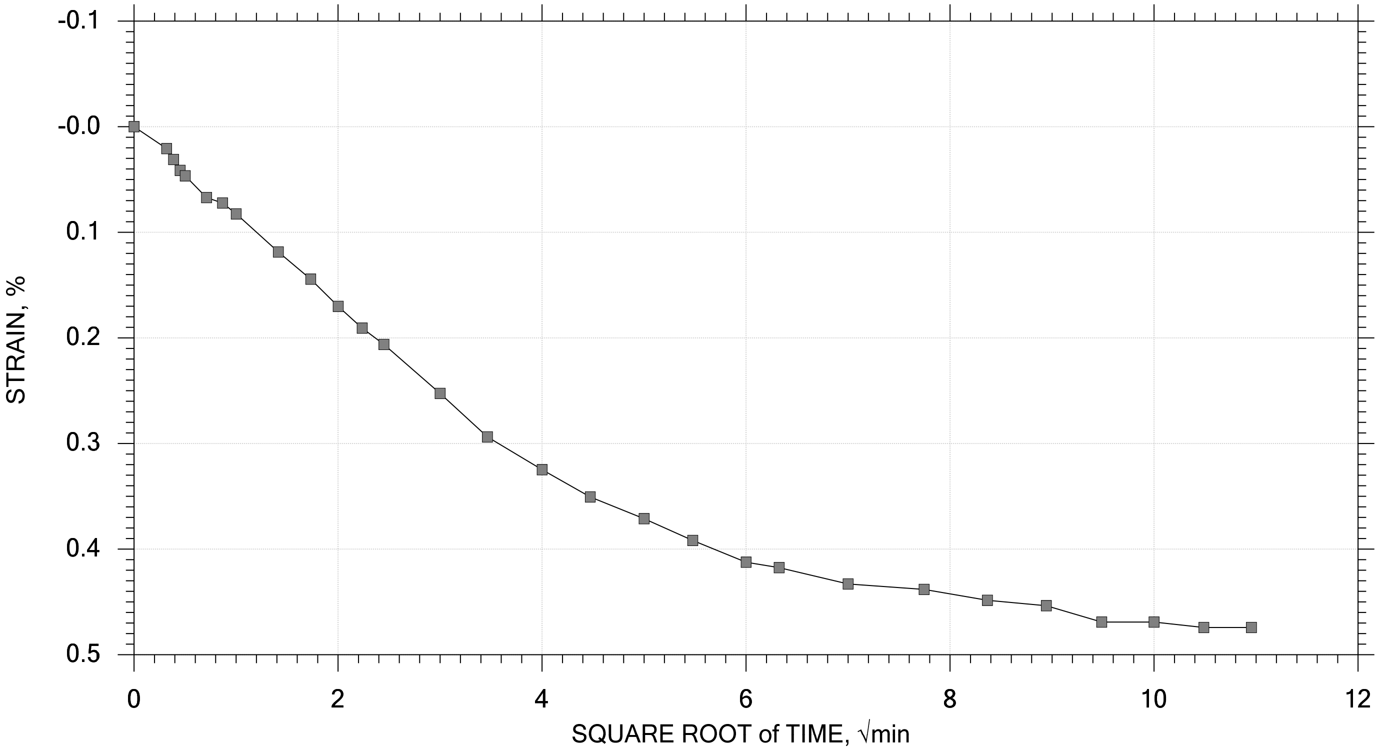
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 1 of 12

Stress: 62.5 psf





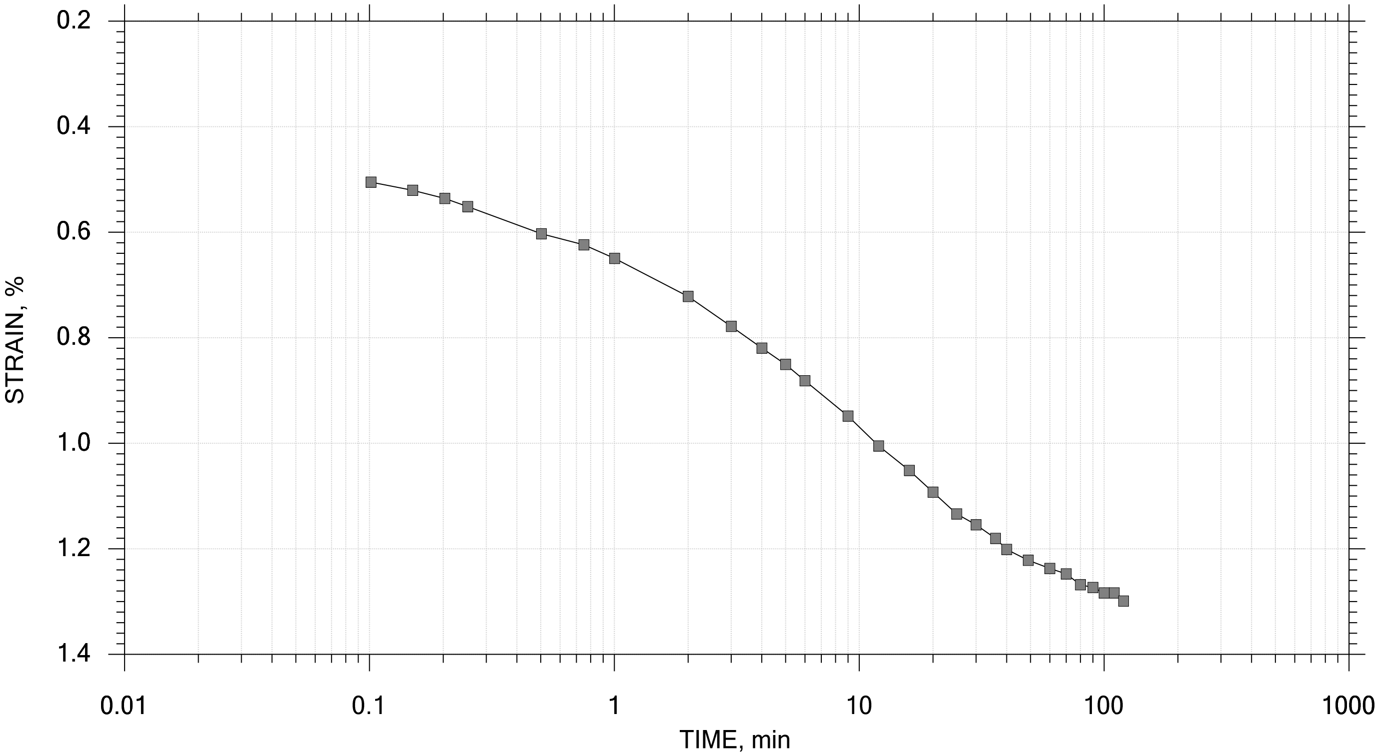
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-8	Tested By: SA	Checked By: SE
	Sample No.: 5	Test Date: 7/28/17	Elevation: -3.80 ft
	Depth: 8-10 ft	Sample Type: intact	
	Description: Soft Gray Lean Clay		
	Displacement at End of Increment		

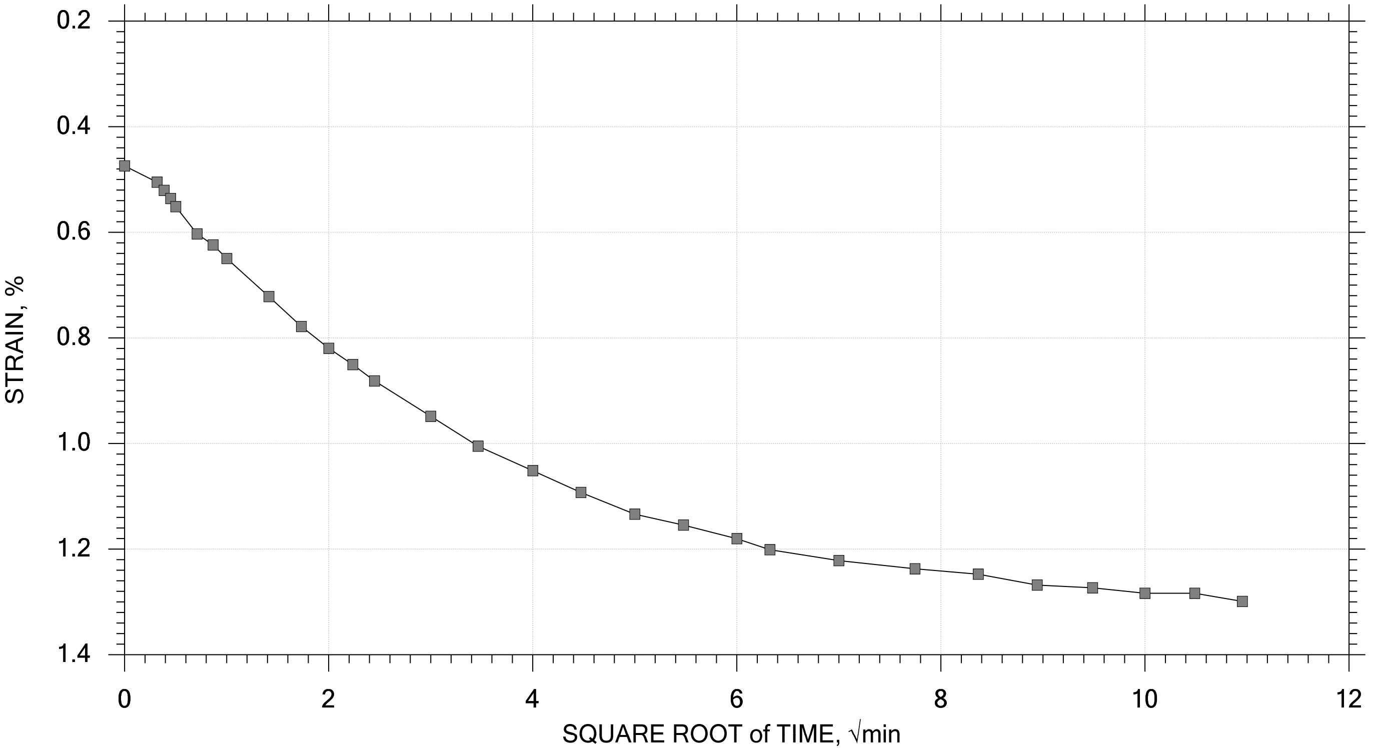
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 2 of 12

Stress: 125 psf





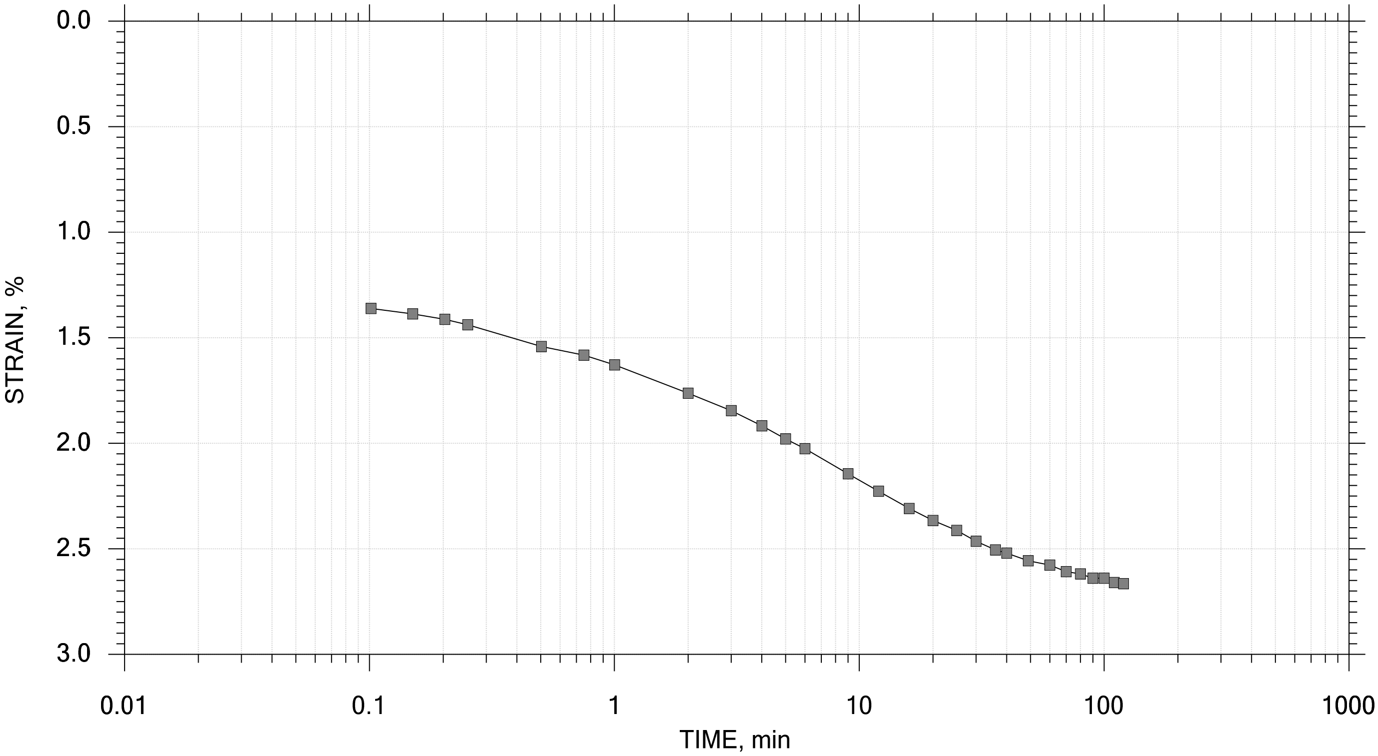
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-8	Tested By: SA	Checked By: SE
	Sample No.: 5	Test Date: 7/28/17	Elevation: -3.80 ft
	Depth: 8-10 ft	Sample Type: intact	
	Description: Soft Gray Lean Clay		
	Displacement at End of Increment		

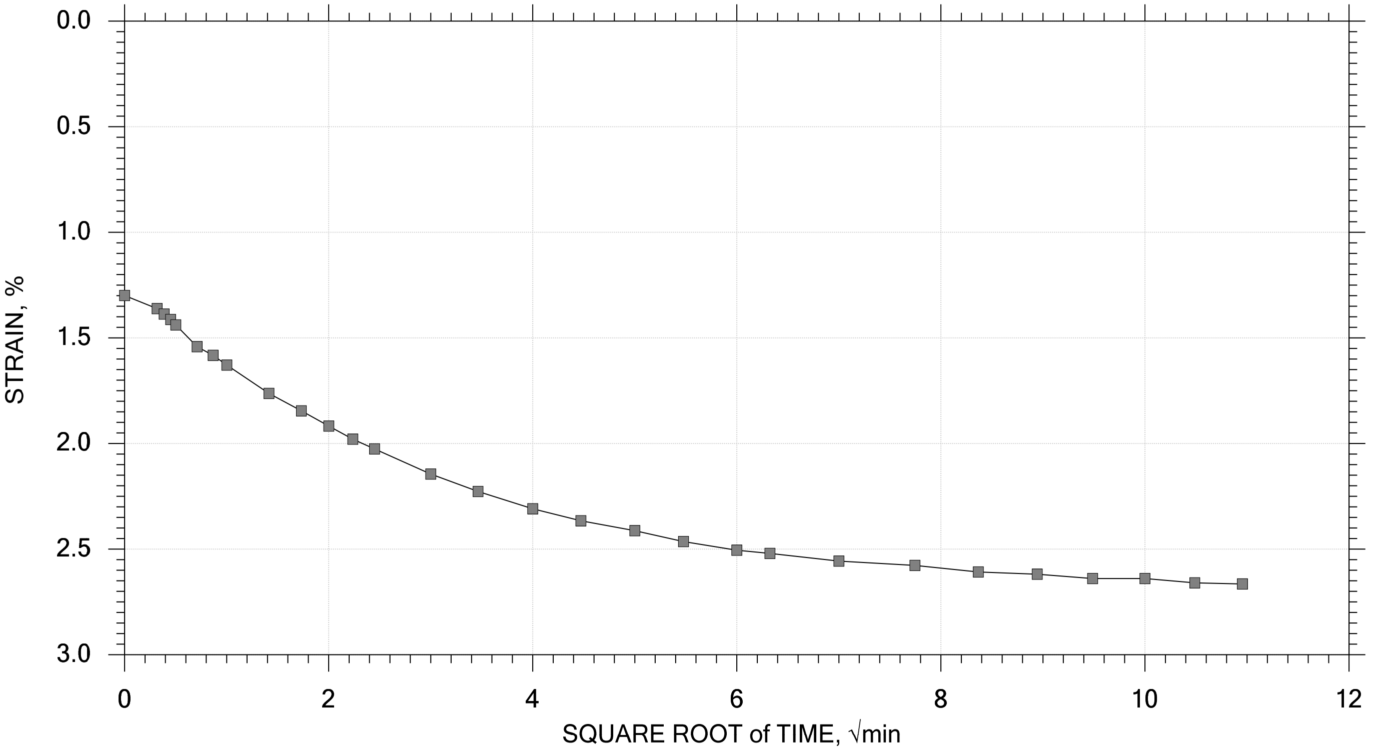
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 3 of 12

Stress: 250 psf





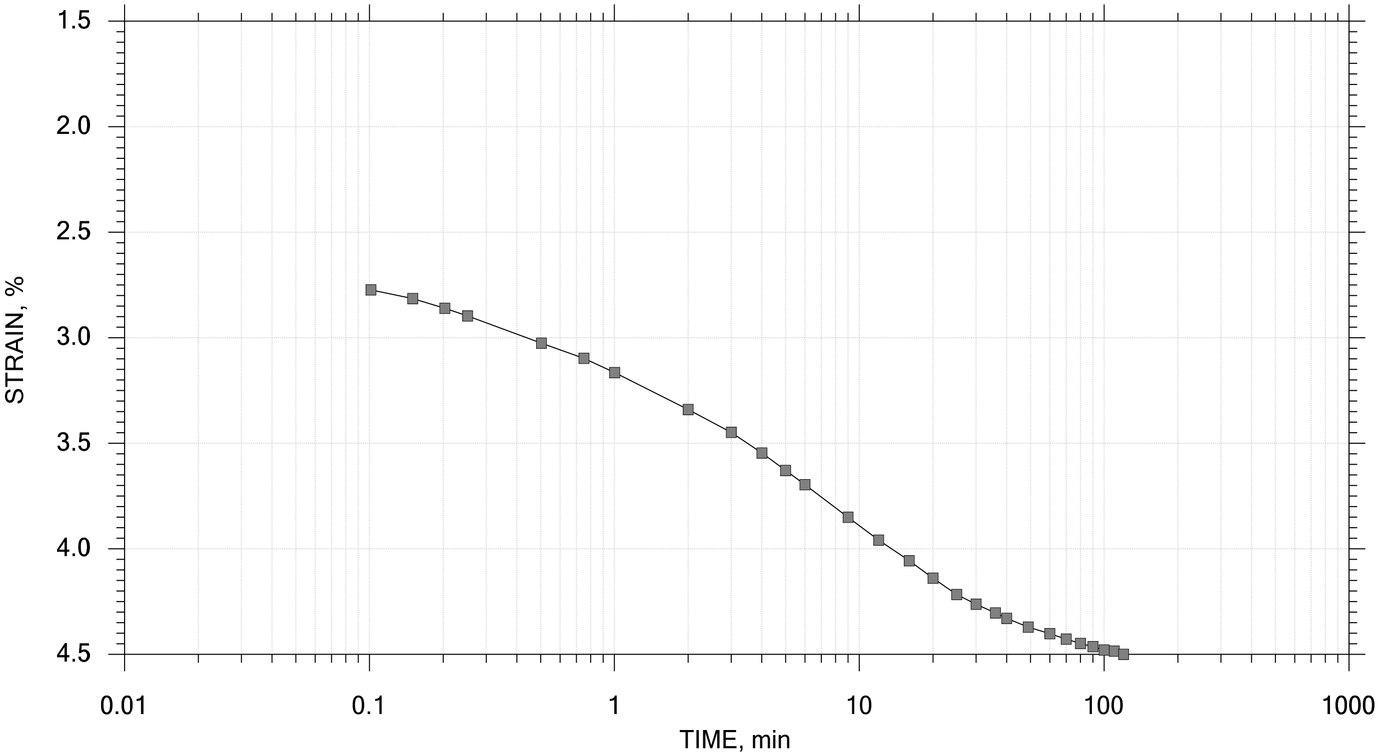
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-8	Tested By: SA	Checked By: SE
	Sample No.: 5	Test Date: 7/28/17	Elevation: -3.80 ft
	Depth: 8-10 ft	Sample Type: intact	
	Description: Soft Gray Lean Clay		
	Displacement at End of Increment		

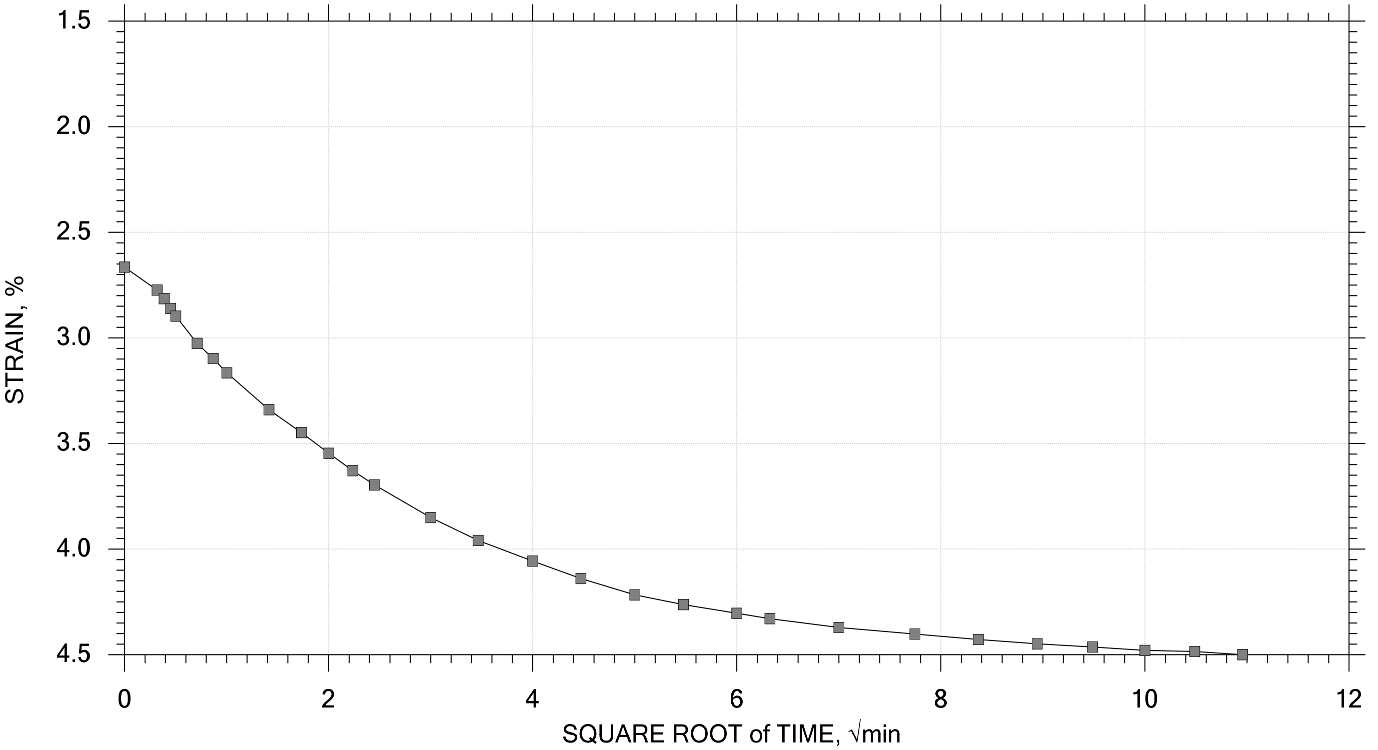
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 4 of 12

Stress: 500 psf





APS Engineering and Testing

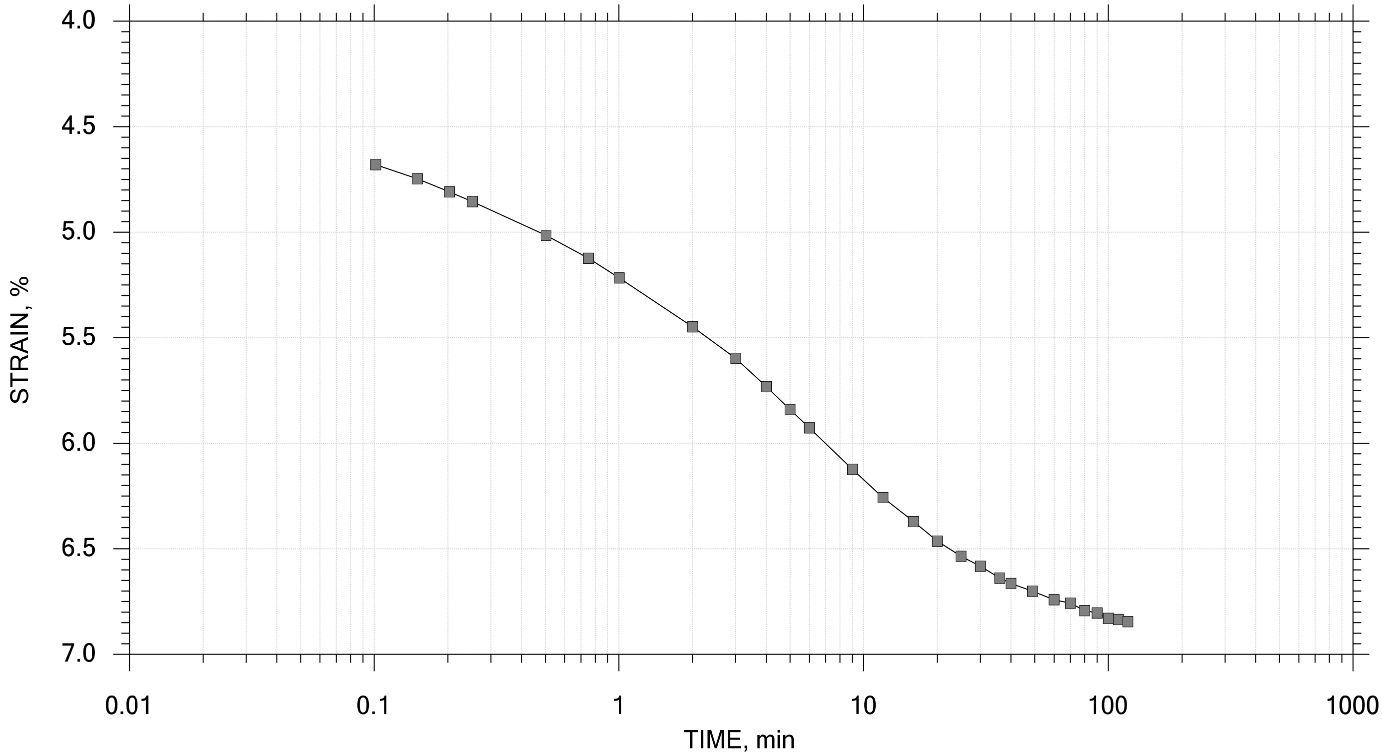
Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
Boring No.: B-8	Tested By: SA	Checked By: SE
Sample No.: 5	Test Date: 7/28/17	Elevation: -3.80 ft
Depth: 8-10 ft	Sample Type: intact	
Description: Soft Gray Lean Clay		
Displacement at End of Increment		

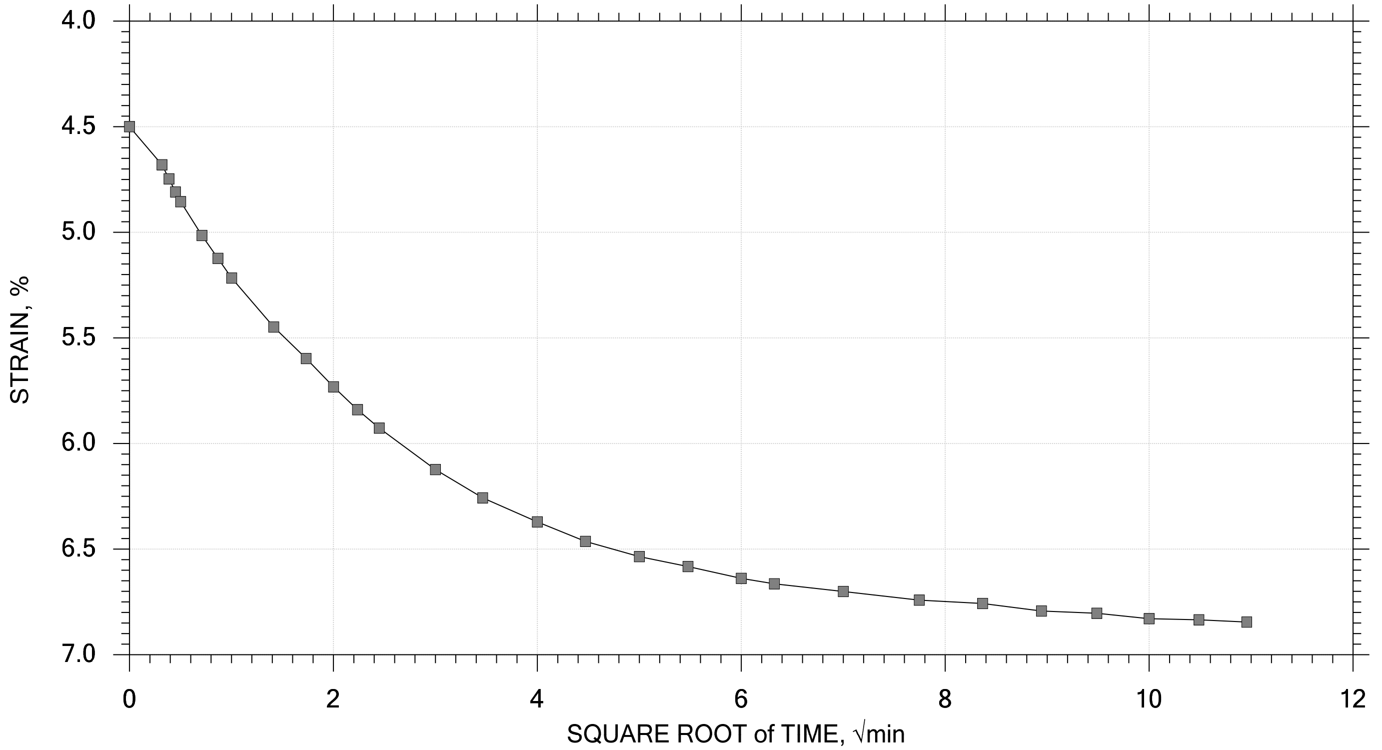
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 5 of 12

Stress: 1000 psf





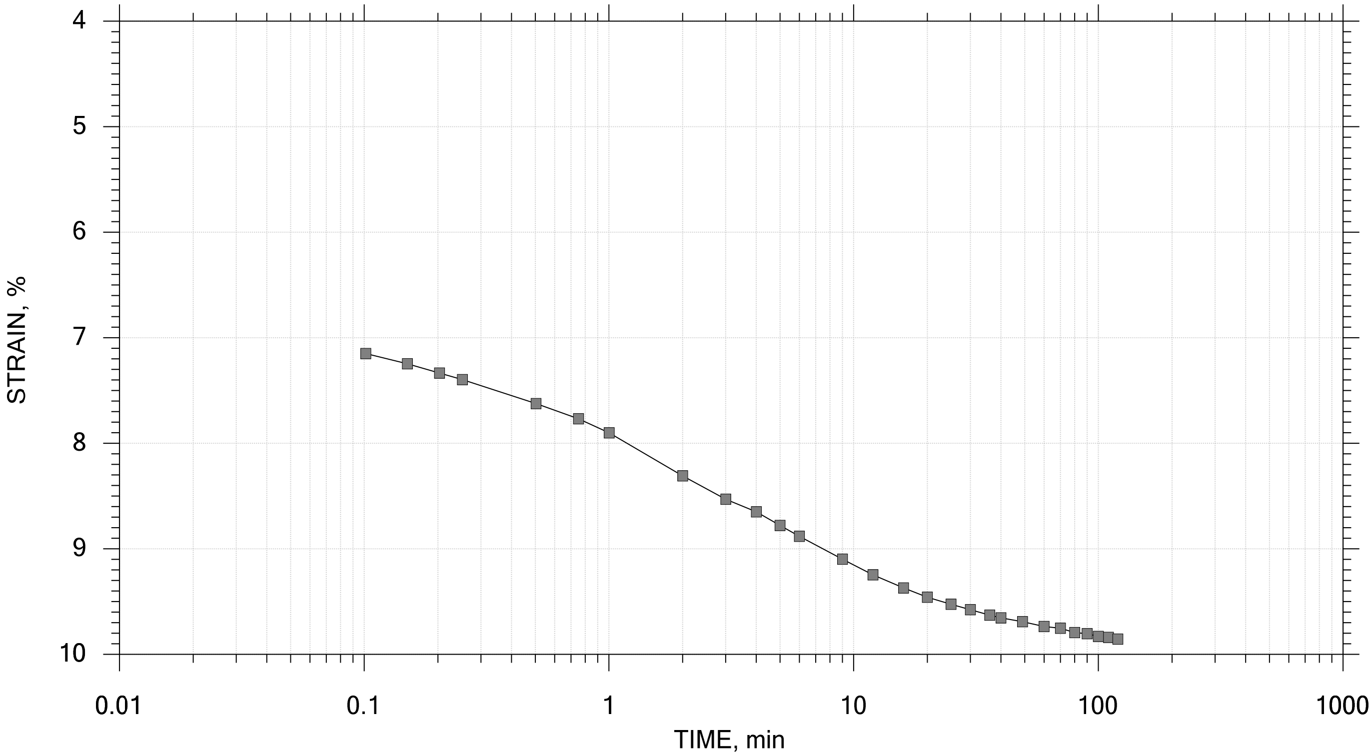
APS Engineering and Testing			
	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-8	Tested By: SA	Checked By: SE
	Sample No.: 5	Test Date: 7/28/17	Elevation: -3.80 ft
	Depth: 8-10 ft	Sample Type: intact	
	Description: Soft Gray Lean Clay		
	Displacement at End of Increment		

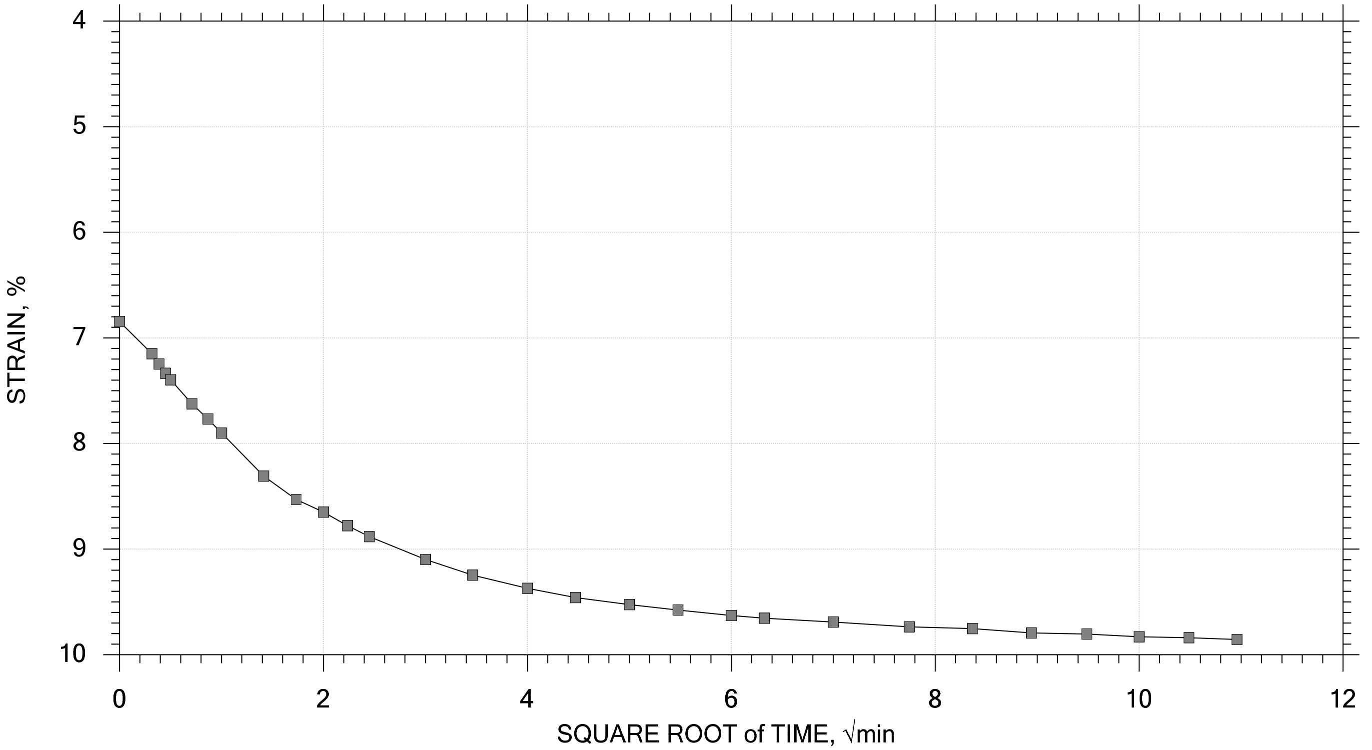
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 6 of 12

Stress: 2000 psf





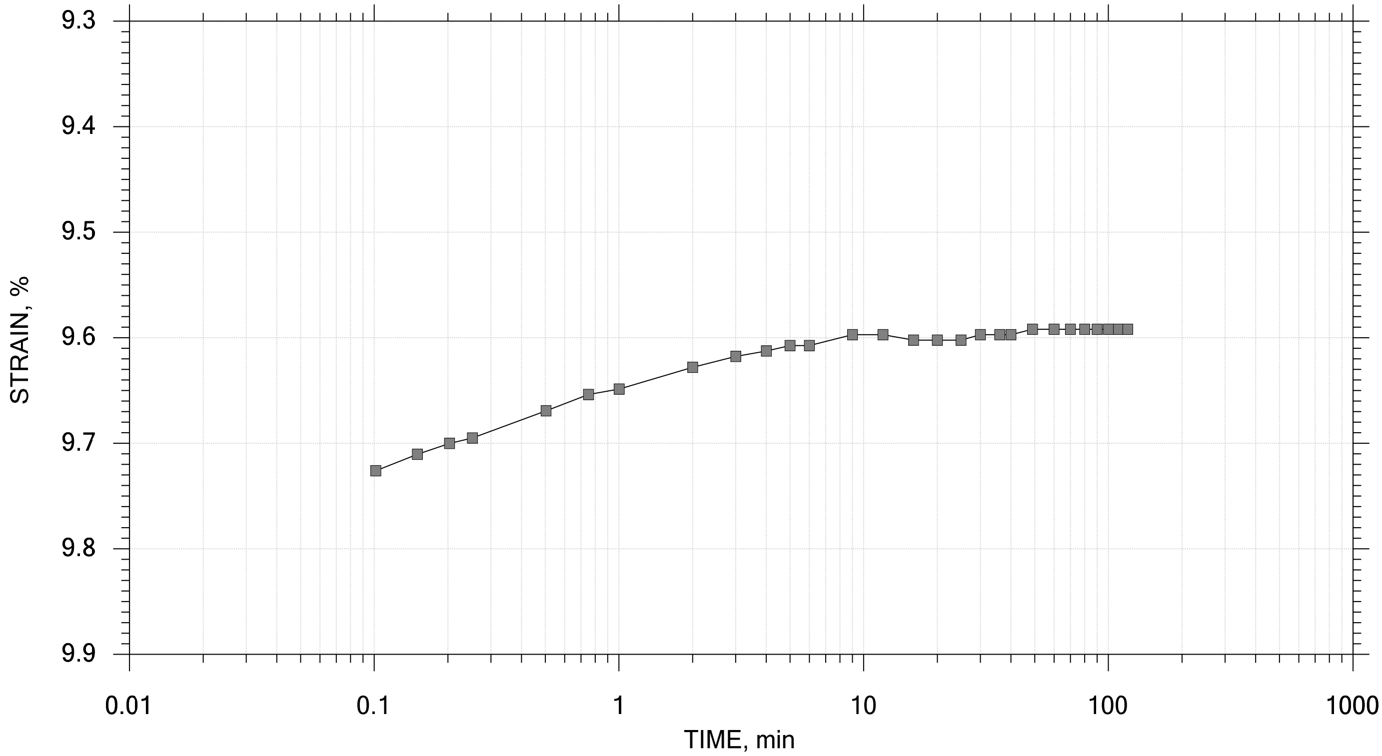
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-8	Tested By: SA	Checked By: SE
	Sample No.: 5	Test Date: 7/28/17	Elevation: -3.80 ft
	Depth: 8-10 ft	Sample Type: intact	
	Description: Soft Gray Lean Clay		
	Displacement at End of Increment		

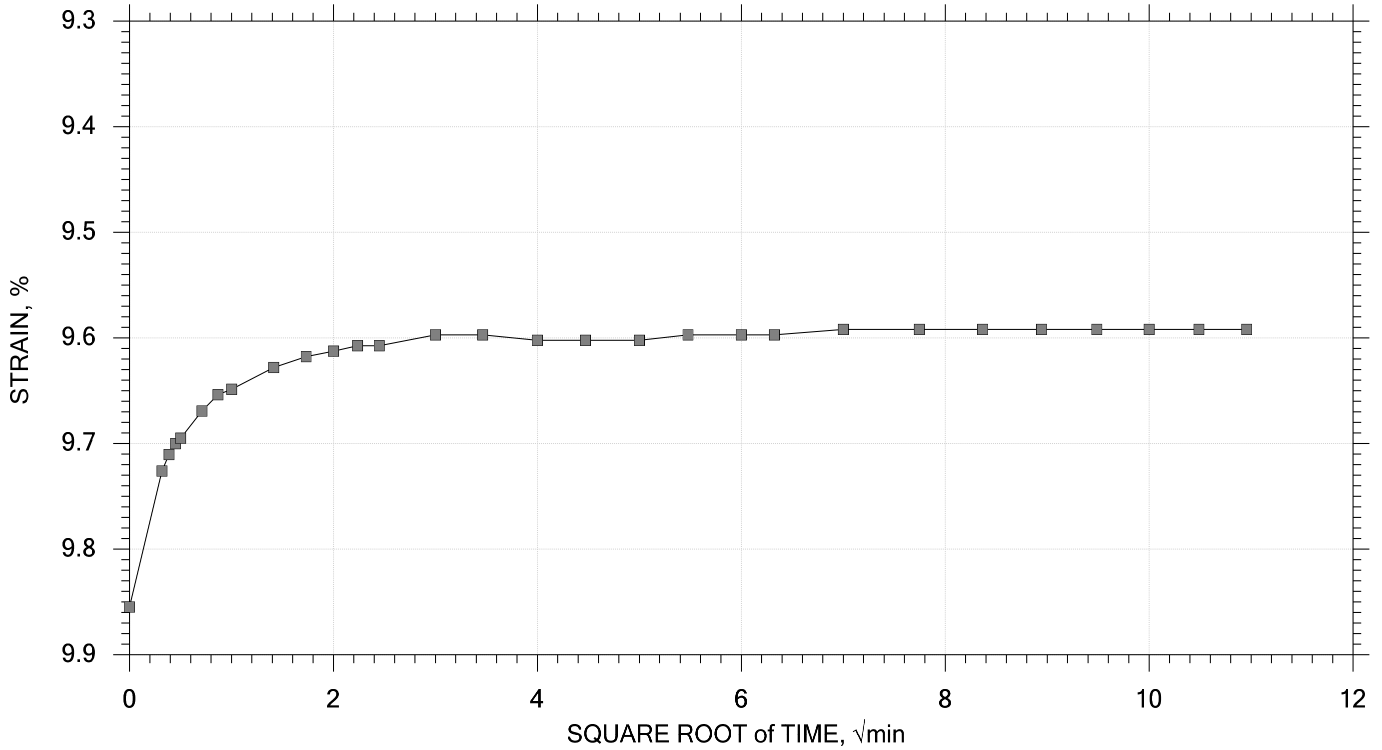
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 7 of 12

Stress: 1000 psf





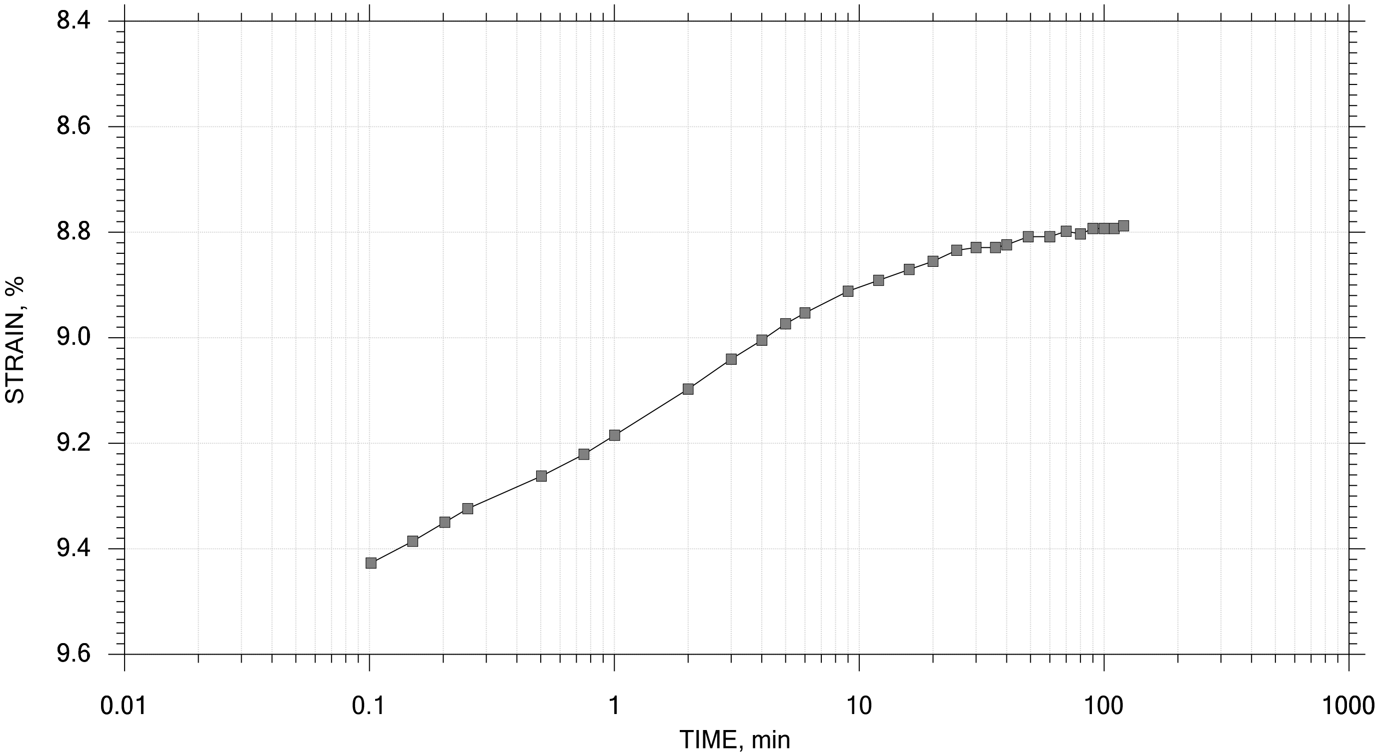
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-8	Tested By: SA	Checked By: SE
	Sample No.: 5	Test Date: 7/28/17	Elevation: -3.80 ft
	Depth: 8-10 ft	Sample Type: intact	
	Description: Soft Gray Lean Clay		
	Displacement at End of Increment		

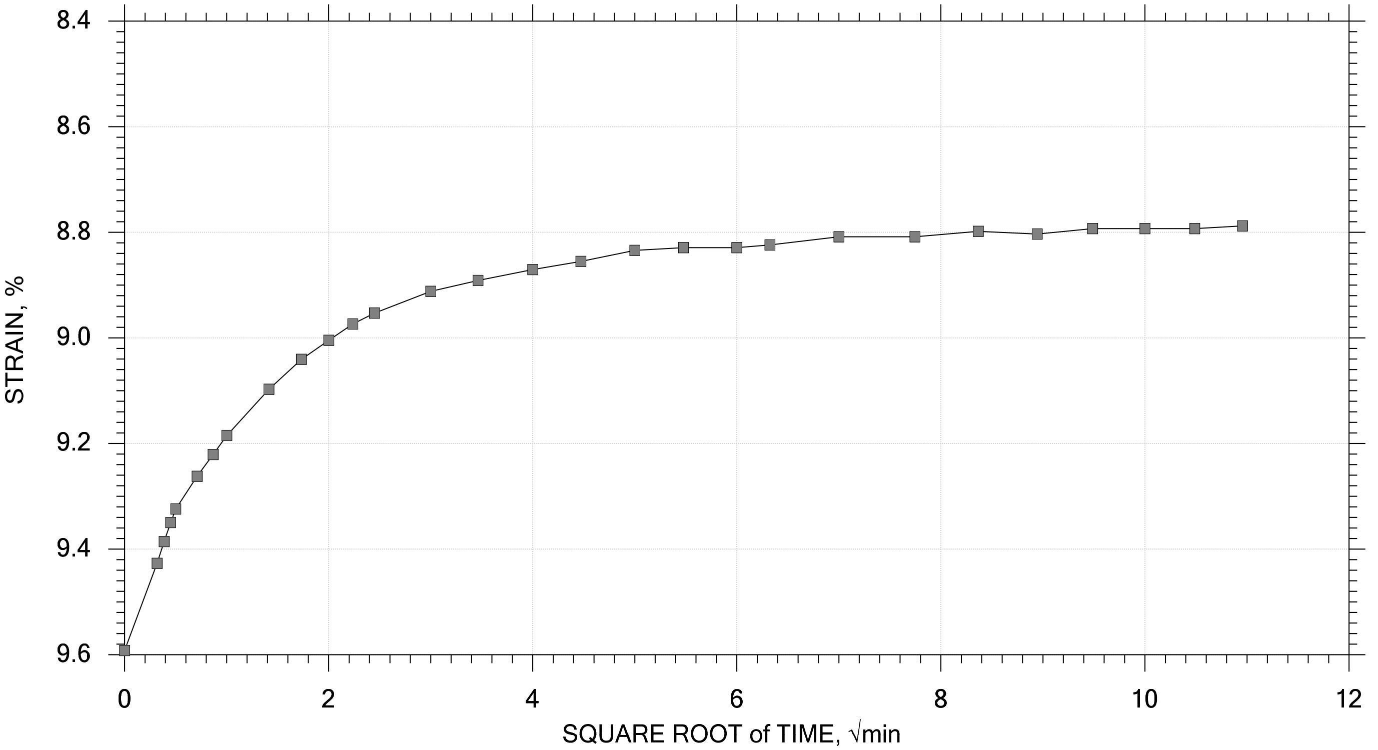
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 8 of 12

Stress: 250 psf





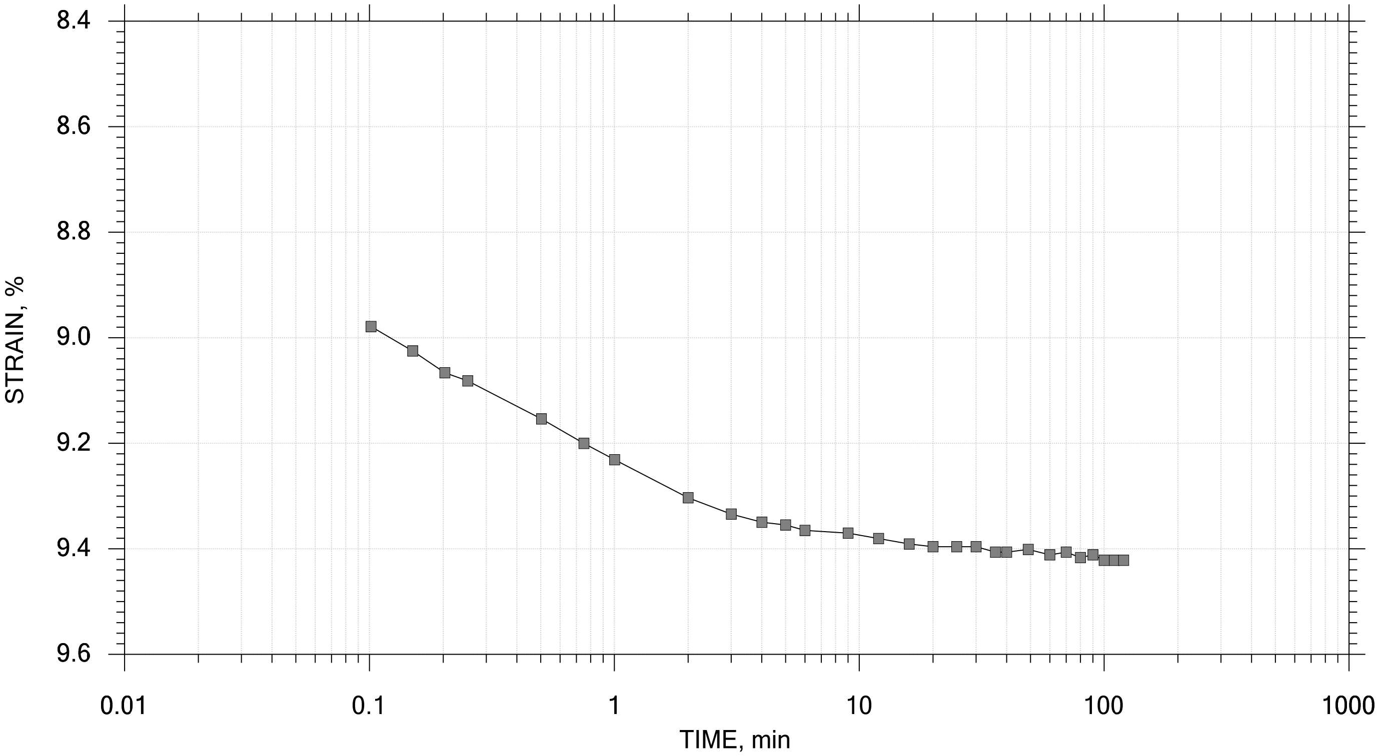
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-8	Tested By: SA	Checked By: SE
	Sample No.: 5	Test Date: 7/28/17	Elevation: -3.80 ft
	Depth: 8-10 ft	Sample Type: intact	
	Description: Soft Gray Lean Clay		
	Displacement at End of Increment		

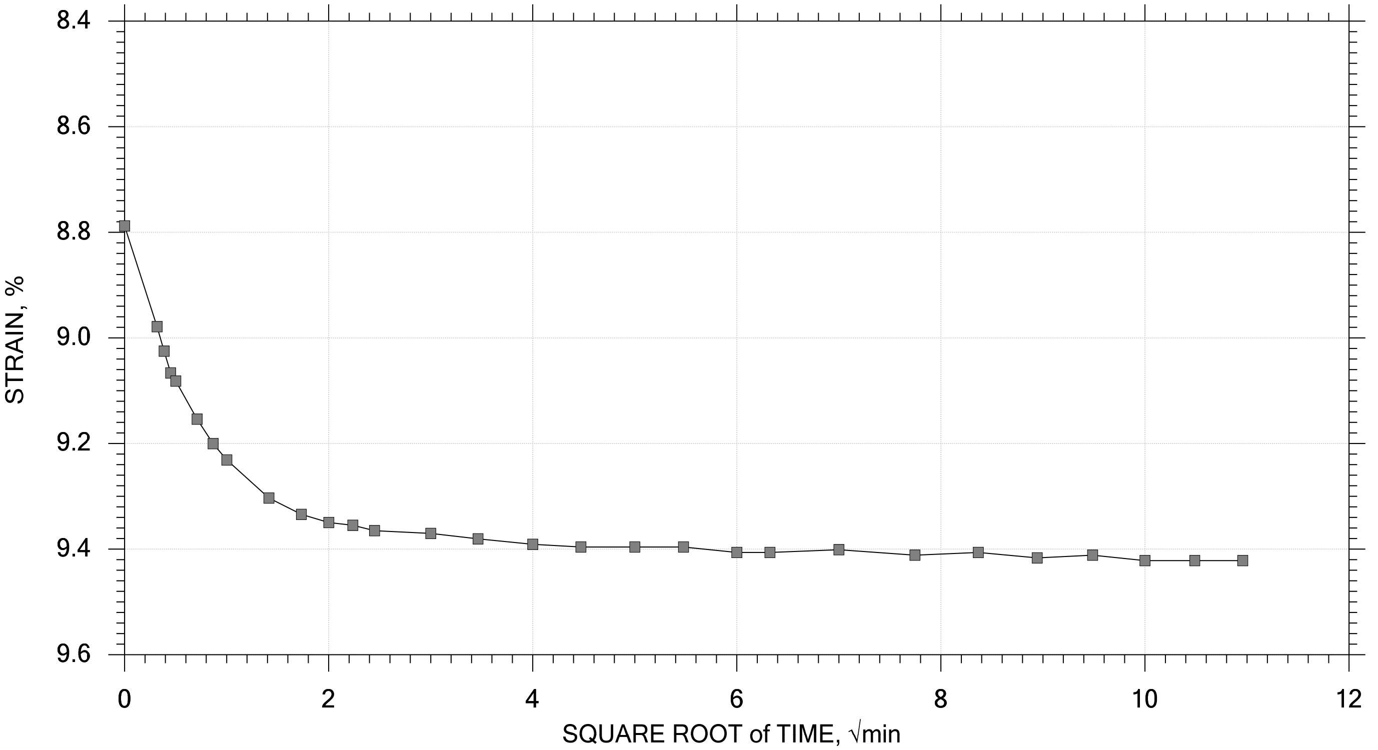
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 9 of 12

Stress: 1000 psf





APS Engineering and Testing

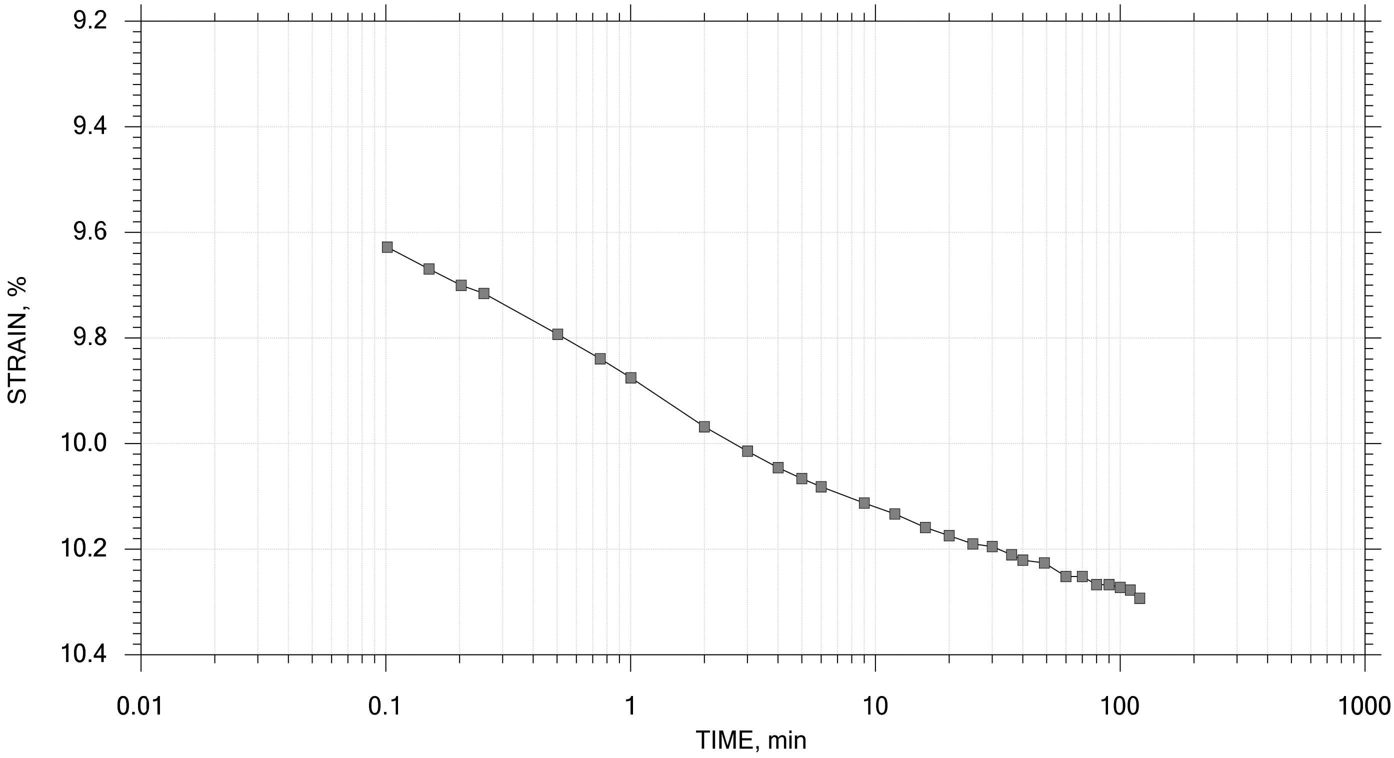
Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
Boring No.: B-8	Tested By: SA	Checked By: SE
Sample No.: 5	Test Date: 7/28/17	Elevation: -3.80 ft
Depth: 8-10 ft	Sample Type: intact	
Description: Soft Gray Lean Clay		
Displacement at End of Increment		

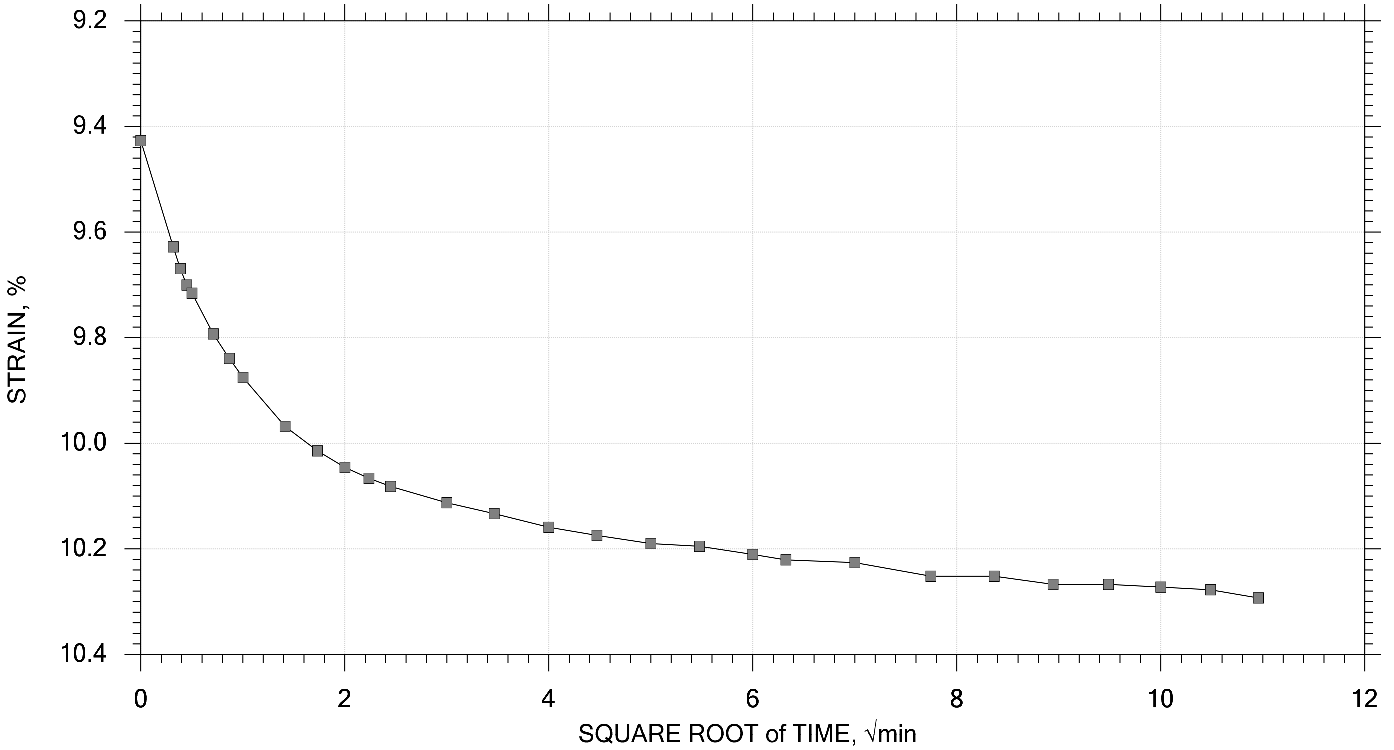
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 10 of 12

Stress: 2000 psf





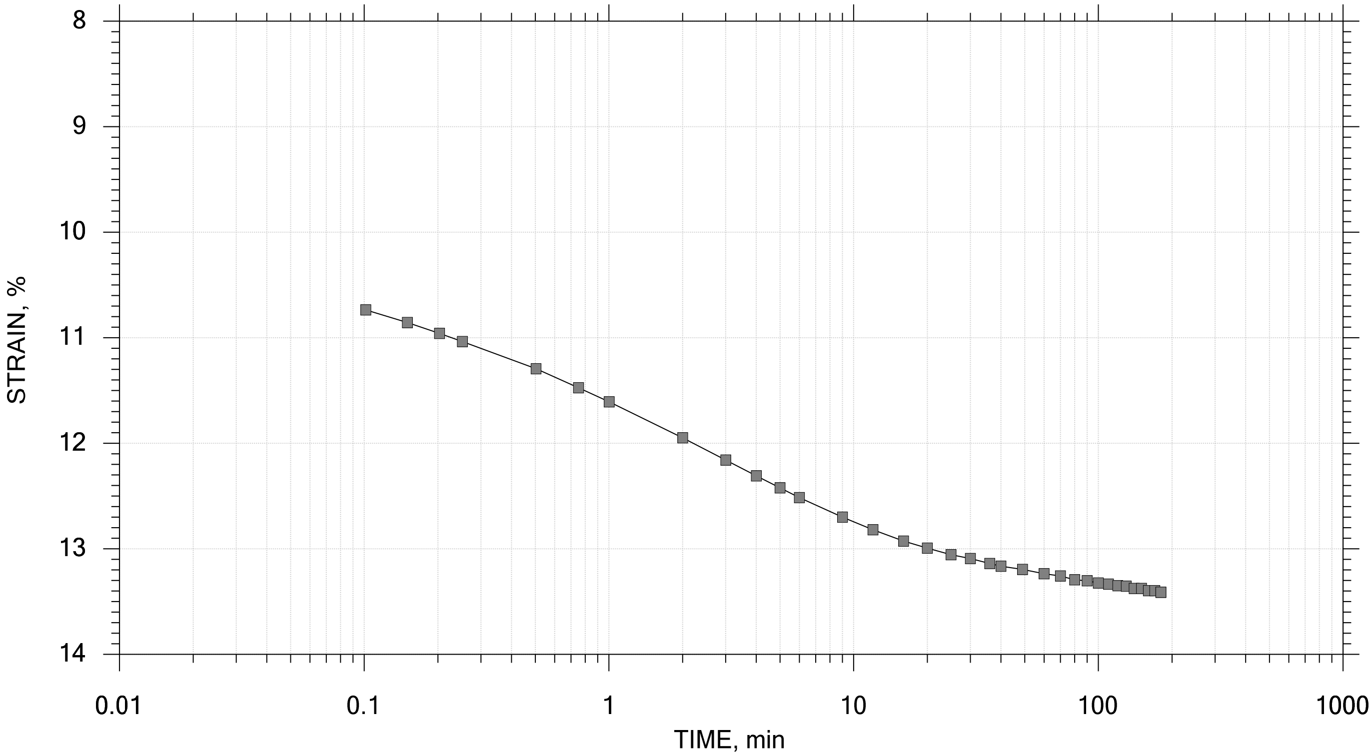
APS Engineering and Testing			
	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-8	Tested By: SA	Checked By: SE
	Sample No.: 5	Test Date: 7/28/17	Elevation: -3.80 ft
	Depth: 8-10 ft	Sample Type: intact	
	Description: Soft Gray Lean Clay		
	Displacement at End of Increment		

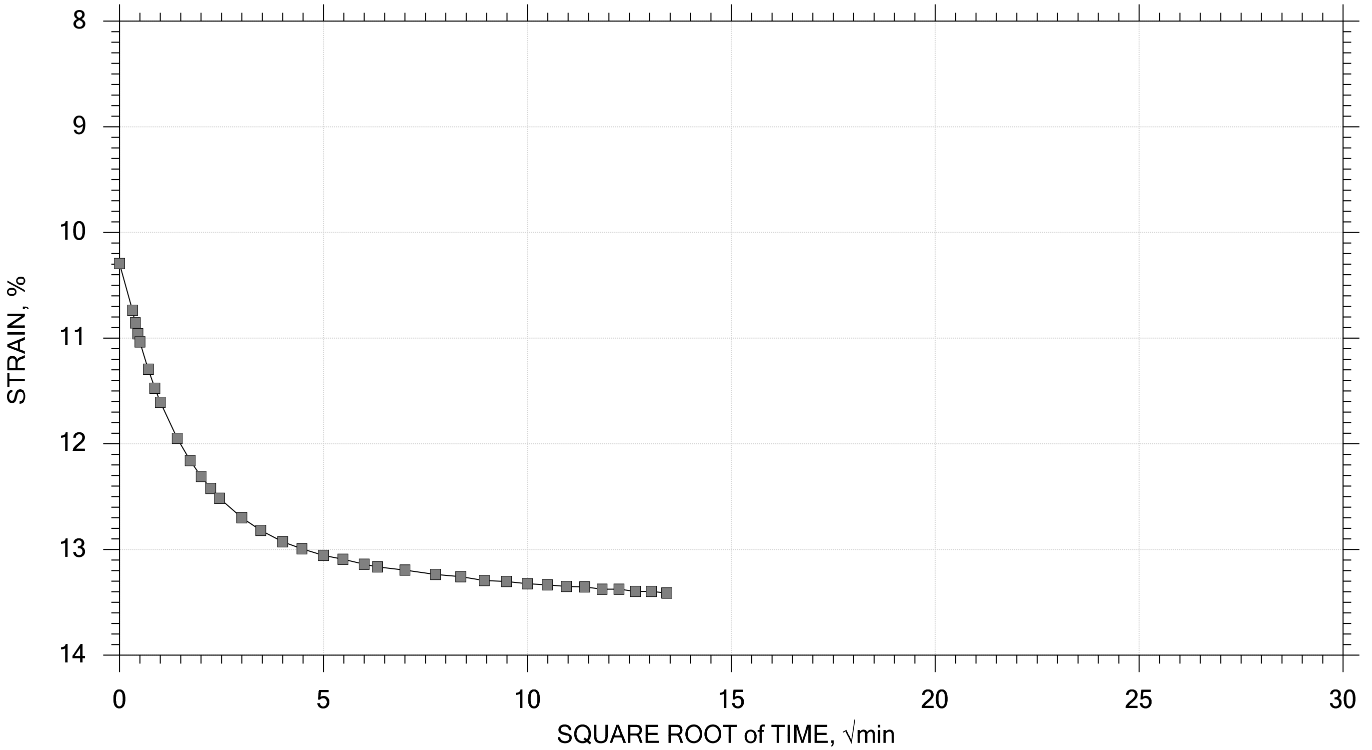
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 11 of 12

Stress: 4000 psf





APS Engineering and Testing

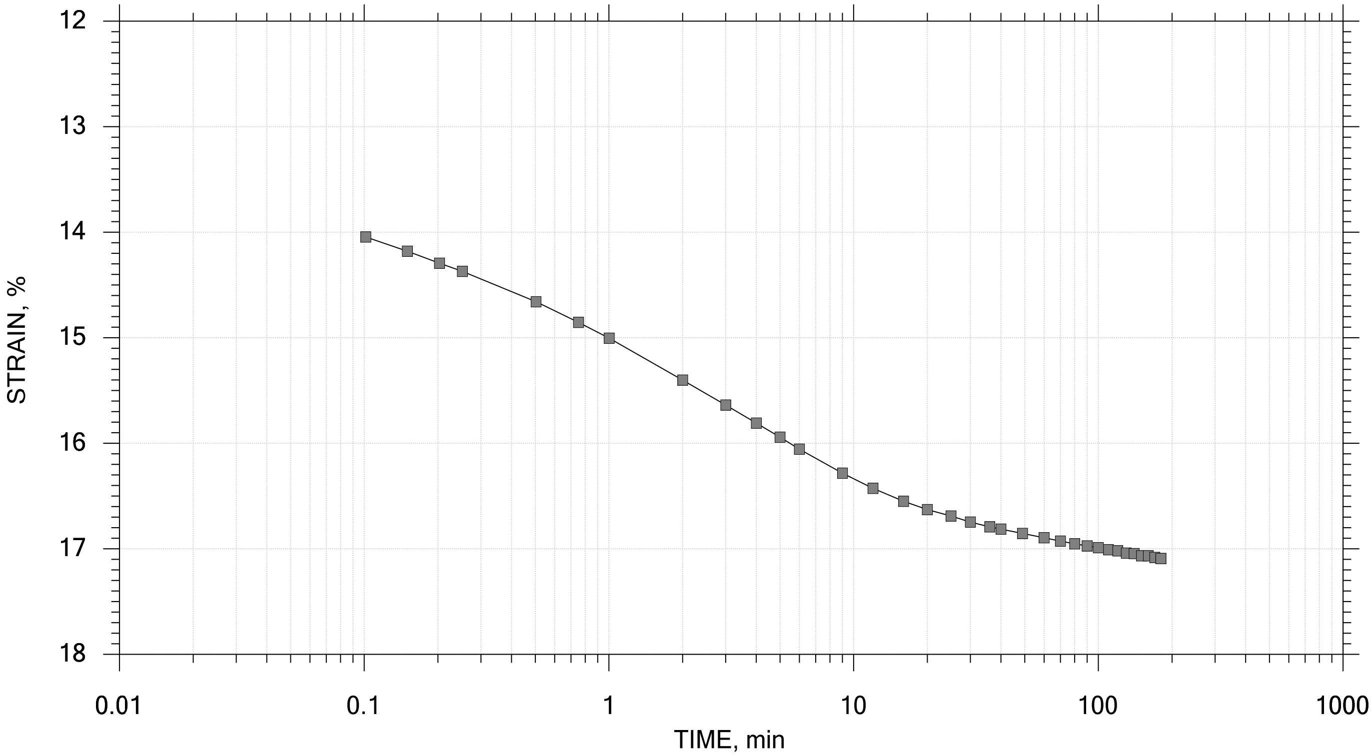
Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
Boring No.: B-8	Tested By: SA	Checked By: SE
Sample No.: 5	Test Date: 7/28/17	Elevation: -3.80 ft
Depth: 8-10 ft	Sample Type: intact	
Description: Soft Gray Lean Clay		
Displacement at End of Increment		

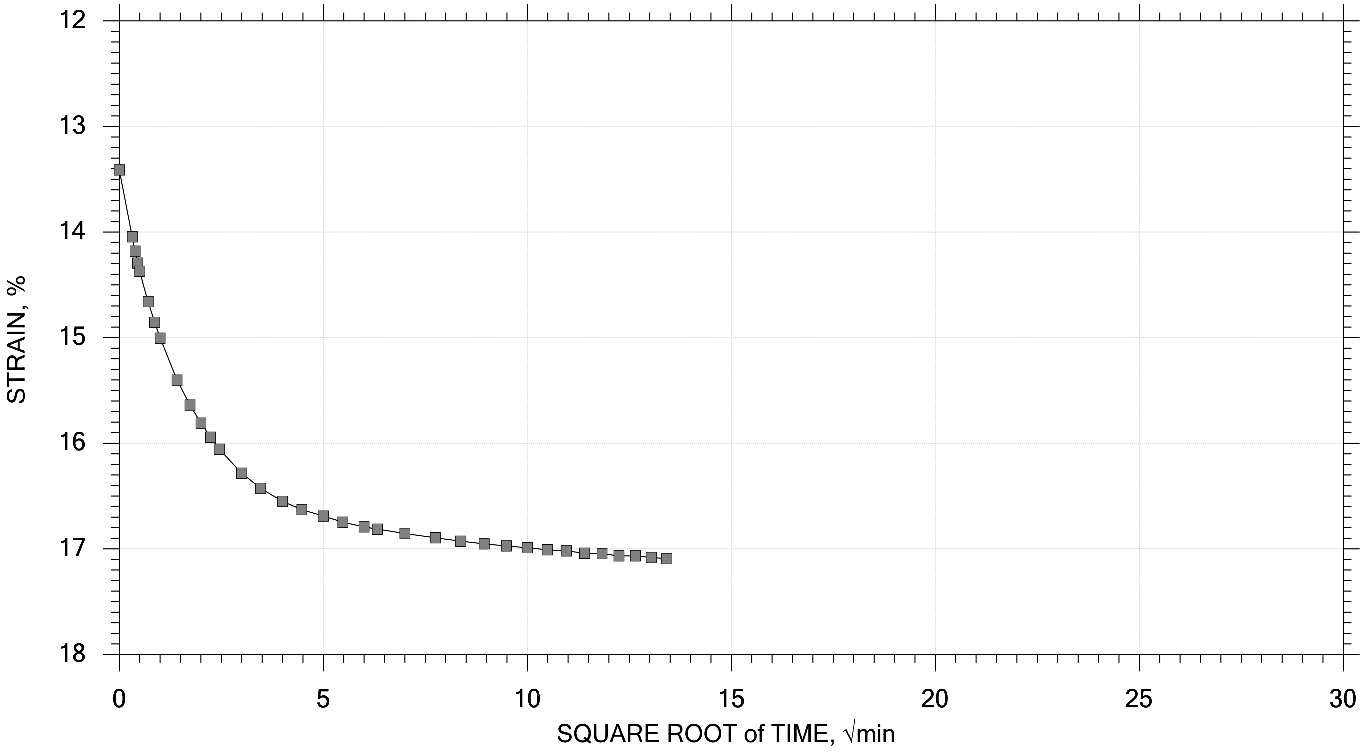
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 12 of 12

Stress: 8000 psf



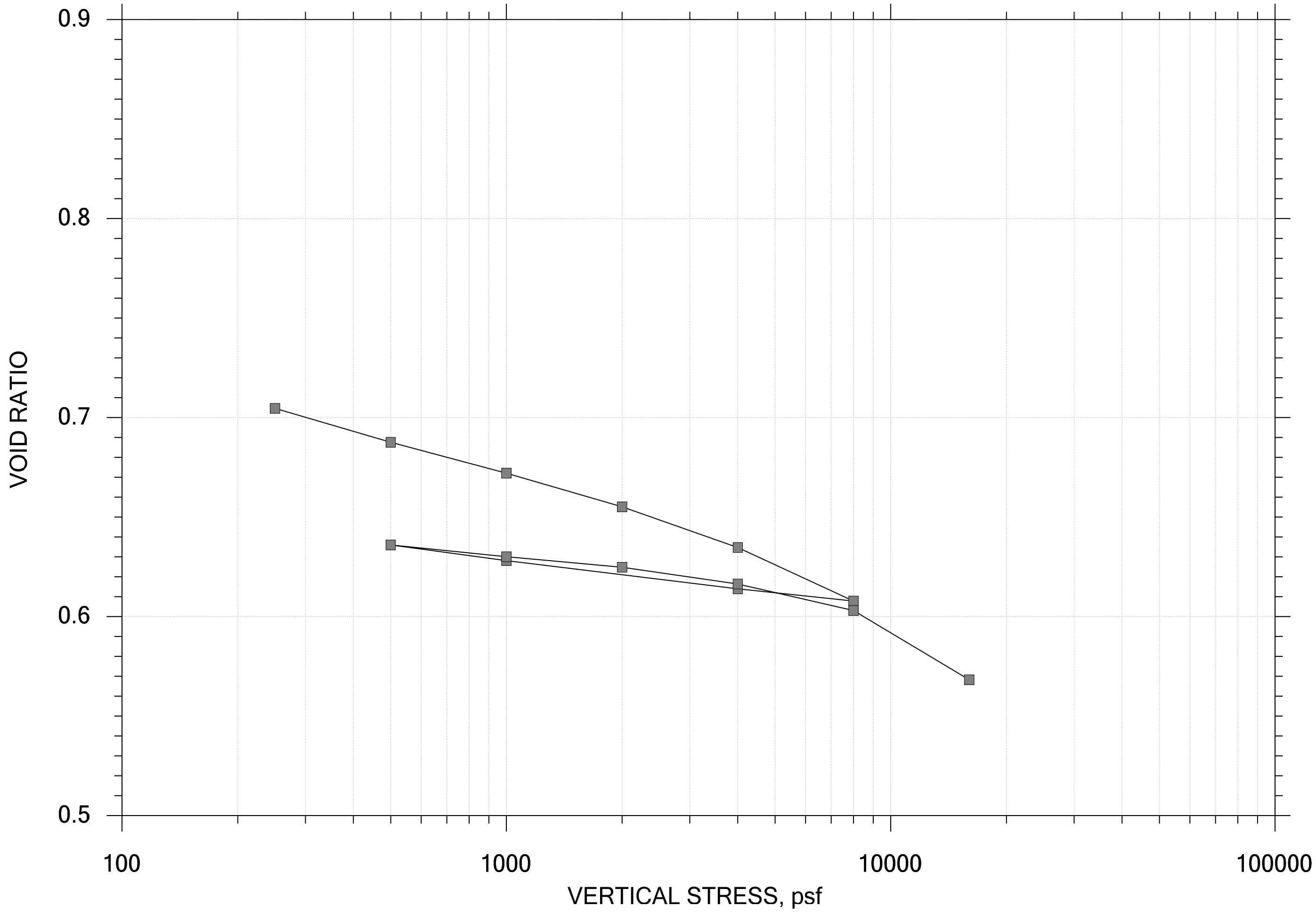


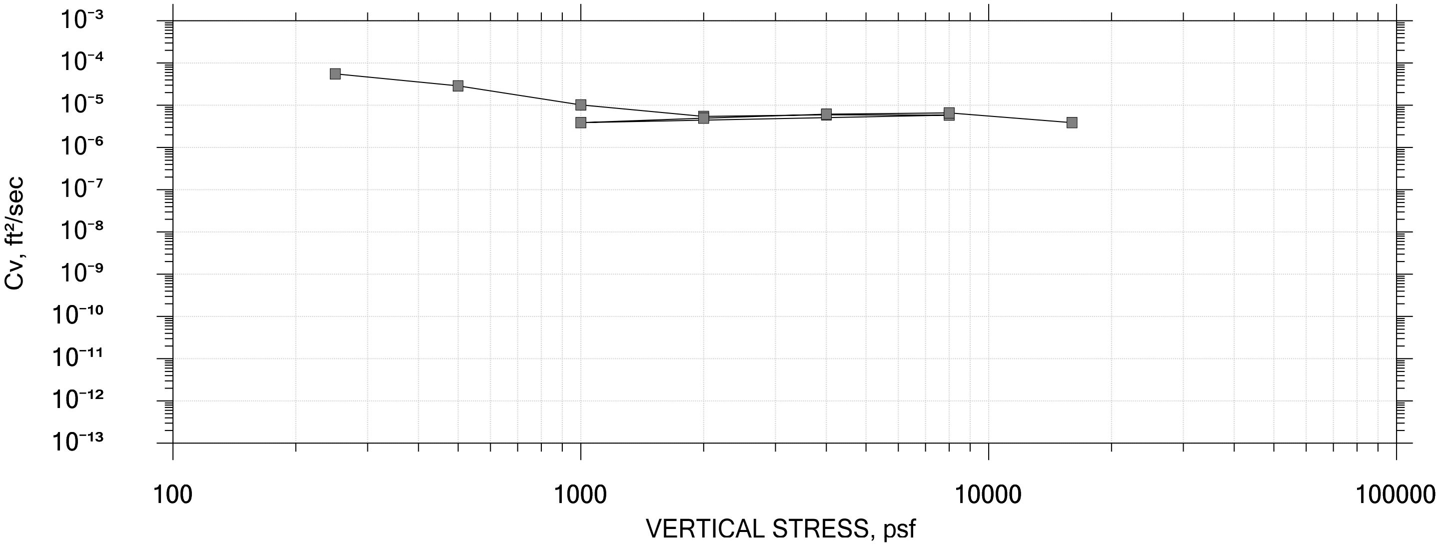
APS Engineering and Testing

Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
Boring No.: B-8	Tested By: SA	Checked By: SE
Sample No.: 5	Test Date: 7/28/17	Elevation: -3.80 ft
Depth: 8-10 ft	Sample Type: intact	
Description: Soft Gray Lean Clay		
Displacement at End of Increment		

One-Dimensional Consolidation by ASTM D2435 - Method B

SUMMARY REPORT



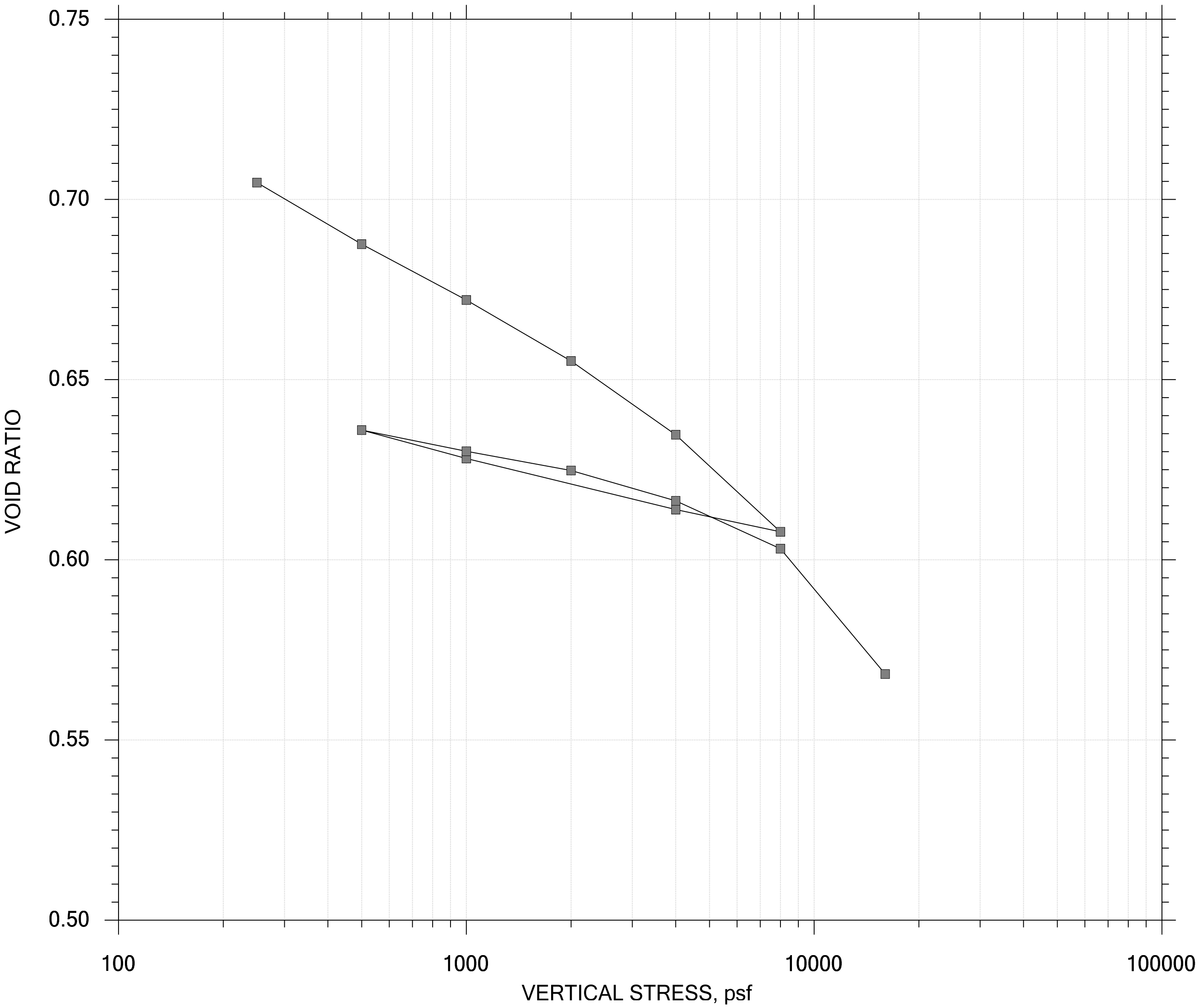


APS Engineering and Testing

Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
Boring No.: B-8	Tested By: SA	Checked By: SE
Sample No.: 9	Test Date: 7/28/17	Elevation: -3.80 ft
Depth: 16-18 ft	Sample Type: intact	
Description: Stiff Gray Lean Clay		
Displacement at End of Increment		

One-Dimensional Consolidation by ASTM D2435 - Method B

SUMMARY REPORT



APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-8	Tested By: SA	Checked By: SE
	Sample No.: 9	Test Date: 7/28/17	Elevation: -3.80 ft
	Depth: 16-18 ft	Sample Type: intact	
	Description: Stiff Gray Lean Clay		
	Displacement at End of Increment		

One-Dimensional Consolidation by ASTM D2435 - Method B

Project: PO-169
Boring No.: B-8
Sample No.: 9

Location: Lake Saint Catherine
Tested By: SA
Test Date: 7/30/17
Sample Type: intact

Project No.: APS1706-G038
Checked By: SE
Depth: 16-18 ft
Elevation: -3.80 ft

Soil Description: Stiff Gray Lean Clay

Measured Specific Gravity: 2.65
Initial Void Ratio: 0.719
Final Void Ratio: 0.621

Liquid Limit:36
Plastic Limit:18
Plasticity Index:18

Specimen Diameter: 2.50 in
Initial Height: 1.00 in
Final Height: 0.94 in

	Before Consolidation		After Consolidation	
	Trimmings	Specimen+Ring	Specimen+Ring	Trimmings
Container ID	r16	RING	pr-7	pr7
Wt. Container + Wet Soil, gm	72.470	164.36	161.25	161.25
Wt. Container + Dry Soil, gm	59.120	132.21	132.21	132.21
Wt. Container, gm	8.2000	8.2000	8.2000	8.2000
Wt. Dry Soil, gm	50.920	124.01	124.01	124.01
Water Content, %	26.22	25.93	23.42	23.42
Void Ratio	---	0.719	0.621	---
Degree of Saturation, %	---	95.56	99.99	---
Dry Unit Weight, pcf	---	96.242	102.08	---

One-Dimensional Consolidation by ASTM D2435 - Method B

Project: PO-169
Boring No.: B-8
Sample No.: 9

Location: Lake Saint Catherine
Tested By: SA
Test Date: 7/30/17
Sample Type: intact

Project No.: APS1706-G038
Checked By: SE
Depth: 16-18 ft
Elevation: -3.80 ft

Soil Description: Stiff Gray Lean Clay

Displacement at End of Increment

	Applied Stress psf	Final Displacement in	Void Ratio	Strain at End %	Sq.Rt T90 min	Cv ft²/sec	Mv 1/psf	k cm/sec
1	250.	0.008295	0.705	0.829	0.490	4.97e-005	3.32e-005	3.13e-006
2	500.	0.01824	0.688	1.82	0.858	2.78e-005	3.98e-005	2.11e-006
3	1.00e+003	0.02725	0.672	2.73	2.433	9.63e-006	1.80e-005	3.30e-007
4	2.00e+003	0.03710	0.655	3.71	4.378	5.25e-006	9.85e-006	9.84e-008
5	4.00e+003	0.04899	0.635	4.90	4.053	5.54e-006	5.95e-006	6.27e-008
6	8.00e+003	0.06465	0.608	6.47	4.375	4.99e-006	3.92e-006	3.72e-008
7	4.00e+003	0.06108	0.614	6.11	1.463	1.47e-005	8.93e-007	2.50e-008
8	1.00e+003	0.05282	0.628	5.28	6.252	3.49e-006	2.75e-006	1.83e-008
9	500.	0.04825	0.636	4.83	22.087	1.00e-006	9.14e-006	1.74e-008
10	1.00e+003	0.05166	0.630	5.17	5.579	3.97e-006	6.82e-006	5.15e-008
11	2.00e+003	0.05478	0.625	5.48	4.430	4.97e-006	3.12e-006	2.95e-008
12	4.00e+003	0.05966	0.616	5.97	4.022	5.42e-006	2.44e-006	2.52e-008
13	8.00e+003	0.06741	0.603	6.74	4.022	5.35e-006	1.94e-006	1.97e-008
14	1.60e+004	0.08763	0.568	8.76	5.183	4.03e-006	2.53e-006	1.94e-008

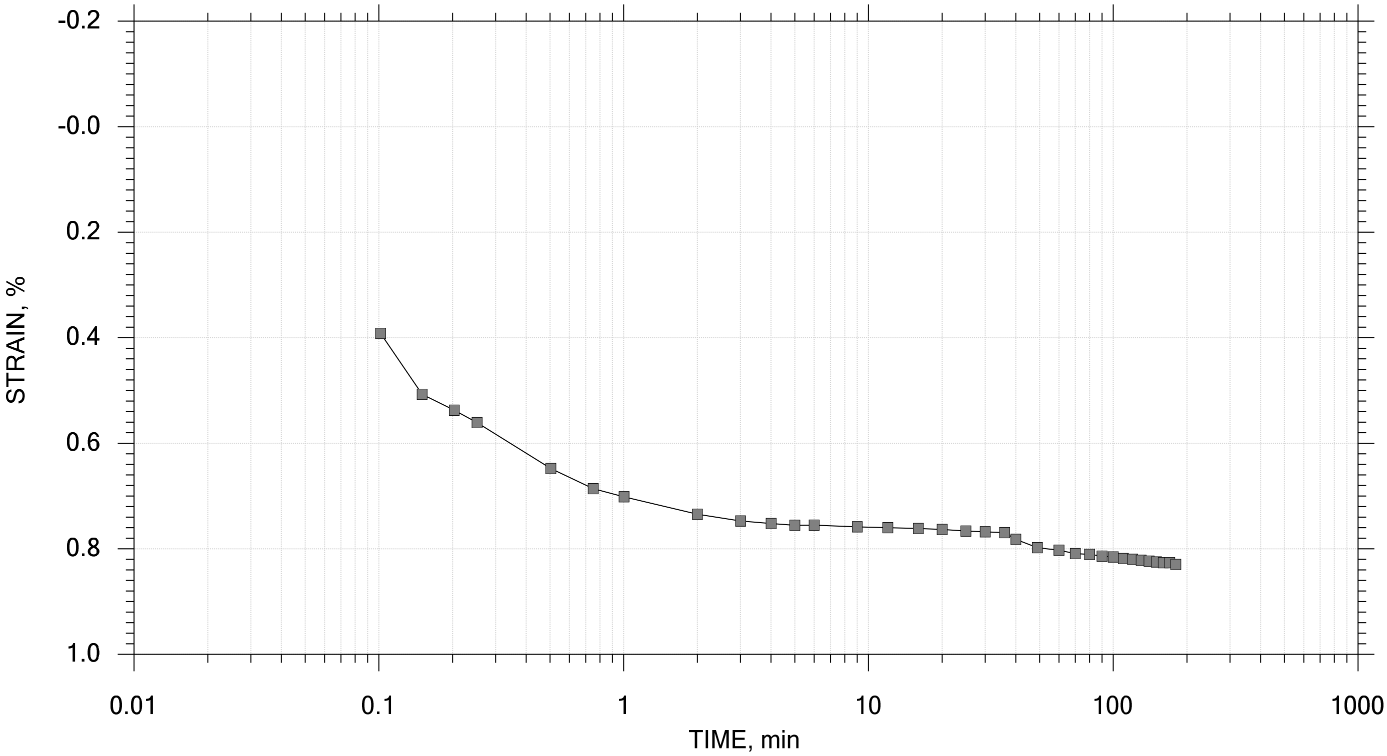
	Applied Stress psf	Final Displacement in	Void Ratio	Strain at End %	Log T50 min	Cv ft²/sec	Mv 1/psf	k cm/sec	Ca %
1	250.	0.008295	0.705	0.829	0.104	5.42e-005	3.32e-005	3.42e-006	0.00e+000
2	500.	0.01824	0.688	1.82	0.000	0.00e+000	3.98e-005	0.00e+000	0.00e+000
3	1.00e+003	0.02725	0.672	2.73	0.000	0.00e+000	1.80e-005	0.00e+000	0.00e+000
4	2.00e+003	0.03710	0.655	3.71	0.000	0.00e+000	9.85e-006	0.00e+000	0.00e+000
5	4.00e+003	0.04899	0.635	4.90	0.000	0.00e+000	5.95e-006	0.00e+000	0.00e+000
6	8.00e+003	0.06465	0.608	6.47	0.764	6.64e-006	3.92e-006	4.94e-008	0.00e+000
7	4.00e+003	0.06108	0.614	6.11	0.195	2.56e-005	8.93e-007	4.36e-008	0.00e+000
8	1.00e+003	0.05282	0.628	5.28	1.770	2.86e-006	2.75e-006	1.50e-008	0.00e+000
9	500.	0.04825	0.636	4.83	4.967	1.03e-006	9.14e-006	1.80e-008	0.00e+000
10	1.00e+003	0.05166	0.630	5.17	1.351	3.81e-006	6.82e-006	4.94e-008	0.00e+000
11	2.00e+003	0.05478	0.625	5.48	1.068	4.79e-006	3.12e-006	2.84e-008	0.00e+000
12	4.00e+003	0.05966	0.616	5.97	0.740	6.84e-006	2.44e-006	3.18e-008	0.00e+000
13	8.00e+003	0.06741	0.603	6.74	0.619	8.08e-006	1.94e-006	2.98e-008	0.00e+000
14	1.60e+004	0.08763	0.568	8.76	1.309	3.70e-006	2.53e-006	1.78e-008	0.00e+000

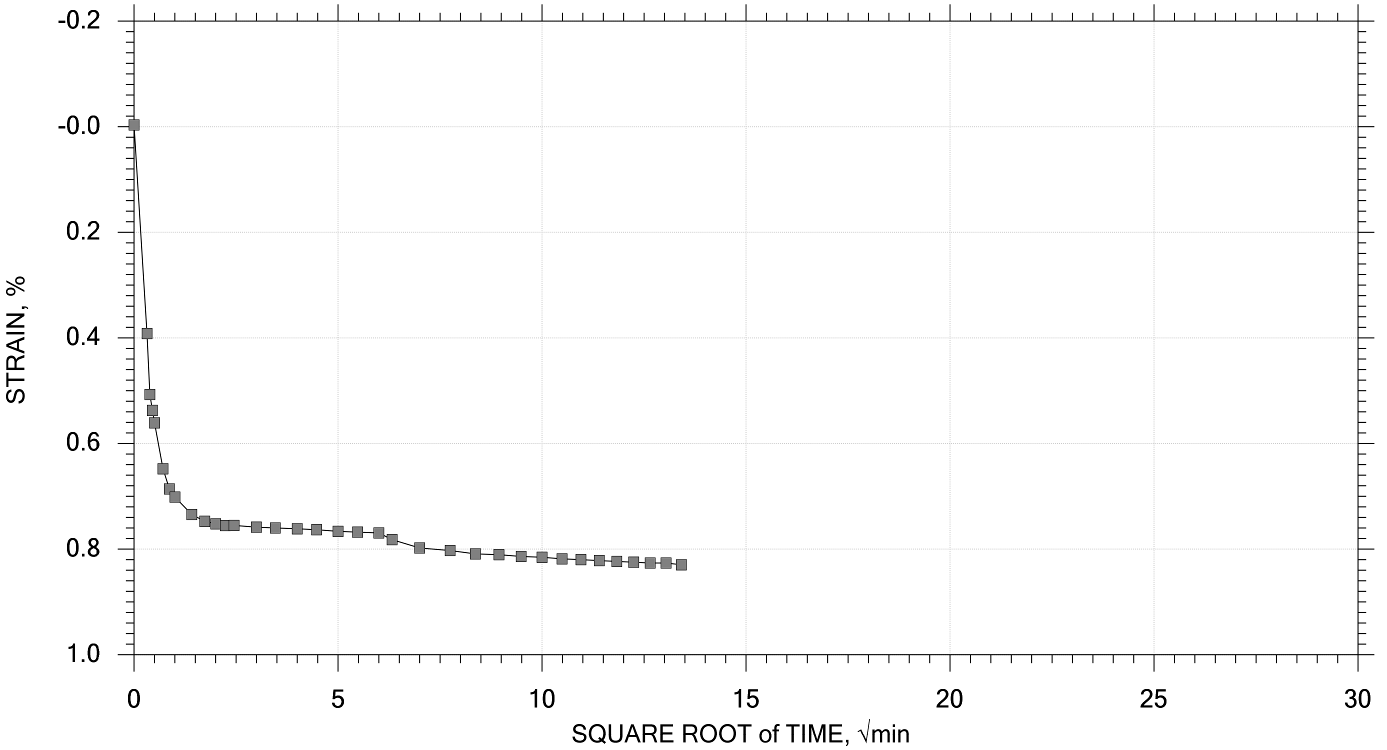
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 1 of 14

Stress: 250 psf





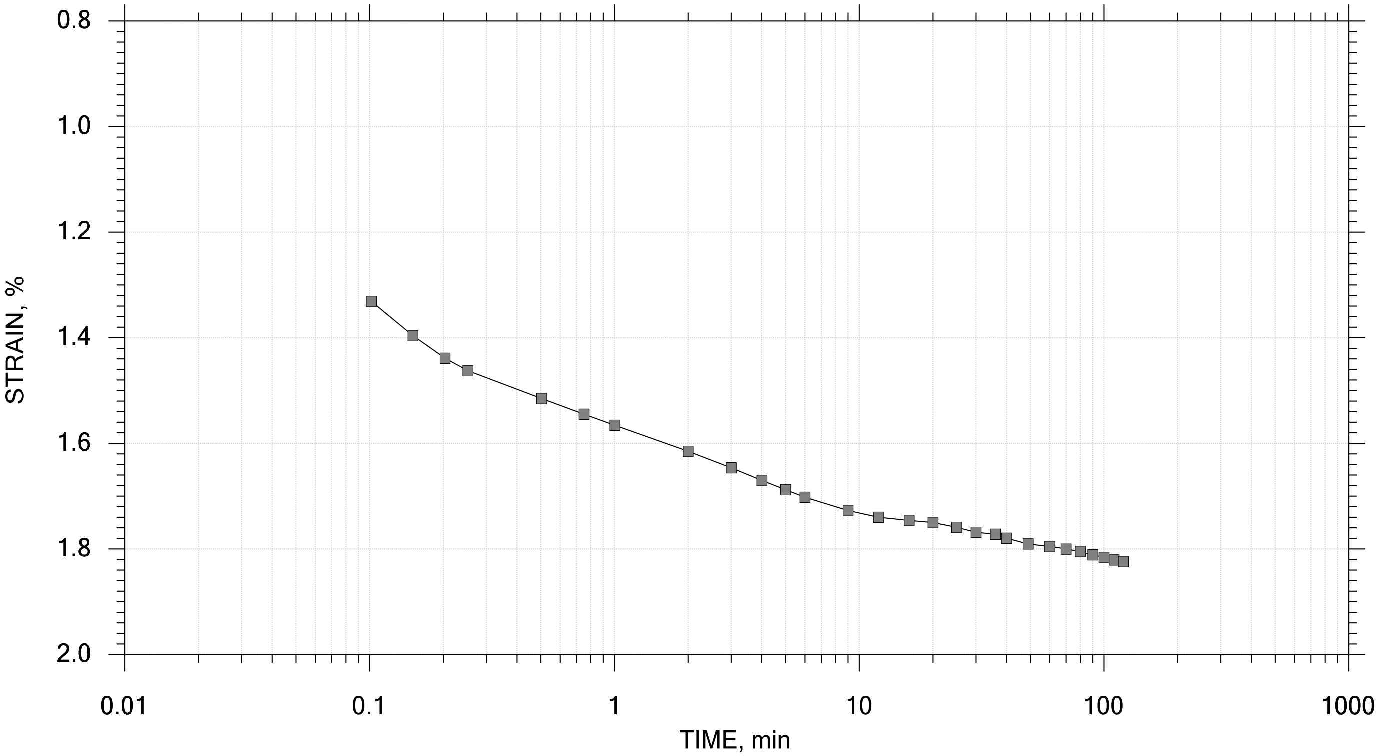
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-8	Tested By: SA	Checked By: SE
	Sample No.: 9	Test Date: 7/28/17	Elevation: -3.80 ft
	Depth: 16-18 ft	Sample Type: intact	
	Description: Stiff Gray Lean Clay		
	Displacement at End of Increment		

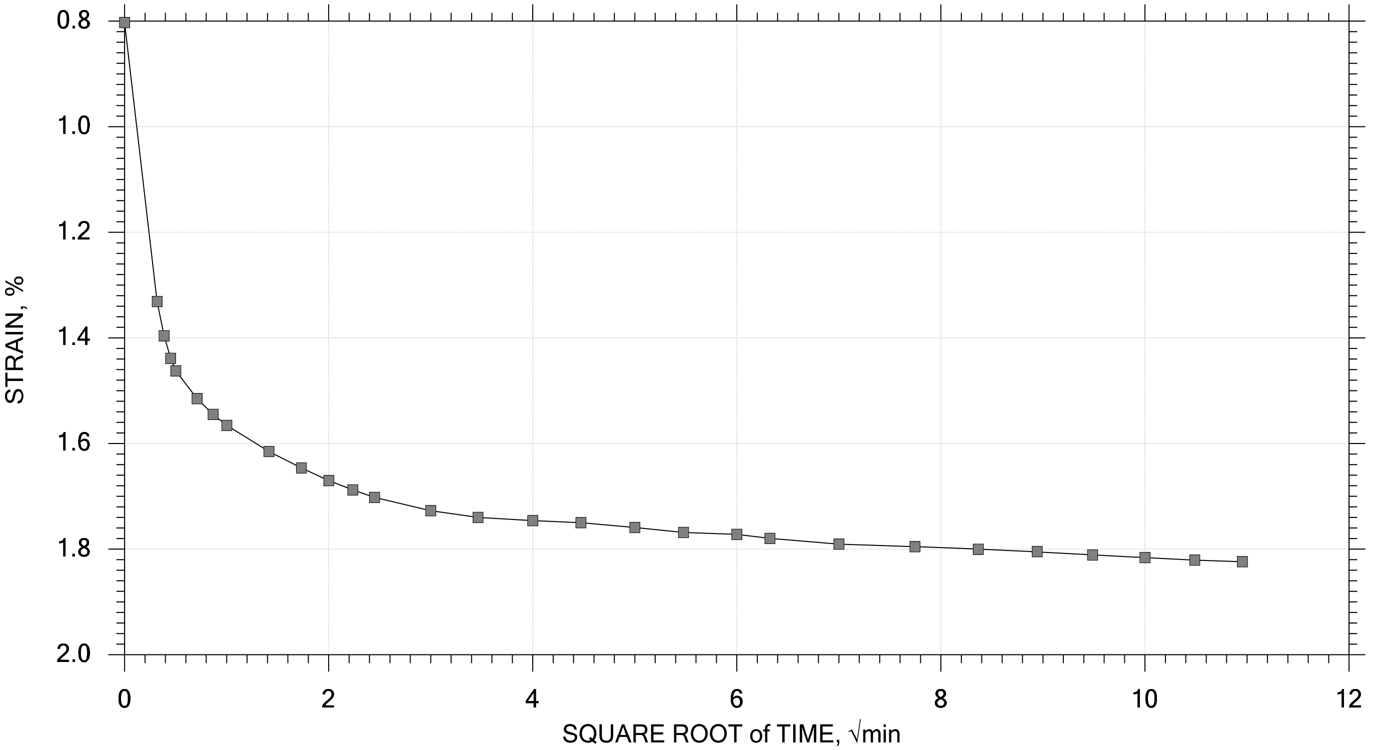
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 2 of 14

Stress: 500 psf





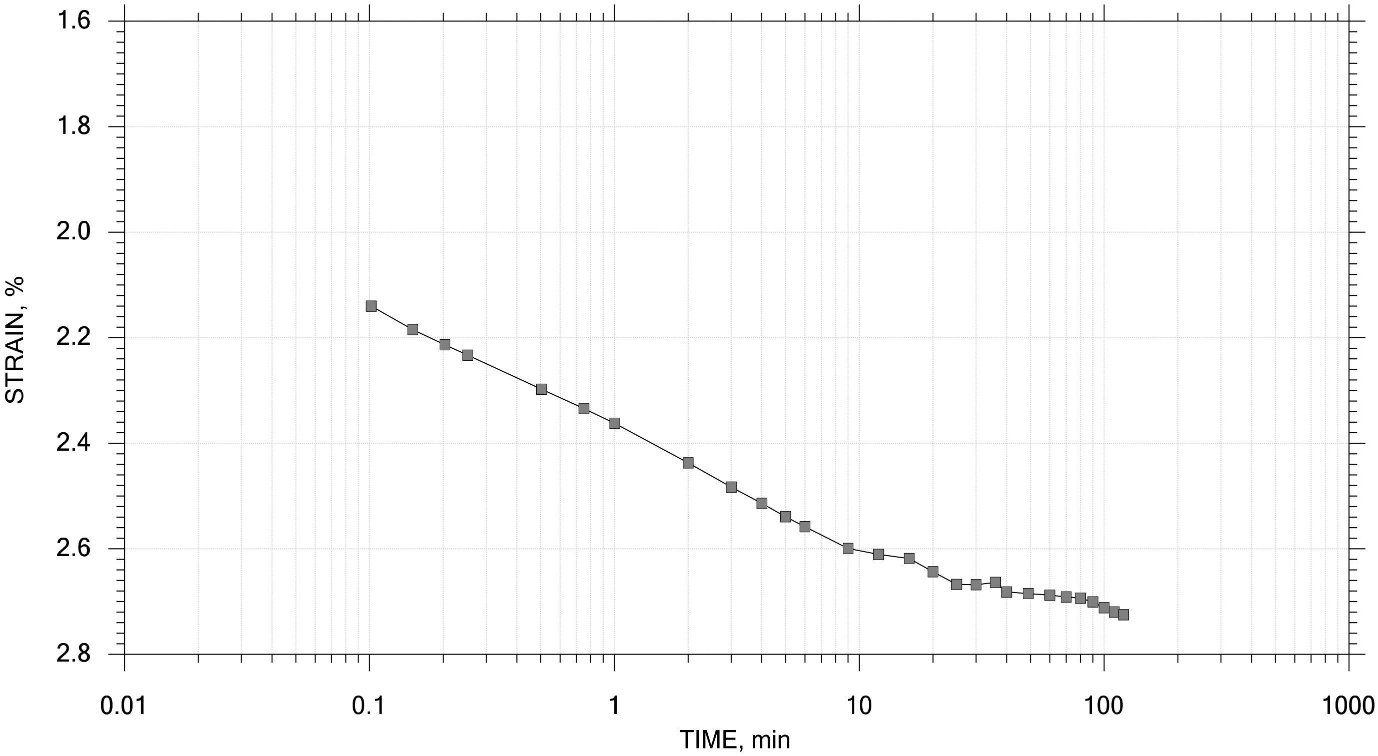
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-8	Tested By: SA	Checked By: SE
	Sample No.: 9	Test Date: 7/28/17	Elevation: -3.80 ft
	Depth: 16-18 ft	Sample Type: intact	
	Description: Stiff Gray Lean Clay		
	Displacement at End of Increment		

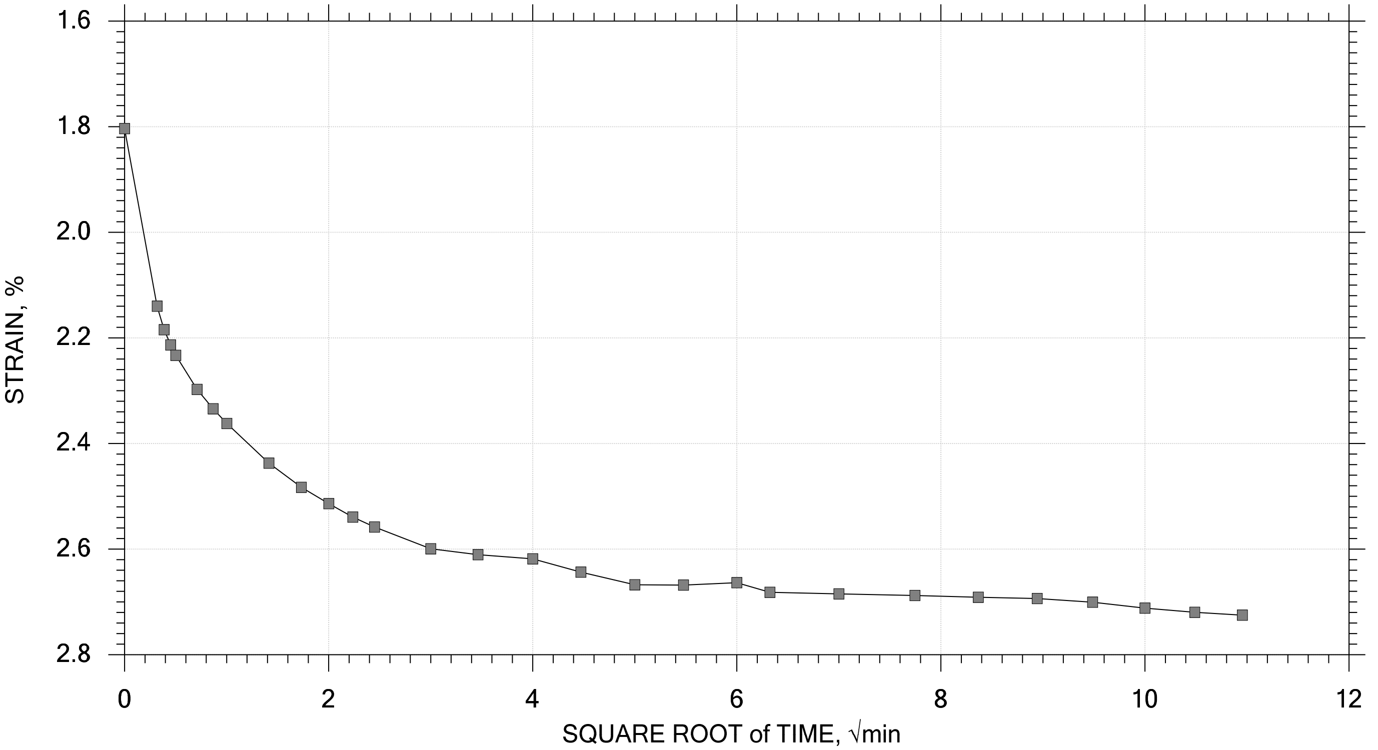
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 3 of 14

Stress: 1000 psf





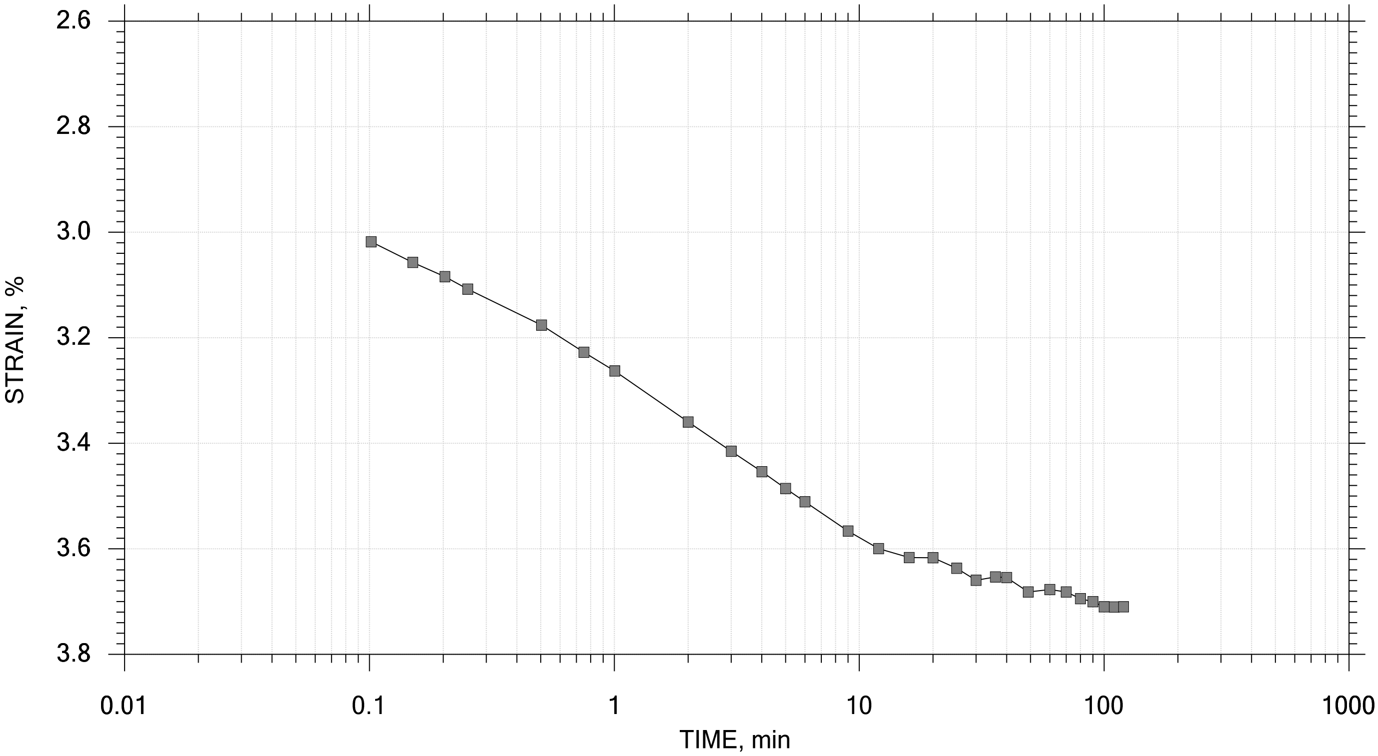
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-8	Tested By: SA	Checked By: SE
	Sample No.: 9	Test Date: 7/28/17	Elevation: -3.80 ft
	Depth: 16-18 ft	Sample Type: intact	
	Description: Stiff Gray Lean Clay		
	Displacement at End of Increment		

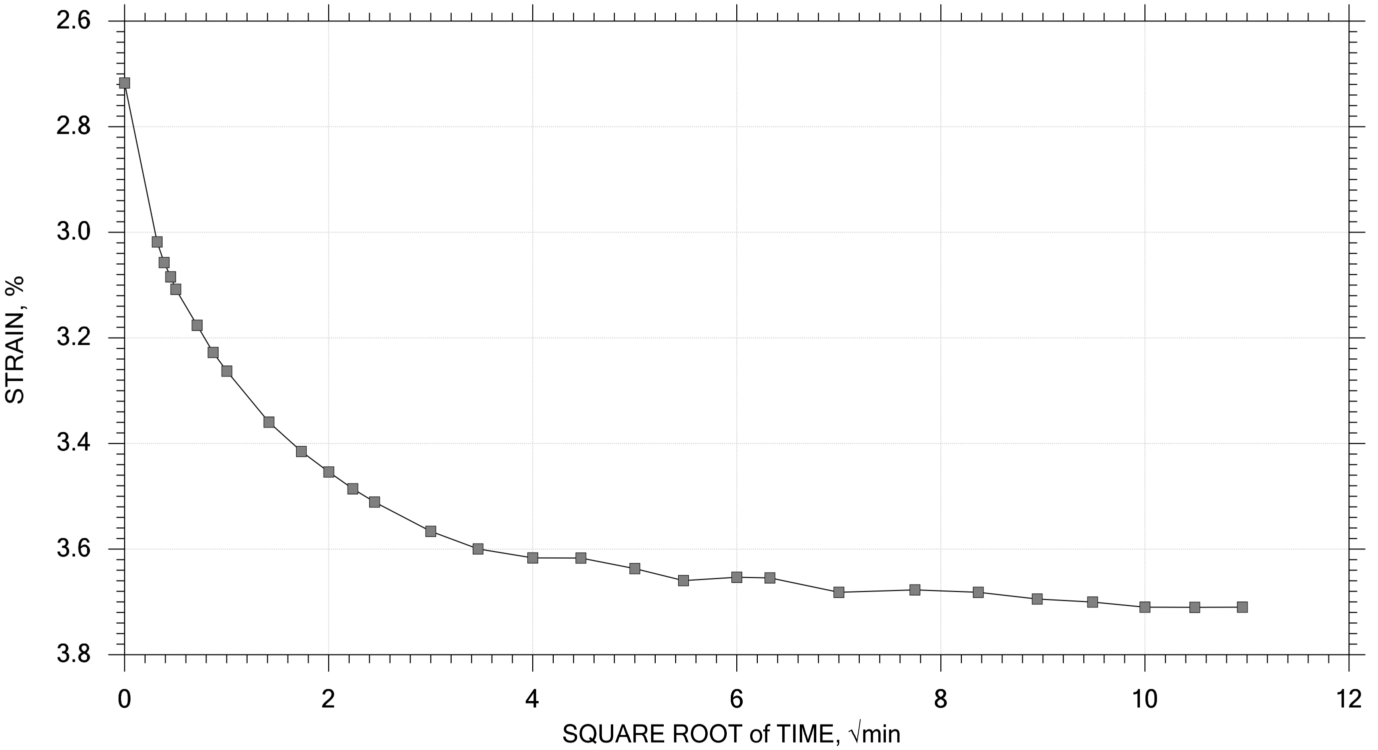
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 4 of 14

Stress: 2000 psf





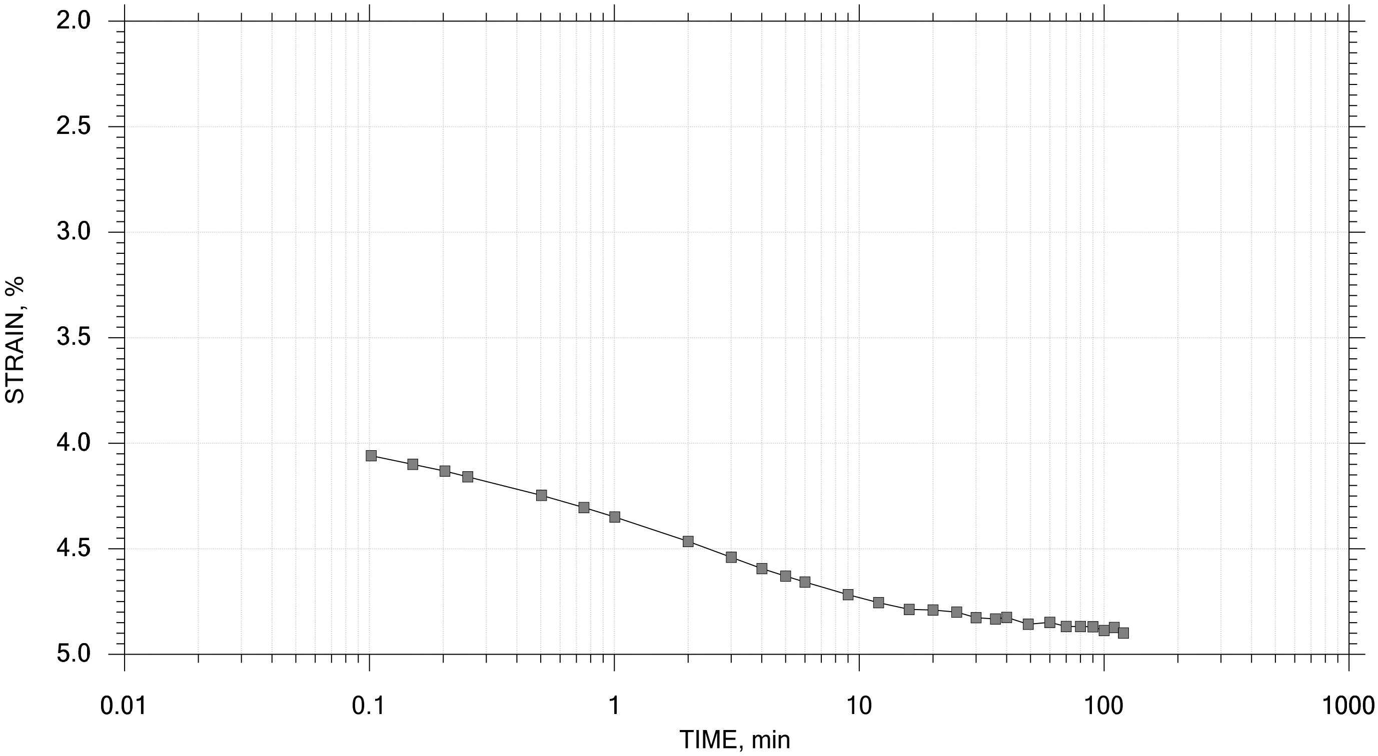
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-8	Tested By: SA	Checked By: SE
	Sample No.: 9	Test Date: 7/28/17	Elevation: -3.80 ft
	Depth: 16-18 ft	Sample Type: intact	
	Description: Stiff Gray Lean Clay		
	Displacement at End of Increment		

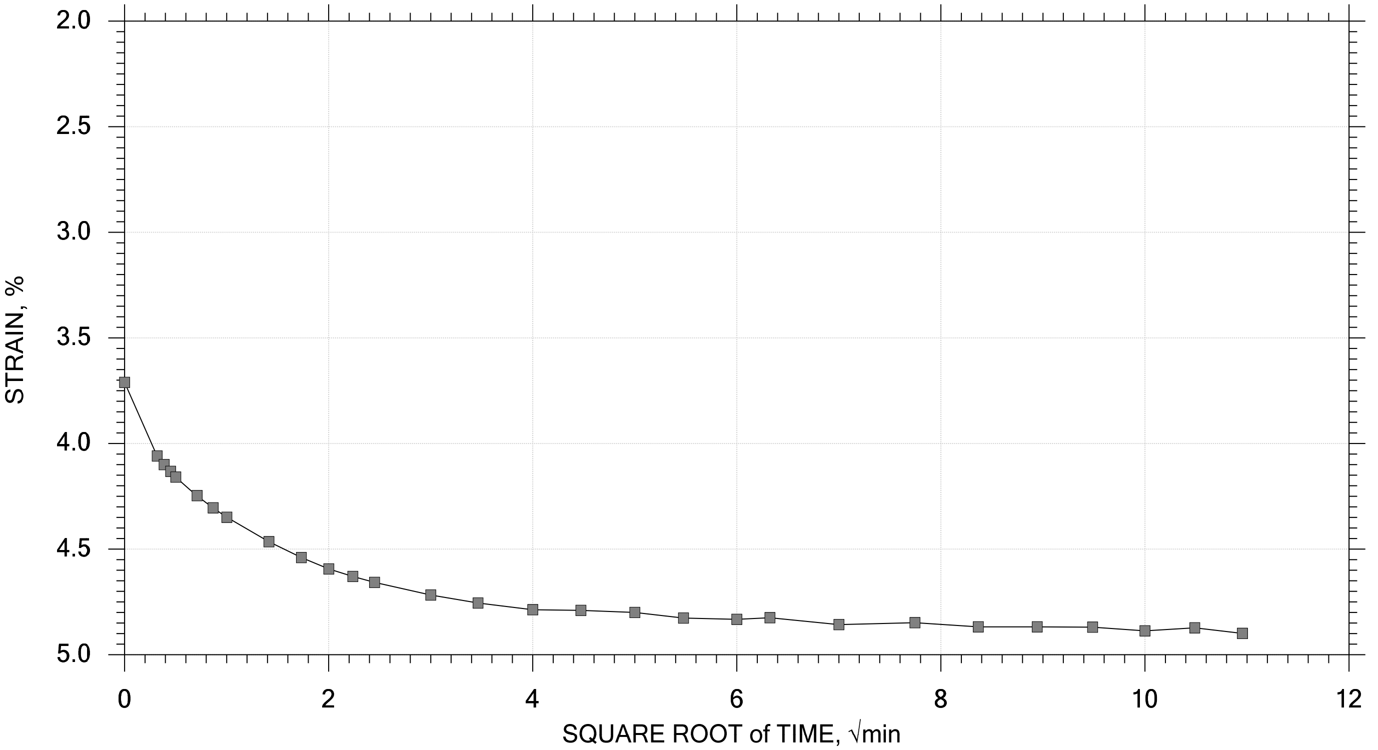
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 5 of 14

Stress: 4000 psf





Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
Boring No.: B-8	Tested By: SA	Checked By: SE
Sample No.: 9	Test Date: 7/28/17	Elevation: -3.80 ft
Depth: 16-18 ft	Sample Type: intact	
Description: Stiff Gray Lean Clay		
Displacement at End of Increment		

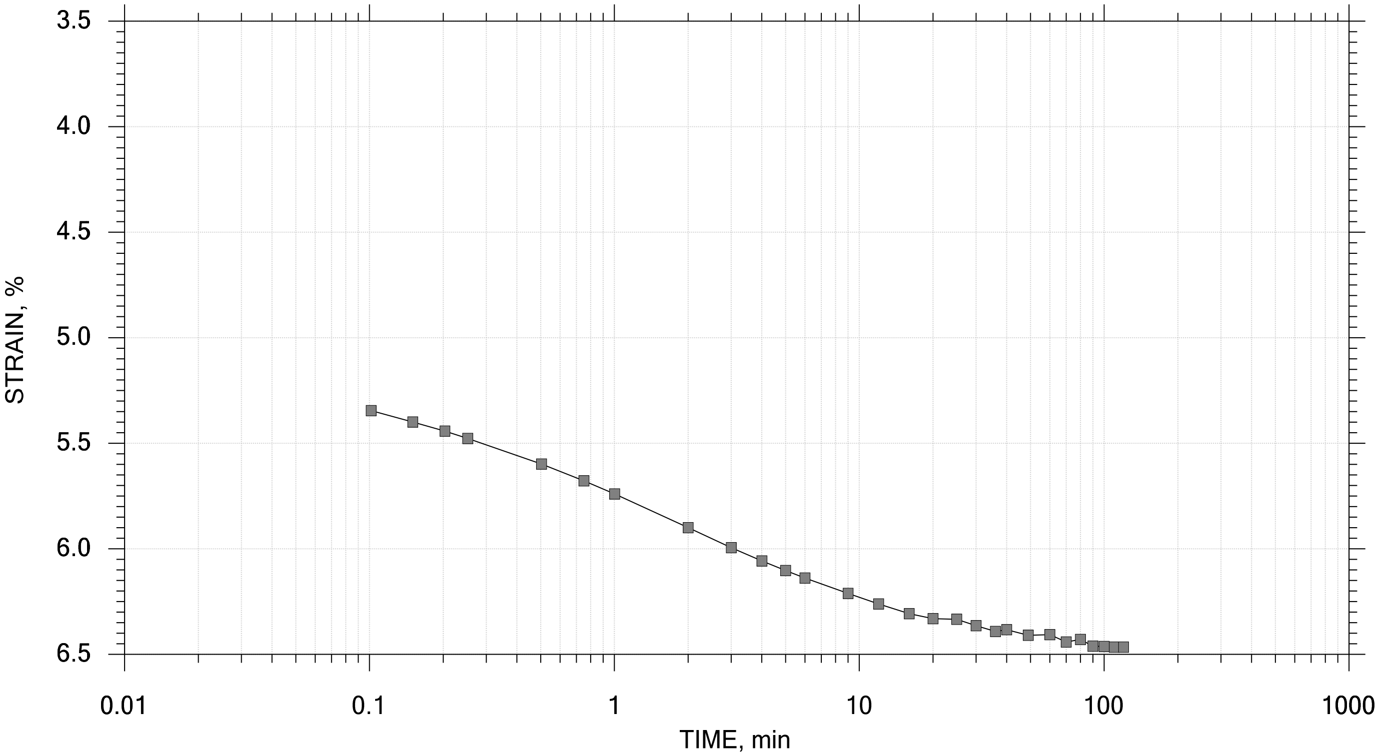
APS Engineering and Testing

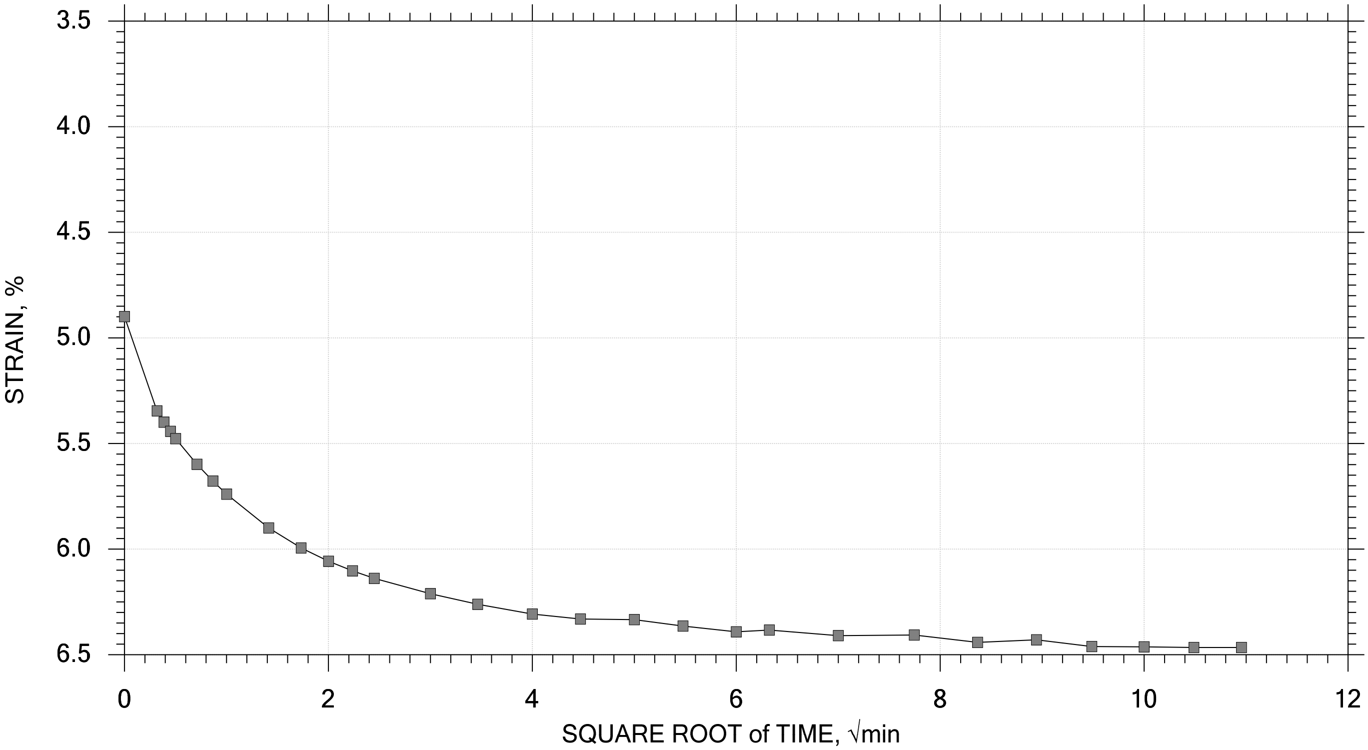
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 6 of 14

Stress: 8000 psf





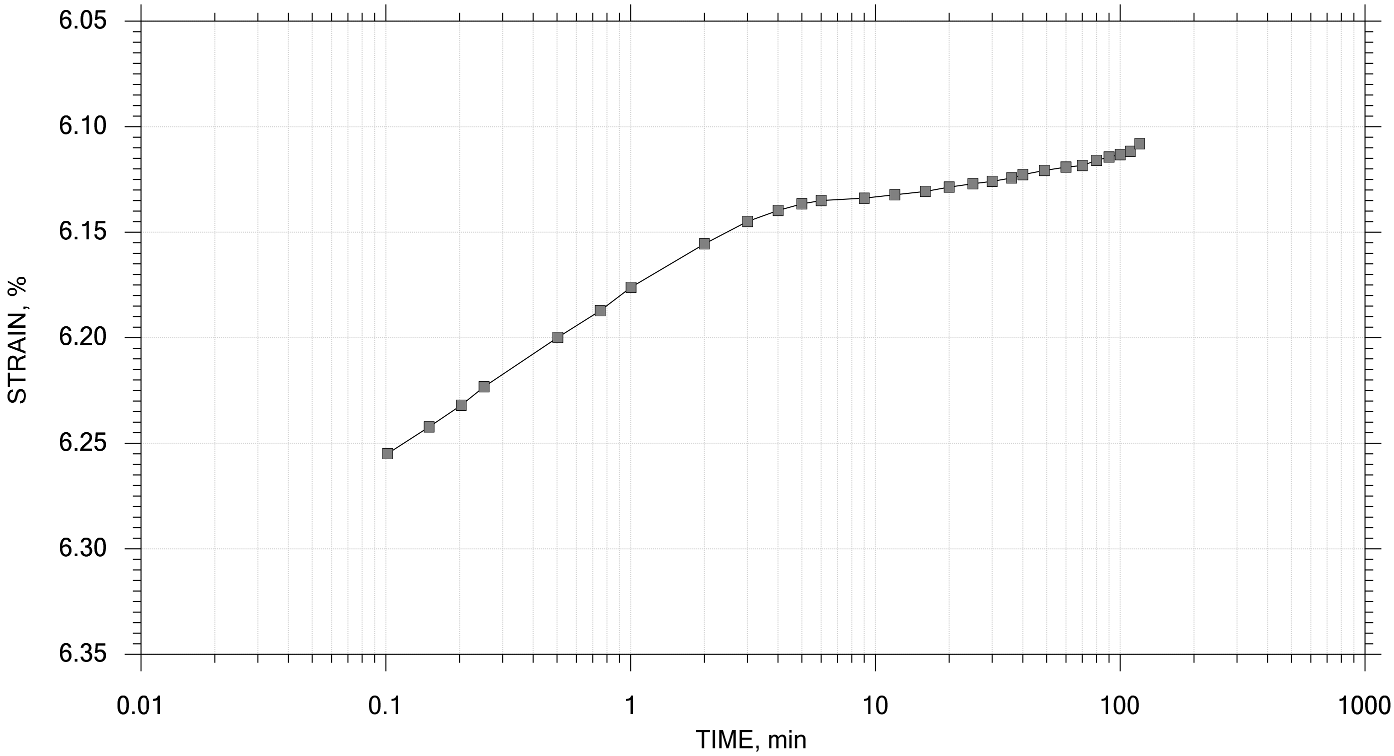
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-8	Tested By: SA	Checked By: SE
	Sample No.: 9	Test Date: 7/28/17	Elevation: -3.80 ft
	Depth: 16-18 ft	Sample Type: intact	
	Description: Stiff Gray Lean Clay		
	Displacement at End of Increment		

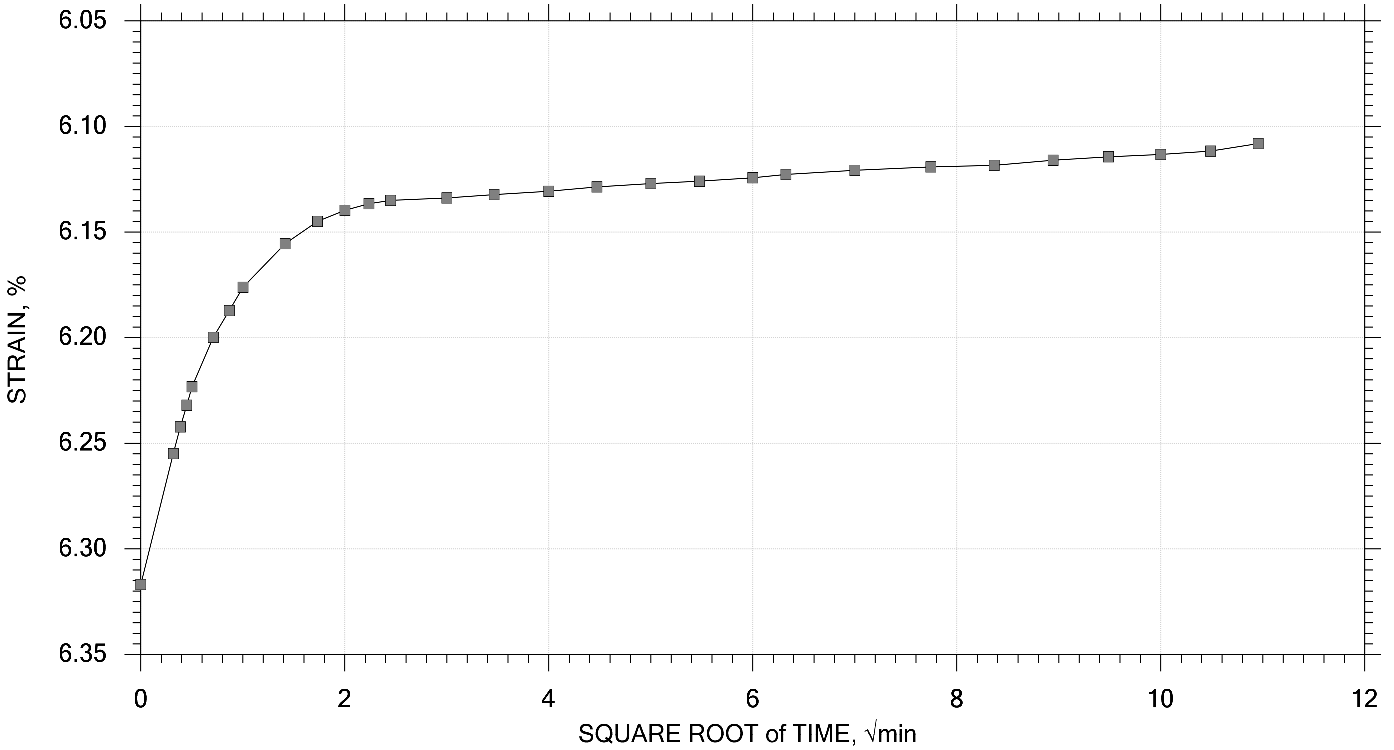
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 7 of 14

Stress: 4000 psf





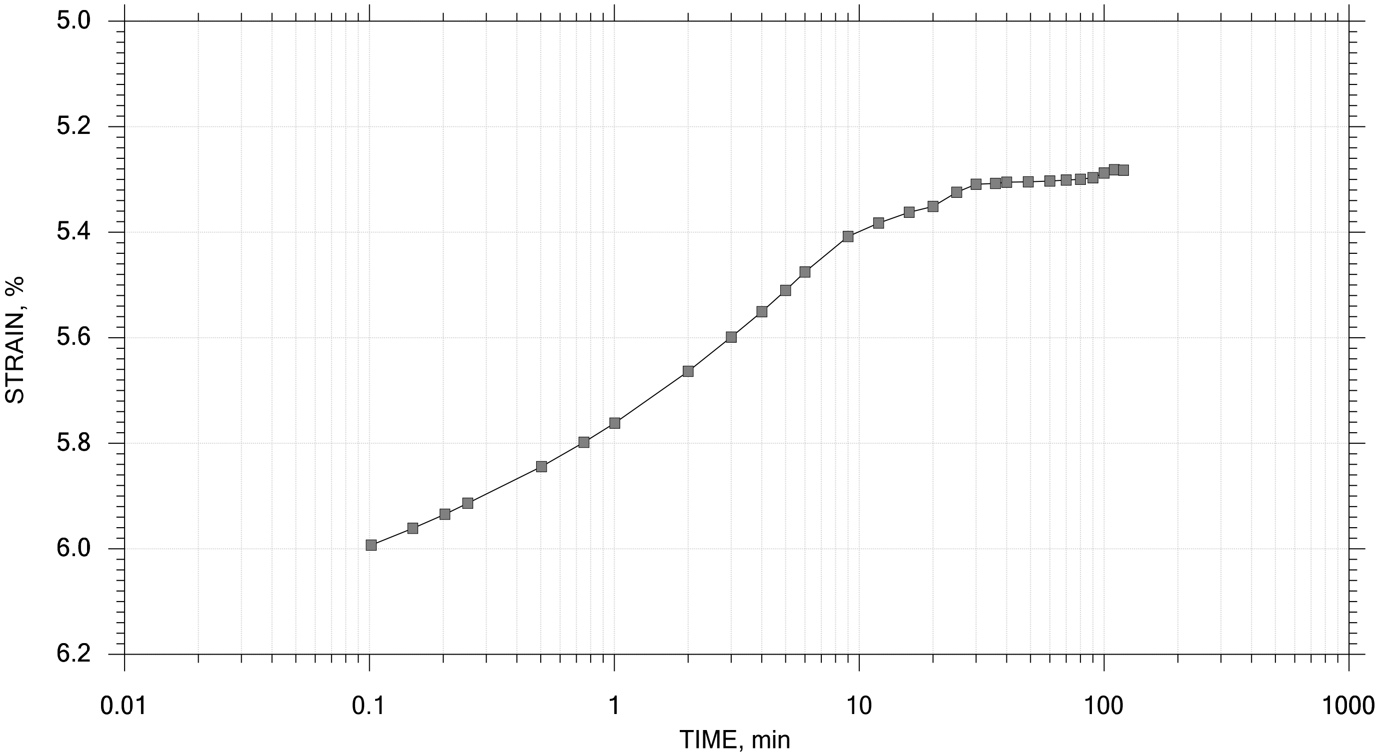
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-8	Tested By: SA	Checked By: SE
	Sample No.: 9	Test Date: 7/28/17	Elevation: -3.80 ft
	Depth: 16-18 ft	Sample Type: intact	
	Description: Stiff Gray Lean Clay		
	Displacement at End of Increment		

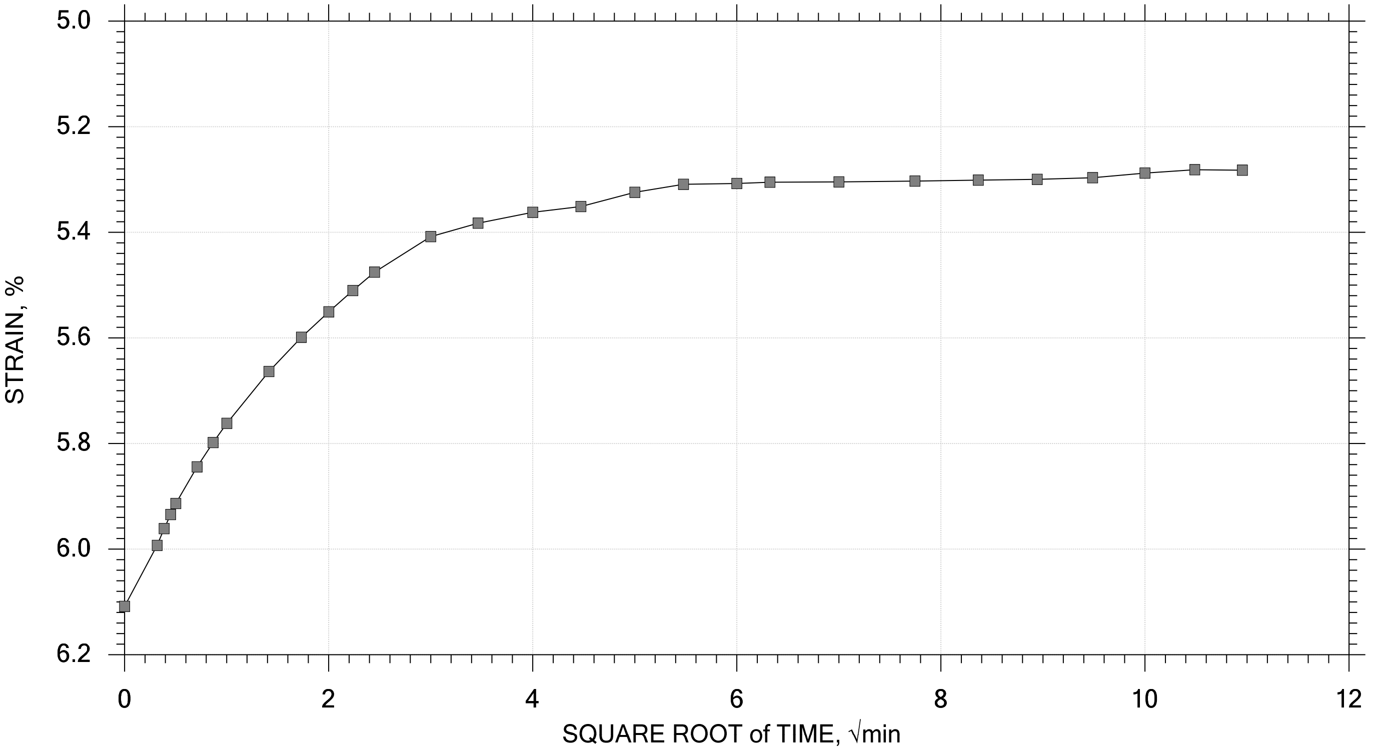
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 8 of 14

Stress: 1000 psf





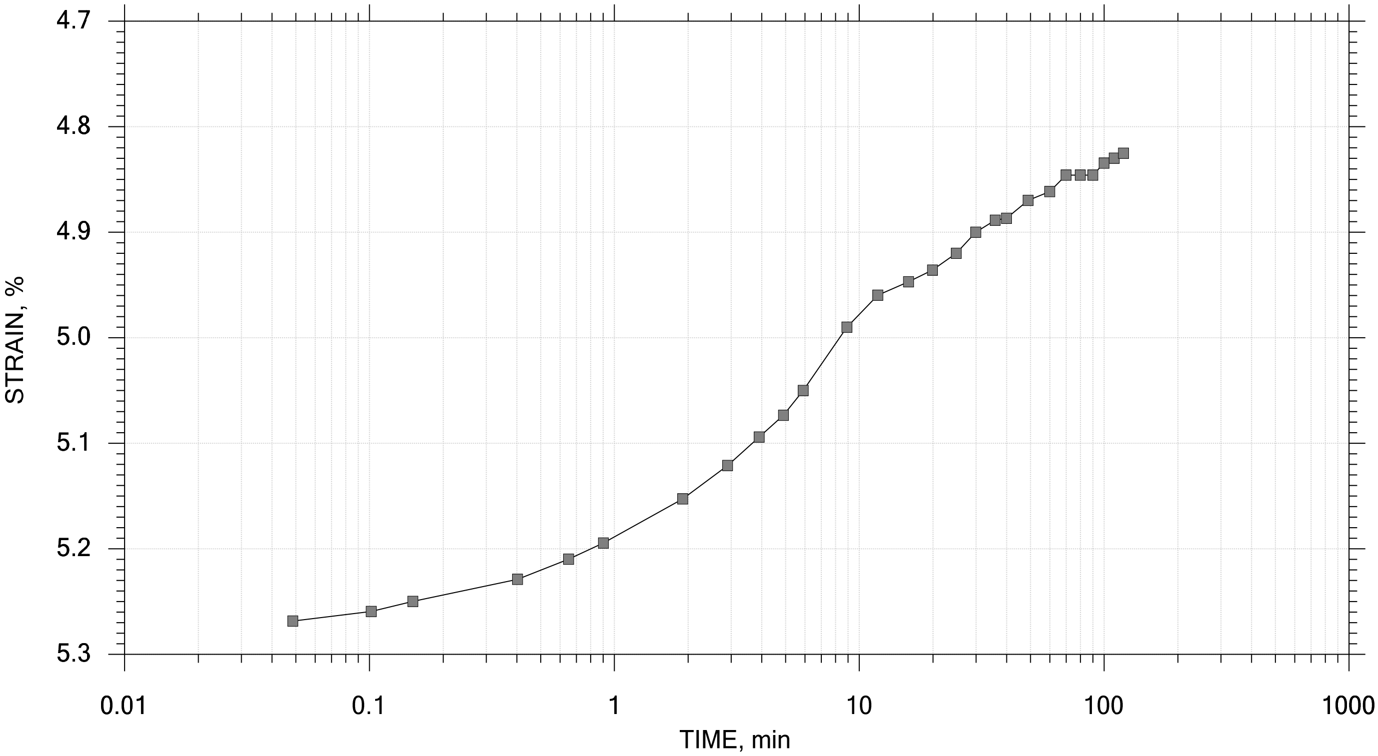
APS Engineering and Testing			
	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-8	Tested By: SA	Checked By: SE
	Sample No.: 9	Test Date: 7/28/17	Elevation: -3.80 ft
	Depth: 16-18 ft	Sample Type: intact	
	Description: Stiff Gray Lean Clay		
	Displacement at End of Increment		

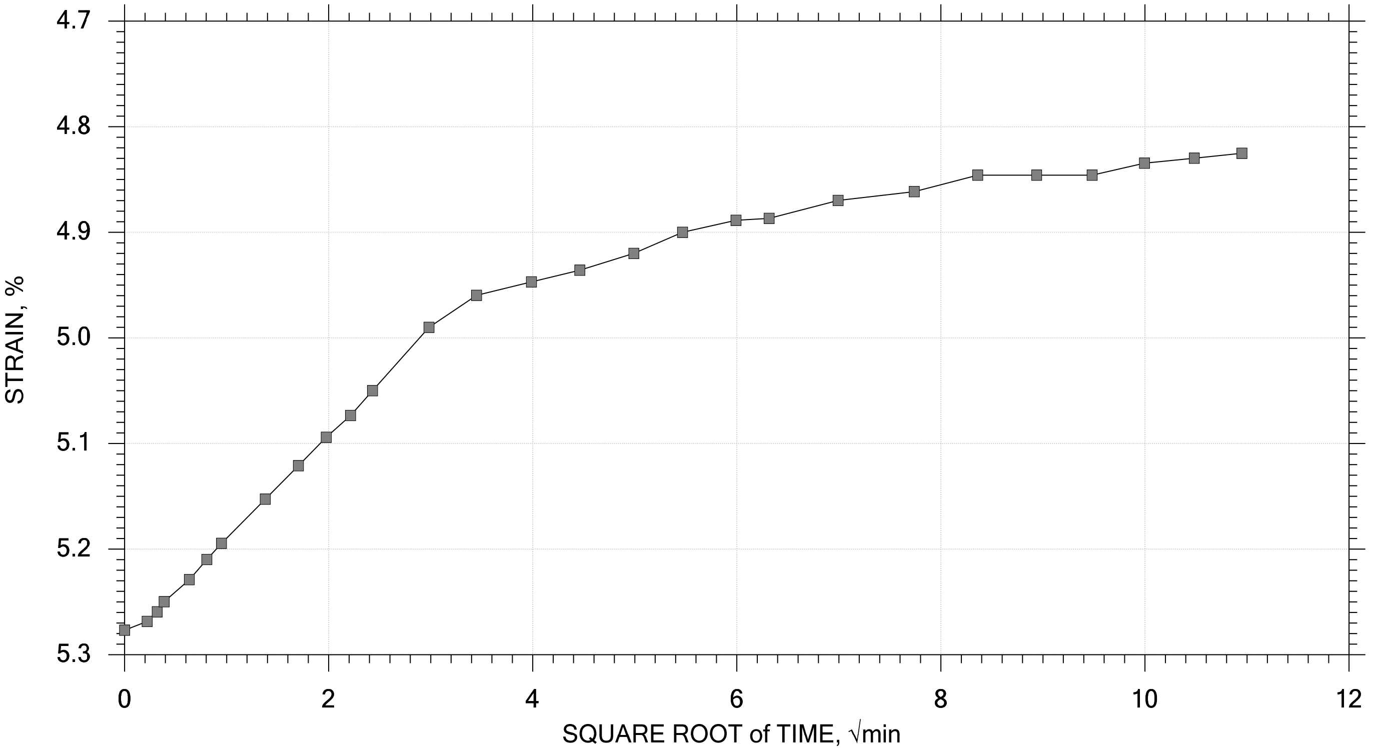
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 9 of 14

Stress: 500 psf





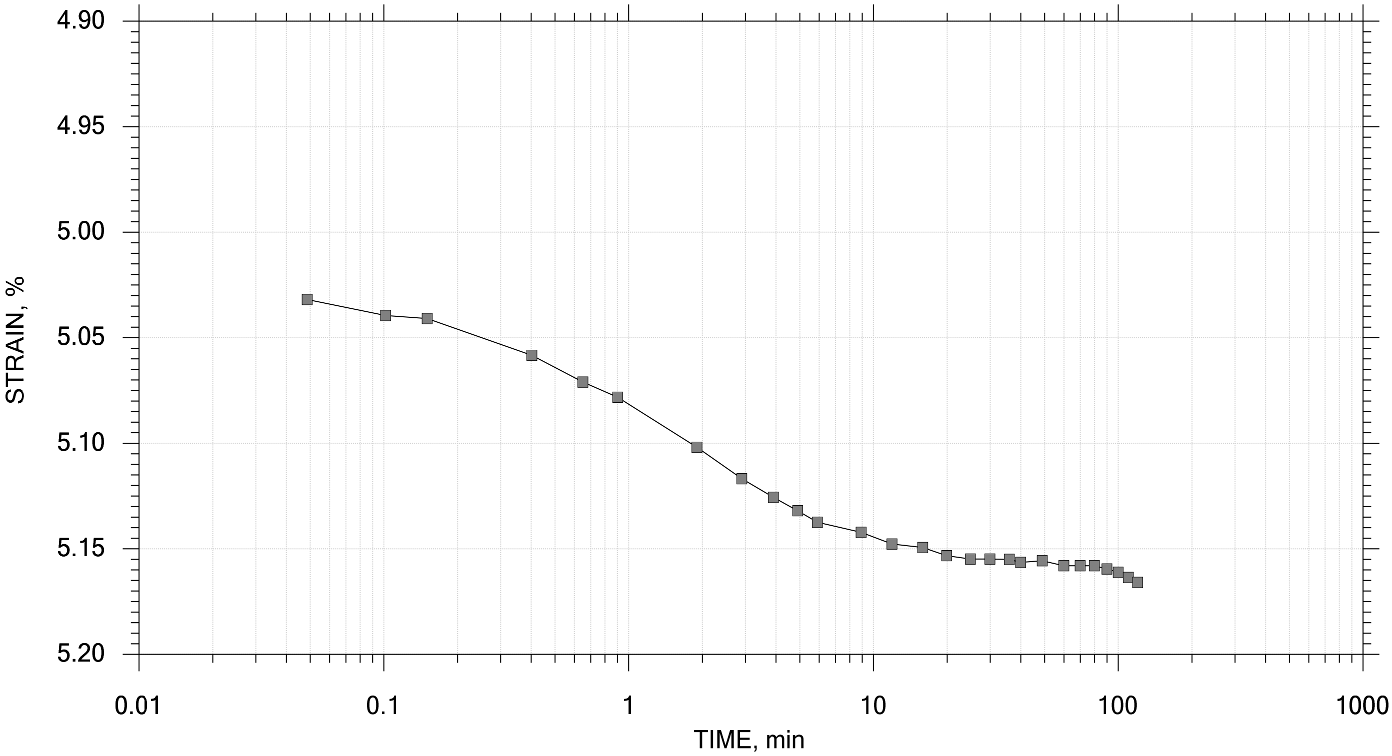
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-8	Tested By: SA	Checked By: SE
	Sample No.: 9	Test Date: 7/28/17	Elevation: -3.80 ft
	Depth: 16-18 ft	Sample Type: intact	
	Description: Stiff Gray Lean Clay		
	Displacement at End of Increment		

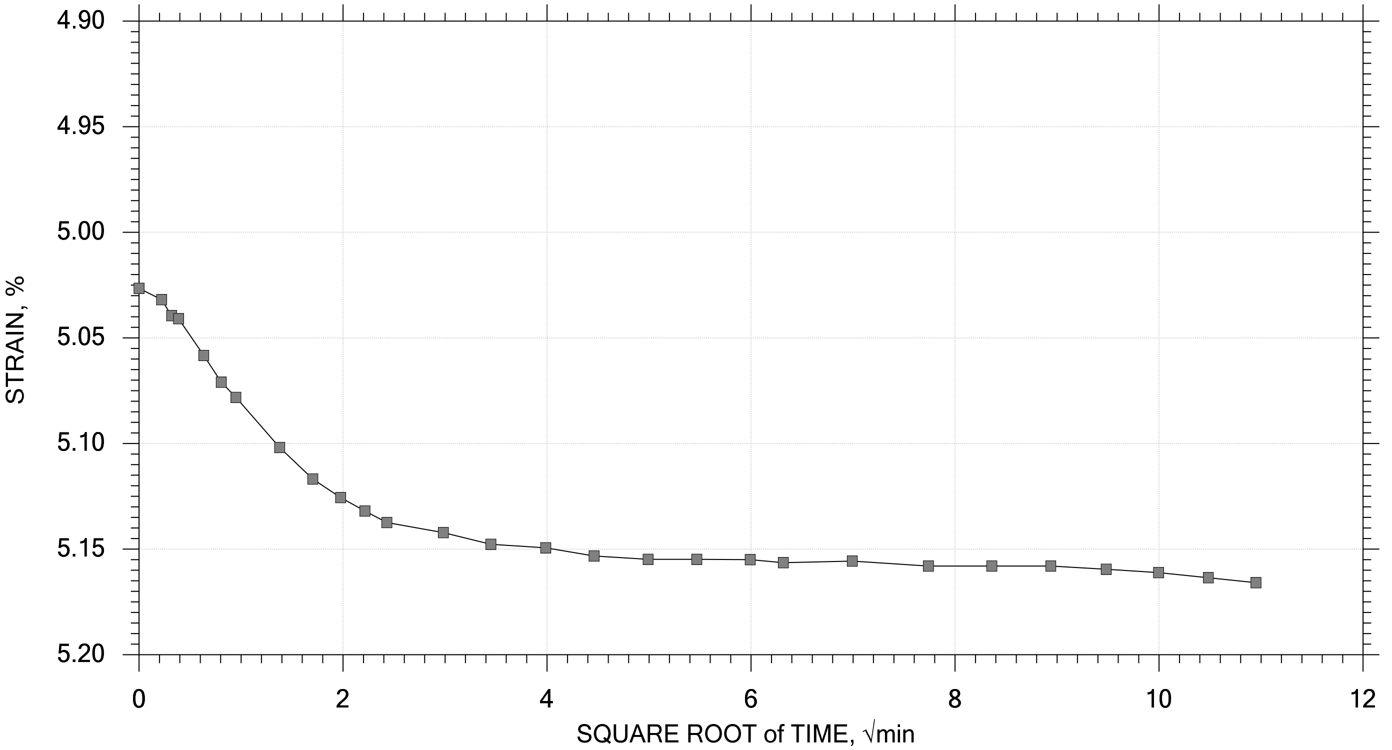
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 10 of 14

Stress: 1000 psf





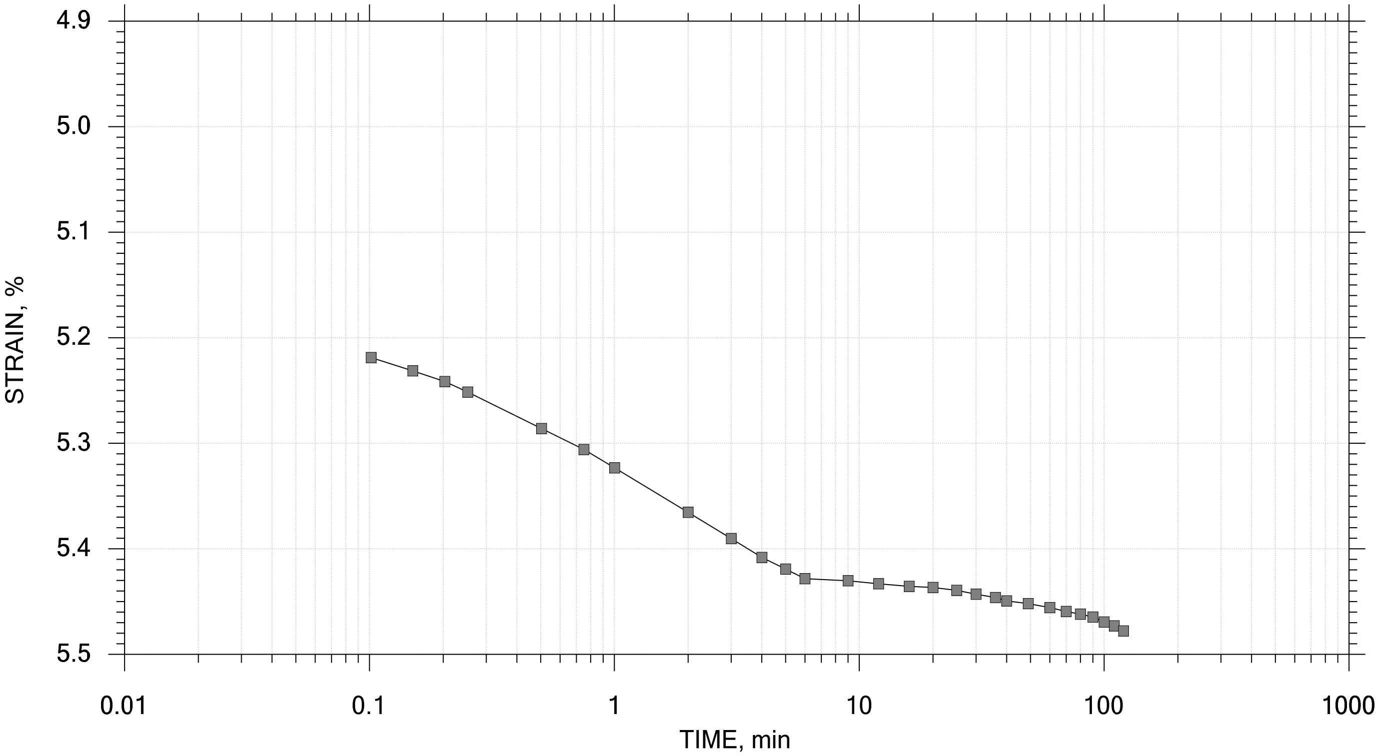
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-8	Tested By: SA	Checked By: SE
	Sample No.: 9	Test Date: 7/28/17	Elevation: -3.80 ft
	Depth: 16-18 ft	Sample Type: intact	
	Description: Stiff Gray Lean Clay		
	Displacement at End of Increment		

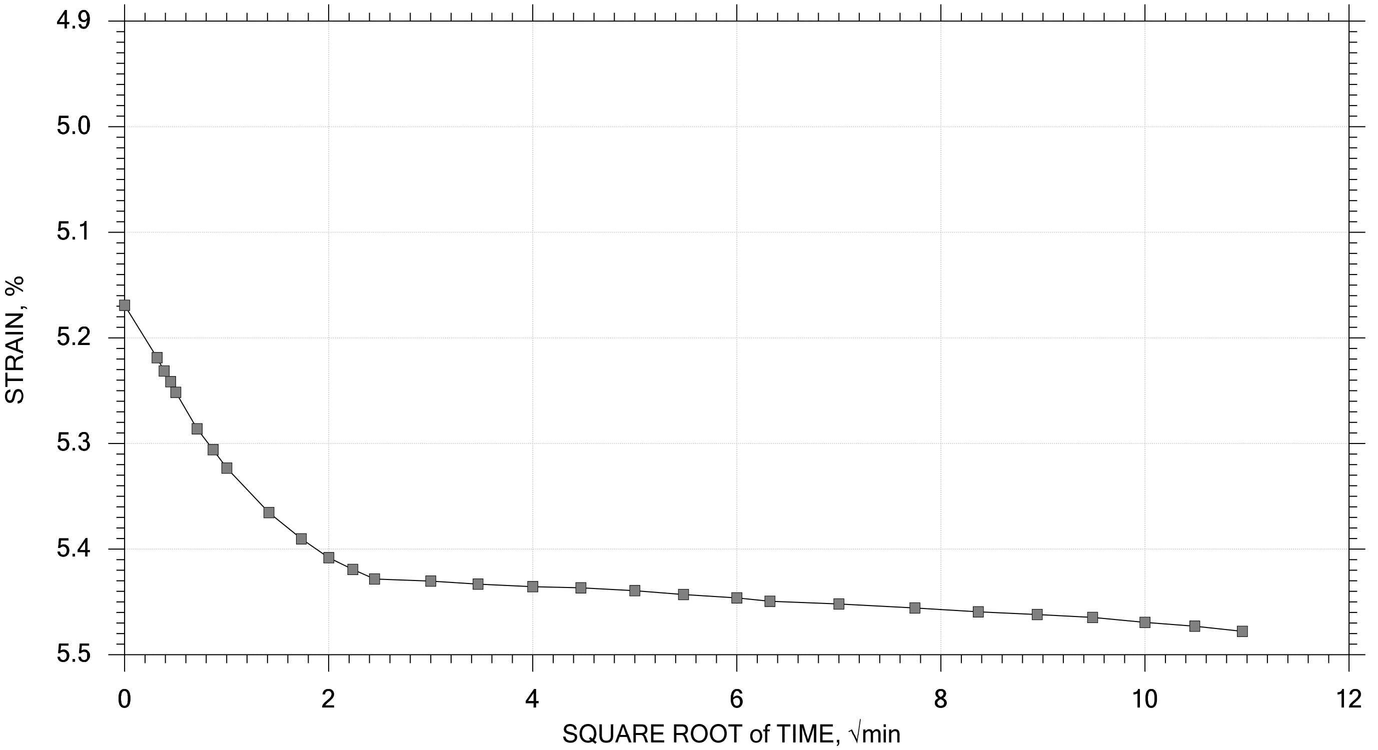
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 11 of 14

Stress: 2000 psf





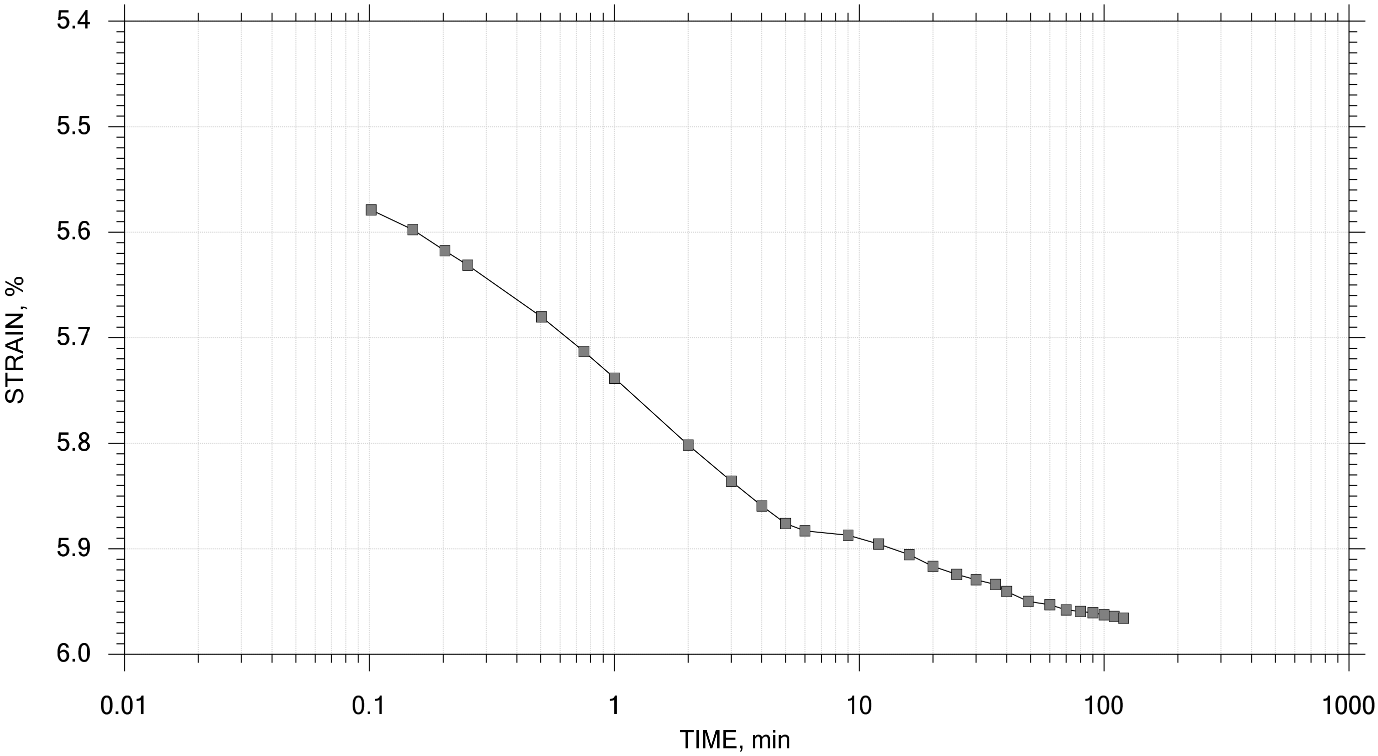
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-8	Tested By: SA	Checked By: SE
	Sample No.: 9	Test Date: 7/28/17	Elevation: -3.80 ft
	Depth: 16-18 ft	Sample Type: intact	
	Description: Stiff Gray Lean Clay		
	Displacement at End of Increment		

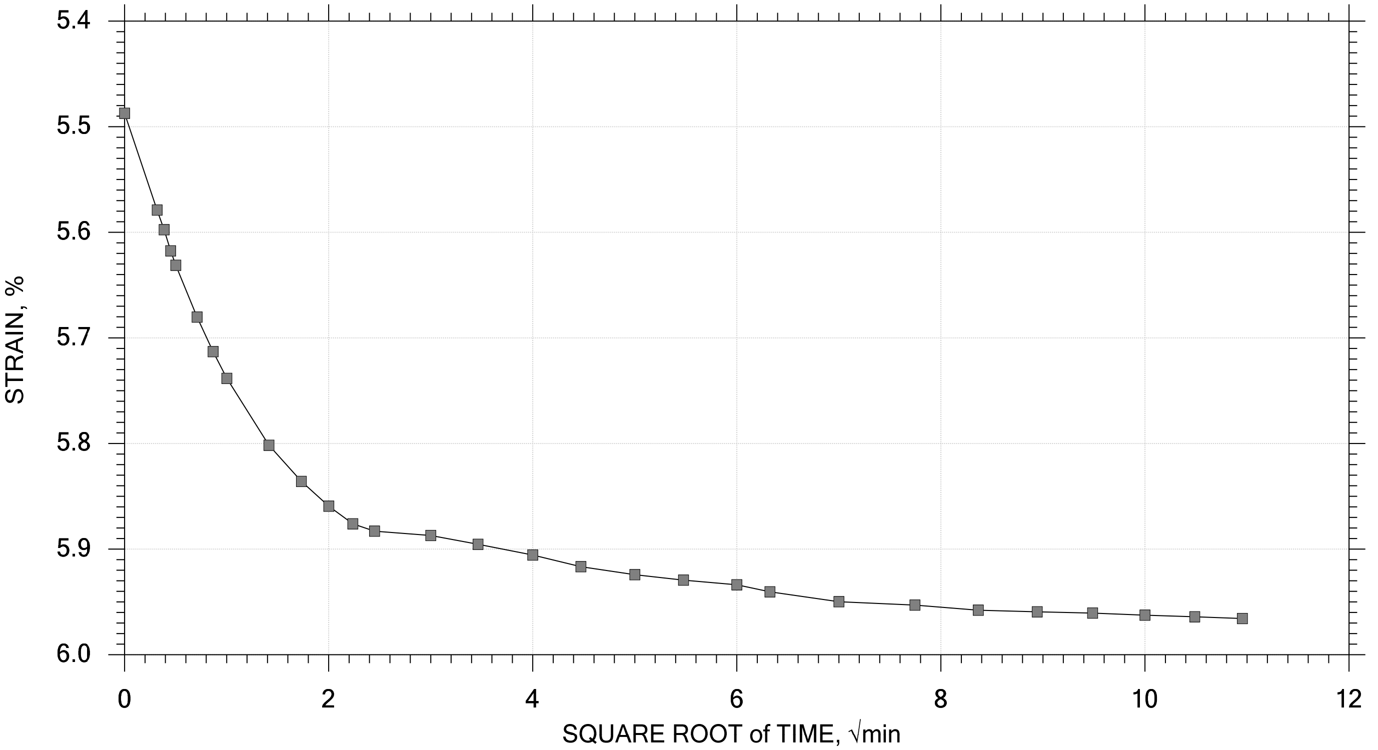
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 12 of 14

Stress: 4000 psf





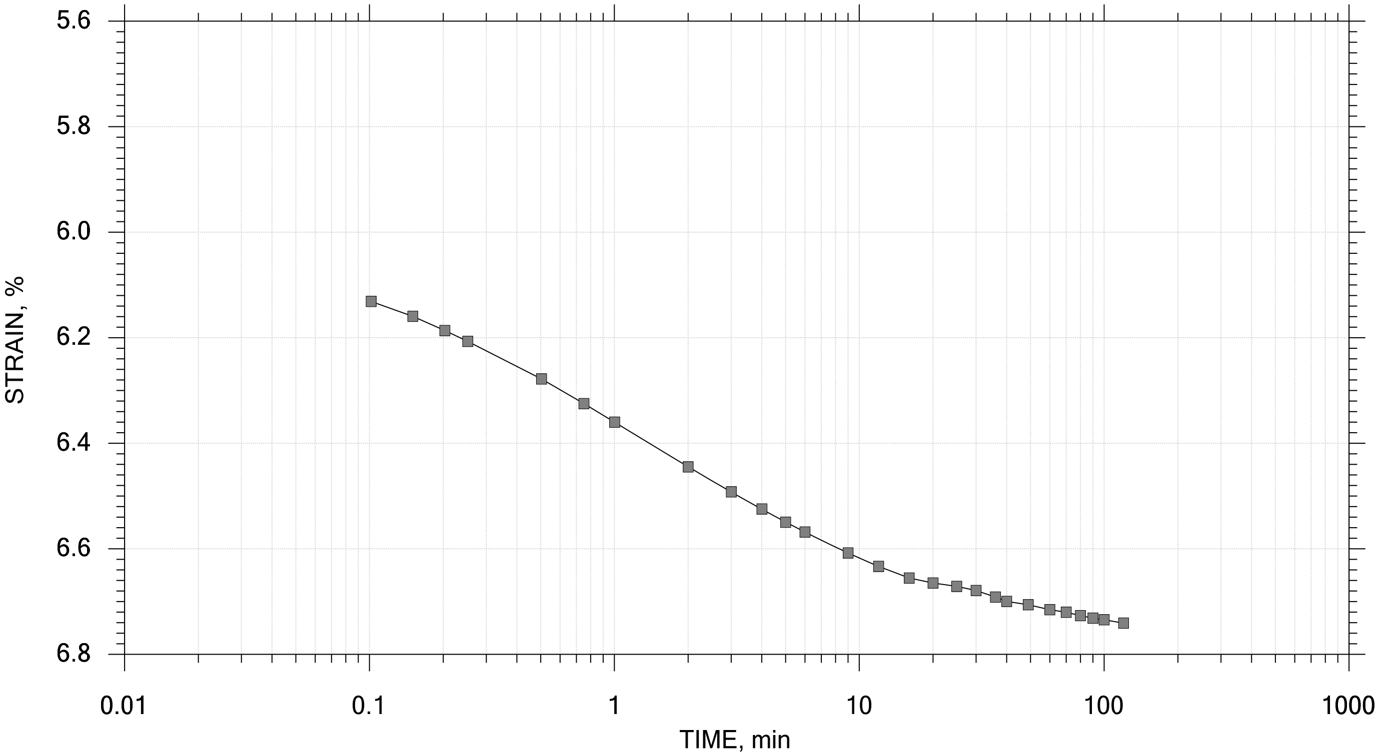
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-8	Tested By: SA	Checked By: SE
	Sample No.: 9	Test Date: 7/28/17	Elevation: -3.80 ft
	Depth: 16-18 ft	Sample Type: intact	
	Description: Stiff Gray Lean Clay		
	Displacement at End of Increment		

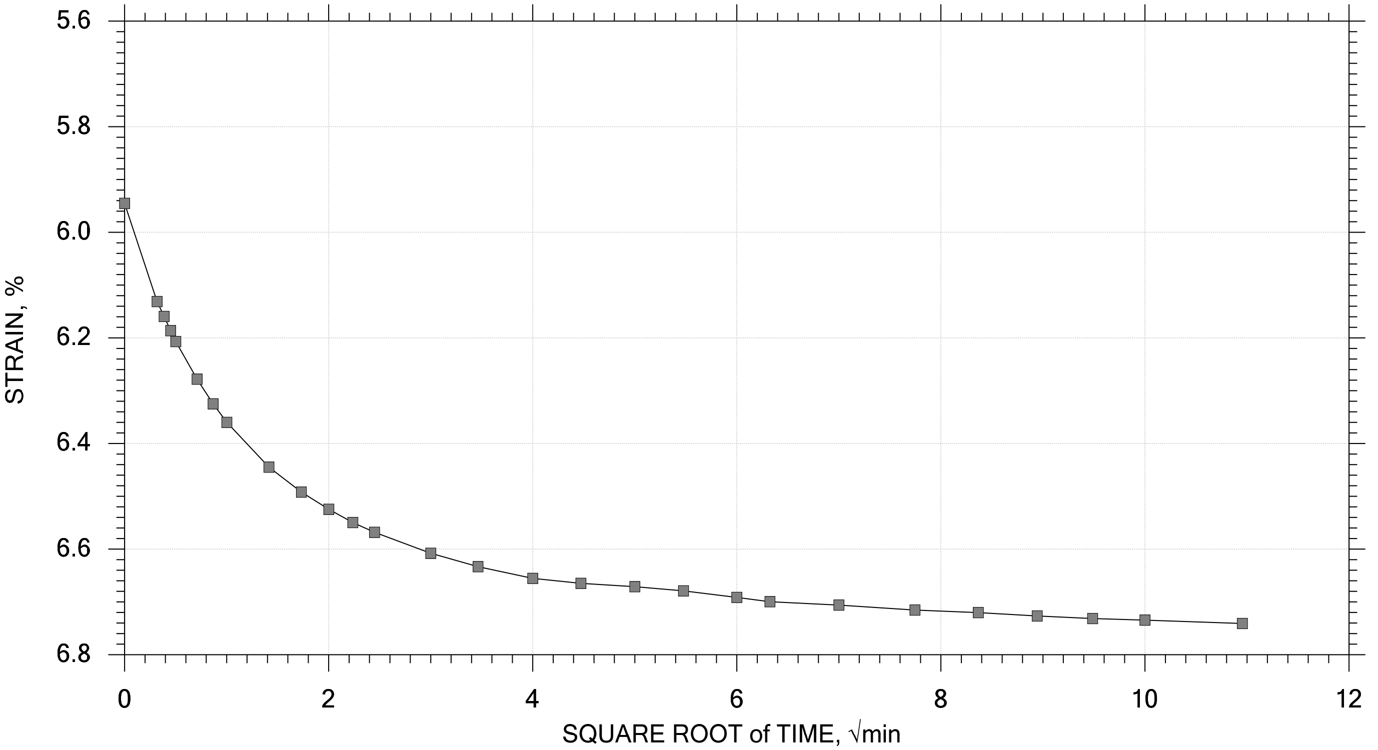
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 13 of 14

Stress: 8000 psf





APS Engineering and Testing

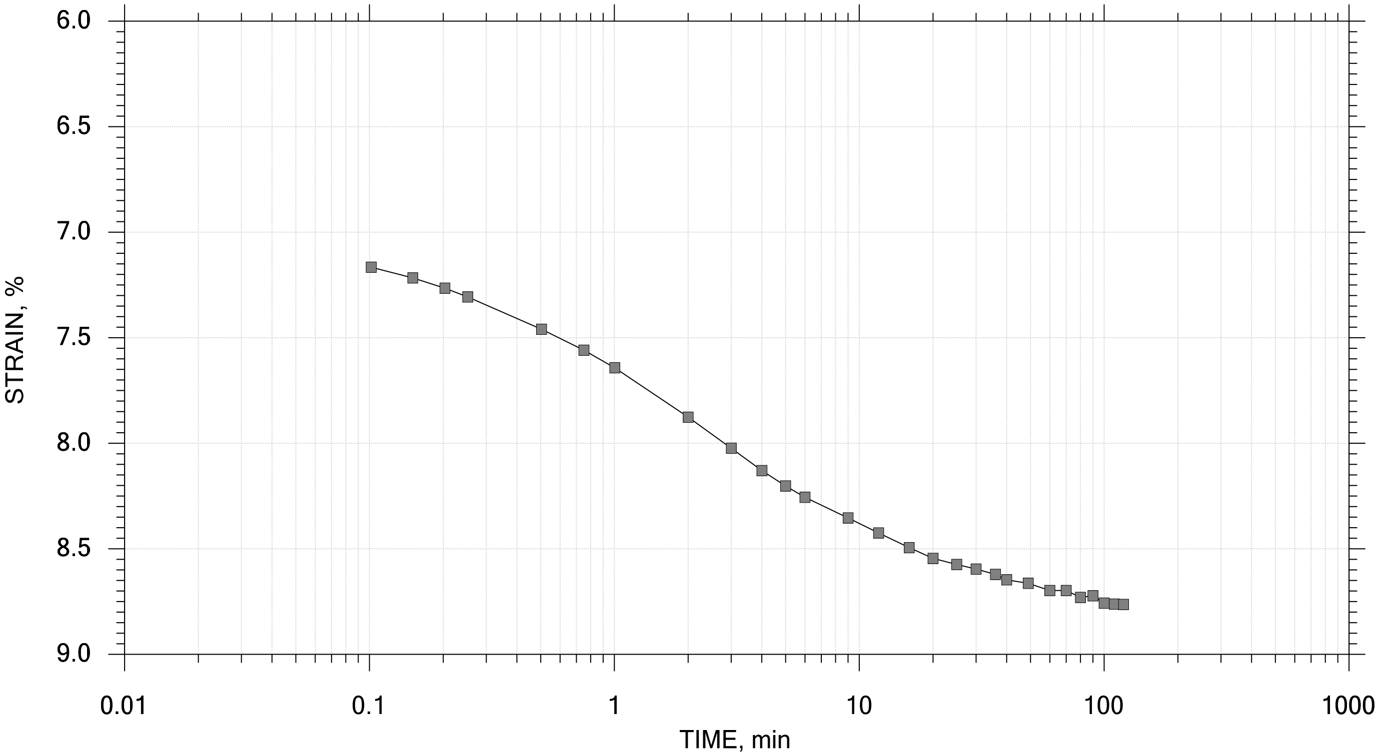
Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
Boring No.: B-8	Tested By: SA	Checked By: SE
Sample No.: 9	Test Date: 7/28/17	Elevation: -3.80 ft
Depth: 16-18 ft	Sample Type: intact	
Description: Stiff Gray Lean Clay		
Displacement at End of Increment		

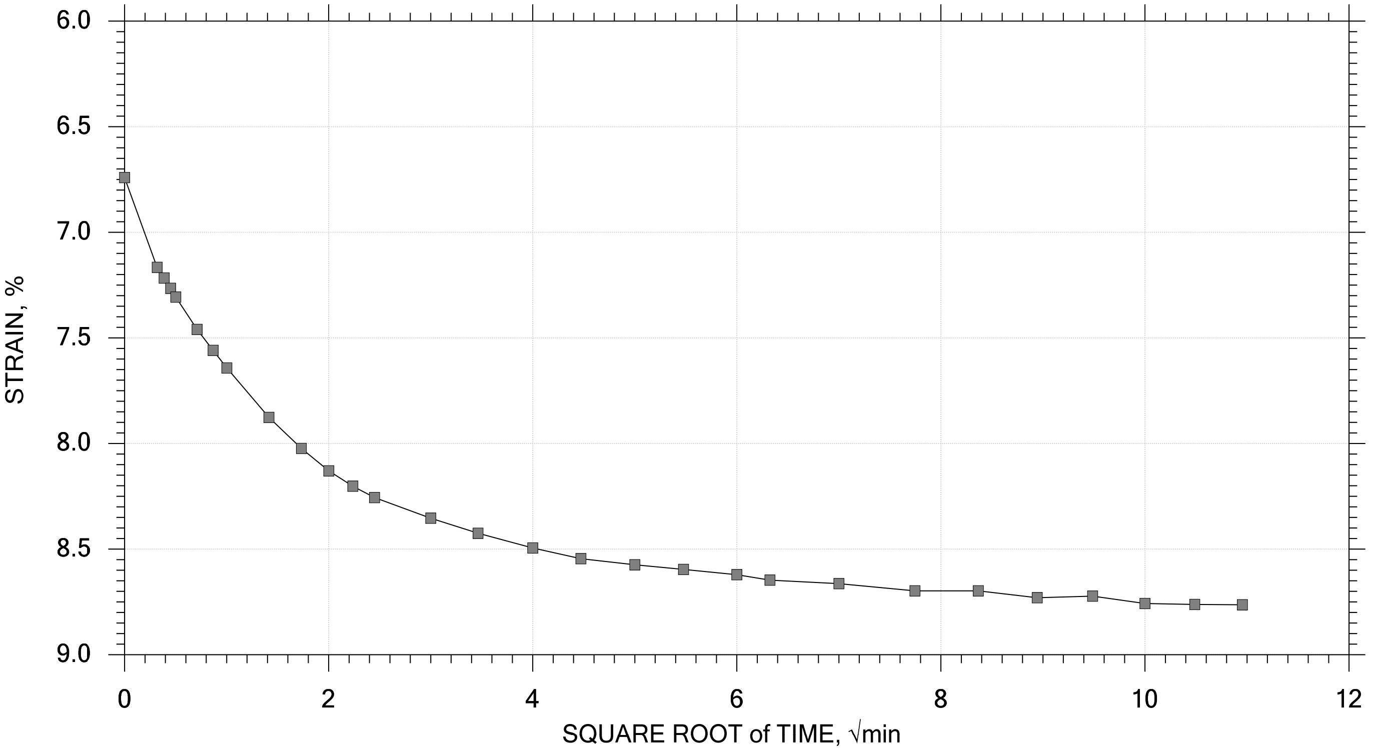
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 14 of 14

Stress: 16000 psf

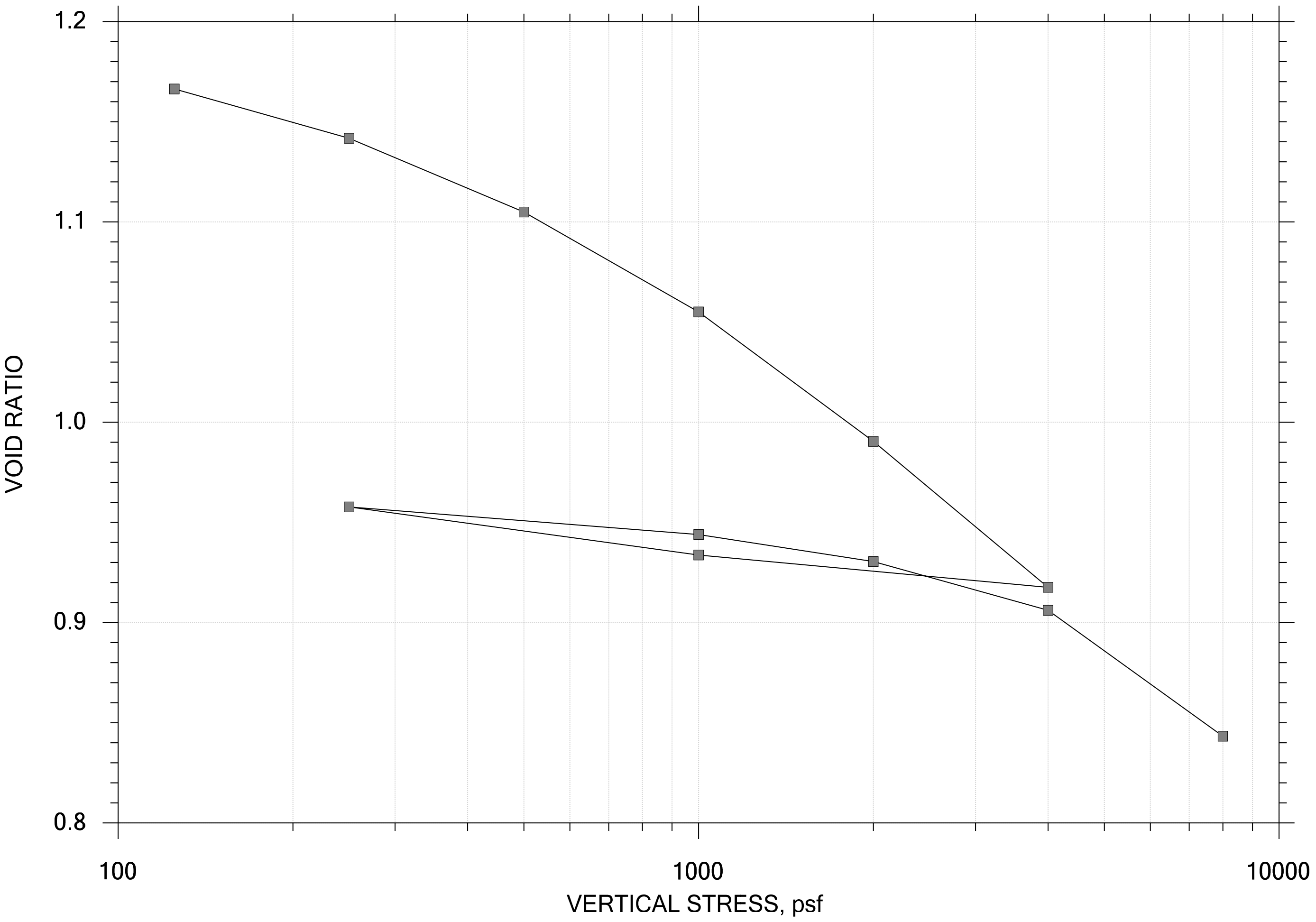


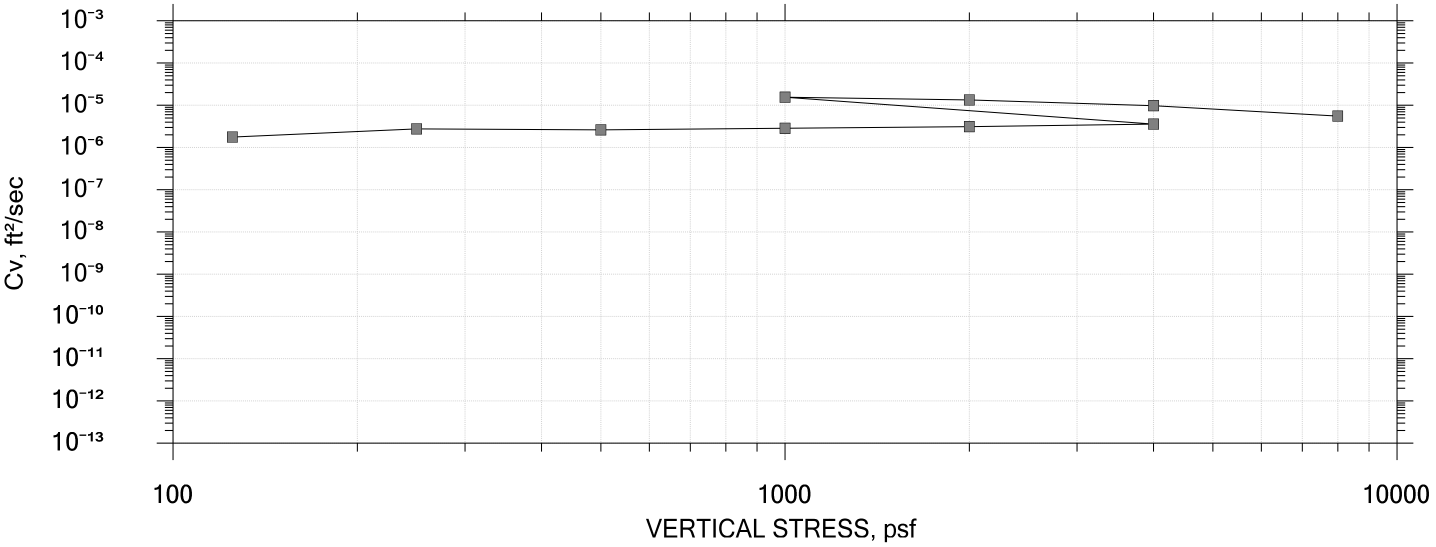


APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-8	Tested By: SA	Checked By: SE
	Sample No.: 9	Test Date: 7/28/17	Elevation: -3.80 ft
	Depth: 16-18 ft	Sample Type: intact	
	Description: Stiff Gray Lean Clay		
	Displacement at End of Increment		

One-Dimensional Consolidation by ASTM D2435 - Method B

SUMMARY REPORT



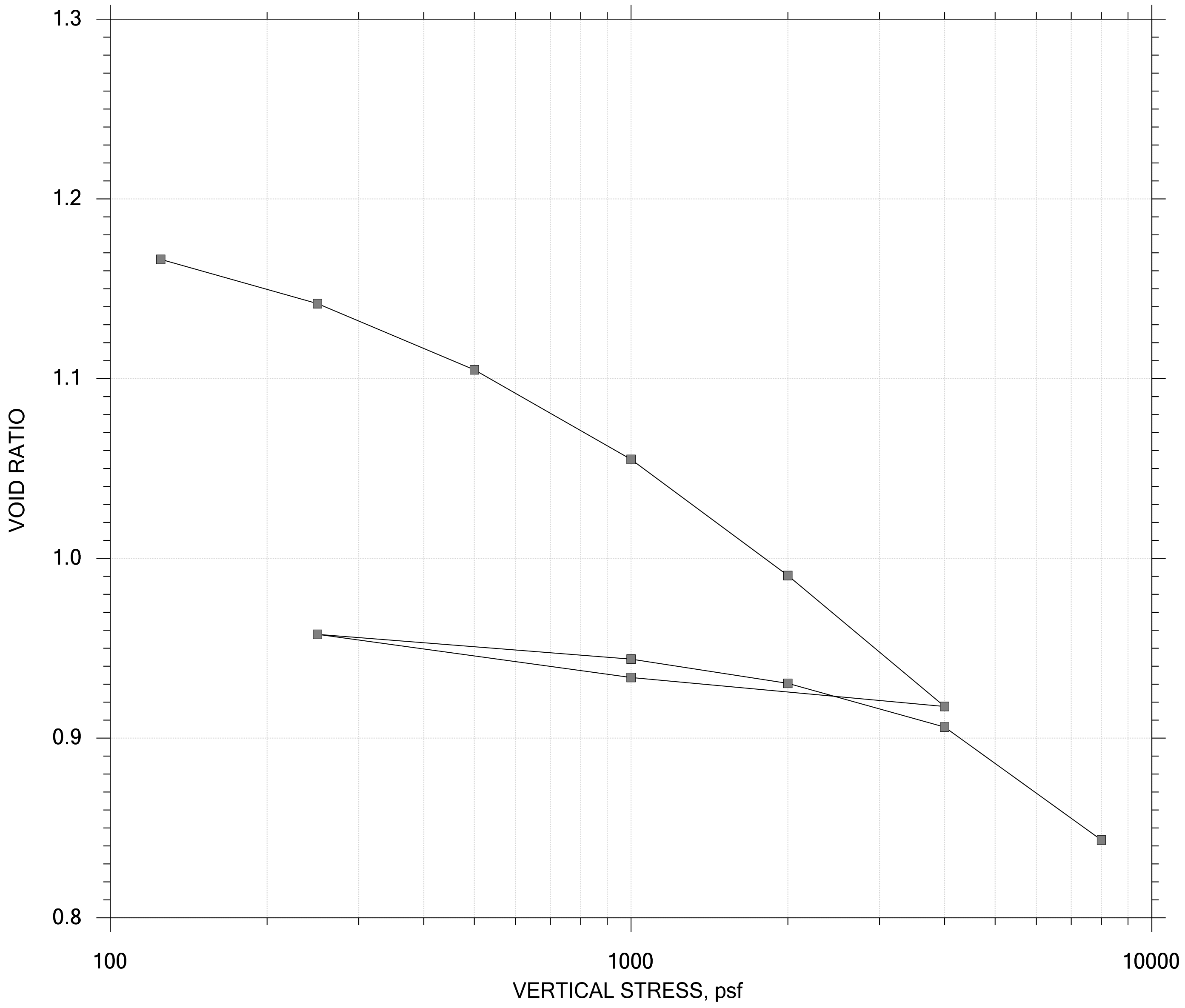


APS Engineering and Testing

Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
Boring No.: B-8	Tested By: SA	Checked By: SE
Sample No.: 9	Test Date: 7/28/17	Elevation: -3.80 ft
Depth: 16-18 ft	Sample Type: intact	
Description: Stiff Gray Lean Clay		
Displacement at End of Increment		

One-Dimensional Consolidation by ASTM D2435 - Method B

SUMMARY REPORT



APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-10	Tested By: SA	Checked By: SE
	Sample No.: 7	Test Date: 7/30/17	Elevation: -1.40 ft
	Depth: 12-14 ft	Sample Type: intact	
	Description: Very Soft Gray Fat Clay		
	Displacement at End of Increment		

One-Dimensional Consolidation by ASTM D2435 - Method B

Project: PO-169
Boring No.: B-10
Sample No.: 7

Location: Lake Saint Catherine
Tested By: SA
Test Date: 7/30/17
Sample Type: Intact

Project No.: APS1706-G038
Checked By: SE
Depth: 12-14 ft
Elevation: -1.40 ft

Soil Description: Very Soft Gray Fat Clay

Estimated Specific Gravity: 2.79
Initial Void Ratio: 1.19
Final Void Ratio: 0.843

Liquid Limit:55
Plastic Limit:16
Plasticity Index:39

Specimen Diameter: 2.50 in
Initial Height: 1.00 in
Final Height: 0.84 in

	Before Consolidation		After Consolidation	
	Trimmings	Specimen+Ring	Specimen+Ring	Trimmings
Container ID	sh7	RING	sh6	sh6
Wt. Container + Wet Soil, gm	67.930	153.24	141.60	141.60
Wt. Container + Dry Soil, gm	50.470	110.60	110.60	110.60
Wt. Container, gm	8.1700	8.1800	8.1800	8.1800
Wt. Dry Soil, gm	42.300	102.42	102.42	102.42
Water Content, %	41.28	41.63	30.27	30.27
Void Ratio	---	1.19	0.843	---
Degree of Saturation, %	---	97.62	100.00	---
Dry Unit Weight, pcf	---	79.486	94.359	---

Note: Specific Gravity and Void Ratios are calculated assuming the degree of saturation equals 100% at the end of the test. Therefore, values may not represent actual values for the specimen.

One-Dimensional Consolidation by ASTM D2435 - Method B

Project: PO-169
Boring No.: B-10
Sample No.: 7

Location: Lake Saint Catherine
Tested By: SA
Test Date: 7/30/17
Sample Type: Intact

Project No.: APS1706-G038
Checked By: SE
Depth: 12-14 ft
Elevation: -1.40 ft

Soil Description: Very Soft Gray Fat Clay

Displacement at End of Increment

	Applied Stress psf	Final Displacement in	Void Ratio	Strain at End %	Sq.Rt T90 min	Cv ft^2/sec	Mv 1/psf	k cm/sec
1	125.	0.009948	1.17	0.995	10.788	2.25e-006	7.96e-005	3.41e-007
2	250.	0.02118	1.14	2.12	8.079	2.94e-006	8.99e-005	5.03e-007
3	500.	0.03804	1.10	3.80	8.549	2.70e-006	6.74e-005	3.47e-007
4	1.00e+003	0.06082	1.06	6.08	6.544	3.39e-006	4.56e-005	2.94e-007
5	2.00e+003	0.09035	0.990	9.04	6.191	3.39e-006	2.95e-005	1.90e-007
6	4.00e+003	0.1236	0.918	12.4	4.566	4.29e-006	1.66e-005	1.36e-007
7	1.00e+003	0.1163	0.934	11.6	1.243	1.53e-005	2.46e-006	7.15e-008
8	250.	0.1053	0.958	10.5	5.647	3.44e-006	1.46e-005	9.57e-008
9	1.00e+003	0.1116	0.944	11.2	1.239	1.57e-005	8.38e-006	2.51e-007
10	2.00e+003	0.1178	0.930	11.8	1.469	1.31e-005	6.19e-006	1.54e-007
11	4.00e+003	0.1289	0.906	12.9	2.843	6.63e-006	5.54e-006	6.99e-008
12	8.00e+003	0.1576	0.843	15.8	3.592	5.01e-006	7.19e-006	6.86e-008

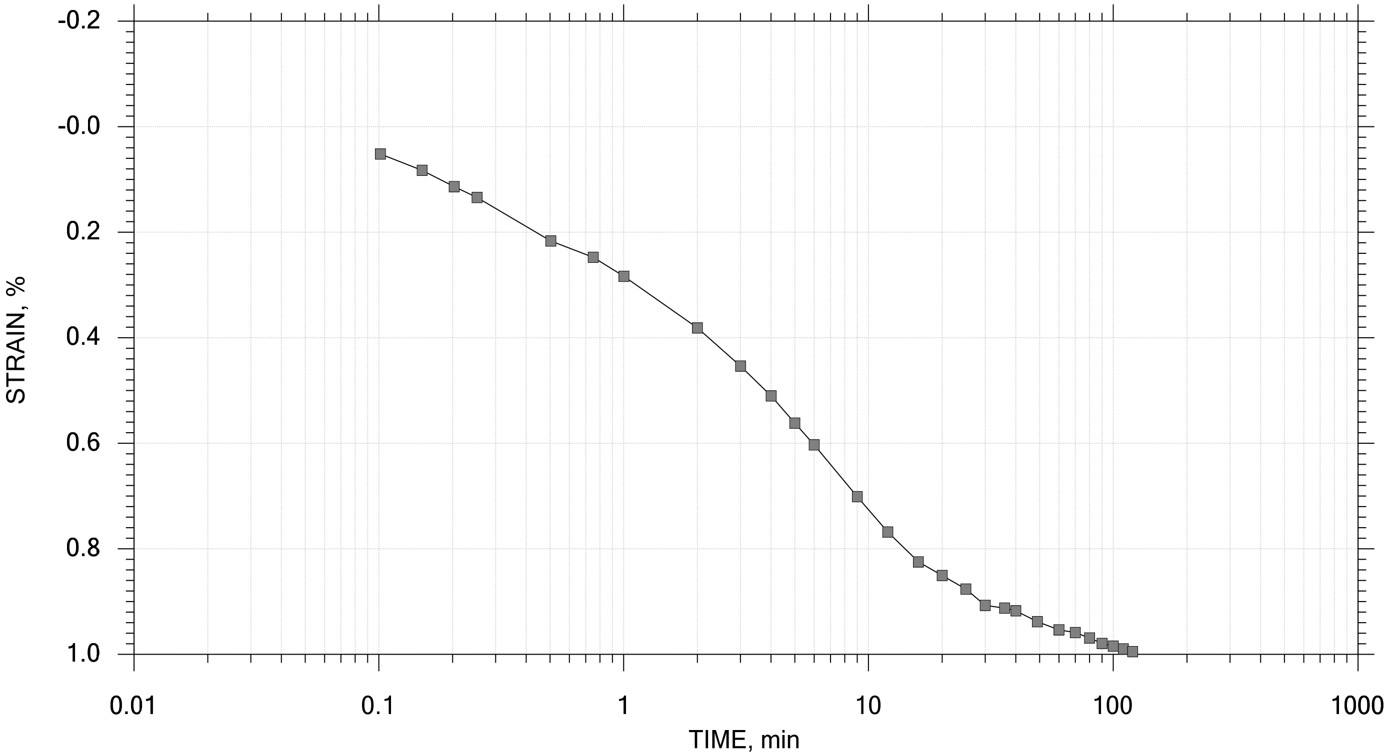
	Applied Stress psf	Final Displacement in	Void Ratio	Strain at End %	Log T50 min	Cv ft^2/sec	Mv 1/psf	k cm/sec	Ca %
1	125.	0.009948	1.17	0.995	3.814	1.48e-006	7.96e-005	2.24e-007	0.00e+000
2	250.	0.02118	1.14	2.12	2.212	2.50e-006	8.99e-005	4.27e-007	0.00e+000
3	500.	0.03804	1.10	3.80	2.200	2.44e-006	6.74e-005	3.13e-007	0.00e+000
4	1.00e+003	0.06082	1.06	6.08	2.131	2.42e-006	4.56e-005	2.10e-007	0.00e+000
5	2.00e+003	0.09035	0.990	9.04	1.731	2.81e-006	2.95e-005	1.58e-007	0.00e+000
6	4.00e+003	0.1236	0.918	12.4	1.519	2.99e-006	1.66e-005	9.48e-008	0.00e+000
7	1.00e+003	0.1163	0.934	11.6	0.000	0.00e+000	2.46e-006	0.00e+000	0.00e+000
8	250.	0.1053	0.958	10.5	1.850	2.44e-006	1.46e-005	6.79e-008	0.00e+000
9	1.00e+003	0.1116	0.944	11.2	0.000	0.00e+000	8.38e-006	0.00e+000	0.00e+000
10	2.00e+003	0.1178	0.930	11.8	0.336	1.33e-005	6.19e-006	1.56e-007	0.00e+000
11	4.00e+003	0.1289	0.906	12.9	0.301	1.46e-005	5.54e-006	1.54e-007	0.00e+000
12	8.00e+003	0.1576	0.843	15.8	0.731	5.73e-006	7.19e-006	7.83e-008	0.00e+000

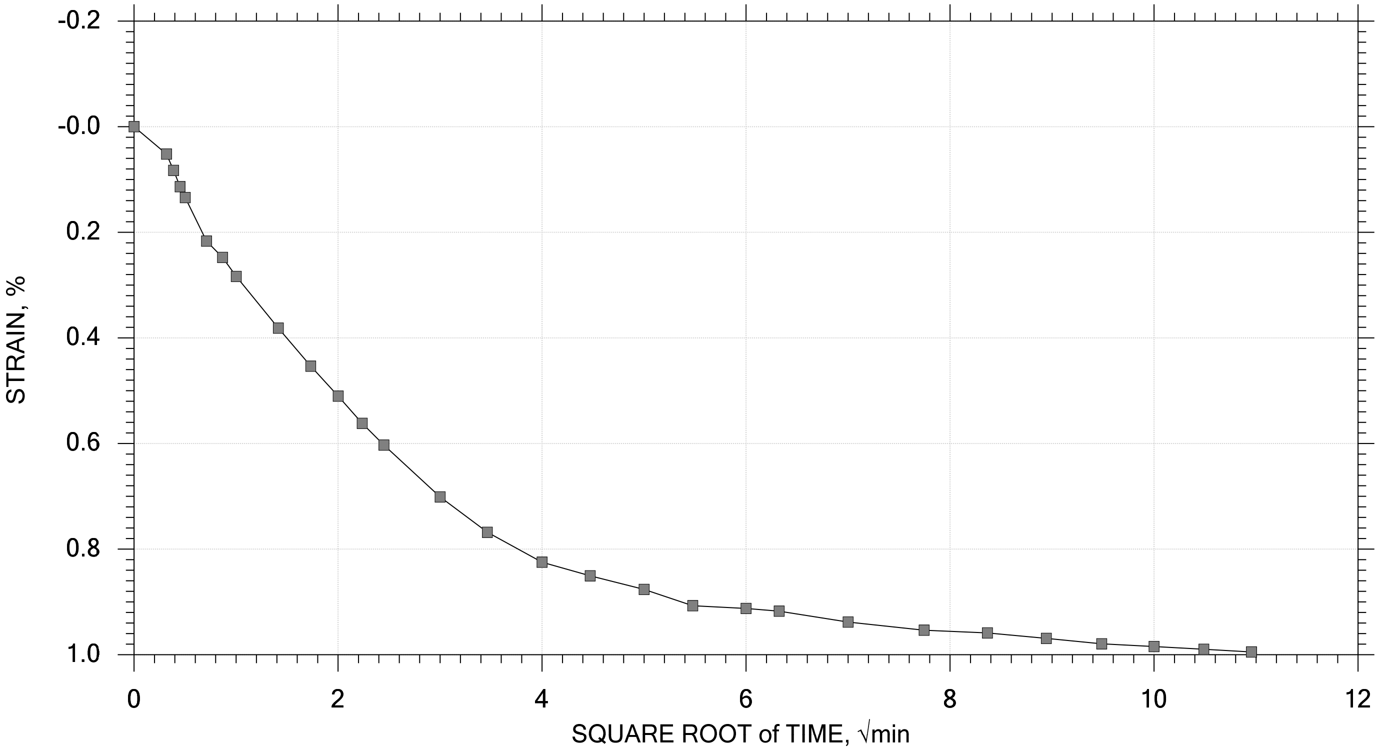
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 1 of 12

Stress: 125 psf





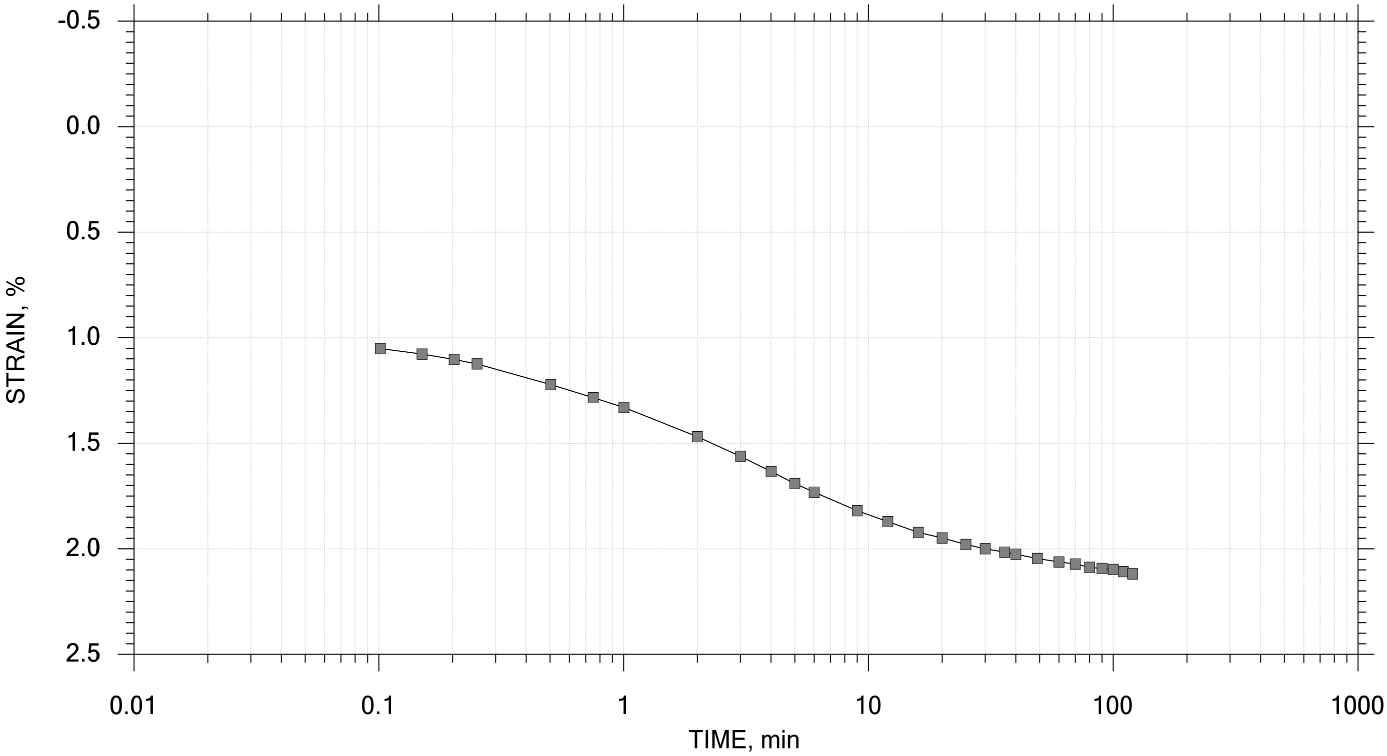
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-10	Tested By: SA	Checked By: SE
	Sample No.: 7	Test Date: 7/30/17	Elevation: -1.40 ft
	Depth: 12-14 ft	Sample Type: intact	
	Description: Very Soft Gray Fat Clay		
	Displacement at End of Increment		

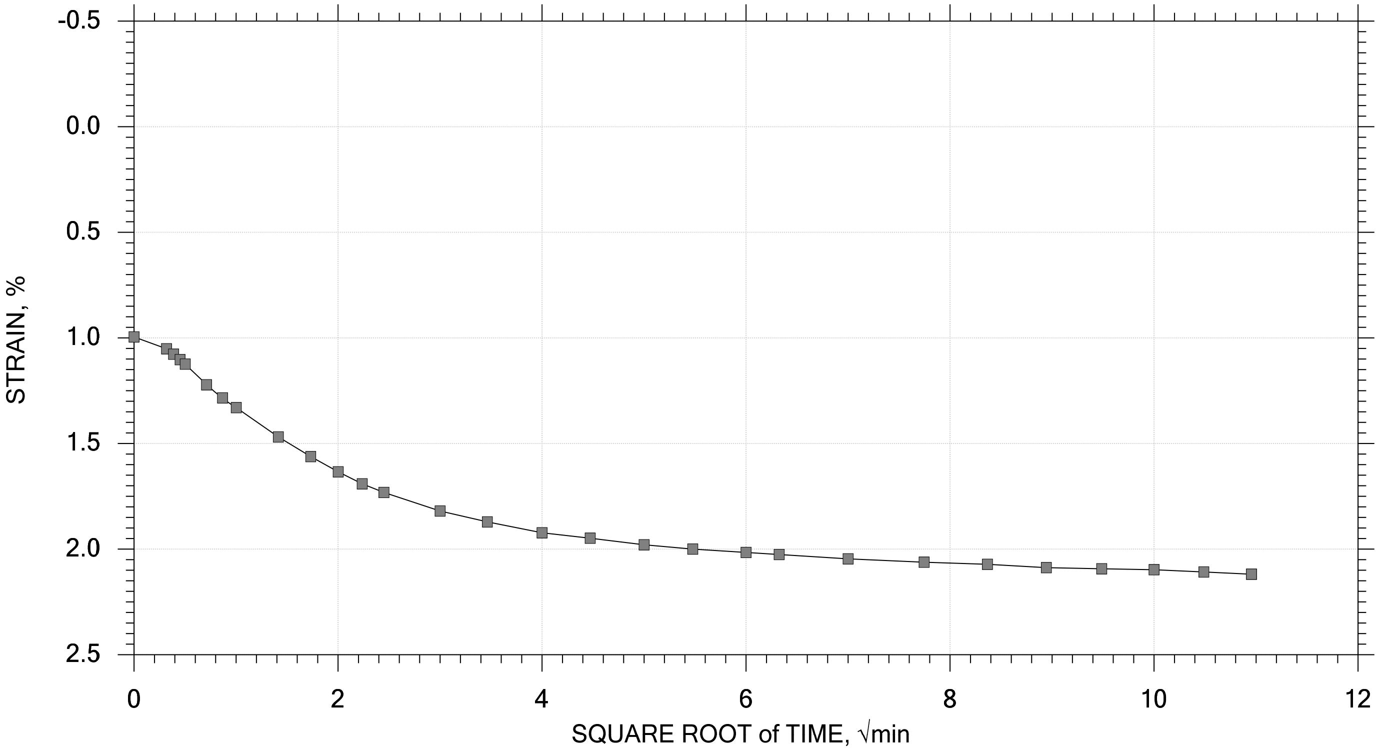
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 2 of 12

Stress: 250 psf





APS Engineering and Testing

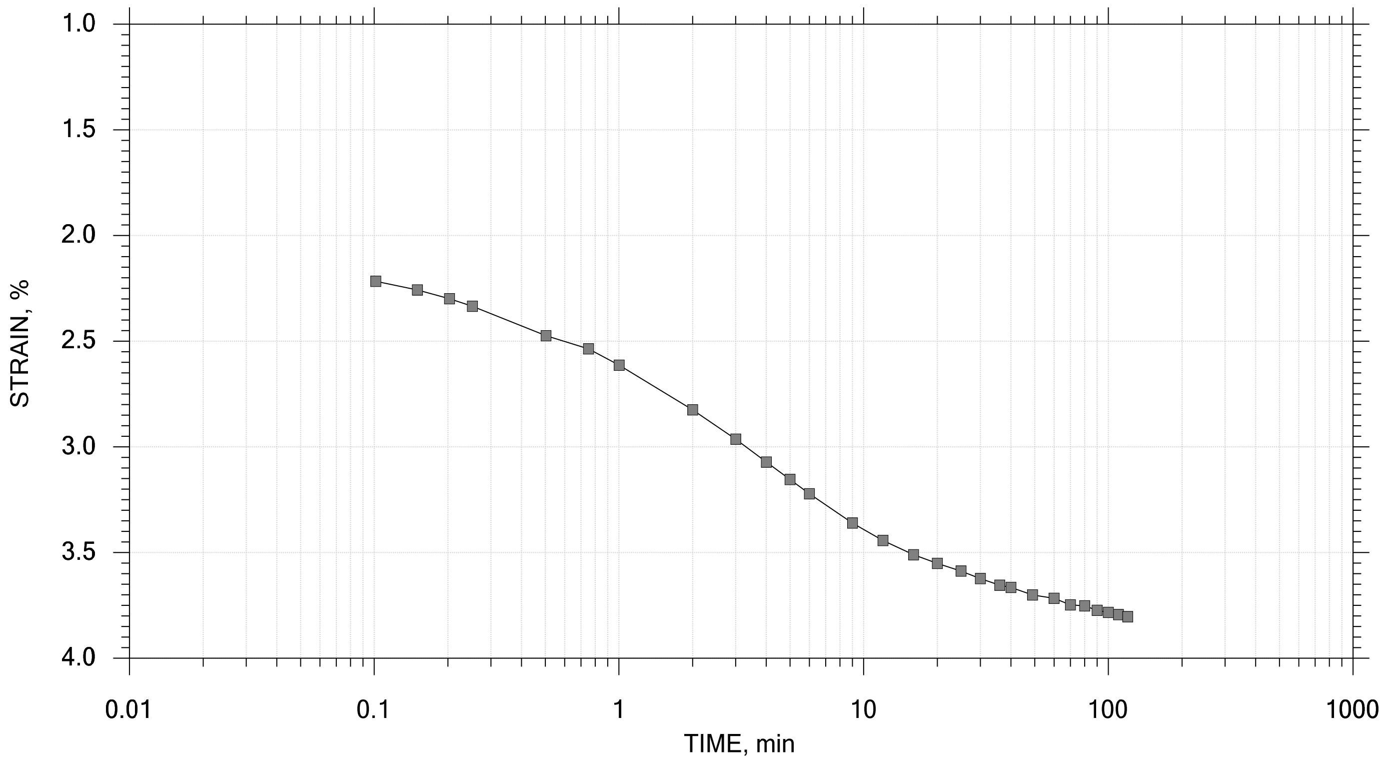
Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
Boring No.: B-10	Tested By: SA	Checked By: SE
Sample No.: 7	Test Date: 7/30/17	Elevation: -1.40 ft
Depth: 12-14 ft	Sample Type: intact	
Description: Very Soft Gray Fat Clay		
Displacement at End of Increment		

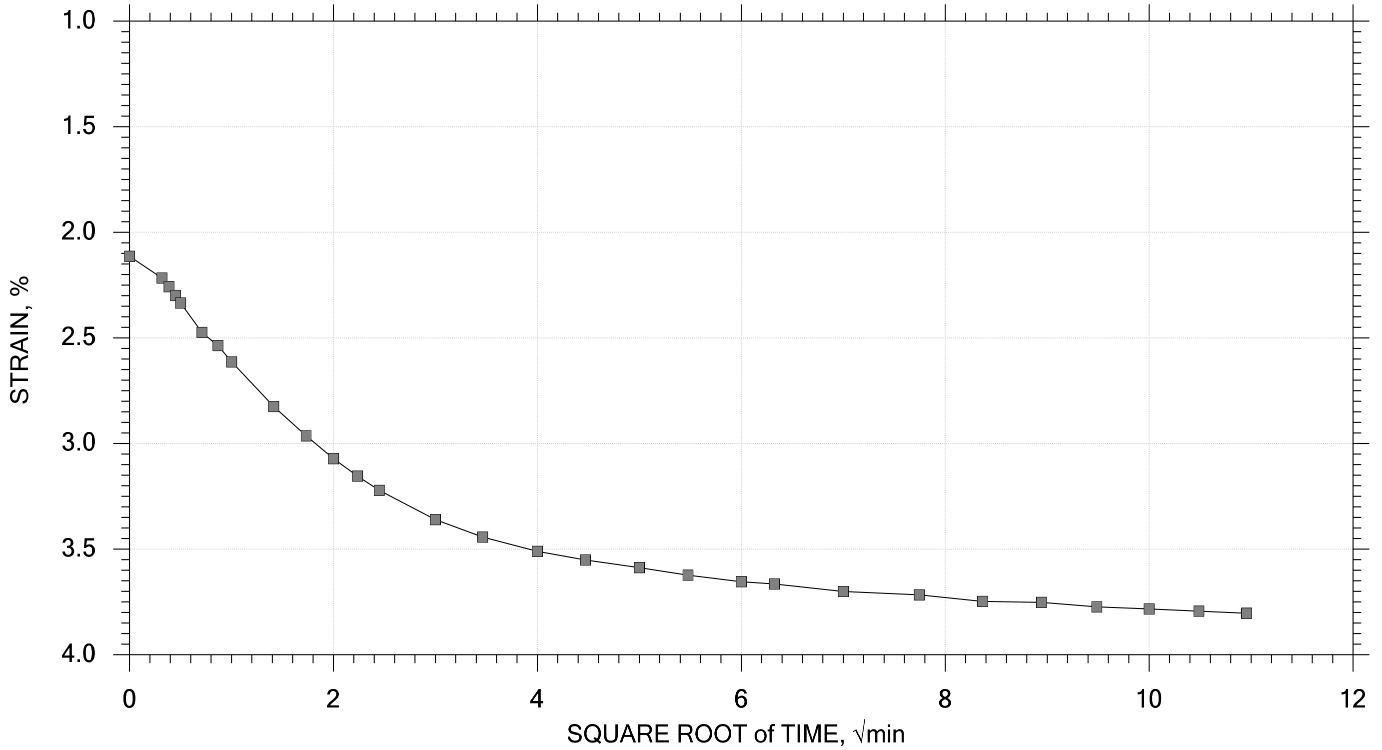
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 3 of 12

Stress: 500 psf





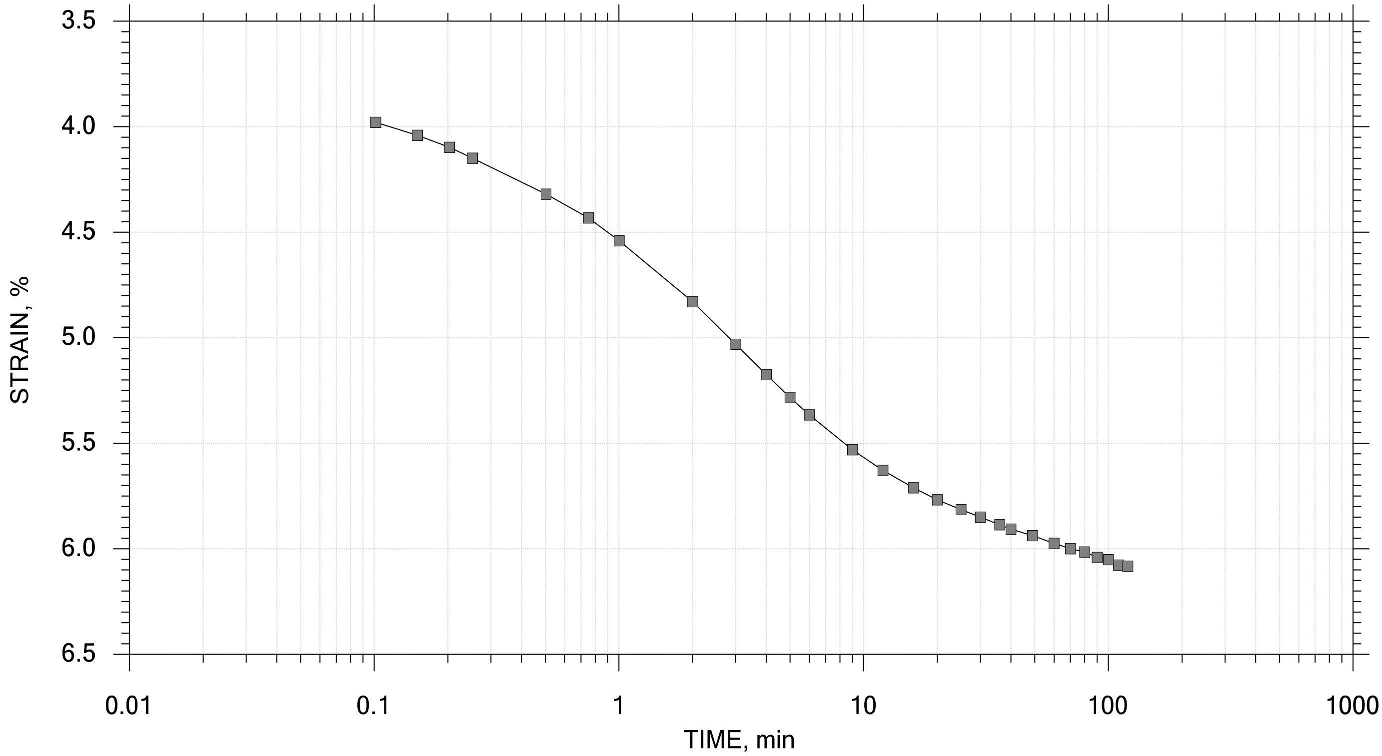
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-10	Tested By: SA	Checked By: SE
	Sample No.: 7	Test Date: 7/30/17	Elevation: -1.40 ft
	Depth: 12-14 ft	Sample Type: intact	
	Description: Very Soft Gray Fat Clay		
	Displacement at End of Increment		

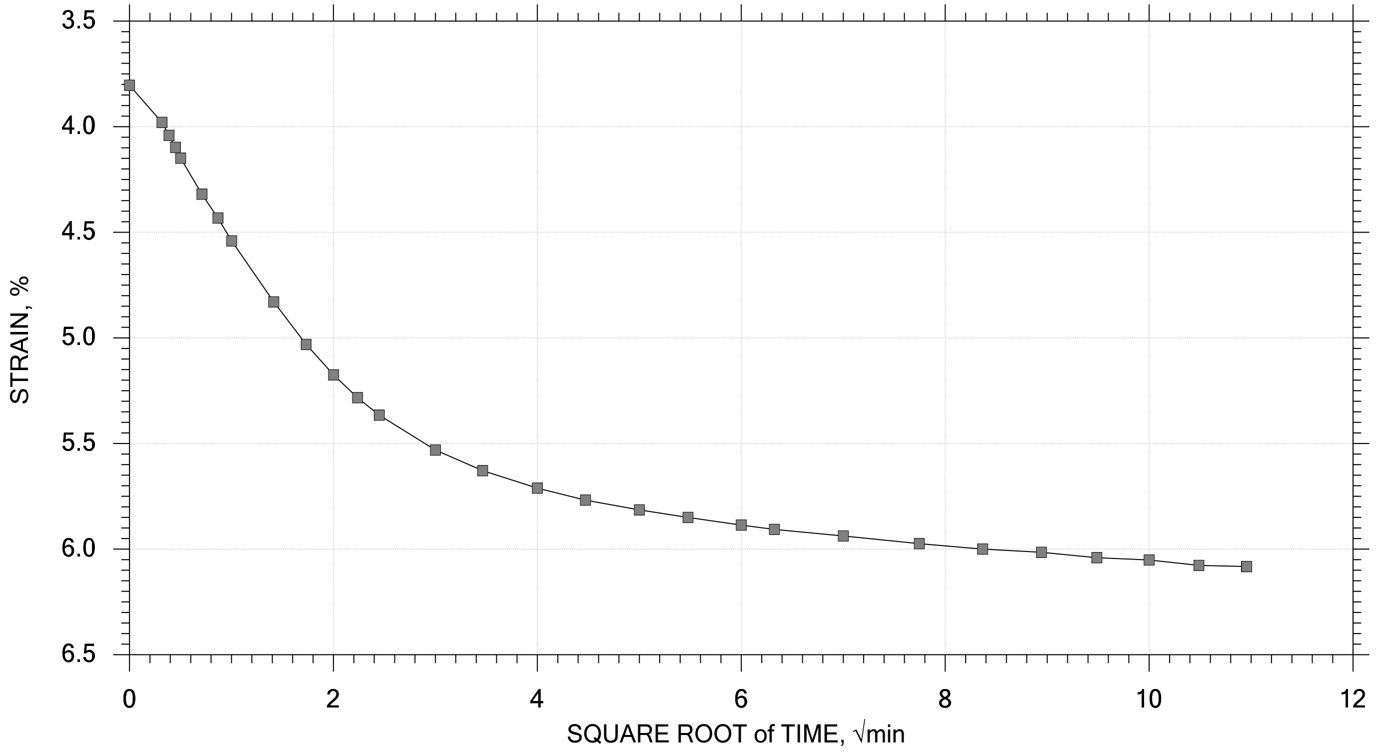
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 4 of 12

Stress: 1000 psf





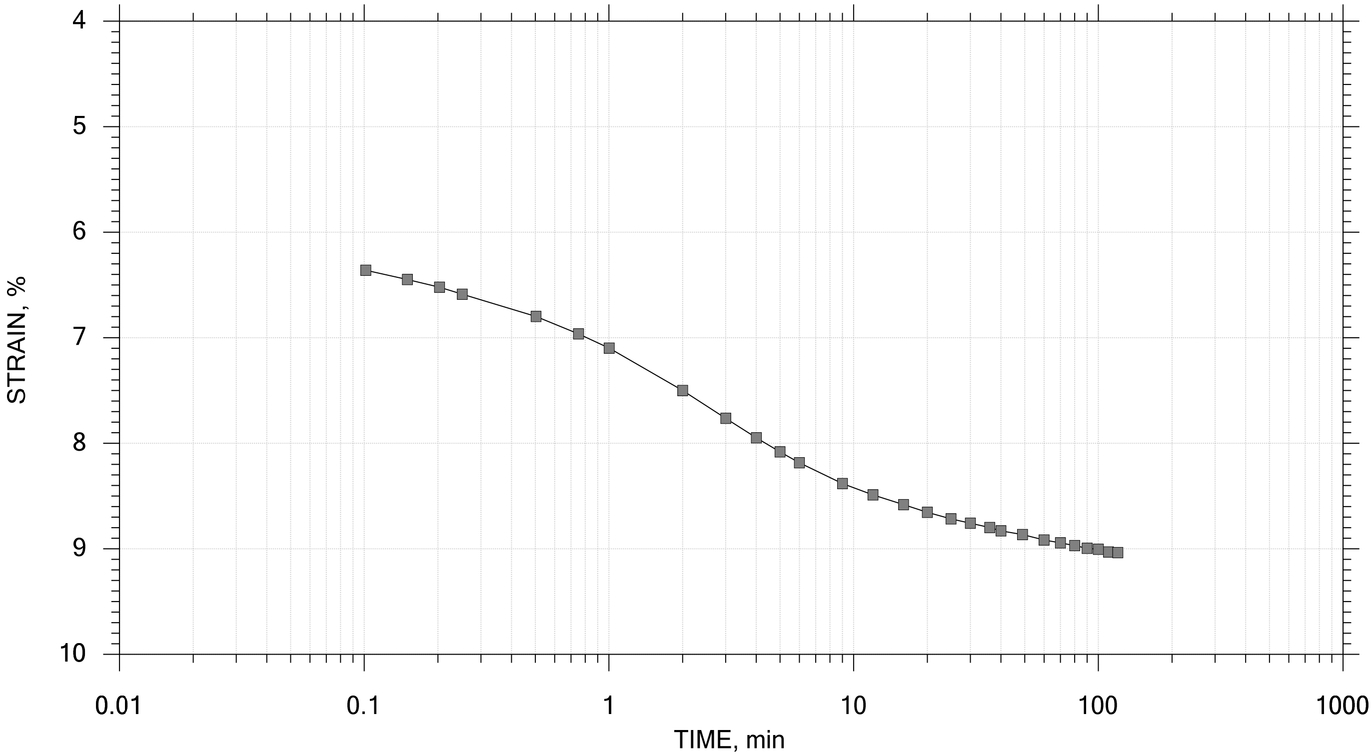
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-10	Tested By: SA	Checked By: SE
	Sample No.: 7	Test Date: 7/30/17	Elevation: -1.40 ft
	Depth: 12-14 ft	Sample Type: intact	
	Description: Very Soft Gray Fat Clay		
	Displacement at End of Increment		

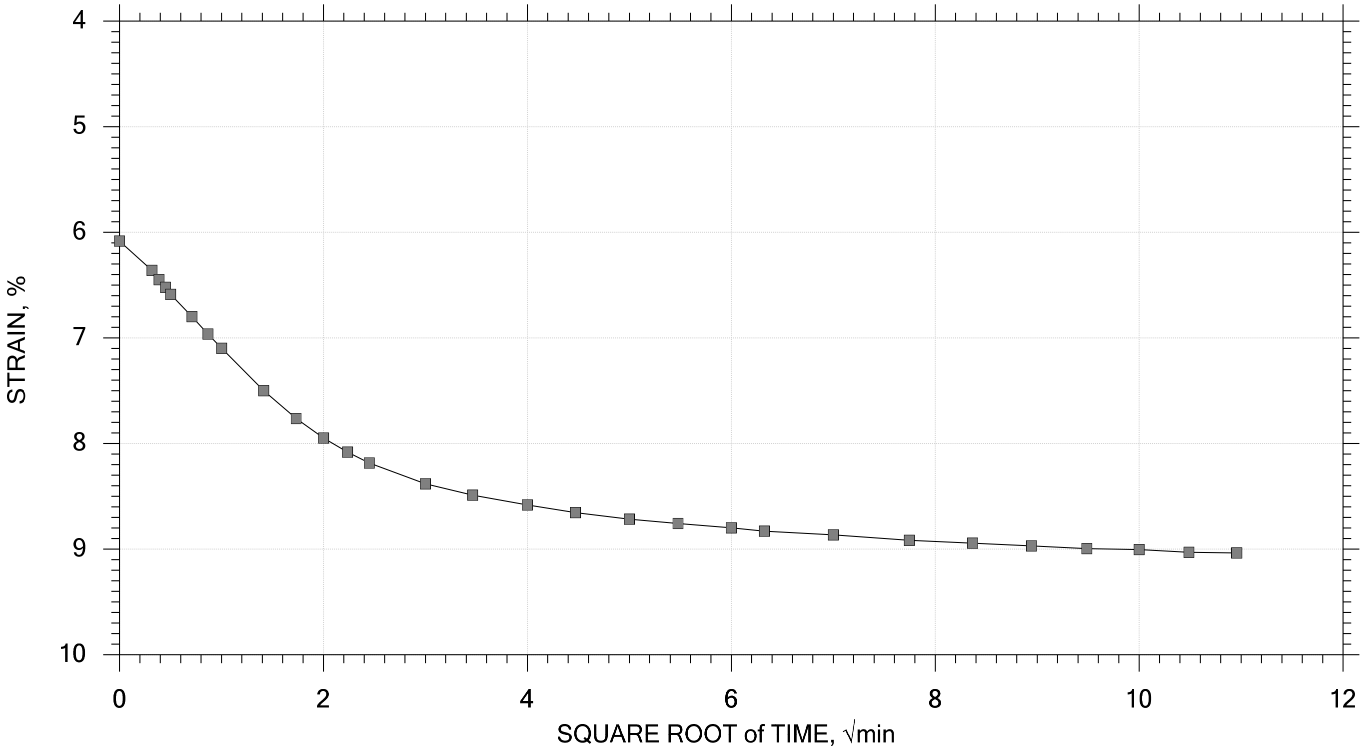
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 5 of 12

Stress: 2000 psf





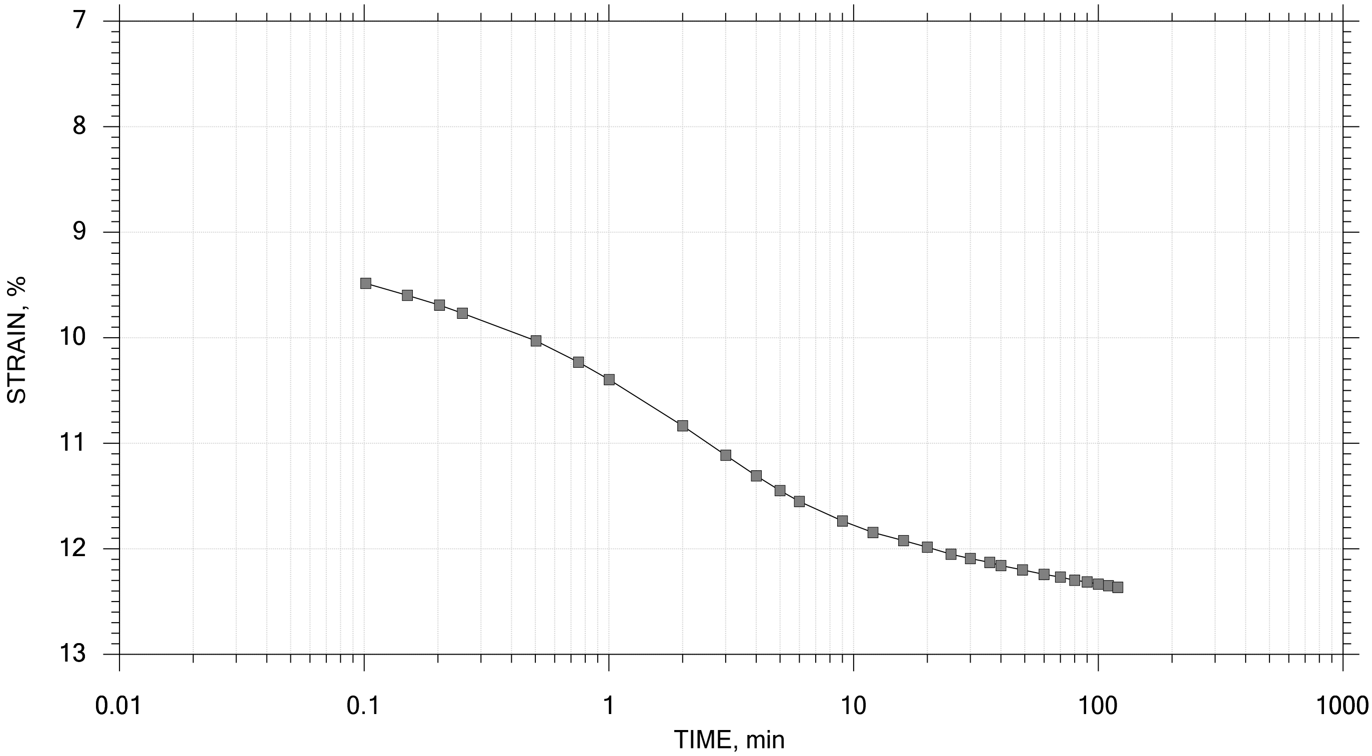
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-10	Tested By: SA	Checked By: SE
	Sample No.: 7	Test Date: 7/30/17	Elevation: -1.40 ft
	Depth: 12-14 ft	Sample Type: intact	
	Description: Very Soft Gray Fat Clay		
	Displacement at End of Increment		

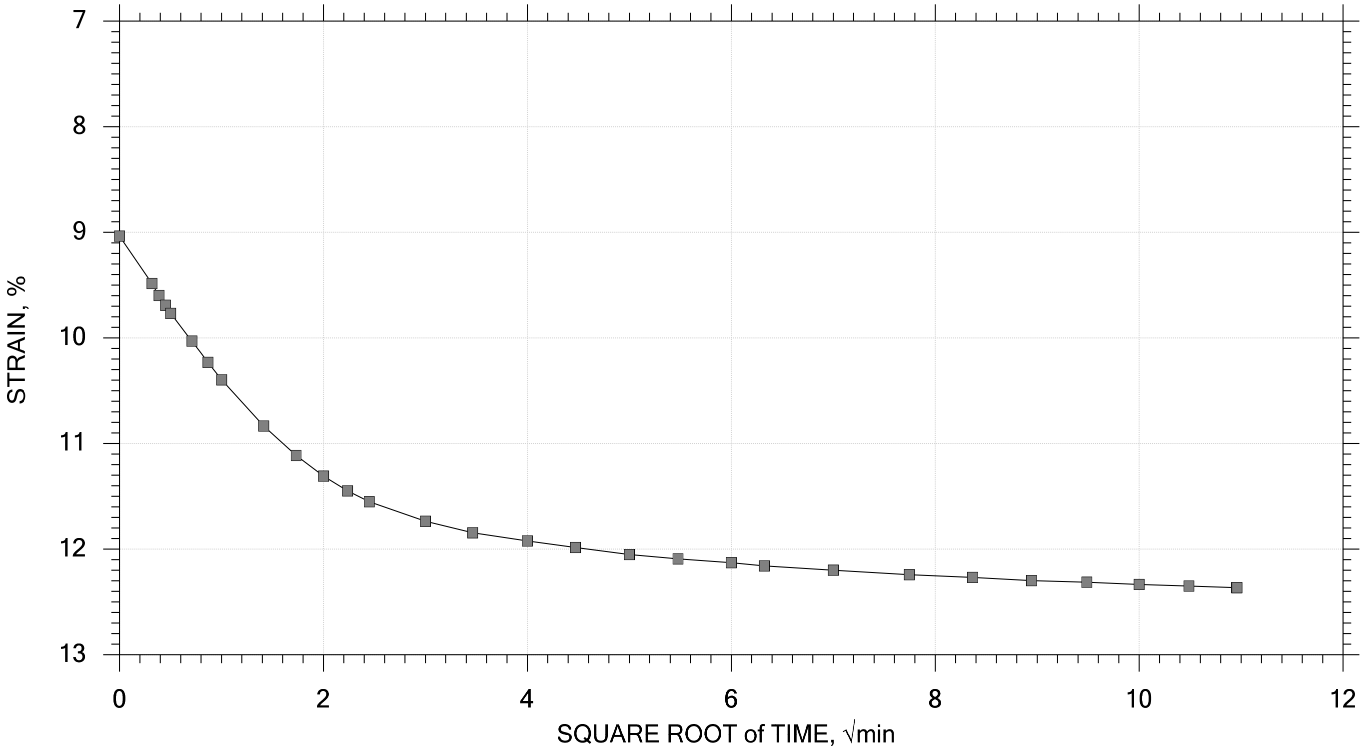
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 6 of 12

Stress: 4000 psf





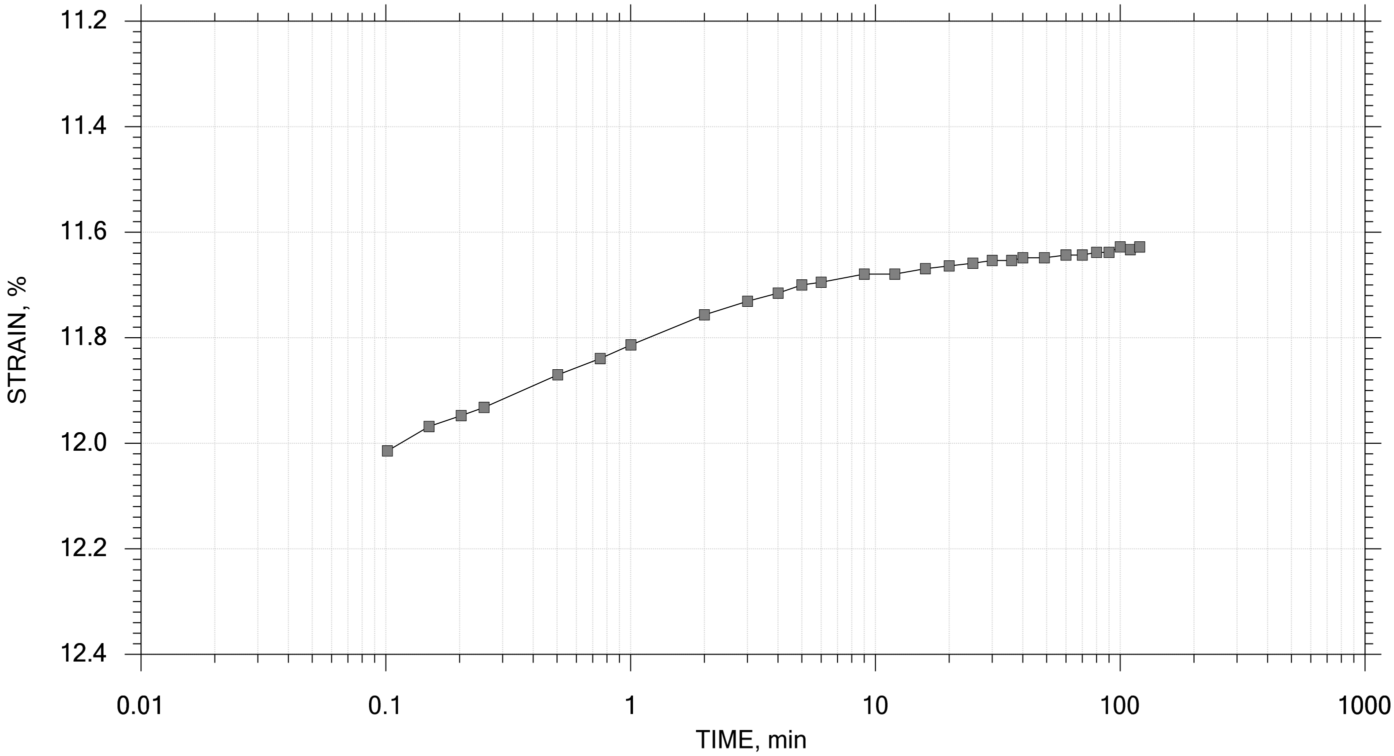
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-10	Tested By: SA	Checked By: SE
	Sample No.: 7	Test Date: 7/30/17	Elevation: -1.40 ft
	Depth: 12-14 ft	Sample Type: intact	
	Description: Very Soft Gray Fat Clay		
	Displacement at End of Increment		

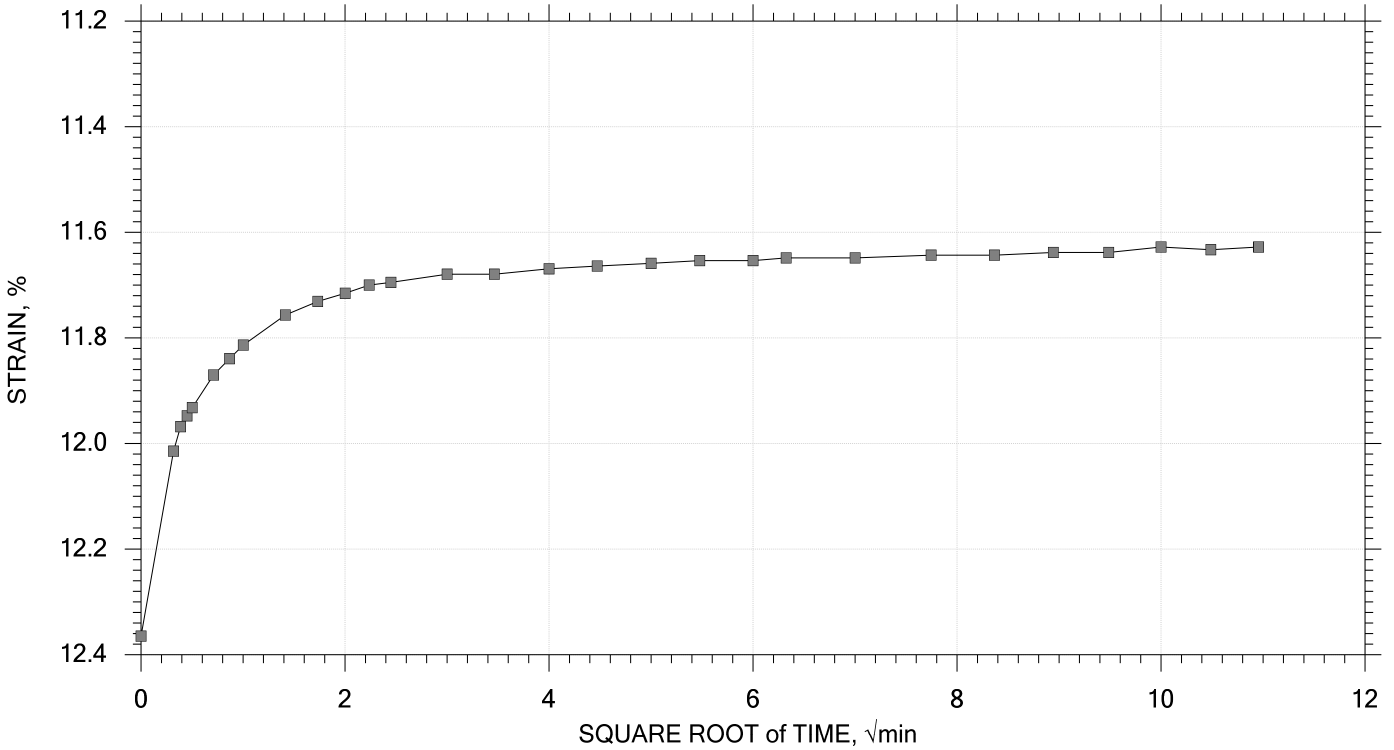
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 7 of 12

Stress: 1000 psf





Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
Boring No.: B-10	Tested By: SA	Checked By: SE
Sample No.: 7	Test Date: 7/30/17	Elevation: -1.40 ft
Depth: 12-14 ft	Sample Type: intact	
Description: Very Soft Gray Fat Clay		
Displacement at End of Increment		

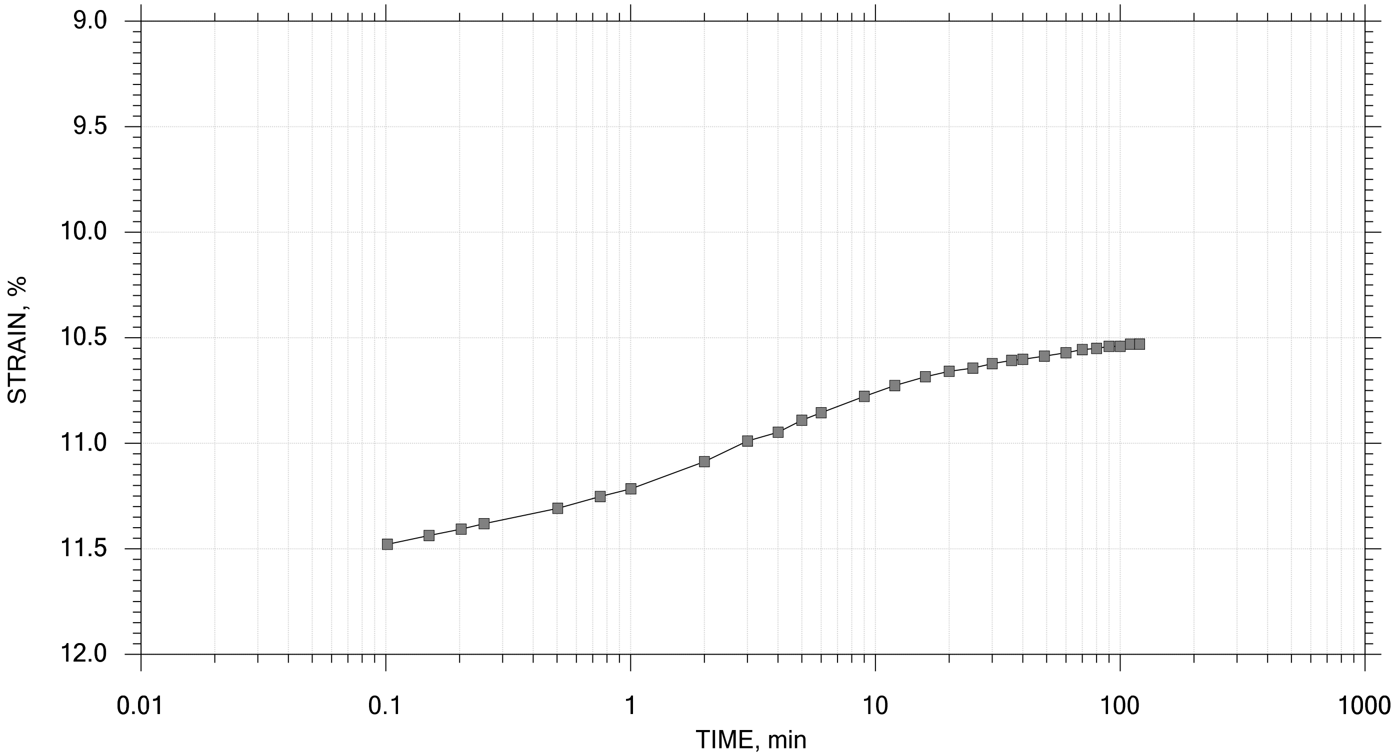
APS Engineering and Testing

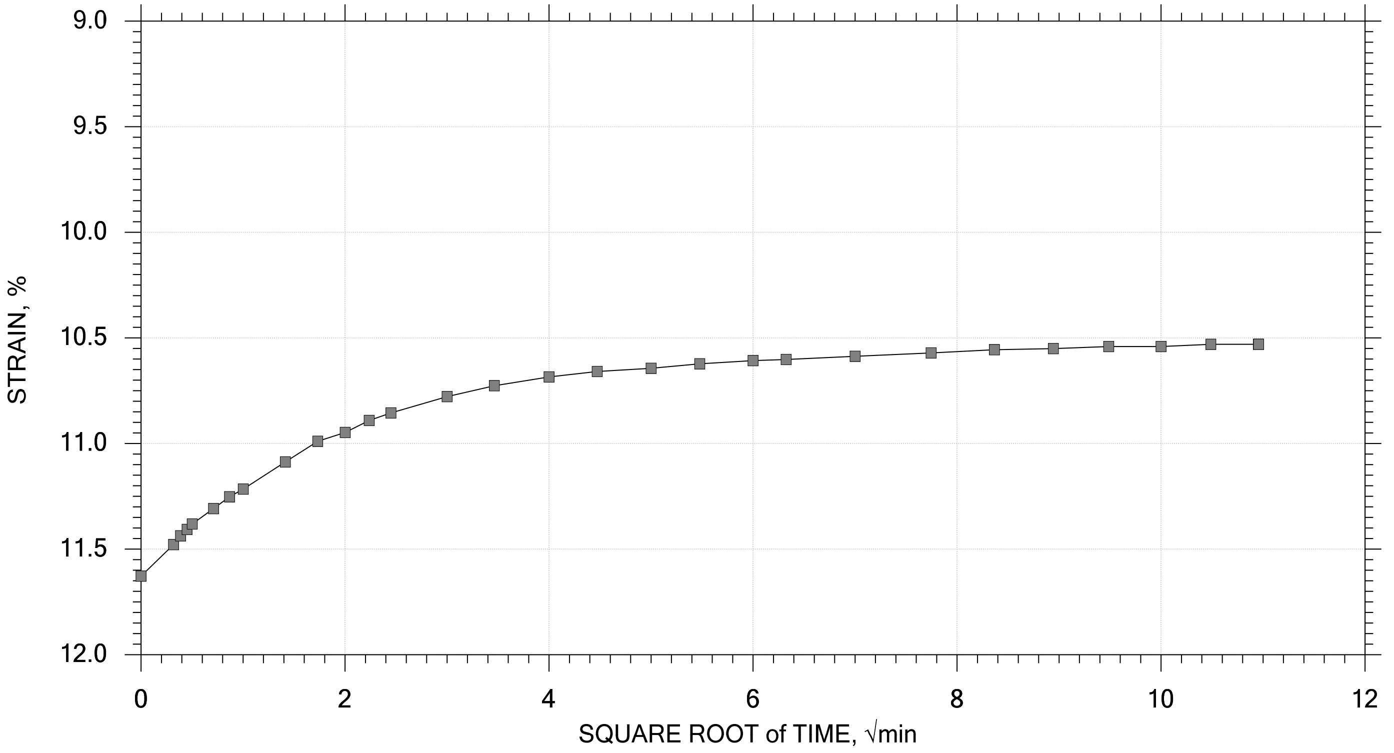
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 8 of 12

Stress: 250 psf





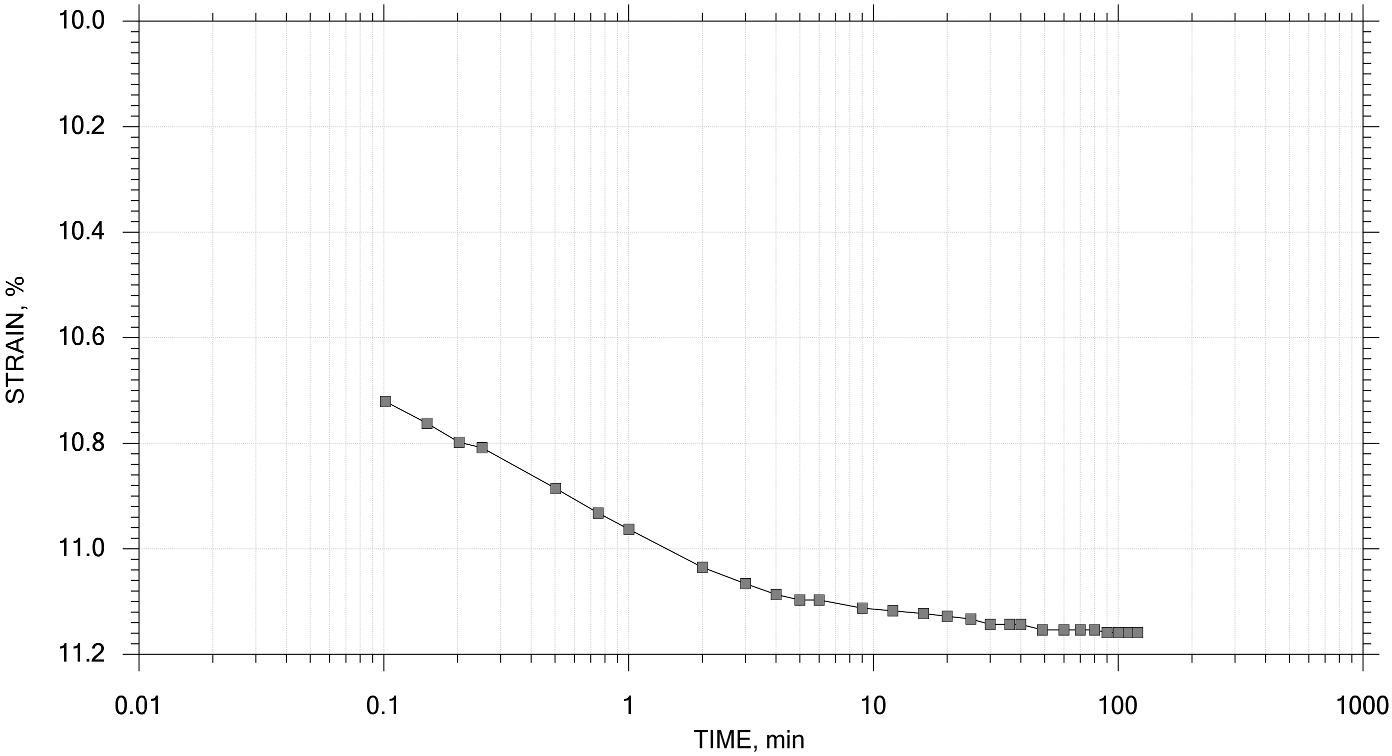
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-10	Tested By: SA	Checked By: SE
	Sample No.: 7	Test Date: 7/30/17	Elevation: -1.40 ft
	Depth: 12-14 ft	Sample Type: intact	
	Description: Very Soft Gray Fat Clay		
	Displacement at End of Increment		

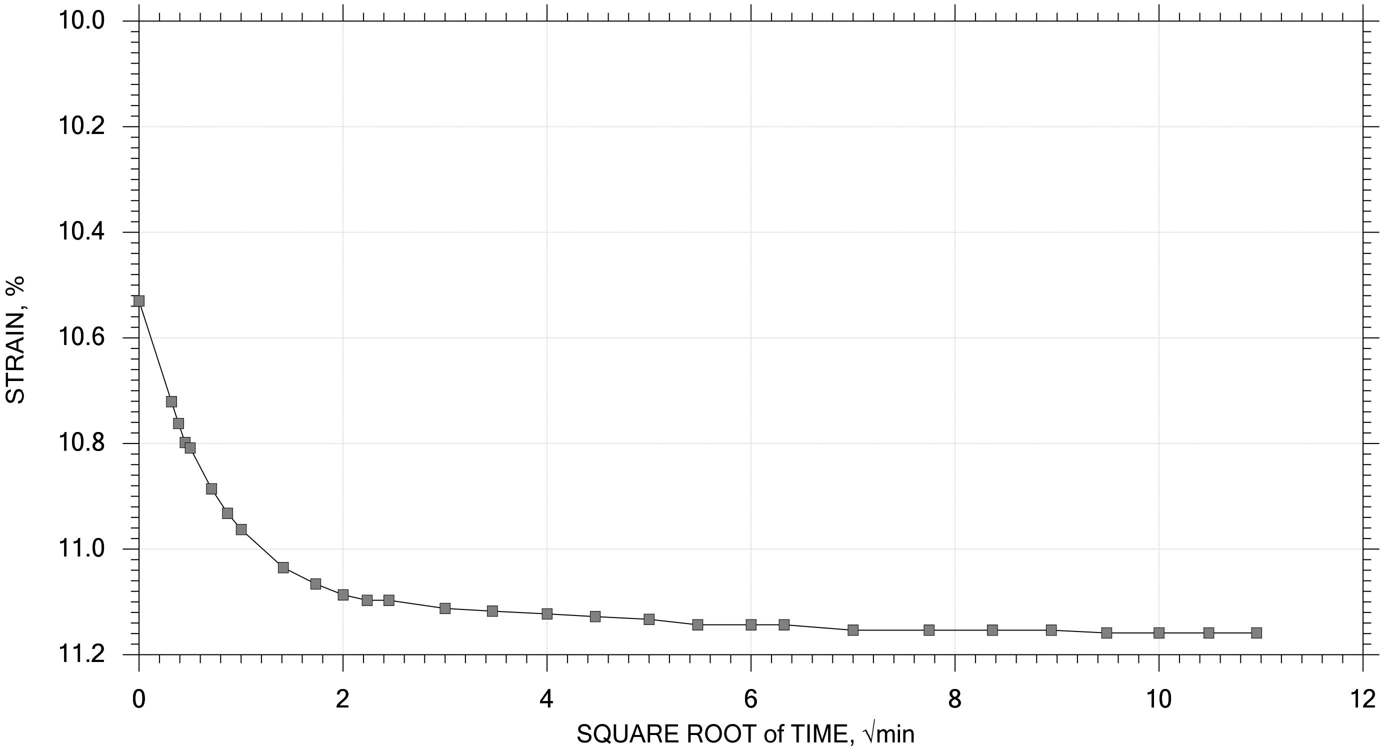
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 9 of 12

Stress: 1000 psf





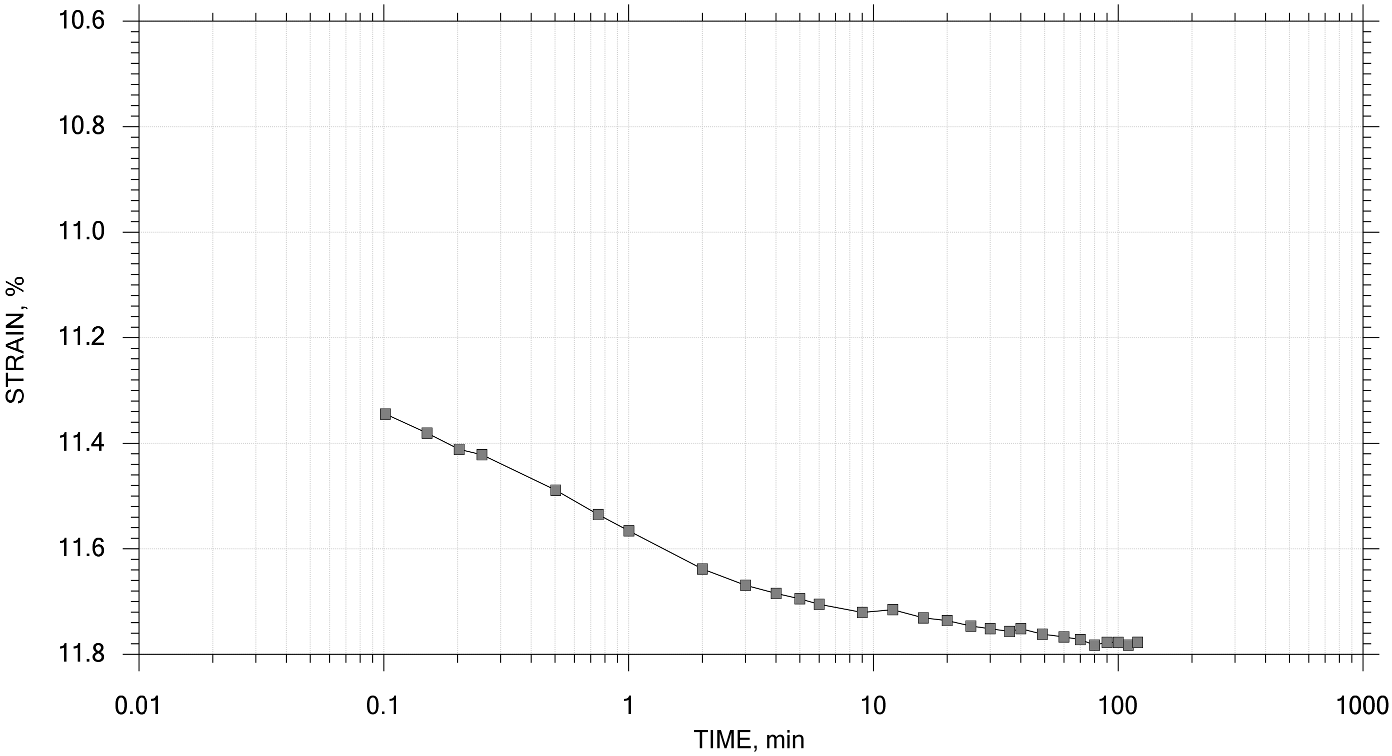
APS Engineering and Testing			
	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-10	Tested By: SA	Checked By: SE
	Sample No.: 7	Test Date: 7/30/17	Elevation: -1.40 ft
	Depth: 12-14 ft	Sample Type: intact	
	Description: Very Soft Gray Fat Clay		
	Displacement at End of Increment		

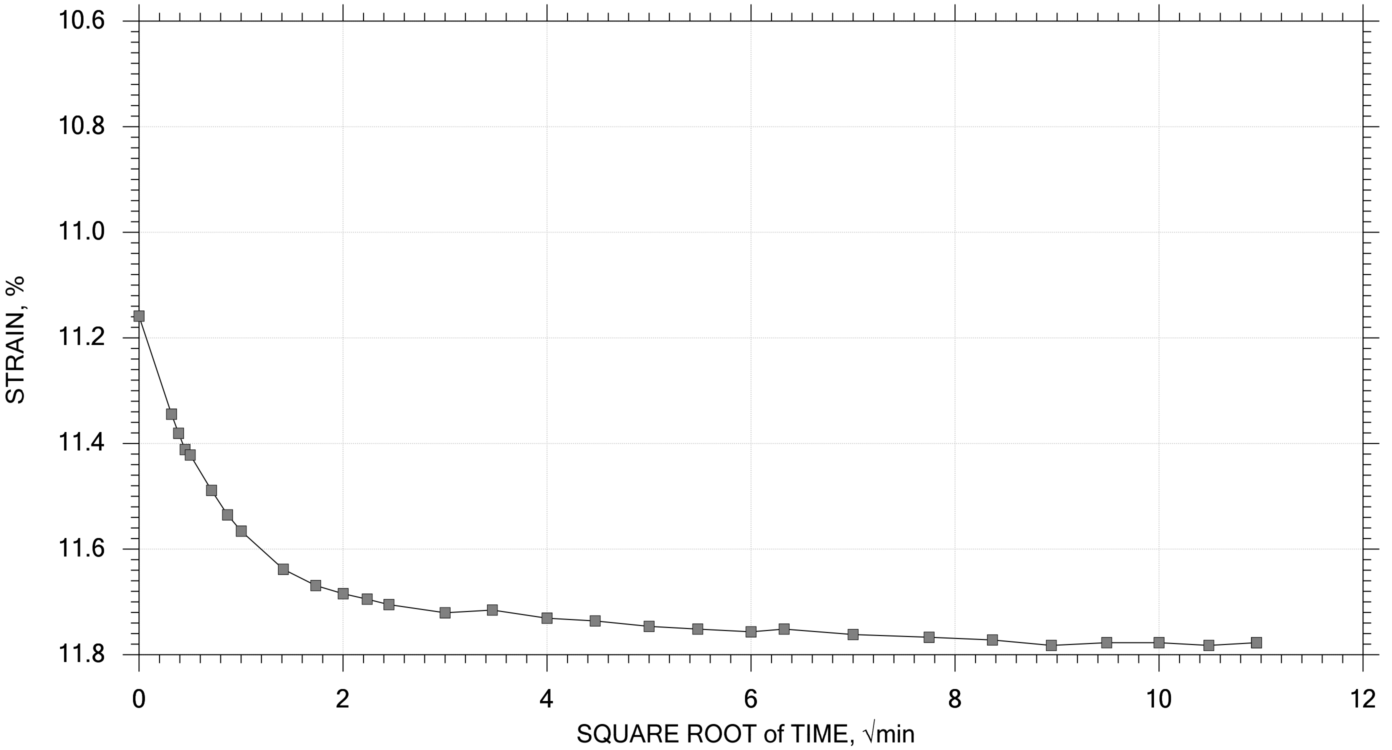
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 10 of 12

Stress: 2000 psf





APS Engineering and Testing

Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
Boring No.: B-10	Tested By: SA	Checked By: SE
Sample No.: 7	Test Date: 7/30/17	Elevation: -1.40 ft
Depth: 12-14 ft	Sample Type: intact	

Description: Very Soft Gray Fat Clay

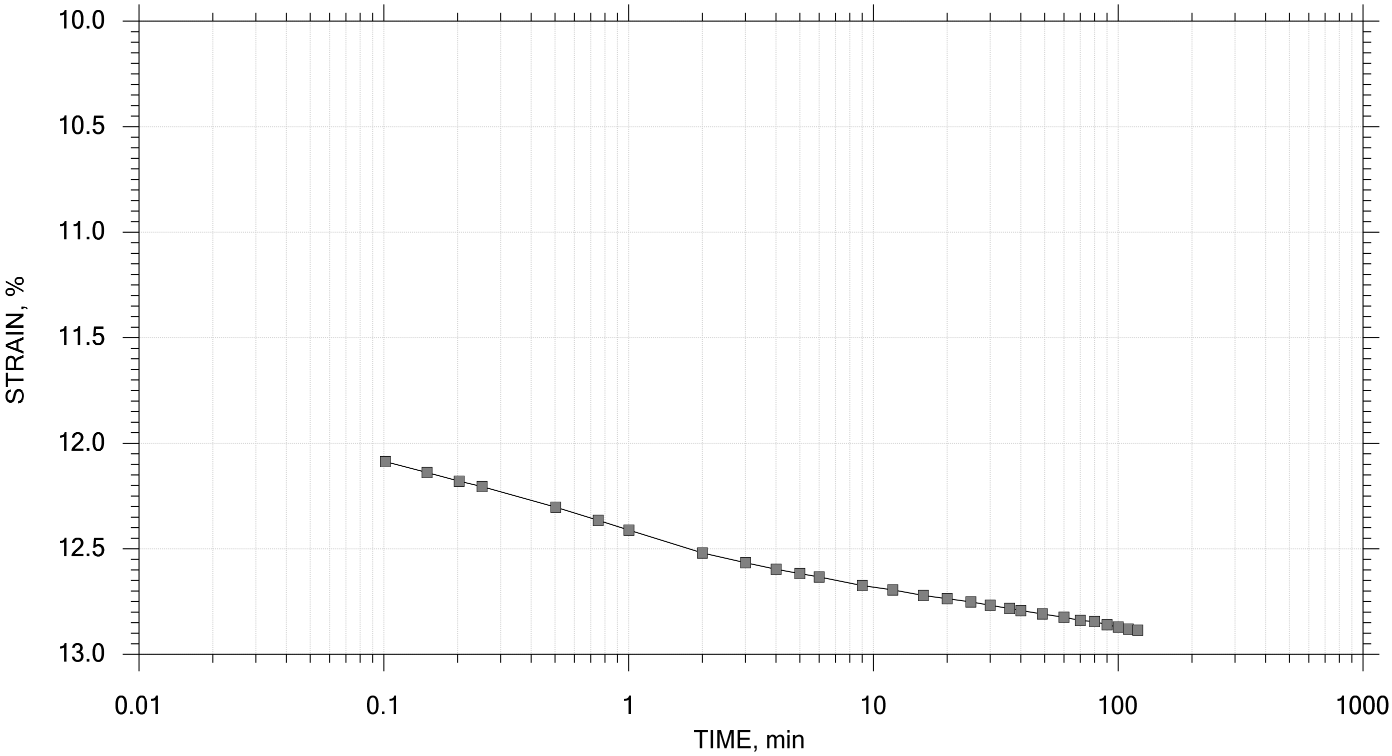
Displacement at End of Increment

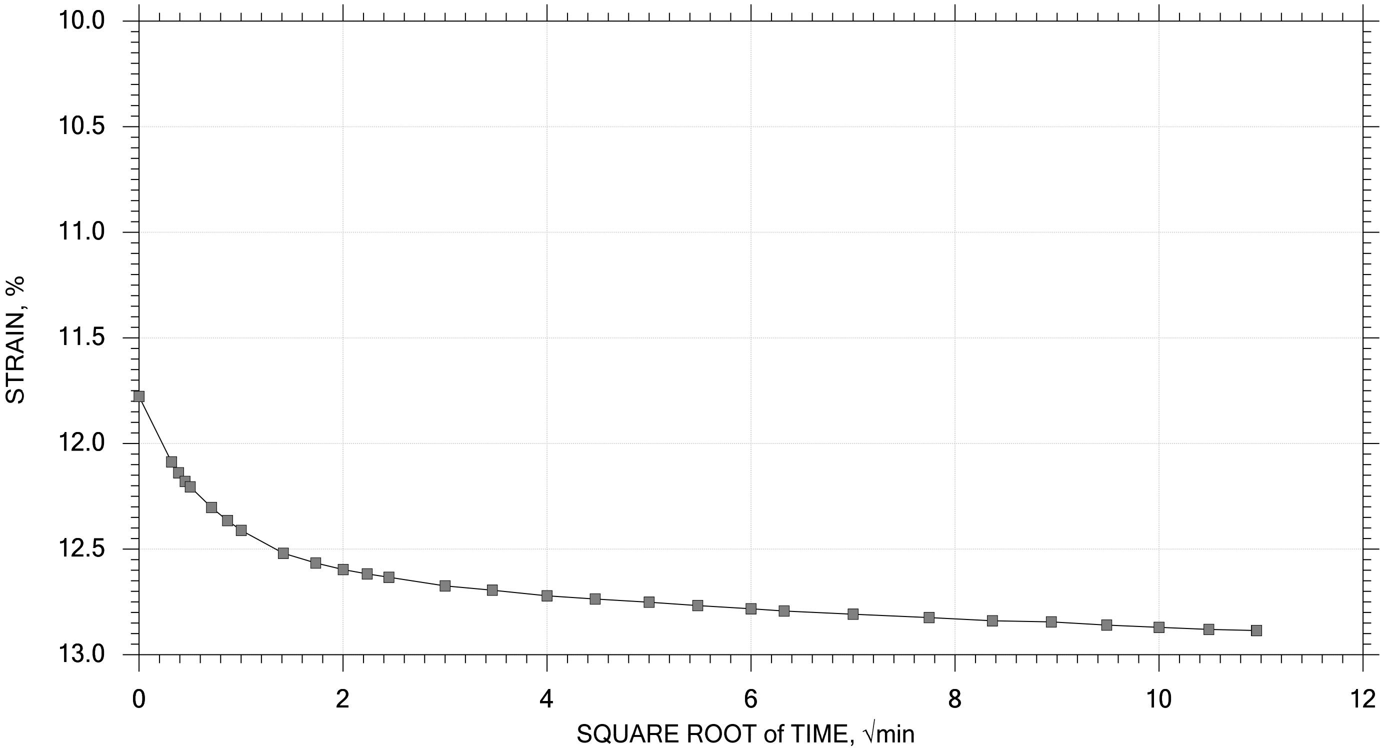
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 11 of 12

Stress: 4000 psf





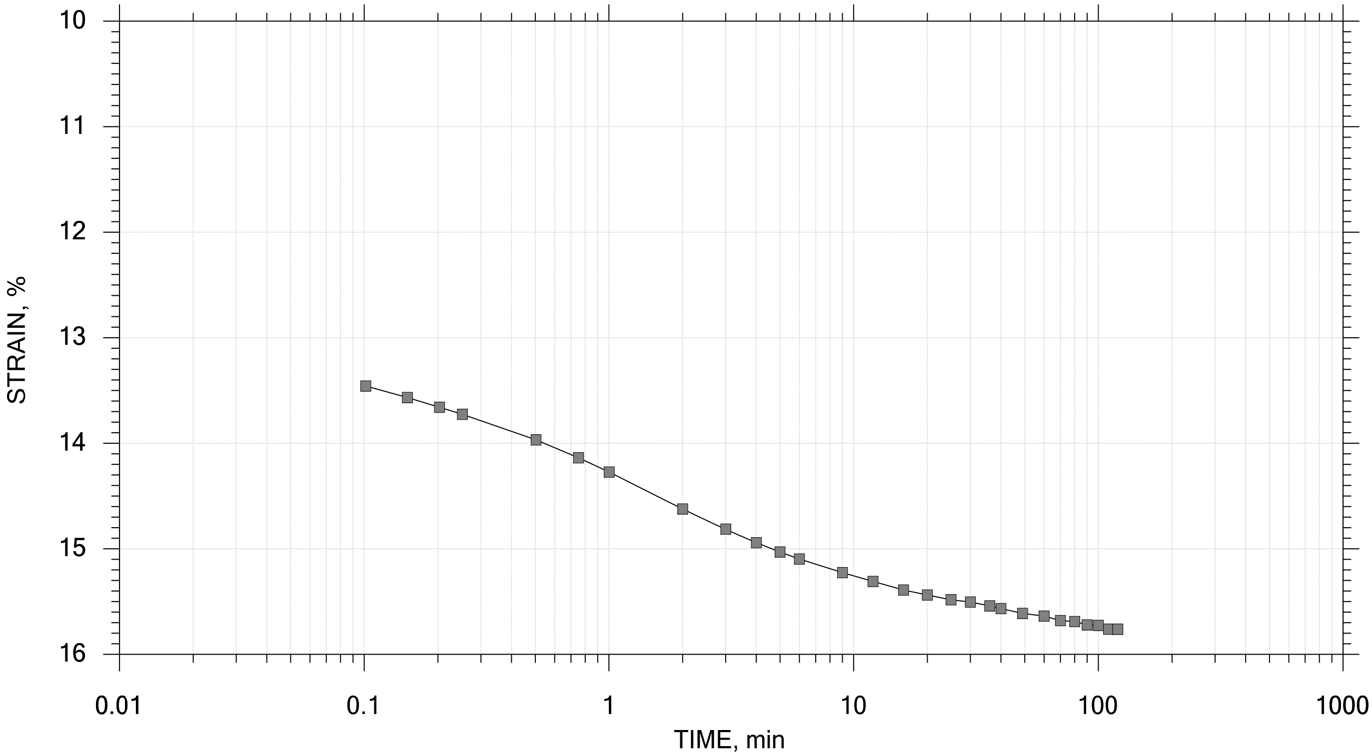
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-10	Tested By: SA	Checked By: SE
	Sample No.: 7	Test Date: 7/30/17	Elevation: -1.40 ft
	Depth: 12-14 ft	Sample Type: intact	
	Description: Very Soft Gray Fat Clay		
	Displacement at End of Increment		

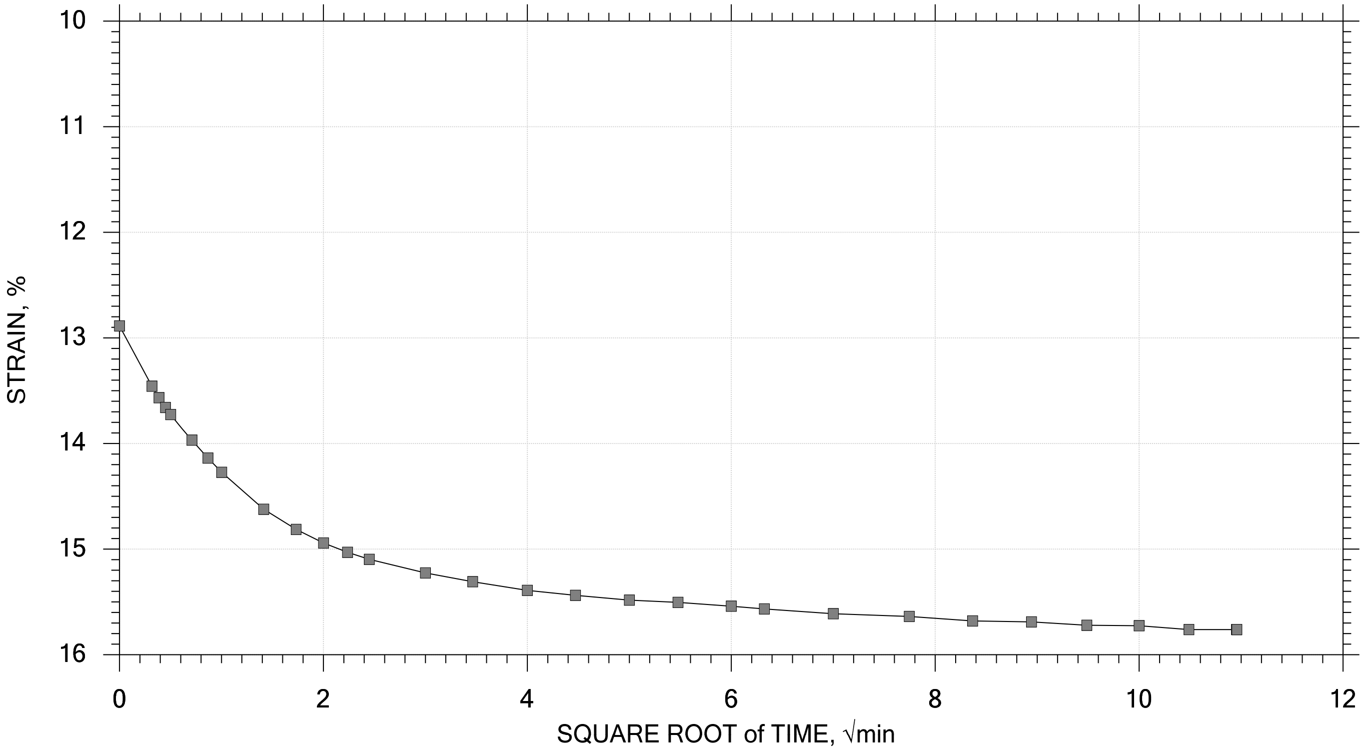
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 12 of 12

Stress: 8000 psf

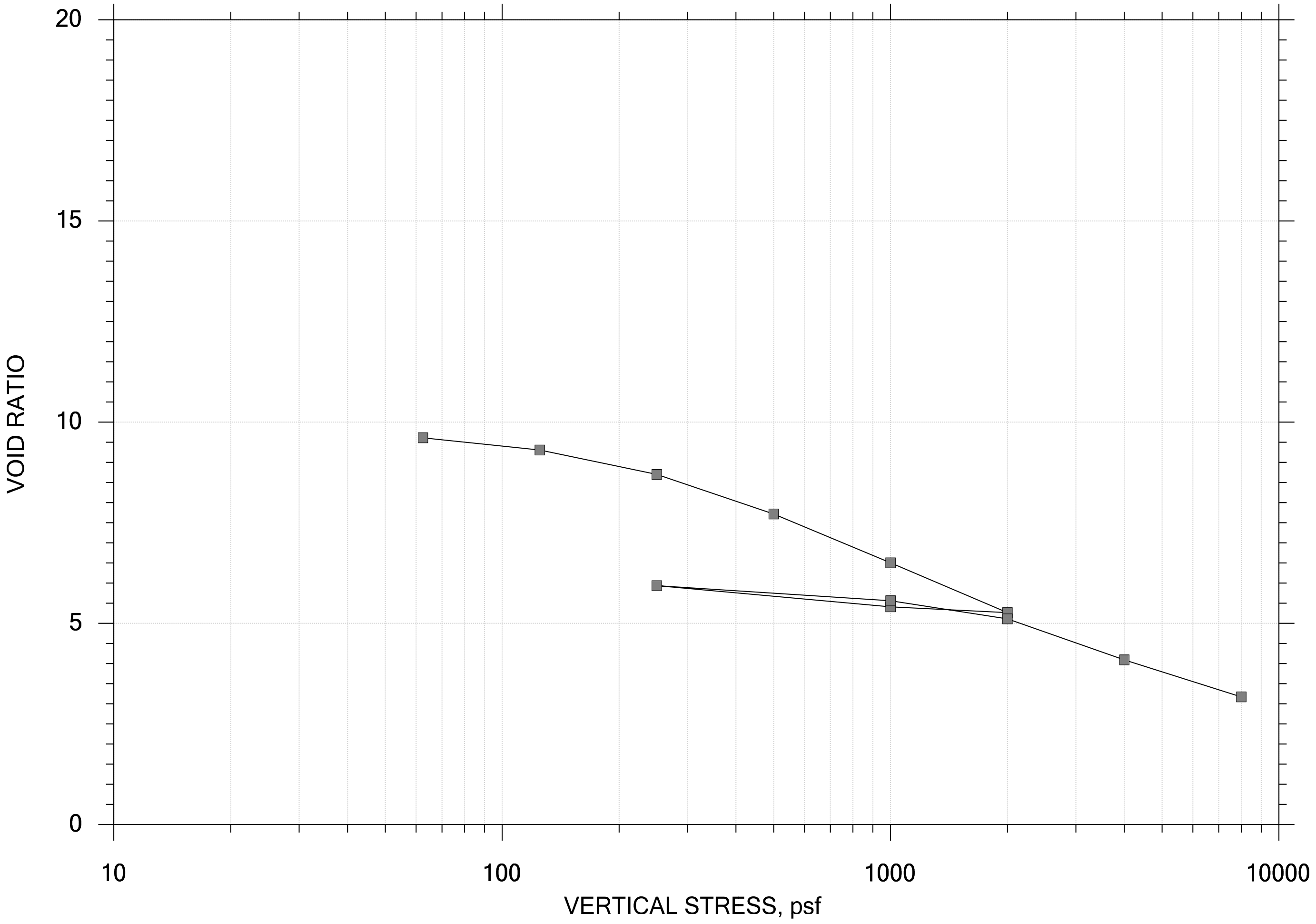


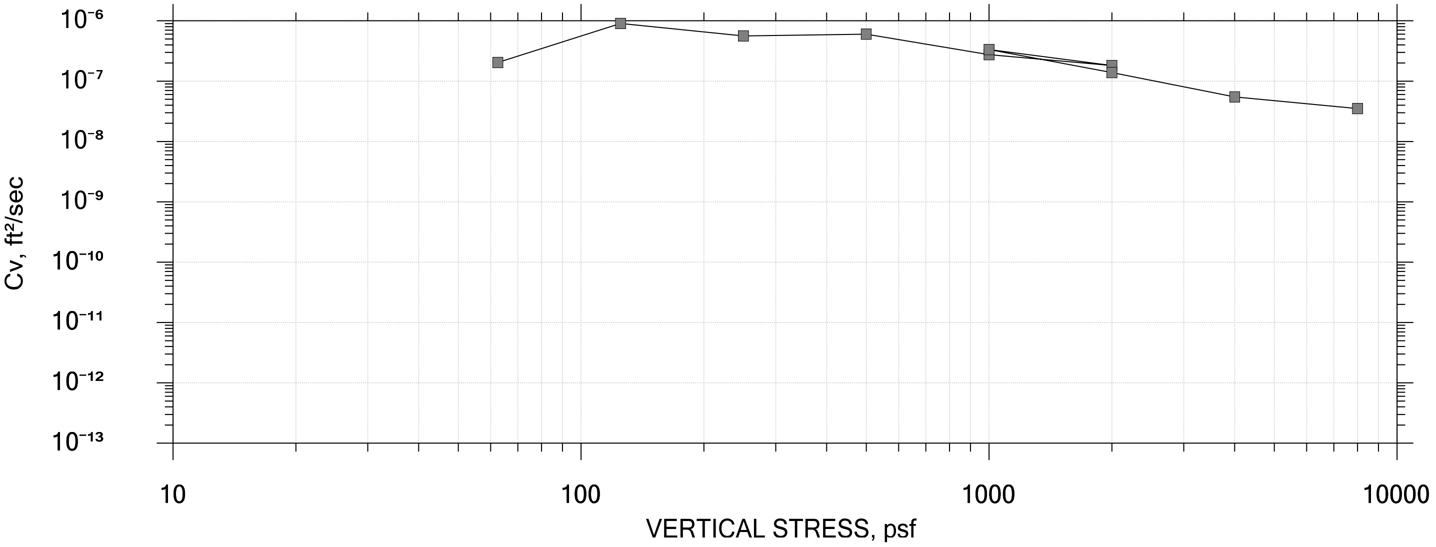


APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-10	Tested By: SA	Checked By: SE
	Sample No.: 7	Test Date: 7/30/17	Elevation: -1.40 ft
	Depth: 12-14 ft	Sample Type: intact	
	Description: Very Soft Gray Fat Clay		
	Displacement at End of Increment		

One-Dimensional Consolidation by ASTM D2435 - Method B

SUMMARY REPORT

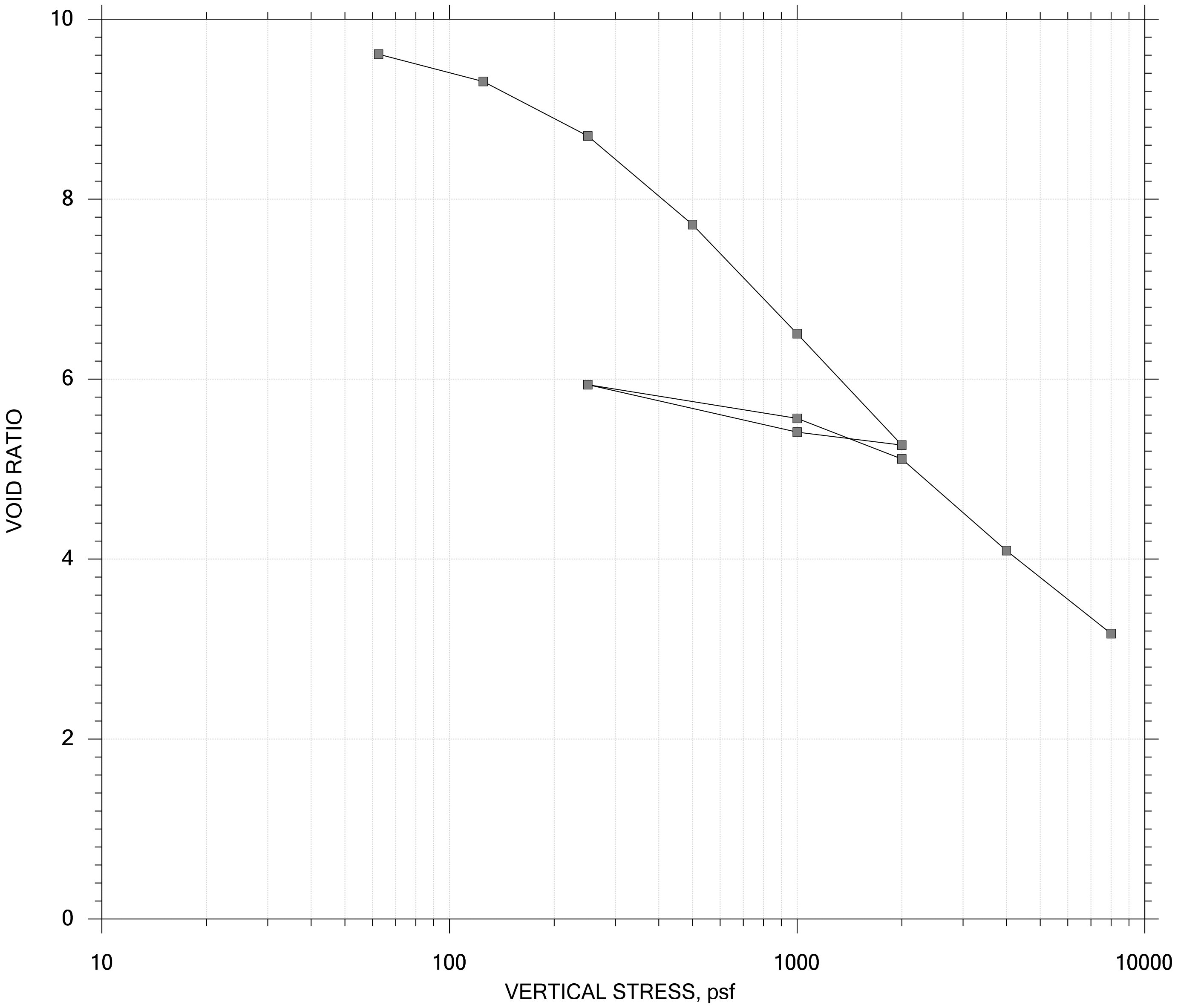




+ APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-11	Tested By: SA	Checked By: SE
	Sample No.: 1	Test Date: 8/1/2017	Elevation: -2.80 ft
	Depth: 0-2 ft	Sample Type: intact	
	Description: Very Soft Black Organic Clay		
	Displacement at End of Increment		

One-Dimensional Consolidation by ASTM D2435 - Method B

SUMMARY REPORT



APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-11	Tested By: SA	Checked By: SE
	Sample No.: 1	Test Date: 8/1/2017	Elevation: -2.80 ft
	Depth: 0-2 ft	Sample Type: intact	
	Description: Very Soft Black Organic Clay		
	Displacement at End of Increment		

One-Dimensional Consolidation by ASTM D2435 - Method B

Project: PO-169
Boring No.: B-11
Sample No.: 2

Location: Lake Saint Catherine
Tested By: SA
Test Date: 8/1/17
Sample Type: intact

Project No.: APS1706-G038
Checked By: SE
Depth: 0-2 ft
Elevation: -2.80 ft

Soil Description: Very Soft Black Organic Clay

Measured Specific Gravity: 2.61
Initial Void Ratio: 9.67
Final Void Ratio: 3.06

Liquid Limit:248
Plastic Limit:65
Plasticity Index:183

Specimen Diameter: 2.50 in
Initial Height: 1.00 in
Final Height: 0.38 in

	Before Consolidation		After Consolidation	
	Trimmings	Specimen+Ring	Specimen+Ring	Trimmings
Container ID	bbw	RING	pr5	pr5
Wt. Container + Wet Soil, gm	82.630	96.440	50.920	50.920
Wt. Container + Dry Soil, gm	24.660	27.850	27.850	27.850
Wt. Container, gm	8.1400	8.1700	8.1700	8.1700
Wt. Dry Soil, gm	16.520	19.680	19.680	19.680
Water Content, %	350.91	348.53	117.23	117.23
Void Ratio	---	9.67	3.06	---
Degree of Saturation, %	---	94.08	100.00	---
Dry Unit Weight, pcf	---	15.273	40.140	---

One-Dimensional Consolidation by ASTM D2435 - Method B

Project: PO-169
Boring No.: B-11
Sample No.: 2
Location: Lake Saint Catherine
Tested By: SA
Test Date: 8/1/17
Sample Type: intact
Project No.: APS1706-G038
Checked By: SE
Depth: 0-2 ft
Elevation: -2.80 ft

Soil Description: Very Soft Black Organic Clay

Displacement at End of Increment

	Applied Stress psf	Final Displacement in	Void Ratio	Strain at End %	Sq.Rt T90 min	Cv ft²/sec	Mv 1/psf	k cm/sec
1	62.5	0.005675	9.61	0.568	108.020	2.26e-007	9.08e-005	3.90e-008
2	125.	0.03407	9.31	3.41	26.678	8.84e-007	4.54e-004	7.64e-007
3	250.	0.09093	8.70	9.09	29.058	7.42e-007	4.55e-004	6.42e-007
4	500.	0.1832	7.72	18.3	29.531	6.19e-007	3.69e-004	4.34e-007
5	1.00e+003	0.2968	6.50	29.7	44.912	3.16e-007	2.27e-004	1.36e-007
6	2.00e+003	0.4127	5.27	41.3	46.582	2.19e-007	1.16e-004	4.84e-008
7	1.00e+003	0.3993	5.41	39.9	15.132	5.72e-007	1.34e-005	1.46e-008
8	250.	0.3498	5.94	35.0	113.129	8.48e-008	6.60e-005	1.07e-008
9	1.00e+003	0.3850	5.56	38.5	26.888	3.65e-007	4.69e-005	3.26e-008
10	2.00e+003	0.4272	5.11	42.7	63.683	1.36e-007	4.23e-005	1.09e-008
11	4.00e+003	0.5227	4.09	52.3	122.734	5.51e-008	4.77e-005	5.01e-009
12	8.00e+003	0.6091	3.17	60.9	130.336	3.55e-008	2.16e-005	1.46e-009

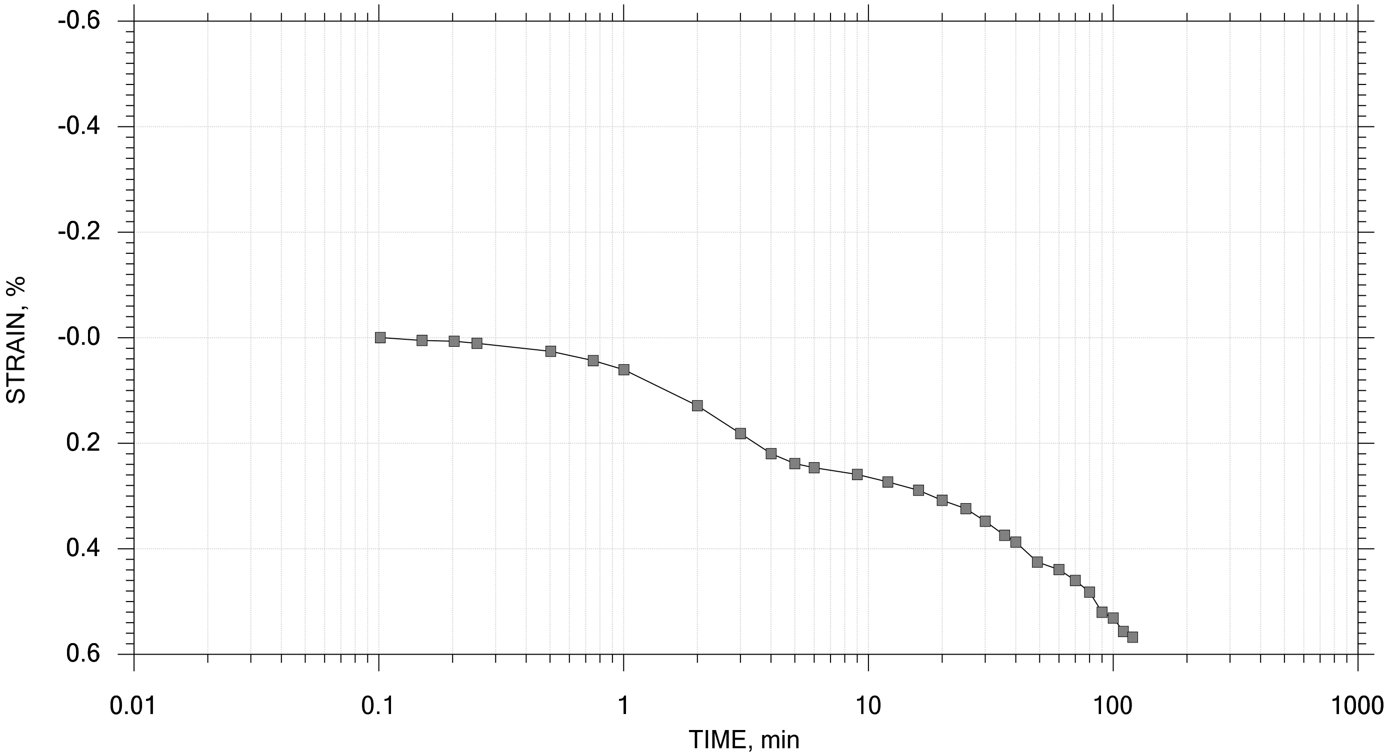
	Applied Stress psf	Final Displacement in	Void Ratio	Strain at End %	Log T50 min	Cv ft²/sec	Mv 1/psf	k cm/sec	Ca %
1	62.5	0.005675	9.61	0.568	0.000	0.00e+000	9.08e-005	0.00e+000	0.00e+000
2	125.	0.03407	9.31	3.41	0.000	0.00e+000	4.54e-004	0.00e+000	0.00e+000
3	250.	0.09093	8.70	9.09	10.055	4.98e-007	4.55e-004	4.31e-007	0.00e+000
4	500.	0.1832	7.72	18.3	0.000	0.00e+000	3.69e-004	0.00e+000	0.00e+000
5	1.00e+003	0.2968	6.50	29.7	0.000	0.00e+000	2.27e-004	0.00e+000	0.00e+000
6	2.00e+003	0.4127	5.27	41.3	0.000	0.00e+000	1.16e-004	0.00e+000	0.00e+000
7	1.00e+003	0.3993	5.41	39.9	0.000	0.00e+000	1.34e-005	0.00e+000	0.00e+000
8	250.	0.3498	5.94	35.0	0.000	0.00e+000	6.60e-005	0.00e+000	0.00e+000
9	1.00e+003	0.3850	5.56	38.5	0.000	0.00e+000	4.69e-005	0.00e+000	0.00e+000
10	2.00e+003	0.4272	5.11	42.7	0.000	0.00e+000	4.23e-005	0.00e+000	0.00e+000
11	4.00e+003	0.5227	4.09	52.3	0.000	0.00e+000	4.77e-005	0.00e+000	0.00e+000
12	8.00e+003	0.6091	3.17	60.9	0.000	0.00e+000	2.16e-005	0.00e+000	0.00e+000

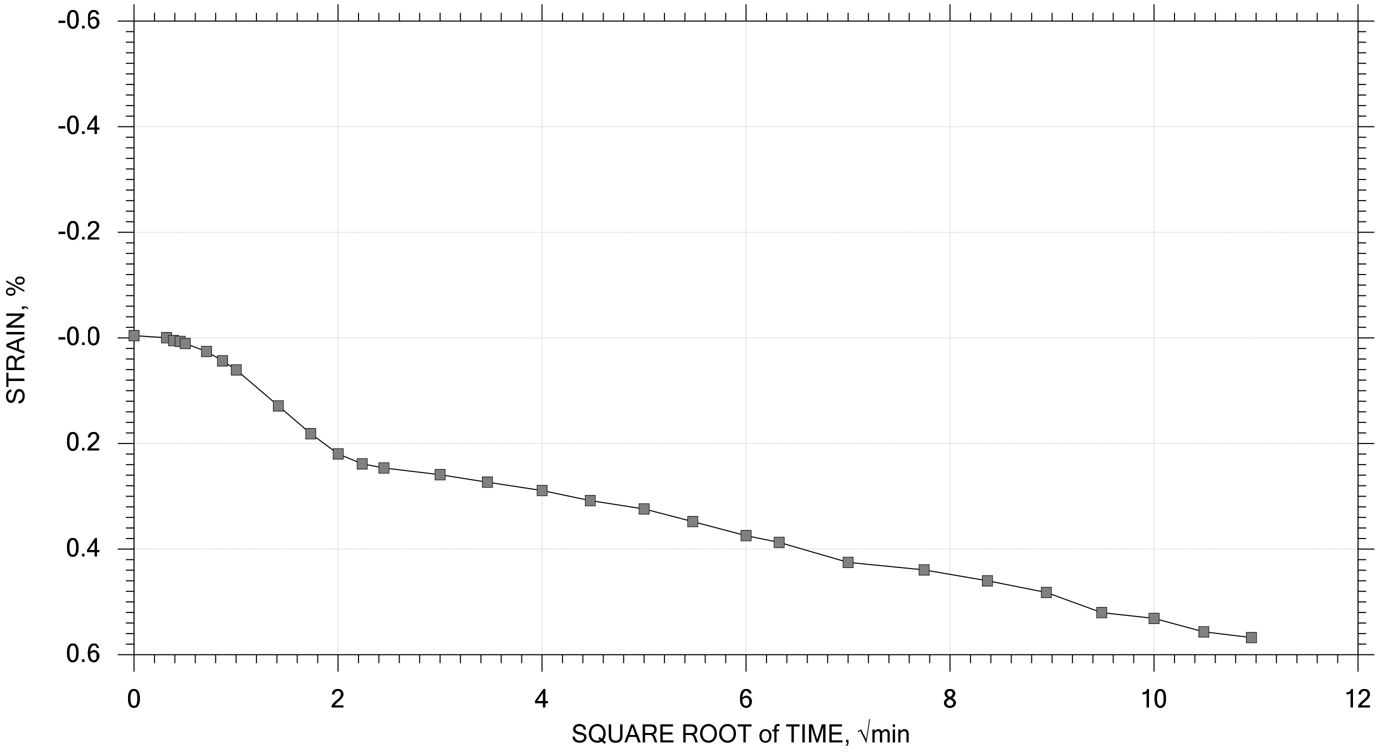
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 1 of 12

Stress: 62.5 psf





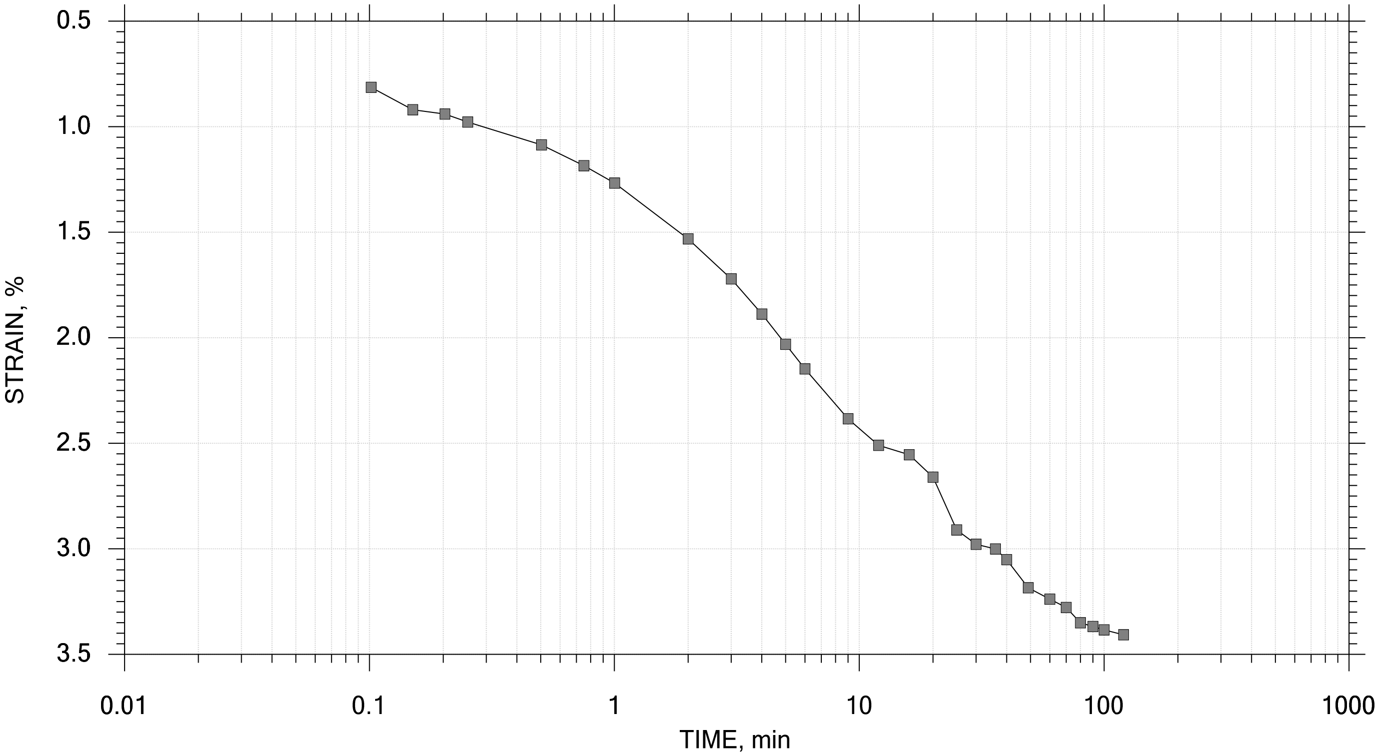
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-11	Tested By: SA	Checked By: SE
	Sample No.: 1	Test Date: 8/1/2017	Elevation: -2.80 ft
	Depth: 0-2 ft	Sample Type: intact	
	Description: Very Soft Black Organic Clay		
	Displacement at End of Increment		

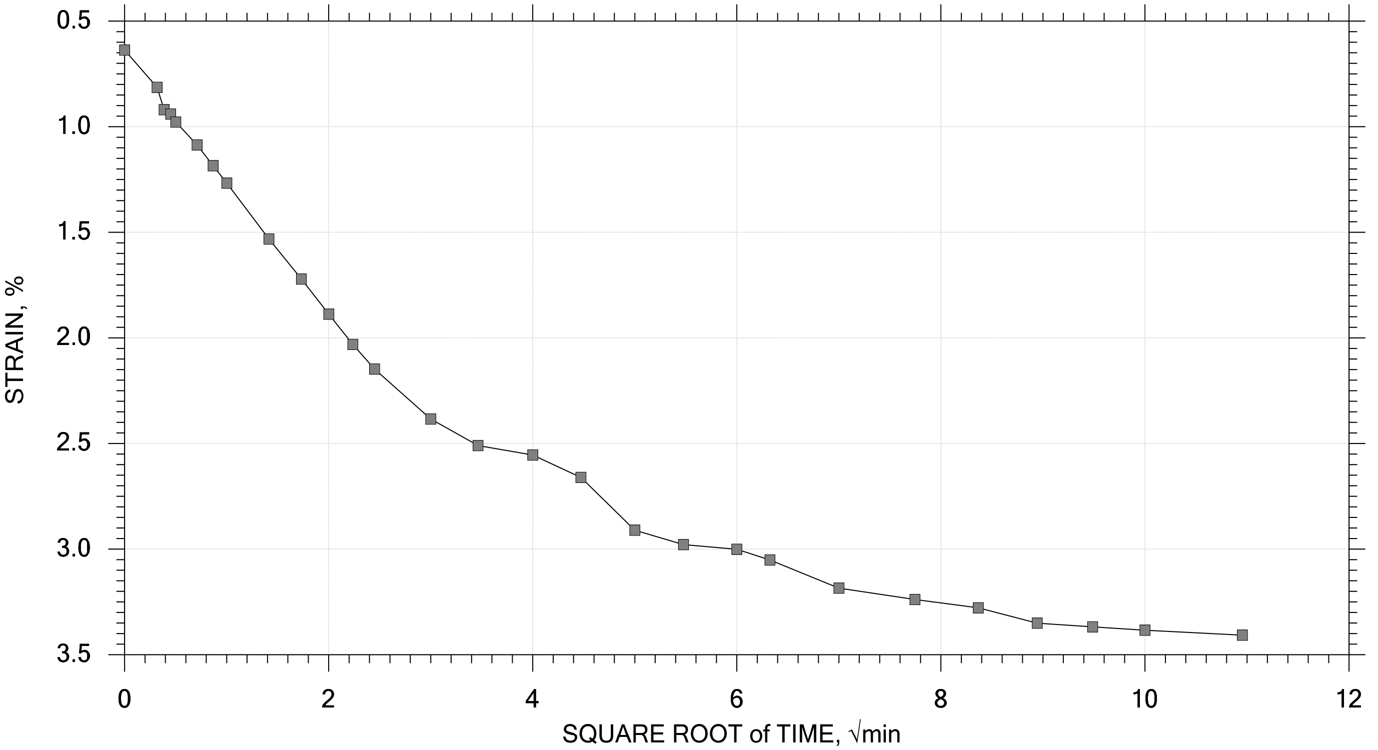
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 2 of 12

Stress: 125 psf





APS Engineering and Testing

Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
Boring No.: B-11	Tested By: SA	Checked By: SE
Sample No.: 1	Test Date: 8/1/2017	Elevation: -2.80 ft
Depth: 0-2 ft	Sample Type: intact	

Description: Very Soft Black Organic Clay

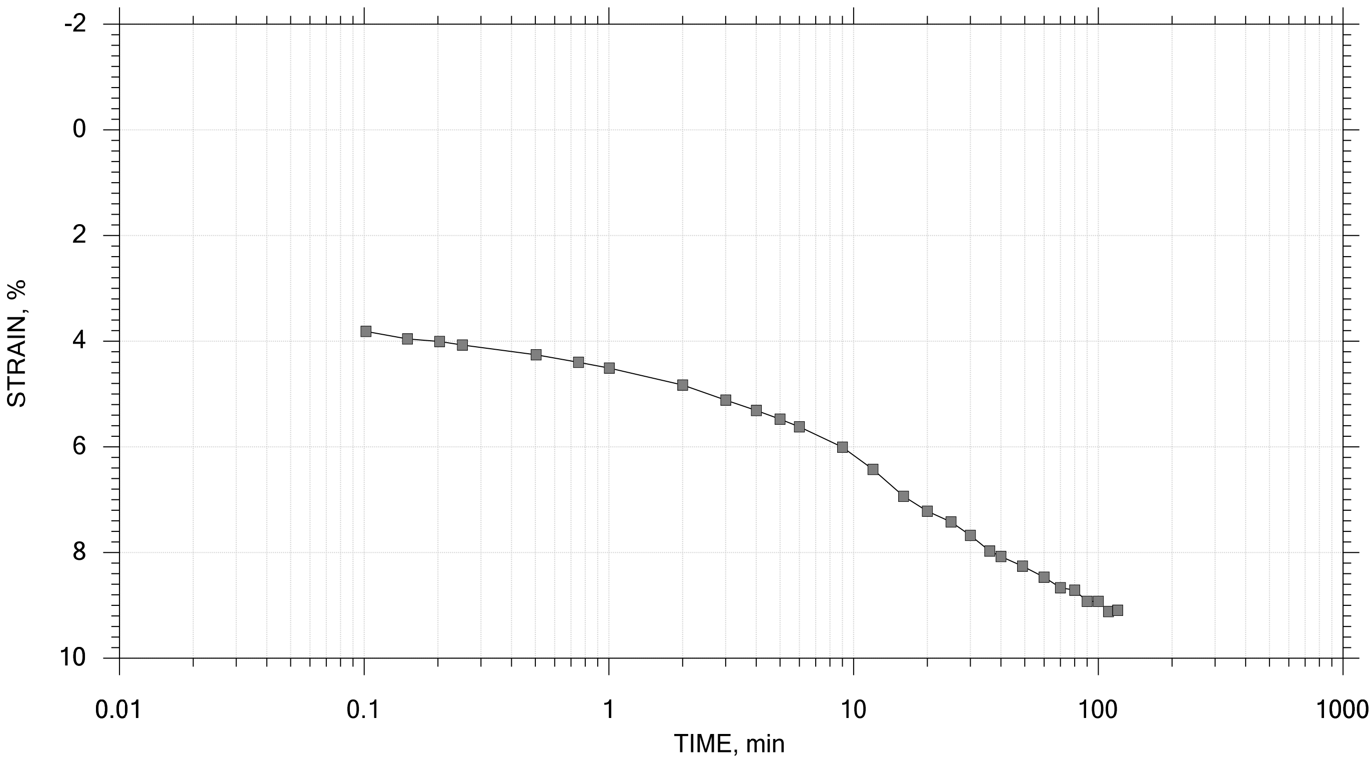
Displacement at End of Increment

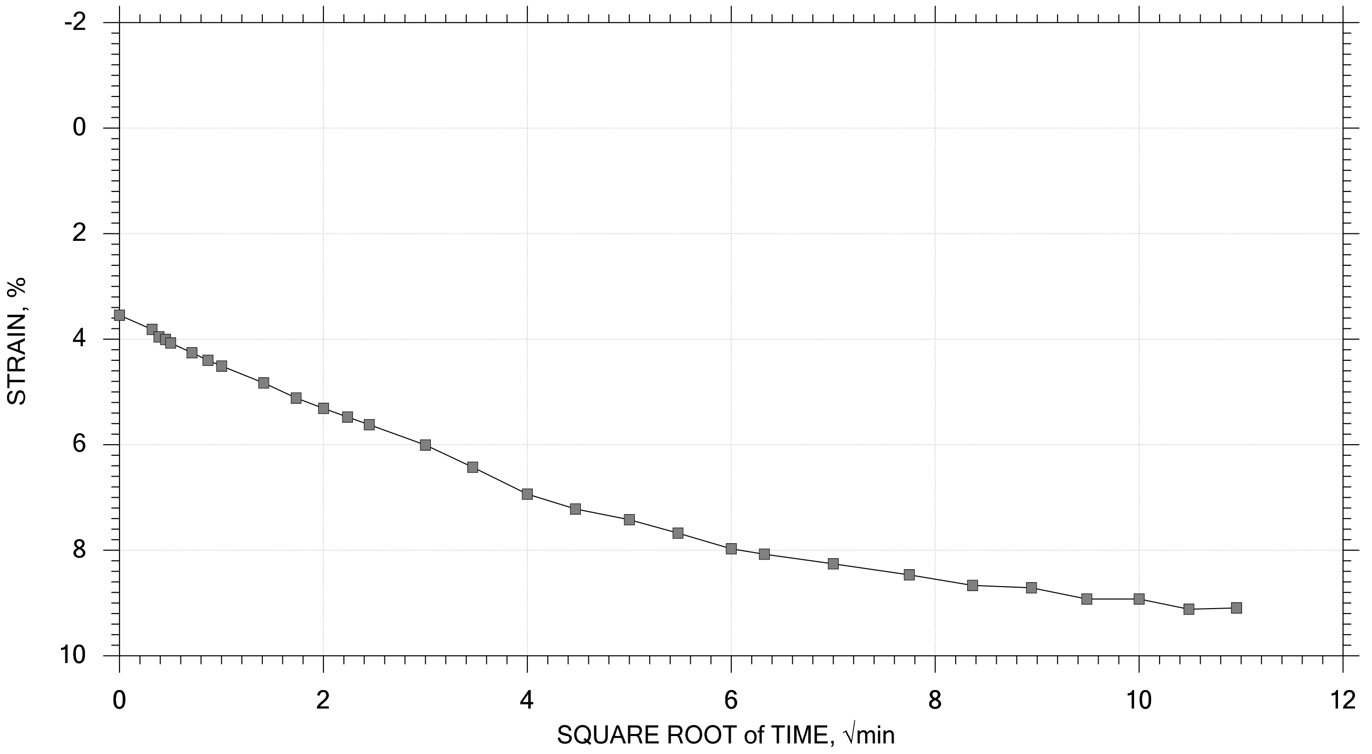
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 3 of 12

Stress: 250 psf





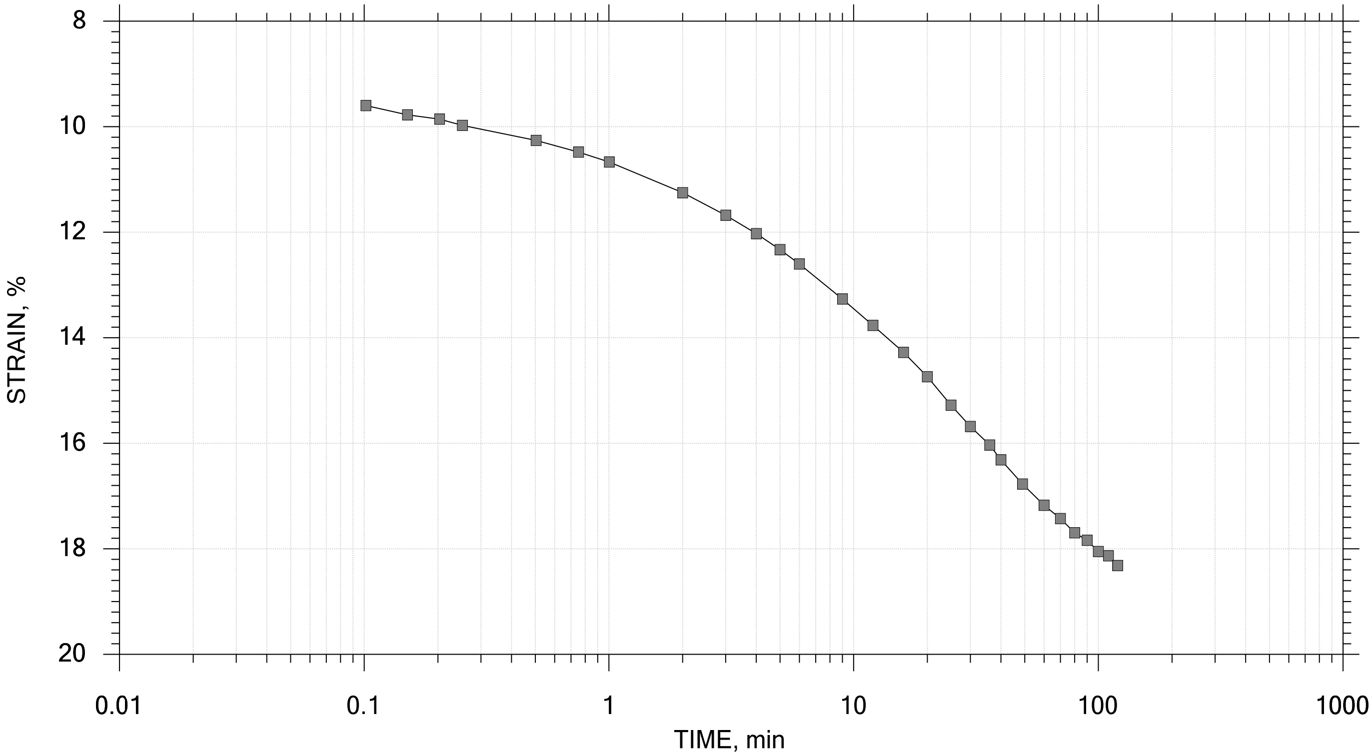
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-11	Tested By: SA	Checked By: SE
	Sample No.: 1	Test Date: 8/1/2017	Elevation: -2.80 ft
	Depth: 0-2 ft	Sample Type: intact	
	Description: Very Soft Black Organic Clay		
	Displacement at End of Increment		

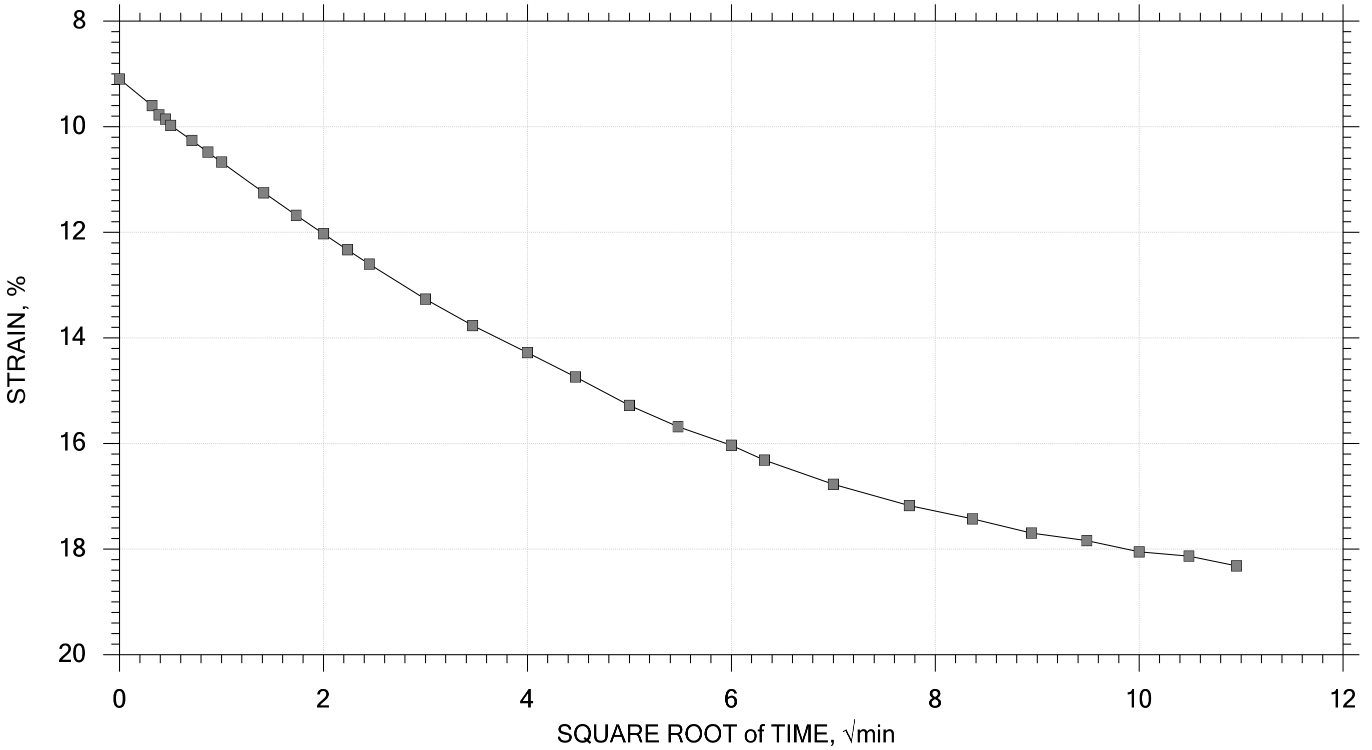
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 4 of 12

Stress: 500 psf





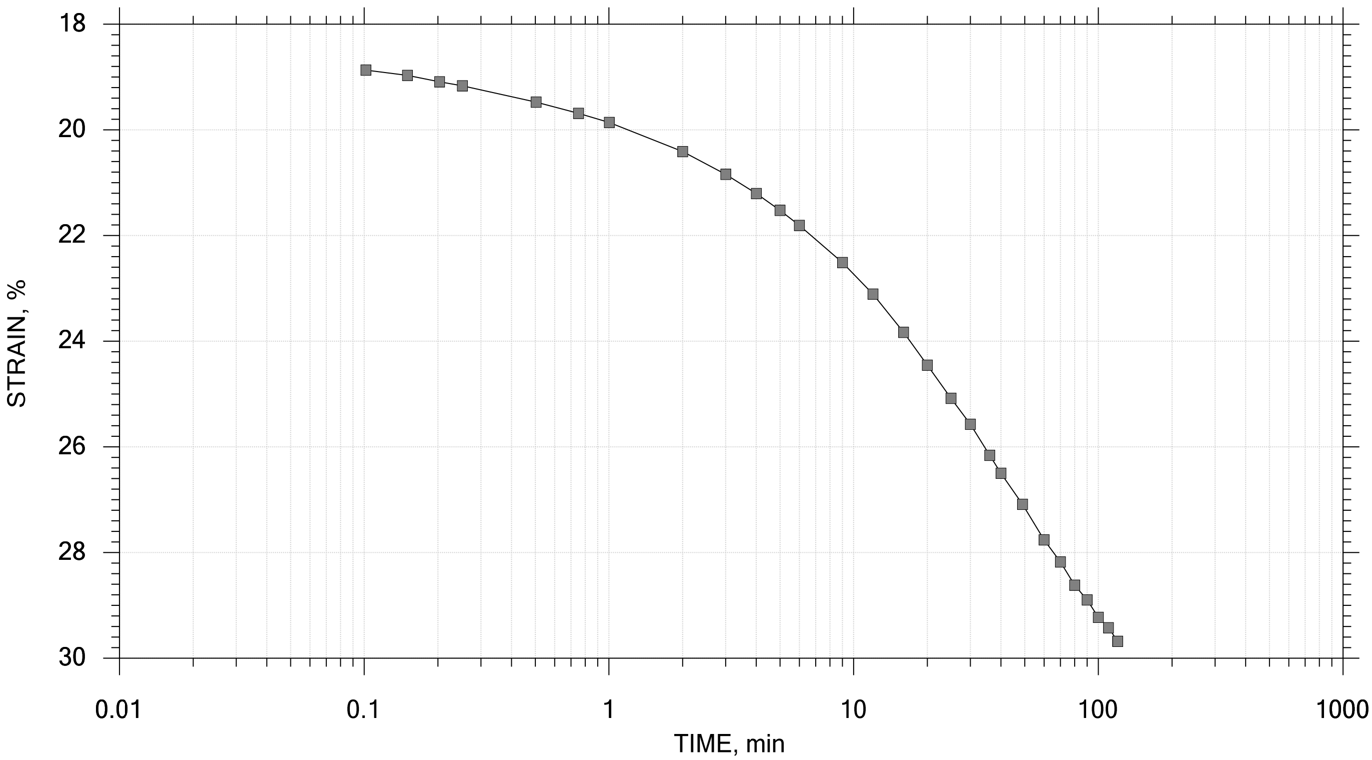
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-11	Tested By: SA	Checked By: SE
	Sample No.: 1	Test Date: 8/1/2017	Elevation: -2.80 ft
	Depth: 0-2 ft	Sample Type: intact	
	Description: Very Soft Black Organic Clay		
	Displacement at End of Increment		

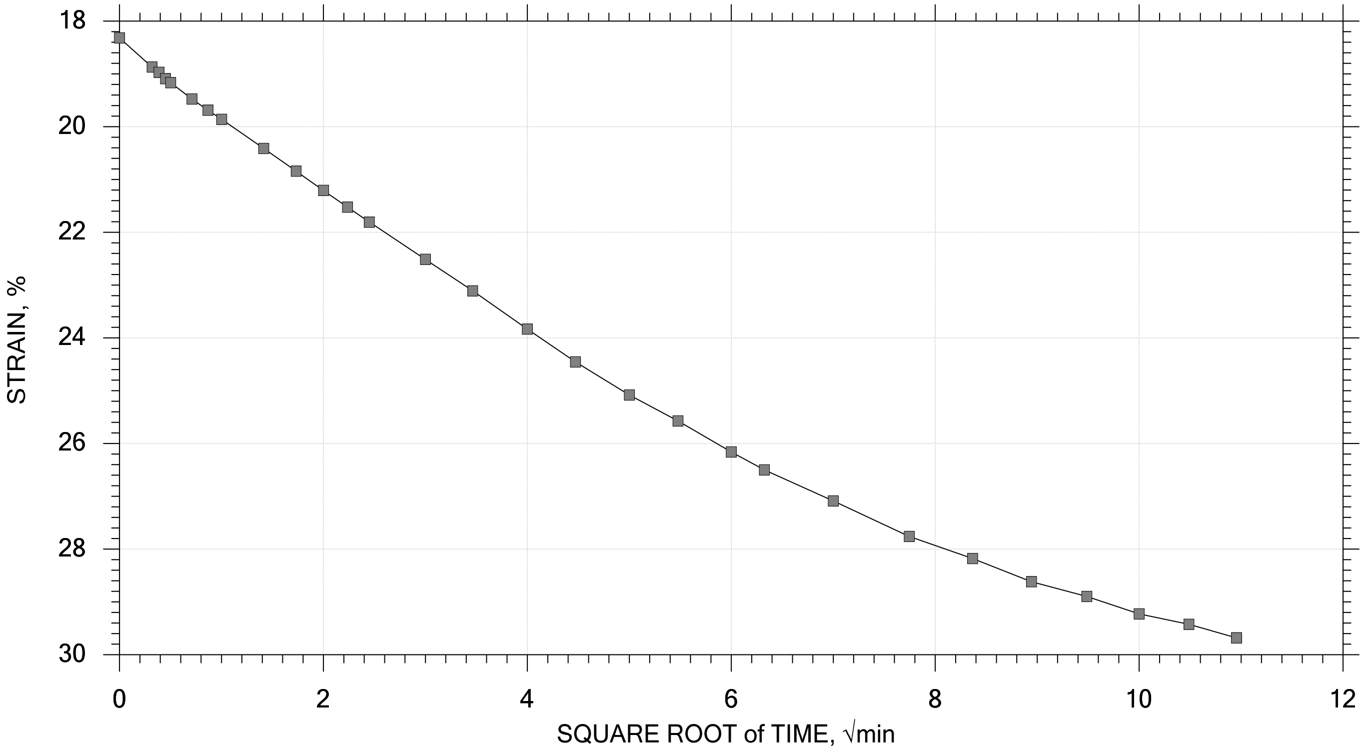
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 5 of 12

Stress: 1000 psf





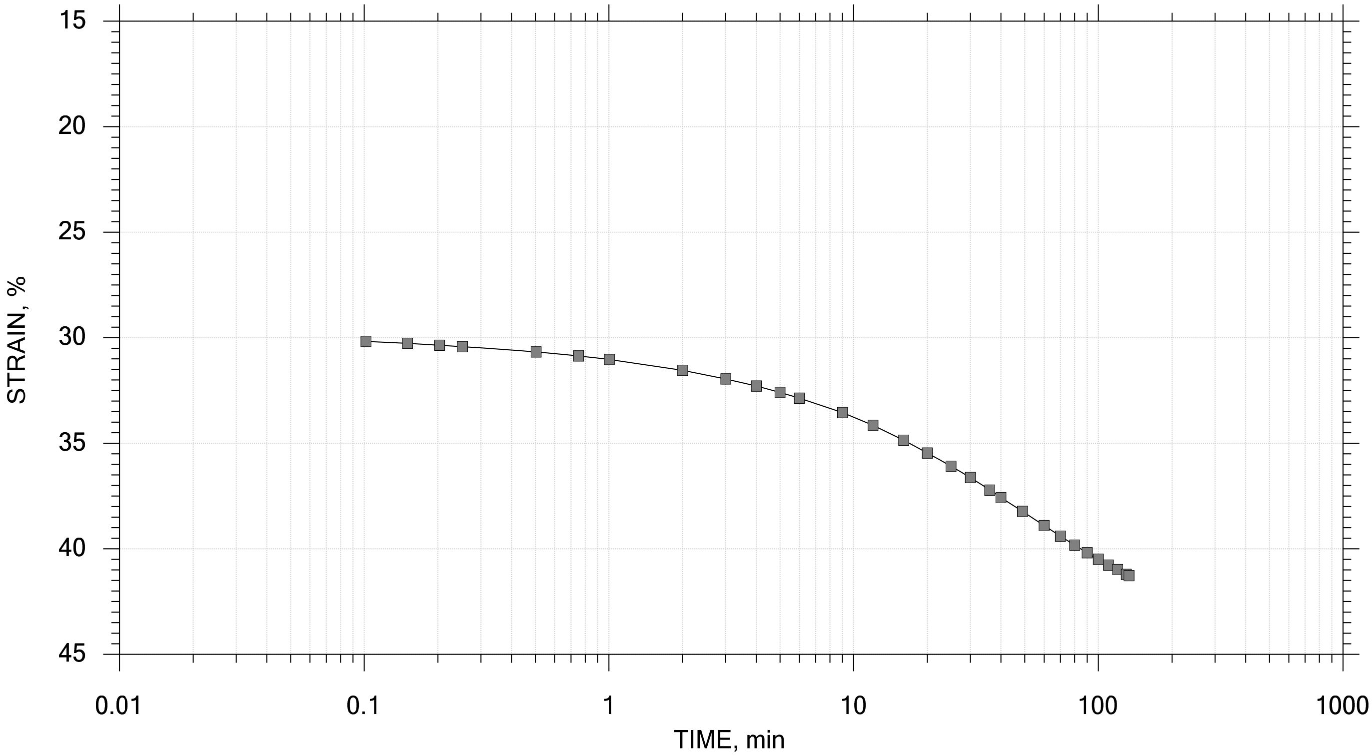
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-11	Tested By: SA	Checked By: SE
	Sample No.: 1	Test Date: 8/1/2017	Elevation: -2.80 ft
	Depth: 0-2 ft	Sample Type: intact	
	Description: Very Soft Black Organic Clay		
	Displacement at End of Increment		

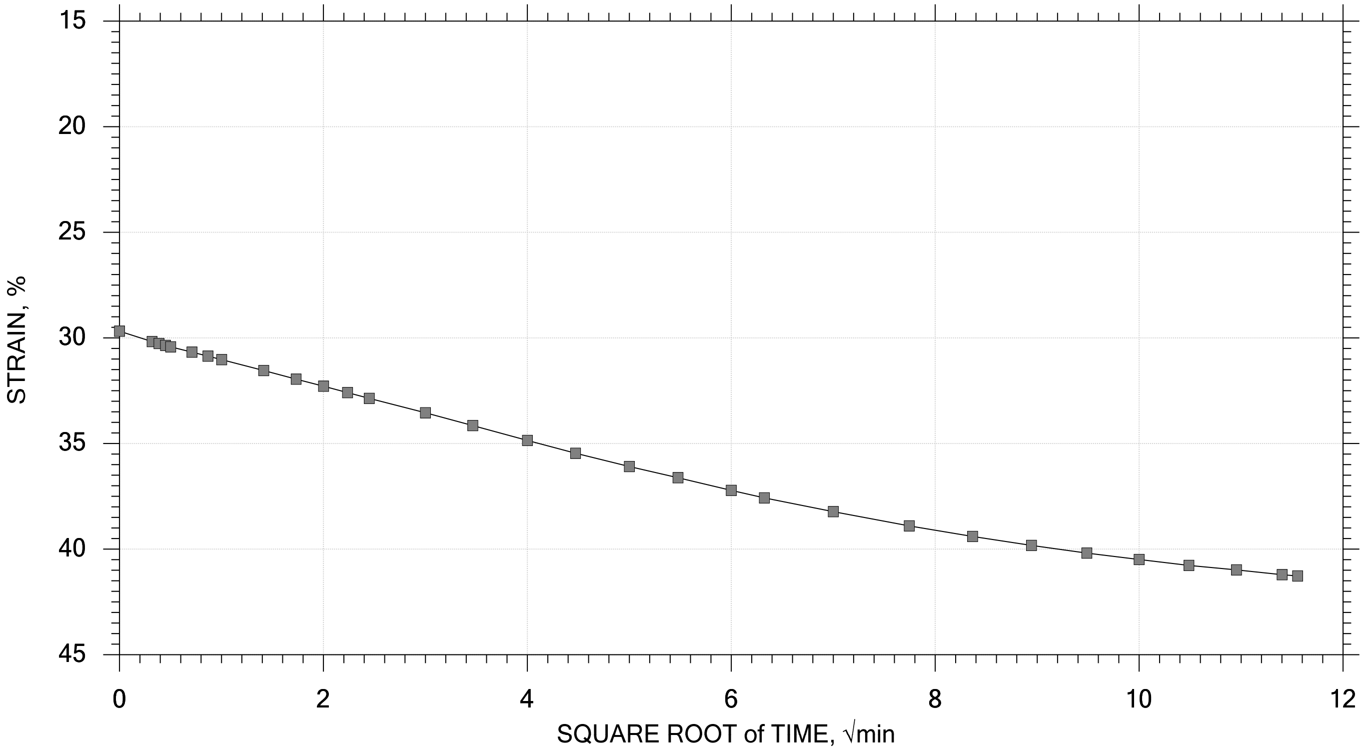
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 6 of 12

Stress: 2000 psf





APS Engineering and Testing

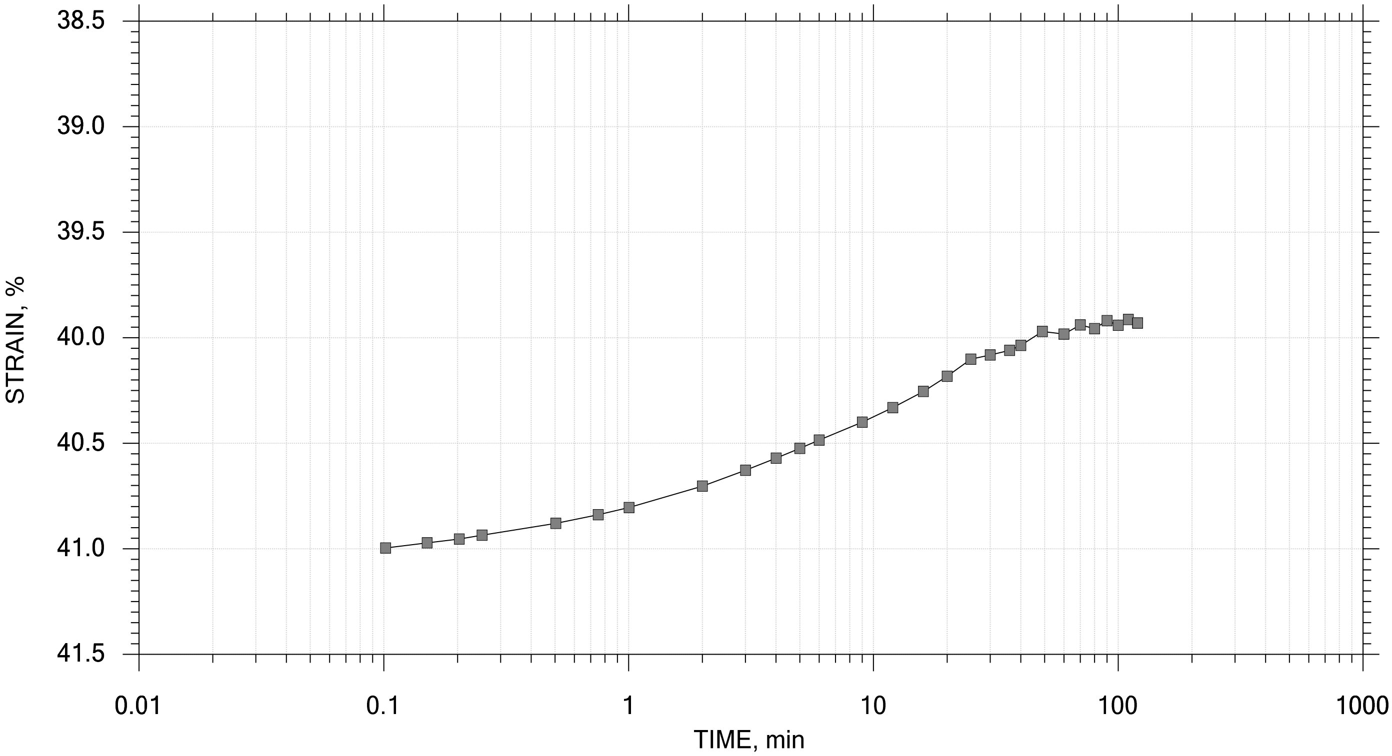
Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
Boring No.: B-11	Tested By: SA	Checked By: SE
Sample No.: 1	Test Date: 8/1/2017	Elevation: -2.80 ft
Depth: 0-2 ft	Sample Type: intact	
Description: Very Soft Black Organic Clay		
Displacement at End of Increment		

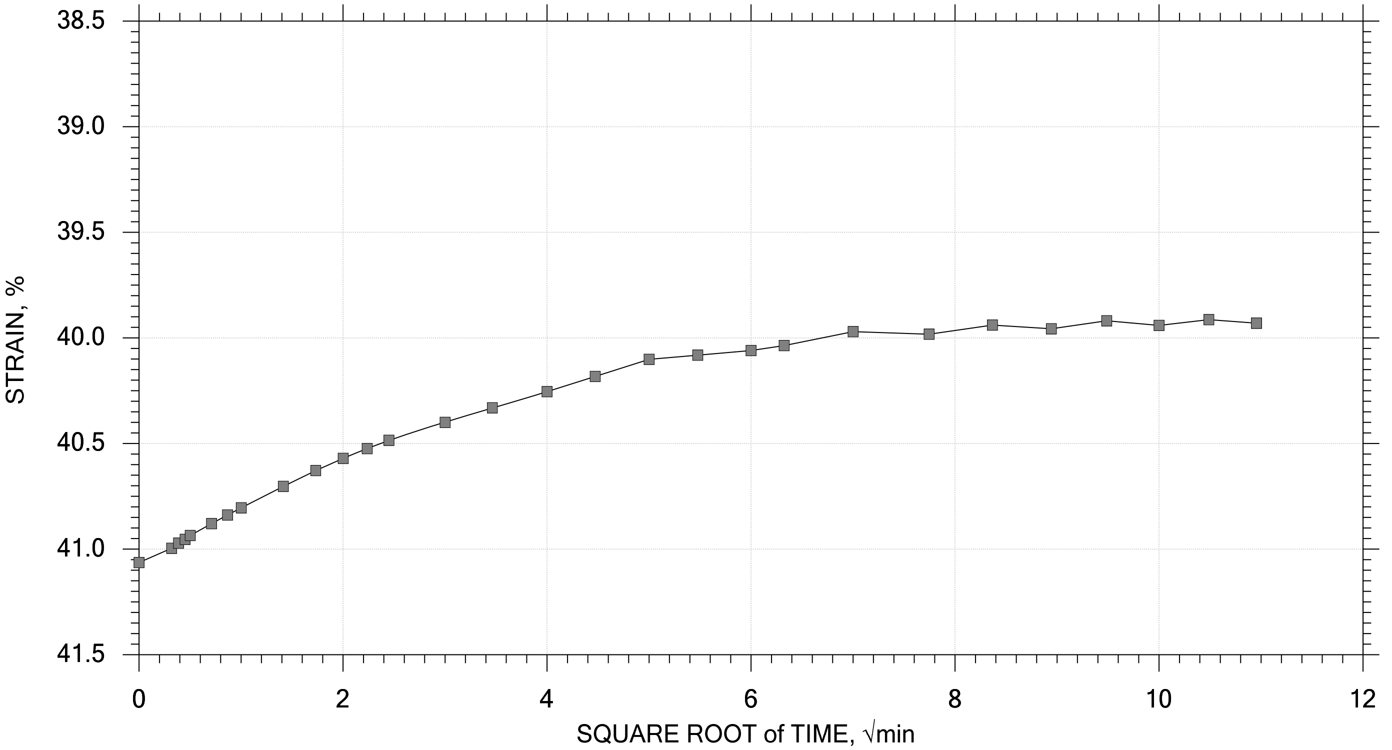
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 7 of 12

Stress: 1000 psf





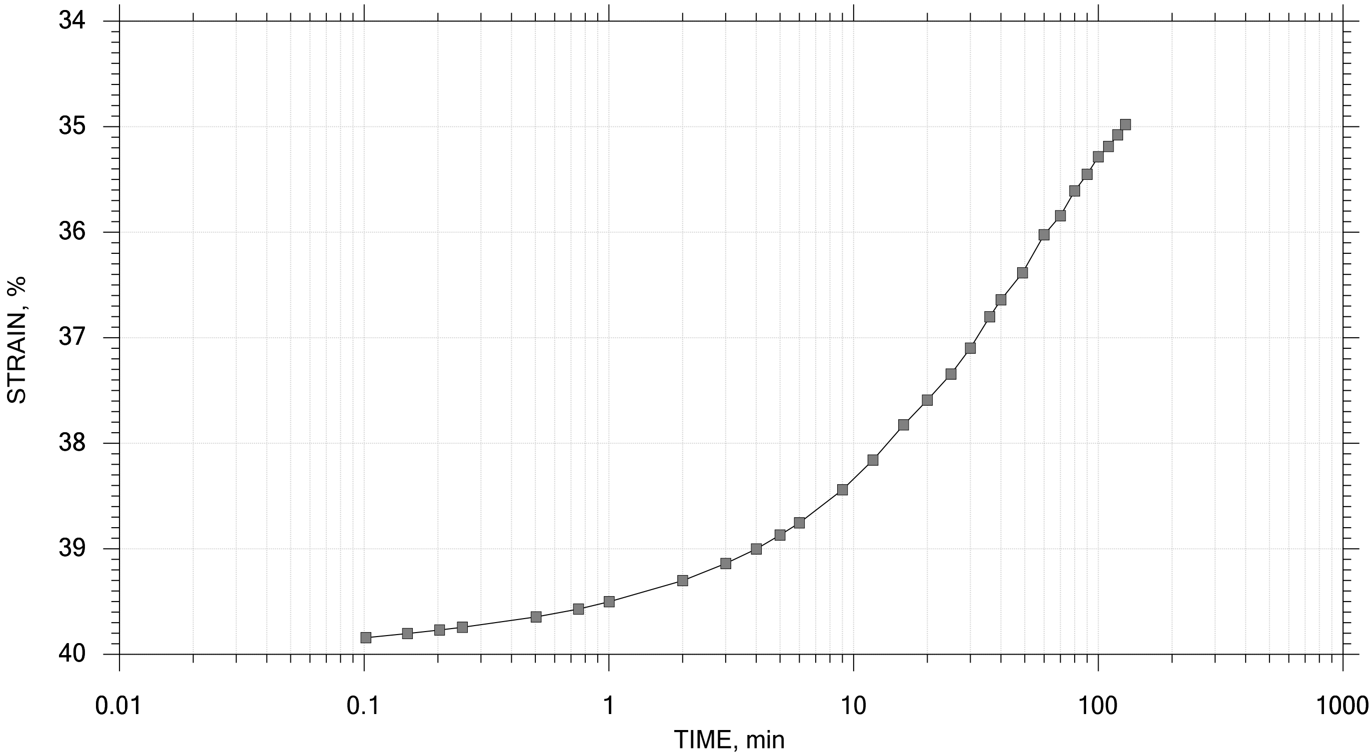
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-11	Tested By: SA	Checked By: SE
	Sample No.: 1	Test Date: 8/1/2017	Elevation: -2.80 ft
	Depth: 0-2 ft	Sample Type: intact	
	Description: Very Soft Black Organic Clay		
	Displacement at End of Increment		

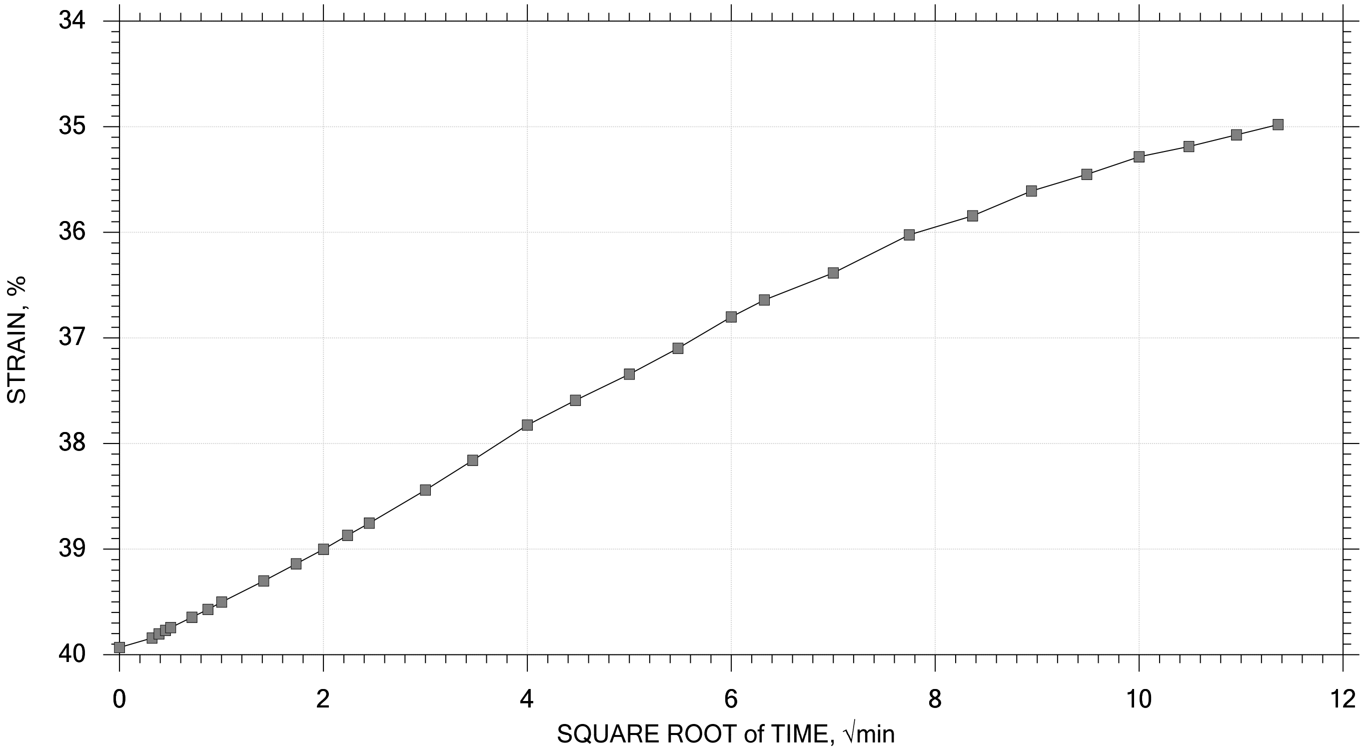
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 8 of 12

Stress: 250 psf





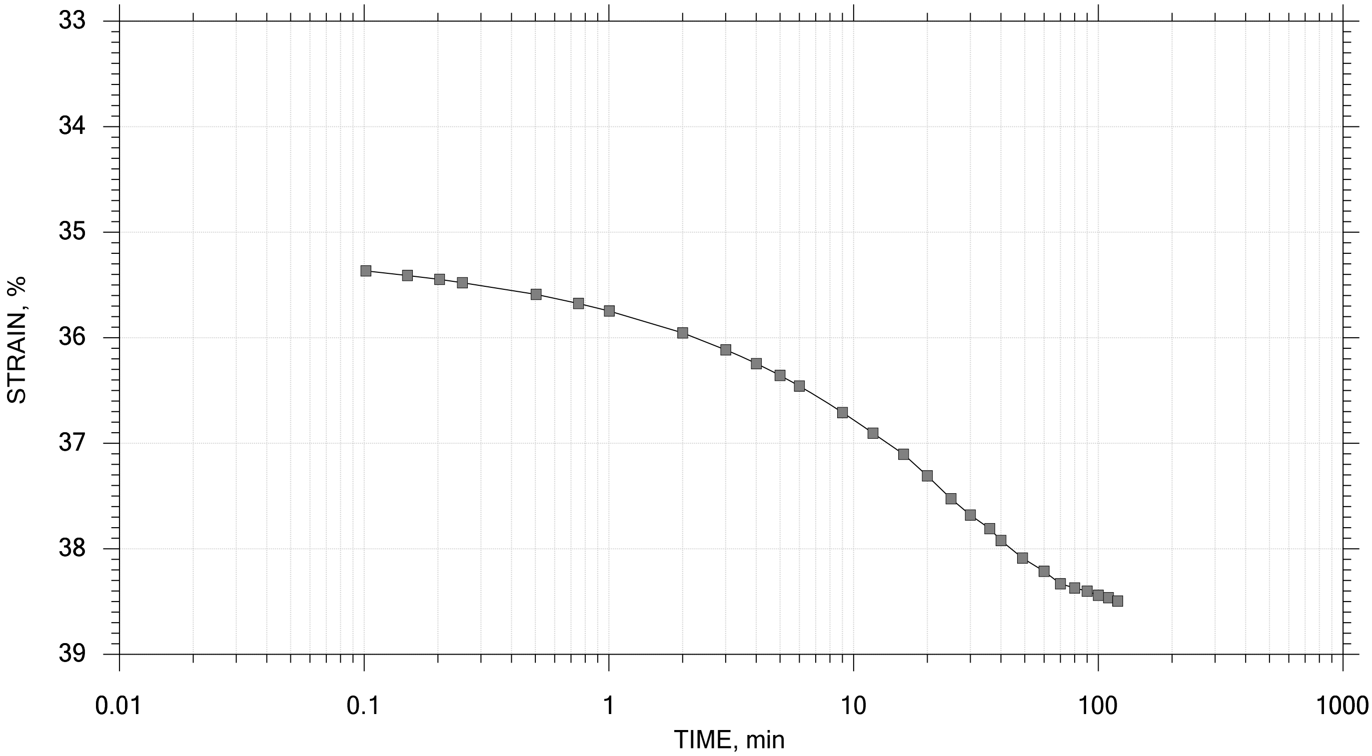
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-11	Tested By: SA	Checked By: SE
	Sample No.: 1	Test Date: 8/1/2017	Elevation: -2.80 ft
	Depth: 0-2 ft	Sample Type: intact	
	Description: Very Soft Black Organic Clay		
	Displacement at End of Increment		

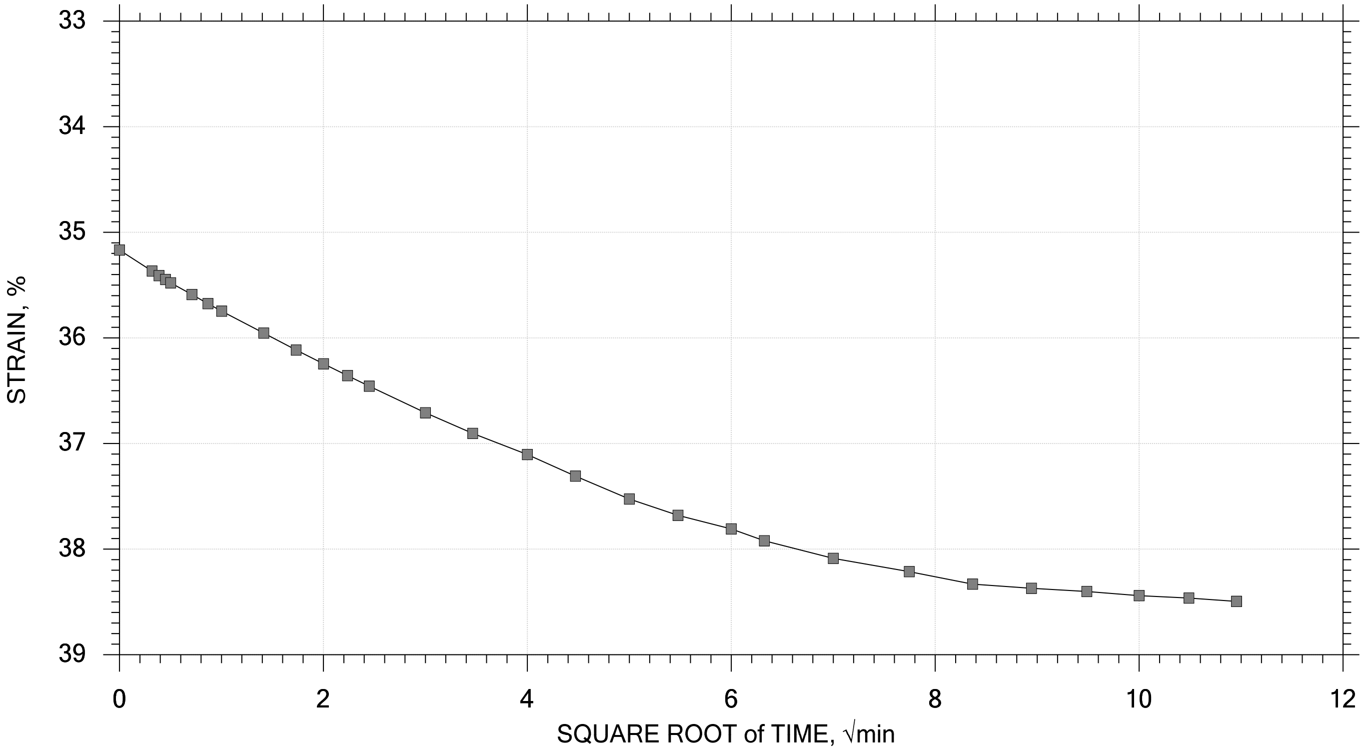
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 9 of 12

Stress: 1000 psf





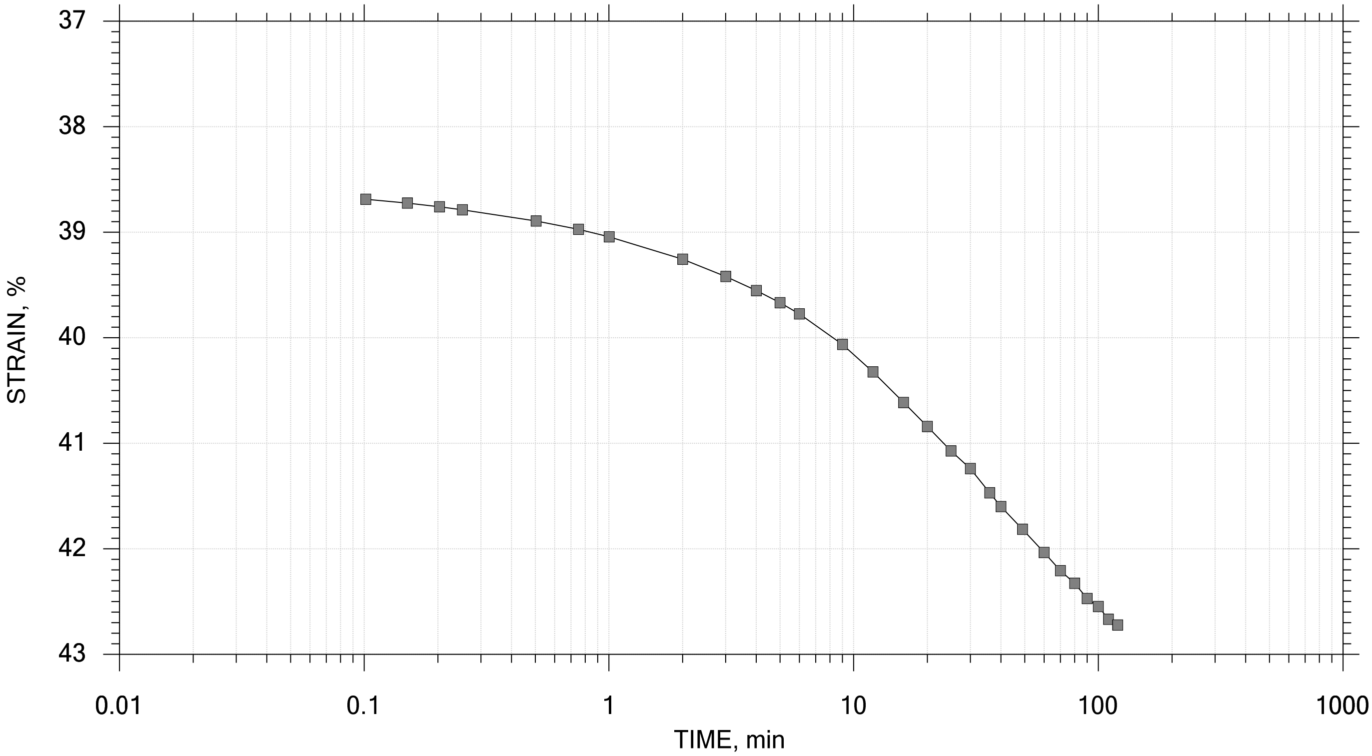
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-11	Tested By: SA	Checked By: SE
	Sample No.: 1	Test Date: 8/1/2017	Elevation: -2.80 ft
	Depth: 0-2 ft	Sample Type: intact	
	Description: Very Soft Black Organic Clay		
	Displacement at End of Increment		

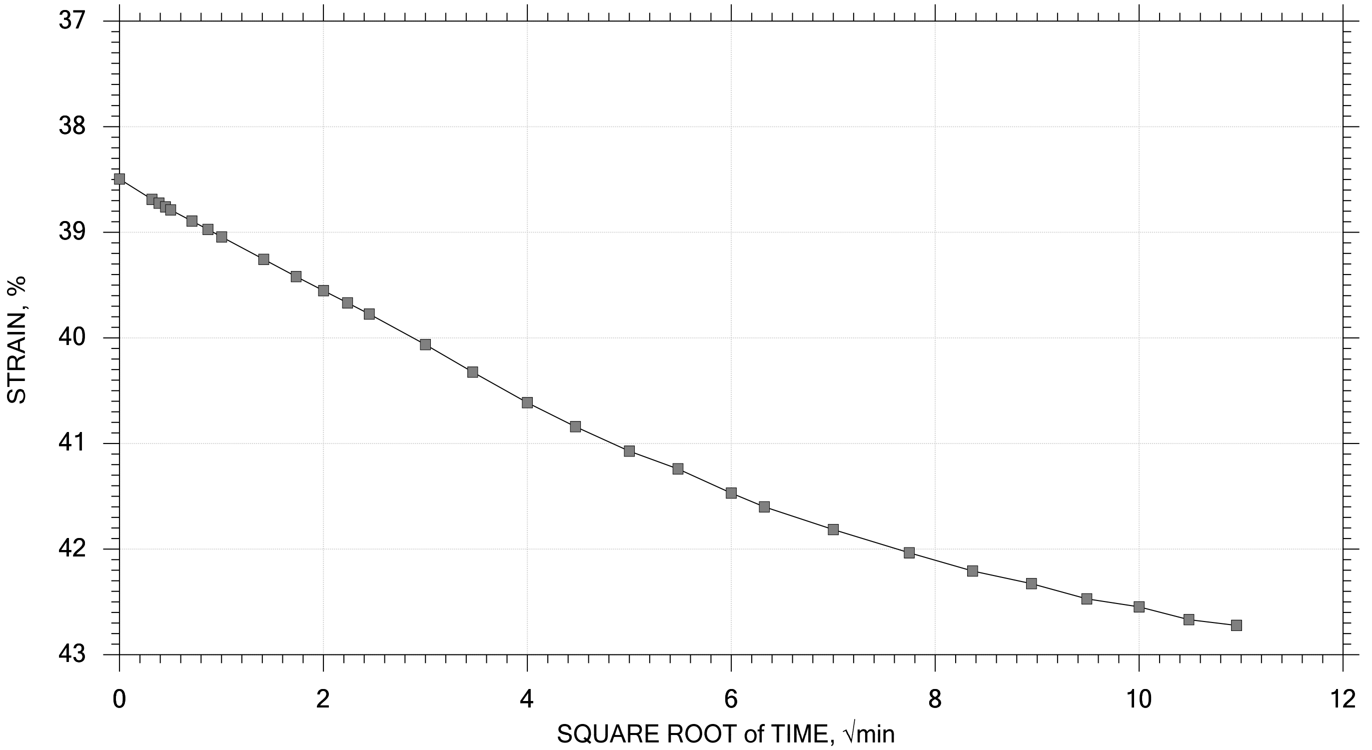
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 10 of 12

Stress: 2000 psf





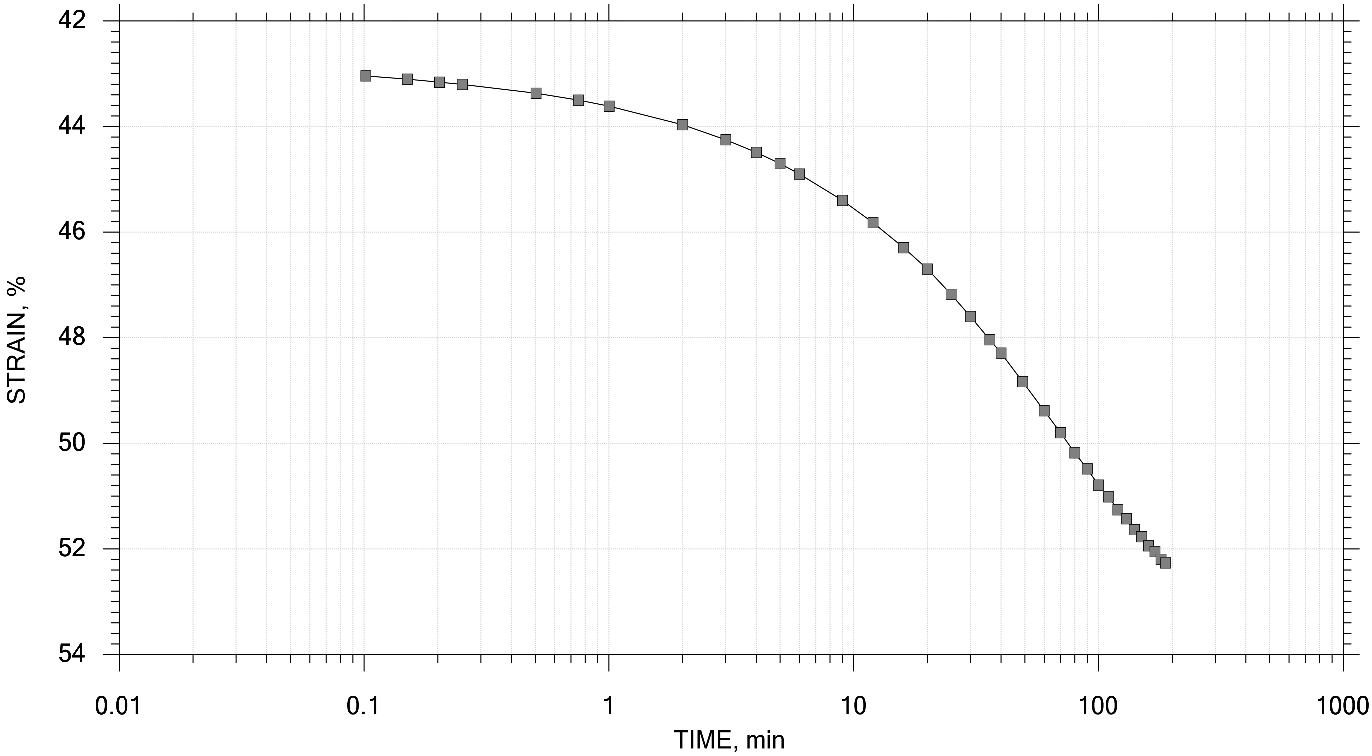
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-11	Tested By: SA	Checked By: SE
	Sample No.: 1	Test Date: 8/1/2017	Elevation: -2.80 ft
	Depth: 0-2 ft	Sample Type: intact	
	Description: Very Soft Black Organic Clay		
	Displacement at End of Increment		

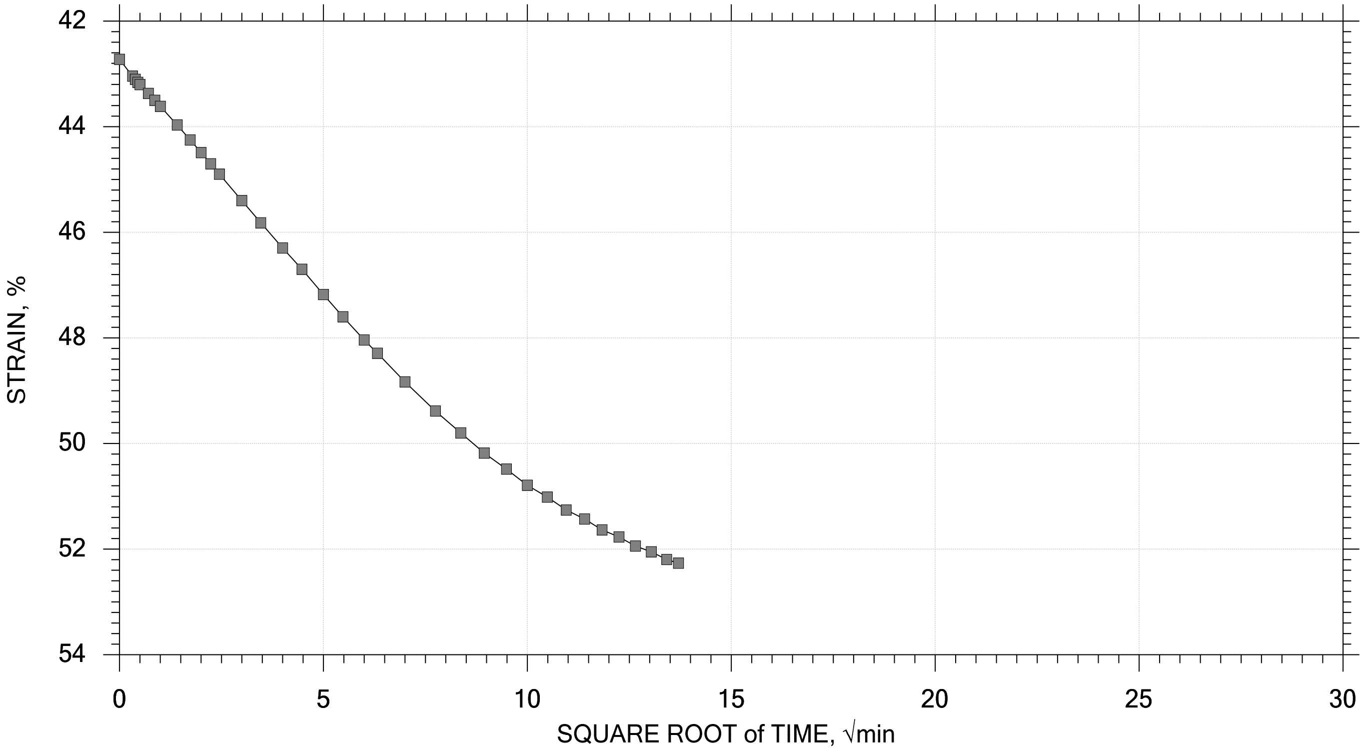
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 11 of 12

Stress: 4000 psf





APS Engineering and Testing

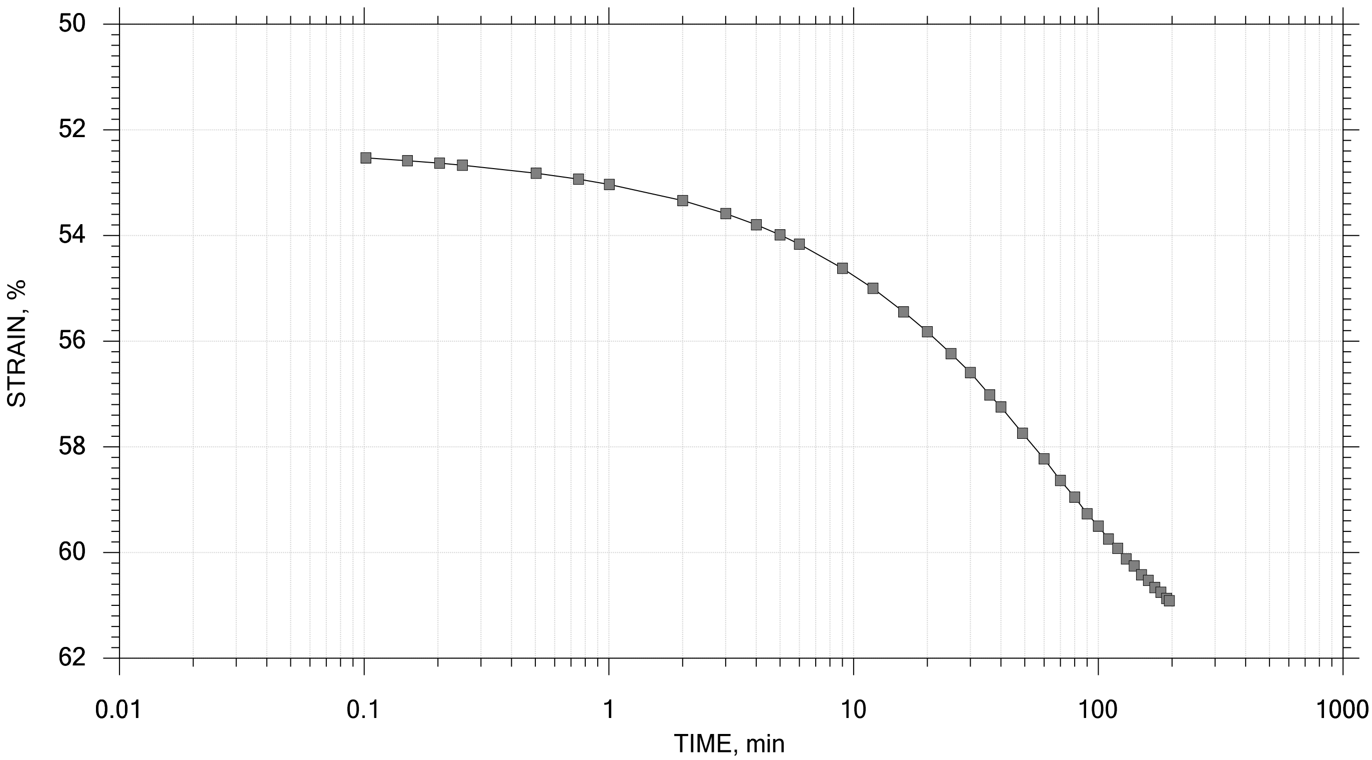
Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
Boring No.: B-11	Tested By: SA	Checked By: SE
Sample No.: 1	Test Date: 8/1/2017	Elevation: -2.80 ft
Depth: 0-2 ft	Sample Type: intact	
Description: Very Soft Black Organic Clay		
Displacement at End of Increment		

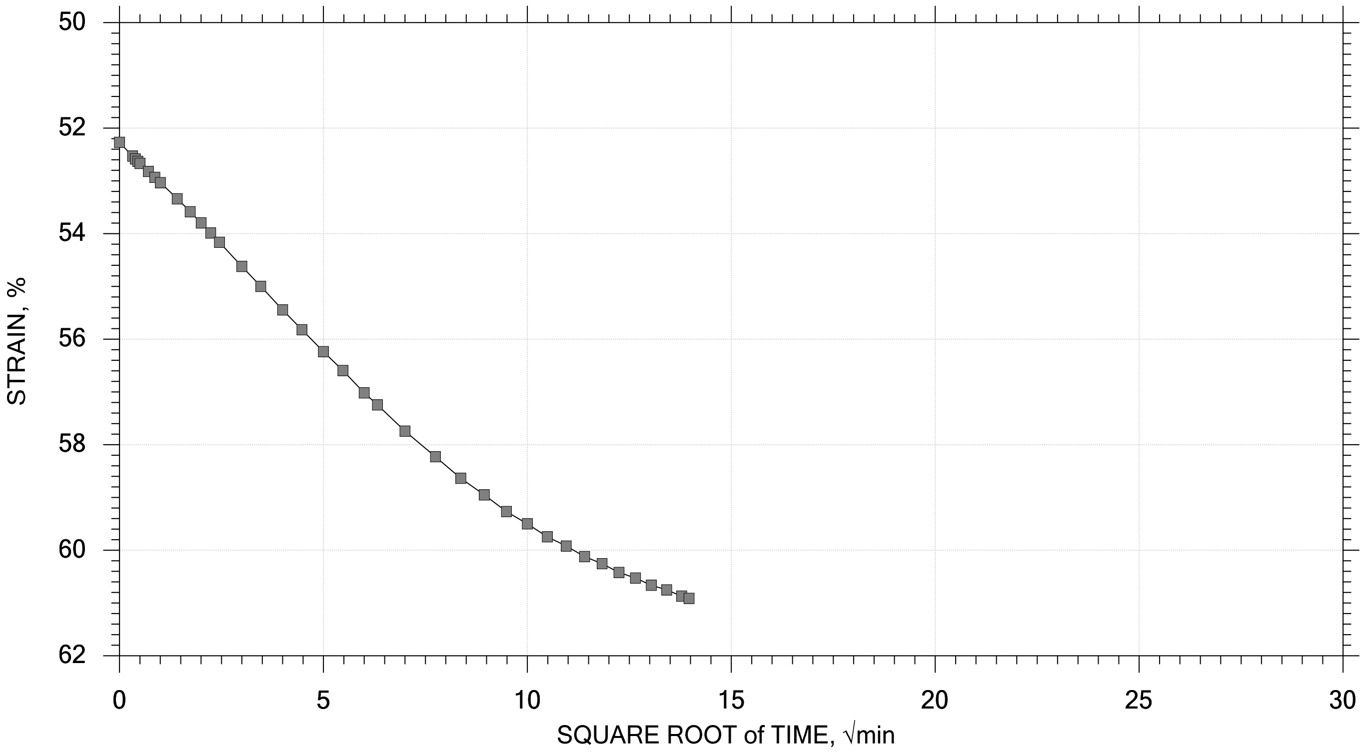
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 12 of 12

Stress: 8000 psf

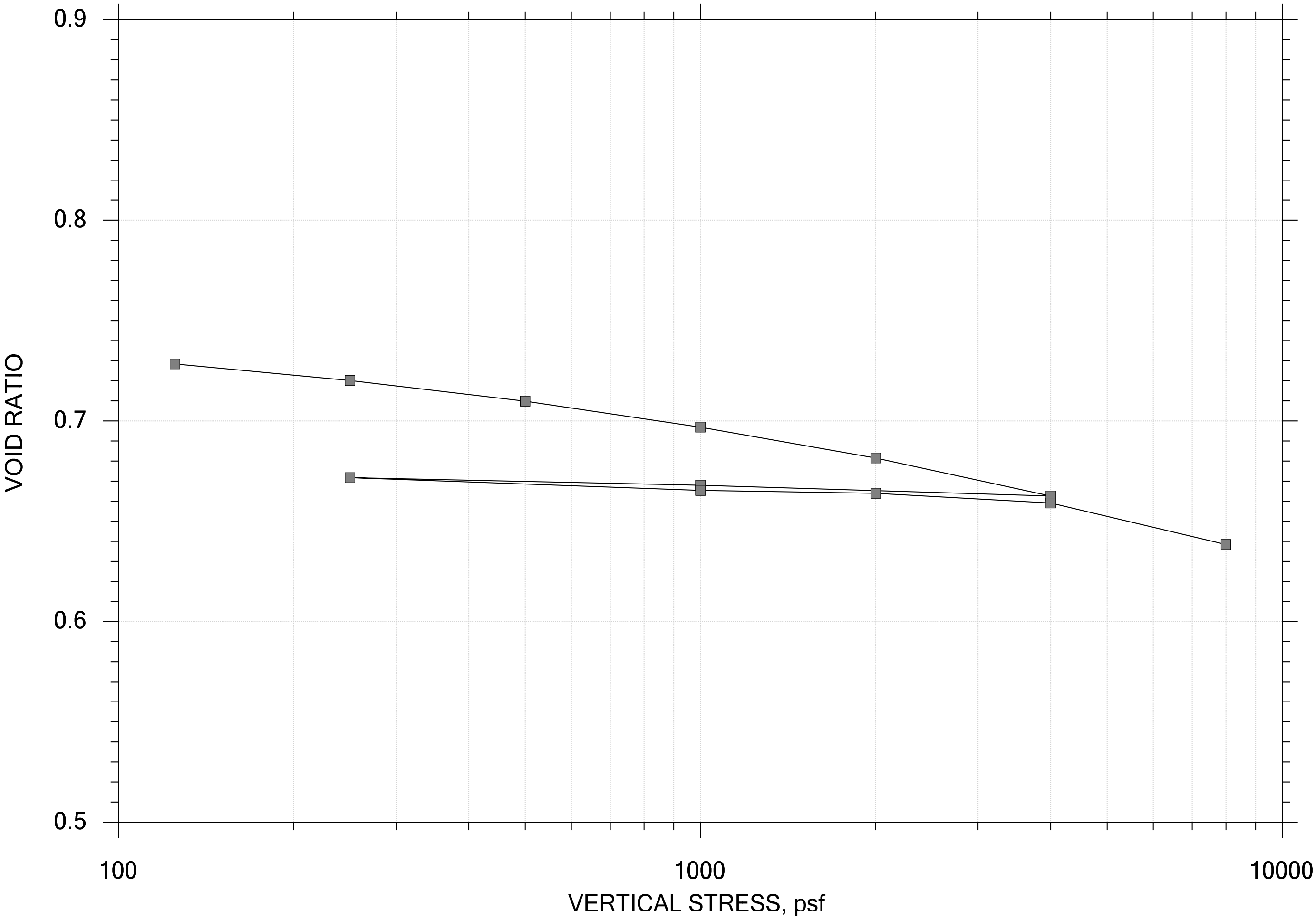


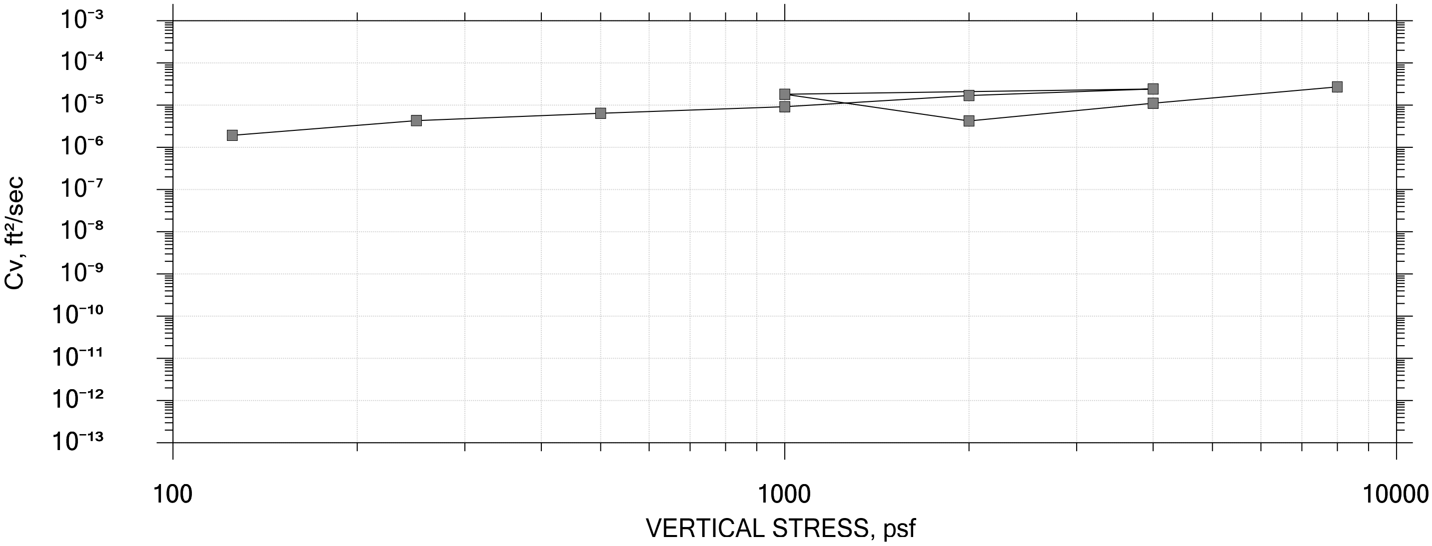


APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-11	Tested By: SA	Checked By: SE
	Sample No.: 1	Test Date: 8/1/2017	Elevation: -2.80 ft
	Depth: 0-2 ft	Sample Type: intact	
	Description: Very Soft Black Organic Clay		
	Displacement at End of Increment		

One-Dimensional Consolidation by ASTM D2435 - Method B

SUMMARY REPORT



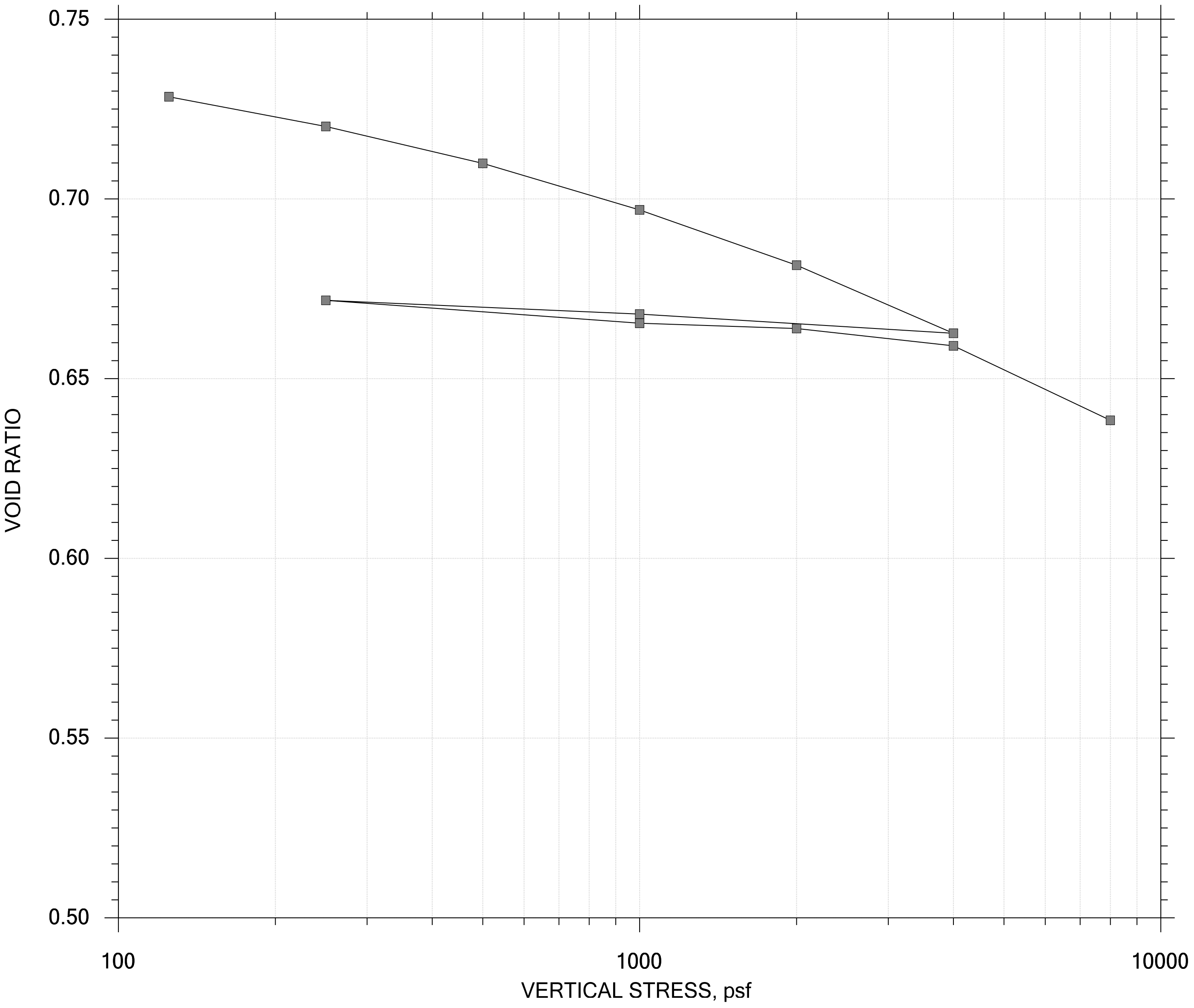


APS Engineering and Testing

Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
Boring No.: B-11	Tested By: SA	Checked By: SE
Sample No.: 1	Test Date: 8/1/2017	Elevation: -2.80 ft
Depth: 0-2 ft	Sample Type: intact	
Description: Very Soft Black Organic Clay		
Displacement at End of Increment		

One-Dimensional Consolidation by ASTM D2435 - Method B

SUMMARY REPORT



APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-11	Tested By: SA	Checked By: SE
	Sample No.: 12	Test Date: 8/4/2017	Elevation: -2.80 ft
	Depth: 25-30 ft	Sample Type: intact	
	Description: Soft Gray Lean Clay		
	Displacement at End of Increment		

One-Dimensional Consolidation by ASTM D2435 - Method B

Project: PO-169
Boring No.: B-11
Sample No.: 12

Location: Lake Saint Catherine
Tested By: SA
Test Date: 8/4/17
Sample Type: Intact

Project No.: APS1706-G038
Checked By: SE
Depth: 25-30 ft
Elevation: -2.80 ft

Soil Description: Soft Gray Lean Clay

Estimated Specific Gravity: 2.68
Initial Void Ratio: 0.746
Final Void Ratio: 0.638

Liquid Limit: 33
Plastic Limit: 24
Plasticity Index: 9

Specimen Diameter: 2.50 in
Initial Height: 1.00 in
Final Height: 0.94 in

	Before Consolidation		After Consolidation	
	Trimmings	Specimen+Ring	Specimen+Ring	Trimmings
Container ID	pr-6	RING	pr9	pr9
Wt. Container + Wet Soil, gm	92.500	165.25	161.15	161.15
Wt. Container + Dry Soil, gm	73.940	131.73	131.73	131.73
Wt. Container, gm	8.2300	8.1800	8.1800	8.1800
Wt. Dry Soil, gm	65.710	123.55	123.55	123.55
Water Content, %	28.25	27.13	23.81	23.81
Void Ratio	---	0.746	0.638	---
Degree of Saturation, %	---	97.56	100.00	---
Dry Unit Weight, pcf	---	95.885	102.15	---

Note: Specific Gravity and Void Ratios are calculated assuming the degree of saturation equals 100% at the end of the test. Therefore, values may not represent actual values for the specimen.

One-Dimensional Consolidation by ASTM D2435 - Method B

Project: PO-169
Boring No.: B-11
Sample No.: 12

Location: Lake Saint Catherine
Tested By: SA
Test Date: 8/4/17
Sample Type: Intact

Project No.: APS1706-G038
Checked By: SE
Depth: 25-30 ft
Elevation: -2.80 ft

Soil Description: Soft Gray Lean Clay

Displacement at End of Increment

	Applied Stress psf	Final Displacement in	Void Ratio	Strain at End %	Sq.Rt T90 min	Cv ft²/sec	Mv 1/psf	k cm/sec
1	125.	0.009816	0.728	0.982	13.973	1.74e-006	7.85e-005	2.60e-007
2	250.	0.01453	0.720	1.45	6.092	3.93e-006	3.77e-005	2.82e-007
3	500.	0.02042	0.710	2.04	3.724	6.36e-006	2.36e-005	2.85e-007
4	1.00e+003	0.02785	0.697	2.79	3.225	7.25e-006	1.49e-005	2.05e-007
5	2.00e+003	0.03665	0.682	3.67	1.409	1.63e-005	8.80e-006	2.73e-007
6	4.00e+003	0.04750	0.663	4.75	1.065	2.12e-005	5.42e-006	2.18e-007
7	1.00e+003	0.04444	0.668	4.44	2.460	9.08e-006	1.02e-006	1.76e-008
8	250.	0.04226	0.672	4.23	2.817	7.97e-006	2.92e-006	4.42e-008
9	1.00e+003	0.04589	0.665	4.59	1.347	1.66e-005	4.85e-006	1.54e-007
10	2.00e+003	0.04675	0.664	4.68	4.880	4.57e-006	8.62e-007	7.50e-009
11	4.00e+003	0.04951	0.659	4.95	3.727	5.97e-006	1.38e-006	1.56e-008
12	8.00e+003	0.06137	0.638	6.14	1.023	2.14e-005	2.97e-006	1.21e-007

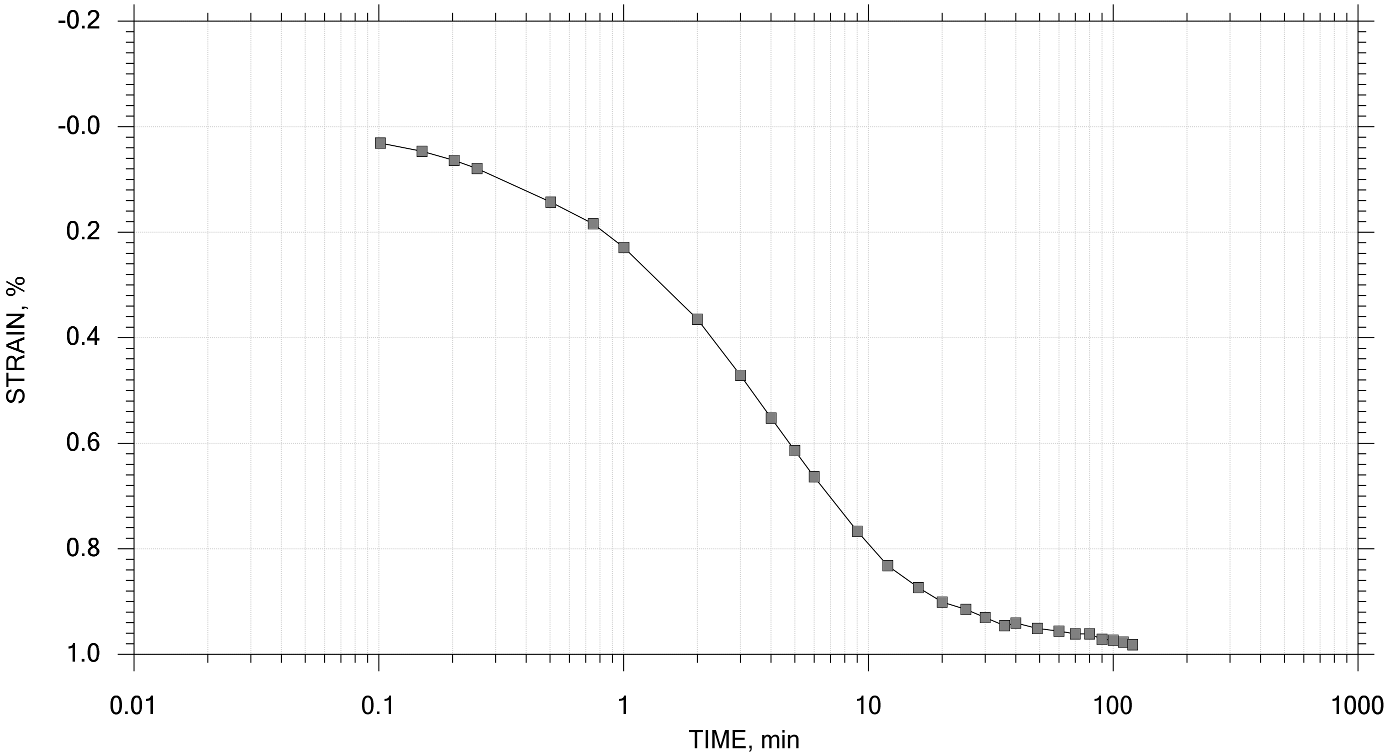
	Applied Stress psf	Final Displacement in	Void Ratio	Strain at End %	Log T50 min	Cv ft²/sec	Mv 1/psf	k cm/sec	Ca %
1	125.	0.009816	0.728	0.982	2.635	2.14e-006	7.85e-005	3.20e-007	0.00e+000
2	250.	0.01453	0.720	1.45	1.285	4.33e-006	3.77e-005	3.11e-007	0.00e+000
3	500.	0.02042	0.710	2.04	0.856	6.43e-006	2.36e-005	2.88e-007	0.00e+000
4	1.00e+003	0.02785	0.697	2.79	0.461	1.18e-005	1.49e-005	3.33e-007	0.00e+000
5	2.00e+003	0.03665	0.682	3.67	0.333	1.60e-005	8.80e-006	2.68e-007	0.00e+000
6	4.00e+003	0.04750	0.663	4.75	0.218	2.40e-005	5.42e-006	2.48e-007	0.00e+000
7	1.00e+003	0.04444	0.668	4.44	0.000	0.00e+000	1.02e-006	0.00e+000	0.00e+000
8	250.	0.04226	0.672	4.23	0.450	1.16e-005	2.92e-006	6.43e-008	0.00e+000
9	1.00e+003	0.04589	0.665	4.59	0.000	0.00e+000	4.85e-006	0.00e+000	0.00e+000
10	2.00e+003	0.04675	0.664	4.68	0.000	0.00e+000	8.62e-007	0.00e+000	0.00e+000
11	4.00e+003	0.04951	0.659	4.95	0.235	2.20e-005	1.38e-006	5.77e-008	0.00e+000
12	8.00e+003	0.06137	0.638	6.14	0.172	2.95e-005	2.97e-006	1.67e-007	0.00e+000

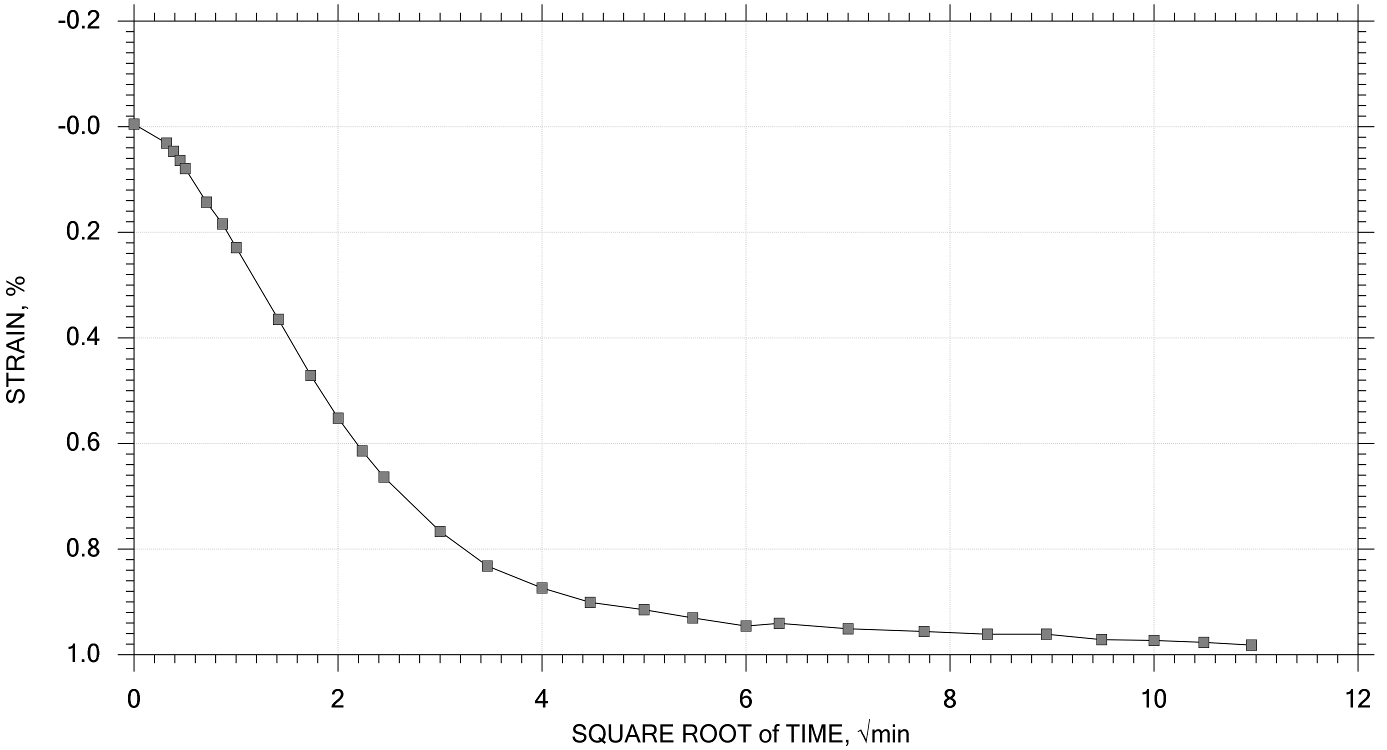
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 1 of 12

Stress: 125 psf





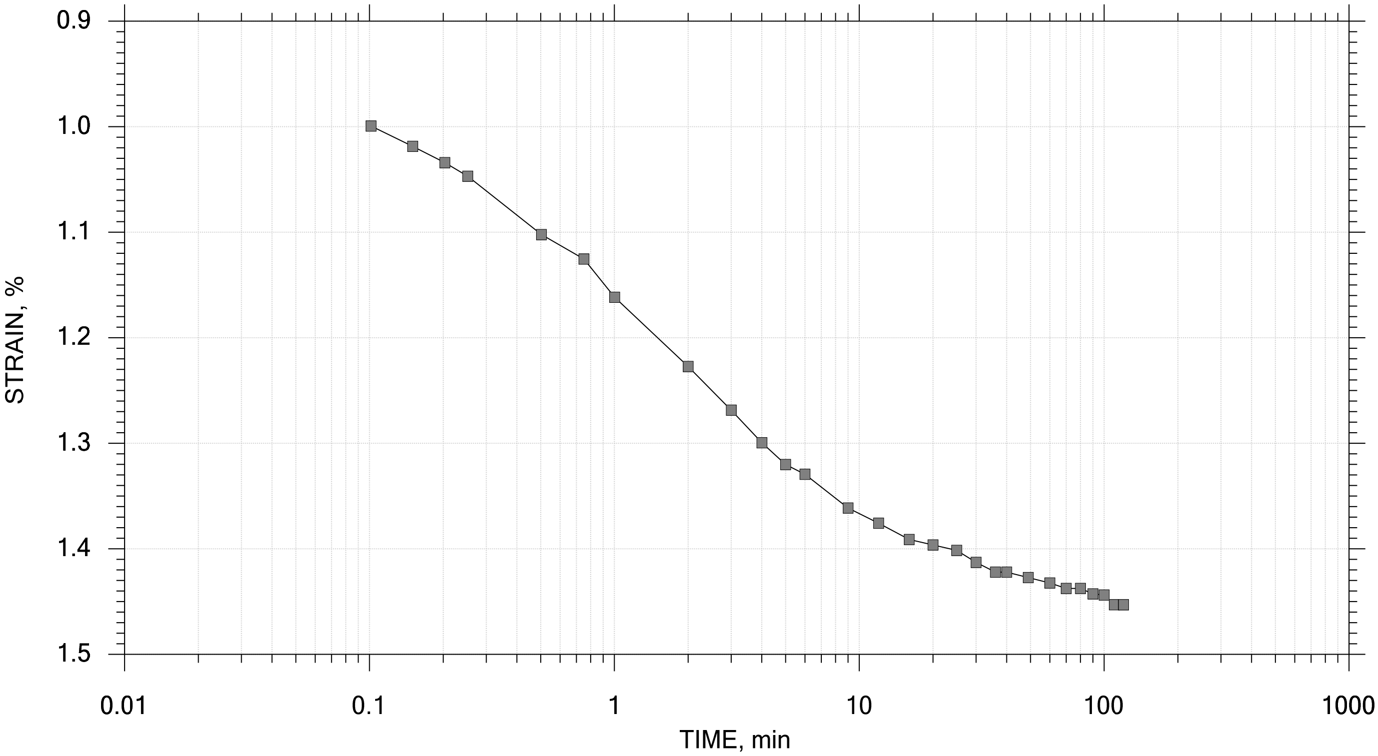
Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
Boring No.: B-11	Tested By: SA	Checked By: SE
Sample No.: 12	Test Date: 8/4/2017	Elevation: -2.80 ft
Depth: 25-30 ft	Sample Type: intact	
Description: Soft Gray Lean Clay		
Displacement at End of Increment		

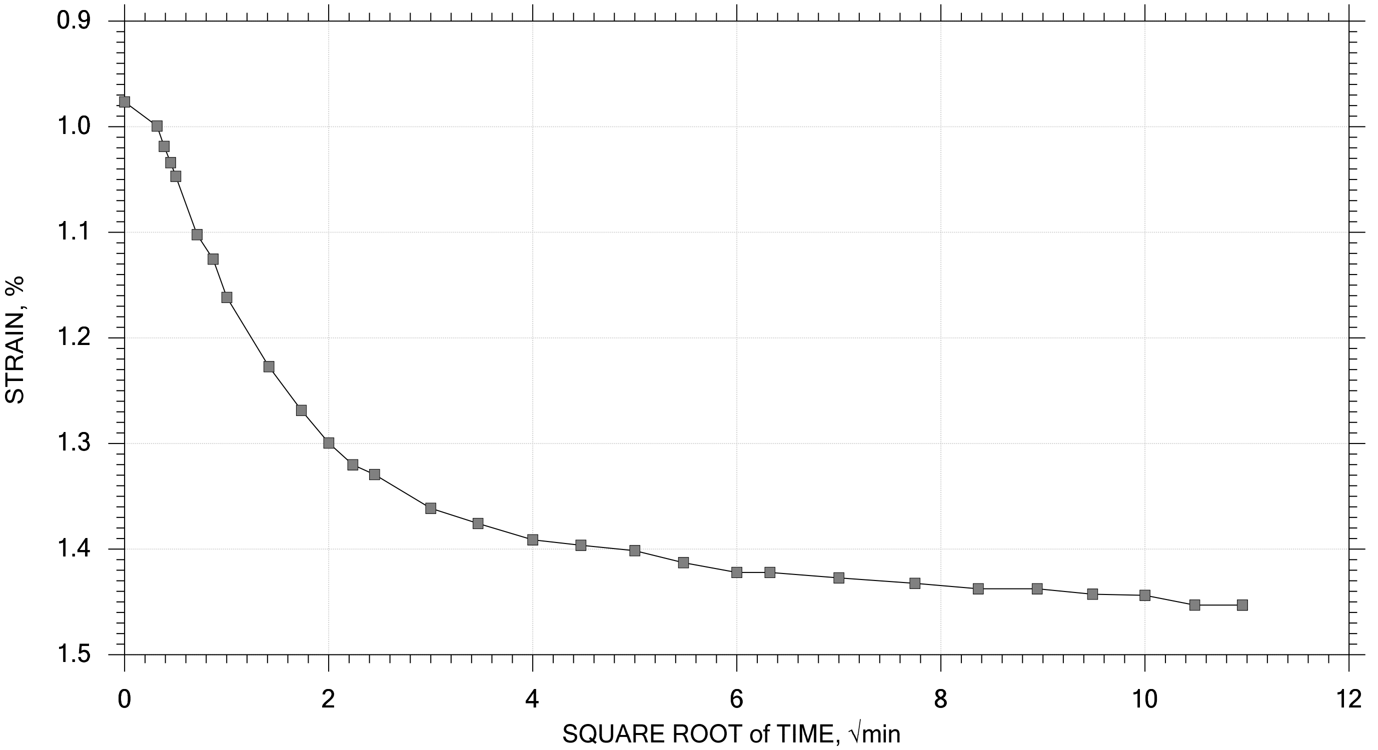
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 2 of 12

Stress: 250 psf





Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
Boring No.: B-11	Tested By: SA	Checked By: SE
Sample No.: 12	Test Date: 8/4/2017	Elevation: -2.80 ft
Depth: 25-30 ft	Sample Type: intact	
Description: Soft Gray Lean Clay		
Displacement at End of Increment		

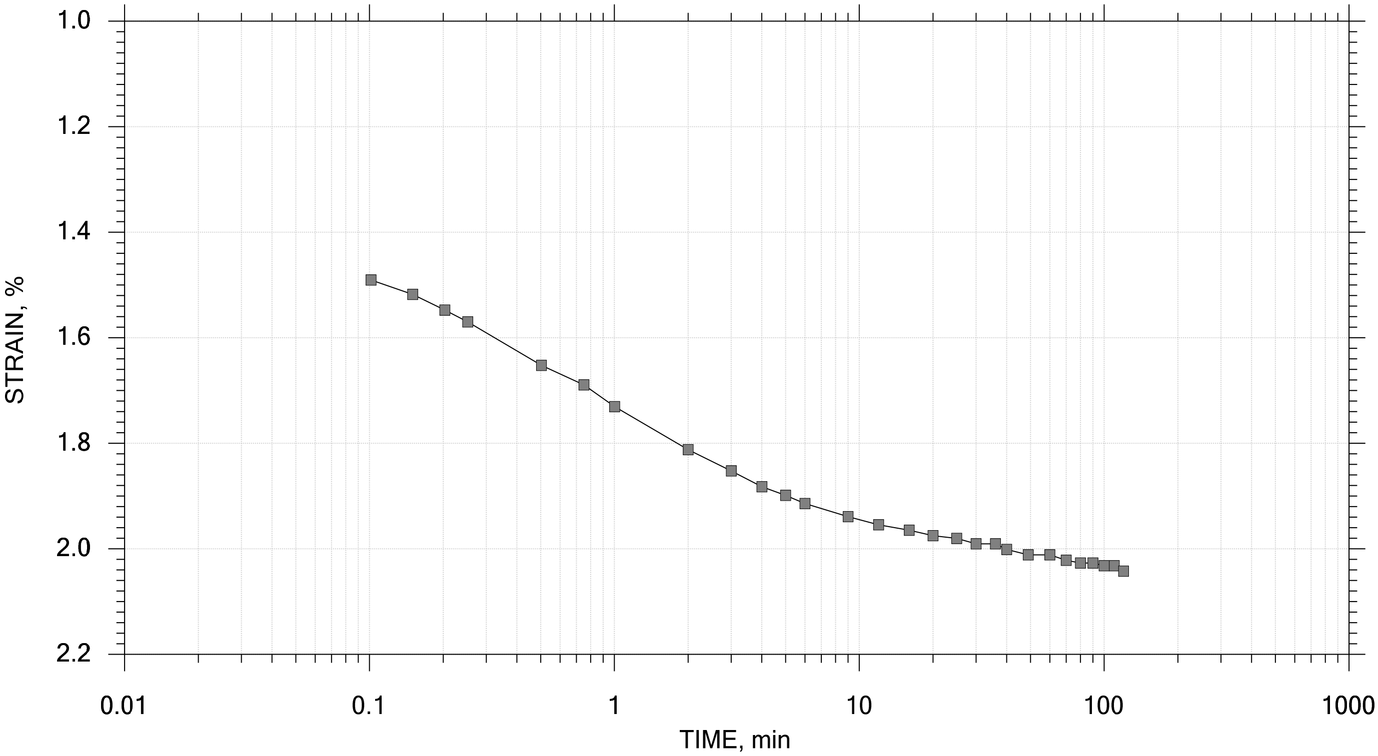
APS Engineering and Testing

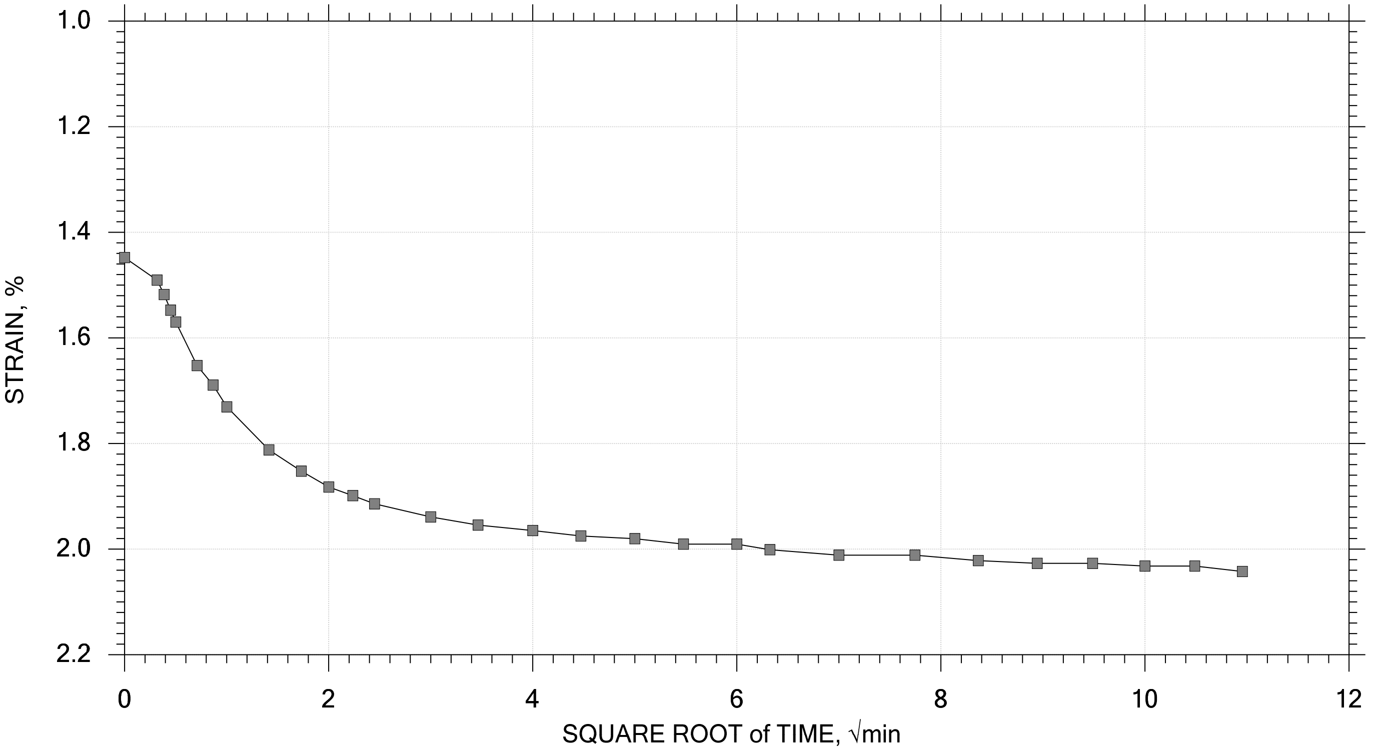
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 3 of 12

Stress: 500 psf





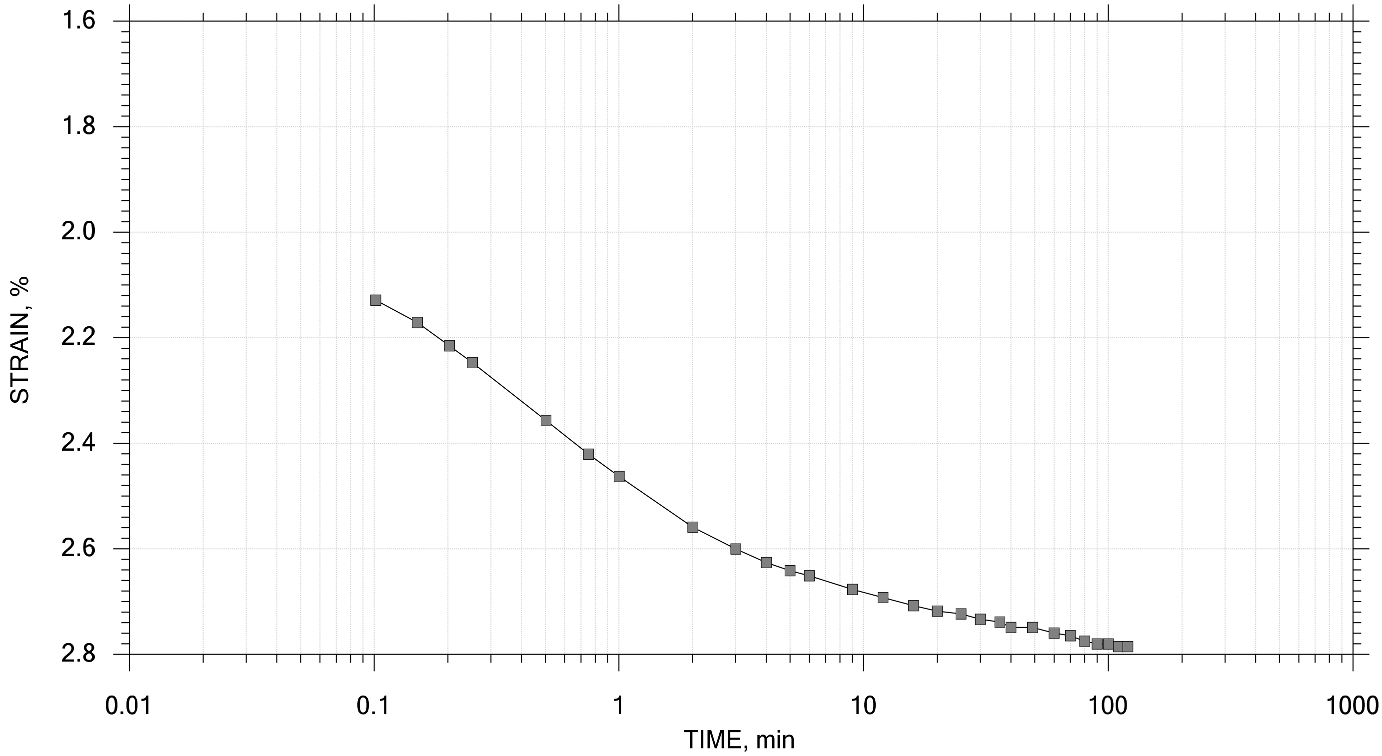
APS Engineering and Testing			
	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-11	Tested By: SA	Checked By: SE
	Sample No.: 12	Test Date: 8/4/2017	Elevation: -2.80 ft
	Depth: 25-30 ft	Sample Type: intact	
	Description: Soft Gray Lean Clay		
	Displacement at End of Increment		

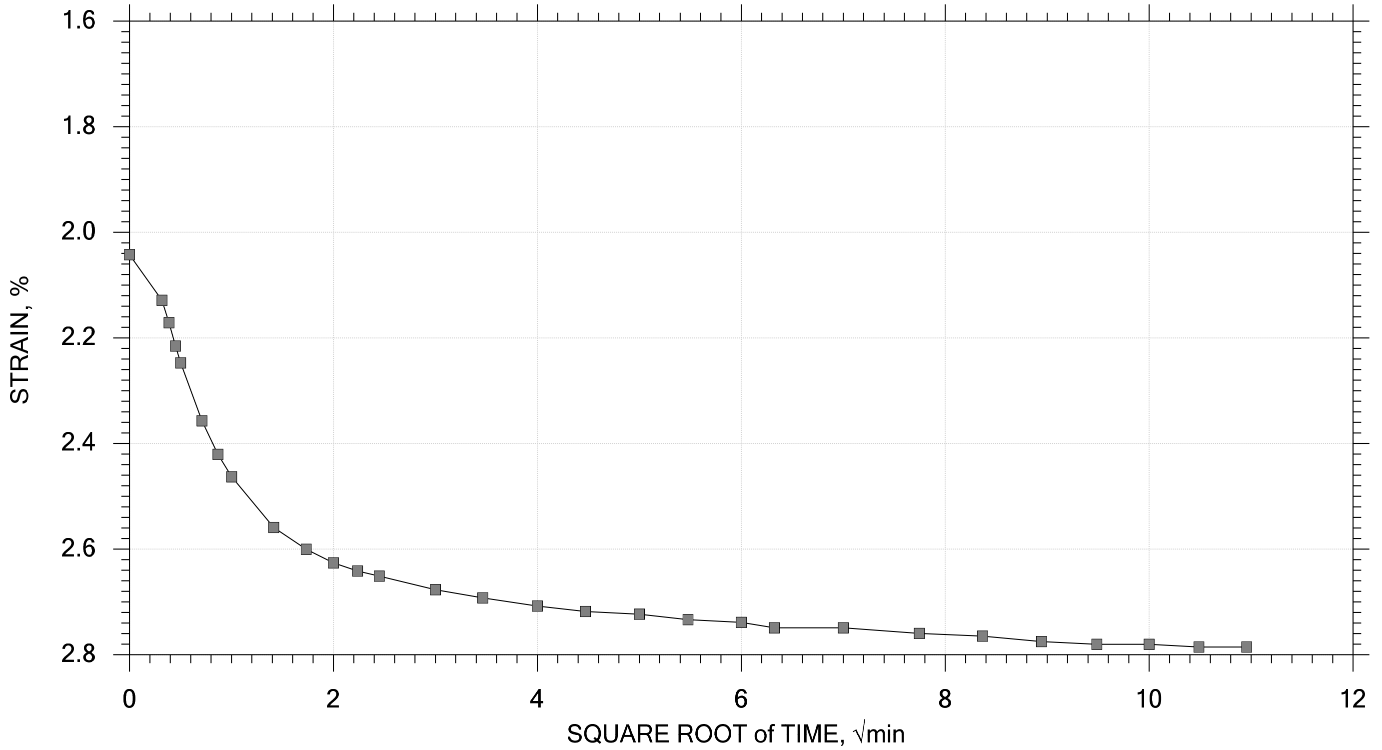
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 4 of 12

Stress: 1000 psf





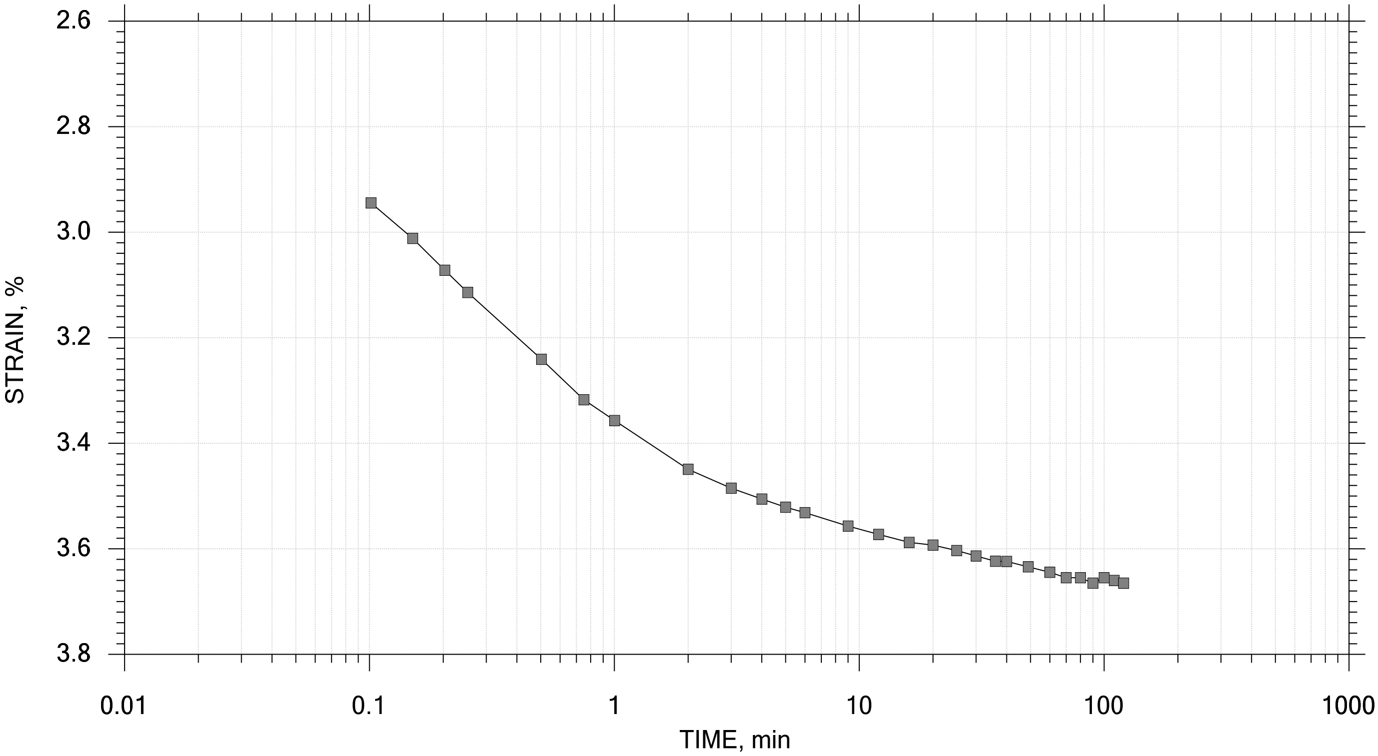
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-11	Tested By: SA	Checked By: SE
	Sample No.: 12	Test Date: 8/4/2017	Elevation: -2.80 ft
	Depth: 25-30 ft	Sample Type: intact	
	Description: Soft Gray Lean Clay		
	Displacement at End of Increment		

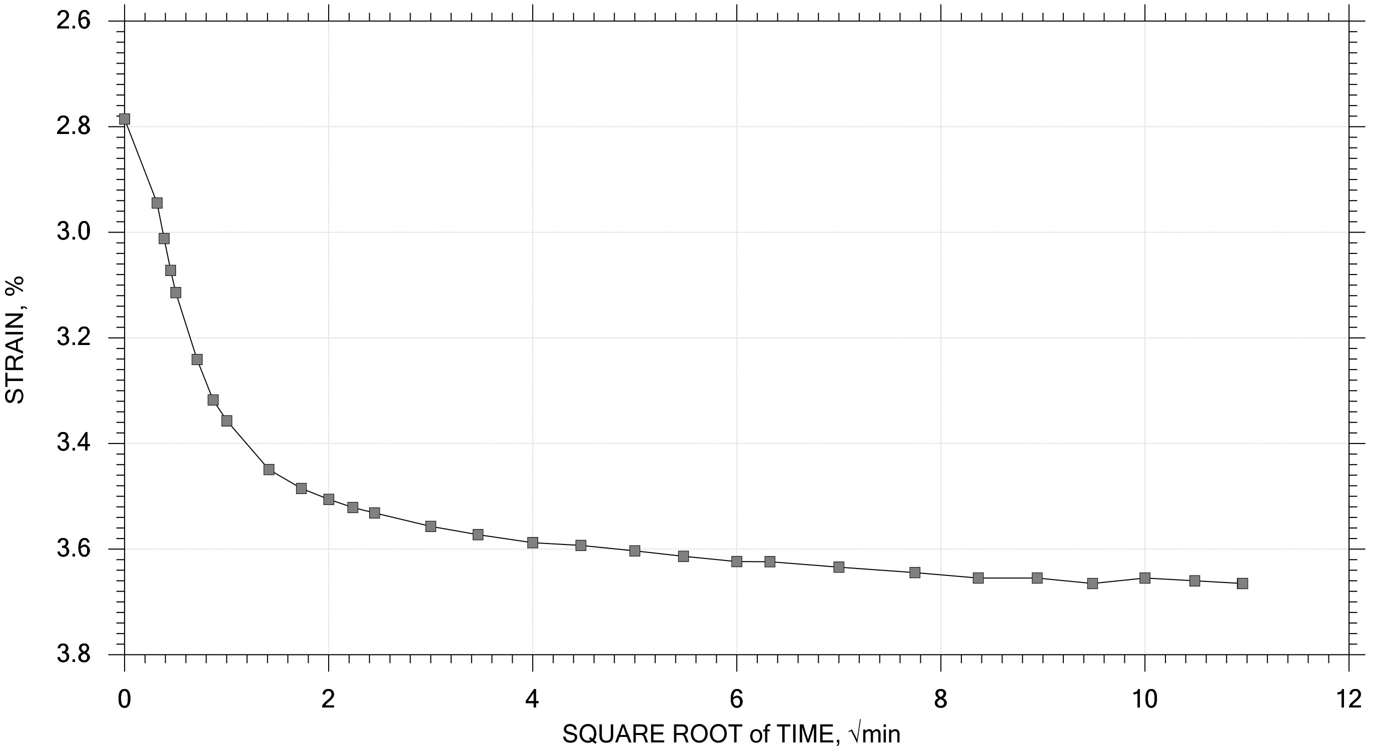
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 5 of 12

Stress: 2000 psf





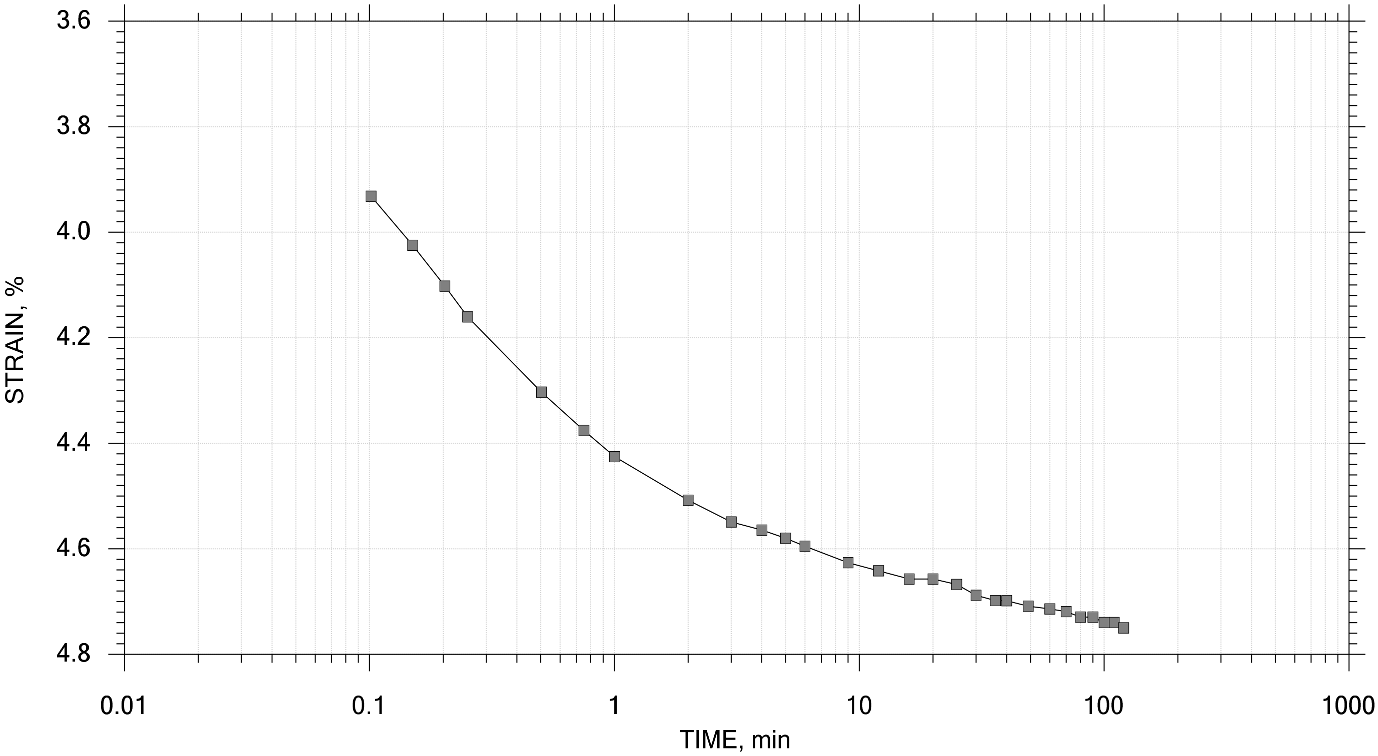
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-11	Tested By: SA	Checked By: SE
	Sample No.: 12	Test Date: 8/4/2017	Elevation: -2.80 ft
	Depth: 25-30 ft	Sample Type: intact	
	Description: Soft Gray Lean Clay		
	Displacement at End of Increment		

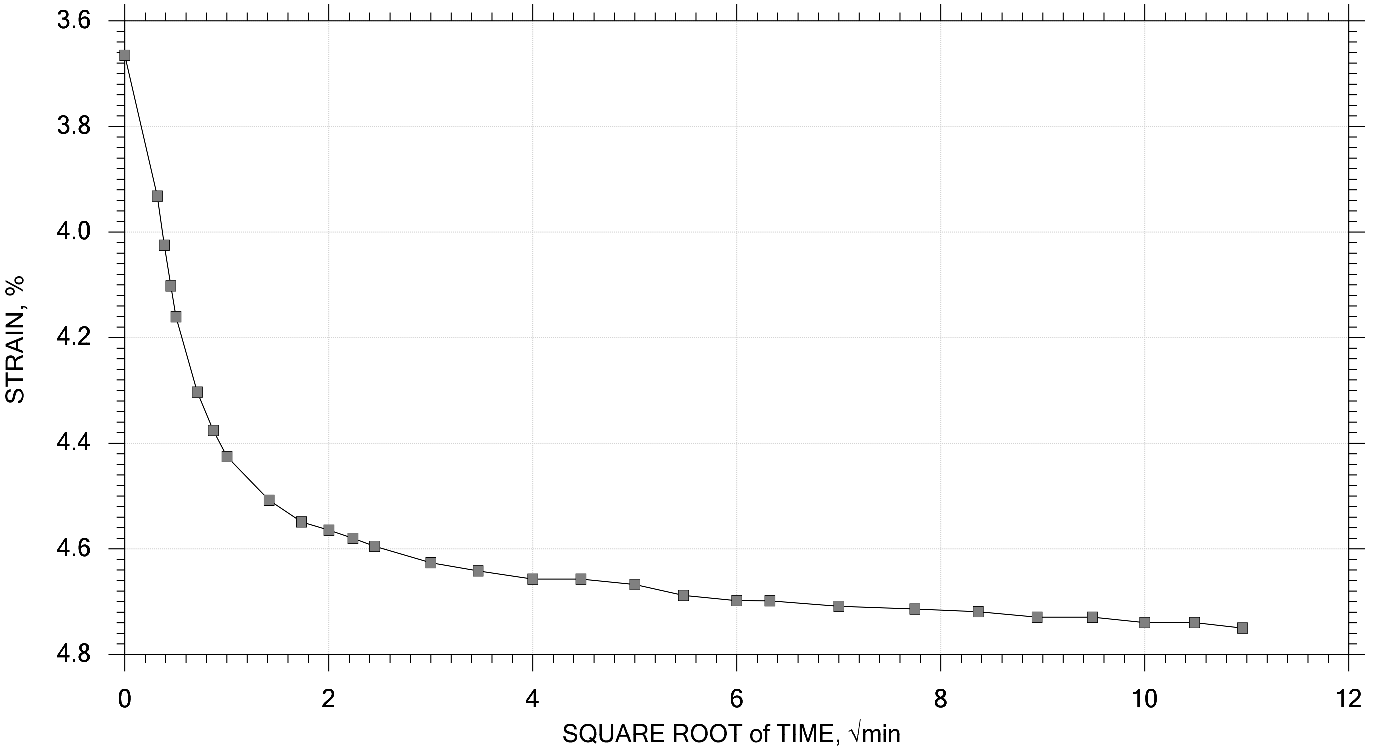
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 6 of 12

Stress: 4000 psf





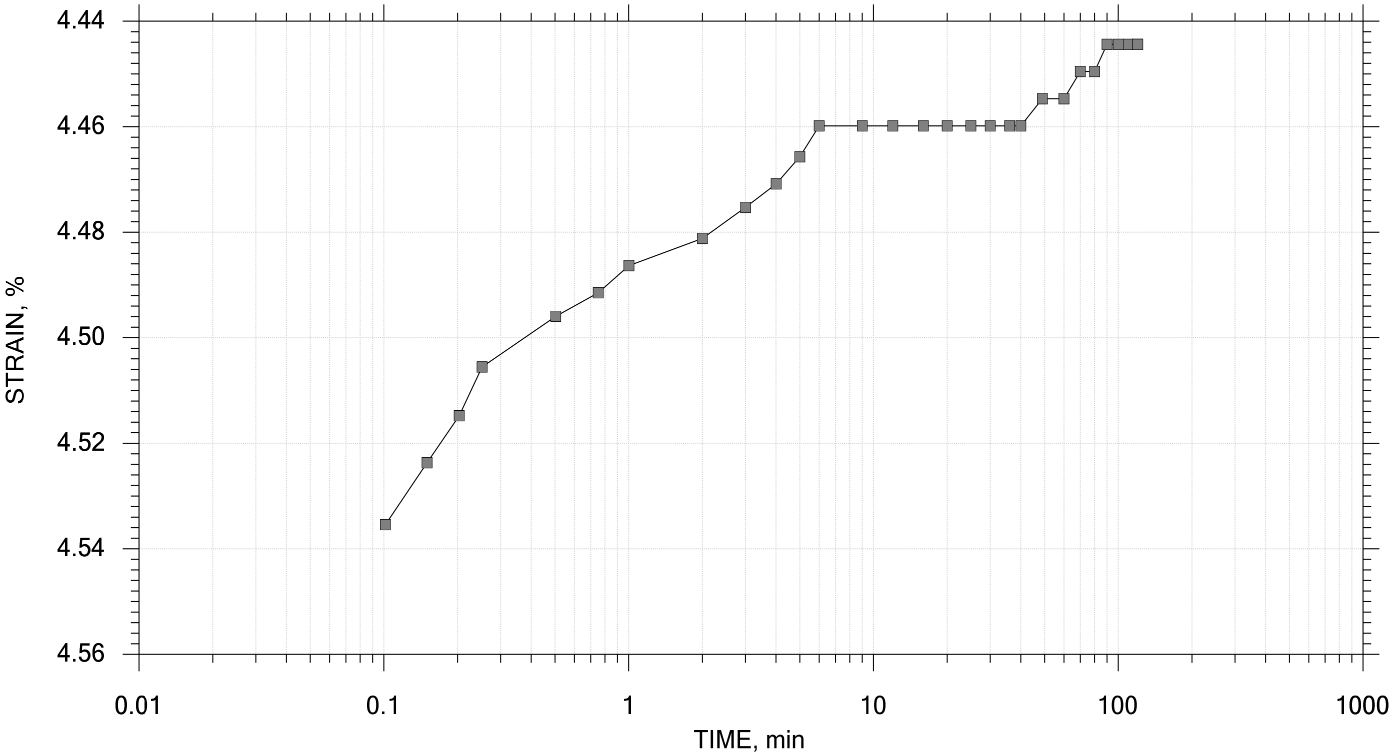
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-11	Tested By: SA	Checked By: SE
	Sample No.: 12	Test Date: 8/4/2017	Elevation: -2.80 ft
	Depth: 25-30 ft	Sample Type: intact	
	Description: Soft Gray Lean Clay		
	Displacement at End of Increment		

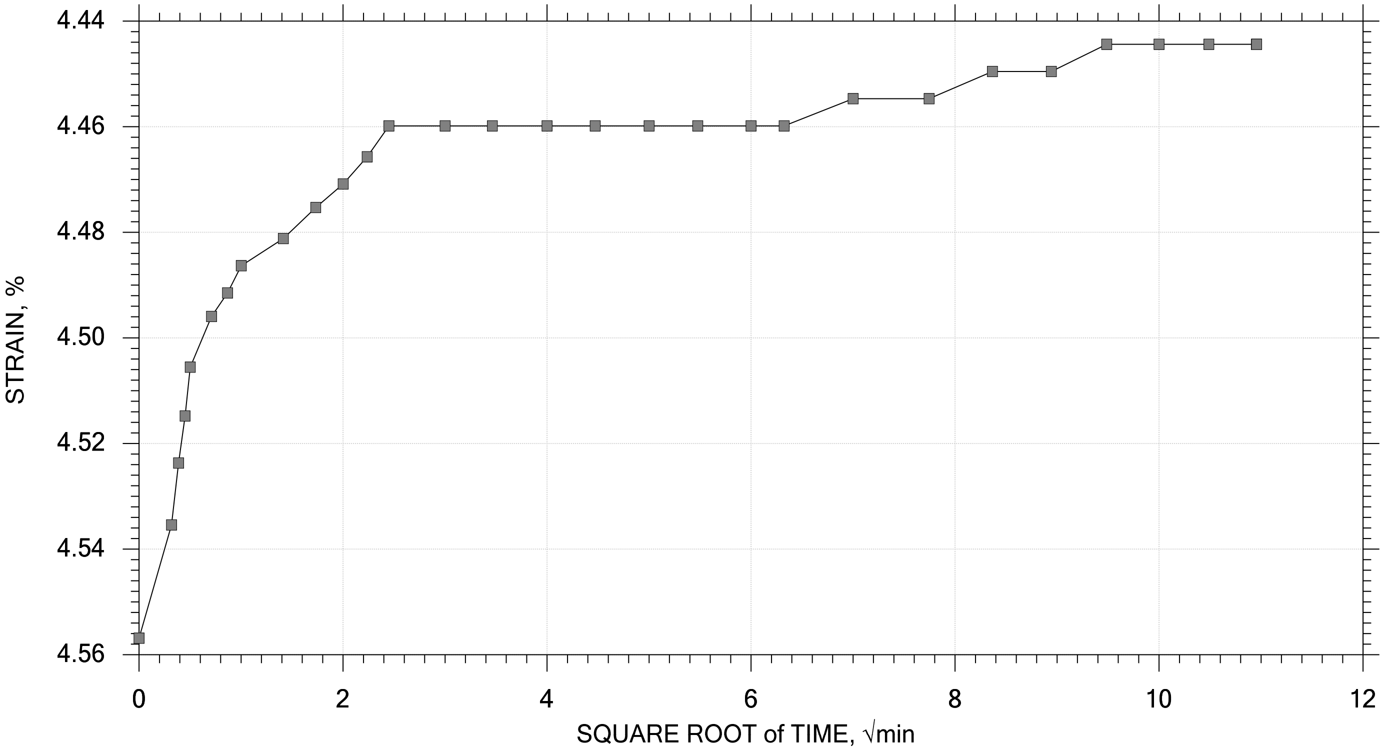
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 7 of 12

Stress: 1000 psf





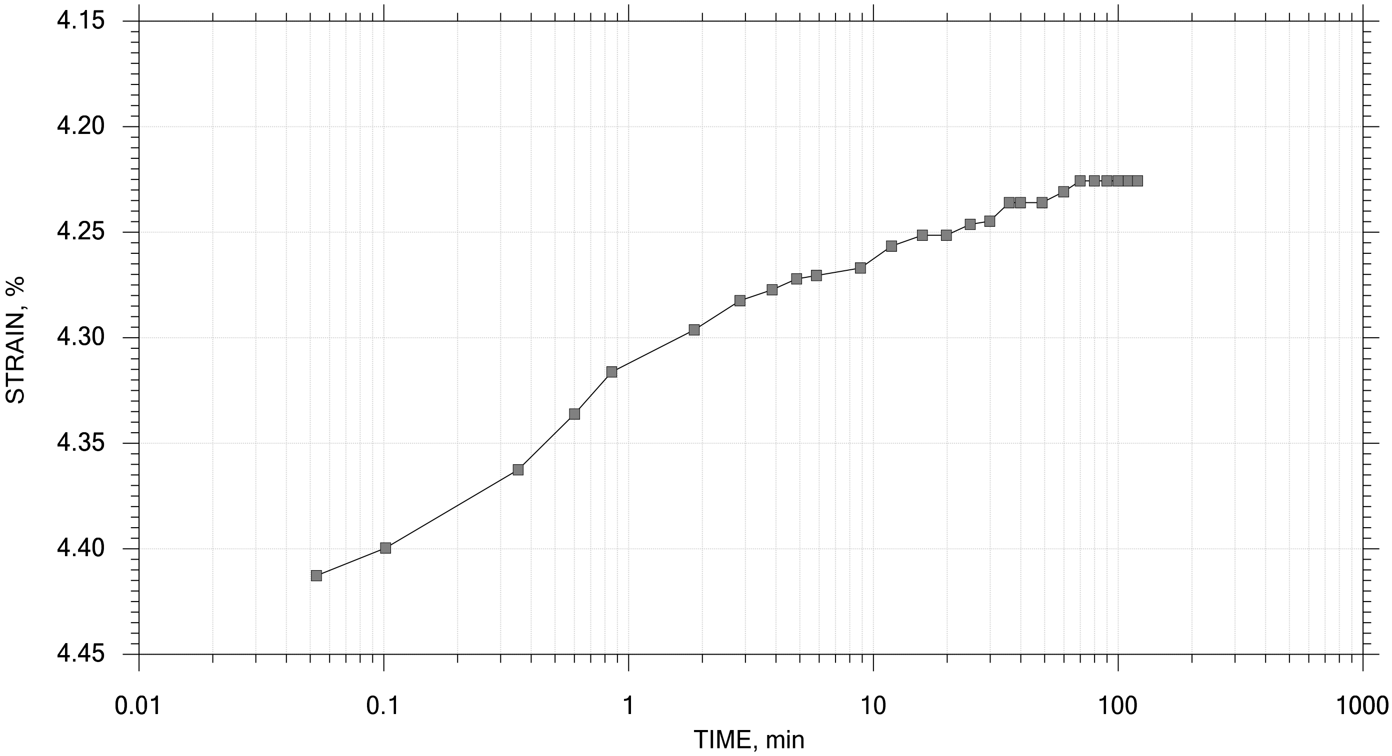
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-11	Tested By: SA	Checked By: SE
	Sample No.: 12	Test Date: 8/4/2017	Elevation: -2.80 ft
	Depth: 25-30 ft	Sample Type: intact	
	Description: Soft Gray Lean Clay		
	Displacement at End of Increment		

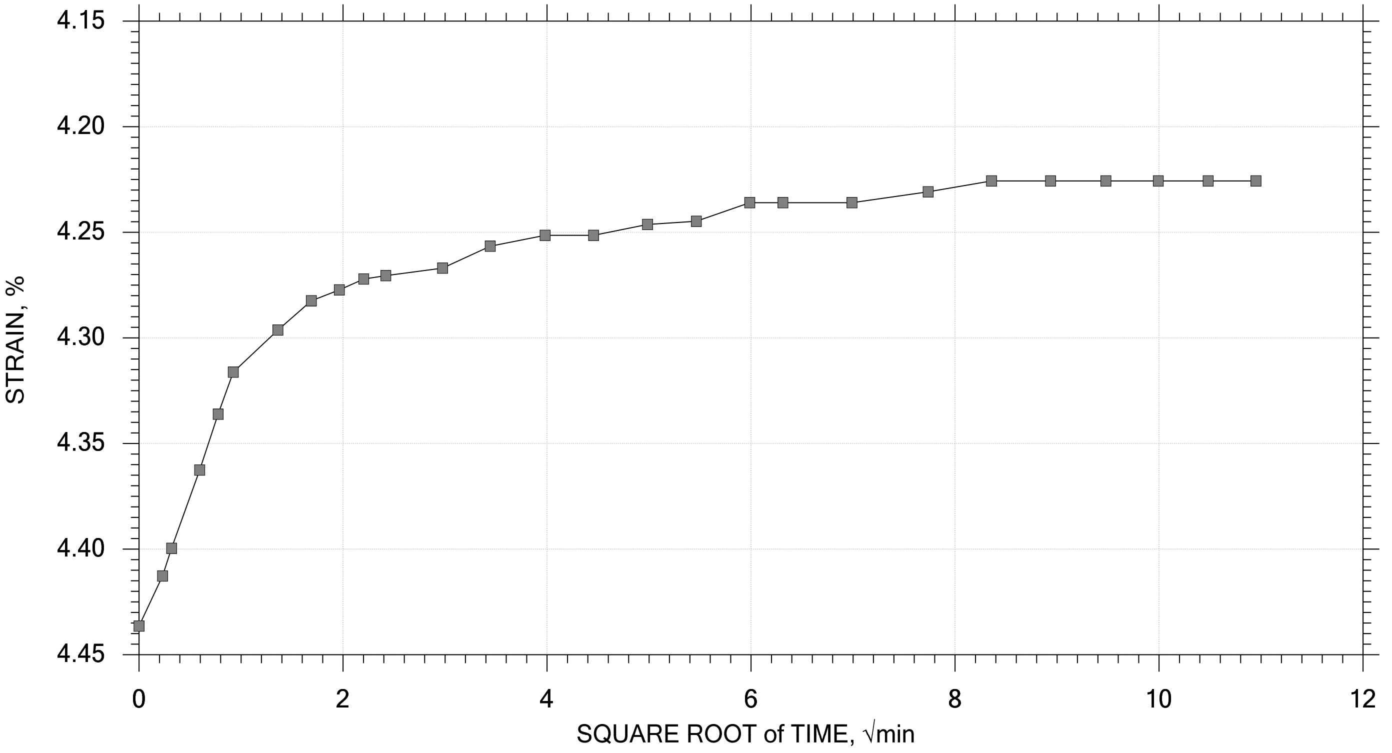
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 8 of 12

Stress: 250 psf





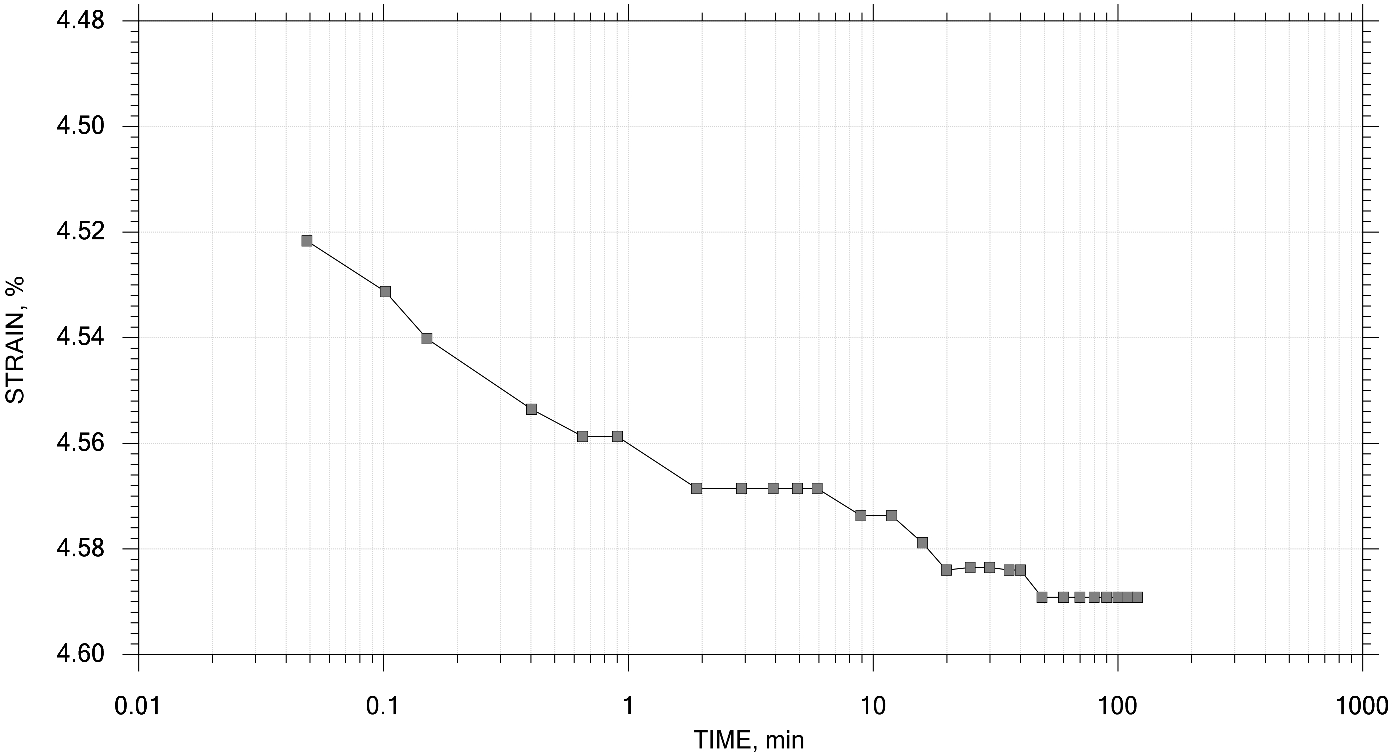
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-11	Tested By: SA	Checked By: SE
	Sample No.: 12	Test Date: 8/4/2017	Elevation: -2.80 ft
	Depth: 25-30 ft	Sample Type: intact	
	Description: Soft Gray Lean Clay		
	Displacement at End of Increment		

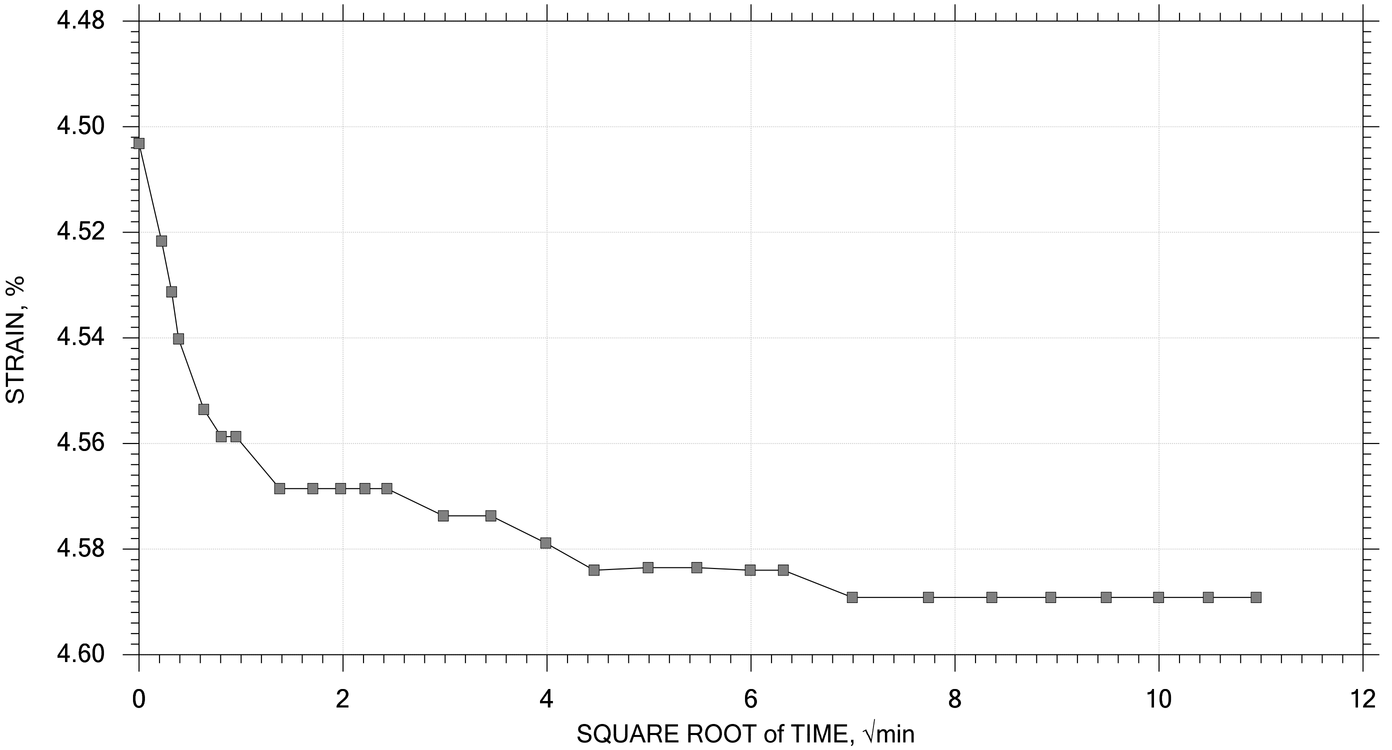
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 9 of 12

Stress: 1000 psf





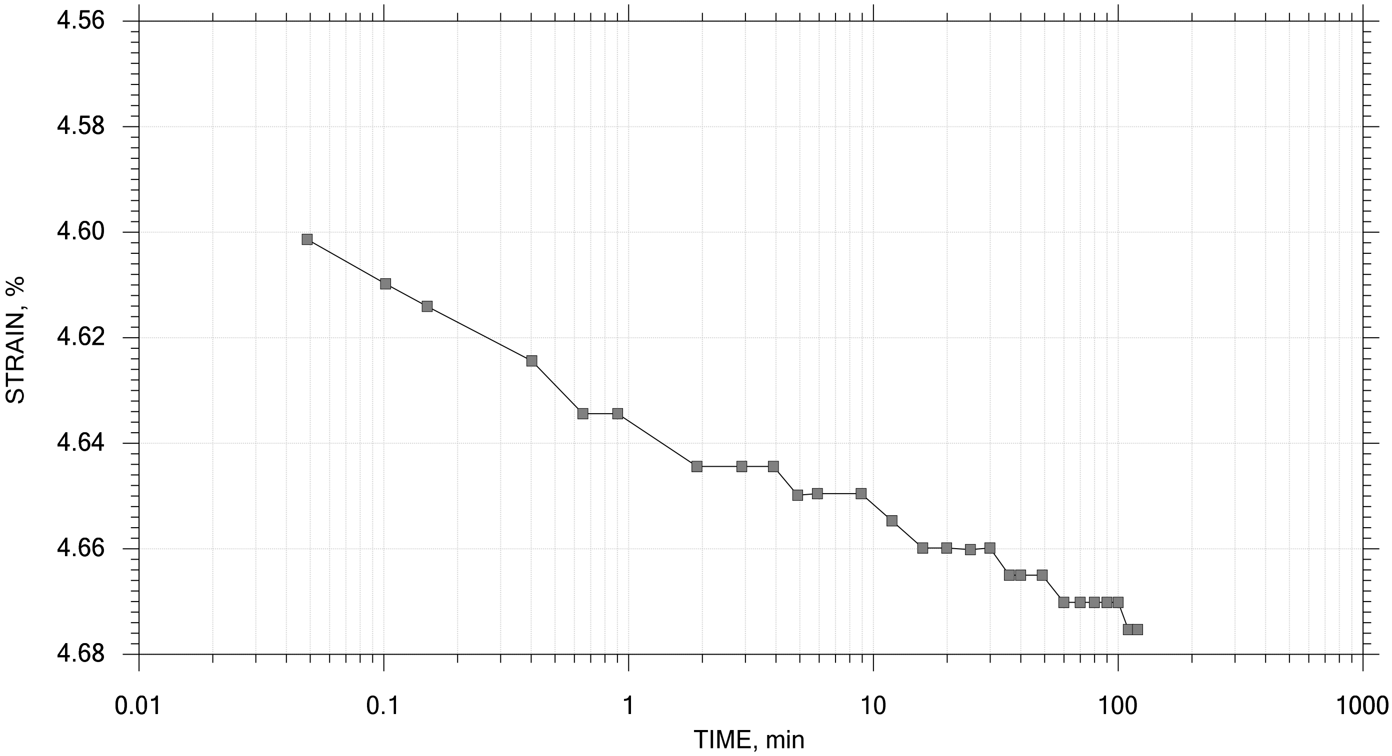
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-11	Tested By: SA	Checked By: SE
	Sample No.: 12	Test Date: 8/4/2017	Elevation: -2.80 ft
	Depth: 25-30 ft	Sample Type: intact	
	Description: Soft Gray Lean Clay		
	Displacement at End of Increment		

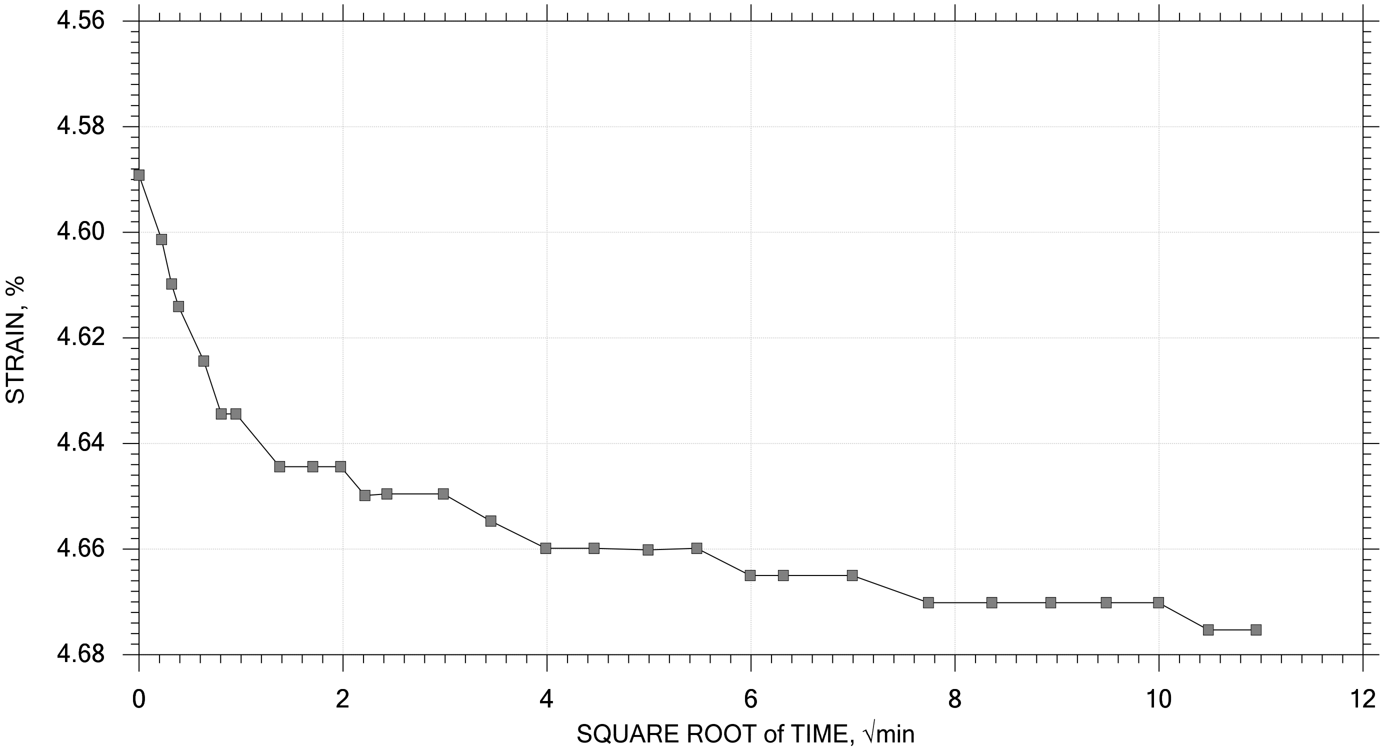
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 10 of 12

Stress: 2000 psf





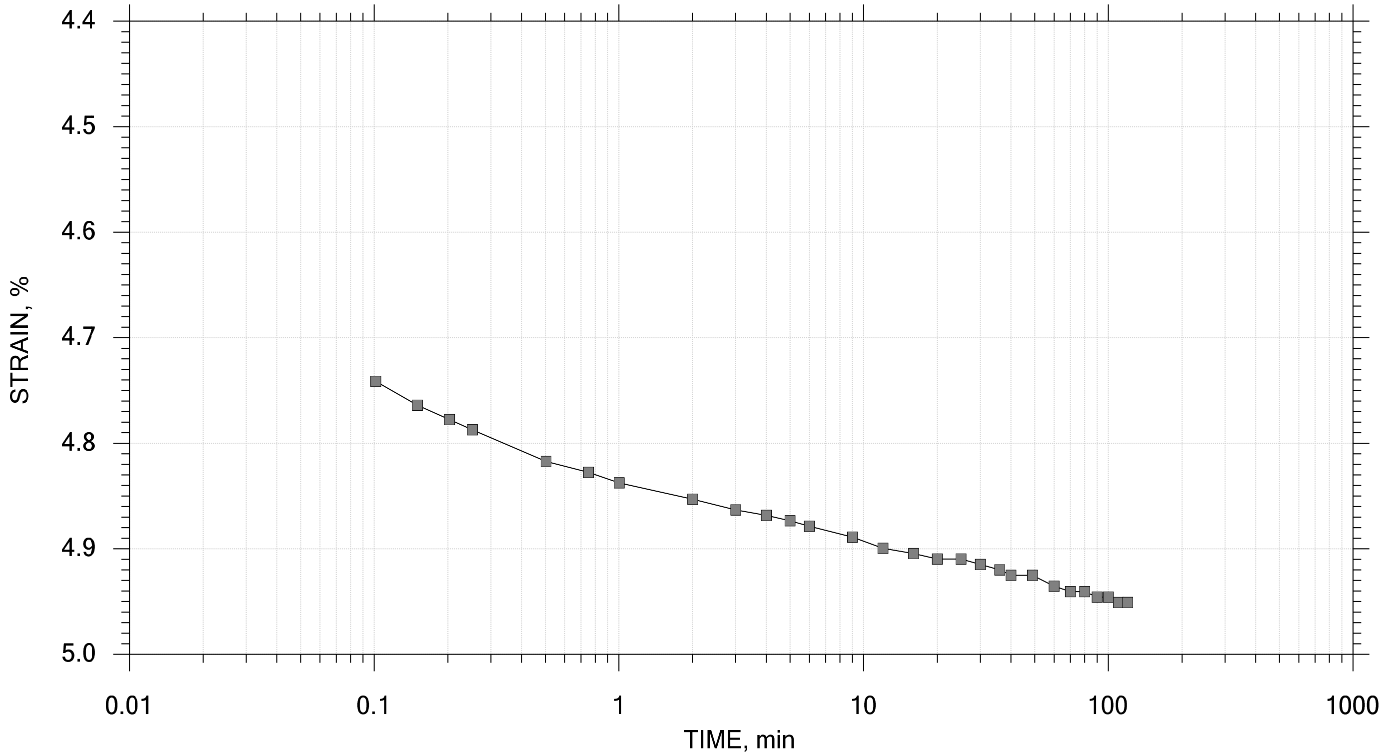
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-11	Tested By: SA	Checked By: SE
	Sample No.: 12	Test Date: 8/4/2017	Elevation: -2.80 ft
	Depth: 25-30 ft	Sample Type: intact	
	Description: Soft Gray Lean Clay		
	Displacement at End of Increment		

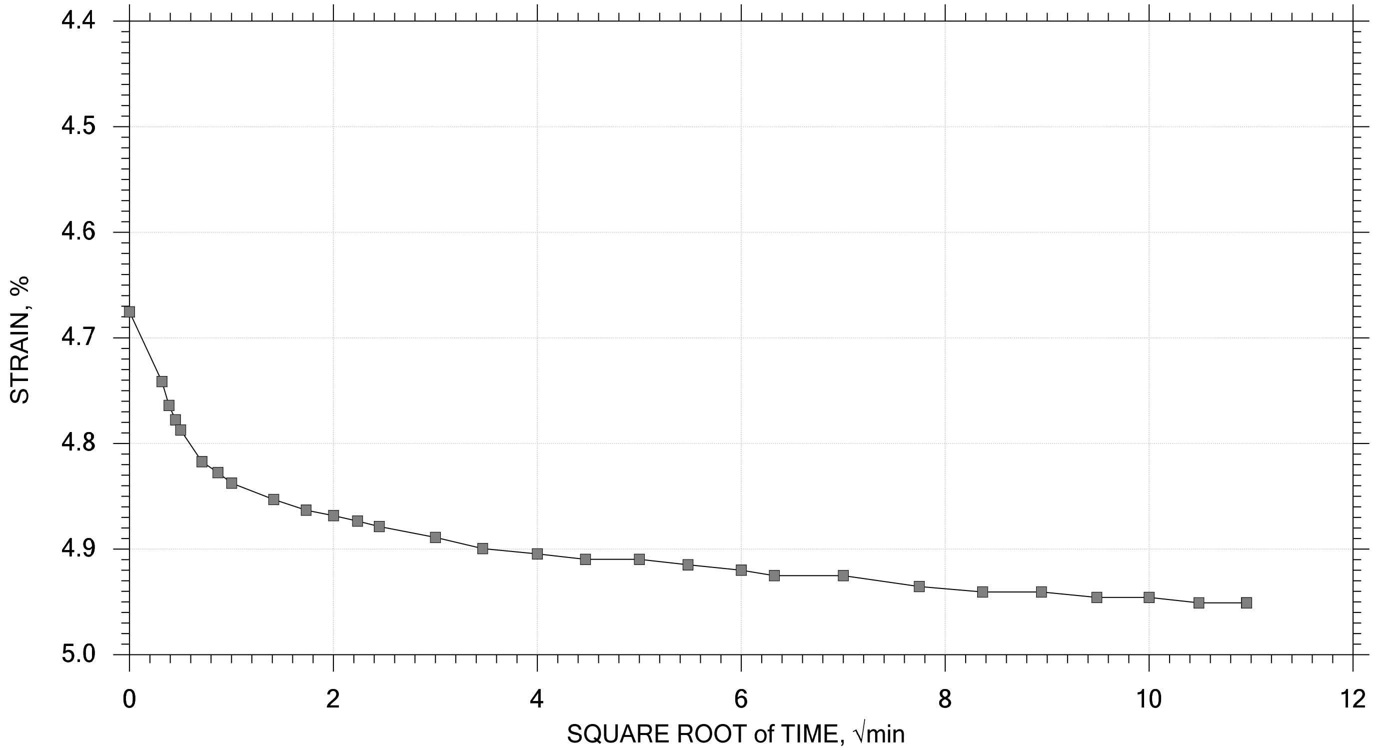
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 11 of 12

Stress: 4000 psf





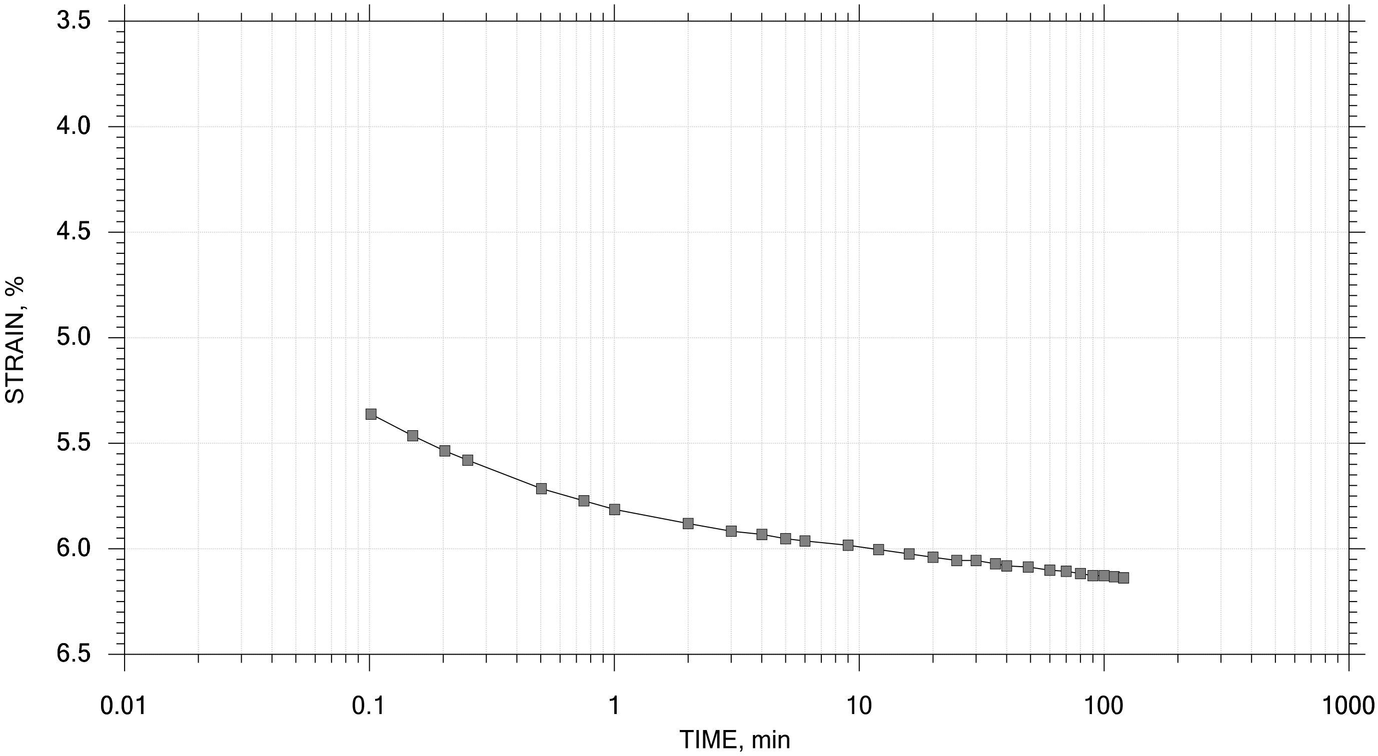
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-11	Tested By: SA	Checked By: SE
	Sample No.: 12	Test Date: 8/4/2017	Elevation: -2.80 ft
	Depth: 25-30 ft	Sample Type: intact	
	Description: Soft Gray Lean Clay		
	Displacement at End of Increment		

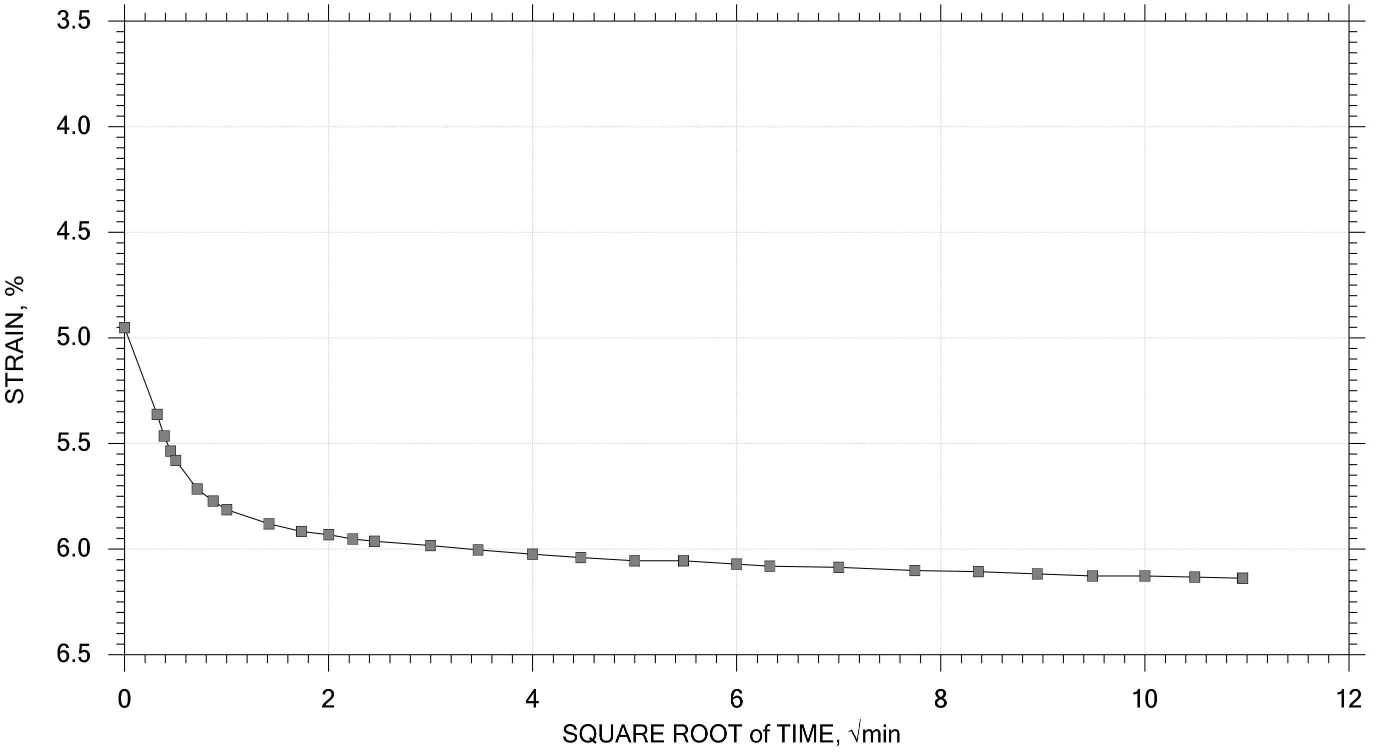
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 12 of 12

Stress: 8000 psf

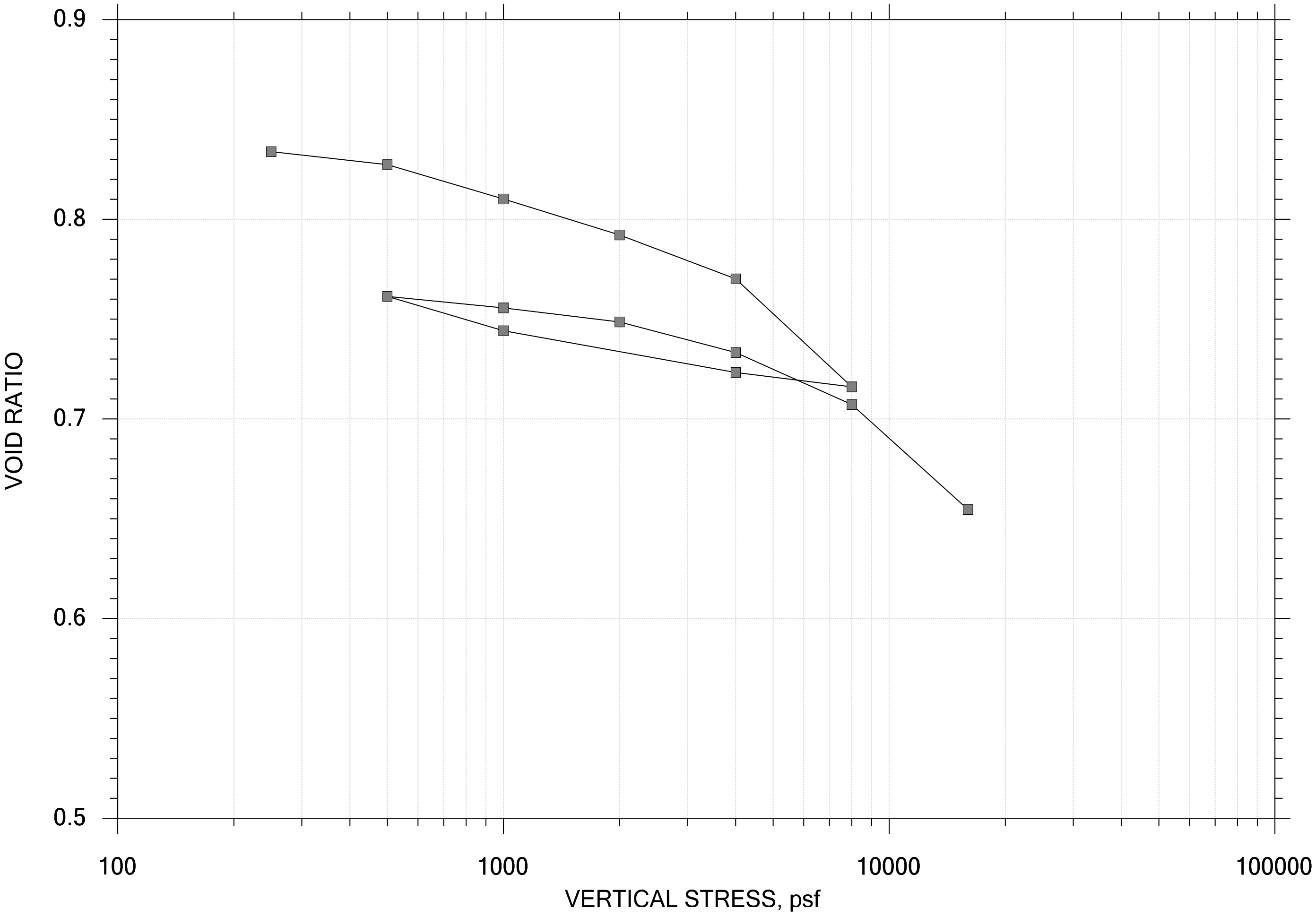


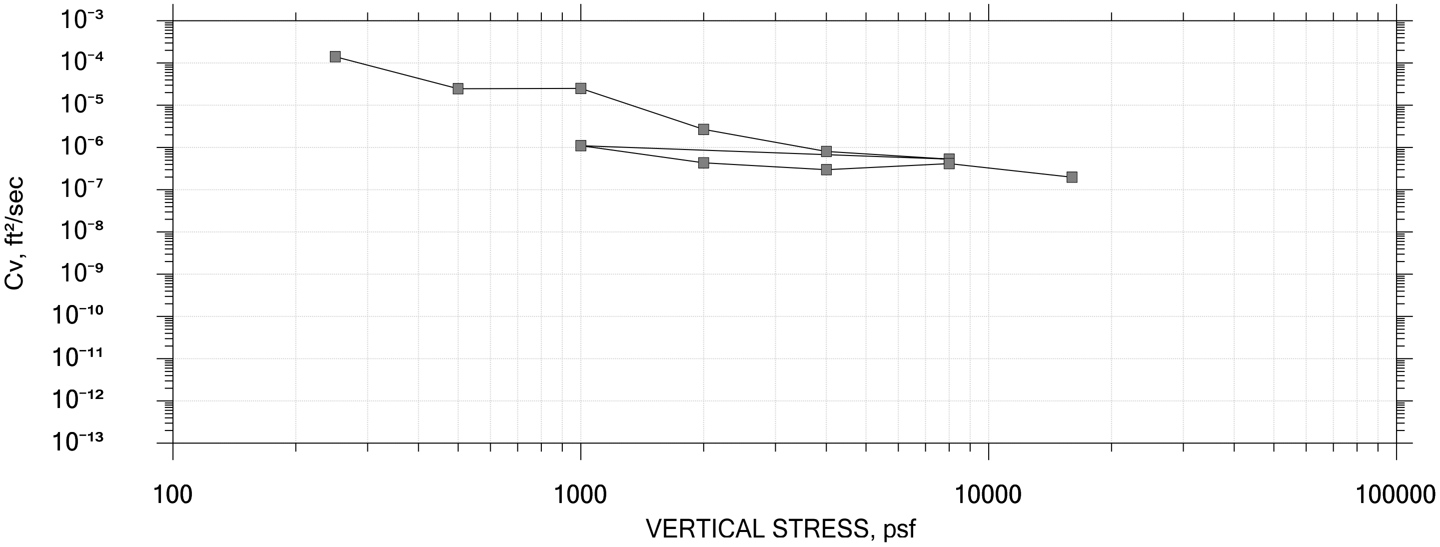


APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-11	Tested By: SA	Checked By: SE
	Sample No.: 12	Test Date: 8/4/2017	Elevation: -2.80 ft
	Depth: 25-30 ft	Sample Type: intact	
	Description: Soft Gray Lean Clay		
	Displacement at End of Increment		

One-Dimensional Consolidation by ASTM D2435 - Method B

SUMMARY REPORT



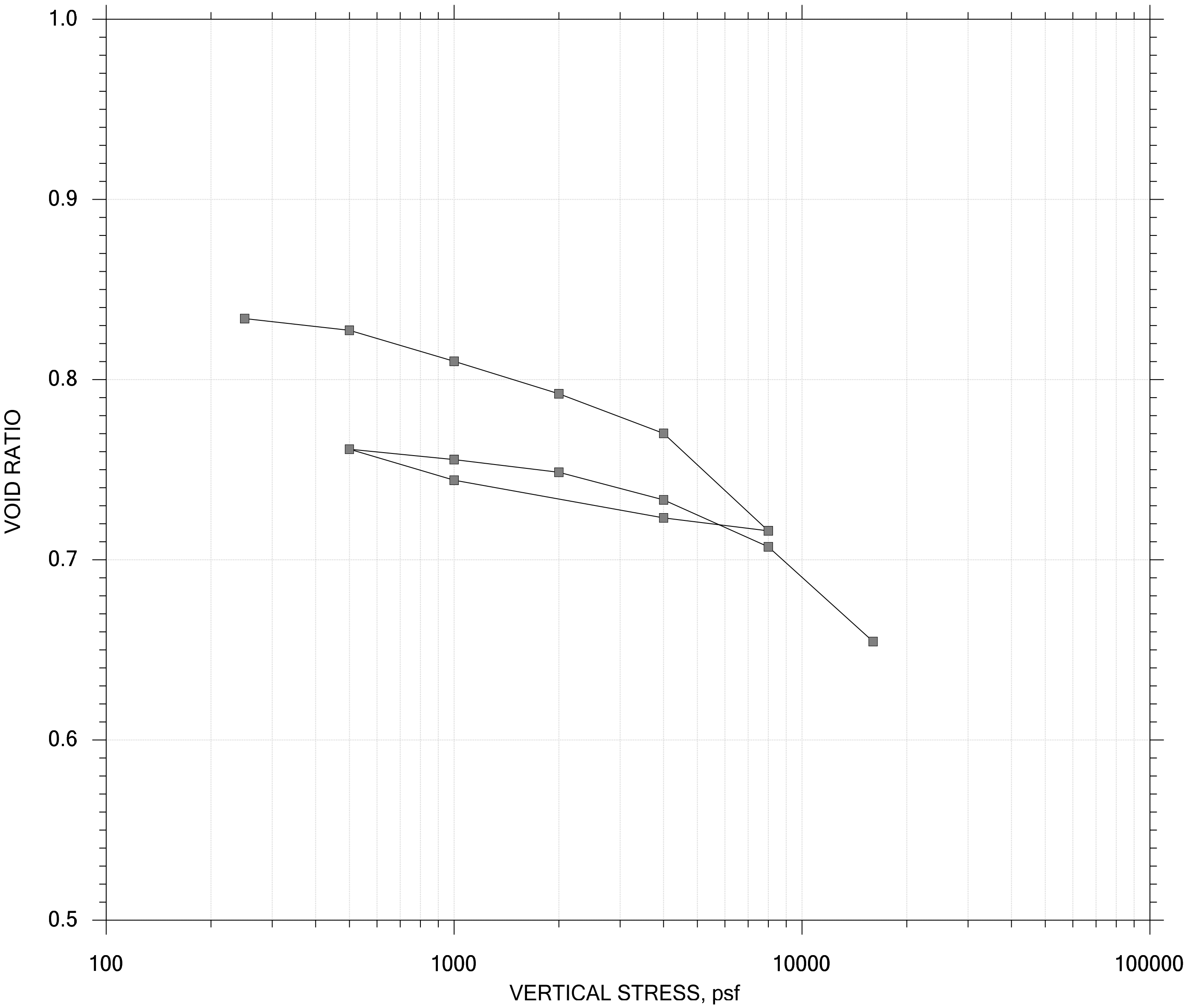


APS Engineering and Testing

Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
Boring No.: B-17	Tested By: SA	Checked By: SE
Sample No.: 10	Test Date: 8/4/2017	Elevation: -0.50 ft
Depth: 18-20 ft	Sample Type: intact	
Description: Stiff Gray Lean Clay		
Displacement at End of Increment		

One-Dimensional Consolidation by ASTM D2435 - Method B

SUMMARY REPORT



APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-17	Tested By: SA	Checked By: SE
	Sample No.: 10	Test Date: 8/4/2017	Elevation: -0.50 ft
	Depth: 18-20 ft	Sample Type: intact	
	Description: Stiff Gray Lean Clay		
	Displacement at End of Increment		

One-Dimensional Consolidation by ASTM D2435 - Method B

Project: PO-169
Boring No.: B-17
Sample No.: 10
Location: Lake Saint Catherine
Tested By: SA
Test Date: 8/4/17
Sample Type: intact
Project No.: APS1706-G038
Checked By: SE
Depth: 18-20 ft
Elevation: -0.50 ft

Soil Description: Stiff Gray Lean Clay

Estimated Specific Gravity: 2.78
Initial Void Ratio: 0.842
Final Void Ratio: 0.655
Liquid Limit: 43
Plastic Limit:15
Plasticity Index: 28
Specimen Diameter: 2.50 in
Initial Height: 1.00 in
Final Height: 0.90 in

	Before Consolidation		After Consolidation	
	Trimmings	Specimen+Ring	Specimen+Ring	Trimmings
Container ID	pr9	RING	sh3	sh3
Wt. Container + Wet Soil, gm	125.89	162.87	158.03	158.03
Wt. Container + Dry Soil, gm	100.97	129.44	129.44	129.44
Wt. Container, gm	8.1600	8.1600	8.1600	8.1600
Wt. Dry Soil, gm	92.810	121.28	121.28	121.28
Water Content, %	26.85	27.56	23.57	23.57
Void Ratio	---	0.842	0.655	---
Degree of Saturation, %	---	90.93	100.00	---
Dry Unit Weight, pcf	---	94.123	104.77	---

Note: Specific Gravity and Void Ratios are calculated assuming the degree of saturation equals 100% at the end of the test. Therefore, values may not represent actual values for the specimen.

One-Dimensional Consolidation by ASTM D2435 - Method B

Project: APS1706-G038
Boring No.: B-17
Sample No.: 10

Location: Lake Saint Catherine
Tested By: SA
Test Date: 8/4/17
Sample Type: intact

Project No.: APS1706-G038
Checked By: SE
Depth: 18-20 ft
Elevation: -0.50 ft

Soil Description: Stiff Gray Lean Clay

Displacement at End of Increment

	Applied Stress psf	Final Displacement in	Void Ratio	Strain at End %	Sq.Rt T90 min	Cv ft²/sec	Mv 1/psf	k cm/sec
1	250.	0.004292	0.834	0.429	0.219	1.12e-004	1.72e-005	3.65e-006
2	500.	0.007858	0.827	0.786	1.220	1.99e-005	1.43e-005	5.39e-007
3	1.00e+003	0.01716	0.810	1.72	0.993	2.41e-005	1.86e-005	8.52e-007
4	2.00e+003	0.02696	0.792	2.70	9.336	2.51e-006	9.80e-006	4.69e-008
5	4.00e+003	0.03890	0.770	3.89	28.774	7.98e-007	5.97e-006	9.06e-009
6	8.00e+003	0.06825	0.716	6.82	35.398	6.21e-007	7.34e-006	8.67e-009
7	4.00e+003	0.06436	0.723	6.44	22.071	9.69e-007	9.71e-007	1.79e-009
8	1.00e+003	0.05299	0.744	5.30	114.924	1.89e-007	3.79e-006	1.36e-009
9	500.	0.04368	0.761	4.37	184.184	1.21e-007	1.86e-005	4.27e-009
10	1.00e+003	0.04679	0.756	4.68	19.873	1.13e-006	6.21e-006	1.33e-008
11	2.00e+003	0.05061	0.749	5.06	64.157	3.46e-007	3.83e-006	2.52e-009
12	4.00e+003	0.05894	0.733	5.89	93.506	2.34e-007	4.16e-006	1.86e-009
13	8.00e+003	0.07307	0.707	7.31	49.990	4.28e-007	3.53e-006	2.88e-009
14	1.60e+004	0.1016	0.655	10.2	100.337	2.04e-007	3.57e-006	1.38e-009

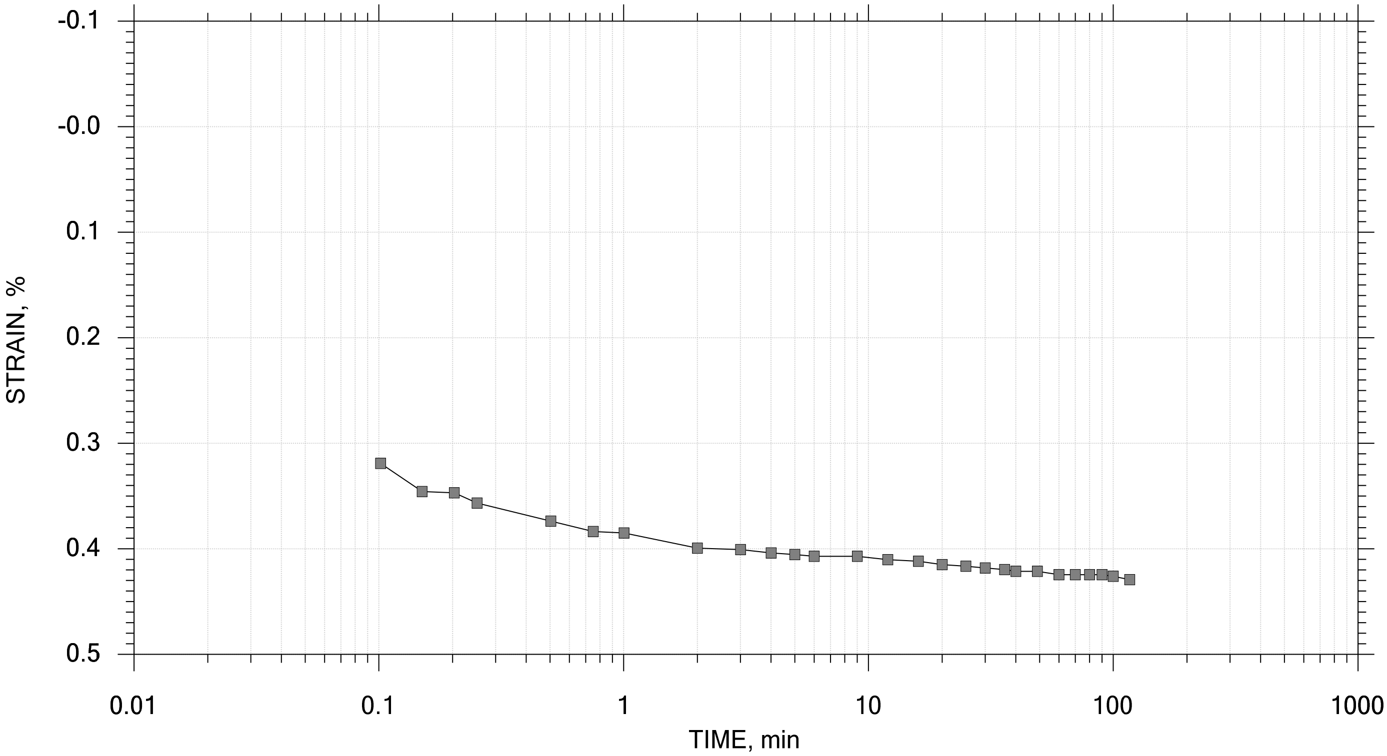
	Applied Stress psf	Final Displacement in	Void Ratio	Strain at End %	Log T50 min	Cv ft²/sec	Mv 1/psf	k cm/sec	Ca %
1	250.	0.004292	0.834	0.429	0.000	0.00e+000	1.72e-005	0.00e+000	0.00e+000
2	500.	0.007858	0.827	0.786	0.189	2.98e-005	1.43e-005	8.09e-007	0.00e+000
3	1.00e+003	0.01716	0.810	1.72	0.000	0.00e+000	1.86e-005	0.00e+000	0.00e+000
4	2.00e+003	0.02696	0.792	2.70	0.000	0.00e+000	9.80e-006	0.00e+000	0.00e+000
5	4.00e+003	0.03890	0.770	3.89	0.000	0.00e+000	5.97e-006	0.00e+000	0.00e+000
6	8.00e+003	0.06825	0.716	6.82	0.000	0.00e+000	7.34e-006	0.00e+000	0.00e+000
7	4.00e+003	0.06436	0.723	6.44	6.938	7.16e-007	9.71e-007	1.32e-009	0.00e+000
8	1.00e+003	0.05299	0.744	5.30	0.000	0.00e+000	3.79e-006	0.00e+000	0.00e+000
9	500.	0.04368	0.761	4.37	0.000	0.00e+000	1.86e-005	0.00e+000	0.00e+000
10	1.00e+003	0.04679	0.756	4.68	0.000	0.00e+000	6.21e-006	0.00e+000	0.00e+000
11	2.00e+003	0.05061	0.749	5.06	0.000	0.00e+000	3.83e-006	0.00e+000	0.00e+000
12	4.00e+003	0.05894	0.733	5.89	11.980	4.25e-007	4.16e-006	3.37e-009	0.00e+000
13	8.00e+003	0.07307	0.707	7.31	0.000	0.00e+000	3.53e-006	0.00e+000	0.00e+000
14	1.60e+004	0.1016	0.655	10.2	0.000	0.00e+000	3.57e-006	0.00e+000	0.00e+000

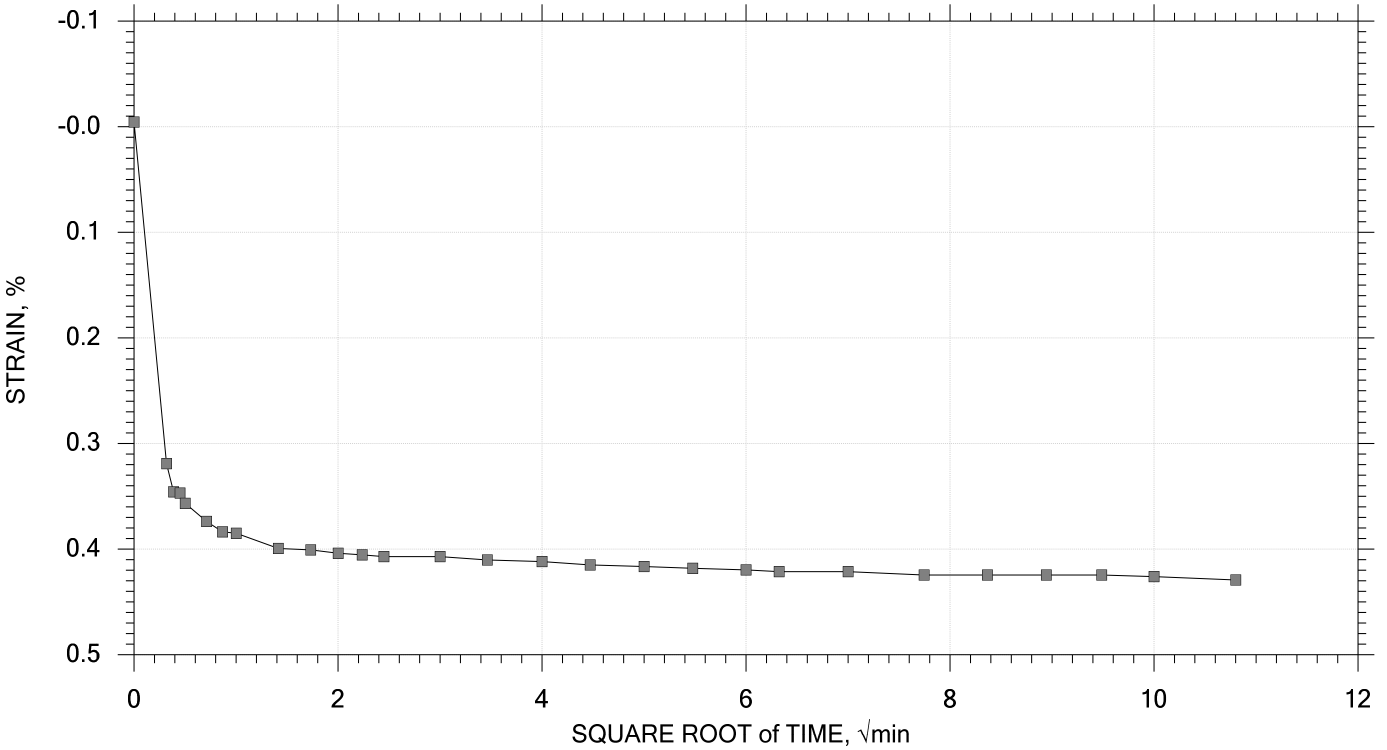
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 1 of 14

Stress: 250 psf





APS Engineering and Testing

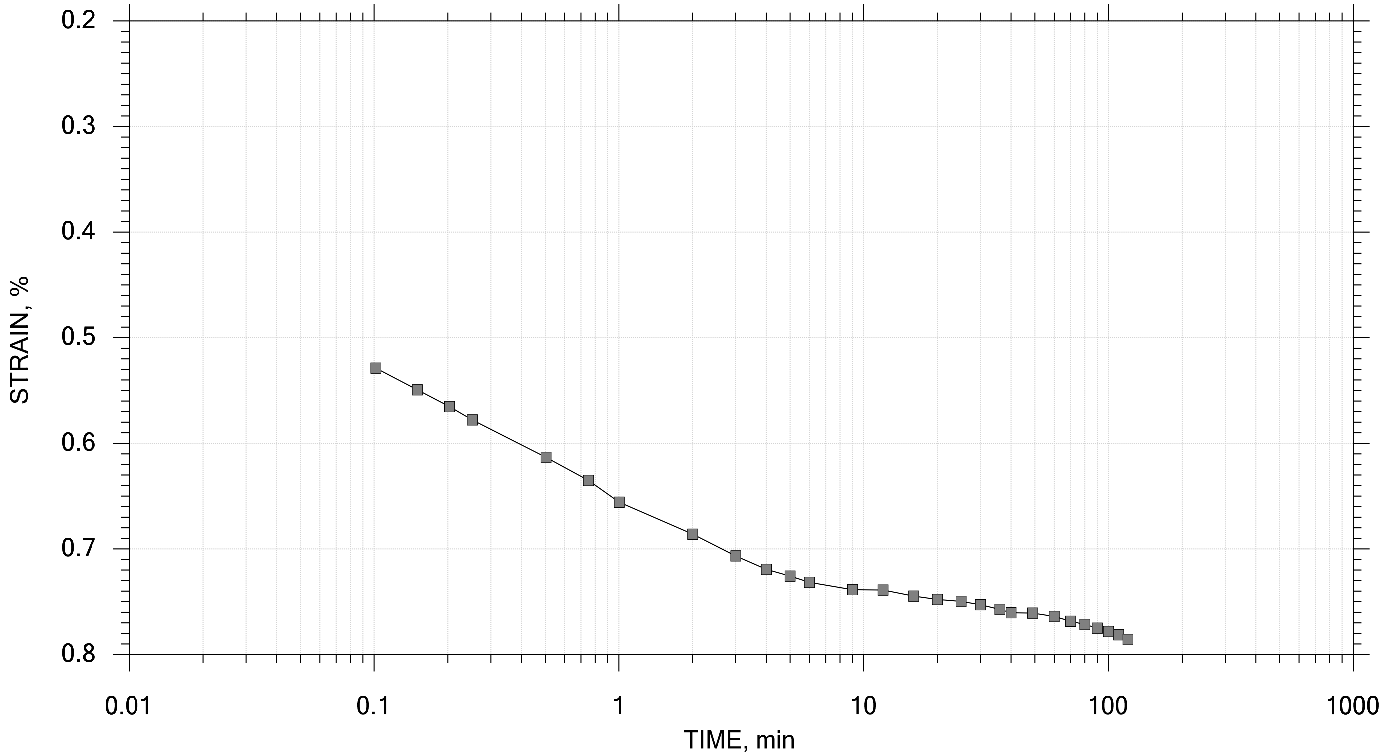
Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
Boring No.: B-17	Tested By: SA	Checked By: SE
Sample No.: 10	Test Date: 8/4/2017	Elevation: -0.50 ft
Depth: 18-20 ft	Sample Type: intact	
Description: Stiff Gray Lean Clay		
Displacement at End of Increment		

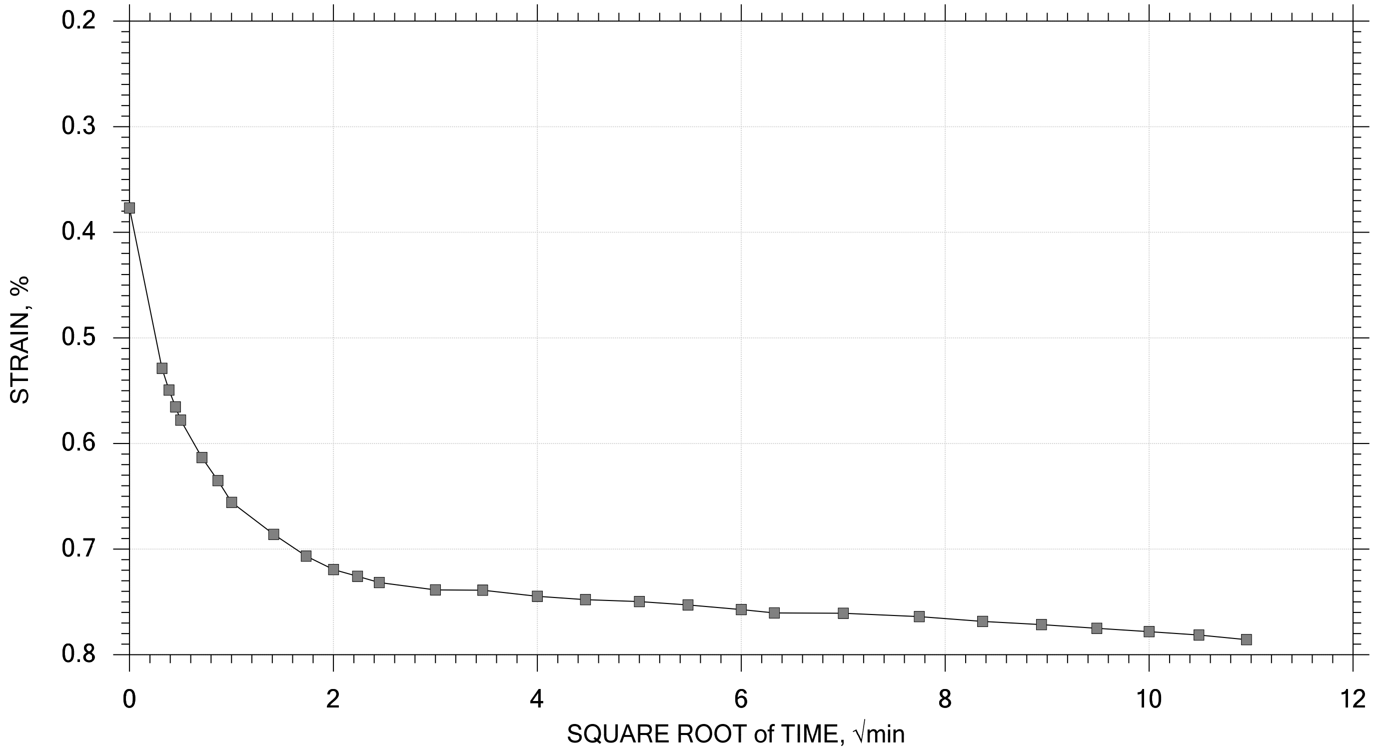
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 2 of 14

Stress: 500 psf





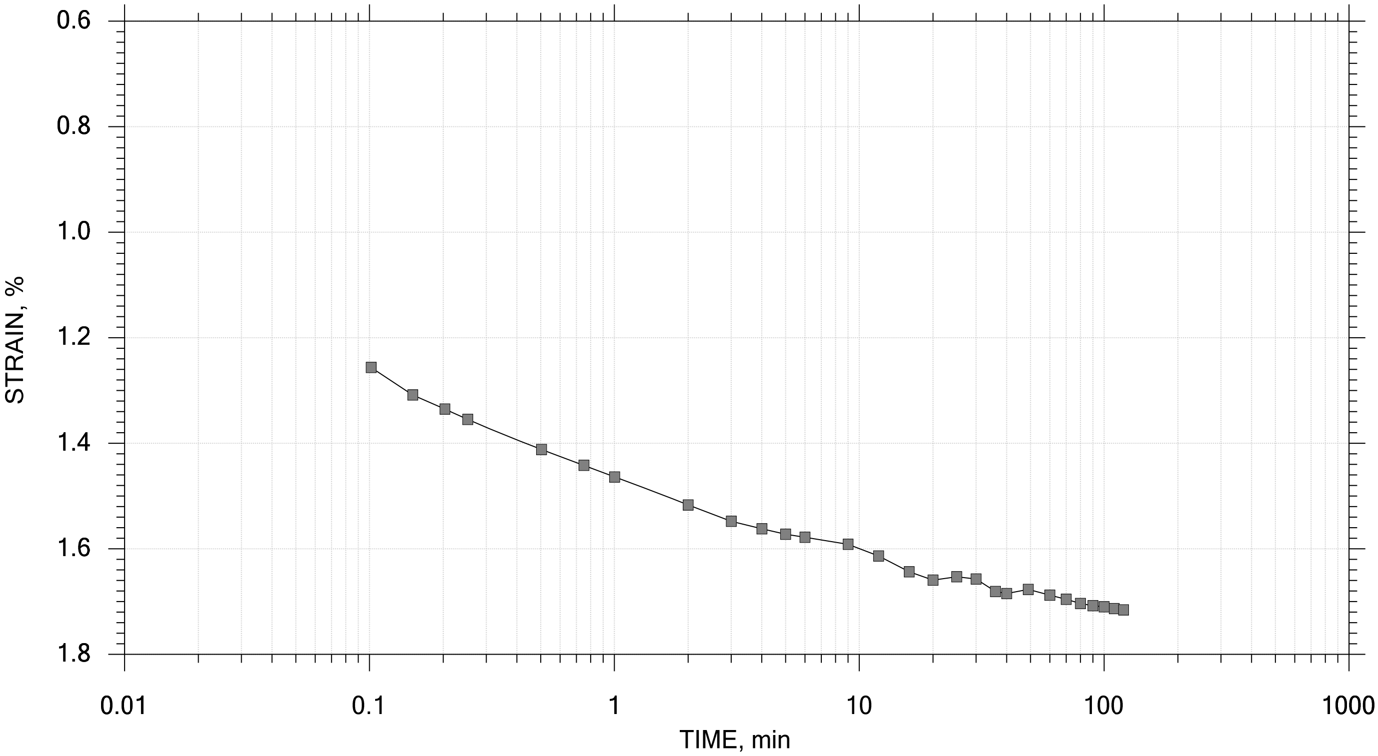
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-17	Tested By: SA	Checked By: SE
	Sample No.: 10	Test Date: 8/4/2017	Elevation: -0.50 ft
	Depth: 18-20 ft	Sample Type: intact	
	Description: Stiff Gray Lean Clay		
	Displacement at End of Increment		

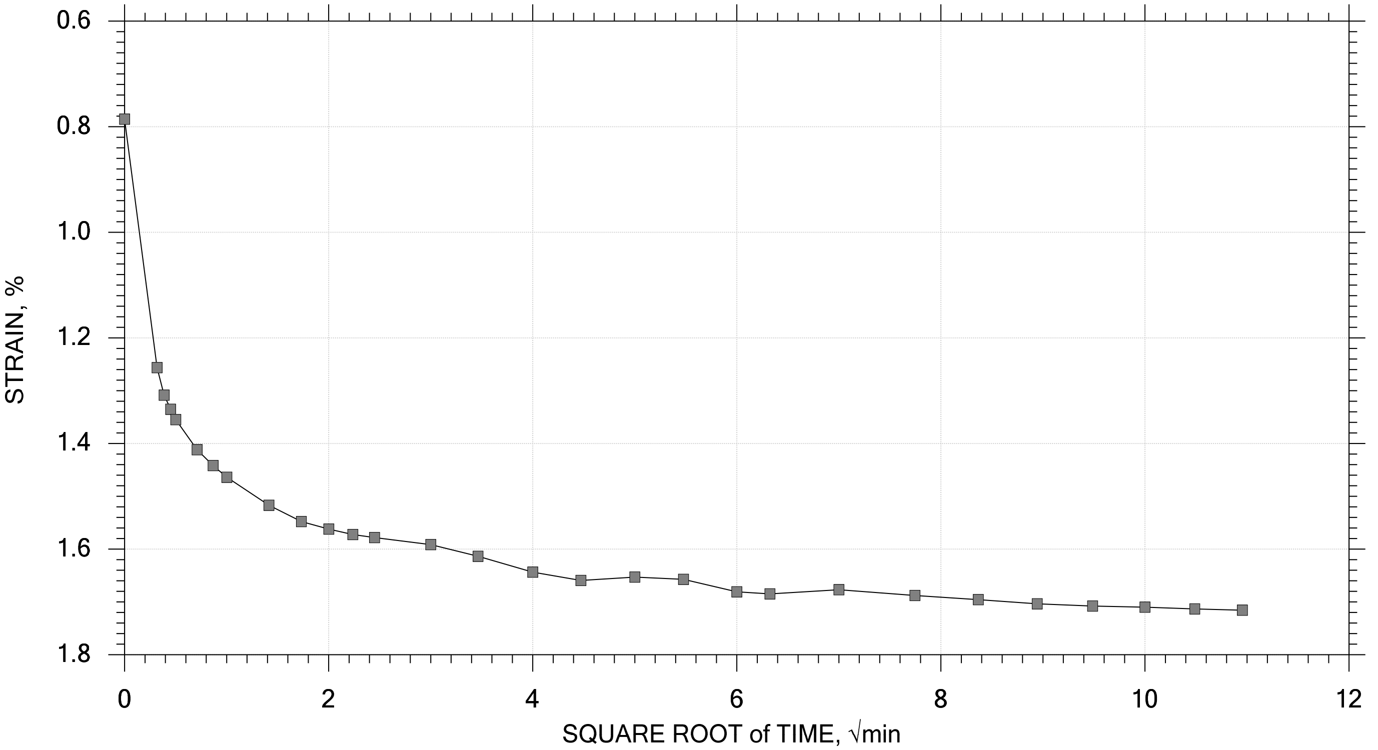
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 3 of 14

Stress: 1000 psf





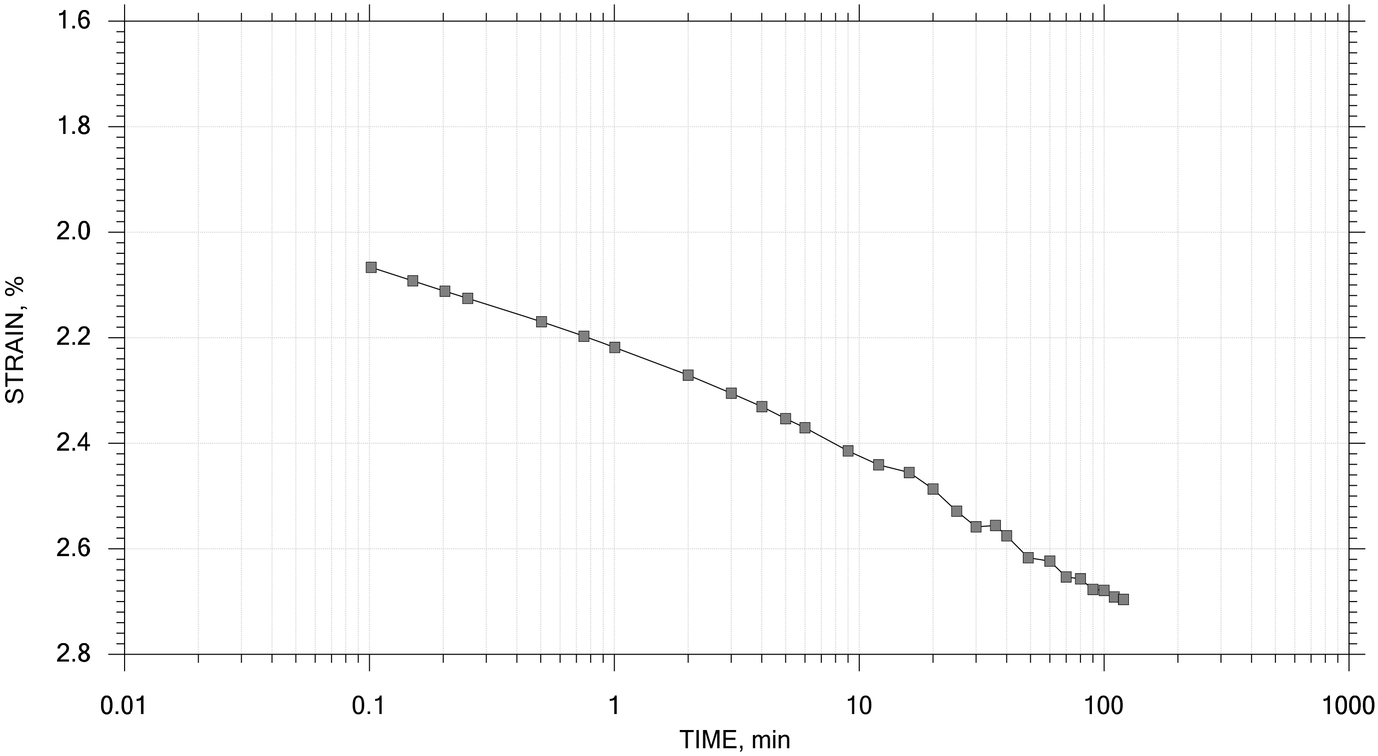
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-17	Tested By: SA	Checked By: SE
	Sample No.: 10	Test Date: 8/4/2017	Elevation: -0.50 ft
	Depth: 18-20 ft	Sample Type: intact	
	Description: Stiff Gray Lean Clay		
	Displacement at End of Increment		

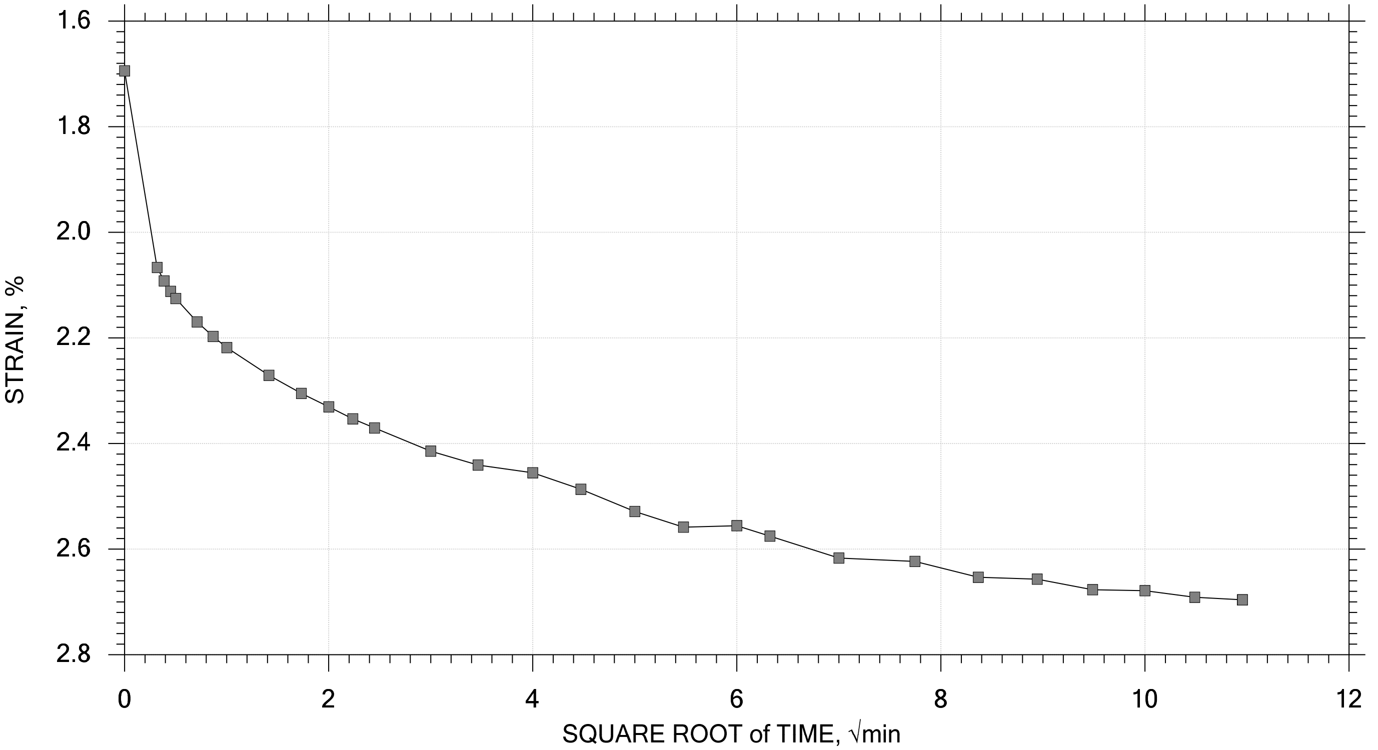
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 4 of 14

Stress: 2000 psf





APS Engineering and Testing

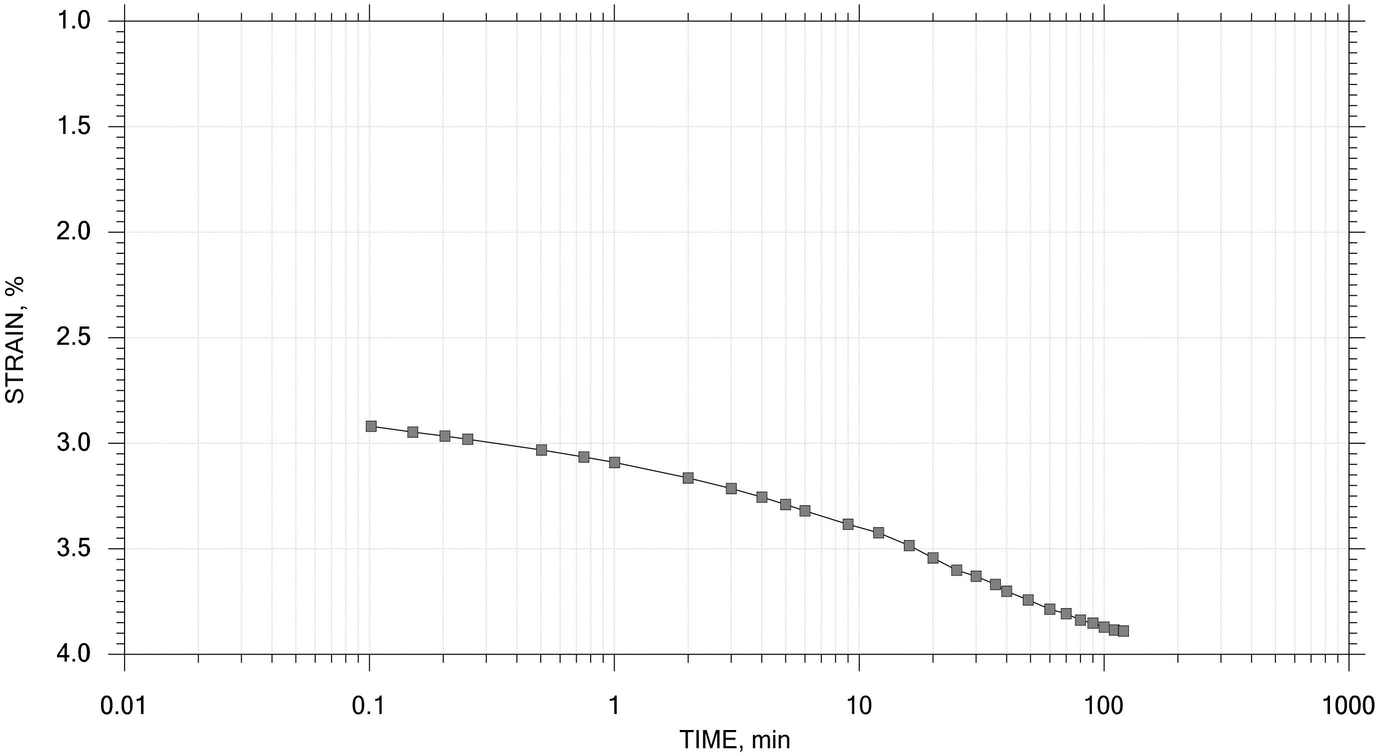
Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
Boring No.: B-17	Tested By: SA	Checked By: SE
Sample No.: 10	Test Date: 8/4/2017	Elevation: -0.50 ft
Depth: 18-20 ft	Sample Type: intact	
Description: Stiff Gray Lean Clay		
Displacement at End of Increment		

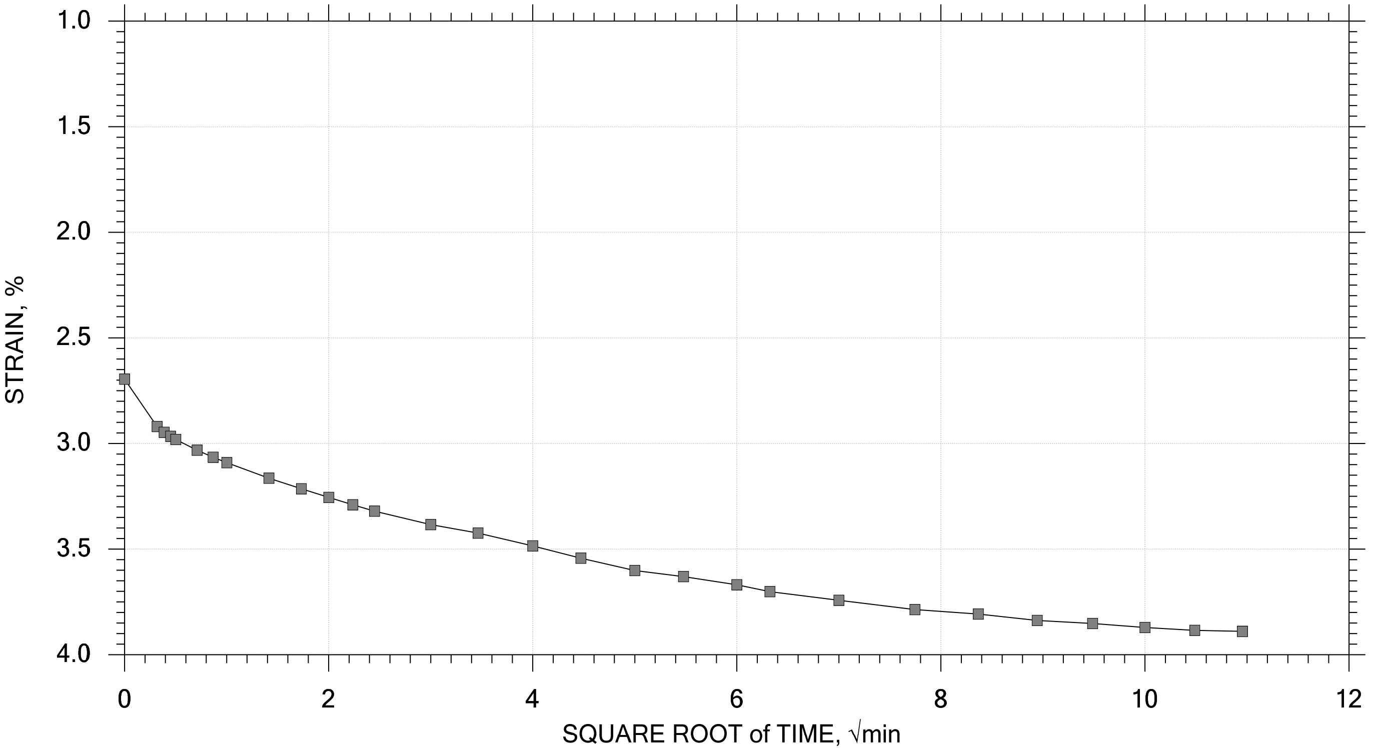
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 5 of 14

Stress: 4000 psf





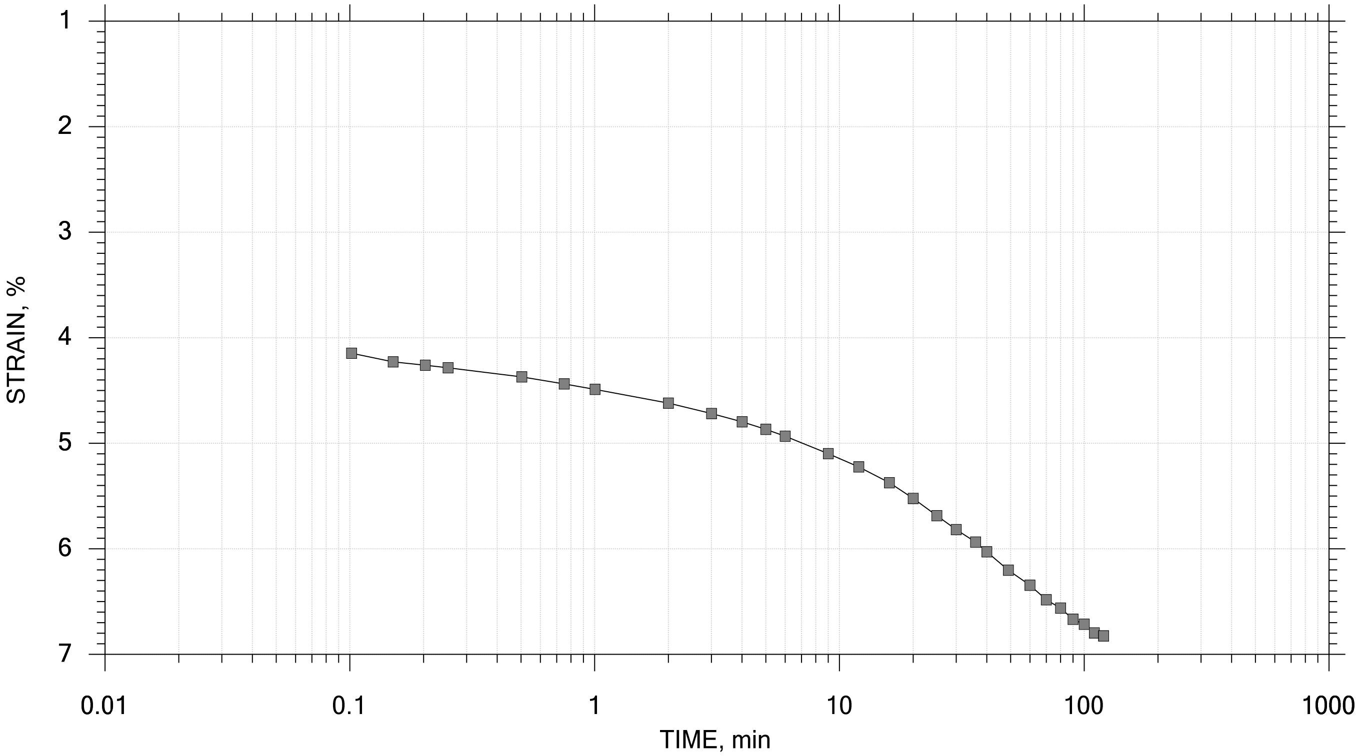
APS Engineering and Testing			
	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-17	Tested By: SA	Checked By: SE
	Sample No.: 10	Test Date: 8/4/2017	Elevation: -0.50 ft
	Depth: 18-20 ft	Sample Type: intact	
	Description: Stiff Gray Lean Clay		
	Displacement at End of Increment		

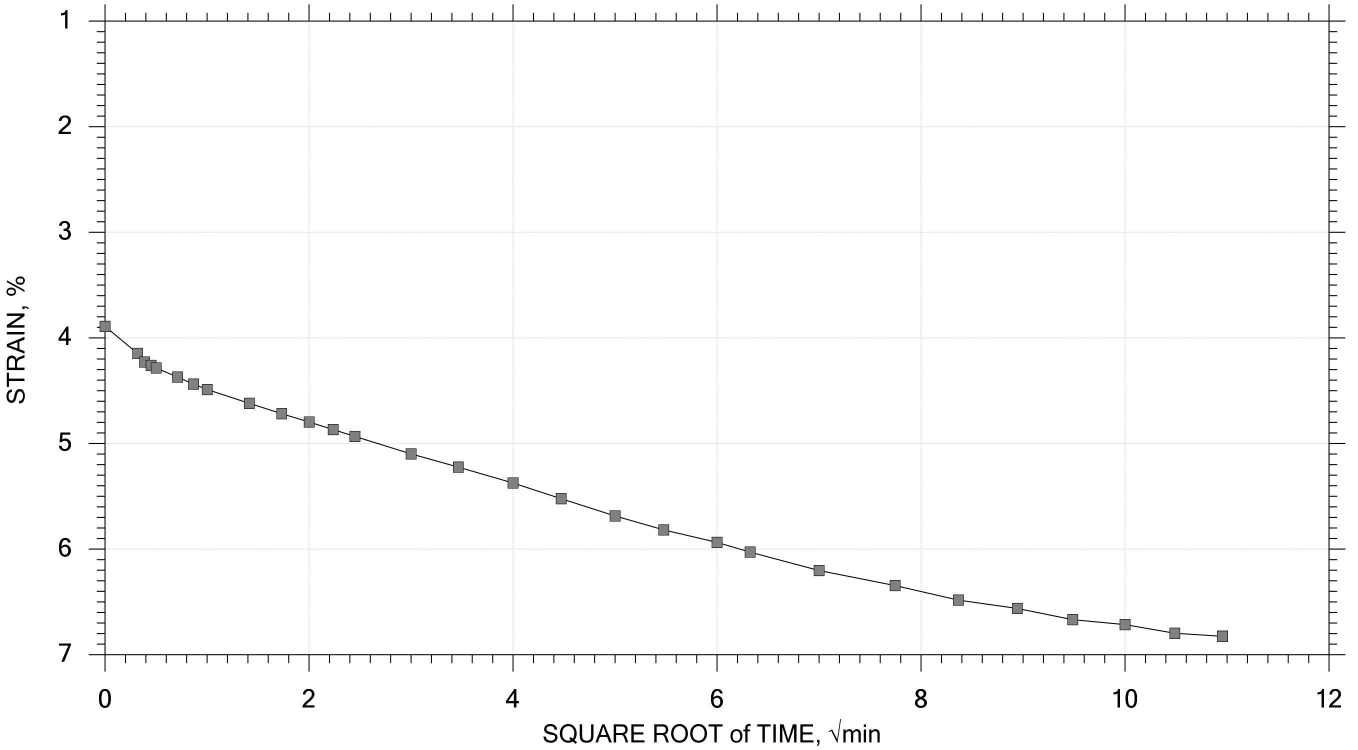
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 6 of 14

Stress: 8000 psf





APS Engineering and Testing

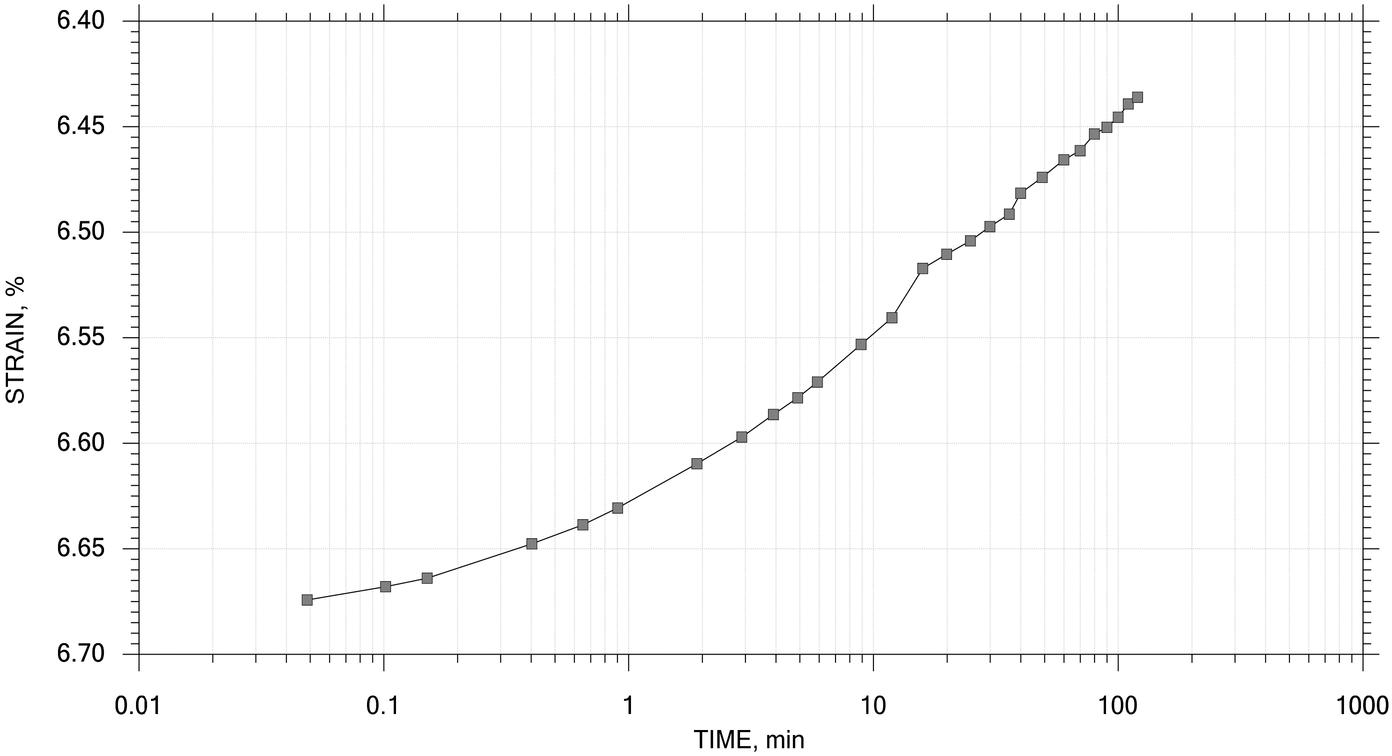
Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
Boring No.: B-17	Tested By: SA	Checked By: SE
Sample No.: 10	Test Date: 8/4/2017	Elevation: -0.50 ft
Depth: 18-20 ft	Sample Type: intact	
Description: Stiff Gray Lean Clay		
Displacement at End of Increment		

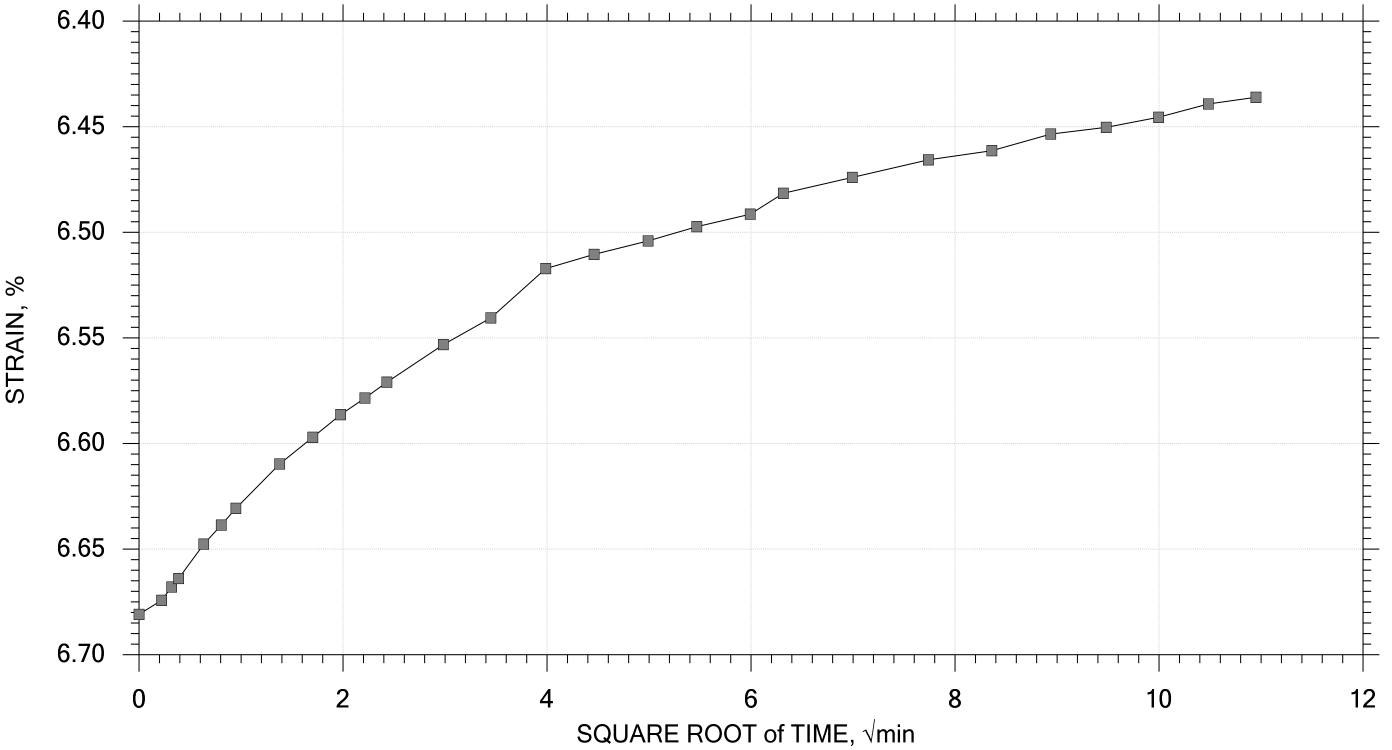
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 7 of 14

Stress: 4000 psf





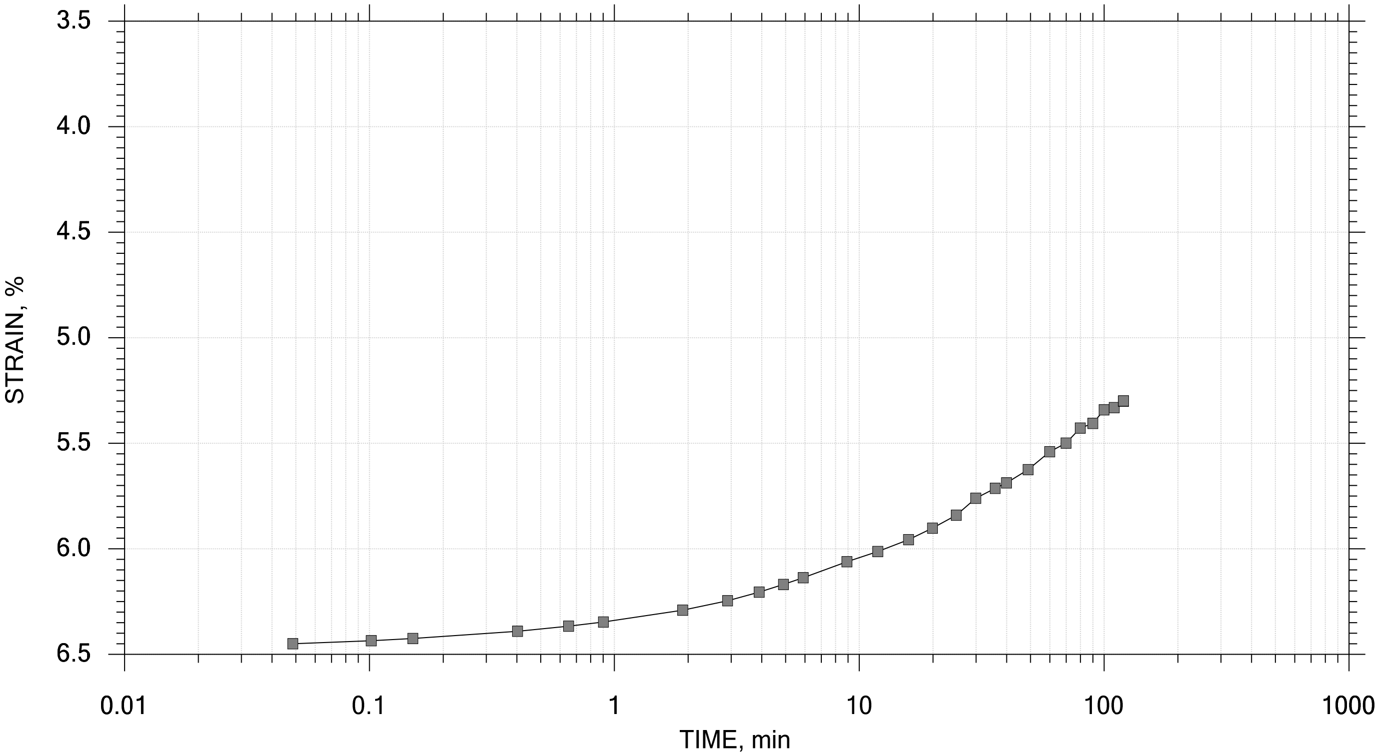
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-17	Tested By: SA	Checked By: SE
	Sample No.: 10	Test Date: 8/4/2017	Elevation: -0.50 ft
	Depth: 18-20 ft	Sample Type: intact	
	Description: Stiff Gray Lean Clay		
	Displacement at End of Increment		

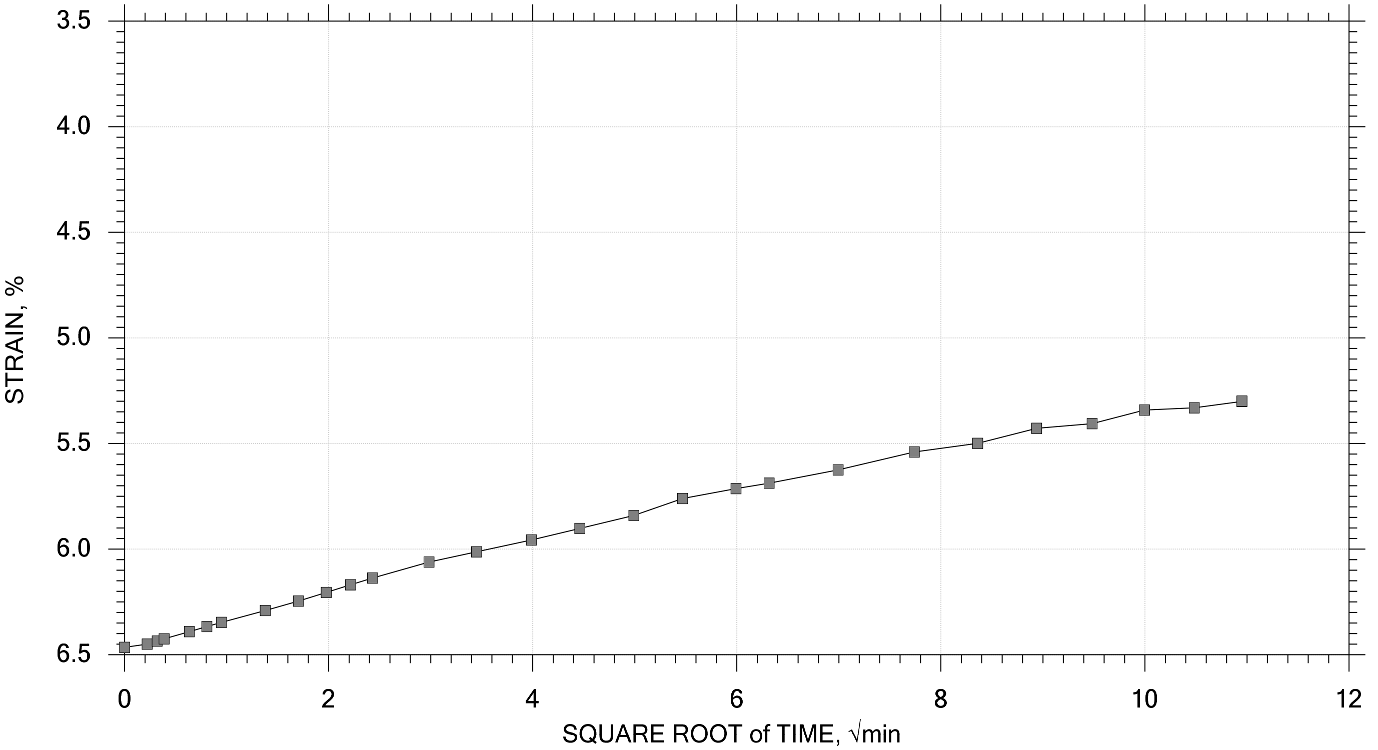
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 8 of 14

Stress: 1000 psf





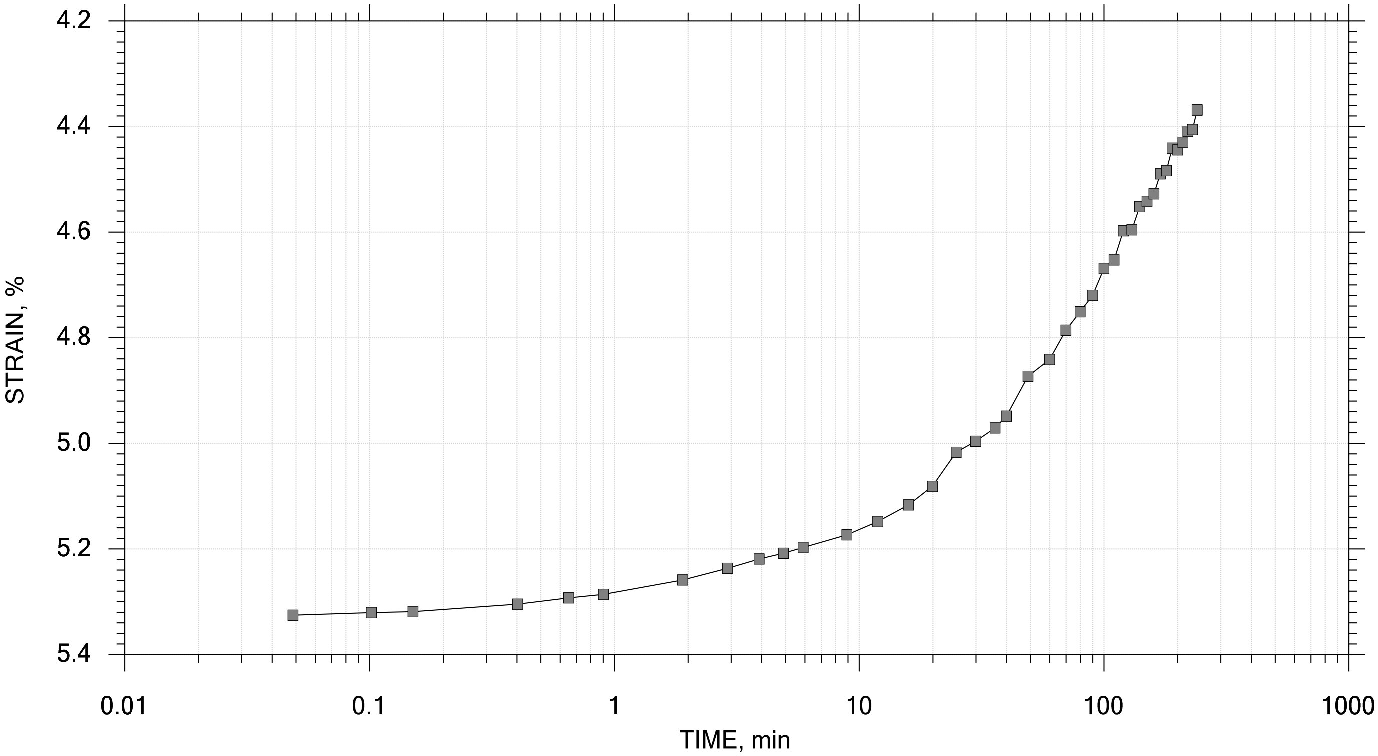
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-17	Tested By: SA	Checked By: SE
	Sample No.: 10	Test Date: 8/4/2017	Elevation: -0.50 ft
	Depth: 18-20 ft	Sample Type: intact	
	Description: Stiff Gray Lean Clay		
	Displacement at End of Increment		

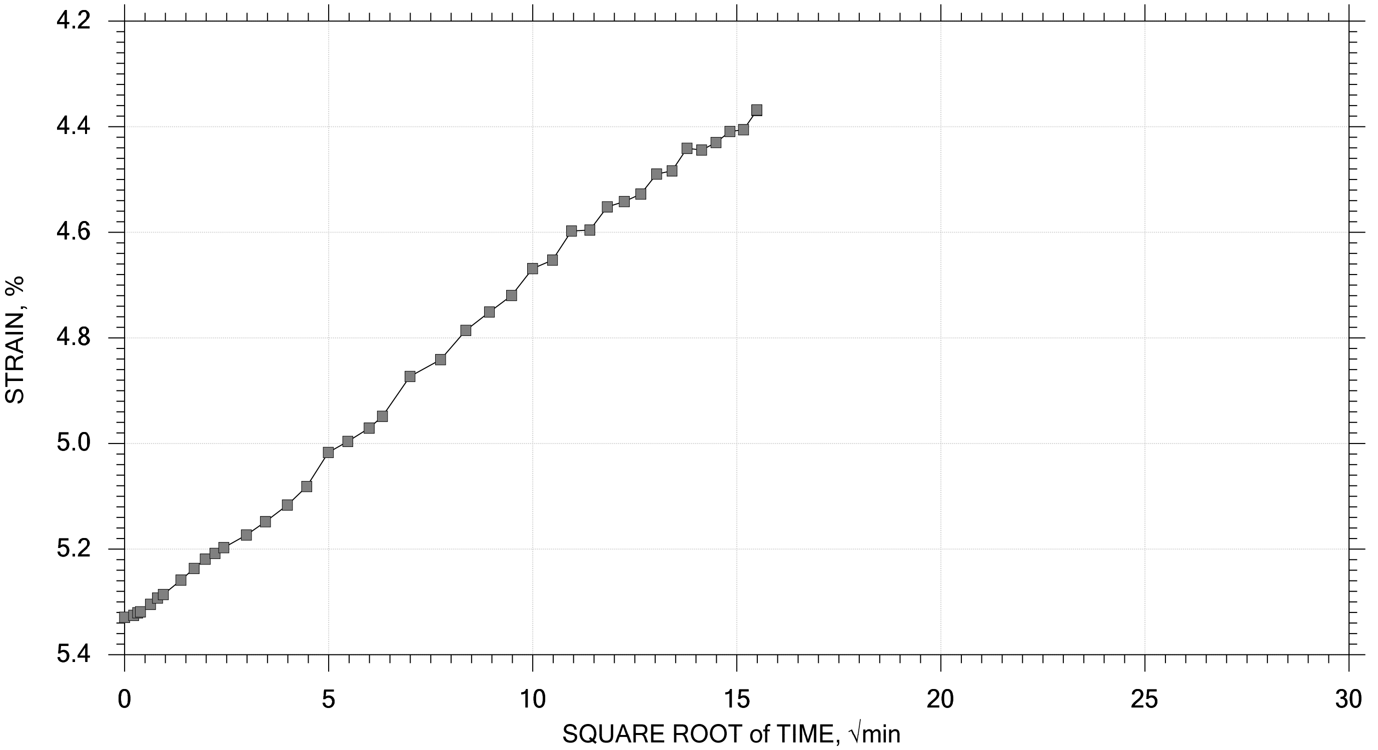
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 9 of 14

Stress: 500 psf





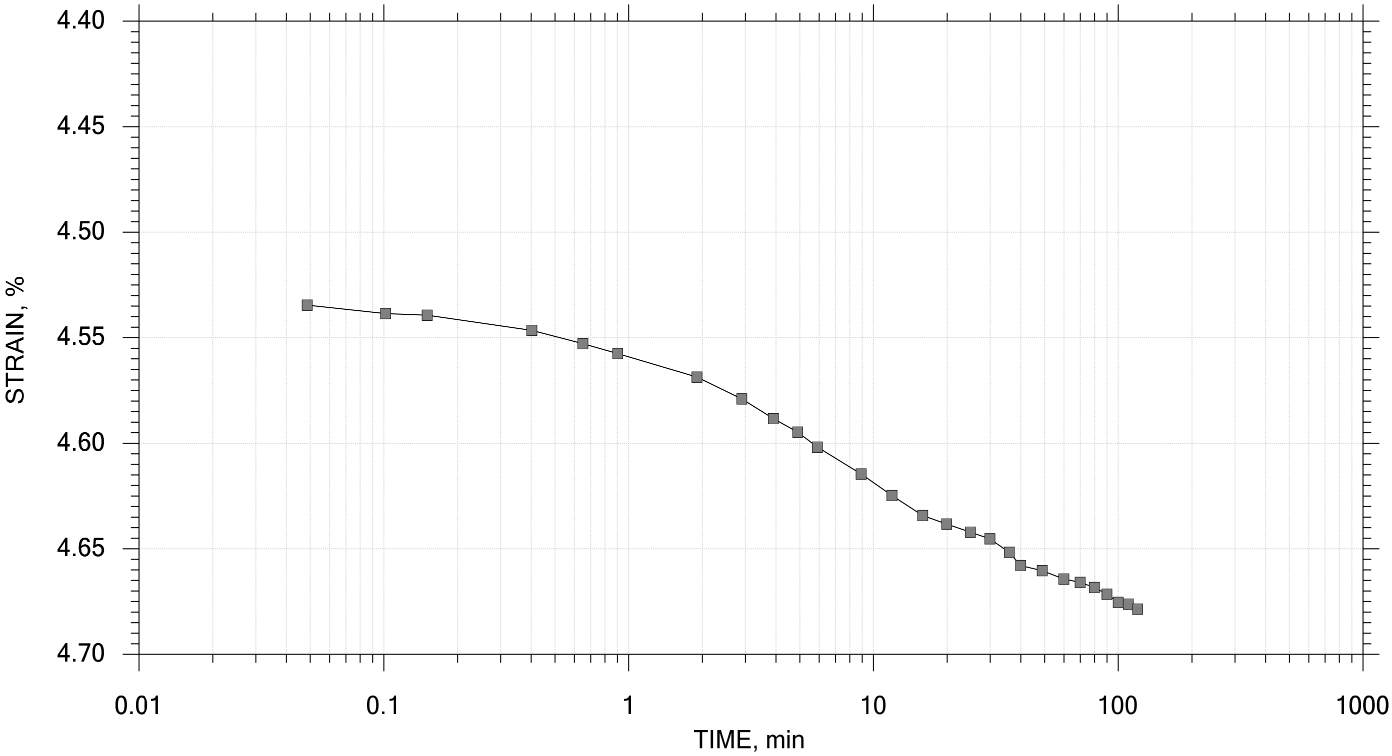
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-17	Tested By: SA	Checked By: SE
	Sample No.: 10	Test Date: 8/4/2017	Elevation: -0.50 ft
	Depth: 18-20 ft	Sample Type: intact	
	Description: Stiff Gray Lean Clay		
	Displacement at End of Increment		

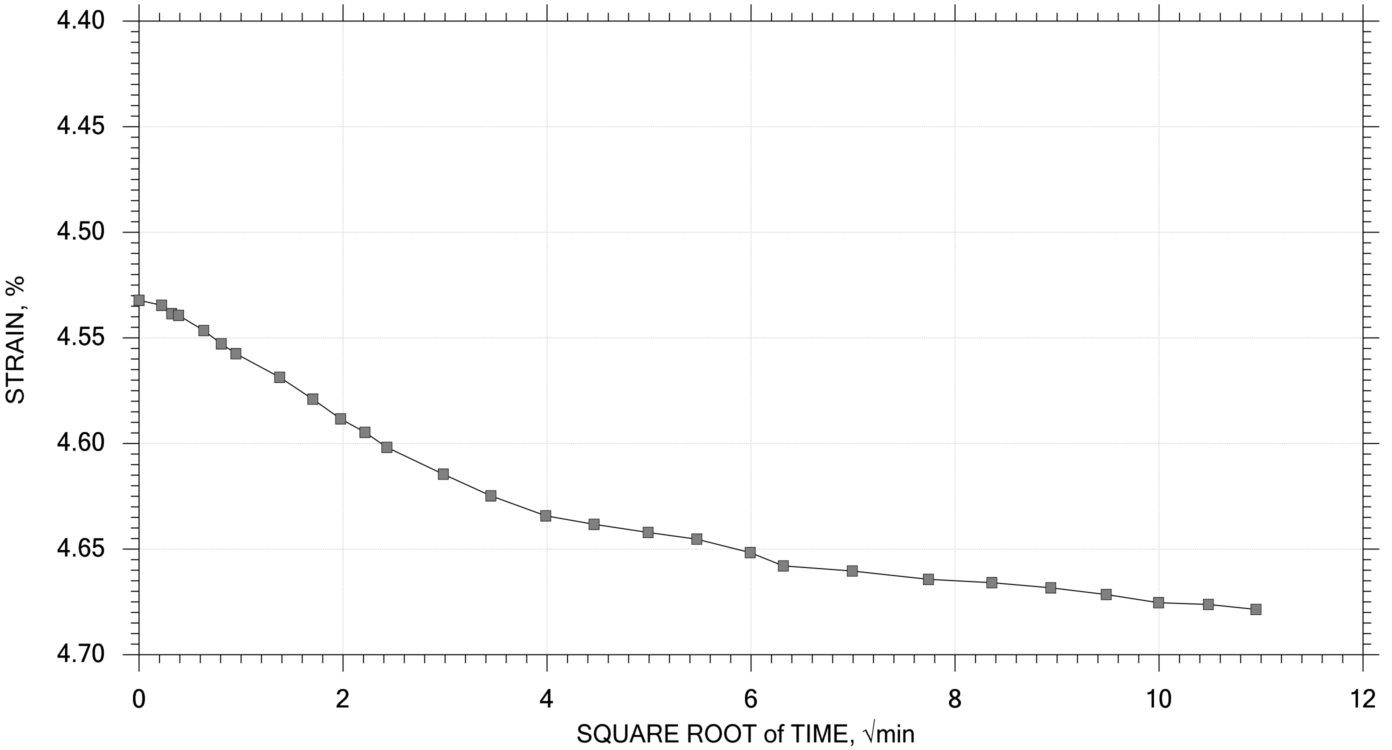
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 10 of 14

Stress: 1000 psf





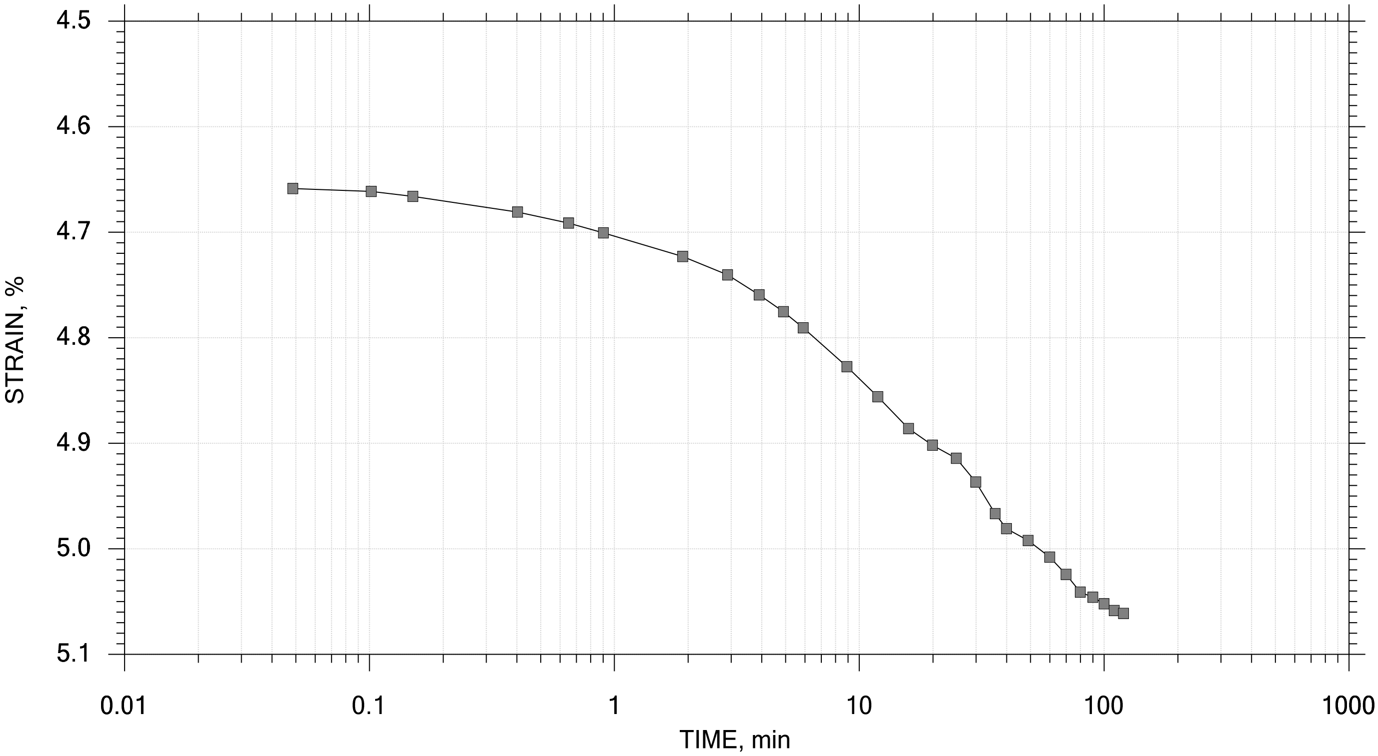
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-17	Tested By: SA	Checked By: SE
	Sample No.: 10	Test Date: 8/4/2017	Elevation: -0.50 ft
	Depth: 18-20 ft	Sample Type: intact	
	Description: Stiff Gray Lean Clay		
	Displacement at End of Increment		

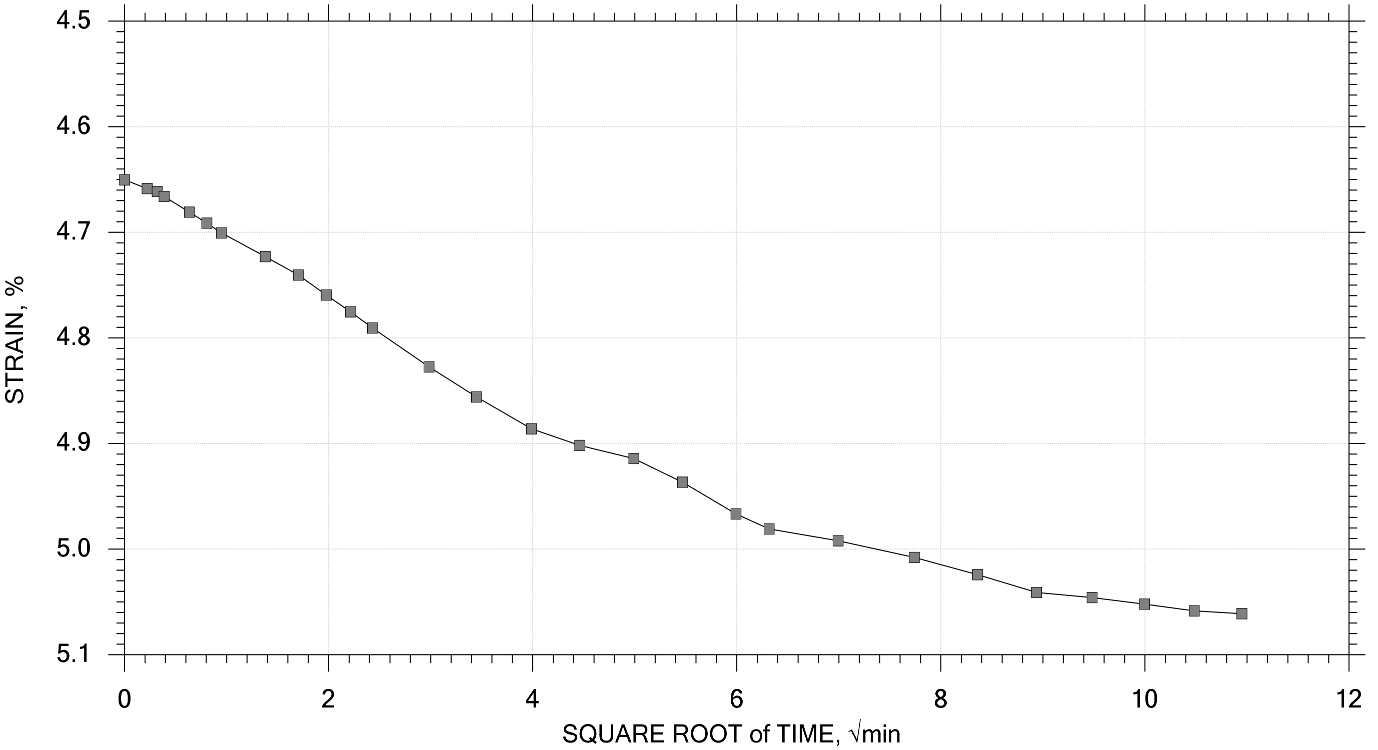
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 11 of 14

Stress: 2000 psf





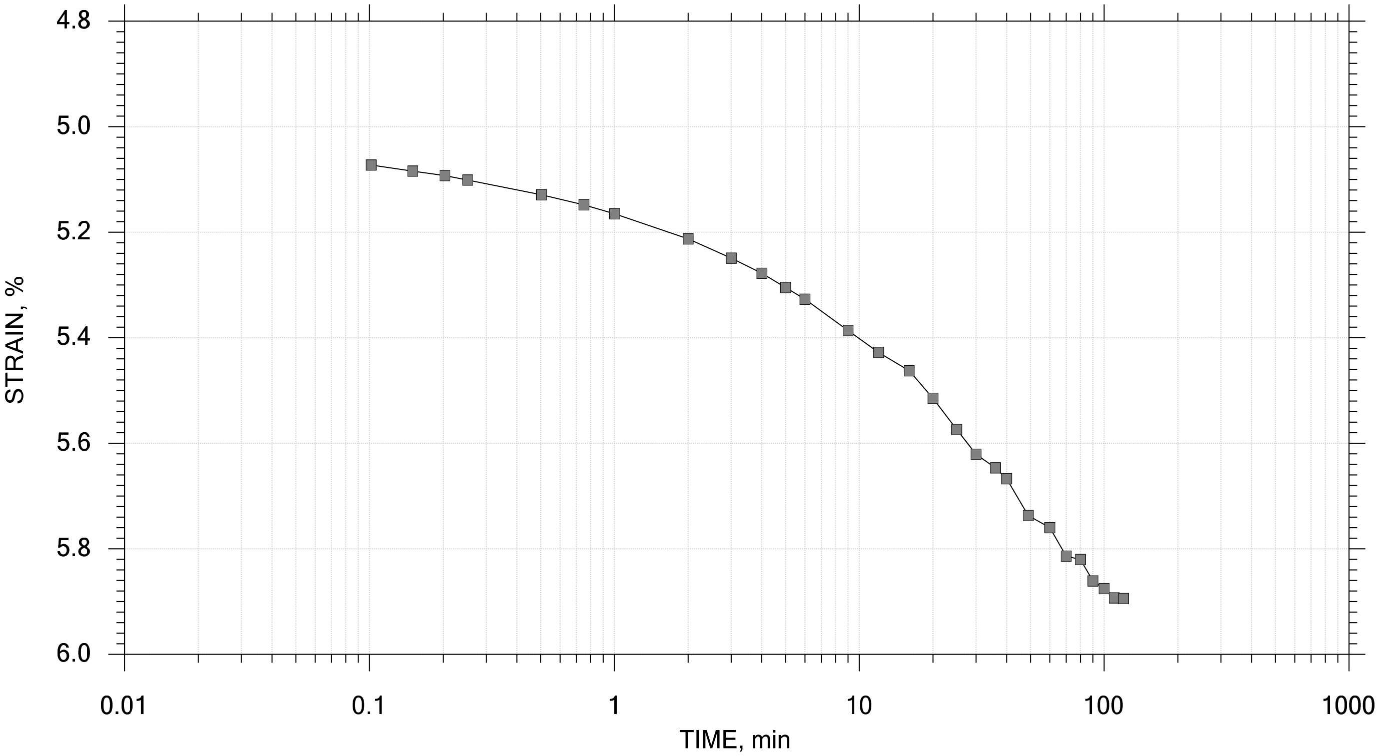
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-17	Tested By: SA	Checked By: SE
	Sample No.: 10	Test Date: 8/4/2017	Elevation: -0.50 ft
	Depth: 18-20 ft	Sample Type: intact	
	Description: Stiff Gray Lean Clay		
	Displacement at End of Increment		

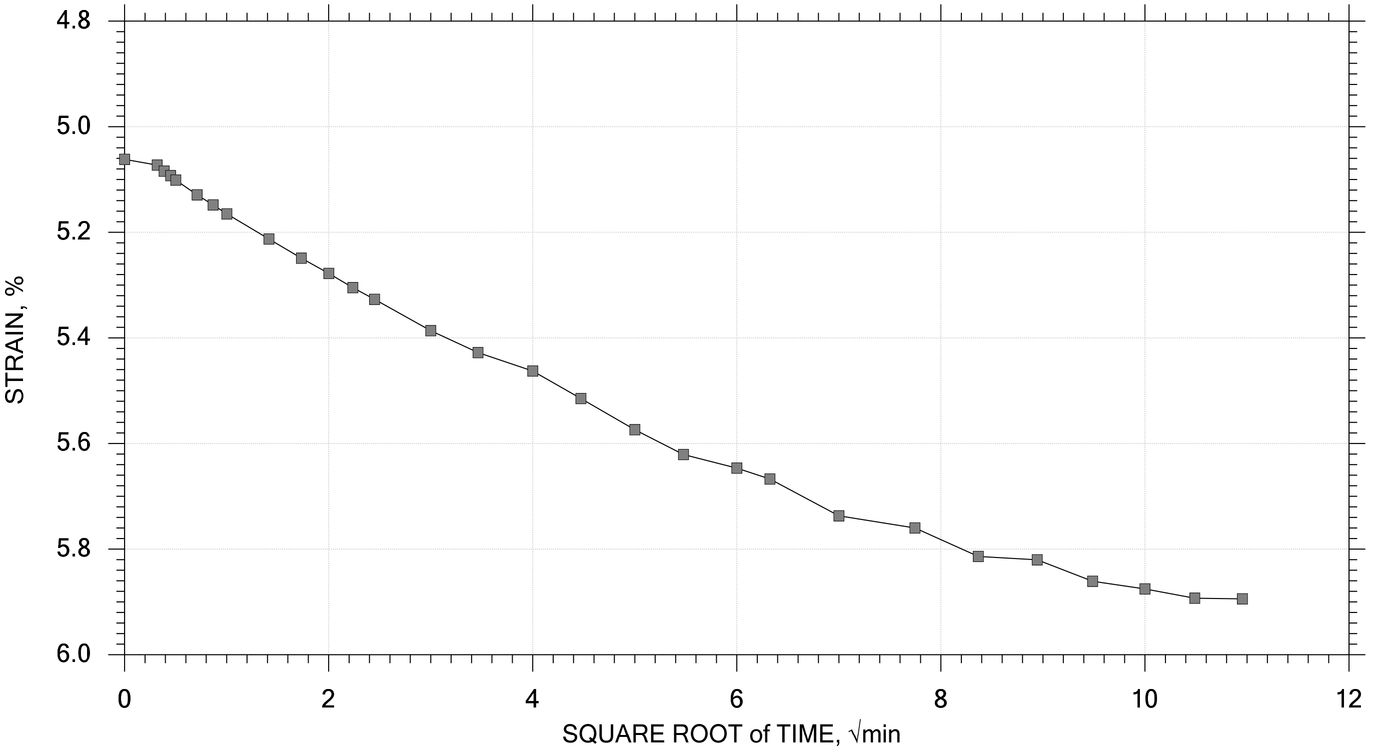
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 12 of 14

Stress: 4000 psf





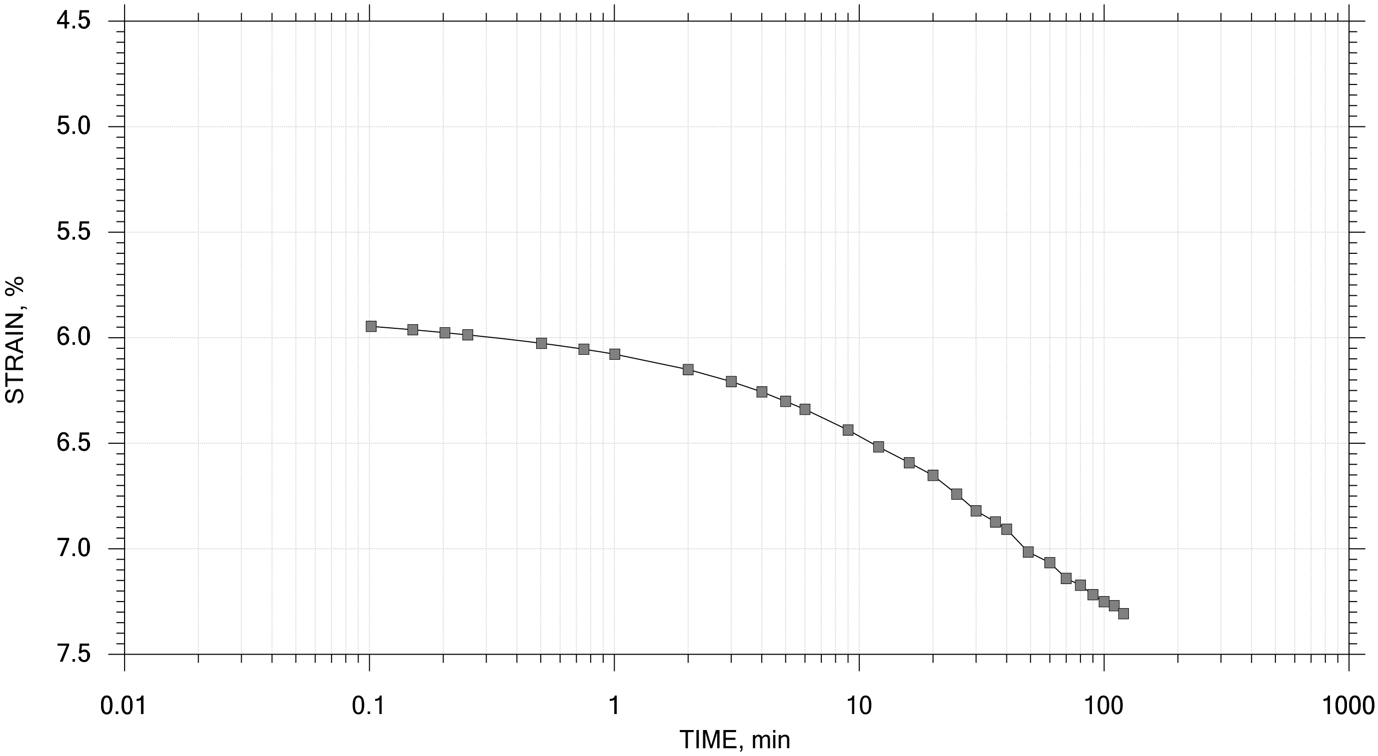
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-17	Tested By: SA	Checked By: SE
	Sample No.: 10	Test Date: 8/4/2017	Elevation: -0.50 ft
	Depth: 18-20 ft	Sample Type: intact	
	Description: Stiff Gray Lean Clay		
	Displacement at End of Increment		

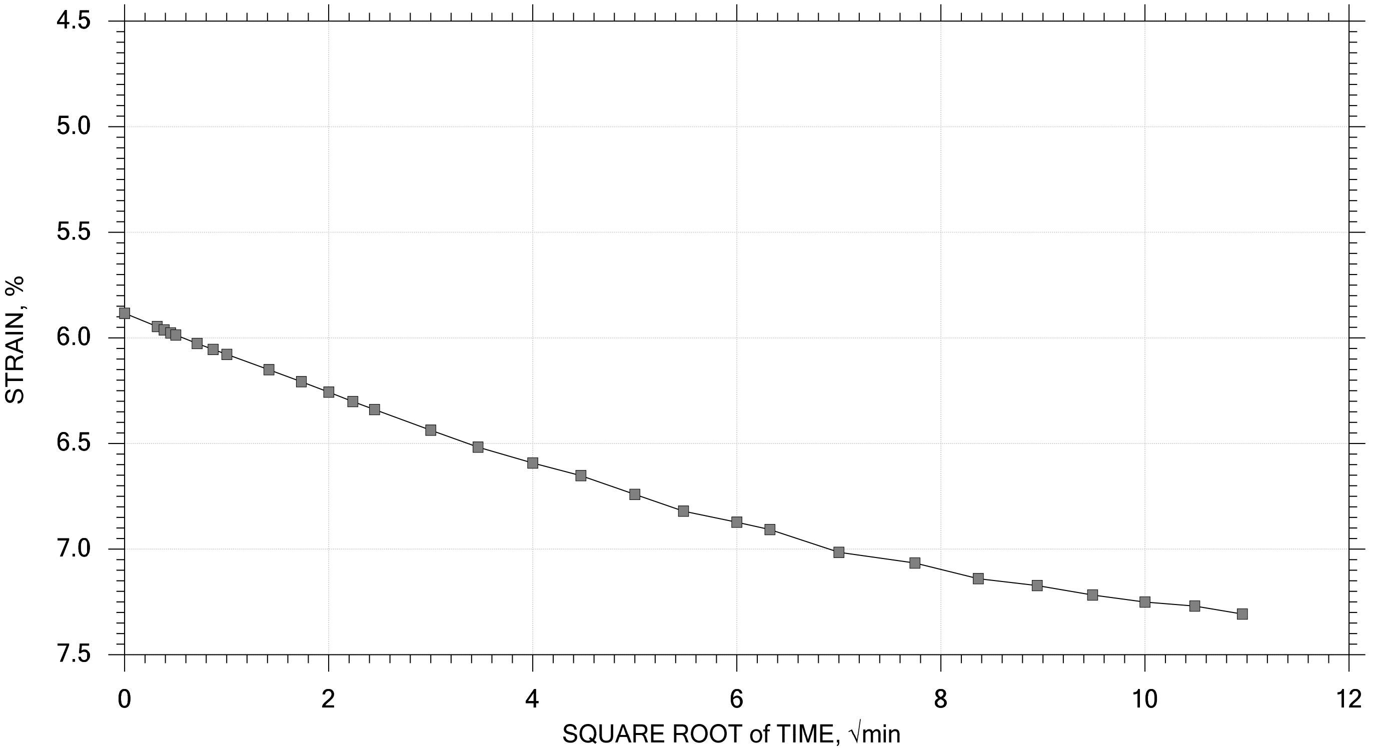
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 13 of 14

Stress: 8000 psf





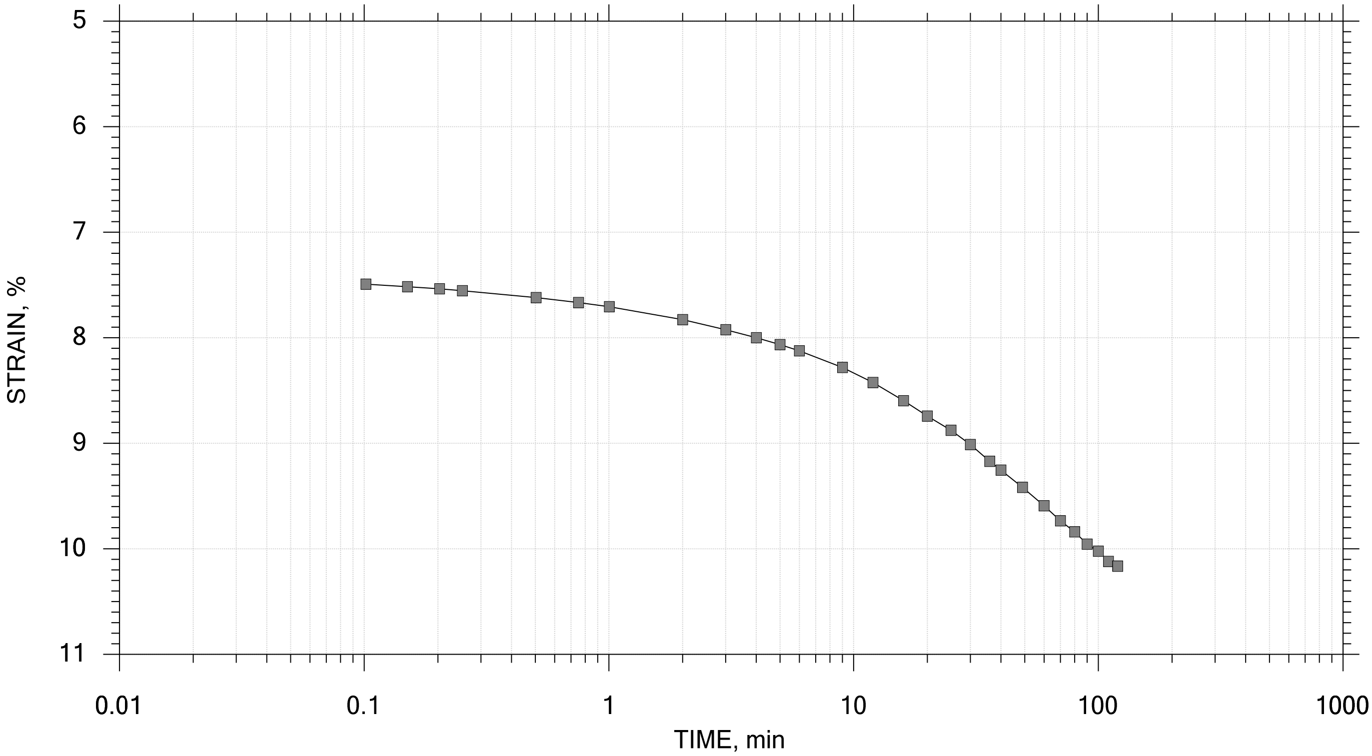
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-17	Tested By: SA	Checked By: SE
	Sample No.: 10	Test Date: 8/4/2017	Elevation: -0.50 ft
	Depth: 18-20 ft	Sample Type: intact	
	Description: Stiff Gray Lean Clay		
	Displacement at End of Increment		

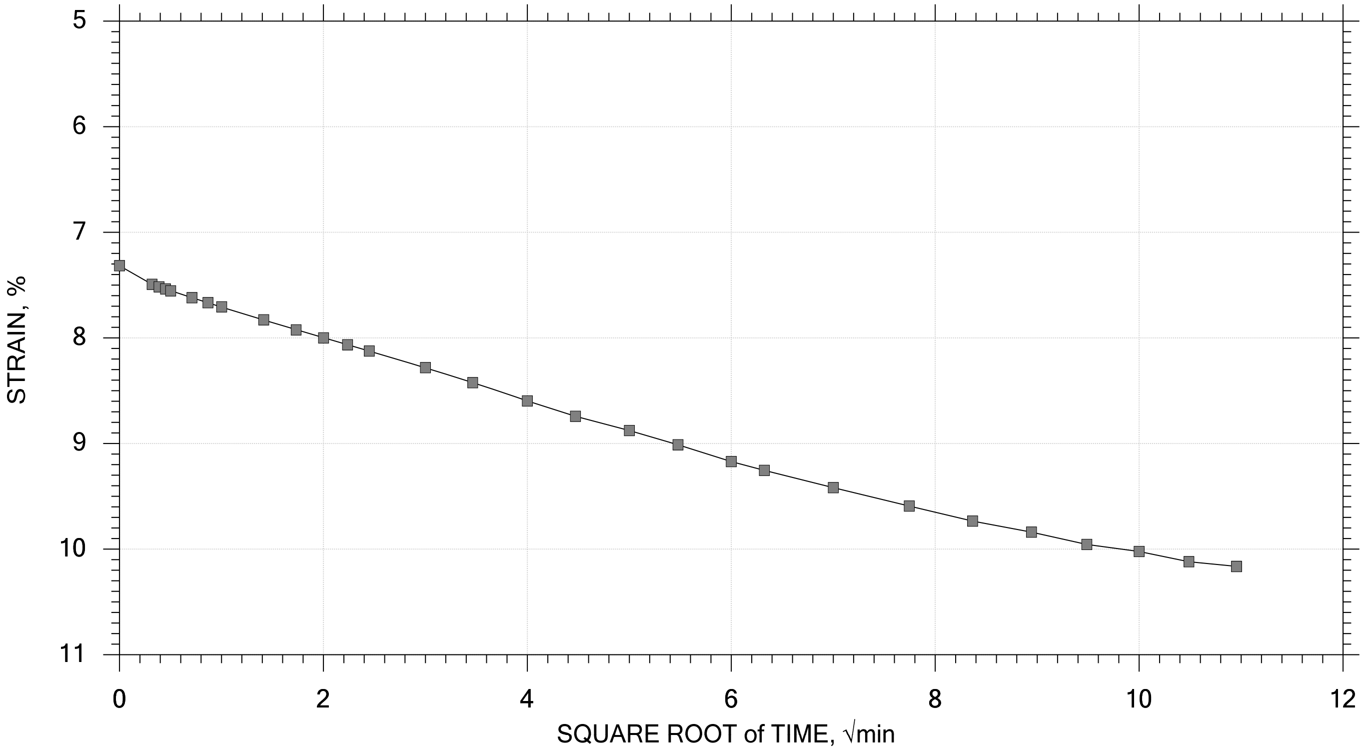
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 14 of 14

Stress: 16000 psf



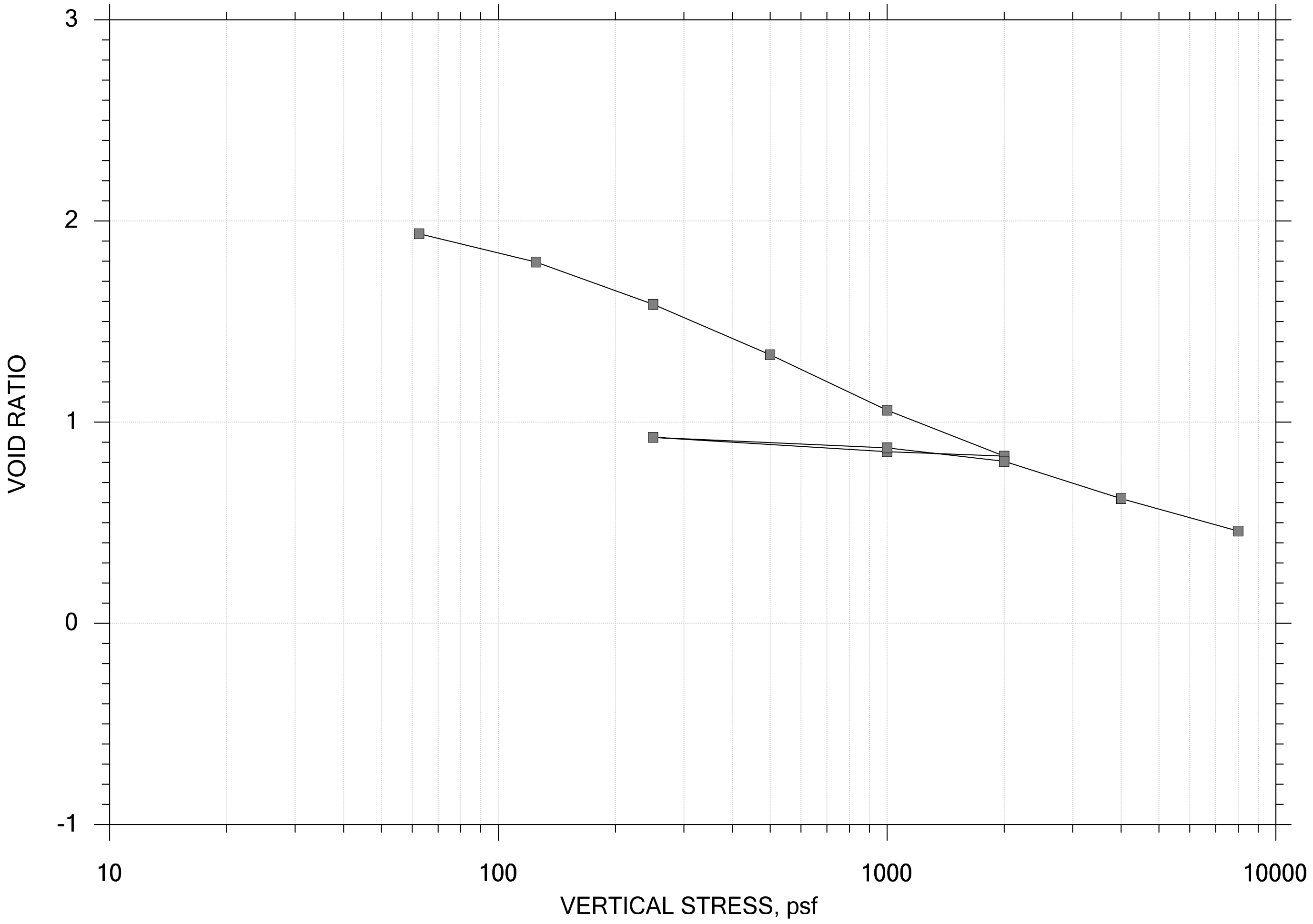


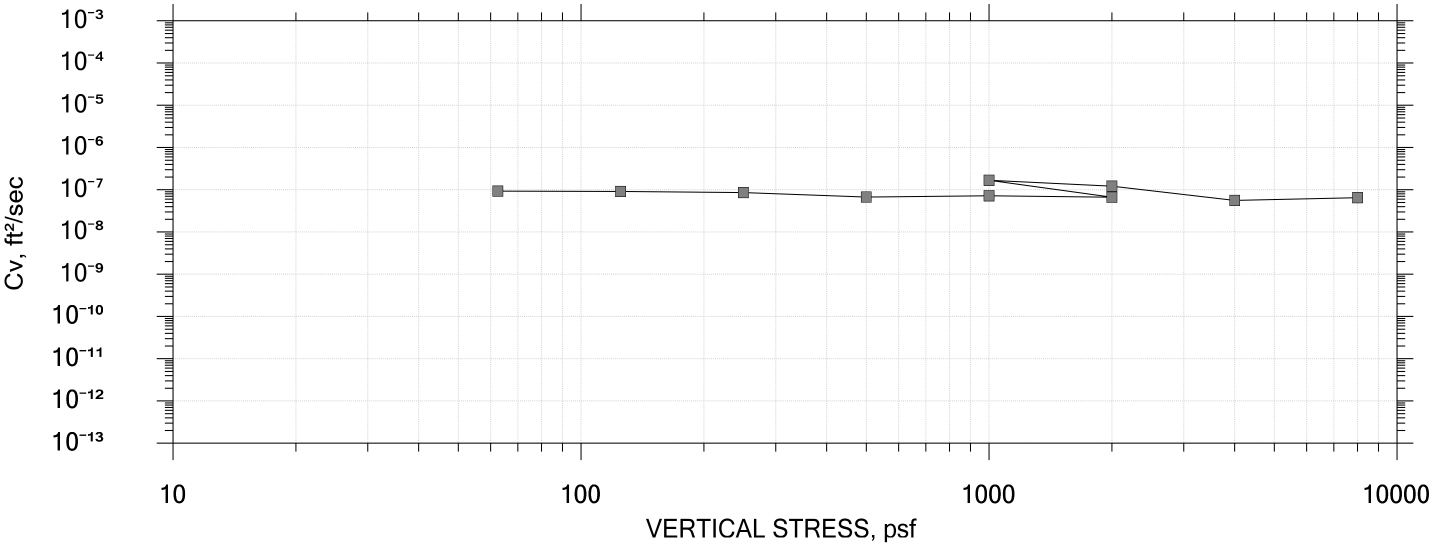
APS Engineering and Testing

Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
Boring No.: B-17	Tested By: SA	Checked By: SE
Sample No.: 10	Test Date: 8/4/2017	Elevation: -0.50 ft
Depth: 18-20 ft	Sample Type: intact	
Description: Stiff Gray Lean Clay		
Displacement at End of Increment		

One-Dimensional Consolidation by ASTM D2435 - Method B

SUMMARY REPORT

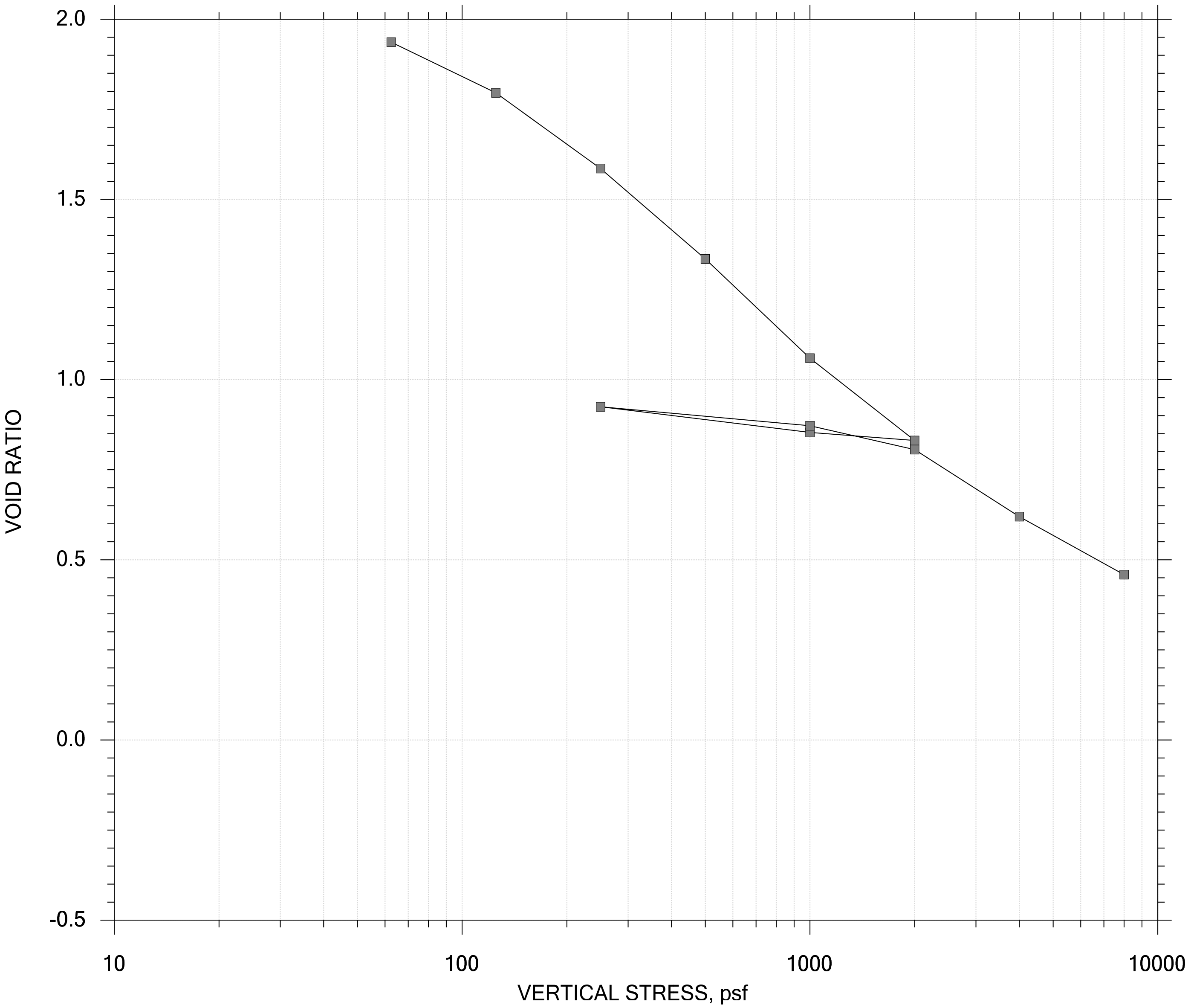




APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-18	Tested By: SA	Checked By: SE
	Sample No.: 1	Test Date: 8/1/2017	Elevation: -2.40 ft
	Depth: 0-2 ft	Sample Type: intact	
	Description: Very Soft Black Organic Clay		
	Displacement at End of Increment		

One-Dimensional Consolidation by ASTM D2435 - Method B

SUMMARY REPORT



APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-18	Tested By: SA	Checked By: SE
	Sample No.: 1	Test Date: 8/1/2017	Elevation: -2.40 ft
	Depth: 0-2 ft	Sample Type: intact	
	Description: Very Soft Black Organic Clay		
	Displacement at End of Increment		

One-Dimensional Consolidation by ASTM D2435 - Method B

Project: APS1706-G038
Boring No.: B-18
Sample No.: 1

Location: Lake Saint Catherine
Tested By: SA
Test Date: 8/1/17
Sample Type: Intact

Project No.: APS1706-G038
Checked By: SE
Depth: 0-2 ft
Elevation: -2.40 ft

Soil Description: Very Soft Black Organic Clay

Measured Specific Gravity: 2.17
Initial Void Ratio: 2.02
Final Void Ratio: 0.459

Liquid Limit: 299
Plastic Limit: 62
Plasticity Index: 237

Specimen Diameter: 2.50 in
Initial Height: 1.00 in
Final Height: 0.48 in

	Before Consolidation		After Consolidation	
	Trimmings	Specimen+Ring	Specimen+Ring	Trimmings
Container ID	sh5	RING	sh19	sh19
Wt. Container + Wet Soil, gm	143.10	115.55	78.280	78.280
Wt. Container + Dry Soil, gm	20.840	66.043	66.043	66.043
Wt. Container, gm	8.1500	8.1900	8.1900	8.1900
Wt. Dry Soil, gm	12.690	57.853	57.853	57.853
Water Content, %	963.44	85.57	21.15	21.15
Void Ratio	---	2.02	0.459	---
Degree of Saturation, %	---	92.06	100.00	---
Dry Unit Weight, pcf	---	44.899	92.850	---

One-Dimensional Consolidation by ASTM D2435 - Method B

Project: APS1706-G038
Boring No.: B-18
Sample No.: 1

Location: Lake Saint Catherine
Tested By: SA
Test Date: 8/1/17
Sample Type: Intact

Project No.: APS1706-G038
Checked By: SE
Depth: 0-2 ft
Elevation: -2.40 ft

Soil Description: Very Soft Black Organic Clay

Displacement at End of Increment

	Applied Stress psf	Final Displacement in	Void Ratio	Strain at End %	Sq.Rt T90 min	Cv ft^2/sec	Mv 1/psf	k cm/sec
1	62.5	0.02670	1.94	2.67	208.229	1.15e-007	4.27e-004	9.32e-008
2	125.	0.07332	1.80	7.33	235.383	9.41e-008	7.46e-004	1.34e-007
3	250.	0.1429	1.59	14.3	228.483	8.54e-008	5.57e-004	9.05e-008
4	500.	0.2261	1.33	22.6	238.071	6.85e-008	3.33e-004	4.34e-008
5	1.00e+003	0.3174	1.06	31.7	182.401	7.13e-008	1.83e-004	2.48e-008
6	2.00e+003	0.3930	0.831	39.3	155.351	6.57e-008	7.56e-005	9.45e-009
7	1.00e+003	0.3857	0.854	38.6	20.891	4.38e-007	7.35e-006	6.13e-009
8	250.	0.3621	0.925	36.2	128.888	7.46e-008	3.14e-005	4.46e-009
9	1.00e+003	0.3795	0.872	38.0	55.817	1.74e-007	2.32e-005	7.69e-009
10	2.00e+003	0.4015	0.806	40.2	77.562	1.18e-007	2.20e-005	4.92e-009
11	4.00e+003	0.4632	0.620	46.3	139.763	5.66e-008	3.08e-005	3.32e-009
12	8.00e+003	0.5164	0.459	51.6	96.752	6.60e-008	1.33e-005	1.67e-009

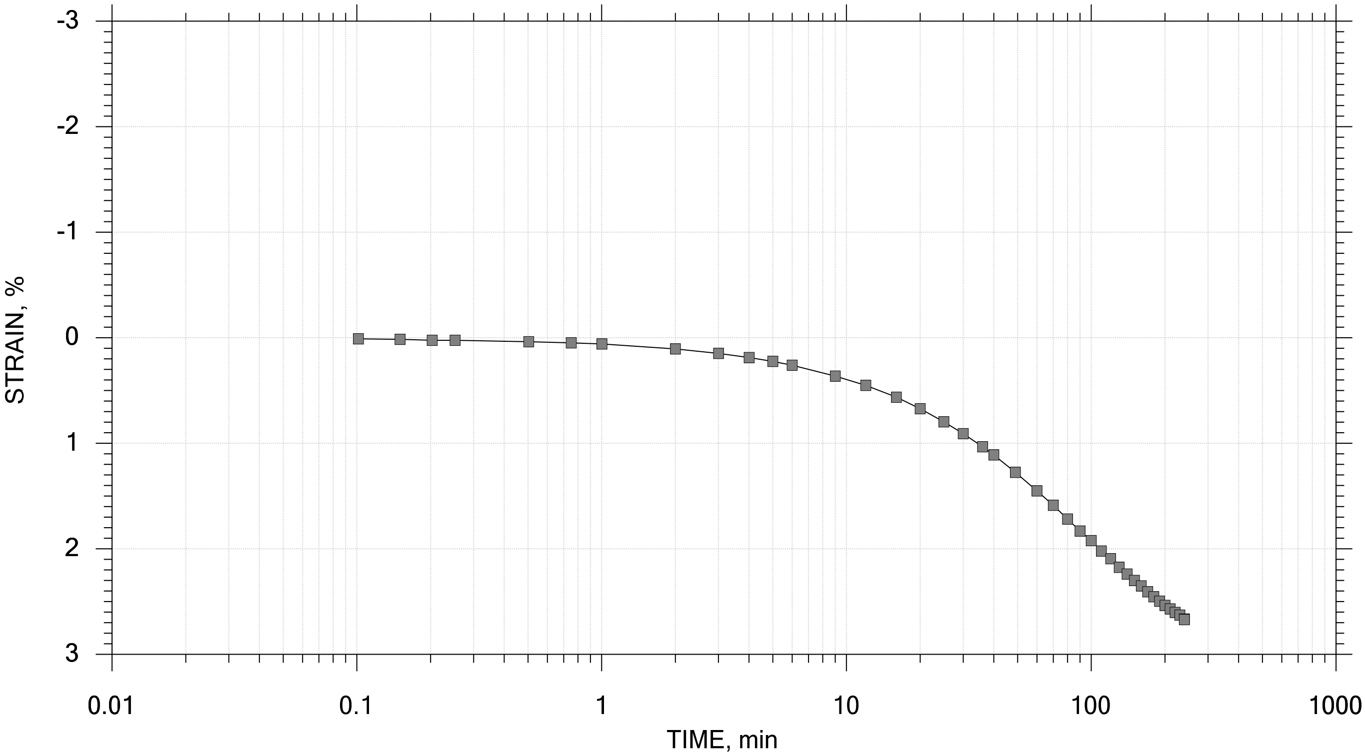
	Applied Stress psf	Final Displacement in	Void Ratio	Strain at End %	Log T50 min	Cv ft^2/sec	Mv 1/psf	k cm/sec	Ca %
1	62.5	0.02670	1.94	2.67	0.000	0.00e+000	4.27e-004	0.00e+000	0.00e+000
2	125.	0.07332	1.80	7.33	0.000	0.00e+000	7.46e-004	0.00e+000	0.00e+000
3	250.	0.1429	1.59	14.3	0.000	0.00e+000	5.57e-004	0.00e+000	0.00e+000
4	500.	0.2261	1.33	22.6	0.000	0.00e+000	3.33e-004	0.00e+000	0.00e+000
5	1.00e+003	0.3174	1.06	31.7	0.000	0.00e+000	1.83e-004	0.00e+000	0.00e+000
6	2.00e+003	0.3930	0.831	39.3	0.000	0.00e+000	7.56e-005	0.00e+000	0.00e+000
7	1.00e+003	0.3857	0.854	38.6	5.297	4.01e-007	7.35e-006	5.61e-009	0.00e+000
8	250.	0.3621	0.925	36.2	0.000	0.00e+000	3.14e-005	0.00e+000	0.00e+000
9	1.00e+003	0.3795	0.872	38.0	13.959	1.62e-007	2.32e-005	7.14e-009	0.00e+000
10	2.00e+003	0.4015	0.806	40.2	17.105	1.24e-007	2.20e-005	5.18e-009	0.00e+000
11	4.00e+003	0.4632	0.620	46.3	33.405	5.50e-008	3.08e-005	3.23e-009	0.00e+000
12	8.00e+003	0.5164	0.459	51.6	23.242	6.38e-008	1.33e-005	1.62e-009	0.00e+000

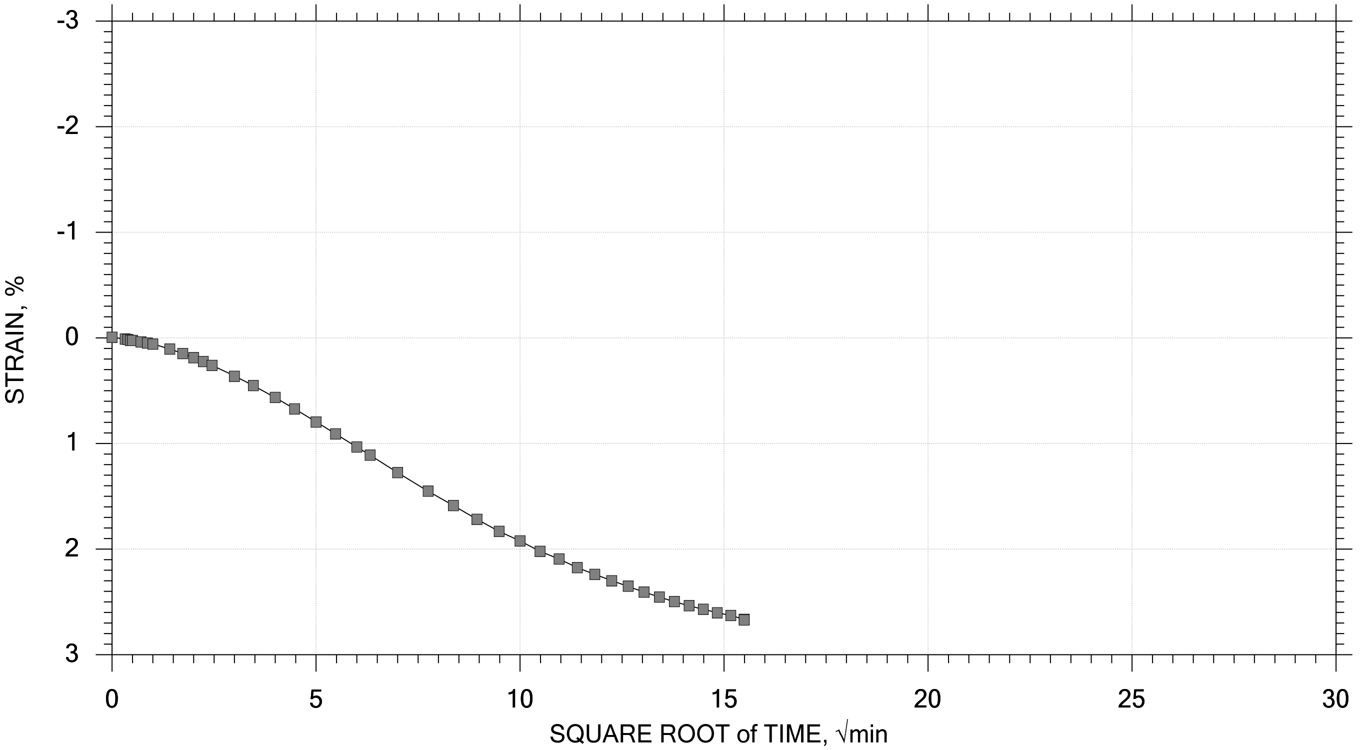
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 1 of 12

Stress: 62.5 psf





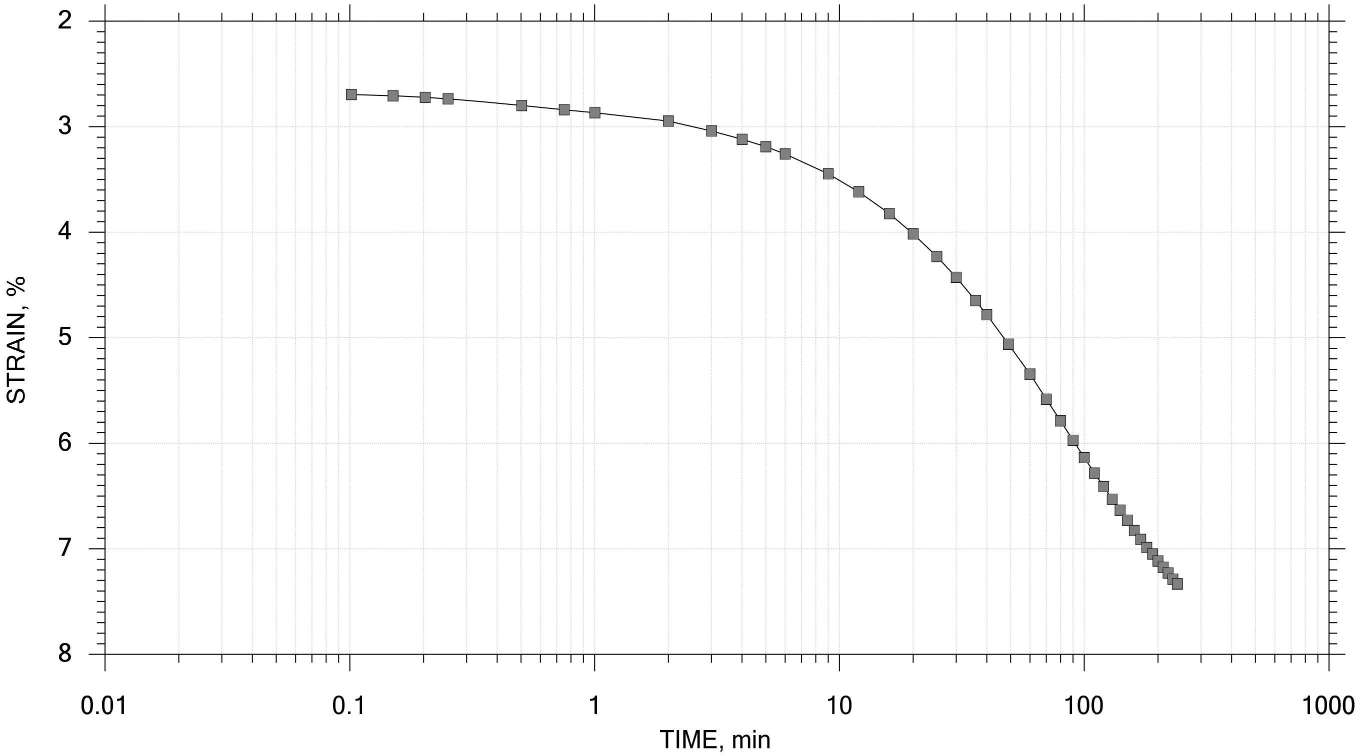
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-18	Tested By: SA	Checked By: SE
	Sample No.: 1	Test Date: 8/1/2017	Elevation: -2.40 ft
	Depth: 0-2 ft	Sample Type: intact	
	Description: Very Soft Black Organic Clay		
	Displacement at End of Increment		

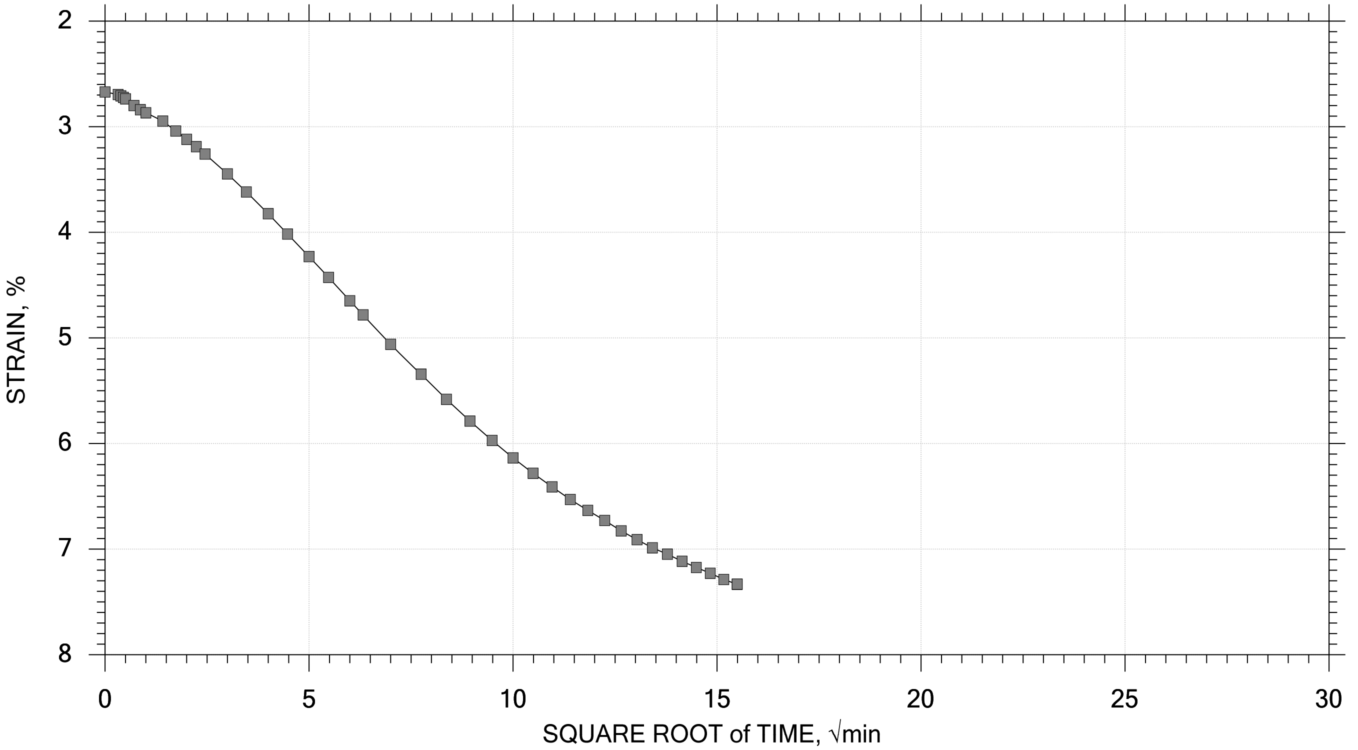
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 2 of 12

Stress: 125 psf





APS Engineering and Testing

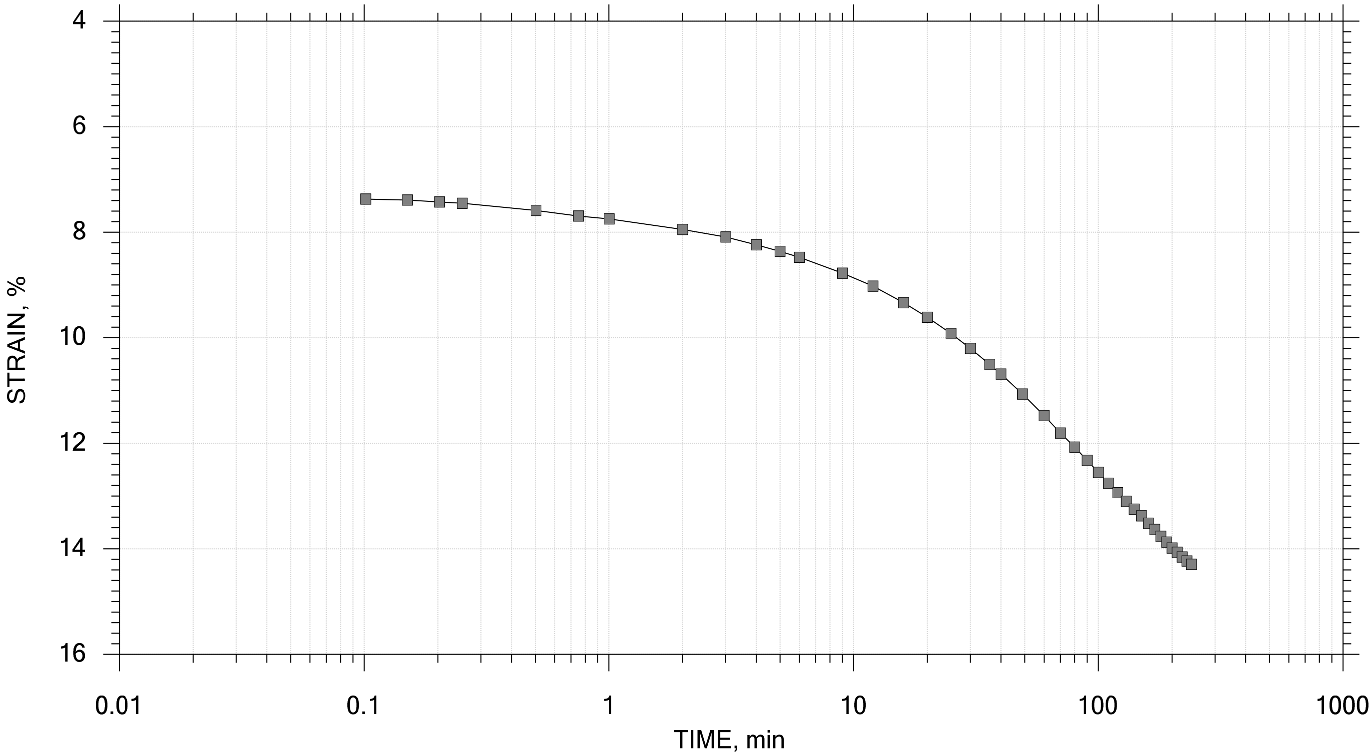
Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
Boring No.: B-18	Tested By: SA	Checked By: SE
Sample No.: 1	Test Date: 8/1/2017	Elevation: -2.40 ft
Depth: 0-2 ft	Sample Type: intact	
Description: Very Soft Black Organic Clay		
Displacement at End of Increment		

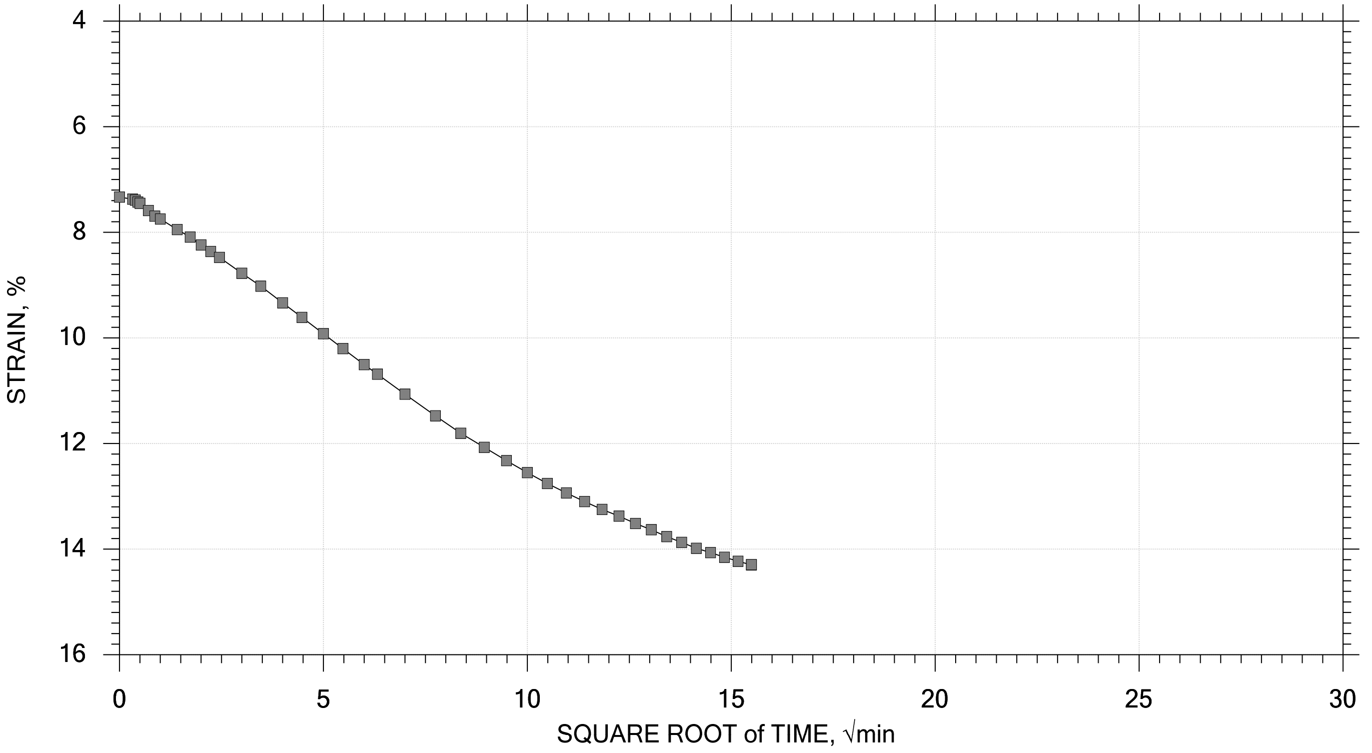
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 3 of 12

Stress: 250 psf





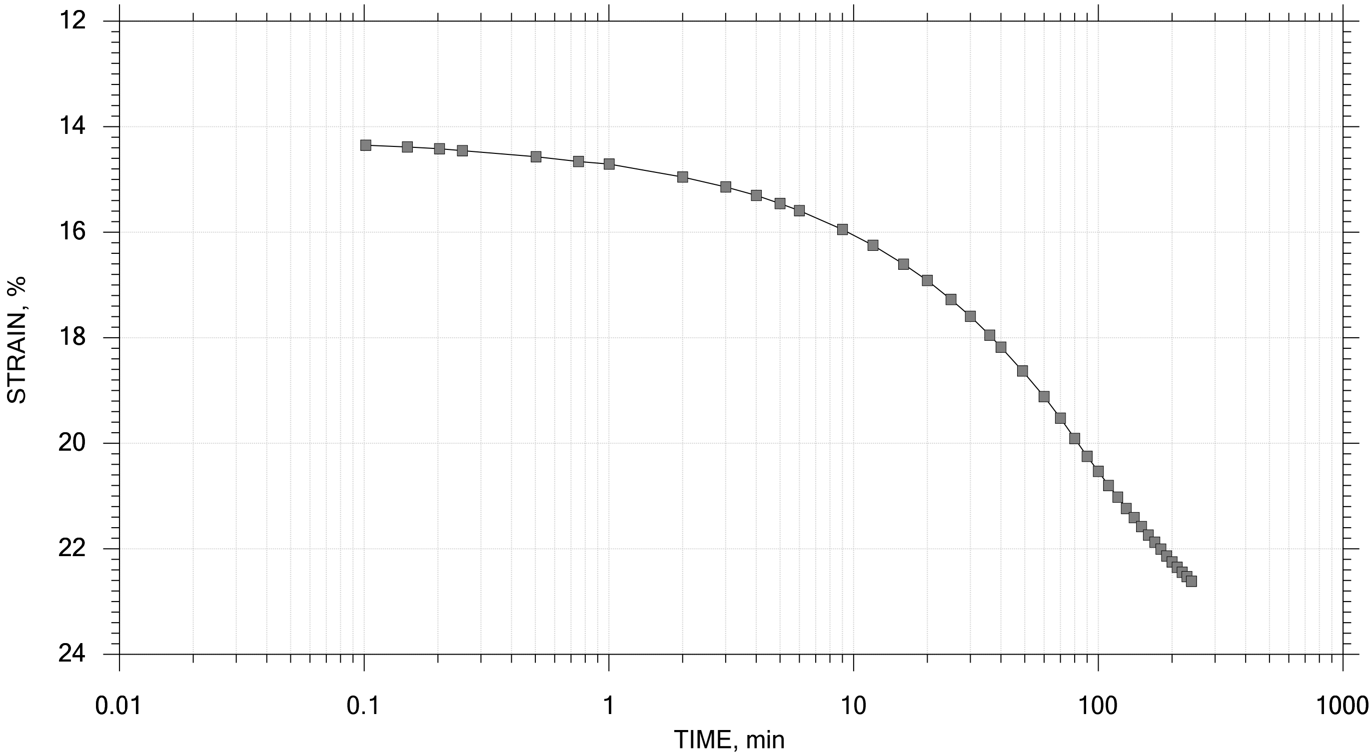
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-18	Tested By: SA	Checked By: SE
	Sample No.: 1	Test Date: 8/1/2017	Elevation: -2.40 ft
	Depth: 0-2 ft	Sample Type: intact	
	Description: Very Soft Black Organic Clay		
	Displacement at End of Increment		

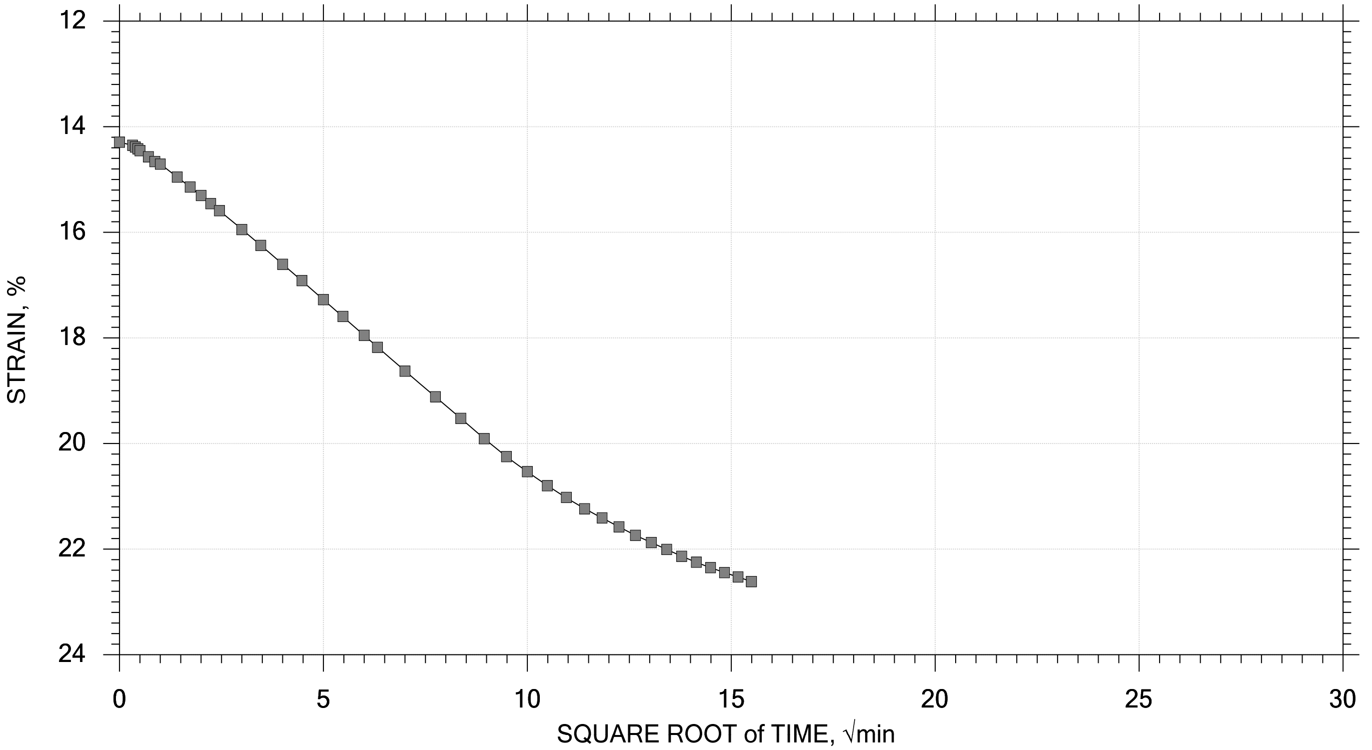
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 4 of 12

Stress: 500 psf





Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
Boring No.: B-18	Tested By: SA	Checked By: SE
Sample No.: 1	Test Date: 8/1/2017	Elevation: -2.40 ft
Depth: 0-2 ft	Sample Type: intact	
Description: Very Soft Black Organic Clay		
Displacement at End of Increment		

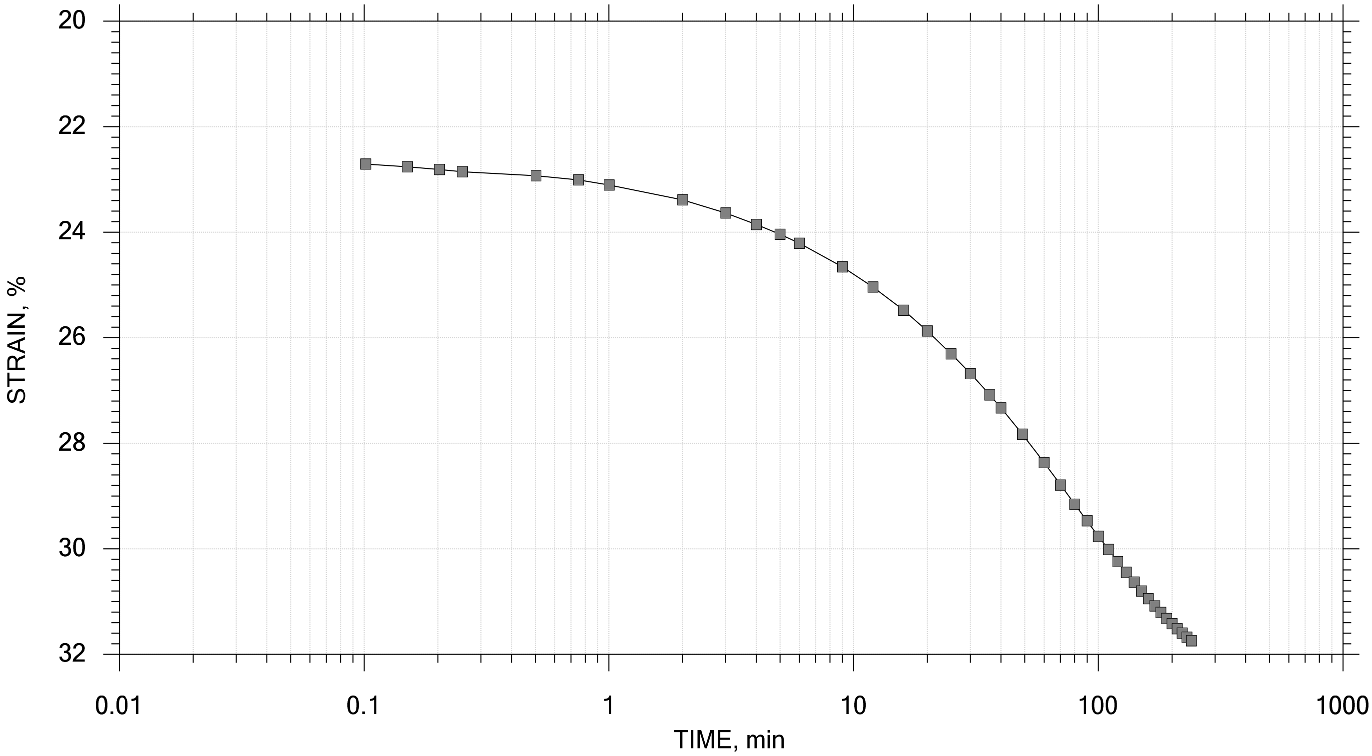
APS Engineering and Testing

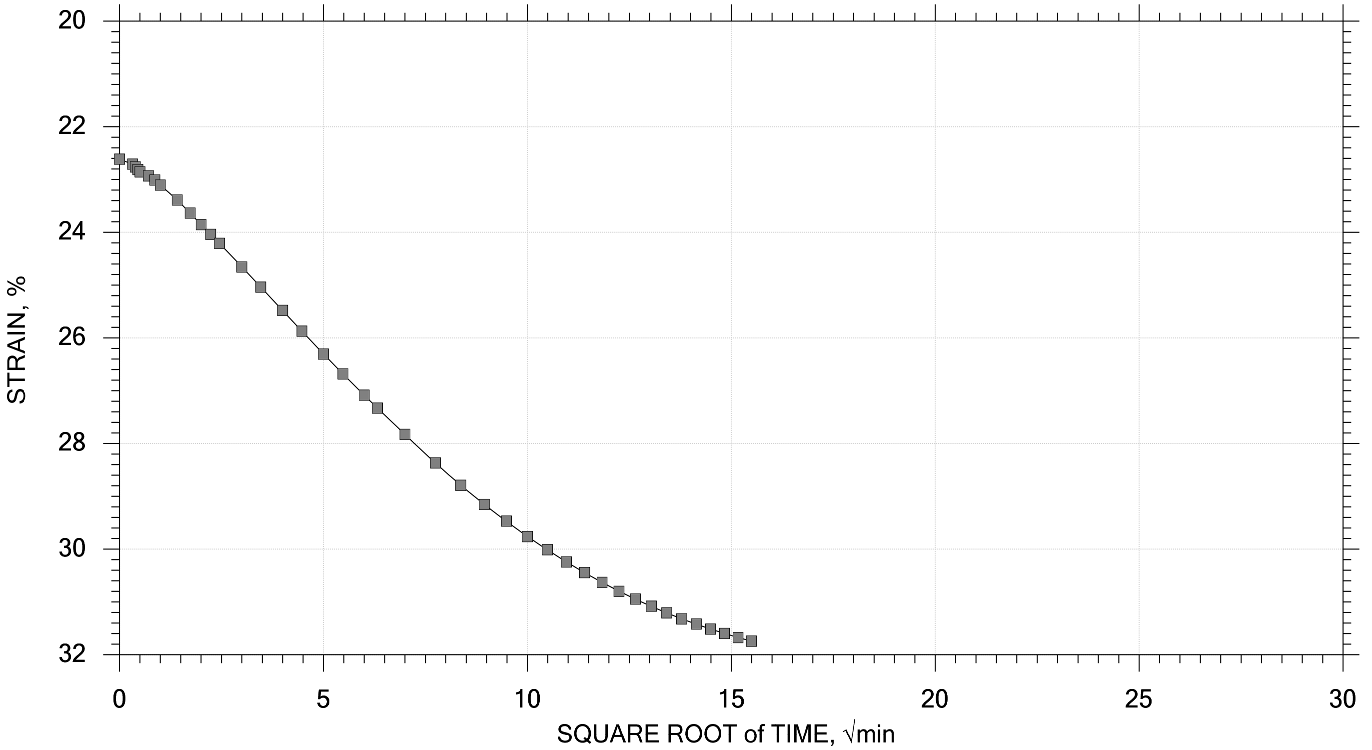
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 5 of 12

Stress: 1000 psf





APS Engineering and Testing

Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
Boring No.: B-18	Tested By: SA	Checked By: SE
Sample No.: 1	Test Date: 8/1/2017	Elevation: -2.40 ft
Depth: 0-2 ft	Sample Type: intact	

Description: Very Soft Black Organic Clay

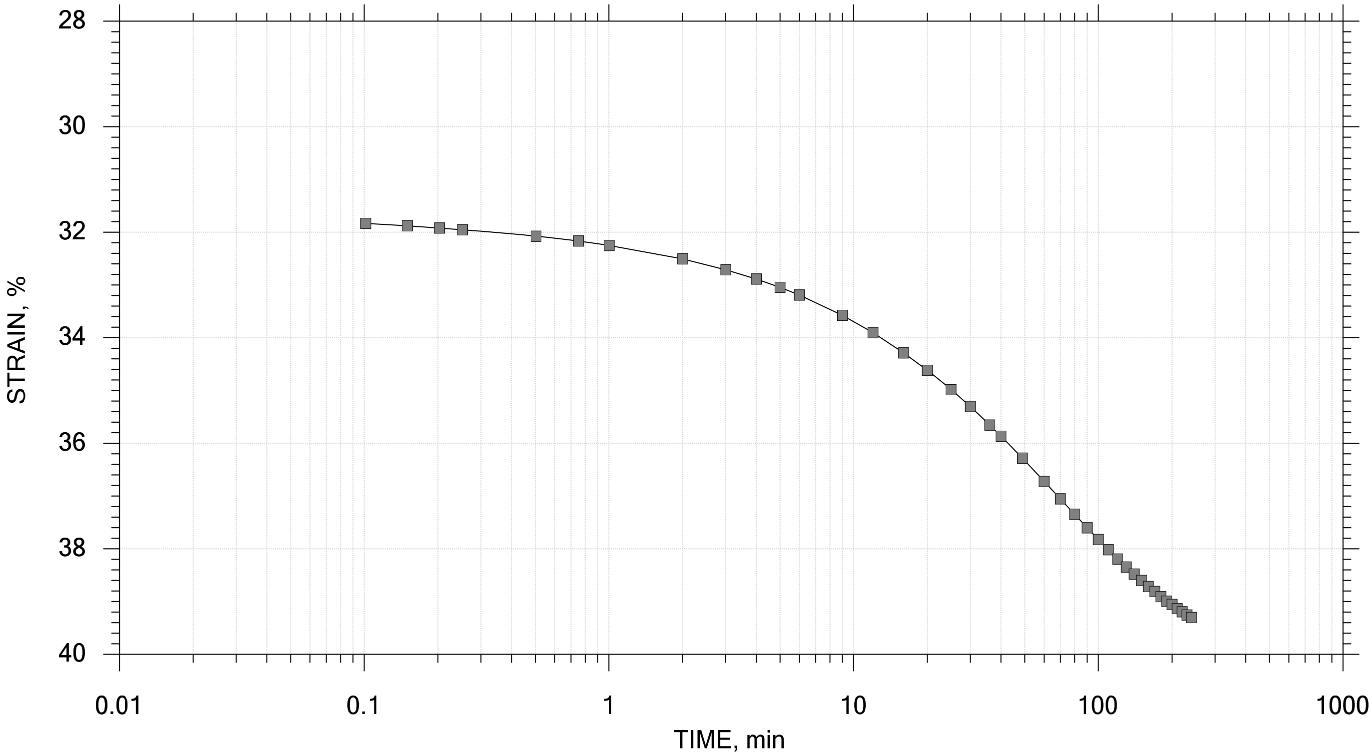
Displacement at End of Increment

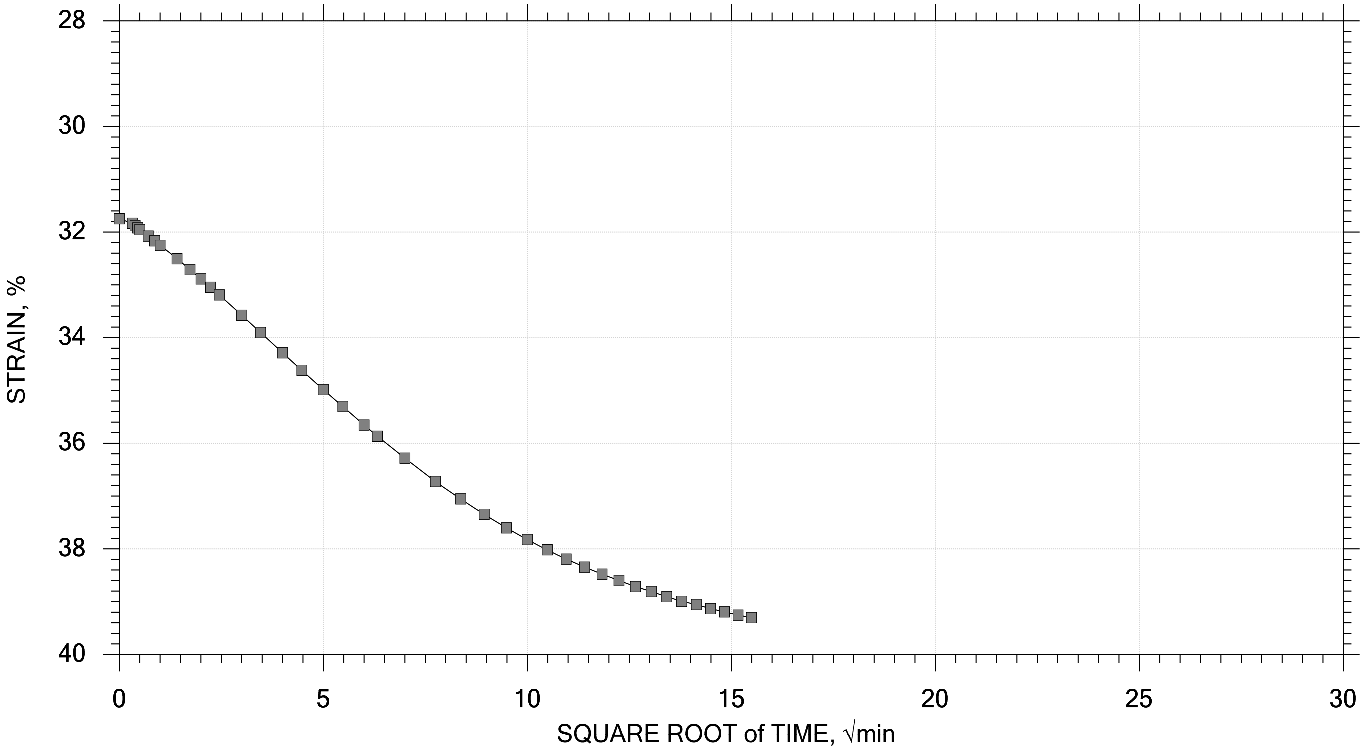
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 6 of 12

Stress: 2000 psf





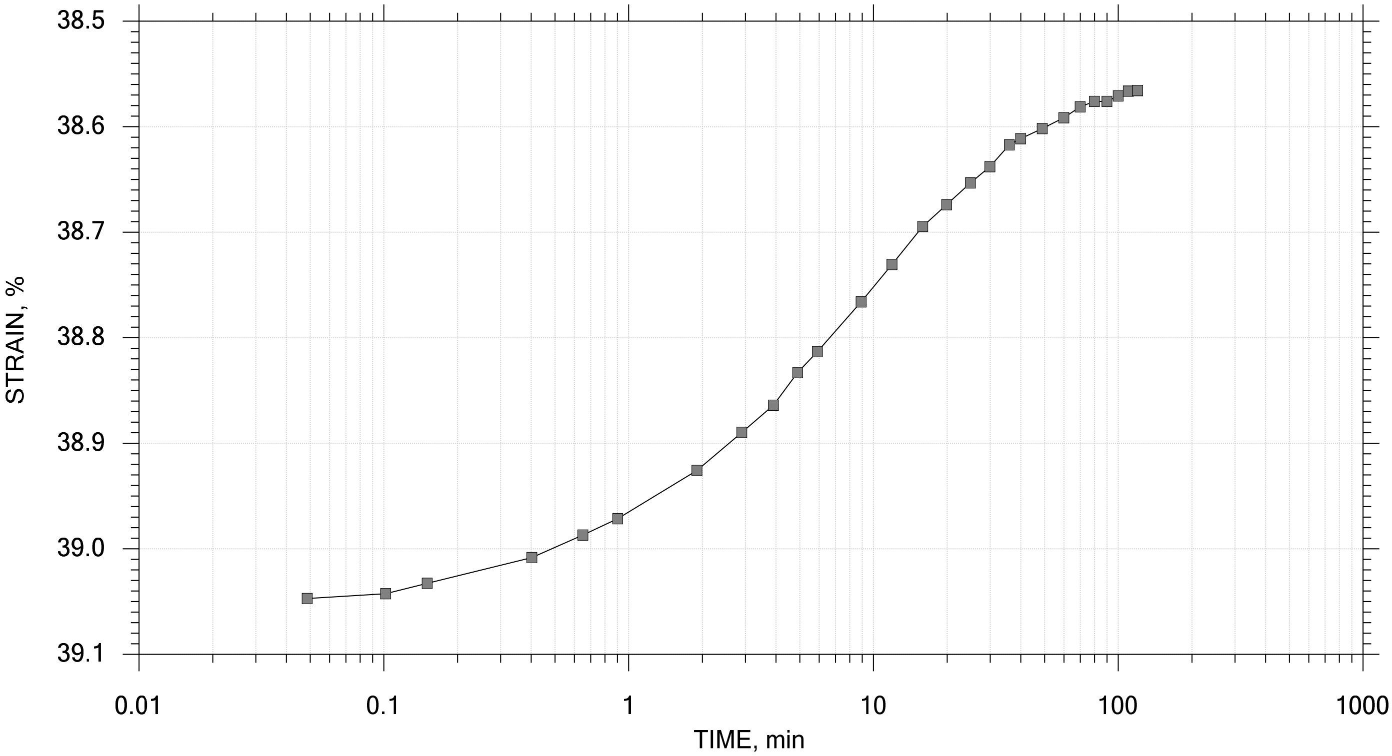
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-18	Tested By: SA	Checked By: SE
	Sample No.: 1	Test Date: 8/1/2017	Elevation: -2.40 ft
	Depth: 0-2 ft	Sample Type: intact	
	Description: Very Soft Black Organic Clay		
	Displacement at End of Increment		

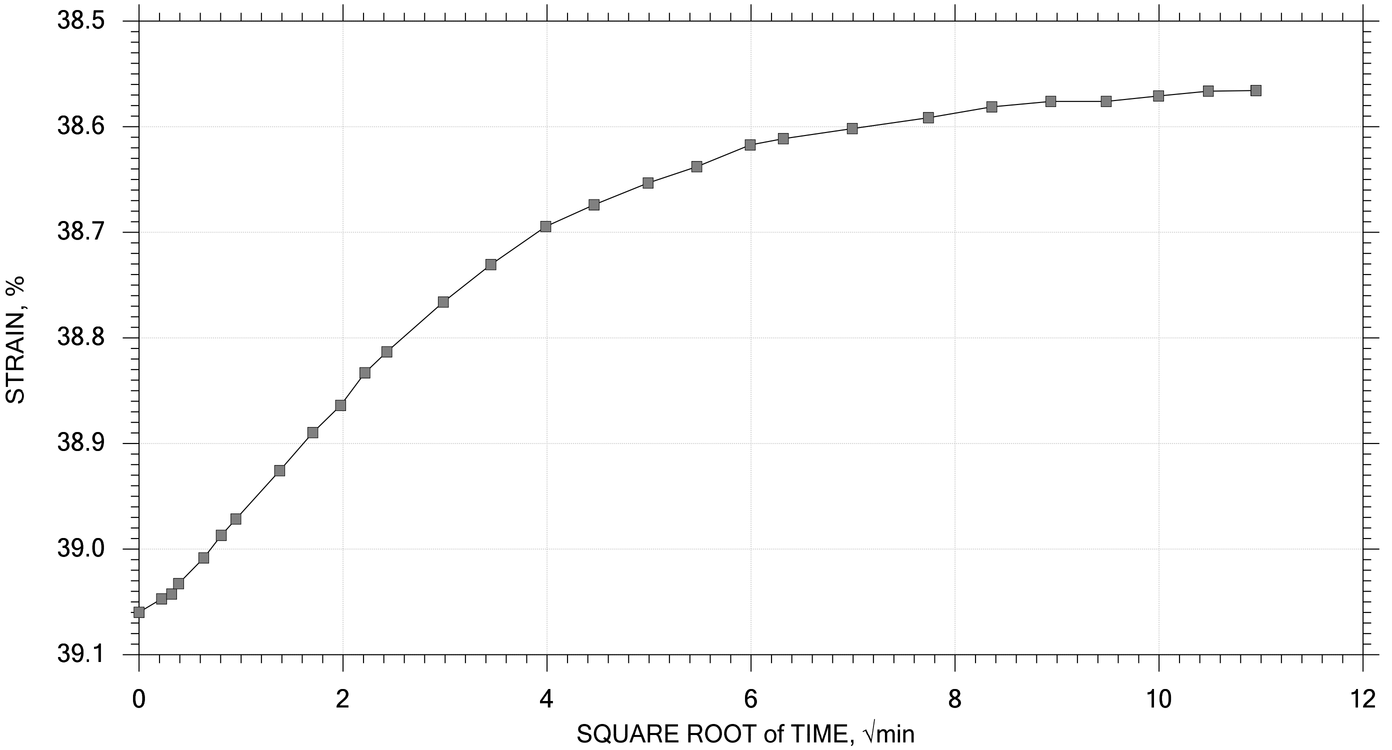
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 7 of 12

Stress: 1000 psf





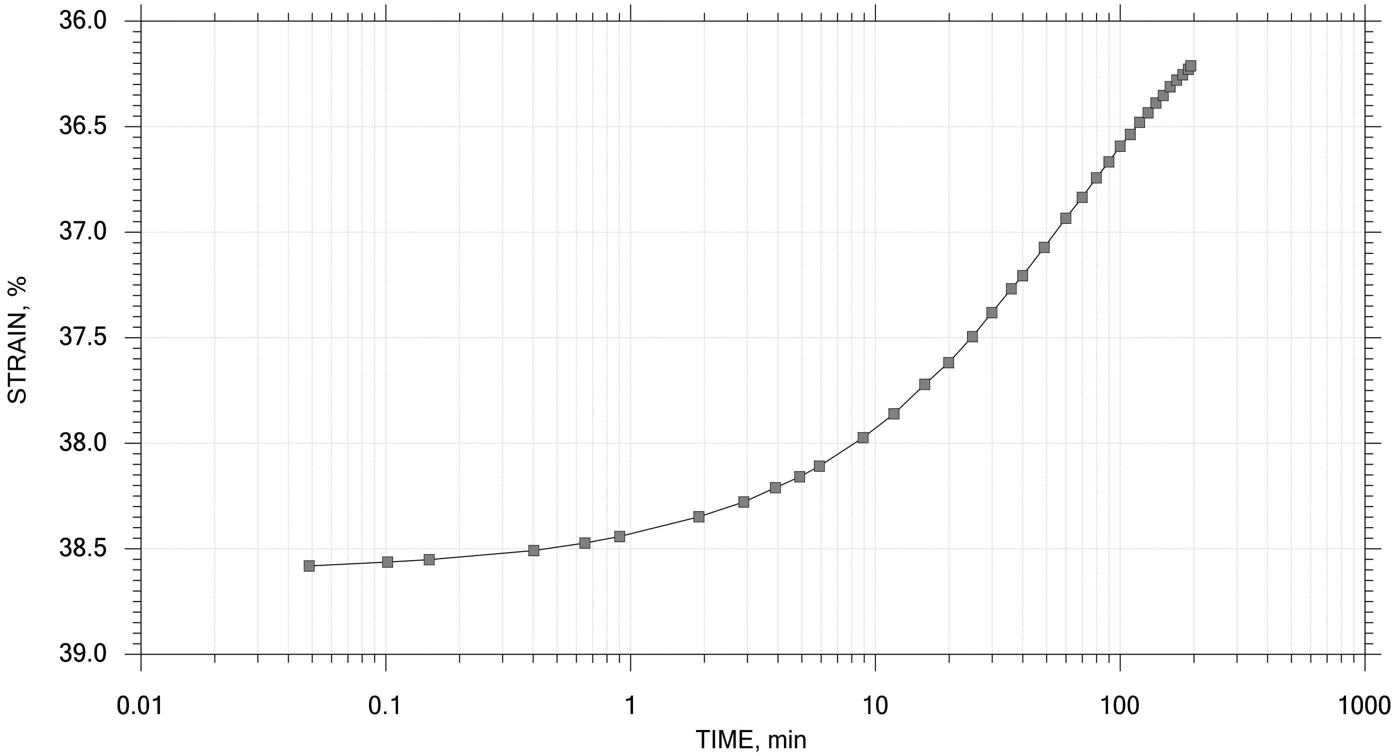
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-18	Tested By: SA	Checked By: SE
	Sample No.: 1	Test Date: 8/1/2017	Elevation: -2.40 ft
	Depth: 0-2 ft	Sample Type: intact	
	Description: Very Soft Black Organic Clay		
	Displacement at End of Increment		

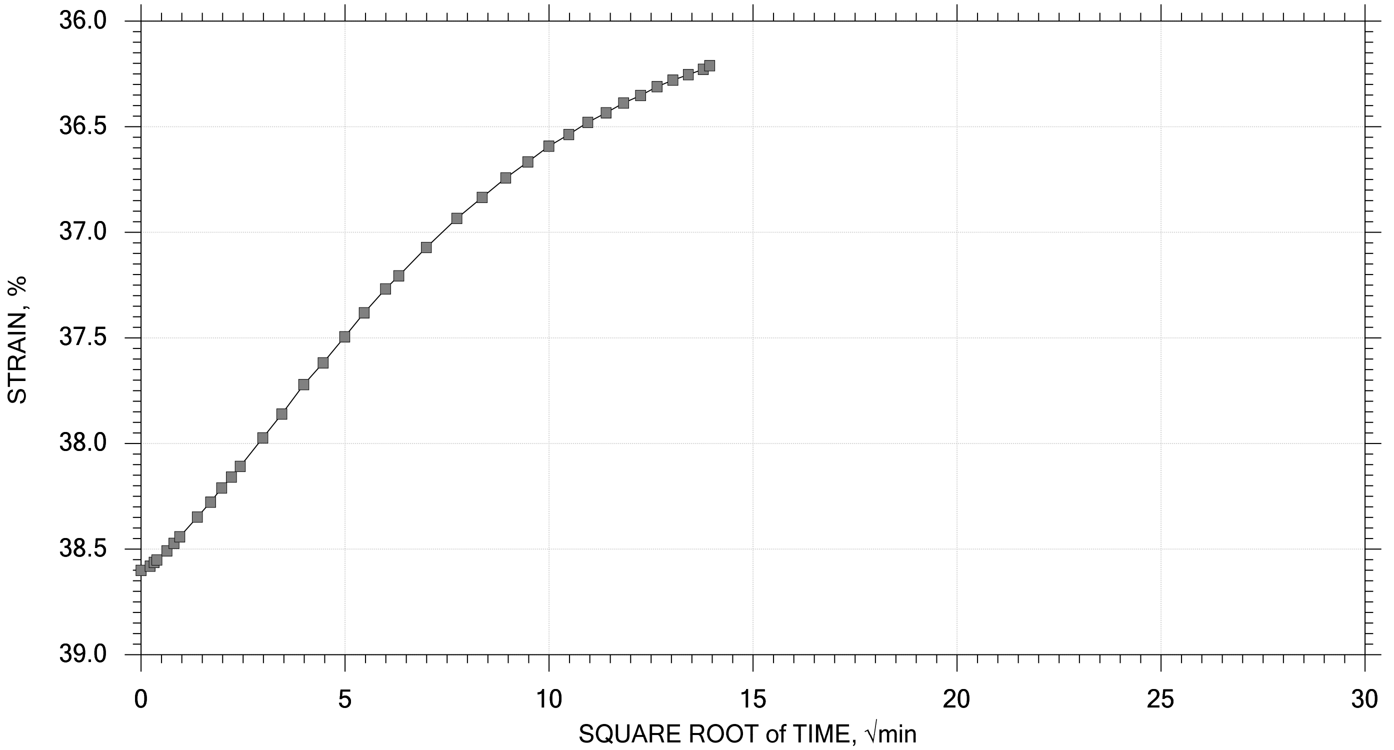
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 8 of 12

Stress: 250 psf





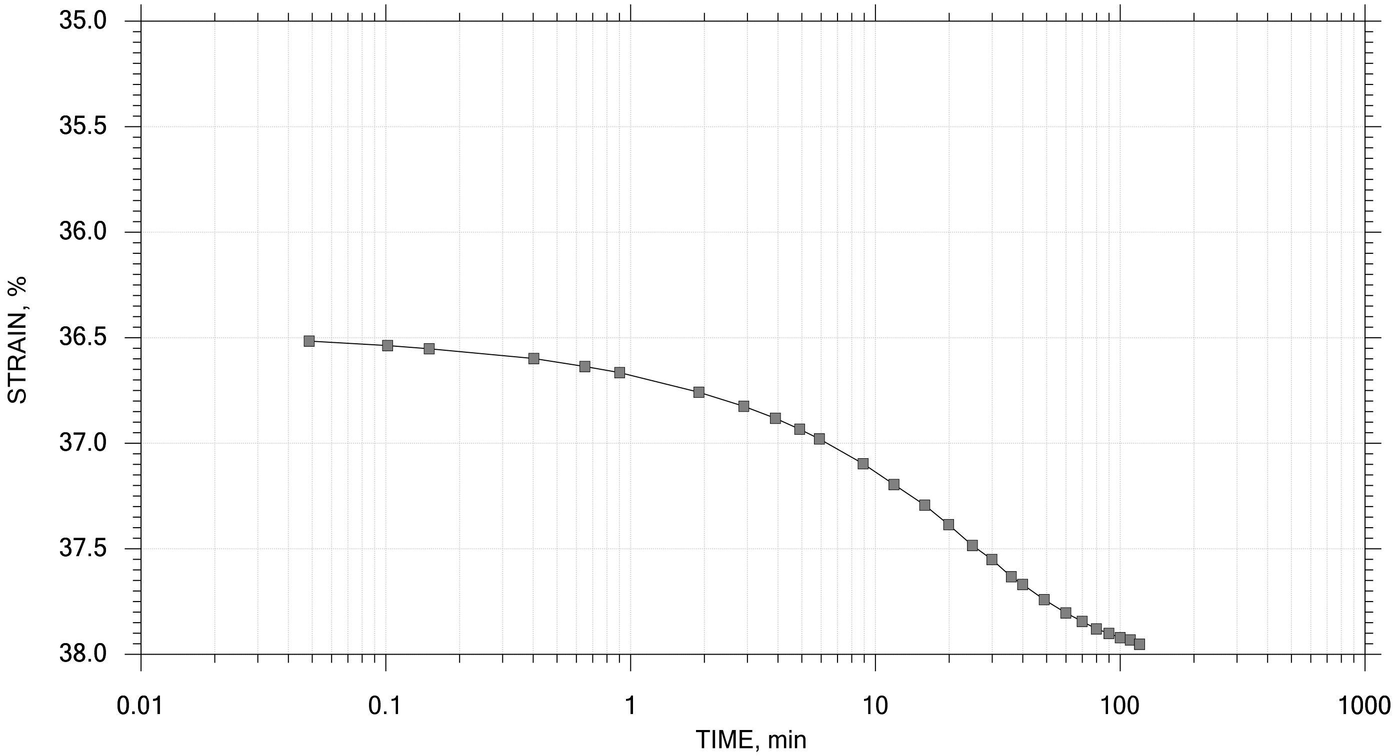
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-18	Tested By: SA	Checked By: SE
	Sample No.: 1	Test Date: 8/1/2017	Elevation: -2.40 ft
	Depth: 0-2 ft	Sample Type: intact	
	Description: Very Soft Black Organic Clay		
	Displacement at End of Increment		

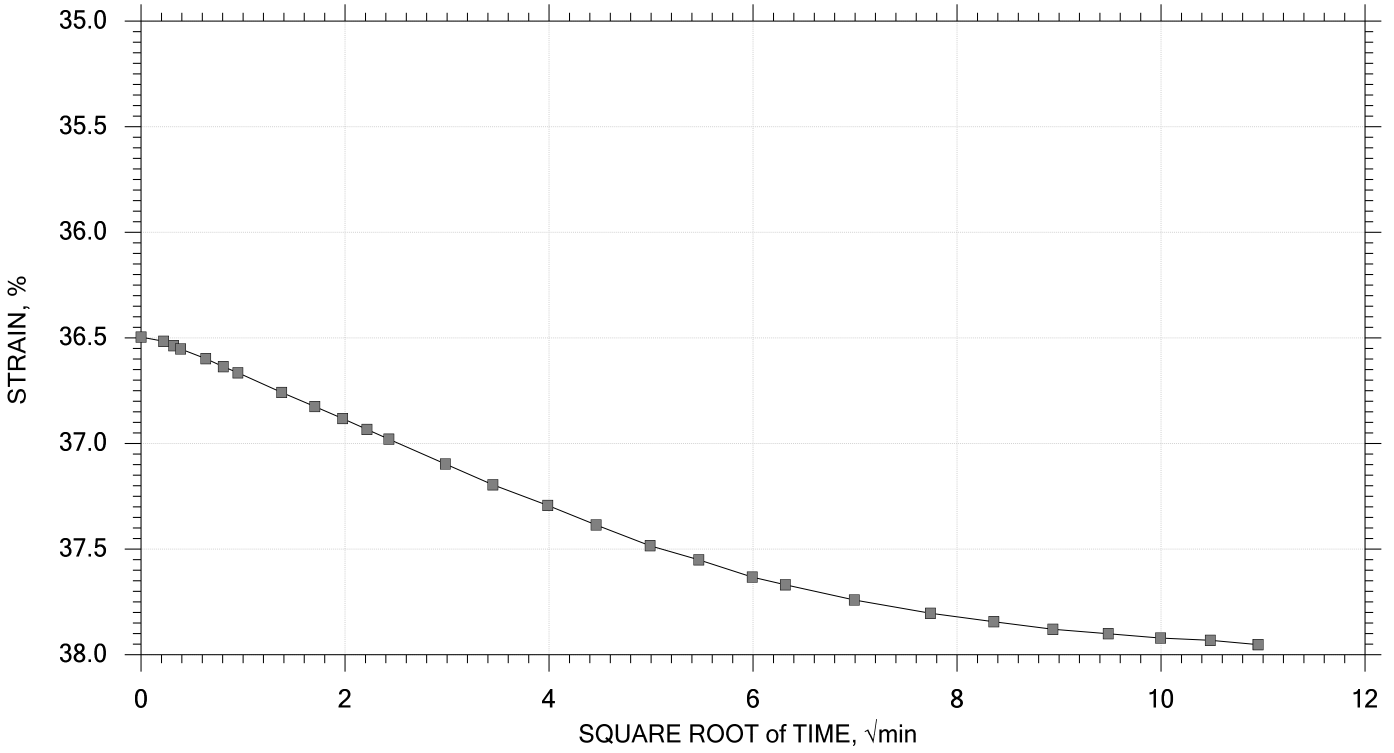
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 9 of 12

Stress: 1000 psf





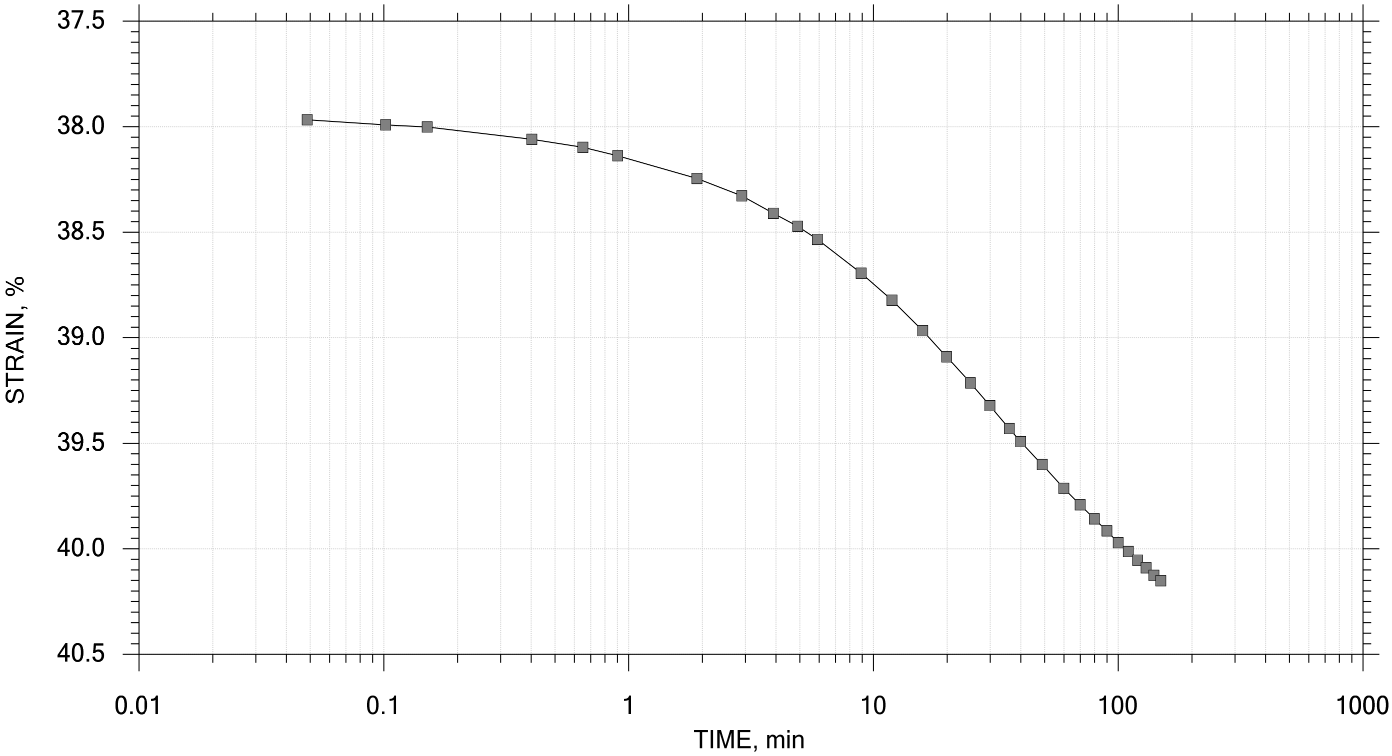
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-18	Tested By: SA	Checked By: SE
	Sample No.: 1	Test Date: 8/1/2017	Elevation: -2.40 ft
	Depth: 0-2 ft	Sample Type: intact	
	Description: Very Soft Black Organic Clay		
	Displacement at End of Increment		

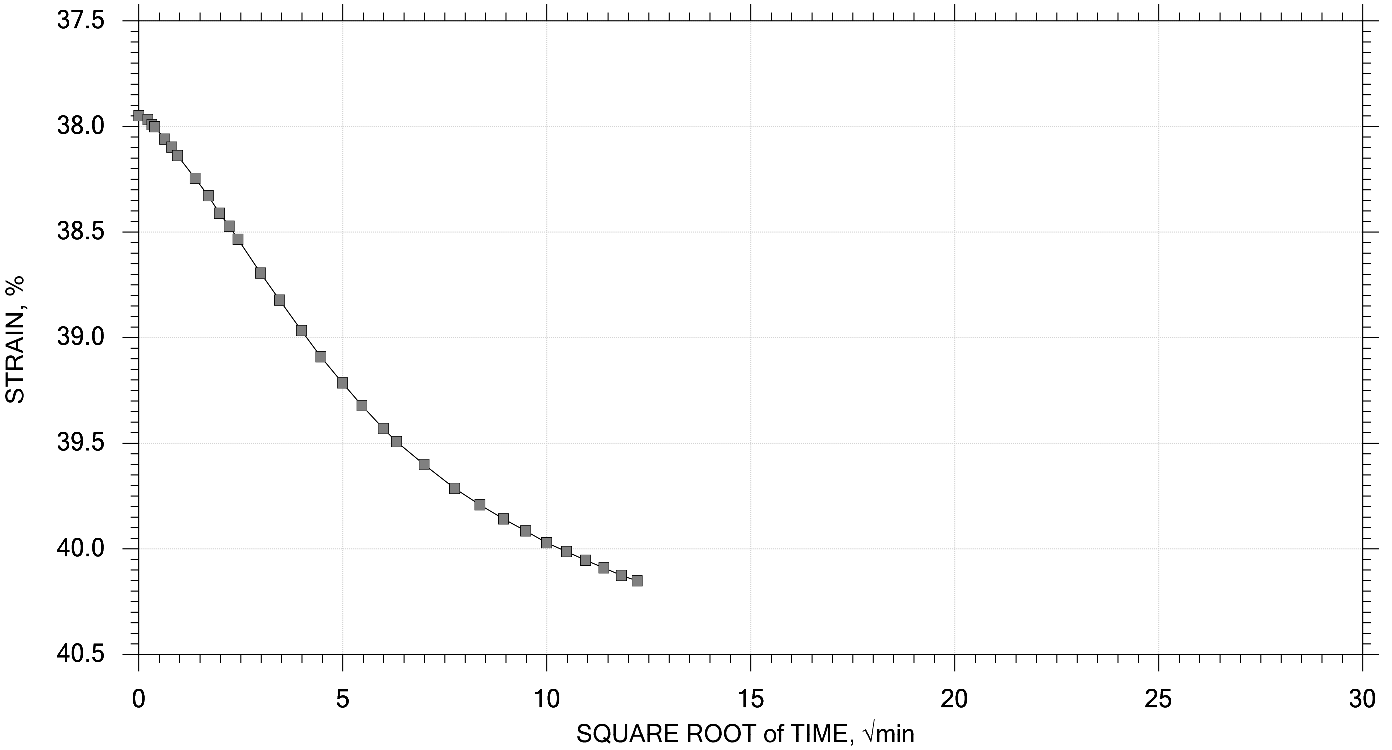
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 10 of 12

Stress: 2000 psf





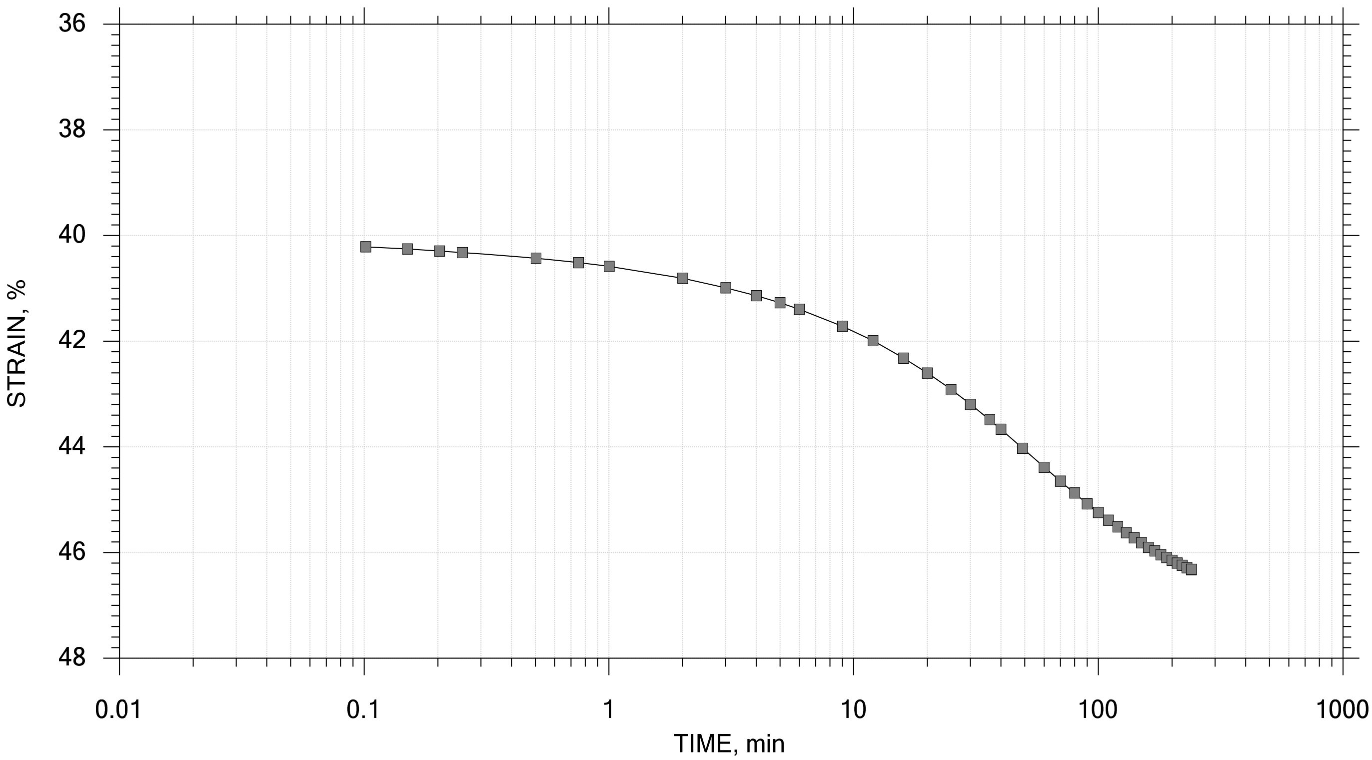
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-18	Tested By: SA	Checked By: SE
	Sample No.: 1	Test Date: 8/1/2017	Elevation: -2.40 ft
	Depth: 0-2 ft	Sample Type: intact	
	Description: Very Soft Black Organic Clay		
	Displacement at End of Increment		

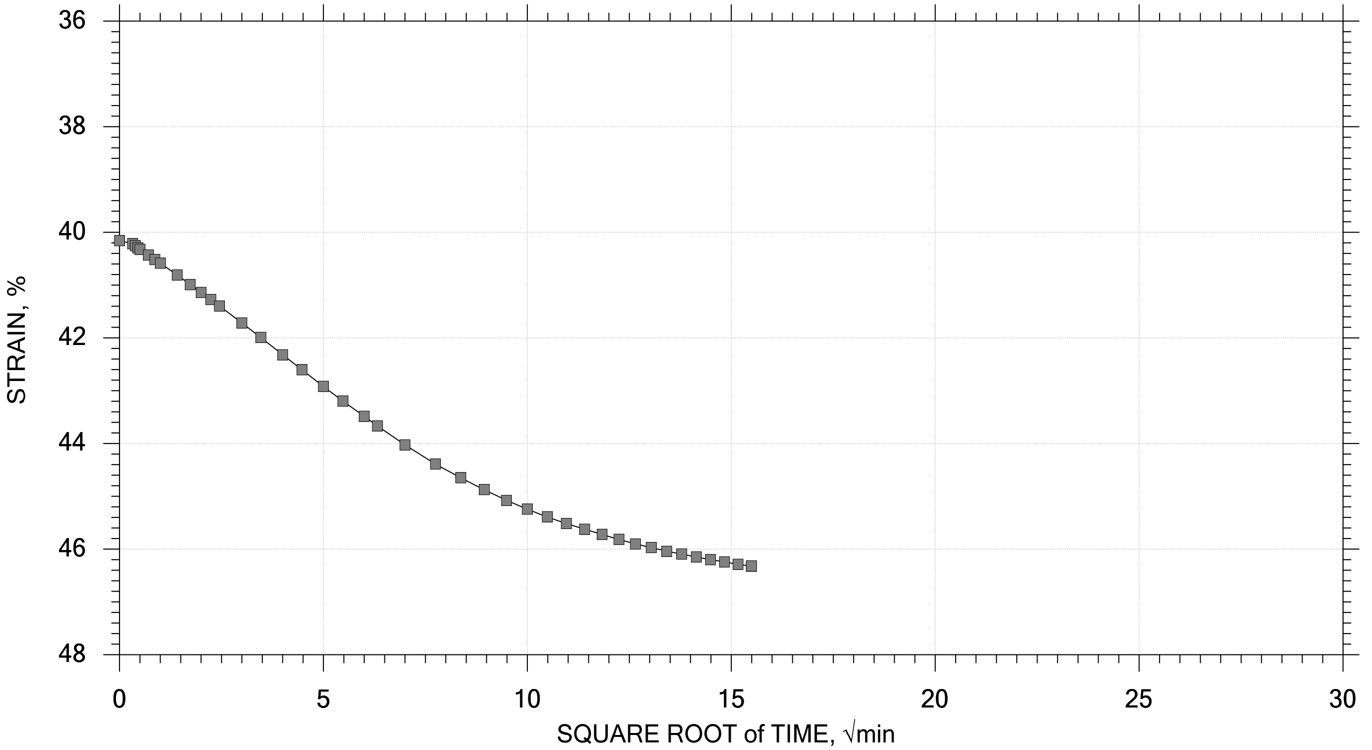
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 11 of 12

Stress: 4000 psf





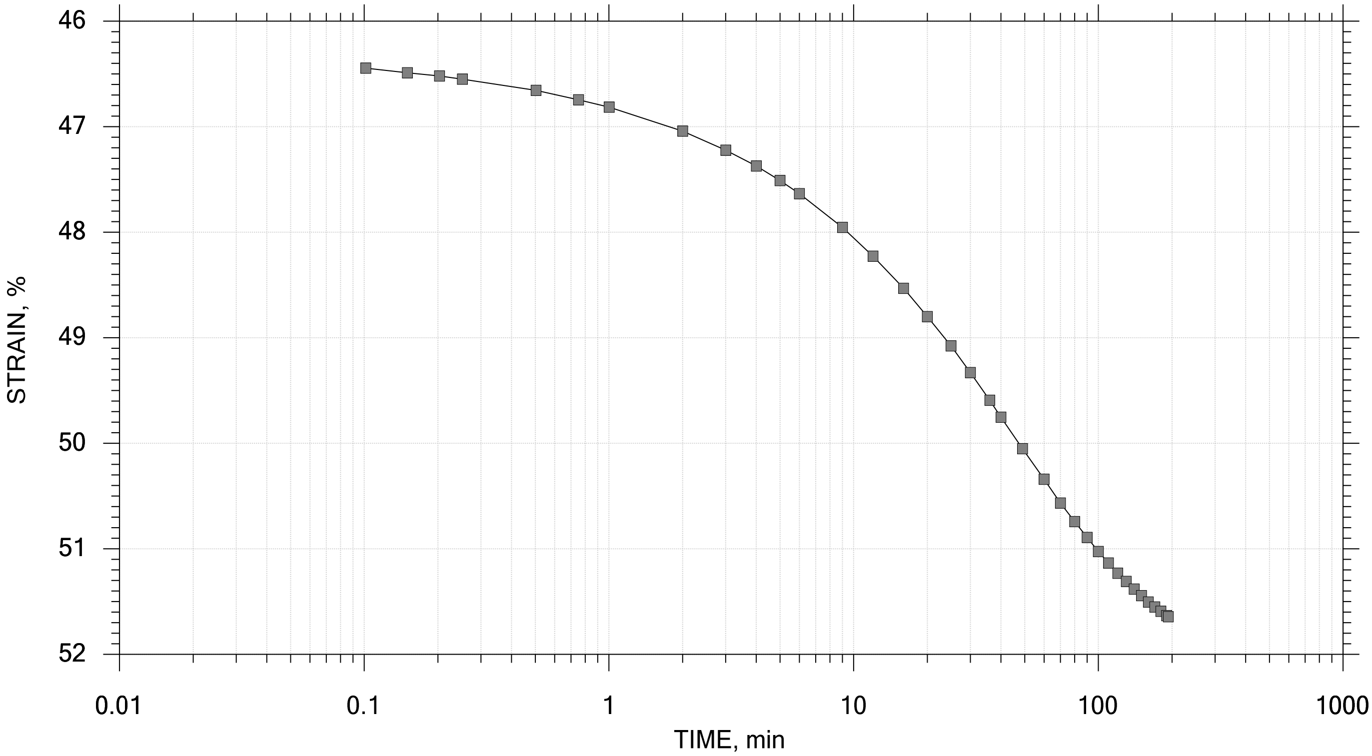
APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-18	Tested By: SA	Checked By: SE
	Sample No.: 1	Test Date: 8/1/2017	Elevation: -2.40 ft
	Depth: 0-2 ft	Sample Type: intact	
	Description: Very Soft Black Organic Clay		
	Displacement at End of Increment		

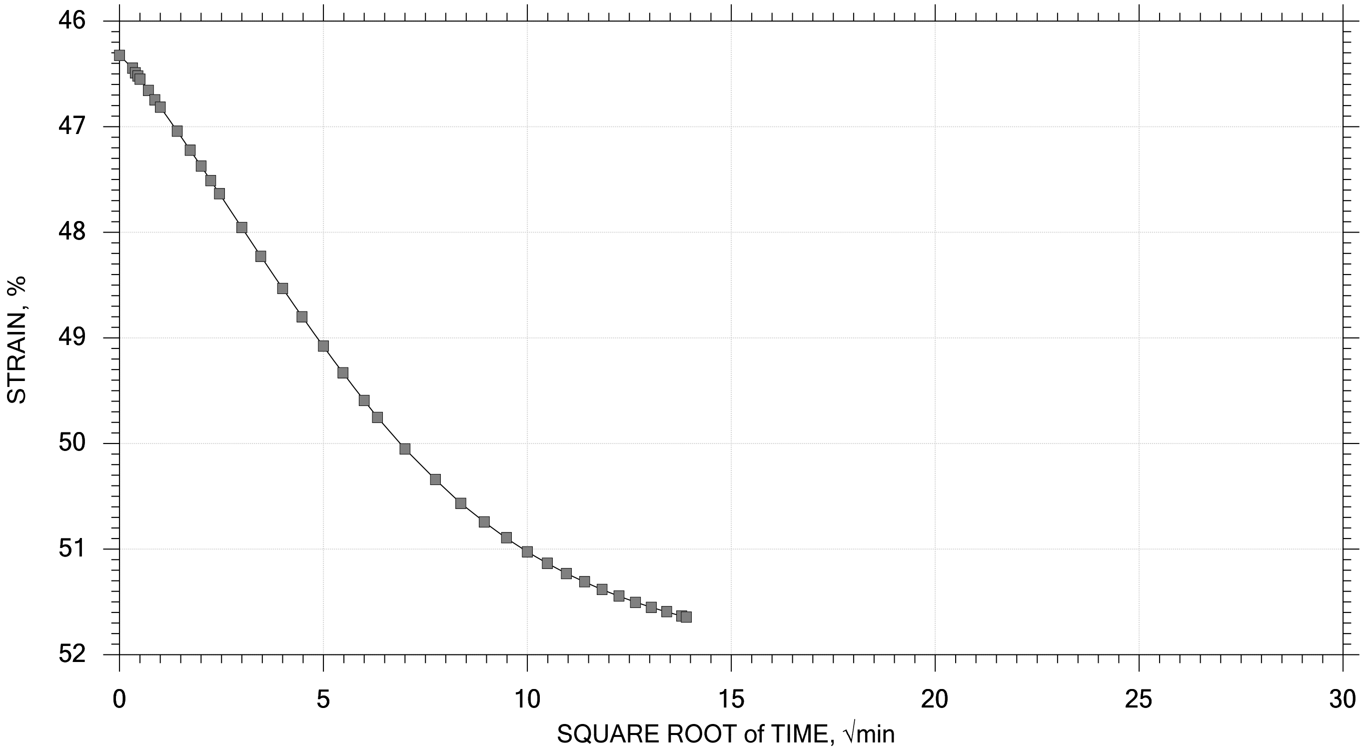
One-Dimensional Consolidation by ASTM D2435 - Method B

TIME CURVES

Constant Load Step 12 of 12

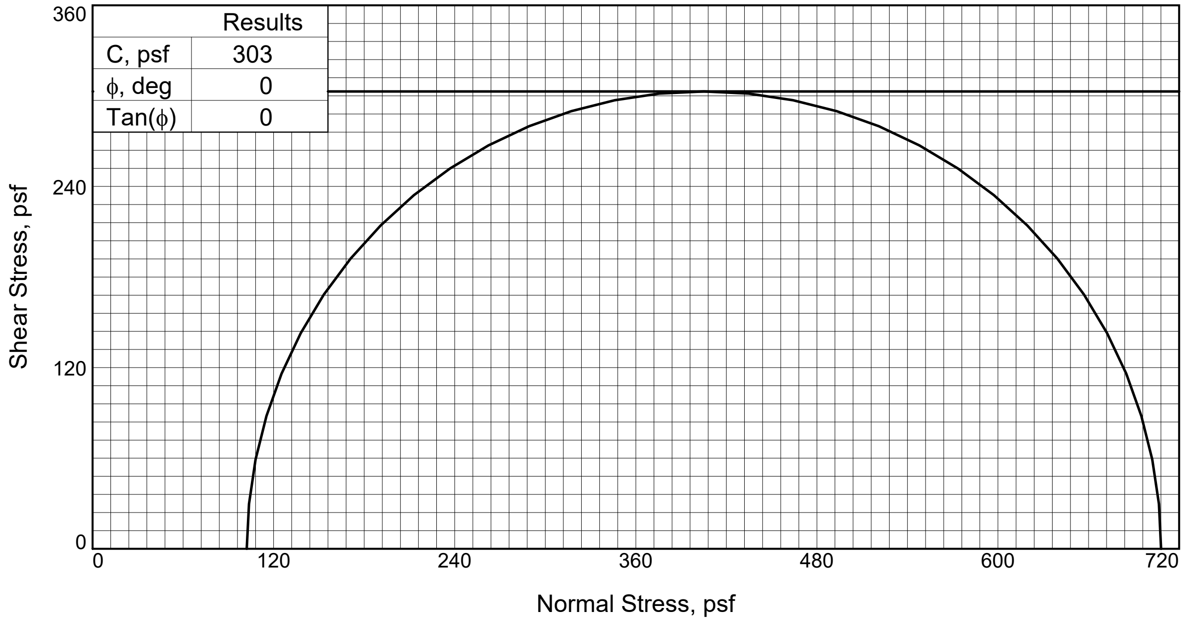
Stress: 8000 psf



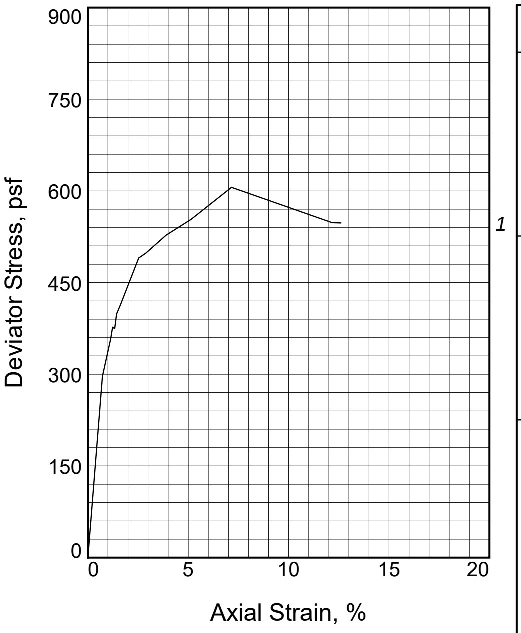


APS Engineering and Testing	Project: PO-169	Location: Lake Saint Catherine	Project No.: APS1706-G038
	Boring No.: B-18	Tested By: SA	Checked By: SE
	Sample No.: 1	Test Date: 8/1/2017	Elevation: -2.40 ft
	Depth: 0-2 ft	Sample Type: intact	
	Description: Very Soft Black Organic Clay		
	Displacement at End of Increment		

Unconsolidated Undrained Results
(UU)



	Results
C, psf	303
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	145.6
	Dry Density, pcf	35.6
	Saturation, %	112.6
	Void Ratio	2.8062
	Diameter, in.	2.60
	Height, in.	6.20
At Test	Water Content, %	145.6
	Dry Density, pcf	35.6
	Saturation, %	112.6
	Void Ratio	2.8062
	Diameter, in.	2.60
	Height, in.	6.20
Strain rate, in./min.		1.00
Back Pressure, psi		0.00
Cell Pressure, psi		0.71
Fail. Stress, psf		606
Ult. Stress, psf		606
σ_1 Failure, psf		708
σ_3 Failure, psf		102

Type of Test: Unconsolidated Undrained

Sample Type: ST

Description: Soft Gray Fat Clay (CH)
with Organics

Specific Gravity= 2.17

Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-7 **Depth:** 0-2

Sample Number: 1

Proj. No.: 1706-G038 **Date Sampled:** 07/12/2017

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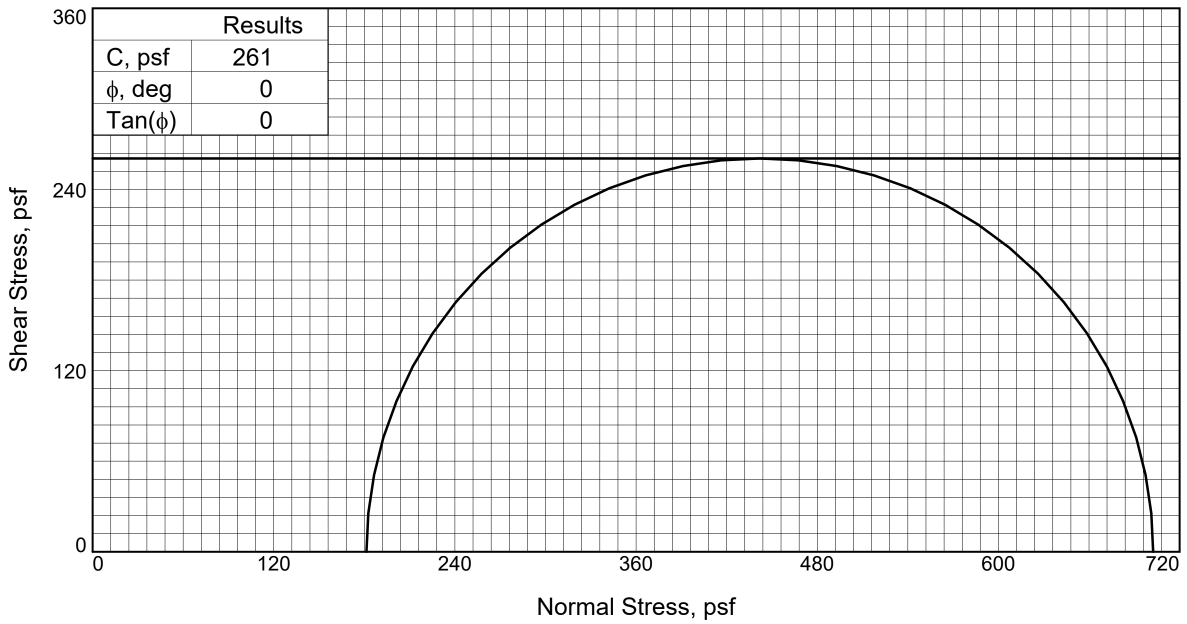
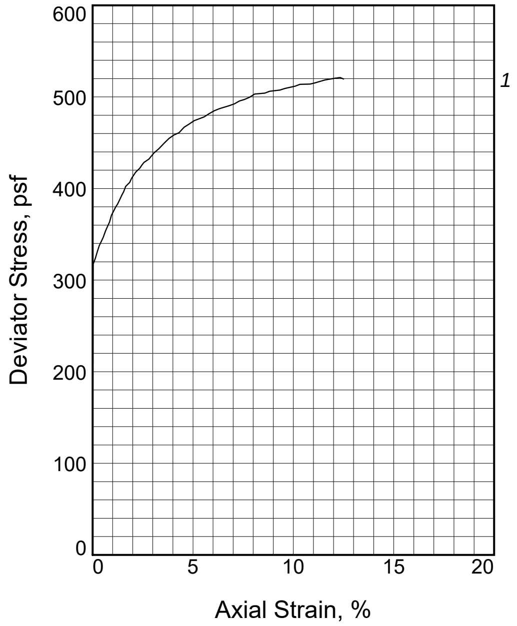
Baton Rouge, Louisiana



	Results
C, psf	261
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	81.4
	Dry Density, pcf	54.8
	Saturation, %	119.9
	Void Ratio	1.4732
	Diameter, in.	2.80
	Height, in.	5.70
At Test	Water Content, %	81.4
	Dry Density, pcf	54.8
	Saturation, %	119.9
	Void Ratio	1.4732
	Diameter, in.	2.80
	Height, in.	5.70
Strain rate, in./min.		0.83
Back Pressure, psi		0.00
Cell Pressure, psi		1.26
Fail. Stress, psf		521
Ult. Stress, psf		521
σ_1 Failure, psf		703
σ_3 Failure, psf		181

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Very Soft Gray Fat Clay (CH) with Organic Pockets

Specific Gravity= 2.17
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-7 **Depth:** 2-4
Sample Number: 2
Proj. No.: 1706-G038 **Date Sampled:** 07/12/2017

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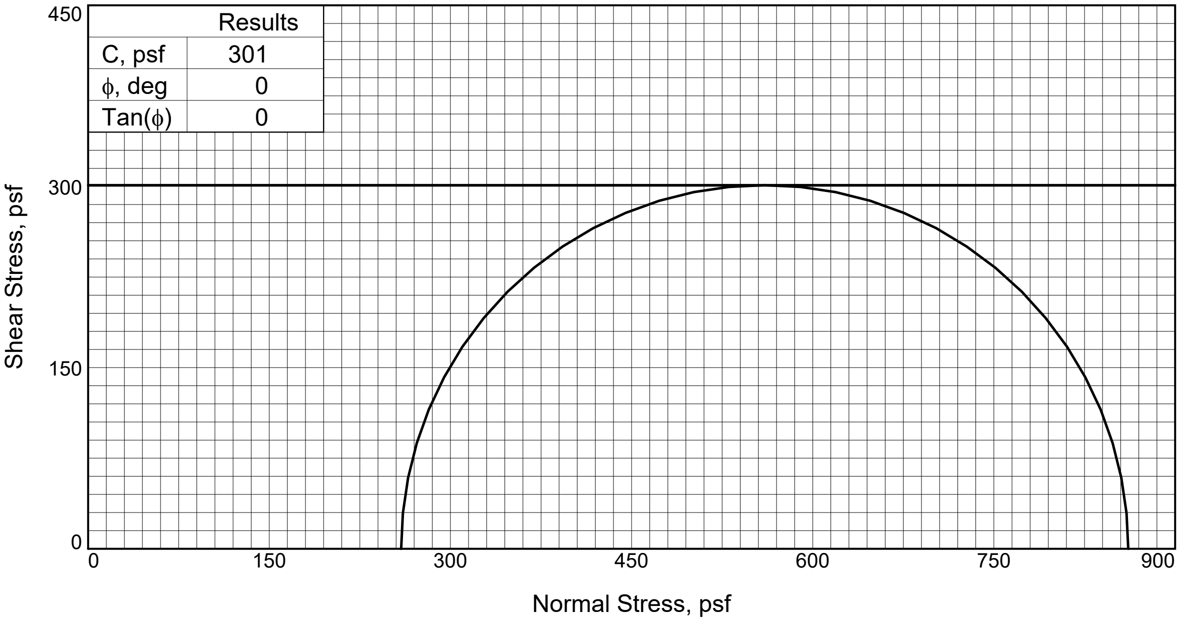
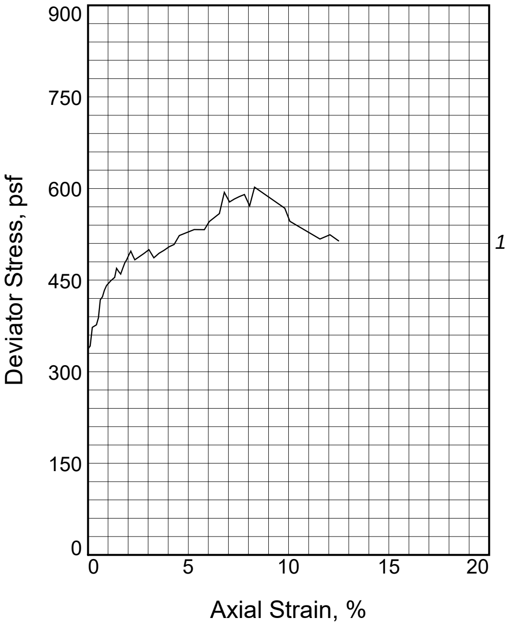


	Results
C, psf	301
ϕ, deg	0
Tan(ϕ)	0



	Sample No.	1
Initial	Water Content, %	63.0
	Dry Density, pcf	65.2
	Saturation, %	108.5
	Void Ratio	1.5382
	Diameter, in.	2.70
	Height, in.	5.70
At Test	Water Content, %	63.0
	Dry Density, pcf	65.2
	Saturation, %	108.5
	Void Ratio	1.5382
	Diameter, in.	2.70
	Height, in.	5.70
	Strain rate, in./min.	0.83
	Back Pressure, psi	0.00
	Cell Pressure, psi	1.80
	Fail. Stress, psf	602
	Ult. Stress, psf	602
	σ_1 Failure, psf	861
	σ_3 Failure, psf	259

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Soft Gray Fat Clay (CH)

LL= 100 **PL=** 30 **PI=** 70
Specific Gravity= 2.65
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-7 **Depth:** 4-6
Sample Number: 3
Proj. No.: 1706-G038 **Date Sampled:** 07/12/2017

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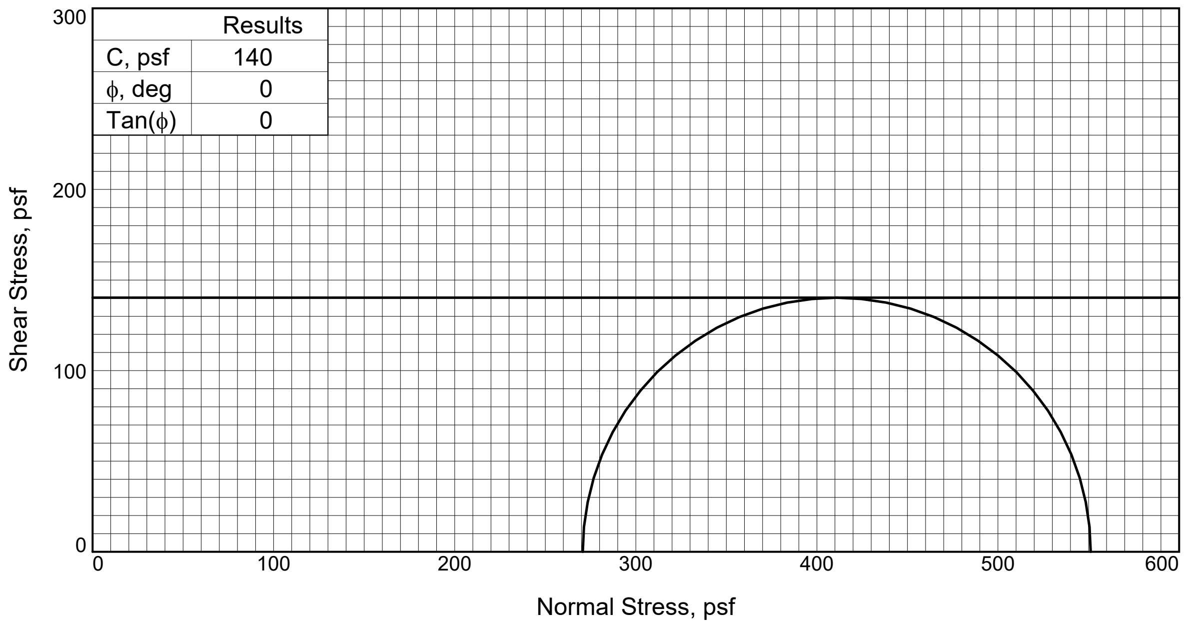
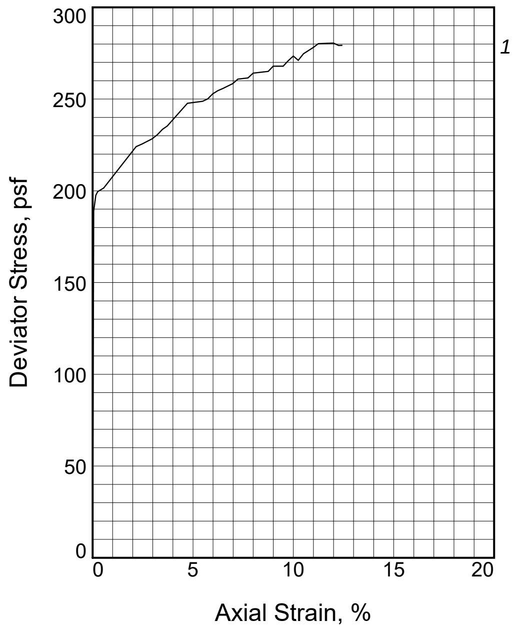


	Results
C, psf	140
ϕ, deg	0
Tan(ϕ)	0



	Sample No.	1
Initial	Water Content, %	70.7
	Dry Density, pcf	60.5
	Saturation, %	108.0
	Void Ratio	1.7340
	Diameter, in.	2.70
	Height, in.	5.80
At Test	Water Content, %	70.7
	Dry Density, pcf	60.5
	Saturation, %	108.0
	Void Ratio	1.7340
	Diameter, in.	2.70
	Height, in.	5.80
	Strain rate, in./min.	0.83
	Back Pressure, psi	0.00
	Cell Pressure, psi	1.88
	Fail. Stress, psf	280
	Ult. Stress, psf	280
	σ_1 Failure, psf	551
	σ_3 Failure, psf	271

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Very Soft Gray Fat Clay (CH)

Specific Gravity= 2.65
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-7 **Depth:** 6-8
Sample Number: 4
Proj. No.: 1706-G038 **Date Sampled:** 07/12/2017

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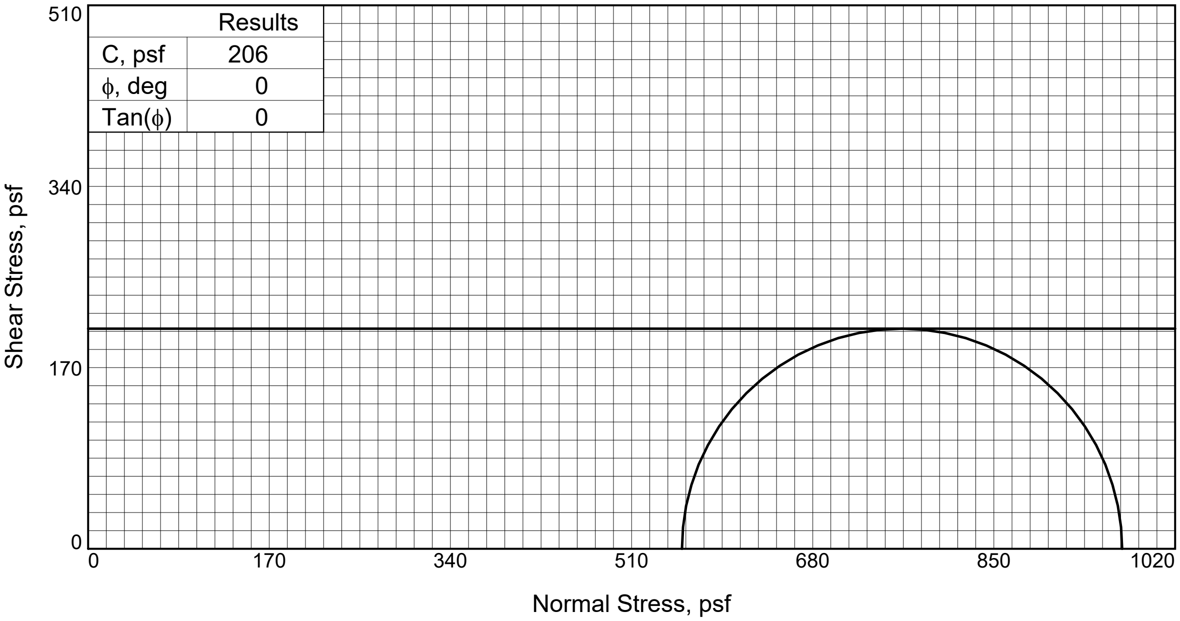
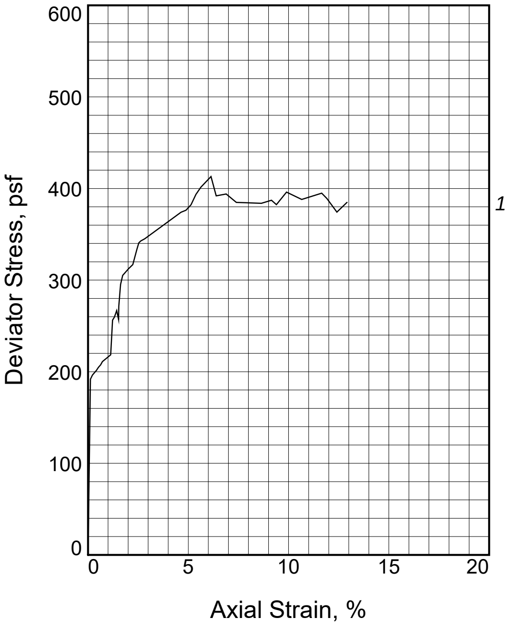


	Results
C, psf	206
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	66.3
	Dry Density, pcf	63.0
	Saturation, %	108.1
	Void Ratio	1.6247
	Diameter, in.	2.90
	Height, in.	6.00
At Test	Water Content, %	66.3
	Dry Density, pcf	63.0
	Saturation, %	108.1
	Void Ratio	1.6247
	Diameter, in.	2.90
	Height, in.	6.00
Strain rate, in./min.		0.87
Back Pressure, psi		0.00
Cell Pressure, psi		3.87
Fail. Stress, psf		413
Ult. Stress, psf		413
σ_1 Failure, psf		970
σ_3 Failure, psf		557

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Very Soft Gray Fat Clay (CH)

LL= 63 **PL=** 22 **PI=** 41
Specific Gravity= 2.65
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-7 **Depth:** 10-12
Sample Number: 6
Proj. No.: 1706-G038 **Date Sampled:** 07/12/2017

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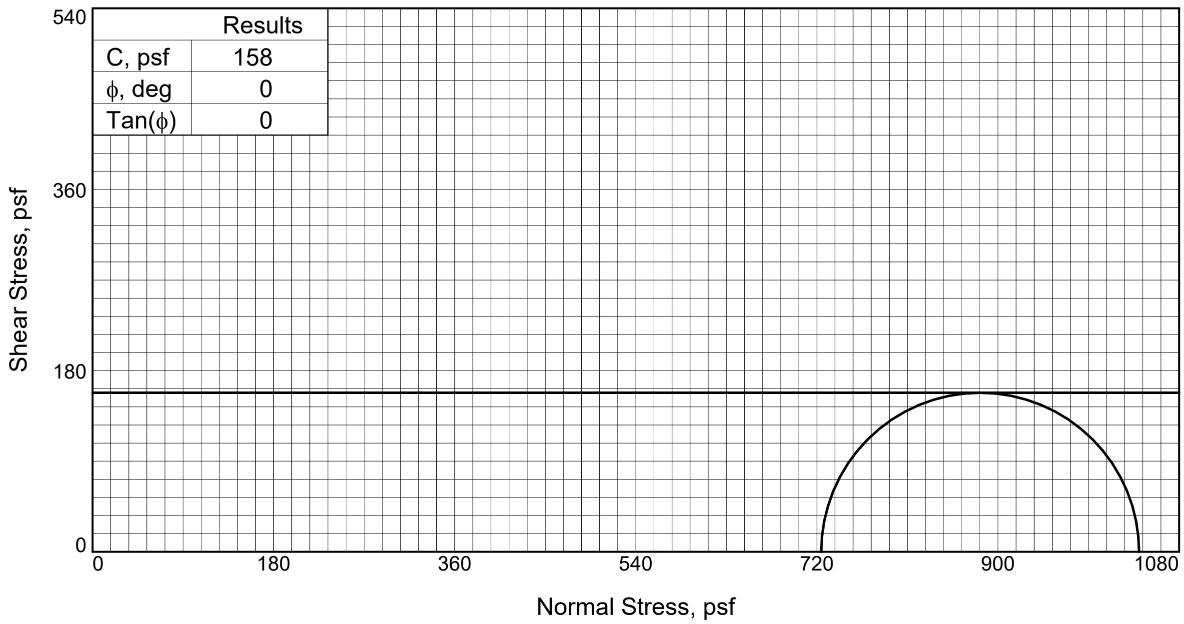
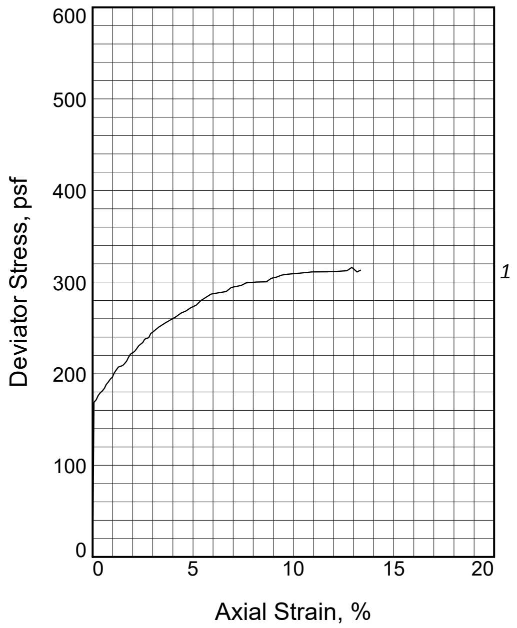


	Results
C, psf	158
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	38.8
	Dry Density, pcf	74.7
	Saturation, %	84.5
	Void Ratio	1.2151
	Diameter, in.	2.80
	Height, in.	5.80
At Test	Water Content, %	38.8
	Dry Density, pcf	74.7
	Saturation, %	84.5
	Void Ratio	1.2151
	Diameter, in.	2.80
	Height, in.	5.80
Strain rate, in./min.		0.89
Back Pressure, psi		0.00
Cell Pressure, psi		5.03
Fail. Stress, psf		316
Ult. Stress, psf		316
σ_1 Failure, psf		1040
σ_3 Failure, psf		724

Type of Test: Unconsolidated Undrained

Sample Type: ST

Description: Very Soft Gray Clay with Fine Sand

Specific Gravity= 2.65

Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-7 **Depth:** 14-16

Sample Number: 8

Proj. No.: 1706-G038 **Date Sampled:** 07/12/2017

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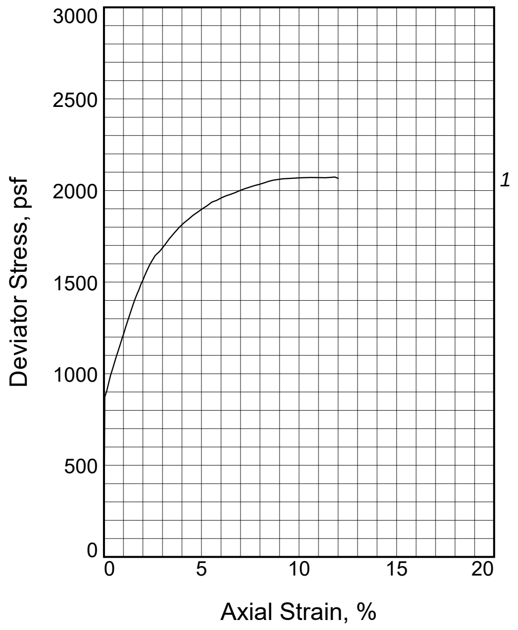
	Results
C, psf	1037
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	28.0
	Dry Density, pcf	96.7
	Saturation, %	104.3
	Void Ratio	0.7108
	Diameter, in.	2.80
	Height, in.	6.00
At Test	Water Content, %	28.0
	Dry Density, pcf	96.7
	Saturation, %	104.3
	Void Ratio	0.7108
	Diameter, in.	2.80
	Height, in.	6.00
Strain rate, in./min.		0.83
Back Pressure, psi		0.00
Cell Pressure, psi		5.75
Fail. Stress, psf		2073
Ult. Stress, psf		2073
σ_1 Failure, psf		2901
σ_3 Failure, psf		828

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Stiff Gray Lean Clay (CL) with Fine Sand

LL= 44 **PL=** 19 **PI=** 25
Specific Gravity= 2.65
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-7 **Depth:** 16-18
Sample Number: 9
Proj. No.: 1706-G038 **Date Sampled:** 07/12/2017

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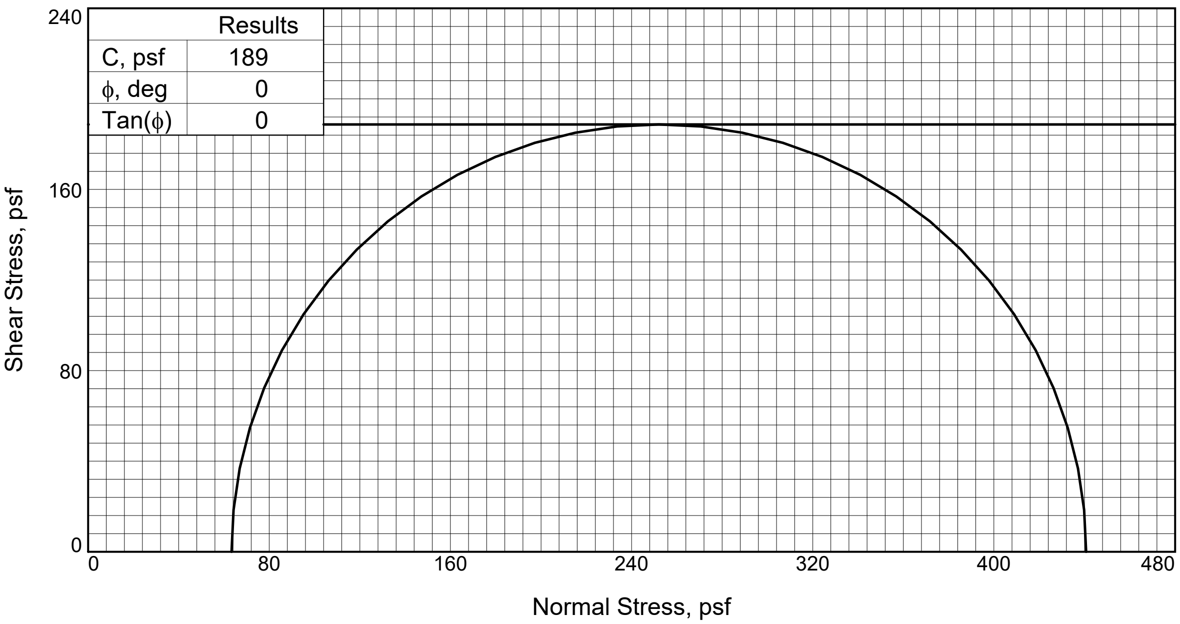
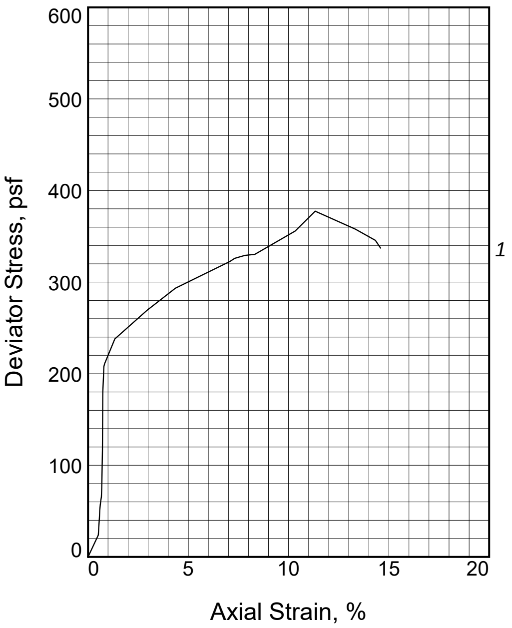


Results	
C, psf	189
ϕ, deg	0
Tan(ϕ)	0



	Sample No.	1
Initial	Water Content, %	68.1
	Dry Density, pcf	60.8
	Saturation, %	104.8
	Void Ratio	1.7221
	Diameter, in.	2.70
	Height, in.	5.60
At Test	Water Content, %	68.1
	Dry Density, pcf	60.8
	Saturation, %	104.8
	Void Ratio	1.7221
	Diameter, in.	2.70
	Height, in.	5.60
	Strain rate, in./min.	1.03
	Back Pressure, psi	0.00
	Cell Pressure, psi	0.44
	Fail. Stress, psf	377
	Ult. Stress, psf	377
	σ_1 Failure, psf	441
	σ_3 Failure, psf	63

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Very Soft Gray Clay
with Organics

Specific Gravity= 2.65
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-7A **Depth:** 0-2
Sample Number: 1
Proj. No.: 1706-G038 **Date Sampled:** 07/12/2017

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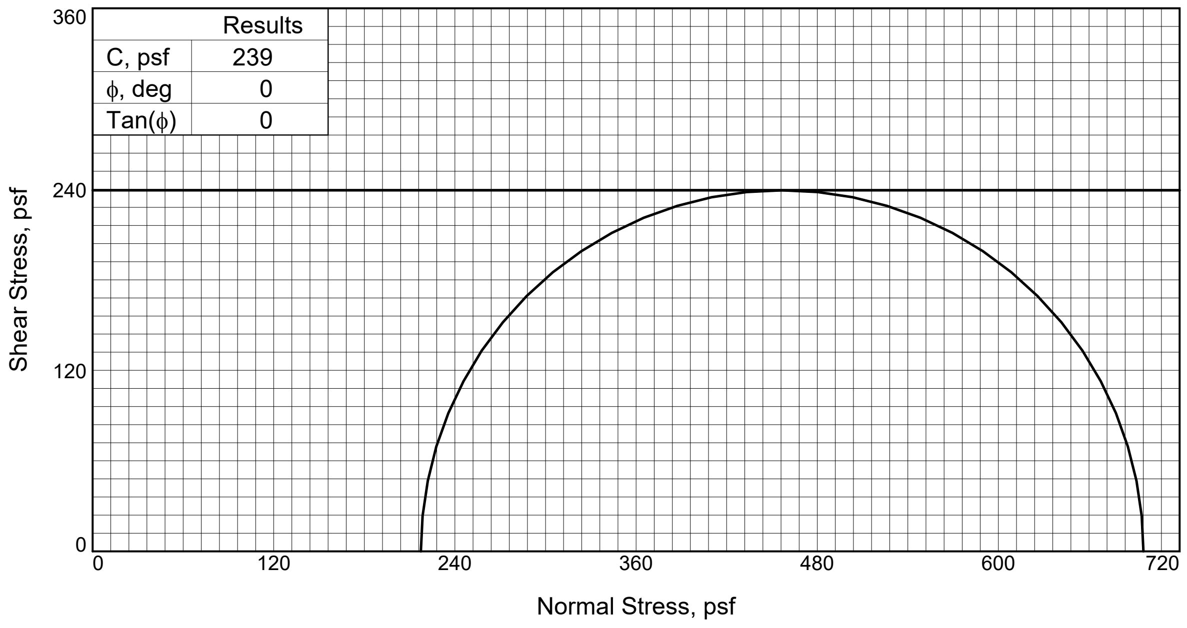
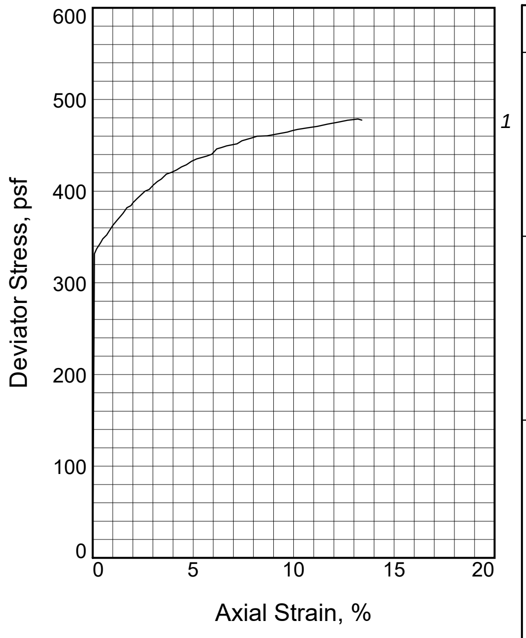


	Results
C, psf	239
ϕ, deg	0
Tan(ϕ)	0



	Sample No.	1
Initial	Water Content, %	60.8
	Dry Density, pcf	66.5
	Saturation, %	108.5
	Void Ratio	1.4859
	Diameter, in.	2.80
	Height, in.	6.00
At Test	Water Content, %	60.8
	Dry Density, pcf	66.5
	Saturation, %	108.5
	Void Ratio	1.4859
	Diameter, in.	2.80
	Height, in.	6.00
	Strain rate, in./min.	0.89
	Back Pressure, psi	0.00
	Cell Pressure, psi	1.51
	Fail. Stress, psf	479
	Ult. Stress, psf	479
	σ_1 Failure, psf	696
	σ_3 Failure, psf	217

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Very Soft Gray Fat Clay (CH)

LL= 102 **PL=** 27 **PI=** 75
Specific Gravity= 2.65
Remarks: @ 2'-4': Percent Organics = 4.60%
Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-7A **Depth:** 2-4
Sample Number: 2
Proj. No.: 1706-G038 **Date Sampled:** 07/12/2017

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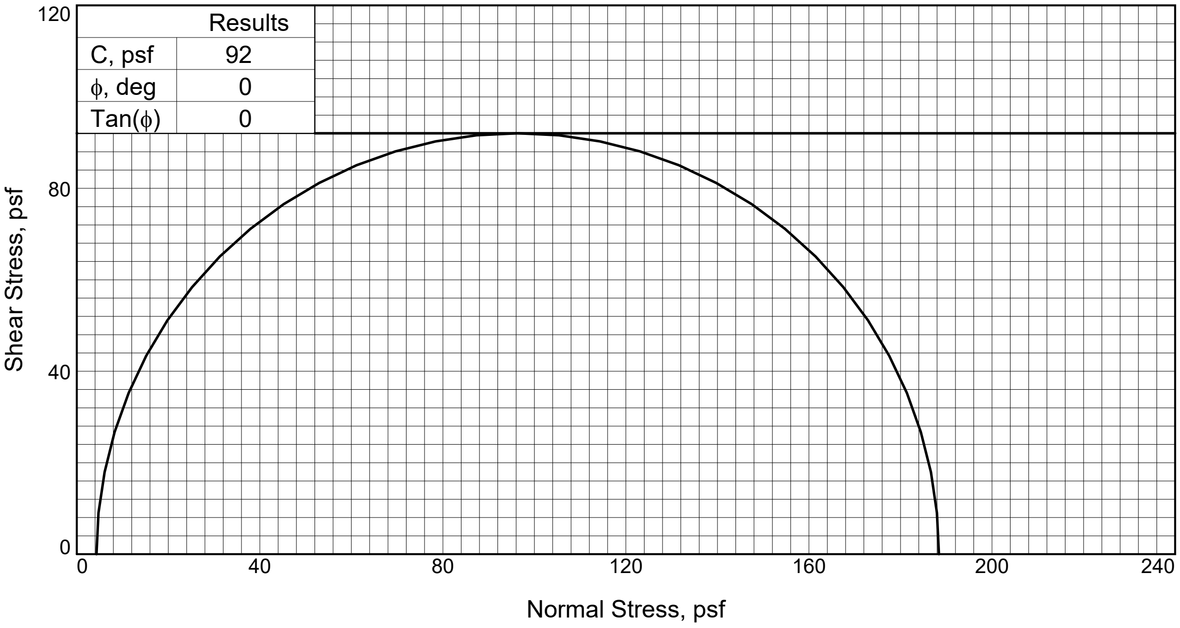
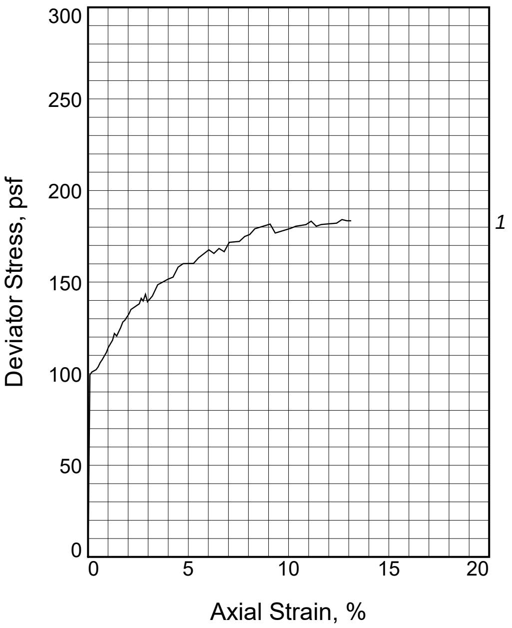


Results	
C, psf	92
ϕ, deg	0
Tan(ϕ)	0



	Sample No.	1
Initial	Water Content, %	144.6
	Dry Density, pcf	33.4
	Saturation, %	102.6
	Void Ratio	3.0603
	Diameter, in.	2.80
	Height, in.	5.60
At Test	Water Content, %	144.6
	Dry Density, pcf	33.4
	Saturation, %	102.6
	Void Ratio	3.0603
	Diameter, in.	2.80
	Height, in.	5.60
	Strain rate, in./min.	0.86
	Back Pressure, psi	0.00
	Cell Pressure, psi	0.03
	Fail. Stress, psf	184
	Ult. Stress, psf	184
	σ_1 Failure, psf	188
	σ_3 Failure, psf	4

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Very Soft Organic Clay (OH)

Specific Gravity= 2.17
Remarks: @ 0'-2': Percent Organics = 22.10%
Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-8 **Depth:** 0-2
Sample Number: 1
Proj. No.: 1706-G038 **Date Sampled:** 07/12/2017

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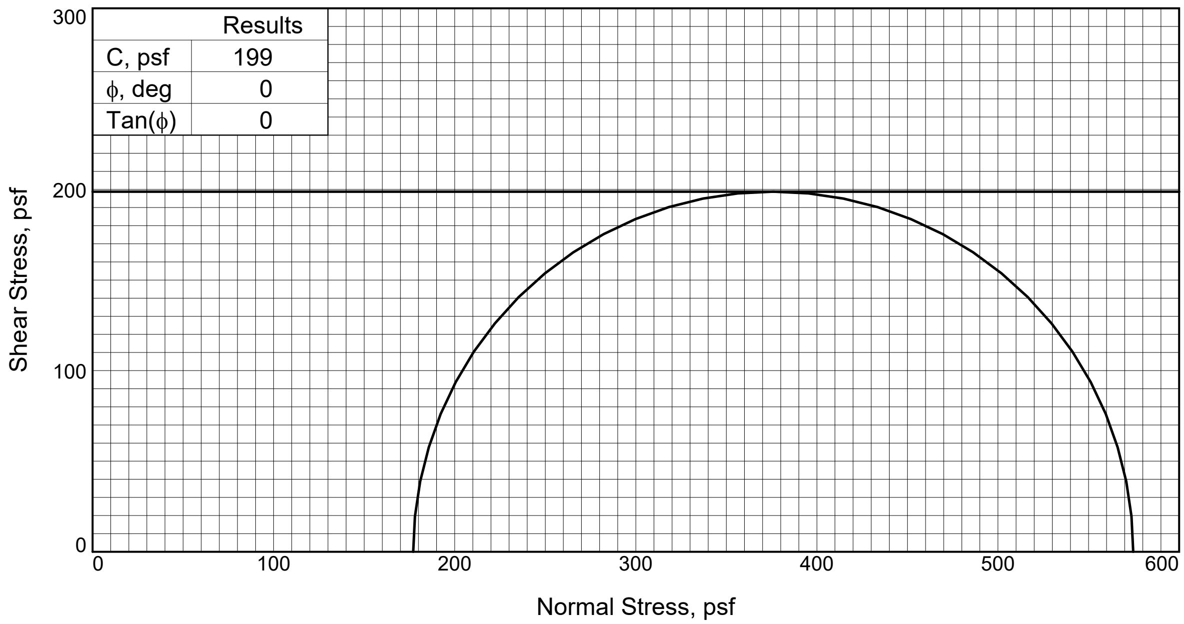
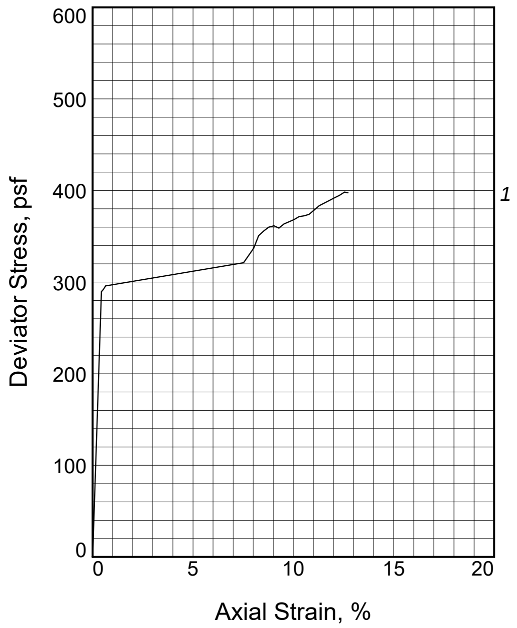


	Results
C, psf	199
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	61.4
	Dry Density, pcf	65.8
	Saturation, %	107.5
	Void Ratio	1.5136
	Diameter, in.	2.80
	Height, in.	5.80
At Test	Water Content, %	61.4
	Dry Density, pcf	65.8
	Saturation, %	107.5
	Void Ratio	1.5136
	Diameter, in.	2.80
	Height, in.	5.80
Strain rate, in./min.		0.85
Back Pressure, psi		0.00
Cell Pressure, psi		1.23
Fail. Stress, psf		398
Ult. Stress, psf		398
σ_1 Failure, psf		575
σ_3 Failure, psf		177

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Very Soft Gray Fat Clay (CH)

Specific Gravity= 2.65
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-8 **Depth:** 2-4
Sample Number: 2
Proj. No.: 1706-G038 **Date Sampled:** 07/12/2017

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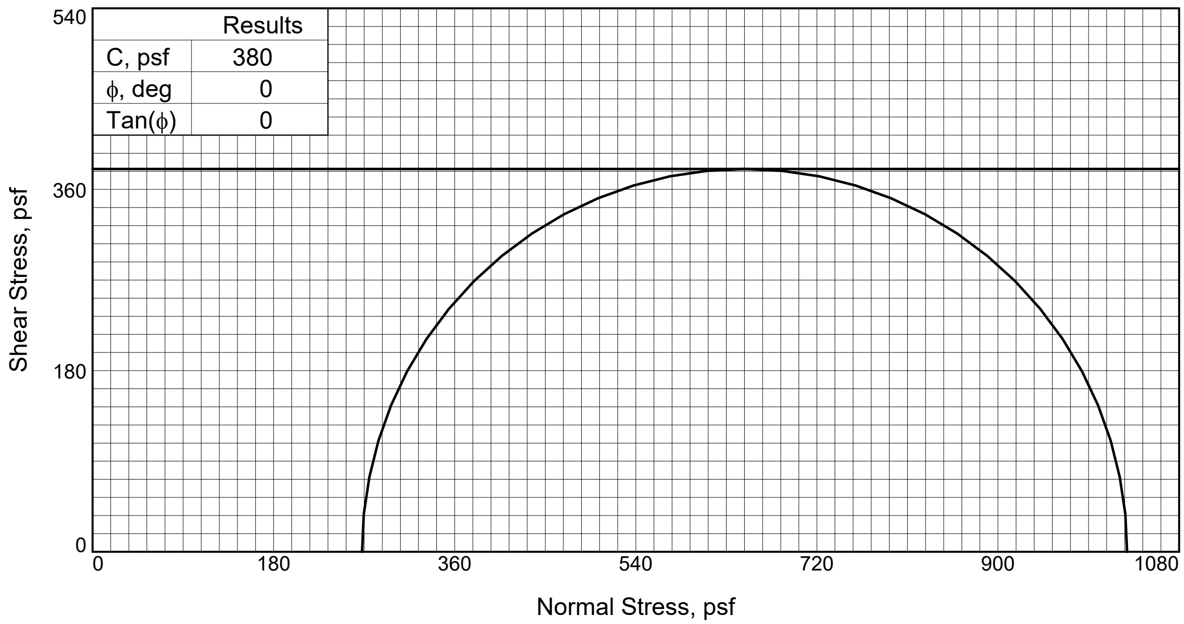
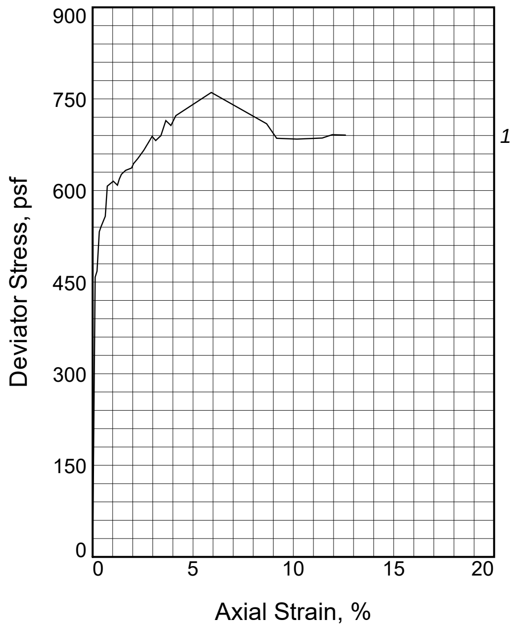


	Results
C, psf	380
ϕ, deg	0
Tan(ϕ)	0



	Sample No.	1
Initial	Water Content, %	49.3
	Dry Density, pcf	70.3
	Saturation, %	96.6
	Void Ratio	1.3521
	Diameter, in.	2.82
	Height, in.	5.77
At Test	Water Content, %	49.3
	Dry Density, pcf	70.3
	Saturation, %	96.6
	Void Ratio	1.3521
	Diameter, in.	2.82
	Height, in.	5.77
	Strain rate, in./min.	0.84
	Back Pressure, psi	0.00
	Cell Pressure, psi	1.86
	Fail. Stress, psf	761
	Ult. Stress, psf	761
	σ_1 Failure, psf	1028
	σ_3 Failure, psf	268

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Soft Gray Fat Clay (CH)

LL= 94 **PL=** 28 **PI=** 66
Specific Gravity= 2.65
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-8 **Depth:** 4-6
Sample Number: 3
Proj. No.: 1706-G038 **Date Sampled:** 07/12/2017

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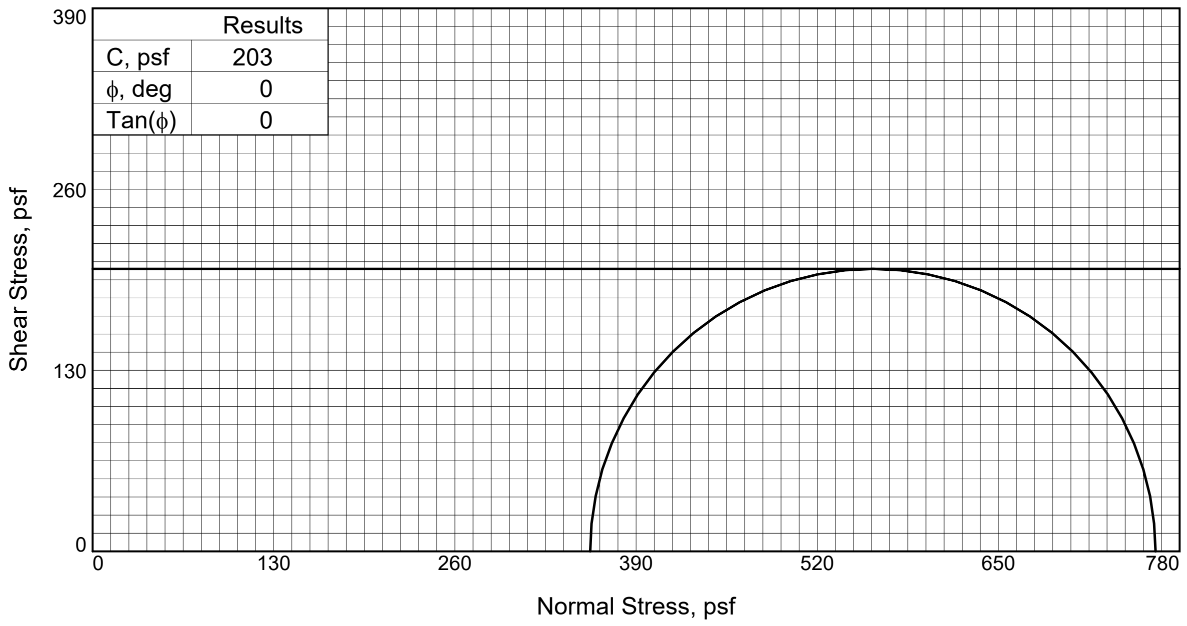
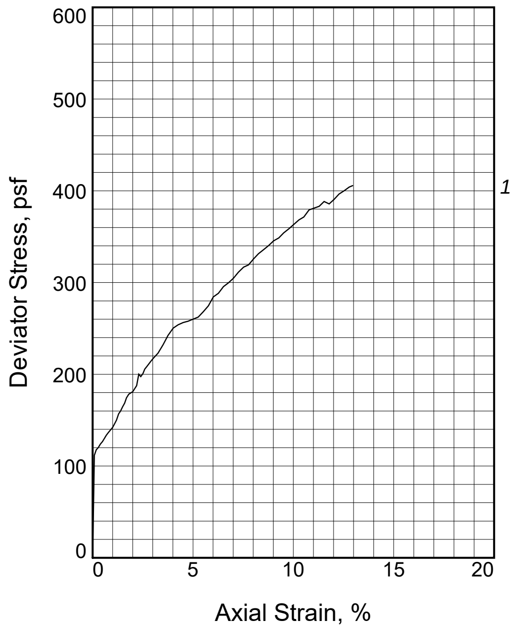


	Results
C, psf	203
ϕ, deg	0
Tan(ϕ)	0



	Sample No.	1
Initial	Water Content, %	45.9
	Dry Density, pcf	75.2
	Saturation, %	101.5
	Void Ratio	1.1993
	Diameter, in.	2.81
	Height, in.	6.28
At Test	Water Content, %	45.9
	Dry Density, pcf	75.2
	Saturation, %	101.5
	Void Ratio	1.1993
	Diameter, in.	2.81
	Height, in.	6.28
	Strain rate, in./min.	0.86
	Back Pressure, psi	0.00
	Cell Pressure, psi	2.48
	Fail. Stress, psf	406
	Ult. Stress, psf	406
	σ_1 Failure, psf	763
	σ_3 Failure, psf	357

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Very Soft Gray Fat Clay (CH)

Specific Gravity= 2.65
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-8 **Depth:** 6-8
Sample Number: 4
Proj. No.: 1706-G038 **Date Sampled:** 07/12/2017

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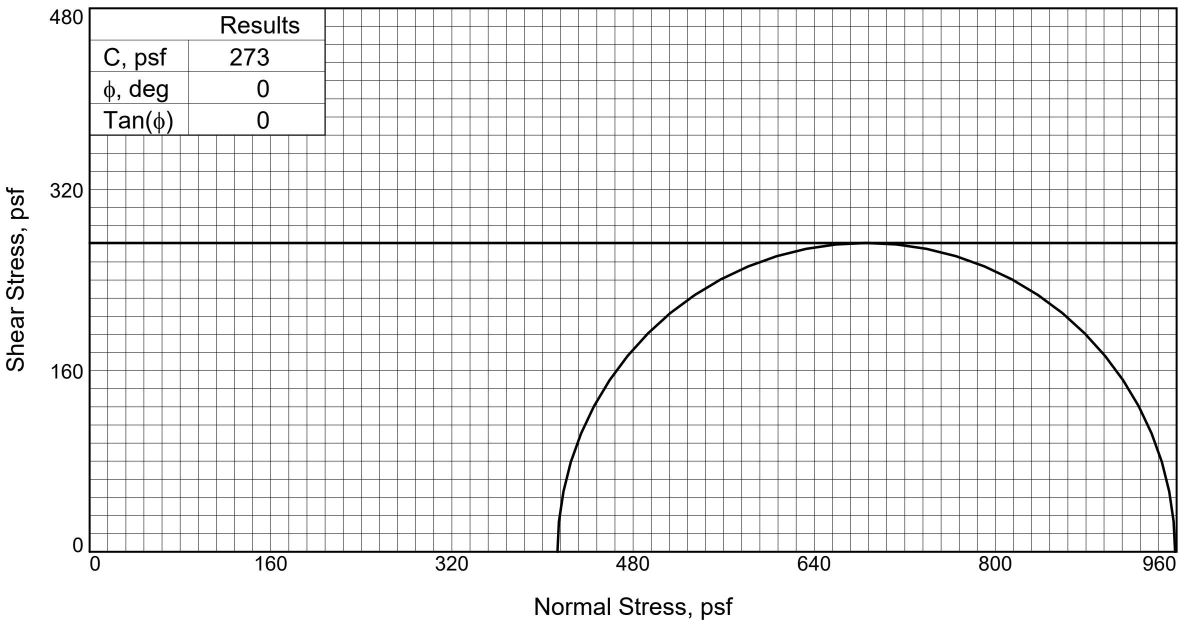
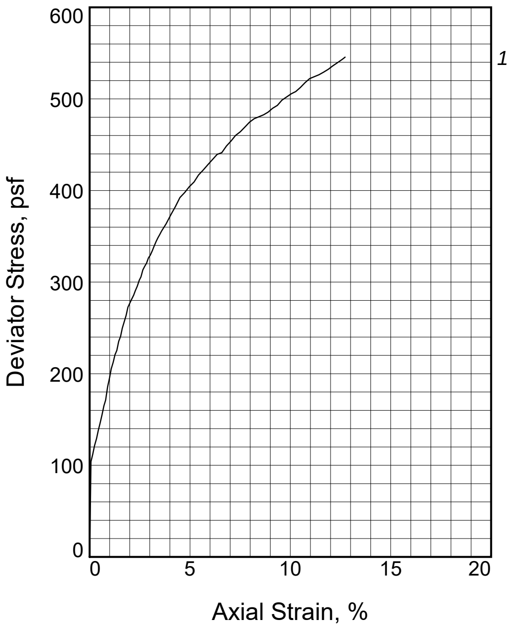


	Results
C, psf	273
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	30.2
	Dry Density, pcf	87.1
	Saturation, %	89.2
	Void Ratio	0.8990
	Diameter, in.	2.70
	Height, in.	6.20
At Test	Water Content, %	30.2
	Dry Density, pcf	87.1
	Saturation, %	89.2
	Void Ratio	0.8990
	Diameter, in.	2.70
	Height, in.	6.20
Strain rate, in./min.		0.92
Back Pressure, psi		0.00
Cell Pressure, psi		2.87
Fail. Stress, psf		545
Ult. Stress, psf		545
σ_1 Failure, psf		959
σ_3 Failure, psf		413

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Very Soft Gray Lean Clay (CL)

LL= 43 **PL=** 19 **PI=** 24
Specific Gravity= 2.65
Remarks: @ 8'-10': -200 = 85.90%
Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-8 **Depth:** 8-10
Sample Number: 5
Proj. No.: 1706-G038 **Date Sampled:** 07/12/2017

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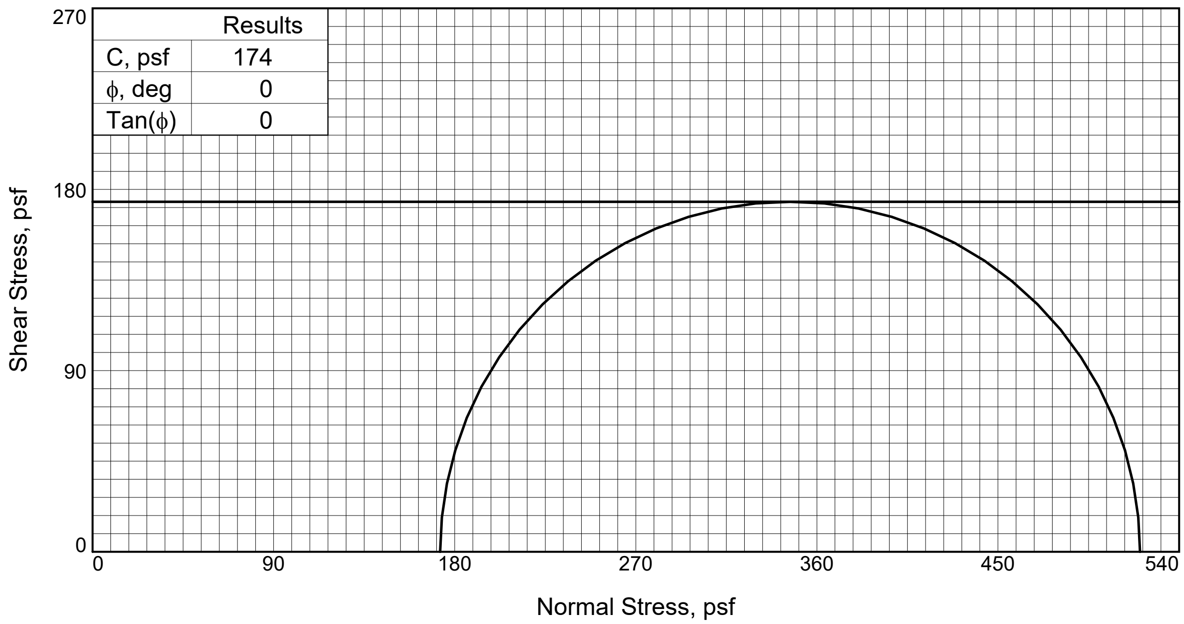
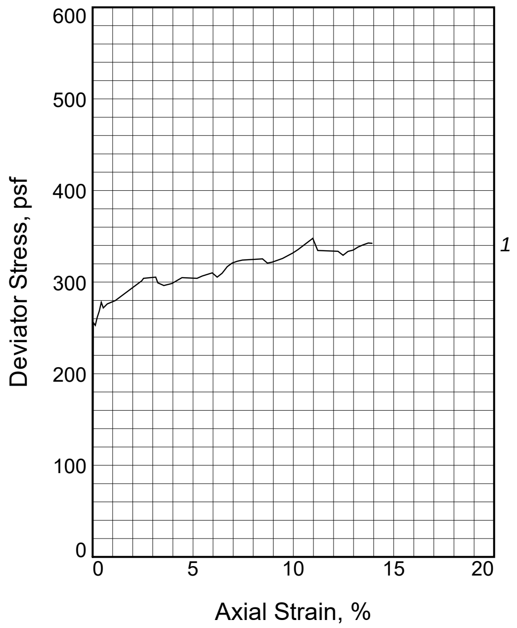


Results	
C, psf	174
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	57.9
	Dry Density, pcf	68.8
	Saturation, %	109.3
	Void Ratio	1.4032
	Diameter, in.	2.80
	Height, in.	5.70
At Test	Water Content, %	57.9
	Dry Density, pcf	68.8
	Saturation, %	109.3
	Void Ratio	1.4032
	Diameter, in.	2.80
	Height, in.	5.70
Strain rate, in./min.		0.93
Back Pressure, psi		0.00
Cell Pressure, psi		1.20
Fail. Stress, psf		348
Ult. Stress, psf		348
σ_1 Failure, psf		521
σ_3 Failure, psf		173

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Very Soft Gray Fat Clay (CH)

Specific Gravity= 2.65
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-8 **Depth:** 12-14
Sample Number: 7
Proj. No.: 1706-G038 **Date Sampled:** 07/12/2017

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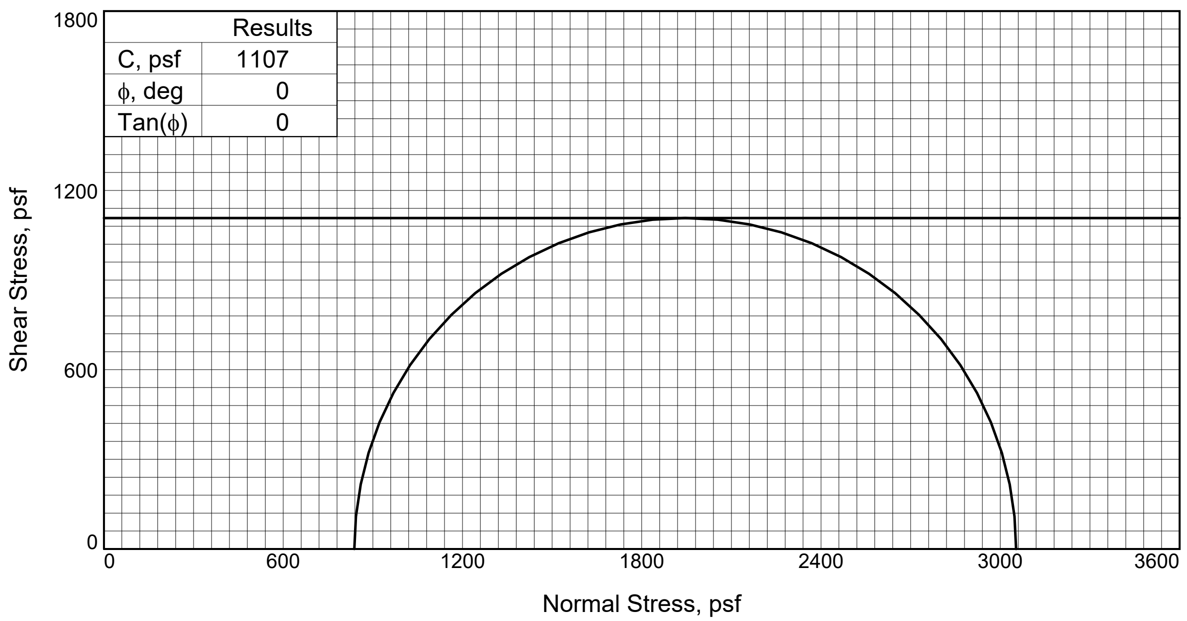
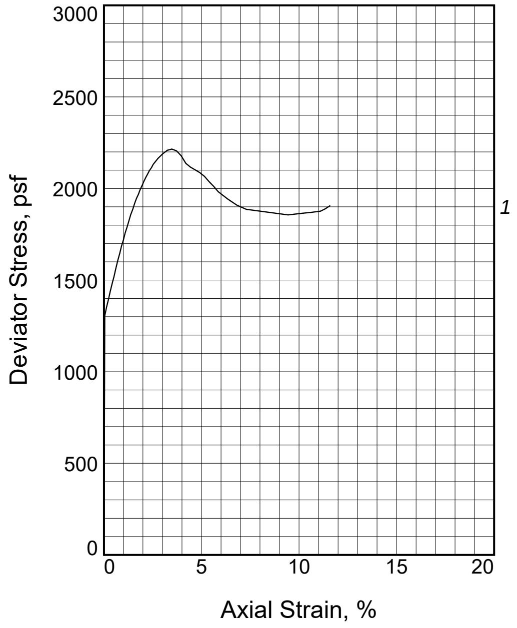


	Results
C, psf	1107
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	25.1
	Dry Density, pcf	96.9
	Saturation, %	94.1
	Void Ratio	0.7073
	Diameter, in.	2.82
	Height, in.	6.20
At Test	Water Content, %	25.1
	Dry Density, pcf	96.9
	Saturation, %	94.1
	Void Ratio	0.7073
	Diameter, in.	2.82
	Height, in.	6.20
Strain rate, in./min.		0.84
Back Pressure, psi		0.00
Cell Pressure, psi		5.82
Fail. Stress, psf		2215
Ult. Stress, psf		2215
σ_1 Failure, psf		3053
σ_3 Failure, psf		838

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Stiff Gray Lean Clay (CL)
with Fine Sand

LL= 36 **PL=** 18 **PI=** 18
Specific Gravity= 2.65
Remarks: Type of Failure: 45 (60 S.)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-8 **Depth:** 16-18
Sample Number: 9
Proj. No.: 1706-G038 **Date Sampled:** 07/12/2017

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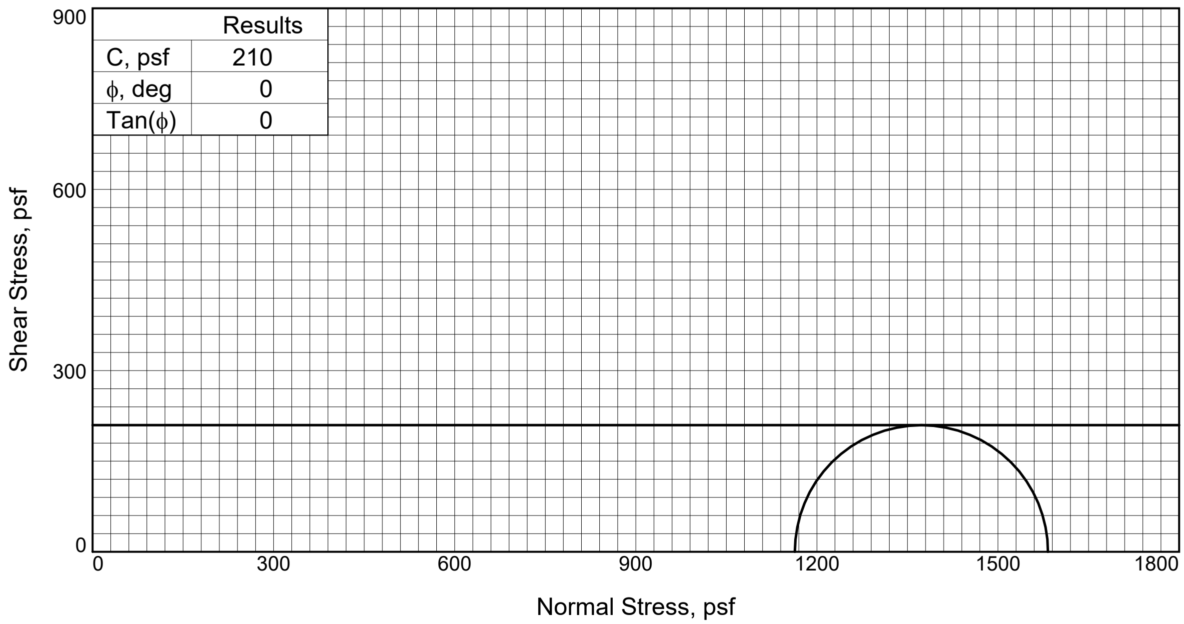
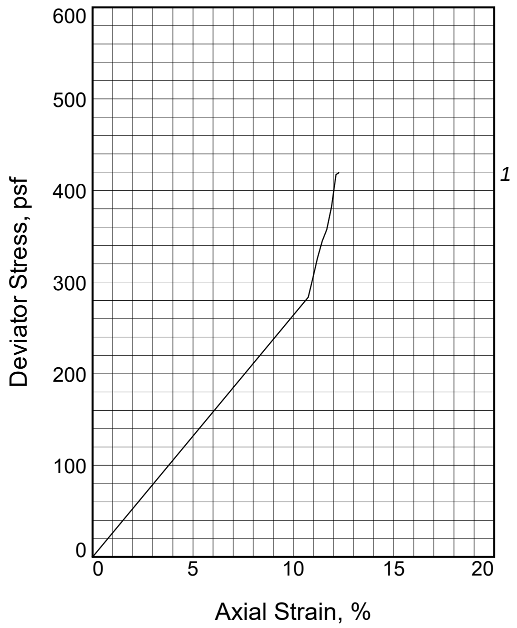


Results	
C, psf	210
ϕ, deg	0
Tan(ϕ)	0



	Sample No.	1
Initial	Water Content, %	30.5
	Dry Density, pcf	87.6
	Saturation, %	90.8
	Void Ratio	0.8890
	Diameter, in.	2.80
	Height, in.	6.21
At Test	Water Content, %	30.5
	Dry Density, pcf	87.6
	Saturation, %	90.8
	Void Ratio	0.8890
	Diameter, in.	2.80
	Height, in.	6.21
	Strain rate, in./min.	1.01
	Back Pressure, psi	0.00
	Cell Pressure, psi	8.08
	Fail. Stress, psf	419
	Ult. Stress, psf	419
	σ_1 Failure, psf	1583
	σ_3 Failure, psf	1164

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Very Soft Gray Clay

Specific Gravity= 2.65
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-8 **Depth:** 23-25
Sample Number: 11
Proj. No.: 1706-G038 **Date Sampled:** 07/12/2017

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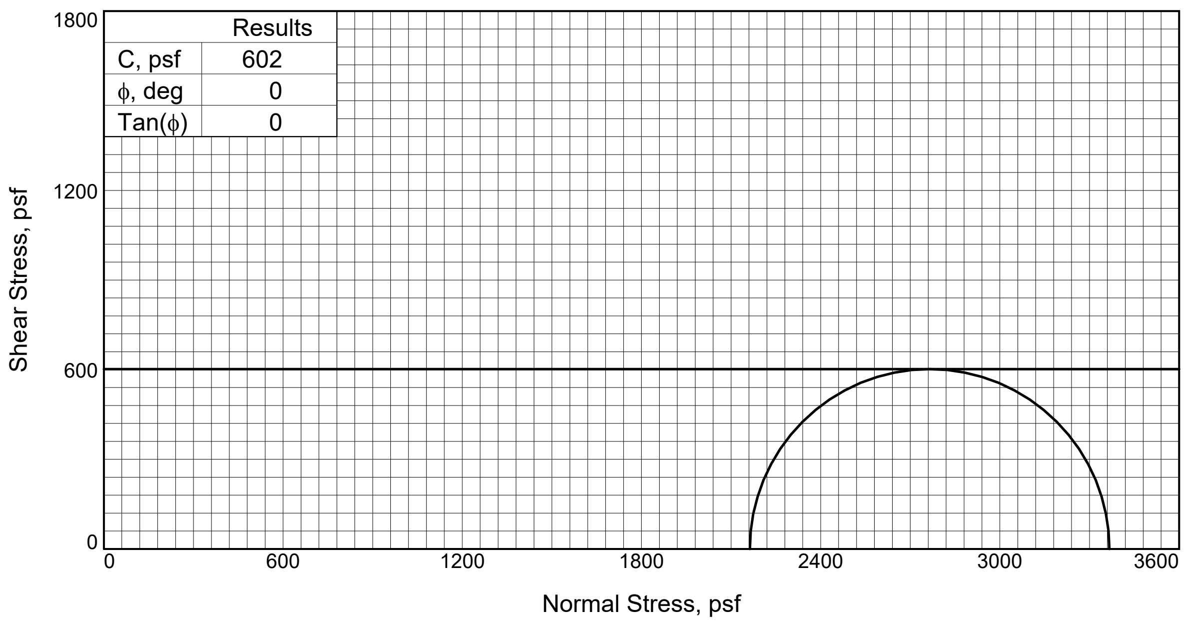
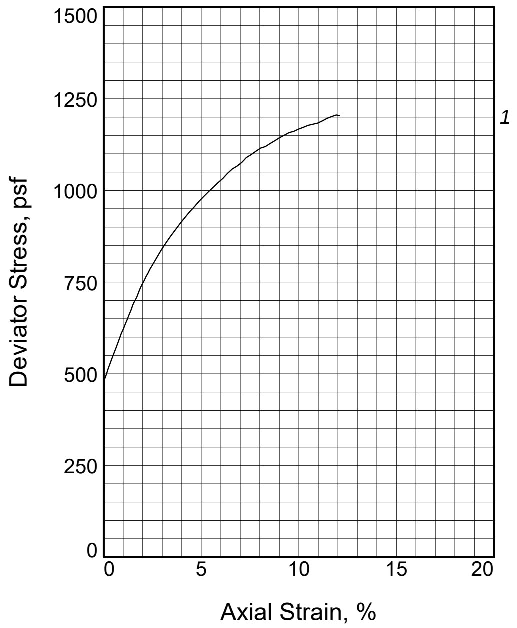


	Results
C, psf	602
ϕ, deg	0
Tan(ϕ)	0



	Sample No.	1
Initial	Water Content, %	40.4
	Dry Density, pcf	81.2
	Saturation, %	103.2
	Void Ratio	1.0365
	Diameter, in.	2.70
	Height, in.	6.00
At Test	Water Content, %	40.4
	Dry Density, pcf	81.2
	Saturation, %	103.2
	Void Ratio	1.0365
	Diameter, in.	2.70
	Height, in.	6.00
	Strain rate, in./min.	0.83
	Back Pressure, psi	0.00
	Cell Pressure, psi	15.02
	Fail. Stress, psf	1204
	Ult. Stress, psf	1204
	σ_1 Failure, psf	3367
	σ_3 Failure, psf	2163

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Medium Stiff Gray Clay

Specific Gravity= 2.65
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-8 **Depth:** 43-45
Sample Number: 15
Proj. No.: 1706-G038 **Date Sampled:** 07/12/2017

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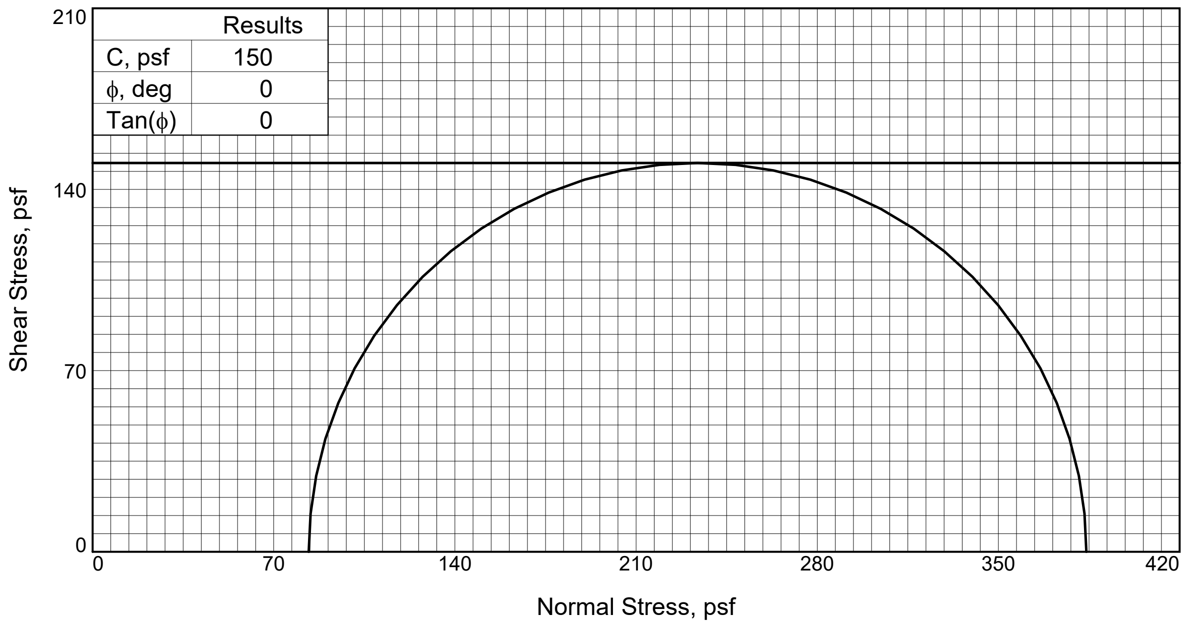
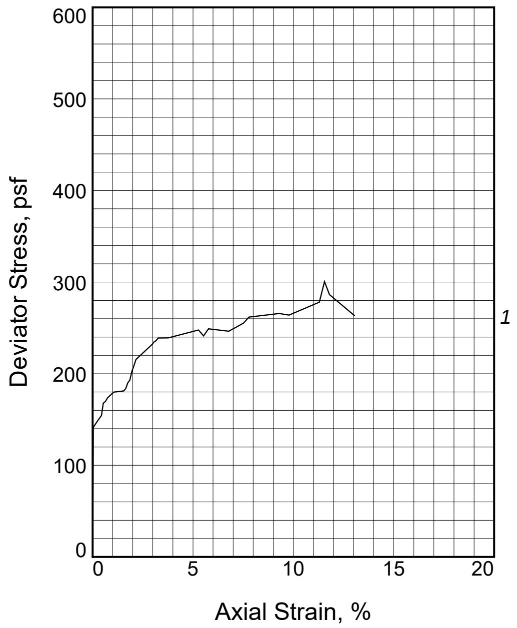


Results	
C, psf	150
ϕ, deg	0
Tan(ϕ)	0



	Sample No.	1
Initial	Water Content, %	90.0
	Dry Density, pcf	50.1
	Saturation, %	104.4
	Void Ratio	2.2521
	Diameter, in.	2.79
	Height, in.	6.05
At Test	Water Content, %	90.0
	Dry Density, pcf	50.1
	Saturation, %	104.4
	Void Ratio	2.2521
	Diameter, in.	2.79
	Height, in.	6.05
	Strain rate, in./min.	0.88
	Back Pressure, psi	0.00
	Cell Pressure, psi	0.58
	Fail. Stress, psf	300
	Ult. Stress, psf	300
	σ_1 Failure, psf	384
	σ_3 Failure, psf	84

Type of Test:

Sample Type: ST

Description: Very Soft Gray Fat Clay (CH) with Organics

LL= 158 **PL=** 27 **PI=** 131

Specific Gravity= 2.61

Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-9 **Depth:** 0-2

Sample Number: 1

Proj. No.: 1706-G038 **Date Sampled:** 07/13/2017

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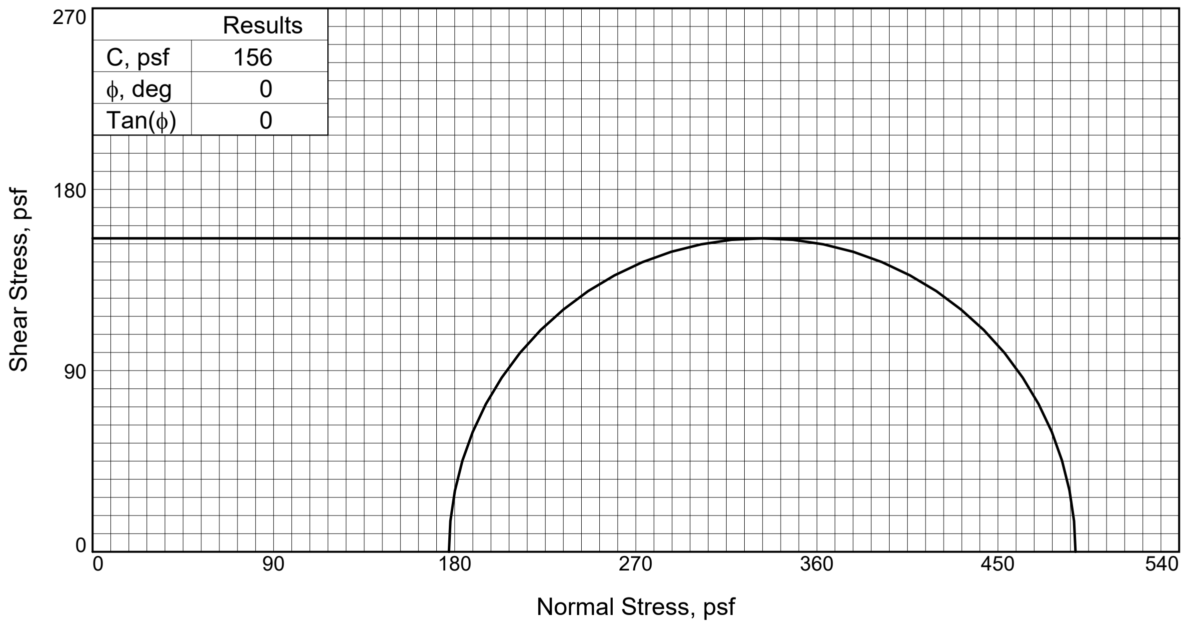
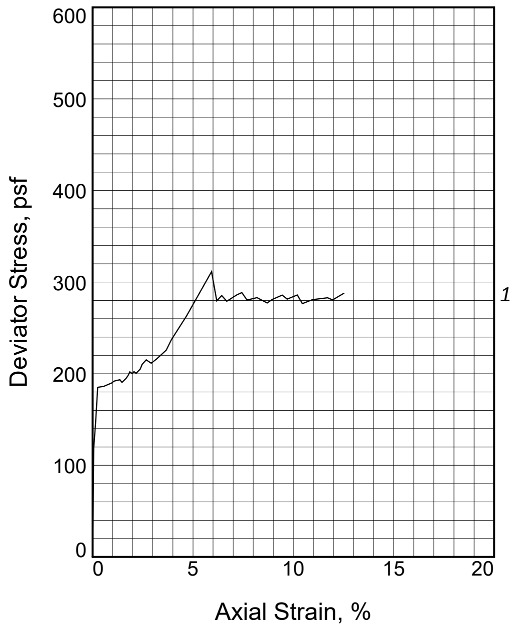


	Results
C, psf	156
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	62.4
	Dry Density, pcf	62.1
	Saturation, %	99.2
	Void Ratio	1.6657
	Diameter, in.	2.78
	Height, in.	5.86
At Test	Water Content, %	62.4
	Dry Density, pcf	62.1
	Saturation, %	99.2
	Void Ratio	1.6657
	Diameter, in.	2.78
	Height, in.	5.86
Strain rate, in./min.		0.82
Back Pressure, psi		0.00
Cell Pressure, psi		1.23
Fail. Stress, psf		311
Ult. Stress, psf		311
σ_1 Failure, psf		489
σ_3 Failure, psf		177

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Very Soft Gray Clay
with Organics

Specific Gravity= 2.65
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-9 **Depth:** 2-4
Sample Number: 2
Proj. No.: 1706-G038 **Date Sampled:** 07/13/2017

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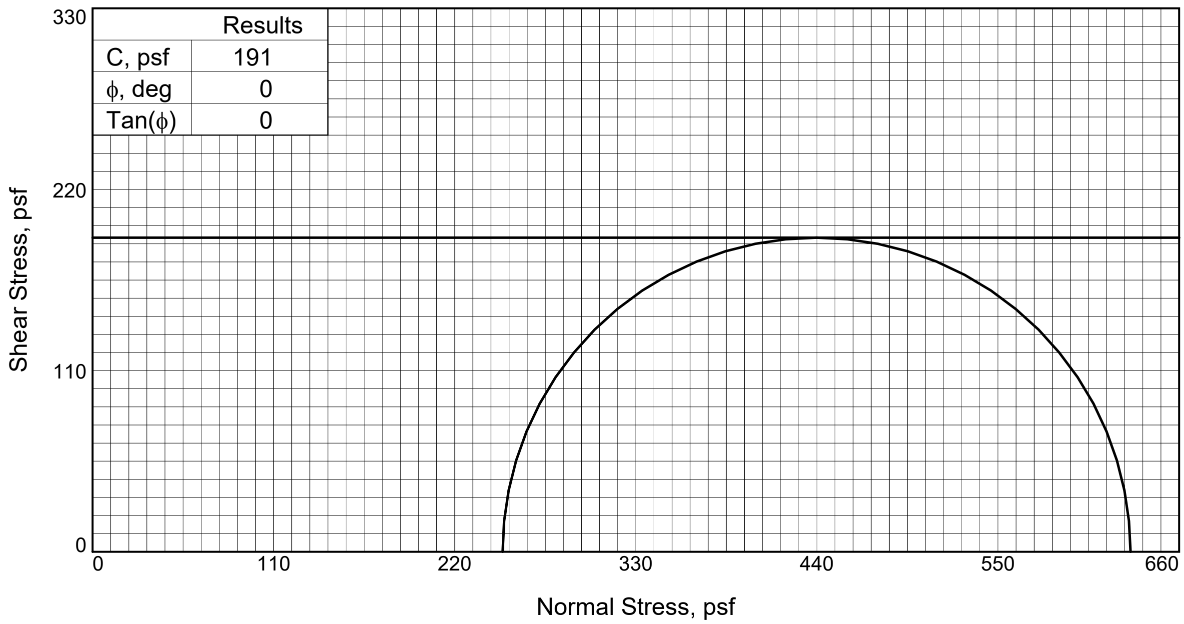
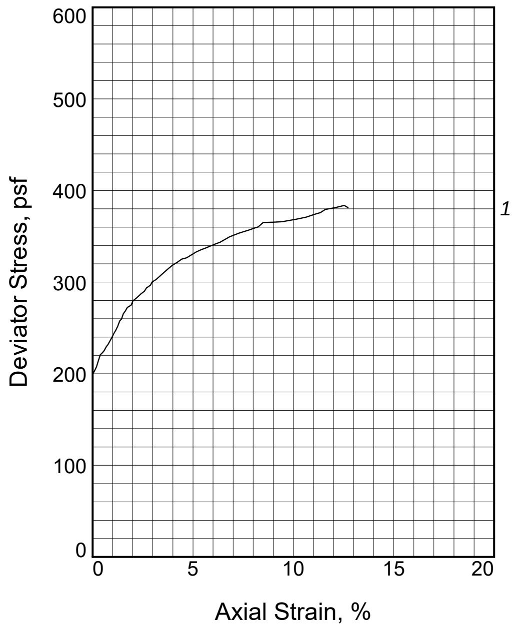


	Results
C, psf	191
ϕ, deg	0
Tan(ϕ)	0



	Sample No.	1
Initial	Water Content, %	36.3
	Dry Density, pcf	84.1
	Saturation, %	99.4
	Void Ratio	0.9663
	Diameter, in.	2.77
	Height, in.	6.15
At Test	Water Content, %	36.3
	Dry Density, pcf	84.1
	Saturation, %	99.4
	Void Ratio	0.9663
	Diameter, in.	2.77
	Height, in.	6.15
	Strain rate, in./min.	0.89
	Back Pressure, psi	0.00
	Cell Pressure, psi	1.73
	Fail. Stress, psf	381
	Ult. Stress, psf	381
	σ_1 Failure, psf	631
	σ_3 Failure, psf	249

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Very Soft Gray Lean Clay (CL)

LL= 41 **PL=** 21 **PI=** 20
Specific Gravity= 2.65
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-9 **Depth:** 4-6
Sample Number: 3
Proj. No.: 1706-G038 **Date Sampled:** 07/13/2017

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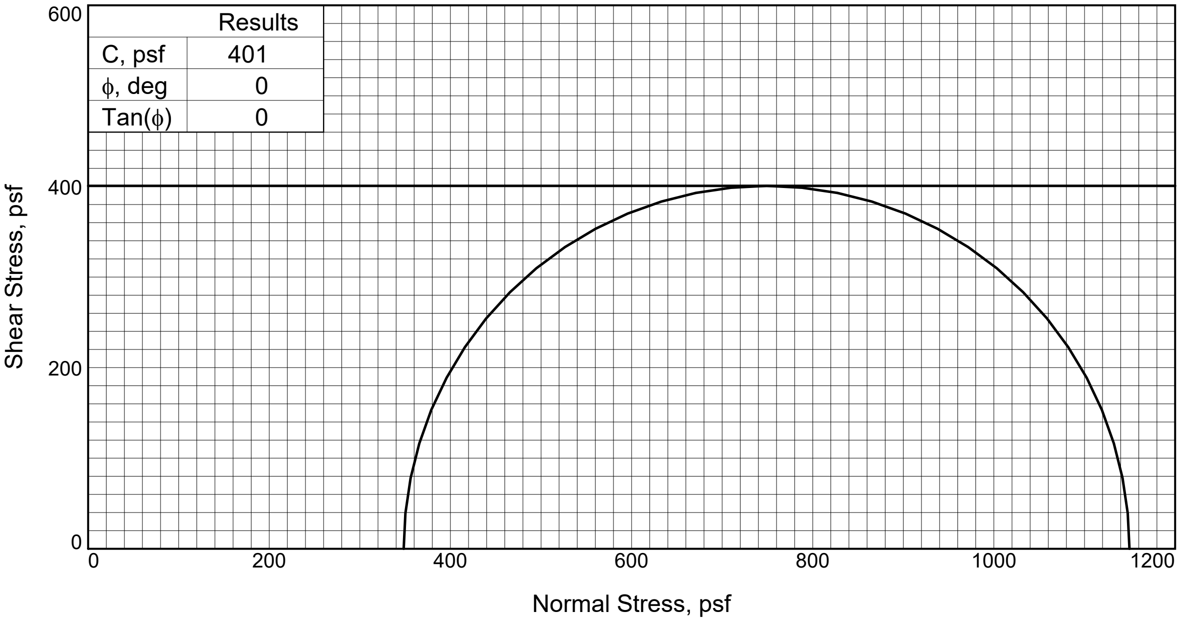
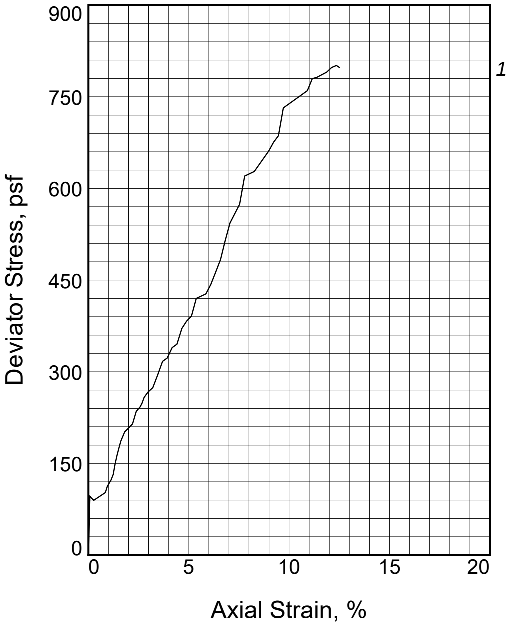


	Results
C, psf	401
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	54.3
	Dry Density, pcf	68.4
	Saturation, %	101.5
	Void Ratio	1.4171
	Diameter, in.	2.70
	Height, in.	6.05
At Test	Water Content, %	54.3
	Dry Density, pcf	68.4
	Saturation, %	101.5
	Void Ratio	1.4171
	Diameter, in.	2.70
	Height, in.	6.05
Strain rate, in./min.		0.87
Back Pressure, psi		0.00
Cell Pressure, psi		2.42
Fail. Stress, psf		801
Ult. Stress, psf		801
σ_1 Failure, psf		1150
σ_3 Failure, psf		348

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Soft Gray Fat Clay (CH)

LL= 89 **PL=** 25 **PI=** 64
Specific Gravity= 2.65
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-9 **Depth:** 6-8
Sample Number: 4
Proj. No.: 1706-G038 **Date Sampled:** 07/13/2017

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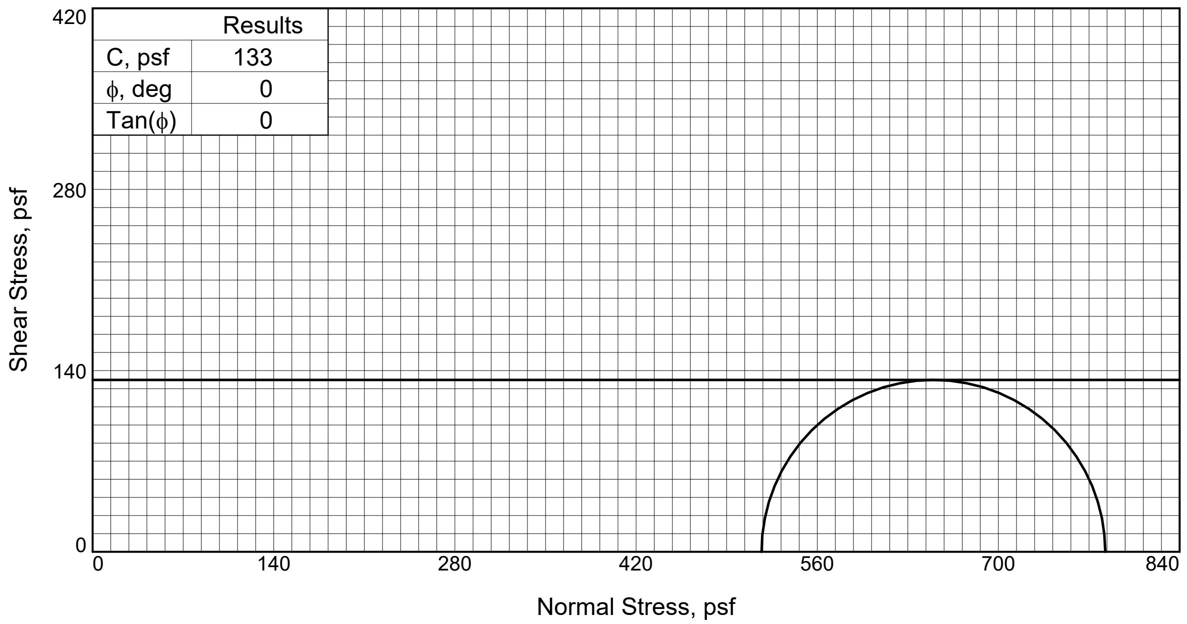
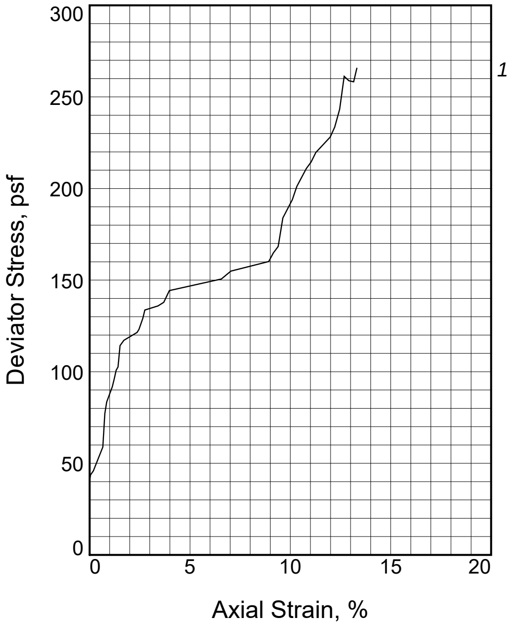


Results	
C, psf	133
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	29.3
	Dry Density, pcf	93.0
	Saturation, %	99.8
	Void Ratio	0.7789
	Diameter, in.	2.63
	Height, in.	6.15
At Test	Water Content, %	29.3
	Dry Density, pcf	93.0
	Saturation, %	99.8
	Void Ratio	0.7789
	Diameter, in.	2.63
	Height, in.	6.15
Strain rate, in./min.		0.94
Back Pressure, psi		0.00
Cell Pressure, psi		3.59
Fail. Stress, psf		266
Ult. Stress, psf		266
σ_1 Failure, psf		783
σ_3 Failure, psf		517

Type of Test: Unconsolidated Undrained

Sample Type: ST

Description: Very Loose Gray Silty Sand (SM)

Specific Gravity= 2.65

Remarks: @ 10'-12': -200 = 45.00%
Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-9 **Depth:** 10-12

Sample Number: 6

Proj. No.: 1706-G038 **Date Sampled:** 07/13/2017

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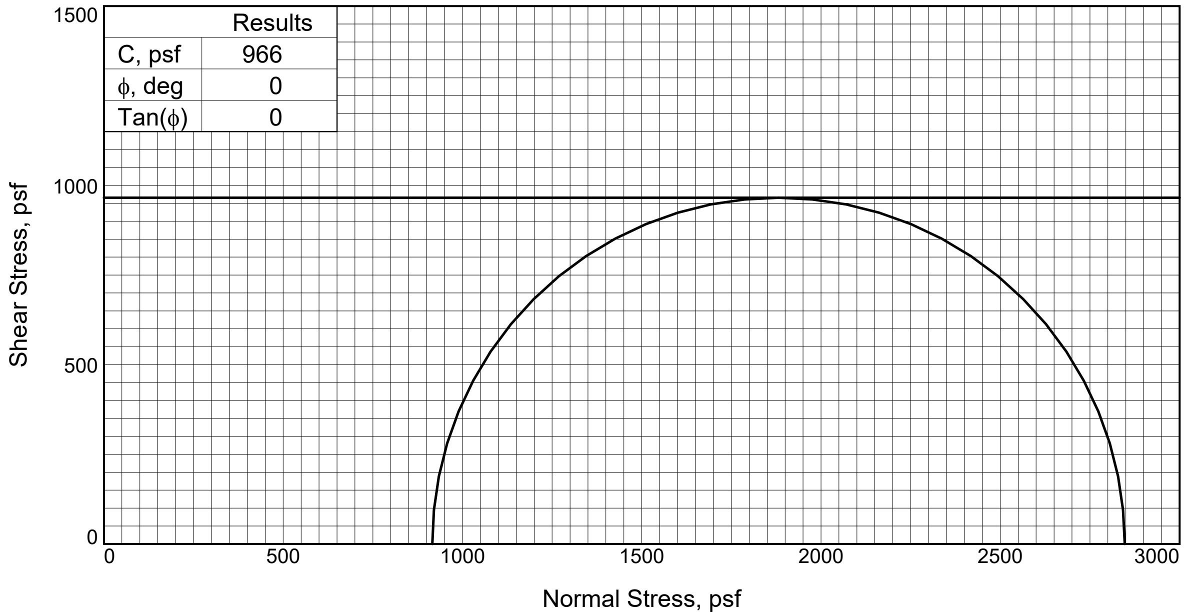
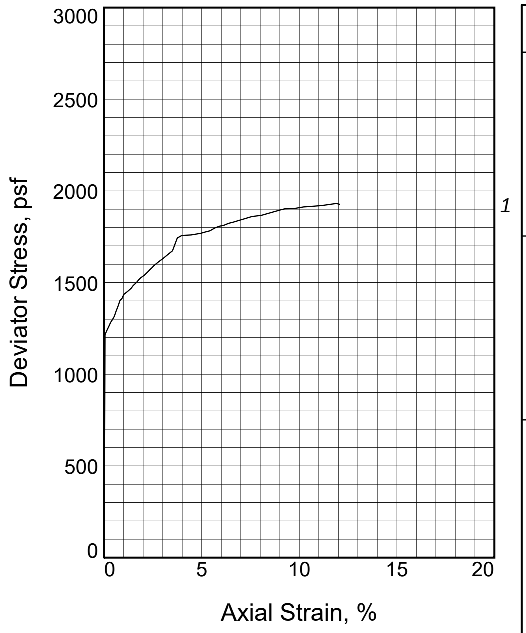


	Results
C, psf	966
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	33.4
	Dry Density, pcf	88.0
	Saturation, %	100.5
	Void Ratio	0.8798
	Diameter, in.	2.70
	Height, in.	6.04
At Test	Water Content, %	33.4
	Dry Density, pcf	88.0
	Saturation, %	100.5
	Void Ratio	0.8798
	Diameter, in.	2.70
	Height, in.	6.04
Strain rate, in./min.		0.84
Back Pressure, psi		0.00
Cell Pressure, psi		6.36
Fail. Stress, psf		1931
Ult. Stress, psf		1931
σ_1 Failure, psf		2847
σ_3 Failure, psf		916

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Medium Stiff Gray Fat Clay (CH)

LL= 65 **PL=** 22 **PI=** 43
Specific Gravity= 2.65
Remarks: @ 18'-20': -200 = 65.30%
Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-9 **Depth:** 18-20
Sample Number: 10
Proj. No.: 1706-G038 **Date Sampled:** 07/13/2017

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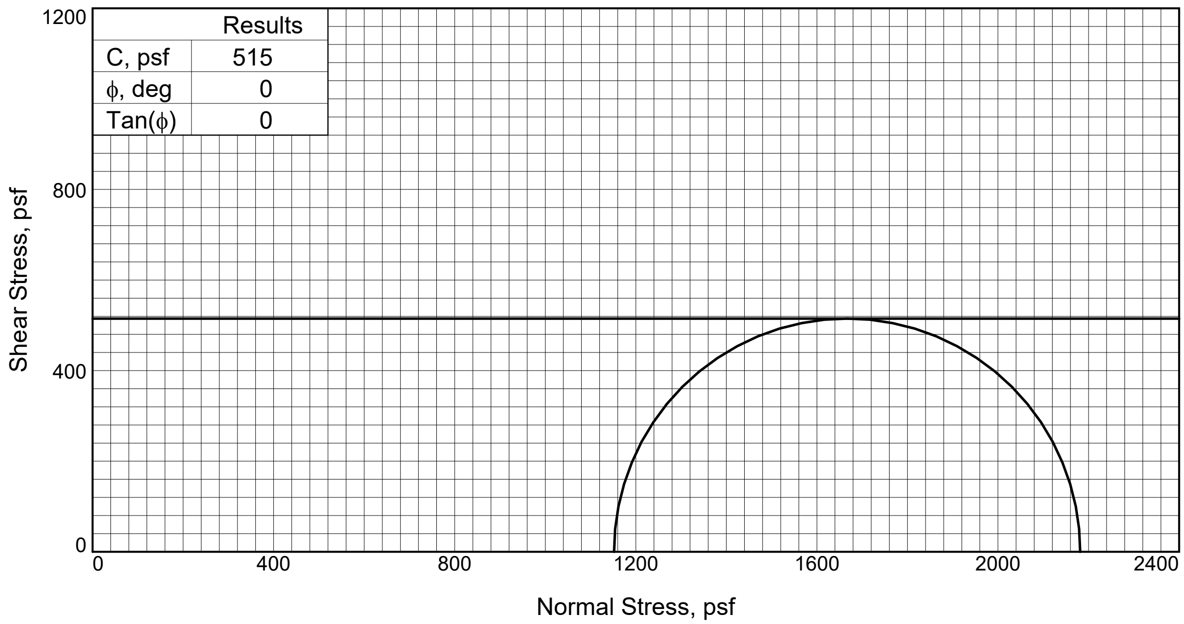
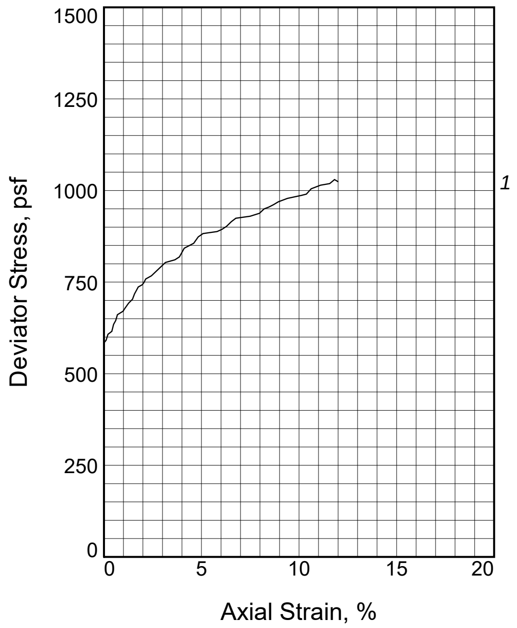
Baton Rouge, Louisiana



Results	
C, psf	515
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	34.0
	Dry Density, pcf	87.6
	Saturation, %	101.5
	Void Ratio	0.8879
	Diameter, in.	2.79
	Height, in.	6.08
At Test	Water Content, %	34.0
	Dry Density, pcf	87.6
	Saturation, %	101.5
	Void Ratio	0.8879
	Diameter, in.	2.79
	Height, in.	6.08
Strain rate, in./min.		0.83
Back Pressure, psi		0.00
Cell Pressure, psi		8.00
Fail. Stress, psf		1030
Ult. Stress, psf		1030
σ_1 Failure, psf		2182
σ_3 Failure, psf		1152

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Medium Stiff Gray Fat Clay (CH) with Fine Sand Pockets

Specific Gravity= 2.65
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-9 **Depth:** 23-25
Sample Number: 11
Proj. No.: 1706-G038 **Date Sampled:** 07/13/2017

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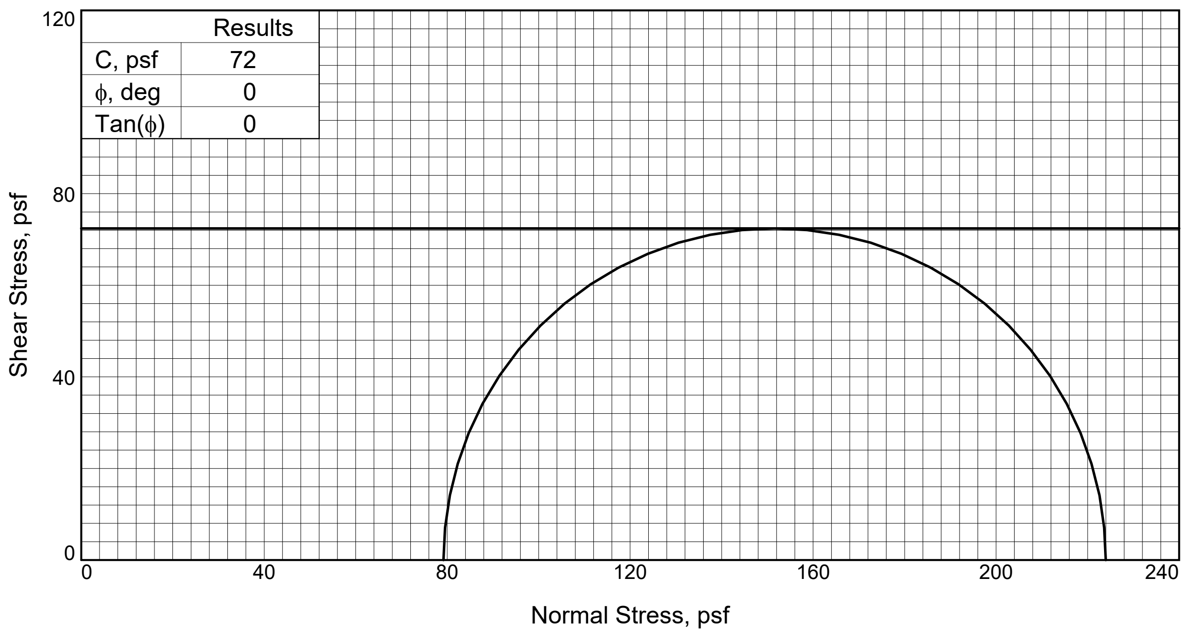
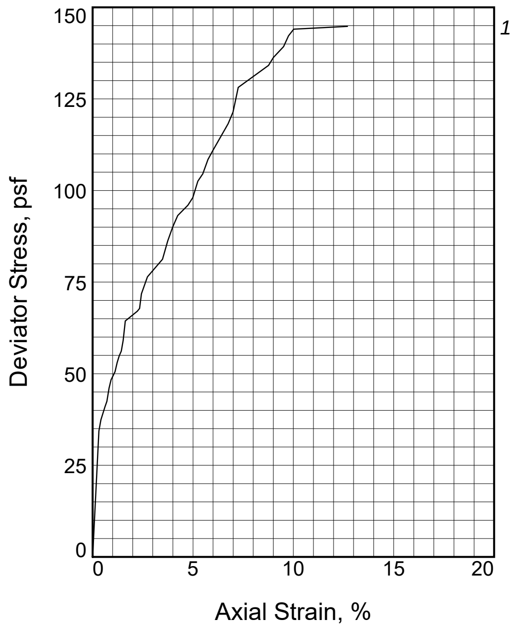


Results	
C, psf	72
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	262.1
	Dry Density, pcf	20.9
	Saturation, %	103.9
	Void Ratio	5.4721
	Diameter, in.	2.78
	Height, in.	5.88
At Test	Water Content, %	262.1
	Dry Density, pcf	20.9
	Saturation, %	103.9
	Void Ratio	5.4721
	Diameter, in.	2.78
	Height, in.	5.88
Strain rate, in./min.		0.85
Back Pressure, psi		0.00
Cell Pressure, psi		0.55
Fail. Stress, psf		145
Ult. Stress, psf		145
σ_1 Failure, psf		224
σ_3 Failure, psf		79

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Very Soft Black Organic Clay (OH)

Specific Gravity= 2.17
Remarks: @ 0'-2': Percent Organics = 18.20%
Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-10 **Depth:** 0-2
Sample Number: 1
Proj. No.: 1706-G038 **Date Sampled:** 07/16/2017

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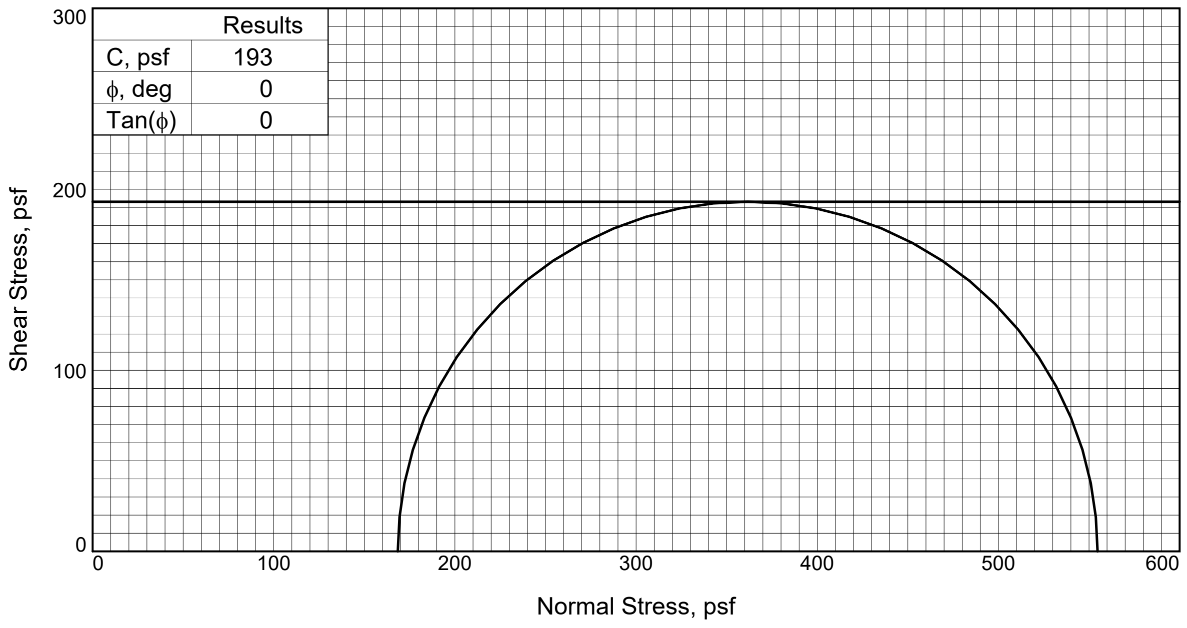
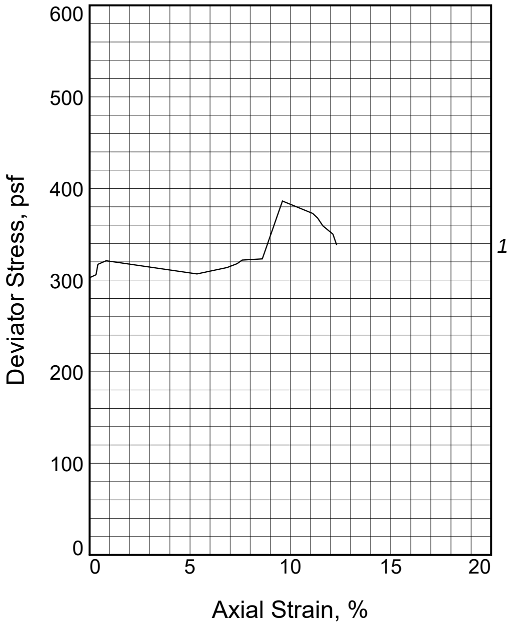


	Results
C, psf	193
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	143.9
	Dry Density, pcf	35.9
	Saturation, %	112.8
	Void Ratio	2.7688
	Diameter, in.	2.86
	Height, in.	5.87
At Test	Water Content, %	143.9
	Dry Density, pcf	35.9
	Saturation, %	112.8
	Void Ratio	2.7688
	Diameter, in.	2.86
	Height, in.	5.87
Strain rate, in./min.		0.82
Back Pressure, psi		0.00
Cell Pressure, psi		1.17
Fail. Stress, psf		386
Ult. Stress, psf		386
σ_1 Failure, psf		555
σ_3 Failure, psf		168

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Very Soft Black Organic Clay (OH)

Specific Gravity= 2.17
Remarks: @ 2'-4': Percent Organics = 26.10%
Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-10 **Depth:** 2-4
Sample Number: 2
Proj. No.: 1706-G038 **Date Sampled:** 07/16/2017

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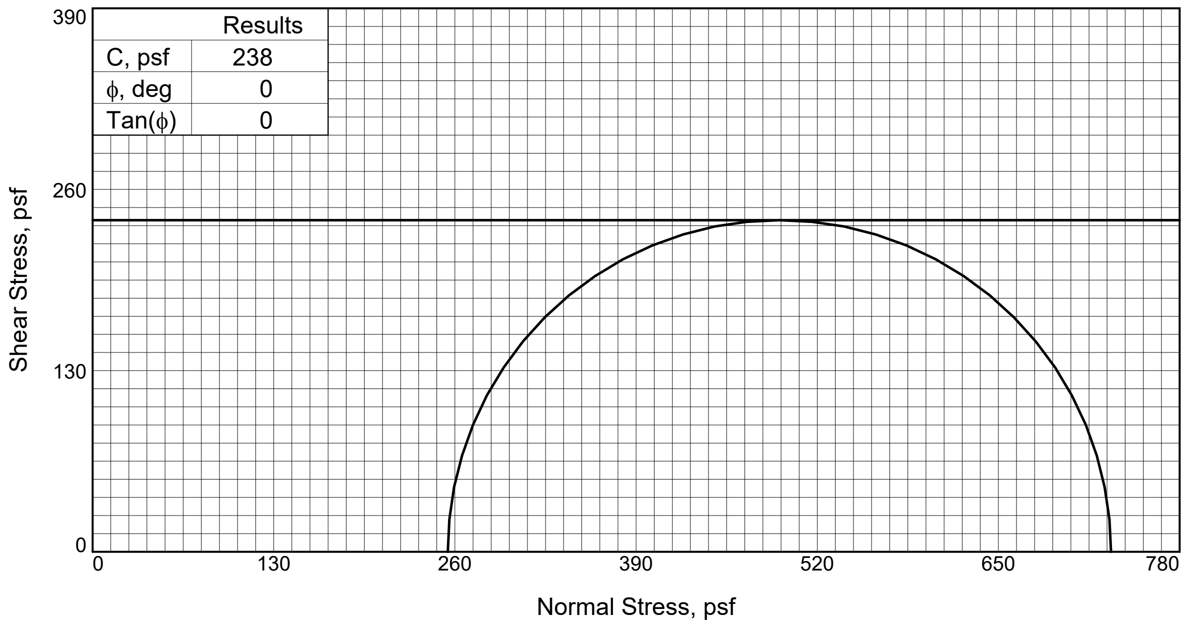
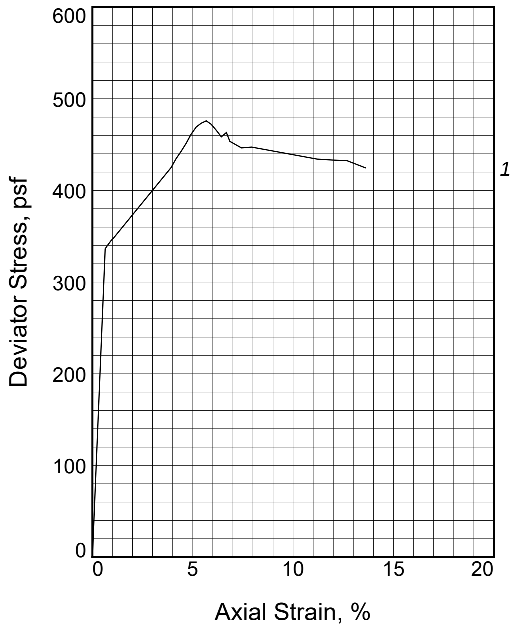


	Results
C, psf	238
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	81.7
	Dry Density, pcf	53.9
	Saturation, %	117.2
	Void Ratio	1.5117
	Diameter, in.	2.76
	Height, in.	5.80
At Test	Water Content, %	81.7
	Dry Density, pcf	53.9
	Saturation, %	117.2
	Void Ratio	1.5117
	Diameter, in.	2.76
	Height, in.	5.80
Strain rate, in./min.		0.91
Back Pressure, psi		0.00
Cell Pressure, psi		1.77
Fail. Stress, psf		476
Ult. Stress, psf		476
σ_1 Failure, psf		731
σ_3 Failure, psf		255

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Very Soft Gray Clay
with traces of Organics

Specific Gravity= 2.17
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-10 **Depth:** 4-6
Sample Number: 3
Proj. No.: 1706-G038 **Date Sampled:** 07/16/2017

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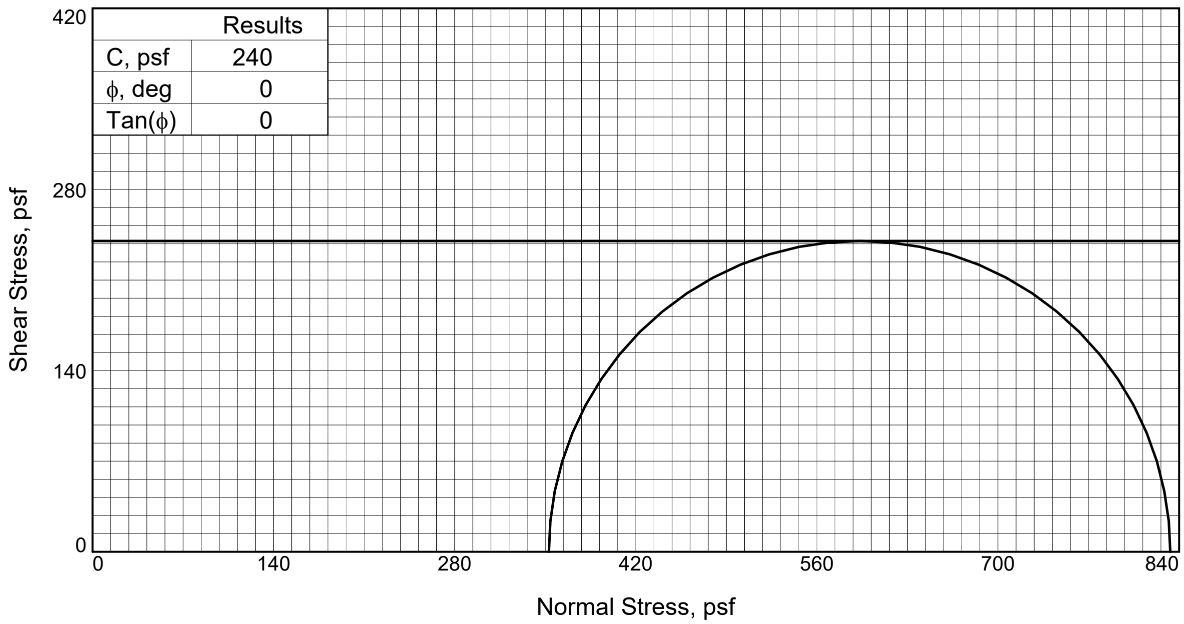
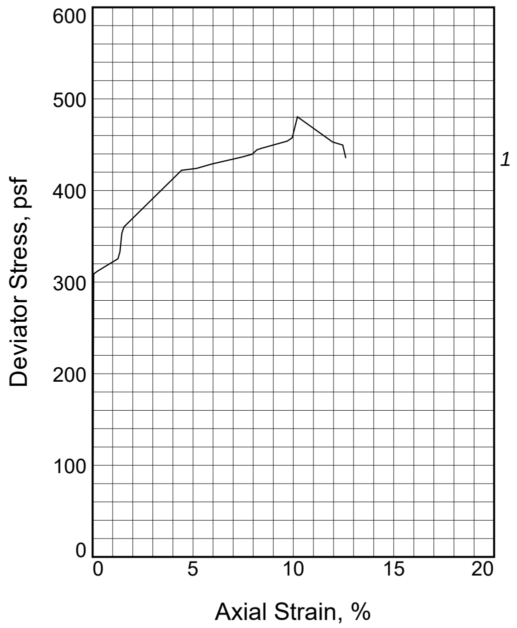


Results	
C, psf	240
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	72.0
	Dry Density, pcf	59.5
	Saturation, %	107.9
	Void Ratio	1.7406
	Diameter, in.	2.77
	Height, in.	5.69
At Test	Water Content, %	72.0
	Dry Density, pcf	59.5
	Saturation, %	107.9
	Void Ratio	1.7406
	Diameter, in.	2.77
	Height, in.	5.69
Strain rate, in./min.		0.84
Back Pressure, psi		0.00
Cell Pressure, psi		2.45
Fail. Stress, psf		480
Ult. Stress, psf		480
σ_1 Failure, psf		833
σ_3 Failure, psf		353

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Very Soft Gray Clay
with traces of Organics

Specific Gravity= 2.61
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-10 **Depth:** 6-8
Sample Number: 4
Proj. No.: 1706-G038 **Date Sampled:** 07/16/2017

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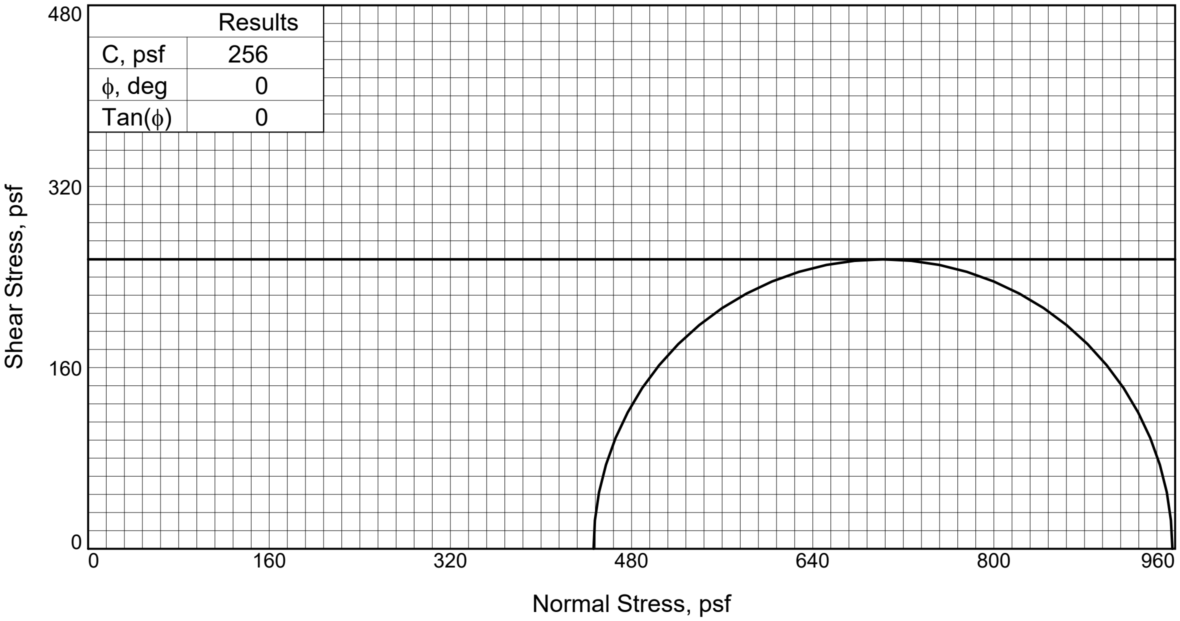
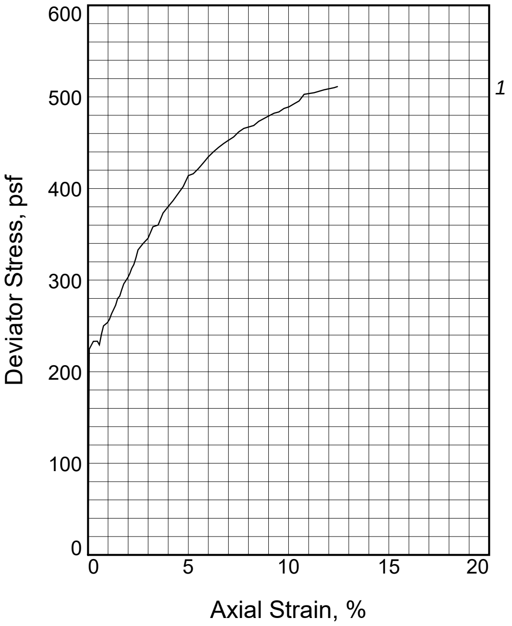


	Results
C, psf	256
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	47.2
	Dry Density, pcf	77.1
	Saturation, %	109.3
	Void Ratio	1.1448
	Diameter, in.	2.77
	Height, in.	5.96
At Test	Water Content, %	47.2
	Dry Density, pcf	77.1
	Saturation, %	109.3
	Void Ratio	1.1448
	Diameter, in.	2.77
	Height, in.	5.96
Strain rate, in./min.		0.83
Back Pressure, psi		0.00
Cell Pressure, psi		3.10
Fail. Stress, psf		511
Ult. Stress, psf		511
σ_1 Failure, psf		958
σ_3 Failure, psf		446

Type of Test: Unconsolidated Undrained

Sample Type: ST

Description: Soft Gray Clay

Specific Gravity= 2.65

Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-10 **Depth:** 8-10

Sample Number: 5

Proj. No.: 1706-G038 **Date Sampled:** 07/16/2017

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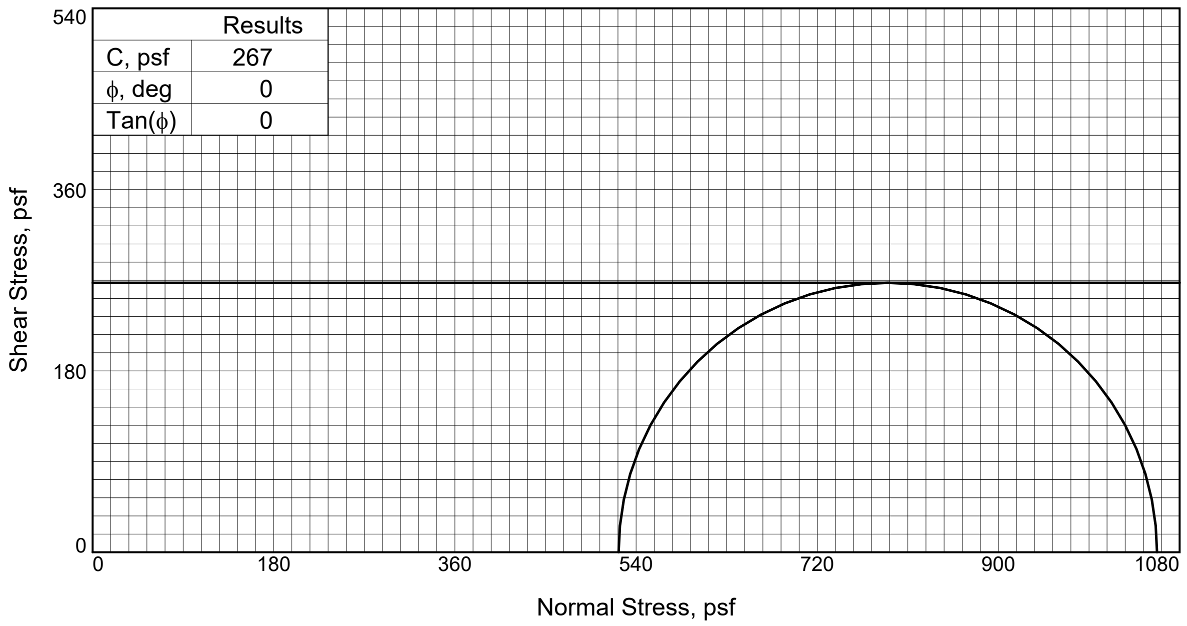
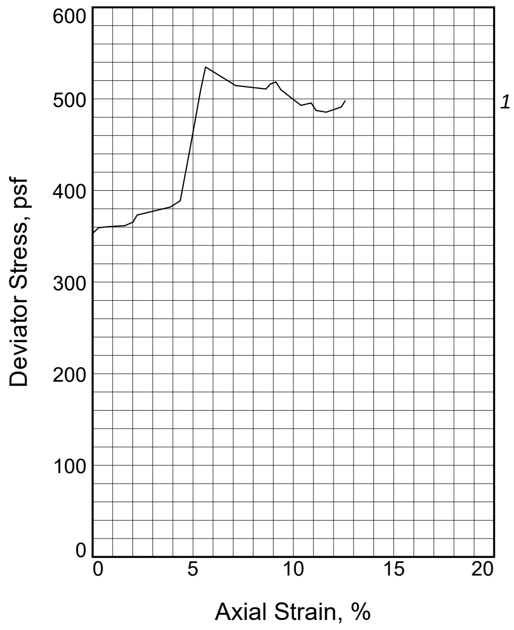


	Results
C, psf	267
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	45.8
	Dry Density, pcf	63.7
	Saturation, %	76.0
	Void Ratio	1.5976
	Diameter, in.	2.90
	Height, in.	6.20
At Test	Water Content, %	45.8
	Dry Density, pcf	63.7
	Saturation, %	76.0
	Void Ratio	1.5976
	Diameter, in.	2.90
	Height, in.	6.20
Strain rate, in./min.		0.84
Back Pressure, psi		0.00
Cell Pressure, psi		3.63
Fail. Stress, psf		535
Ult. Stress, psf		535
σ_1 Failure, psf		1058
σ_3 Failure, psf		523

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Soft Gray Lean Clay (CL)

LL= 40 **PL=** 17 **PI=** 23
Specific Gravity= 2.65
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-10 **Depth:** 10-12
Sample Number: 6
Proj. No.: 1706-G038 **Date Sampled:** 07/16/2017

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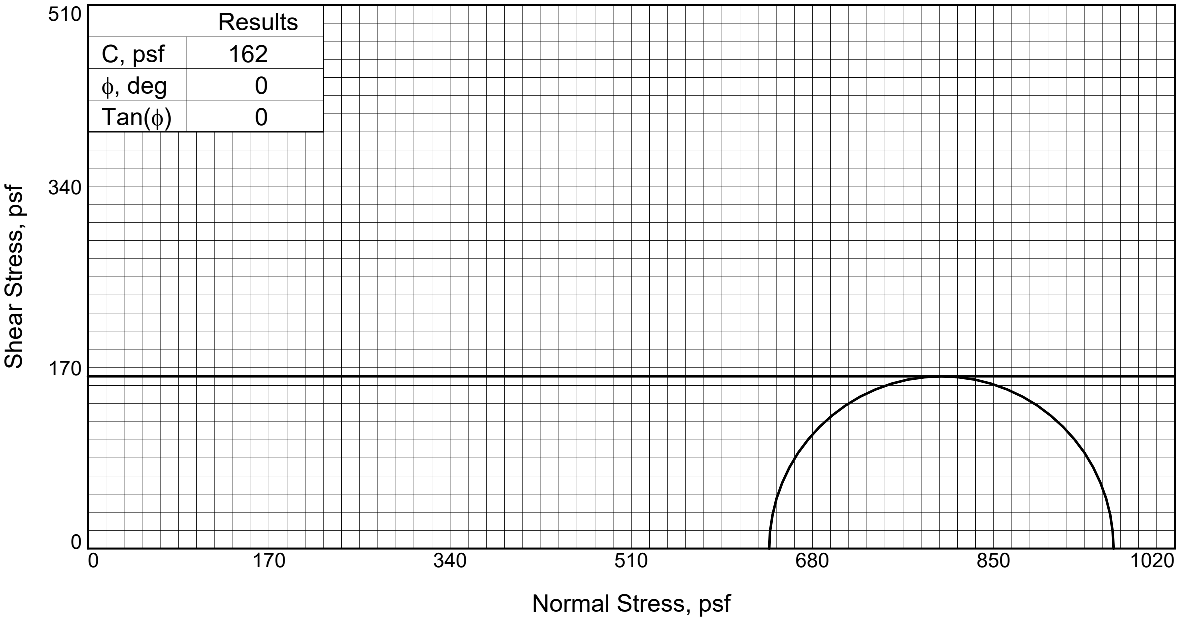
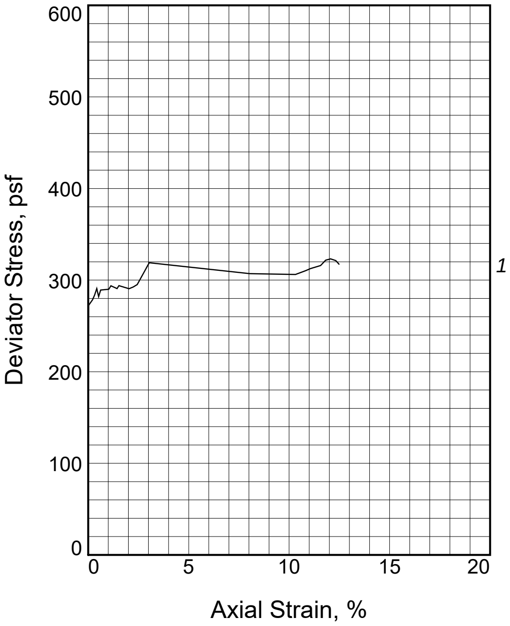


Results	
C, psf	162
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	47.5
	Dry Density, pcf	71.9
	Saturation, %	96.9
	Void Ratio	1.2995
	Diameter, in.	2.87
	Height, in.	5.83
At Test	Water Content, %	47.5
	Dry Density, pcf	71.9
	Saturation, %	96.9
	Void Ratio	1.2995
	Diameter, in.	2.87
	Height, in.	5.83
Strain rate, in./min.		0.83
Back Pressure, psi		0.00
Cell Pressure, psi		4.44
Fail. Stress, psf		323
Ult. Stress, psf		323
σ_1 Failure, psf		963
σ_3 Failure, psf		639

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Very Soft Gray Fat Clay (CH)

LL= 55 **PL=** 16 **PI=** 39
Specific Gravity= 2.65
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-10 **Depth:** 12-14
Sample Number: 7
Proj. No.: 1706-G038 **Date Sampled:** 07/16/2017

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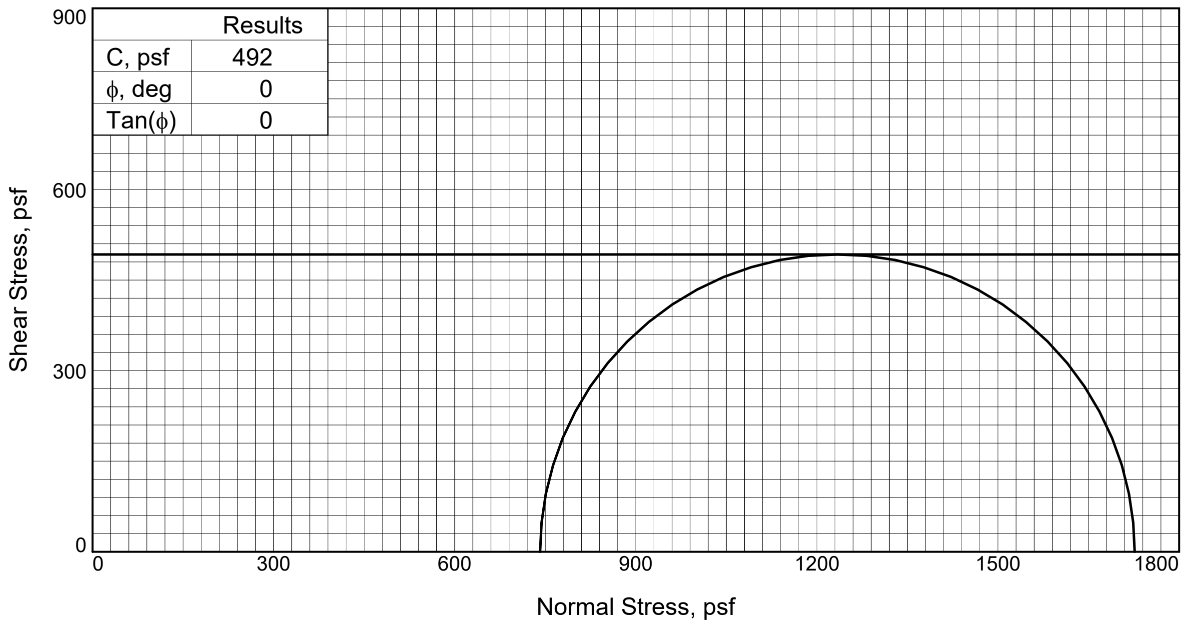
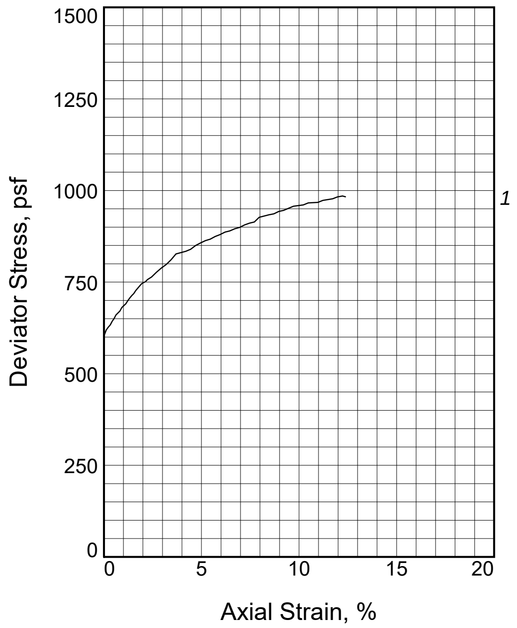


	Results
C, psf	492
ϕ, deg	0
Tan(ϕ)	0



	Sample No.	1
Initial	Water Content, %	37.5
	Dry Density, pcf	85.7
	Saturation, %	106.7
	Void Ratio	0.9313
	Diameter, in.	2.87
	Height, in.	6.06
At Test	Water Content, %	37.5
	Dry Density, pcf	85.7
	Saturation, %	106.7
	Void Ratio	0.9313
	Diameter, in.	2.87
	Height, in.	6.06
	Strain rate, in./min.	0.83
	Back Pressure, psi	0.00
	Cell Pressure, psi	5.15
	Fail. Stress, psf	985
	Ult. Stress, psf	985
	σ_1 Failure, psf	1726
	σ_3 Failure, psf	742

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Soft Gray Clay

Specific Gravity= 2.65
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-10 **Depth:** 14-16
Sample Number: 8
Proj. No.: 1706-G038 **Date Sampled:** 07/16/2017

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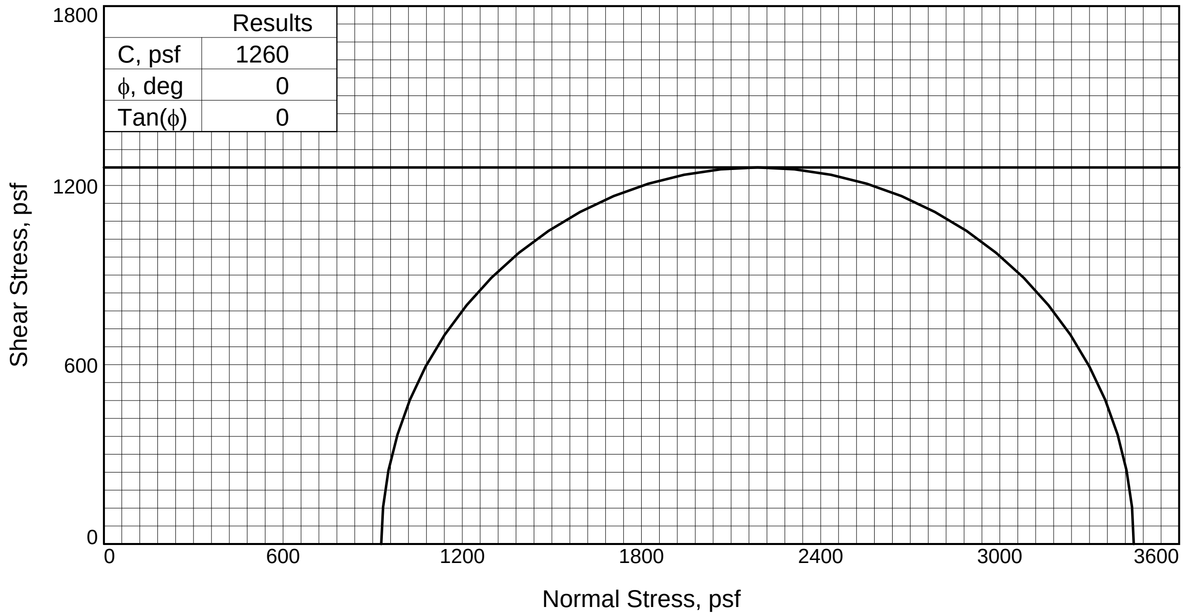
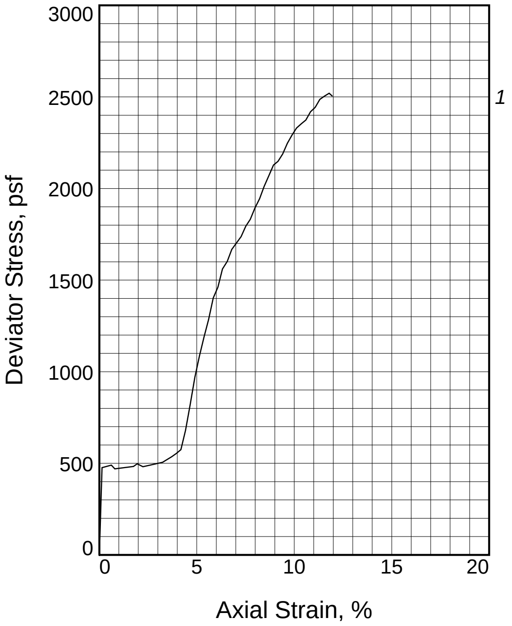


	Results
C, psf	1260
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	32.1
	Dry Density, pcf	88.4
	Saturation, %	97.6
	Void Ratio	0.8708
	Diameter, in.	2.85
	Height, in.	6.08
At Test	Water Content, %	32.1
	Dry Density, pcf	88.4
	Saturation, %	97.6
	Void Ratio	0.8708
	Diameter, in.	2.85
	Height, in.	6.08
Strain rate, in./min.		0.84
Back Pressure, psi		0.00
Cell Pressure, psi		6.45
Fail. Stress, psf		2520
Ult. Stress, psf		2520
σ_1 Failure, psf		3448
σ_3 Failure, psf		929

Type of Test: Unconsolidated Undrained
Sample Type: ST

Description: Stiff Gray Fat Clay (CH)

LL= 67 **PL=** 15 **PI=** 52

Specific Gravity= 2.65

Remarks: Type of Failure: Bulge (SL)

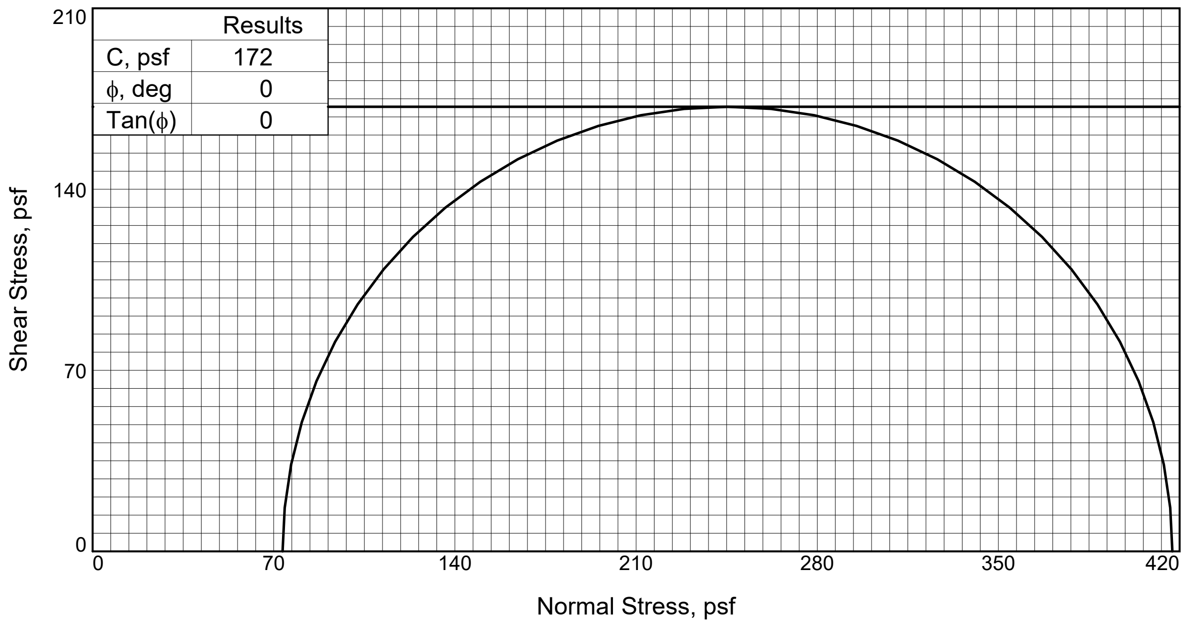
Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

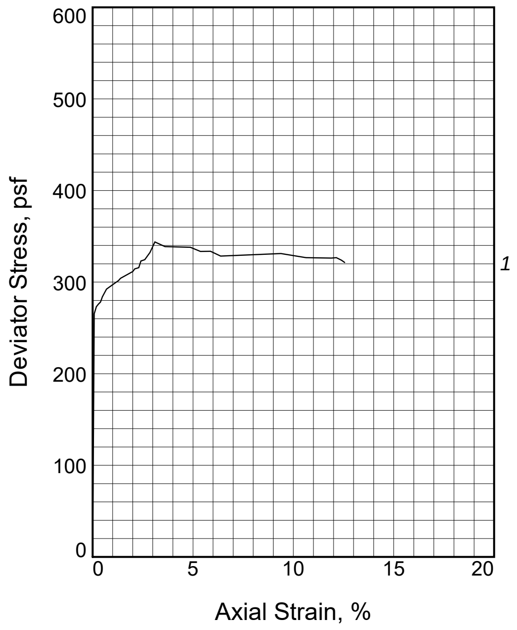
Source of Sample: B-10 **Depth:** 18-20

Sample Number: 10

Proj. No.: 1706-G038 **Date Sampled:** 07/16/2017



	Results
C, psf	172
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	234.8
	Dry Density, pcf	24.0
	Saturation, %	106.0
	Void Ratio	5.7787
	Diameter, in.	2.61
	Height, in.	5.76
At Test	Water Content, %	234.8
	Dry Density, pcf	24.0
	Saturation, %	106.0
	Void Ratio	5.7787
	Diameter, in.	2.61
	Height, in.	5.76
Strain rate, in./min.		0.84
Back Pressure, psi		0.00
Cell Pressure, psi		0.51
Fail. Stress, psf		344
Ult. Stress, psf		344
σ_1 Failure, psf		417
σ_3 Failure, psf		73

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Very Soft Black Organic Clay (OH)

LL= 248 **PL=** 65 **PI=** 183
Specific Gravity= 2.61
Remarks: @ 0'-2': Percent Organics = 26.00%
Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-11 **Depth:** 0-2
Sample Number: 1
Proj. No.: 1706-G038 **Date Sampled:** 07/14/2017

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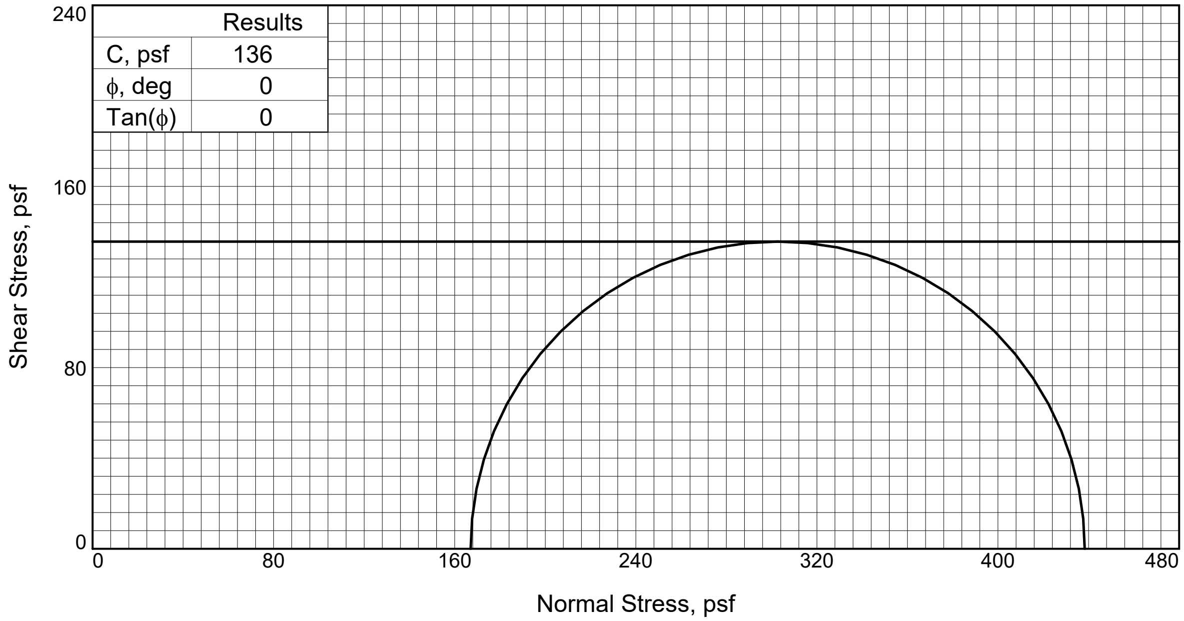
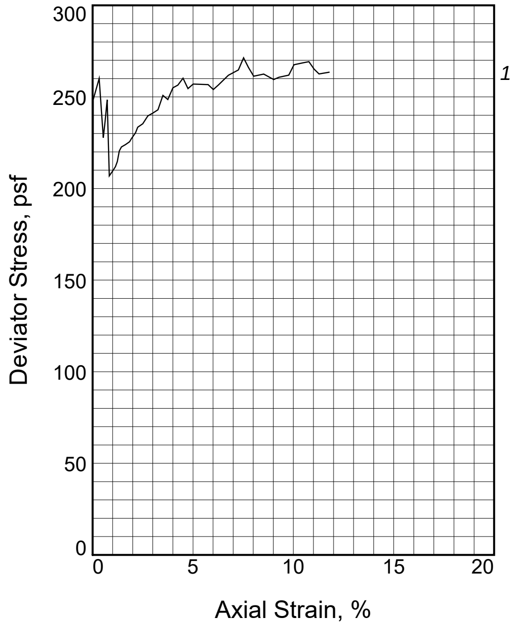


	Results
C, psf	136
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	170.1
	Dry Density, pcf	31.4
	Saturation, %	105.8
	Void Ratio	4.1961
	Diameter, in.	2.74
	Height, in.	5.89
At Test	Water Content, %	170.1
	Dry Density, pcf	31.4
	Saturation, %	105.8
	Void Ratio	4.1961
	Diameter, in.	2.74
	Height, in.	5.89
Strain rate, in./min.		0.81
Back Pressure, psi		0.00
Cell Pressure, psi		1.16
Fail. Stress, psf		271
Ult. Stress, psf		271
σ_1 Failure, psf		438
σ_3 Failure, psf		167

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Very Soft Gray Clay
with Organics

Specific Gravity= 2.61
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-11 **Depth:** 2-4
Sample Number: 2
Proj. No.: 1706-G038 **Date Sampled:** 07/14/2017

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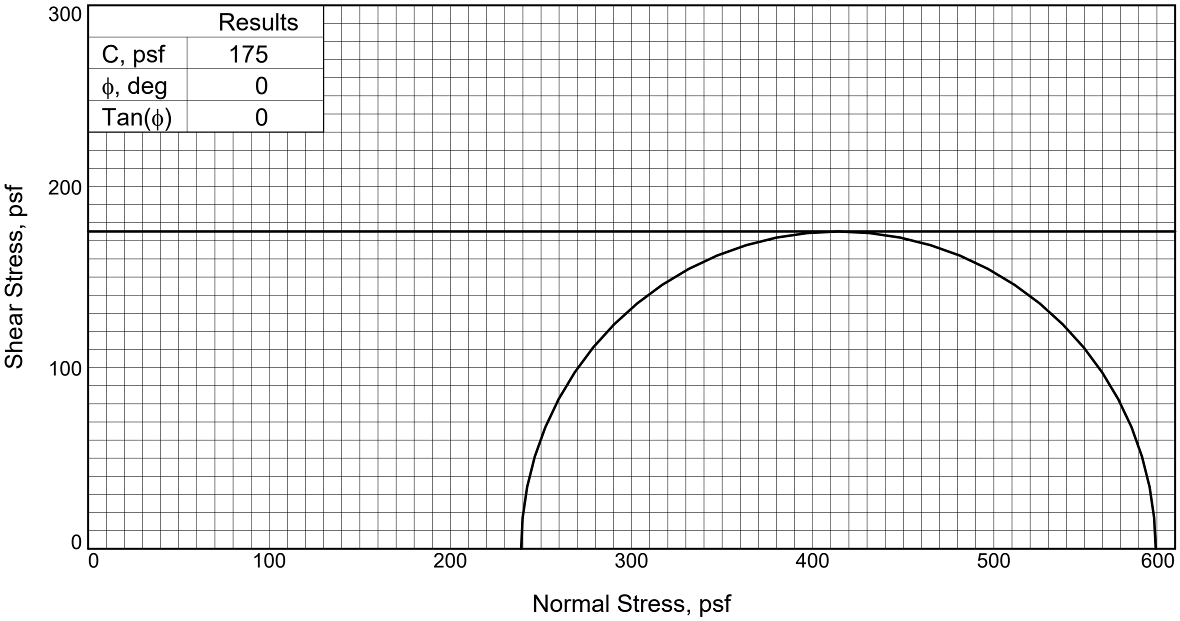
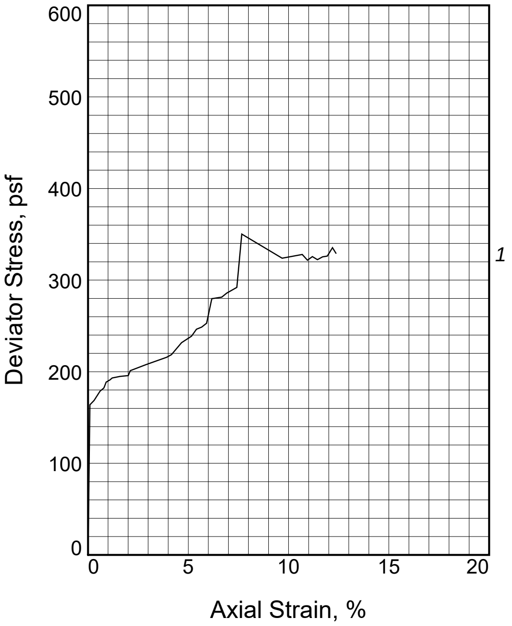


	Results
C, psf	175
ϕ, deg	0
Tan(ϕ)	0



	Sample No.	1
Initial	Water Content, %	67.1
	Dry Density, pcf	55.5
	Saturation, %	90.4
	Void Ratio	1.9371
	Diameter, in.	2.97
	Height, in.	5.90
At Test	Water Content, %	67.1
	Dry Density, pcf	55.5
	Saturation, %	90.4
	Void Ratio	1.9371
	Diameter, in.	2.97
	Height, in.	5.90
	Strain rate, in./min.	0.82
	Back Pressure, psi	0.00
	Cell Pressure, psi	1.66
	Fail. Stress, psf	350
	Ult. Stress, psf	350
	σ_1 Failure, psf	589
	σ_3 Failure, psf	239

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Very Loose Gray Clayey Silt (ML)

Specific Gravity= 2.61
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-11 **Depth:** 4-6
Sample Number: 3
Proj. No.: 1706-G038 **Date Sampled:** 07/14/2017

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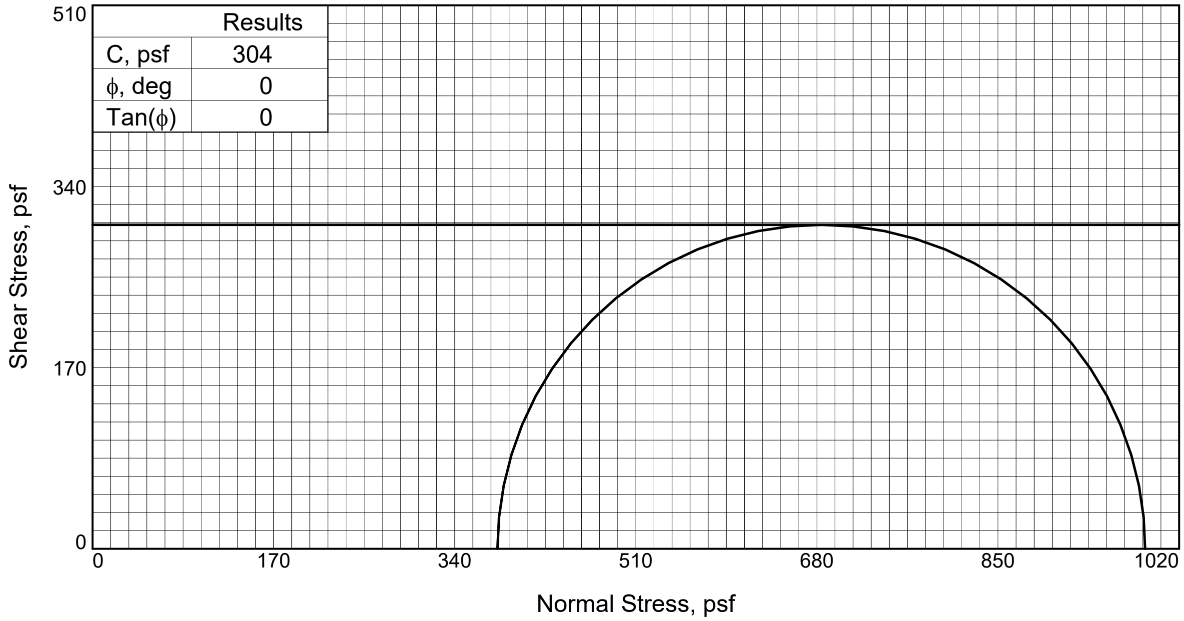
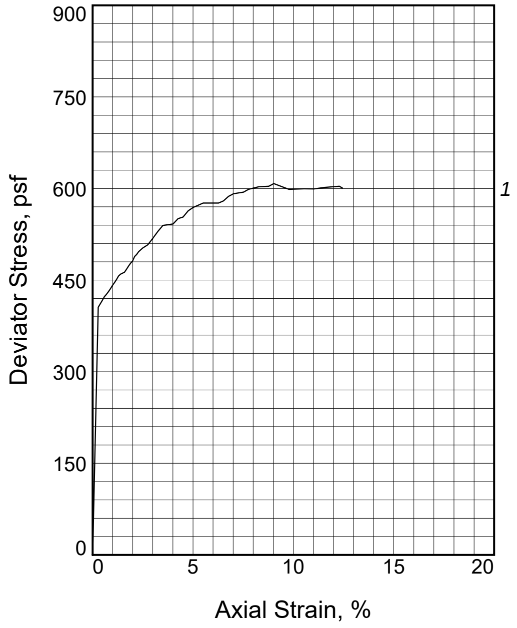


	Results
C, psf	304
ϕ, deg	0
Tan(ϕ)	0



	Sample No.	1
Initial	Water Content, %	48.8
	Dry Density, pcf	75.2
	Saturation, %	107.8
	Void Ratio	1.1990
	Diameter, in.	2.82
	Height, in.	5.87
At Test	Water Content, %	48.8
	Dry Density, pcf	75.2
	Saturation, %	107.8
	Void Ratio	1.1990
	Diameter, in.	2.82
	Height, in.	5.87
	Strain rate, in./min.	0.83
	Back Pressure, psi	0.00
	Cell Pressure, psi	2.64
	Fail. Stress, psf	608
	Ult. Stress, psf	608
	σ_1 Failure, psf	988
	σ_3 Failure, psf	380

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Soft Gray Lean Clay (CL)
with Fine Sand Pockets

LL= 42 **PL=** 22 **PI=** 20
Specific Gravity= 2.65
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-11 **Depth:** 6-8
Sample Number: 4
Proj. No.: 1706-G038 **Date Sampled:** 07/14/2017

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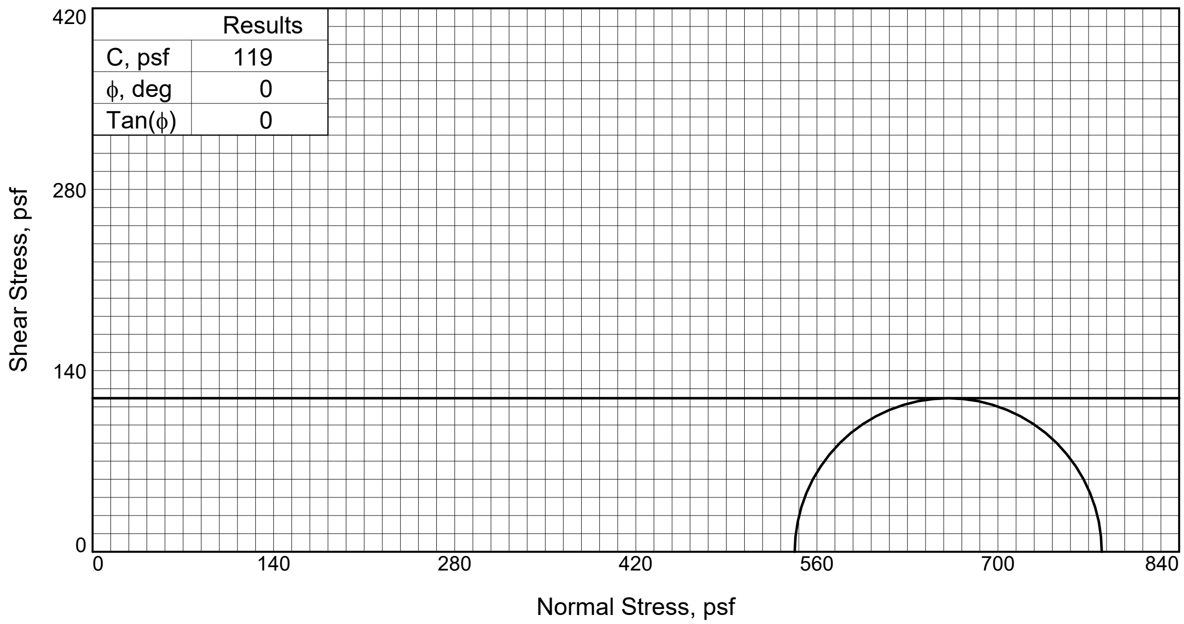
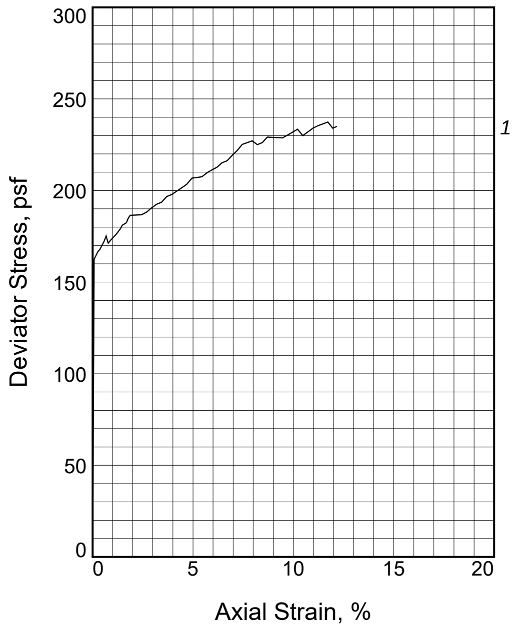


	Results
C, psf	119
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	61.9
	Dry Density, pcf	65.8
	Saturation, %	108.3
	Void Ratio	1.5161
	Diameter, in.	2.70
	Height, in.	5.91
At Test	Water Content, %	61.9
	Dry Density, pcf	65.8
	Saturation, %	108.3
	Void Ratio	1.5161
	Diameter, in.	2.70
	Height, in.	5.91
Strain rate, in./min.		0.81
Back Pressure, psi		0.00
Cell Pressure, psi		3.77
Fail. Stress, psf		237
Ult. Stress, psf		237
σ_1 Failure, psf		780
σ_3 Failure, psf		543

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Very Soft Gray Fat Clay (CH)

LL= 65 **PL=** 18 **PI=** 47
Specific Gravity= 2.65
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-11 **Depth:** 10-12
Sample Number: 6
Proj. No.: 1706-G038 **Date Sampled:** 07/14/2017

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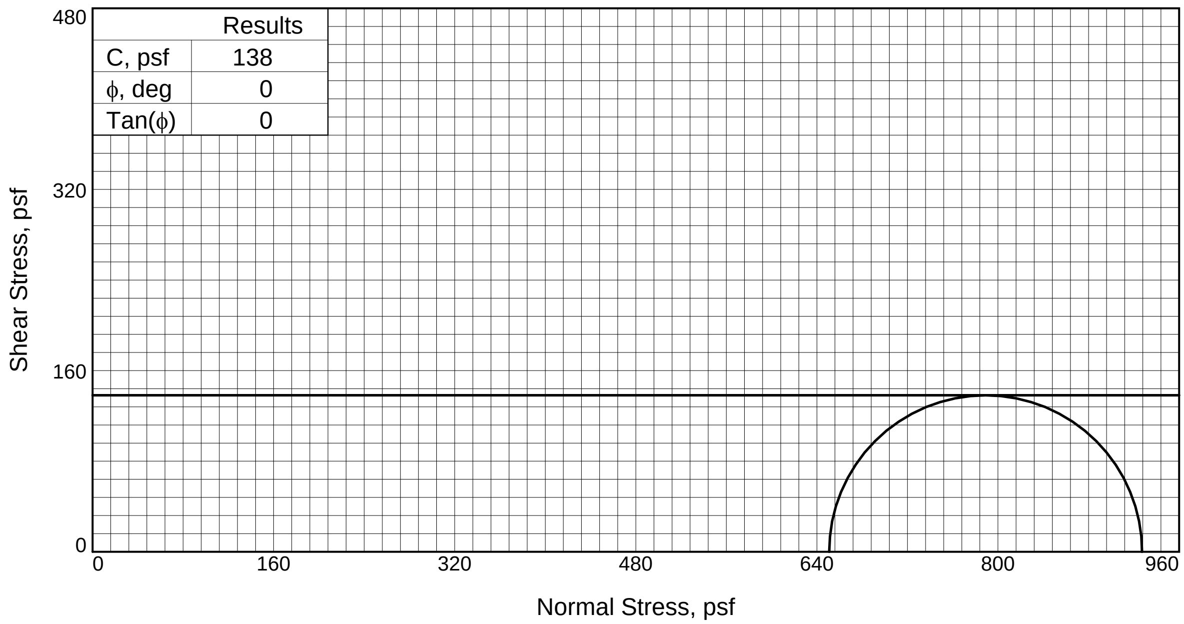
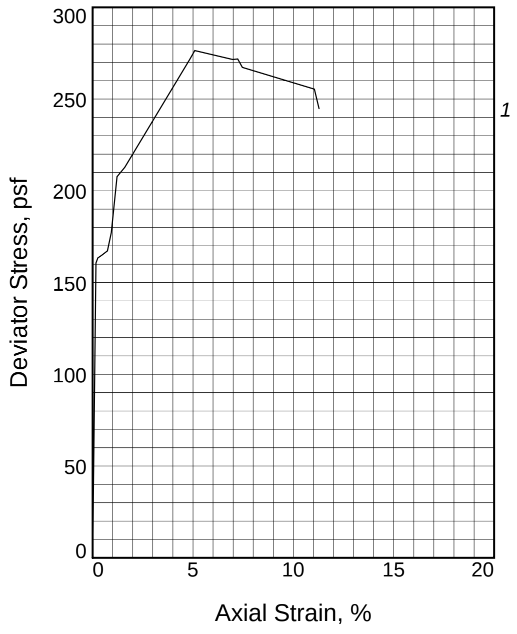


	Results
C, psf	138
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	54.7
	Dry Density, pcf	66.9
	Saturation, %	98.5
	Void Ratio	1.4727
	Diameter, in.	2.74
	Height, in.	6.12
At Test	Water Content, %	54.7
	Dry Density, pcf	66.9
	Saturation, %	98.5
	Void Ratio	1.4727
	Diameter, in.	2.74
	Height, in.	6.12
Strain rate, in./min.		0.80
Back Pressure, psi		0.00
Cell Pressure, psi		4.52
Fail. Stress, psf		276
Ult. Stress, psf		276
σ_1 Failure, psf		927
σ_3 Failure, psf		651

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Very Soft Gray Fat Clay (CH)

Specific Gravity= 2.65
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-11 **Depth:** 12-14
Sample Number: 7
Proj. No.: 1706-G038 **Date Sampled:** 07/14/2017

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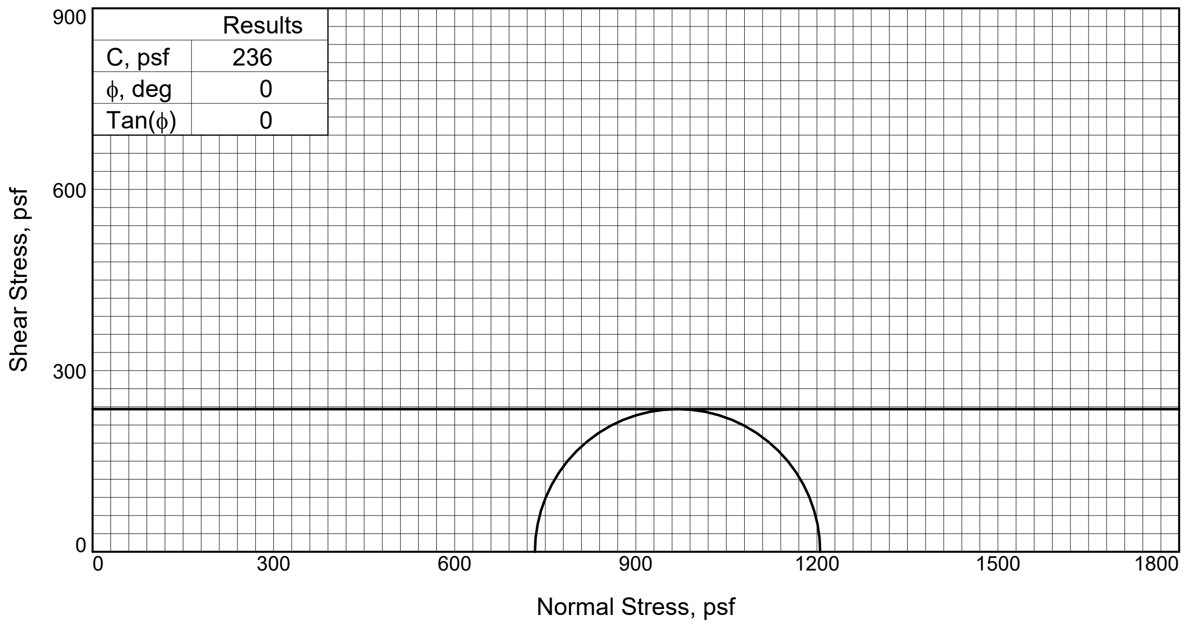
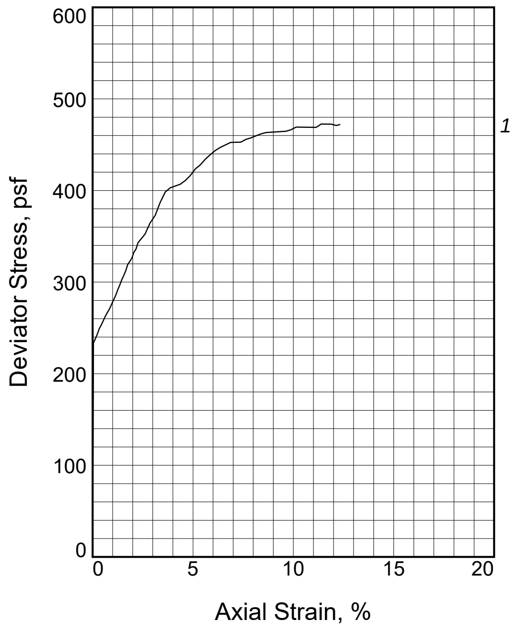


	Results
C, psf	236
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	36.5
	Dry Density, pcf	88.2
	Saturation, %	110.4
	Void Ratio	0.8748
	Diameter, in.	2.68
	Height, in.	5.89
At Test	Water Content, %	36.5
	Dry Density, pcf	88.2
	Saturation, %	110.4
	Void Ratio	0.8748
	Diameter, in.	2.68
	Height, in.	5.89
Strain rate, in./min.		0.82
Back Pressure, psi		0.00
Cell Pressure, psi		5.09
Fail. Stress, psf		473
Ult. Stress, psf		473
σ_1 Failure, psf		1206
σ_3 Failure, psf		733

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Very Soft Gray Fat Clay (CH)

Specific Gravity= 2.65
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-11 **Depth:** 14-16
Sample Number: 8
Proj. No.: 1706-G038 **Date Sampled:** 07/14/2017

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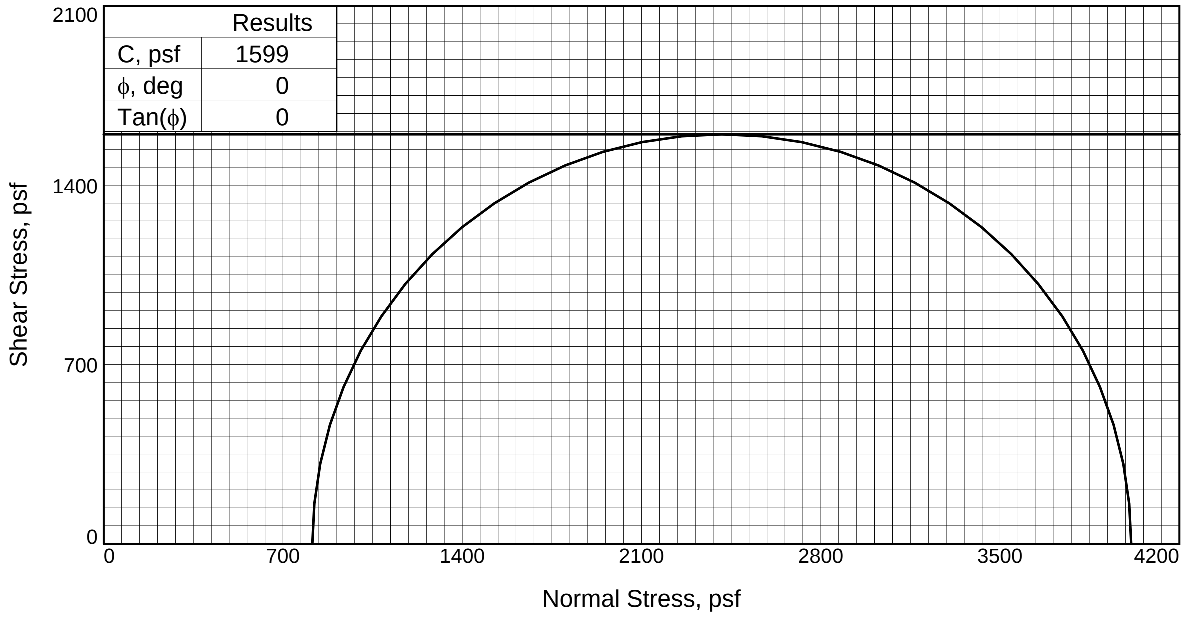
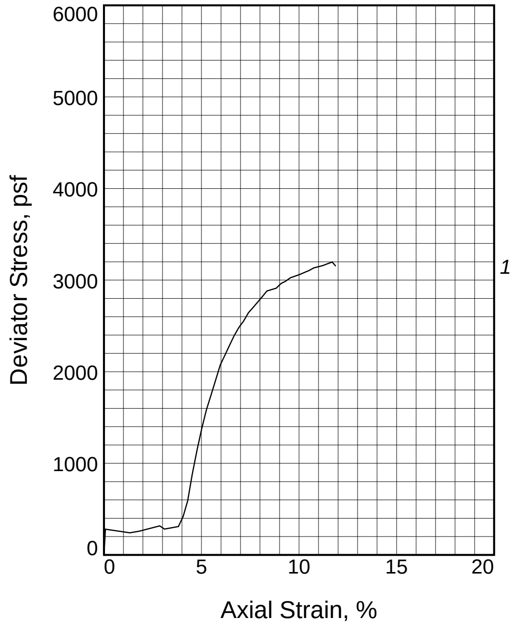


	Results
C, psf	1599
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	31.0
	Dry Density, pcf	90.7
	Saturation, %	99.7
	Void Ratio	0.8240
	Diameter, in.	2.84
	Height, in.	6.09
At Test	Water Content, %	31.0
	Dry Density, pcf	90.7
	Saturation, %	99.7
	Void Ratio	0.8240
	Diameter, in.	2.84
	Height, in.	6.09
Strain rate, in./min.		1.01
Back Pressure, psi		0.00
Cell Pressure, psi		5.66
Fail. Stress, psf		3197
Ult. Stress, psf		3197
σ_1 Failure, psf		4012
σ_3 Failure, psf		815

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Stiff Tan & Gray Fat Clay (CH)

LL= 58 **PL=** 21 **PI=** 37
Specific Gravity= 2.65
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-11 **Depth:** 16-18
Sample Number: 9
Proj. No.: 1706-G038 **Date Sampled:** 07/14/2017

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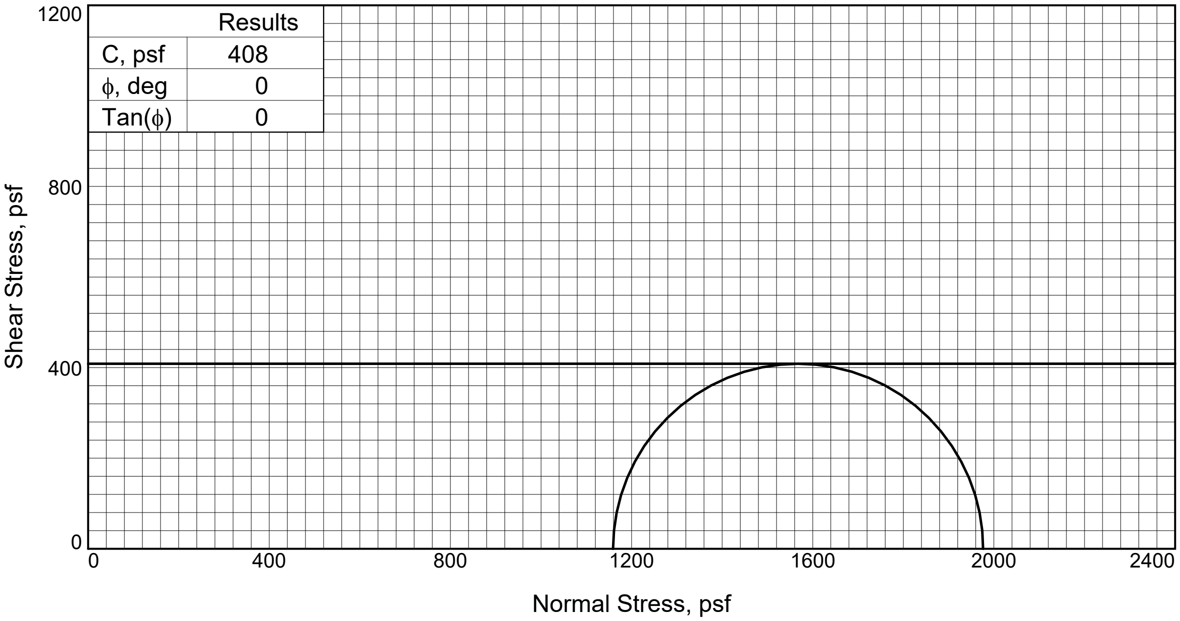
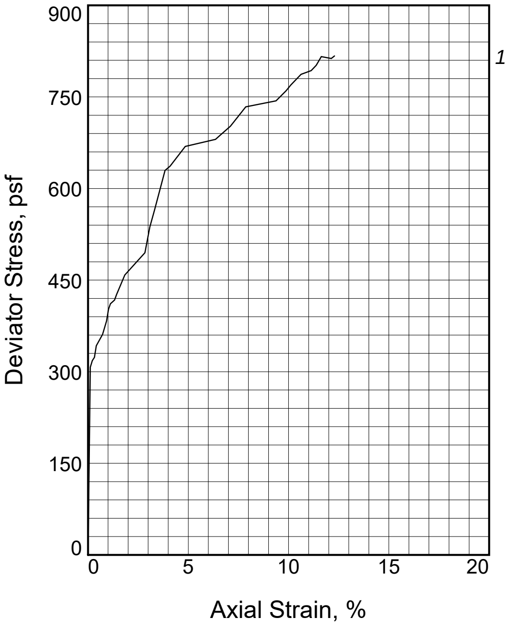


Results	
C, psf	408
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	31.5
	Dry Density, pcf	90.4
	Saturation, %	100.6
	Void Ratio	0.8301
	Diameter, in.	2.80
	Height, in.	5.72
At Test	Water Content, %	31.5
	Dry Density, pcf	90.4
	Saturation, %	100.6
	Void Ratio	0.8301
	Diameter, in.	2.80
	Height, in.	5.72
Strain rate, in./min.		0.82
Back Pressure, psi		0.00
Cell Pressure, psi		8.05
Fail. Stress, psf		817
Ult. Stress, psf		817
σ_1 Failure, psf		1976
σ_3 Failure, psf		1159

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Soft Tan & Gray Fat Clay (CH)

Specific Gravity= 2.65
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-11 **Depth:** 23-25
Sample Number: 11
Proj. No.: 1706-G038 **Date Sampled:** 07/14/2017

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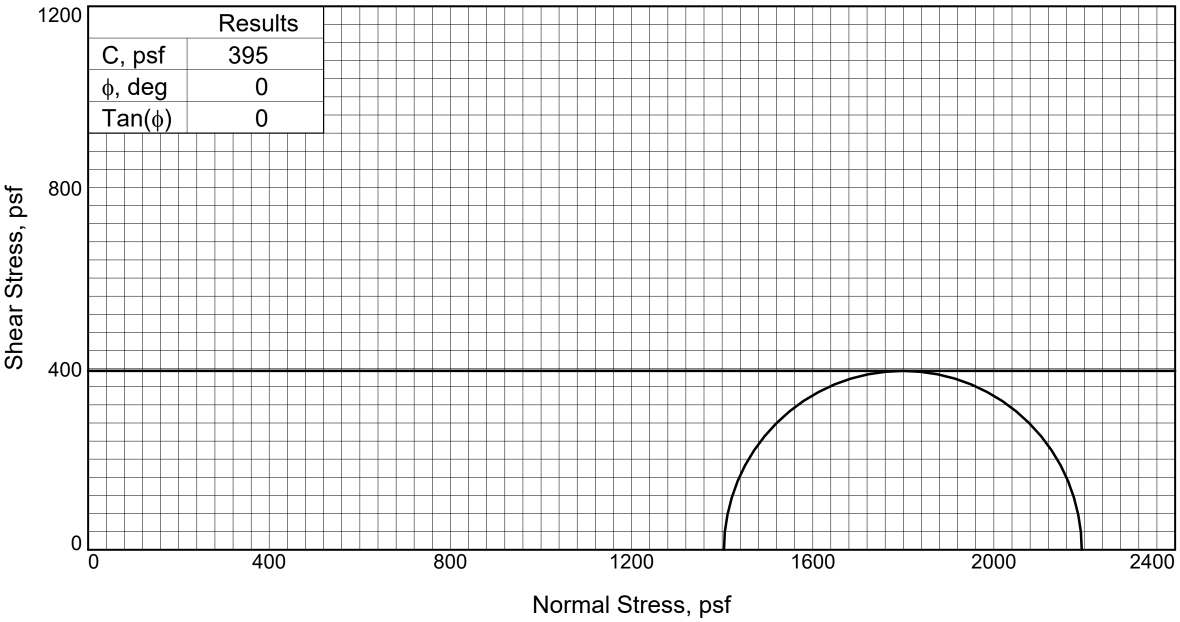
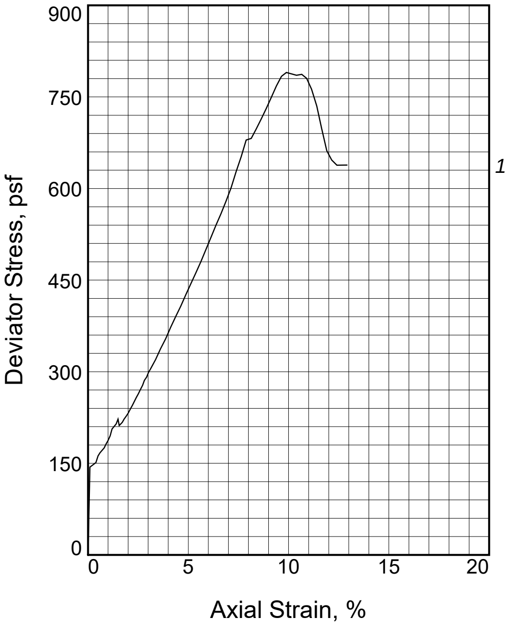


	Results
C, psf	395
ϕ, deg	0
Tan(ϕ)	0



	Sample No.	1
Initial	Water Content, %	32.6
	Dry Density, pcf	81.7
	Saturation, %	84.2
	Void Ratio	1.0259
	Diameter, in.	3.05
	Height, in.	6.16
At Test	Water Content, %	32.6
	Dry Density, pcf	81.7
	Saturation, %	84.2
	Void Ratio	1.0259
	Diameter, in.	3.05
	Height, in.	6.16
	Strain rate, in./min.	0.87
	Back Pressure, psi	0.00
	Cell Pressure, psi	9.75
	Fail. Stress, psf	790
	Ult. Stress, psf	790
	σ_1 Failure, psf	2194
	σ_3 Failure, psf	1404

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Soft Tan & Gray Lean Clay (CL) with Fine Sand Lenses

LL= 33 **PL=** 24 **PI=** 9

Specific Gravity= 2.65

Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-11 **Depth:** 28-30

Sample Number: 12

Proj. No.: 1706-G038 **Date Sampled:** 07/14/2017

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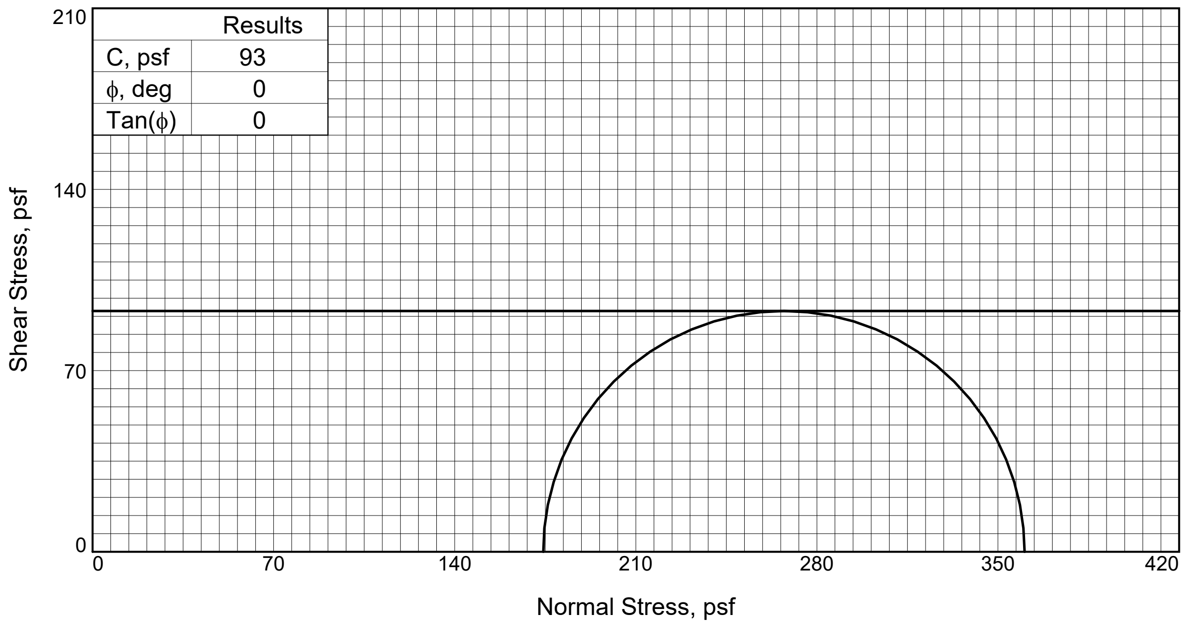
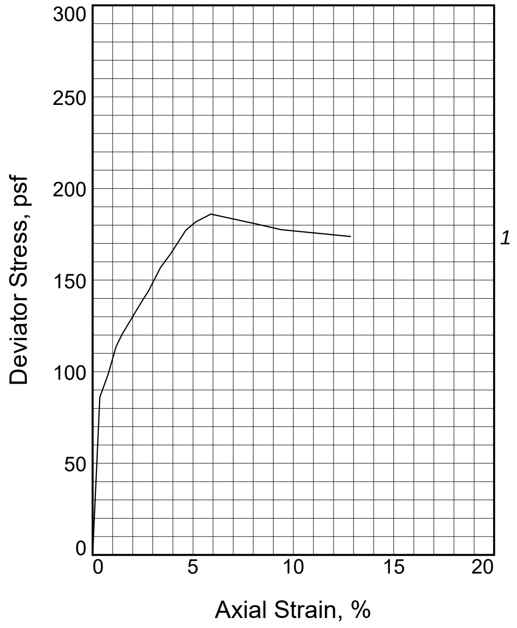


	Results
C, psf	93
ϕ, deg	0
Tan(ϕ)	0



	Sample No.	1
Initial	Water Content, %	157.7
	Dry Density, pcf	32.2
	Saturation, %	101.3
	Void Ratio	4.0648
	Diameter, in.	2.83
	Height, in.	5.91
At Test	Water Content, %	157.7
	Dry Density, pcf	32.2
	Saturation, %	101.3
	Void Ratio	4.0648
	Diameter, in.	2.83
	Height, in.	5.91
	Strain rate, in./min.	1.00
	Back Pressure, psi	0.00
	Cell Pressure, psi	1.21
	Fail. Stress, psf	186
	Ult. Stress, psf	186
	σ_1 Failure, psf	360
	σ_3 Failure, psf	174

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Very Soft Gray Organic Clay (OH)

LL= 143 **PL=** 30 **PI=** 113
Specific Gravity= 2.61
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-17 **Depth:** 2-4
Sample Number: 2
Proj. No.: 1706-G038 **Date Sampled:** 07/14/2017

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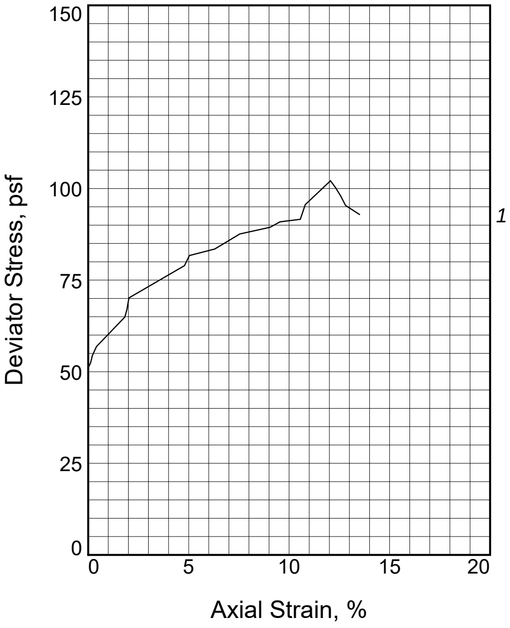
	Results
C, psf	51
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	99.6
	Dry Density, pcf	46.1
	Saturation, %	102.4
	Void Ratio	2.5377
	Diameter, in.	2.79
	Height, in.	6.40
At Test	Water Content, %	99.6
	Dry Density, pcf	46.1
	Saturation, %	102.4
	Void Ratio	2.5377
	Diameter, in.	2.79
	Height, in.	6.40
Strain rate, in./min.		0.90
Back Pressure, psi		0.00
Cell Pressure, psi		1.76
Fail. Stress, psf		102
Ult. Stress, psf		102
σ_1 Failure, psf		356
σ_3 Failure, psf		253

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Very Soft Gray Fat Clay (CH)

Specific Gravity= 2.61
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-17 **Depth:** 4-6
Sample Number: 3
Proj. No.: 1706-G038 **Date Sampled:** 07/14/2017

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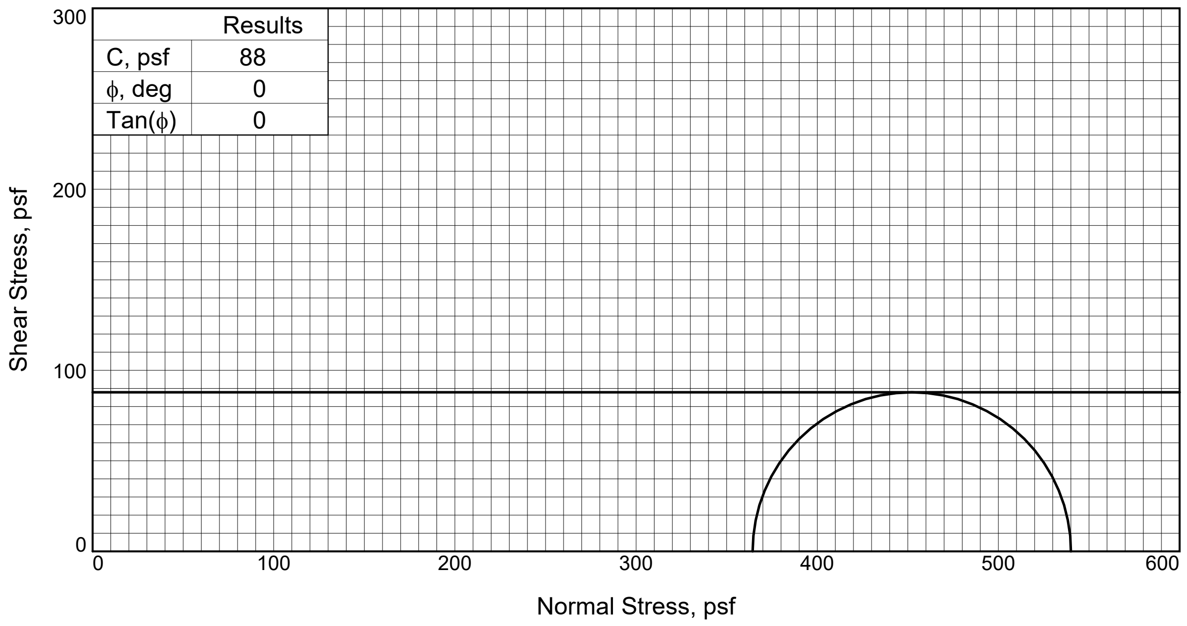
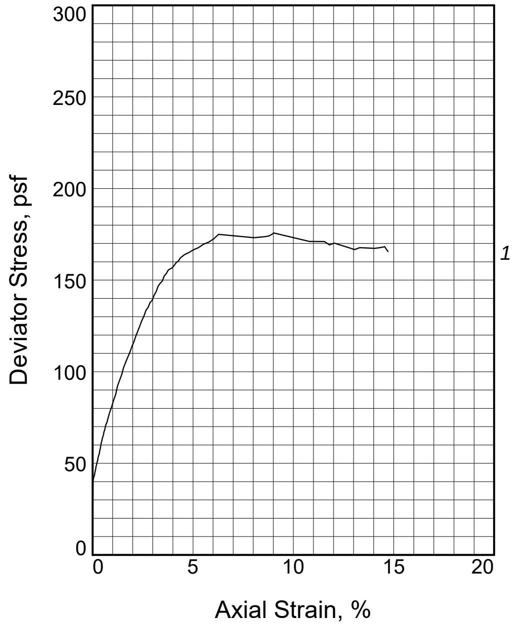


	Results
C, psf	88
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	128.6
	Dry Density, pcf	39.0
	Saturation, %	105.5
	Void Ratio	3.1802
	Diameter, in.	2.78
	Height, in.	6.23
At Test	Water Content, %	128.6
	Dry Density, pcf	39.0
	Saturation, %	105.5
	Void Ratio	3.1802
	Diameter, in.	2.78
	Height, in.	6.23
Strain rate, in./min.		0.98
Back Pressure, psi		0.00
Cell Pressure, psi		2.53
Fail. Stress, psf		176
Ult. Stress, psf		176
σ_1 Failure, psf		540
σ_3 Failure, psf		364

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Very Soft Gray Fat Clay (CH) with Shells

Specific Gravity= 2.61
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-17 **Depth:** 6-8
Sample Number: 4
Proj. No.: 1706-G038 **Date Sampled:** 07/14/2017

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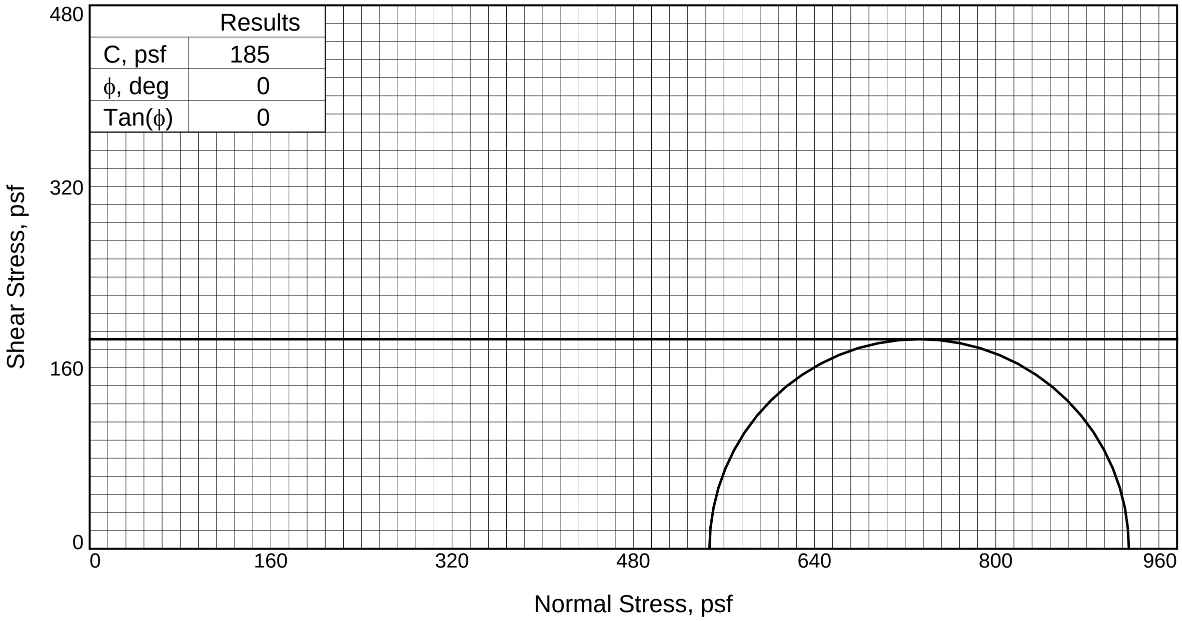
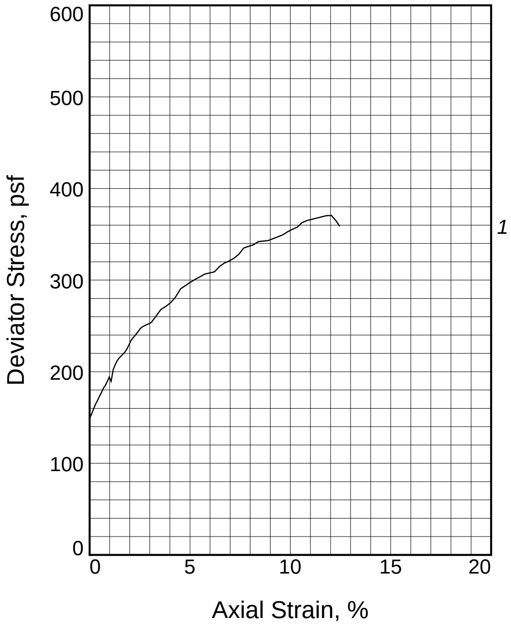


	Results
C, psf	185
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	43.1
	Dry Density, pcf	78.2
	Saturation, %	102.4
	Void Ratio	1.1153
	Diameter, in.	2.69
	Height, in.	5.99
At Test	Water Content, %	43.1
	Dry Density, pcf	78.2
	Saturation, %	102.4
	Void Ratio	1.1153
	Diameter, in.	2.69
	Height, in.	5.99
Strain rate, in./min.		0.86
Back Pressure, psi		0.00
Cell Pressure, psi		3.80
Fail. Stress, psf		370
Ult. Stress, psf		370
σ_1 Failure, psf		917
σ_3 Failure, psf		547

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Very Soft Gray Fat Clay (CH)

Specific Gravity= 2.65
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-17 **Depth:** 10-12
Sample Number: 6
Proj. No.: 1706-G038 **Date Sampled:** 07/14/2017

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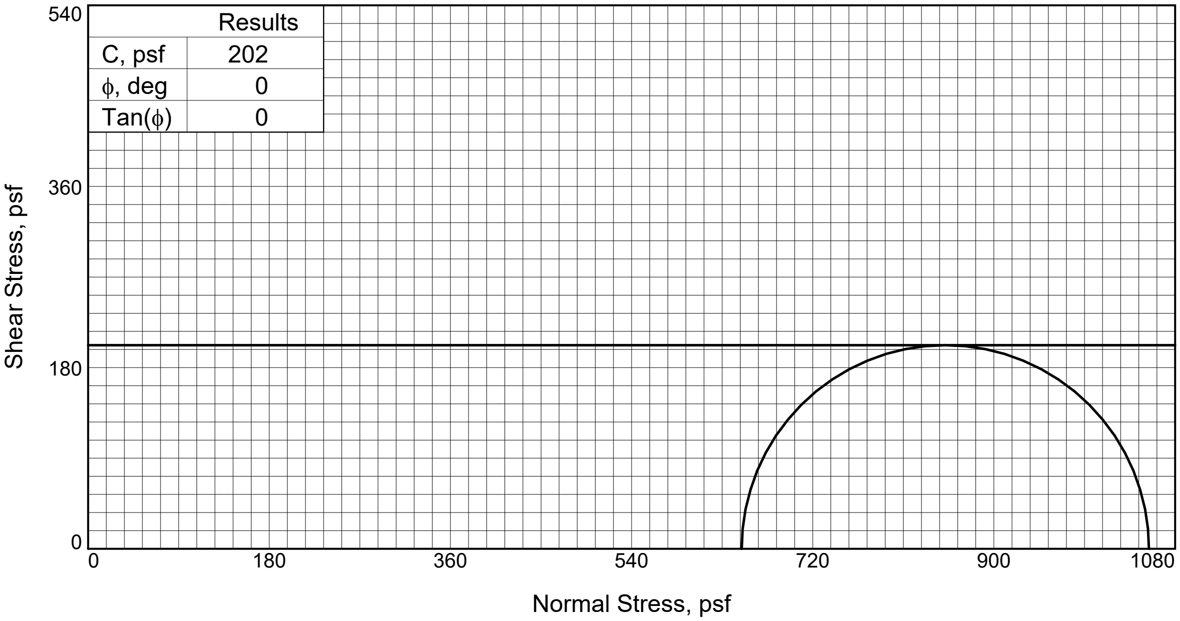
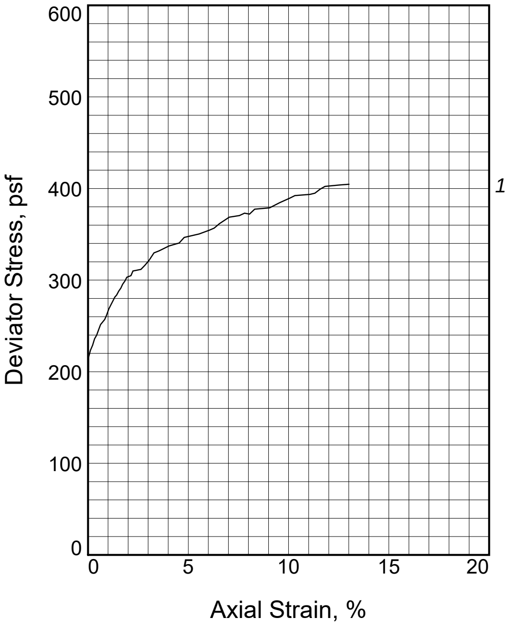


	Results
C, psf	202
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	145.7
	Dry Density, pcf	35.7
	Saturation, %	106.8
	Void Ratio	3.5624
	Diameter, in.	2.76
	Height, in.	6.21
At Test	Water Content, %	145.7
	Dry Density, pcf	35.7
	Saturation, %	106.8
	Void Ratio	3.5624
	Diameter, in.	2.76
	Height, in.	6.21
Strain rate, in./min.		0.87
Back Pressure, psi		0.00
Cell Pressure, psi		4.51
Fail. Stress, psf		405
Ult. Stress, psf		405
σ_1 Failure, psf		1054
σ_3 Failure, psf		649

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Very Soft Gray Fat Clay (CH)

LL= 133 **PL=** 25 **PI=** 108
Specific Gravity= 2.61
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-17 **Depth:** 12-14
Sample Number: 7
Proj. No.: 1706-G038 **Date Sampled:** 07/14/2017

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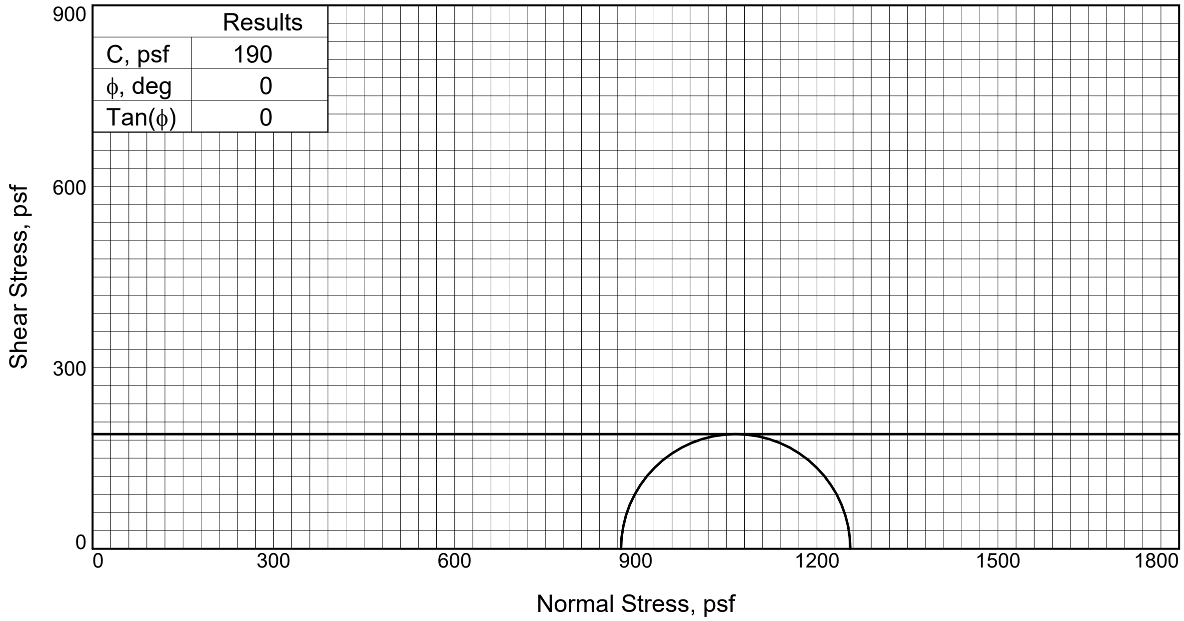
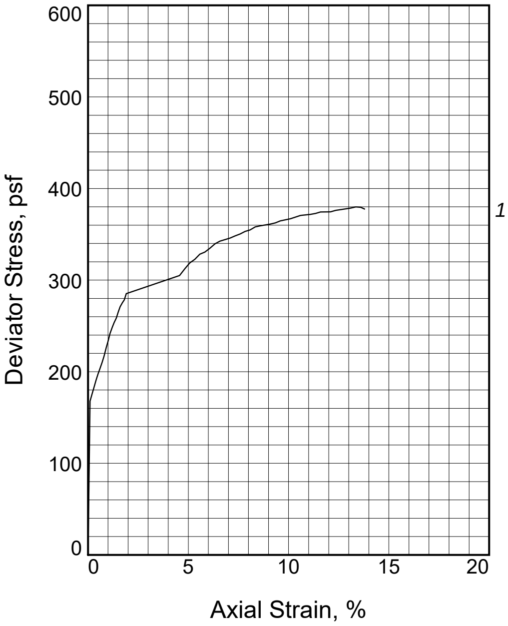


	Results
C, psf	190
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	39.6
	Dry Density, pcf	80.4
	Saturation, %	99.2
	Void Ratio	1.0577
	Diameter, in.	2.75
	Height, in.	6.16
At Test	Water Content, %	39.6
	Dry Density, pcf	80.4
	Saturation, %	99.2
	Void Ratio	1.0577
	Diameter, in.	2.75
	Height, in.	6.16
Strain rate, in./min.		0.92
Back Pressure, psi		0.00
Cell Pressure, psi		6.08
Fail. Stress, psf		380
Ult. Stress, psf		380
σ_1 Failure, psf		1255
σ_3 Failure, psf		876

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Very Soft Gray Fat Clay (CH)

Specific Gravity= 2.65
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-17 **Depth:** 16-18
Sample Number: 9
Proj. No.: 1706-G038 **Date Sampled:** 07/14/20177

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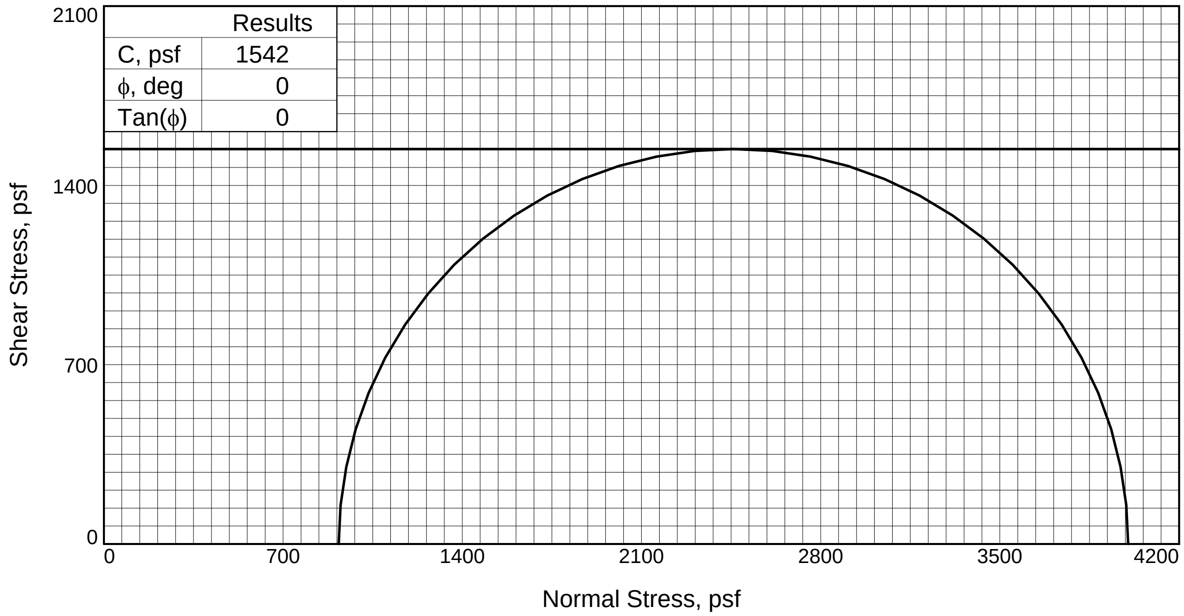
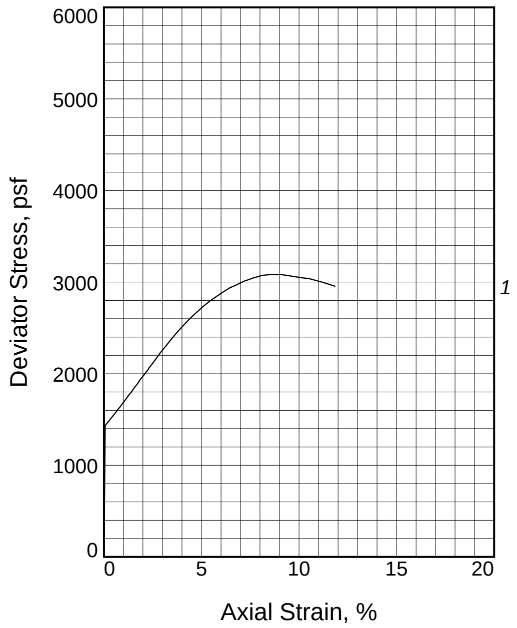


	Results
C, psf	1542
ϕ, deg	0
Tan(ϕ)	0



	Sample No.	1
Initial	Water Content, %	23.9
	Dry Density, pcf	100.3
	Saturation, %	97.7
	Void Ratio	0.6491
	Diameter, in.	2.71
	Height, in.	6.19
At Test	Water Content, %	23.9
	Dry Density, pcf	100.3
	Saturation, %	97.7
	Void Ratio	0.6491
	Diameter, in.	2.71
	Height, in.	6.19
	Strain rate, in./min.	0.83
	Back Pressure, psi	0.00
	Cell Pressure, psi	6.37
	Fail. Stress, psf	3084
	Ult. Stress, psf	3084
	σ_1 Failure, psf	4001
	σ_3 Failure, psf	917

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Stiff Gray Lean Clay (CL) with Fine Sand

LL= 43 **PL=** 15 **PI=** 28
Specific Gravity= 2.65
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-17 **Depth:** 18-20
Sample Number: 10
Proj. No.: 1706-G038 **Date Sampled:** 07/14/2017

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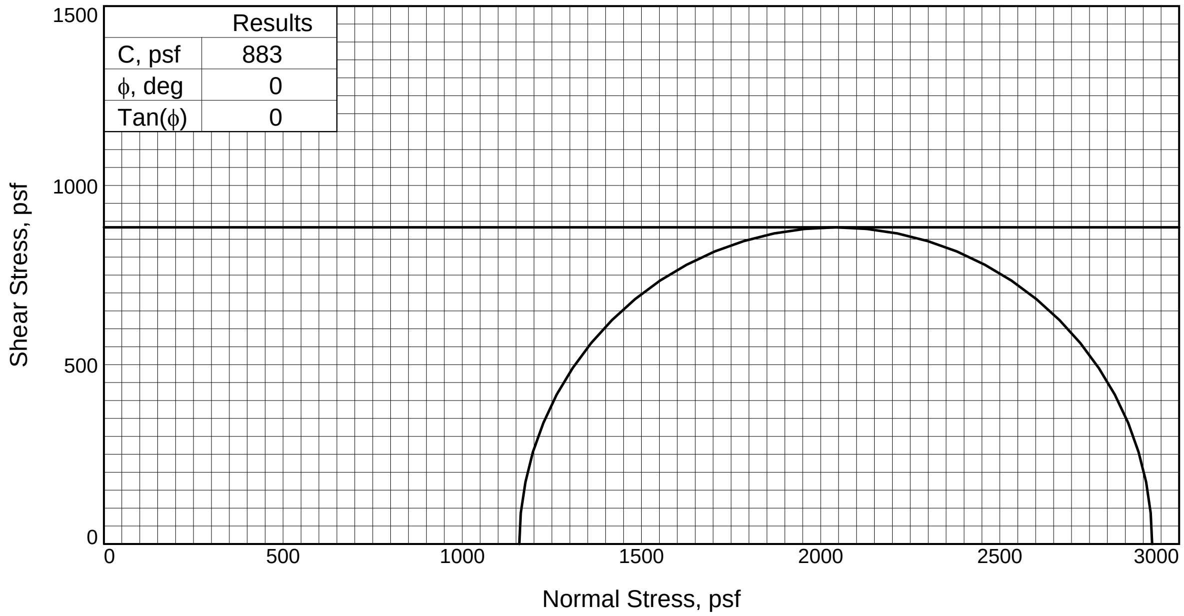
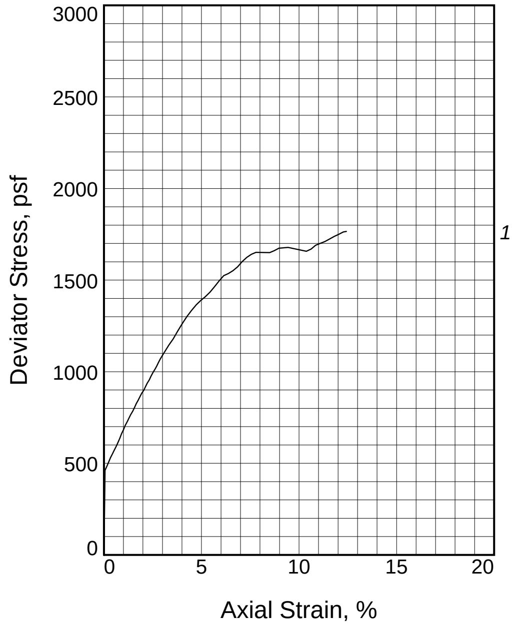


	Results
C, psf	883
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	47.3
	Dry Density, pcf	72.3
	Saturation, %	97.2
	Void Ratio	1.2882
	Diameter, in.	2.85
	Height, in.	6.23
At Test	Water Content, %	47.3
	Dry Density, pcf	72.3
	Saturation, %	97.2
	Void Ratio	1.2882
	Diameter, in.	2.85
	Height, in.	6.23
Strain rate, in./min.		0.88
Back Pressure, psi		0.00
Cell Pressure, psi		8.05
Fail. Stress, psf		1766
Ult. Stress, psf		1766
σ_1 Failure, psf		2925
σ_3 Failure, psf		1159

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Medium Stiff Gray Fat Clay (CH)

Specific Gravity= 2.65
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-17 **Depth:** 23-25
Sample Number: 11
Proj. No.: 1706-G038 **Date Sampled:** 07/14/2017

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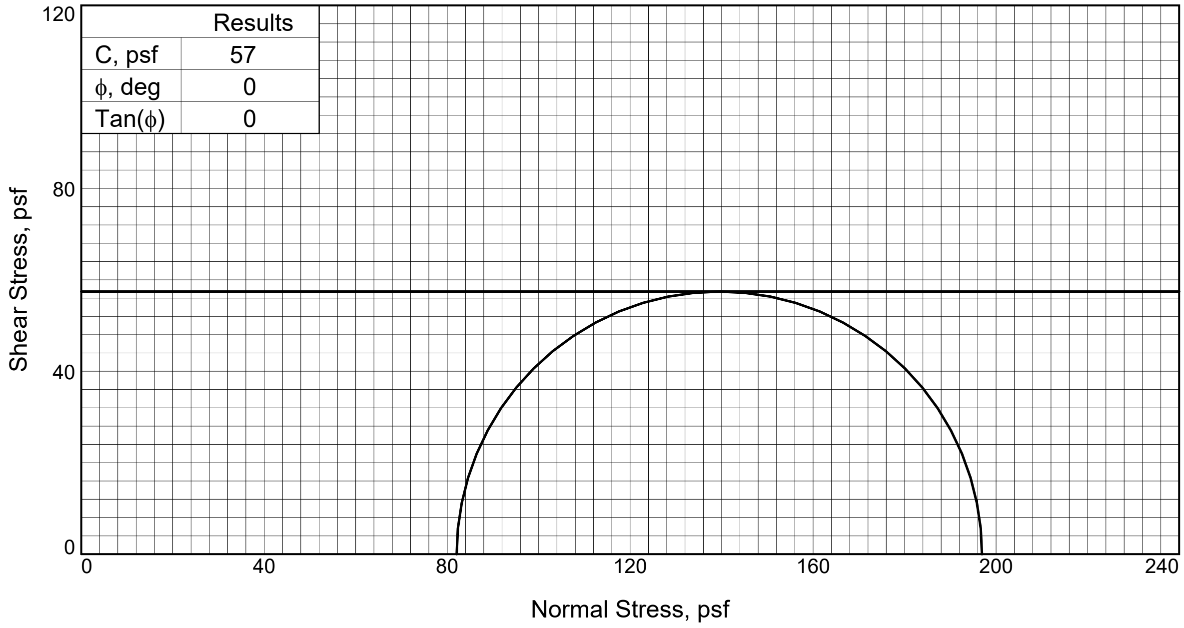
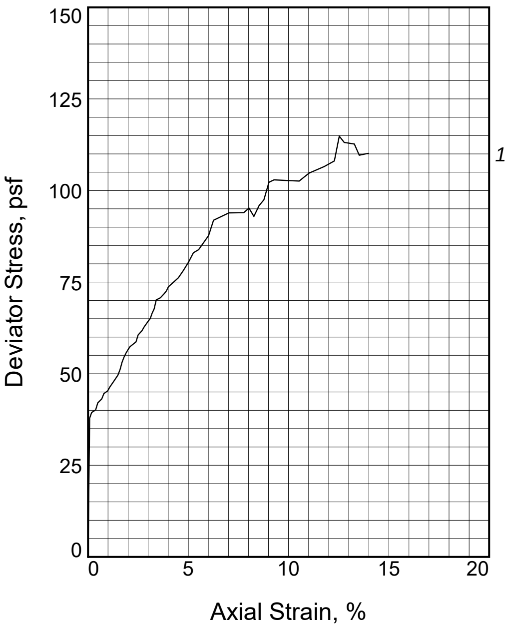


Results	
C, psf	57
ϕ, deg	0
Tan(ϕ)	0



	Sample No.	1
Initial	Water Content, %	225.6
	Dry Density, pcf	22.3
	Saturation, %	96.4
	Void Ratio	5.0773
	Diameter, in.	2.83
	Height, in.	5.68
At Test	Water Content, %	225.6
	Dry Density, pcf	22.3
	Saturation, %	96.4
	Void Ratio	5.0773
	Diameter, in.	2.83
	Height, in.	5.68
	Strain rate, in./min.	0.93
	Back Pressure, psi	0.00
	Cell Pressure, psi	0.57
	Fail. Stress, psf	115
	Ult. Stress, psf	115
	σ_1 Failure, psf	197
	σ_3 Failure, psf	82

Type of Test: Unconsolidated Undrained

Sample Type: ST

Description: Very Soft Black Organic Clay (OH)

LL= 299 **PL=** 62 **PI=** 237

Specific Gravity= 2.17

Remarks: @ 0'-2': Percent Organics = 35.80%
Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-18 **Depth:** 0-2

Sample Number: 1

Proj. No.: 1706-G038 **Date Sampled:** 07/17/2017

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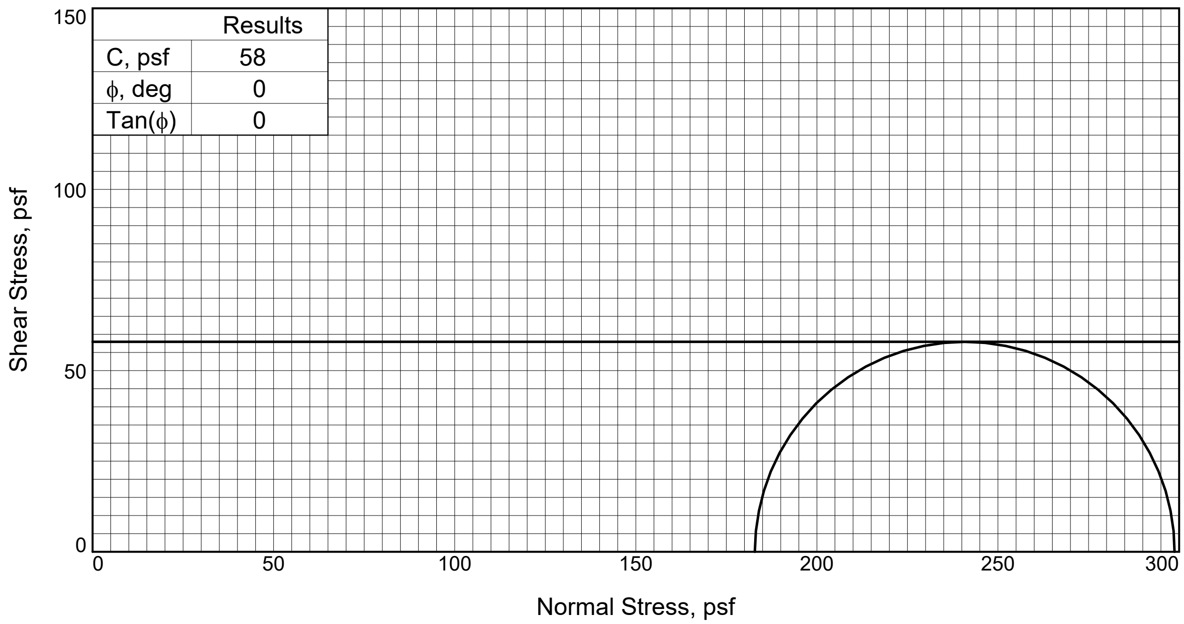
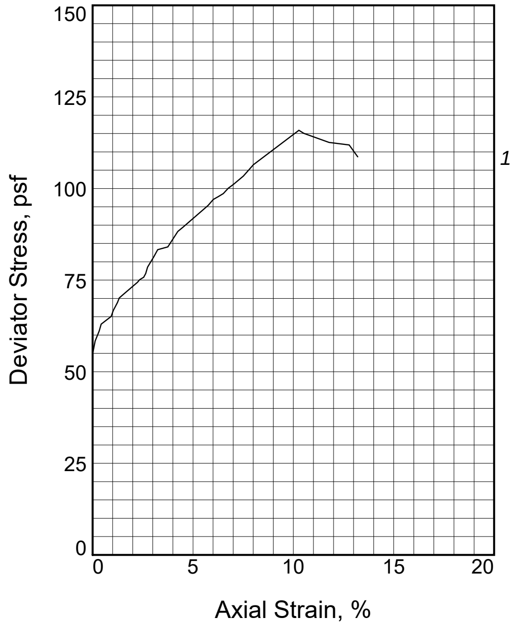


	Results
C, psf	58
ϕ, deg	0
Tan(ϕ)	0



	Sample No.	1
Initial	Water Content, %	136.3
	Dry Density, pcf	37.6
	Saturation, %	106.5
	Void Ratio	3.3386
	Diameter, in.	2.83
	Height, in.	5.84
At Test	Water Content, %	136.3
	Dry Density, pcf	37.6
	Saturation, %	106.5
	Void Ratio	3.3386
	Diameter, in.	2.83
	Height, in.	5.84
	Strain rate, in./min.	0.88
	Back Pressure, psi	0.00
	Cell Pressure, psi	1.27
	Fail. Stress, psf	116
	Ult. Stress, psf	116
	σ_1 Failure, psf	299
	σ_3 Failure, psf	183

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Very Soft Black & Gray Clay with Organics

Specific Gravity= 2.61
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-18 **Depth:** 2-4
Sample Number: 2
Proj. No.: 1706-G038 **Date Sampled:** 07/17/2017

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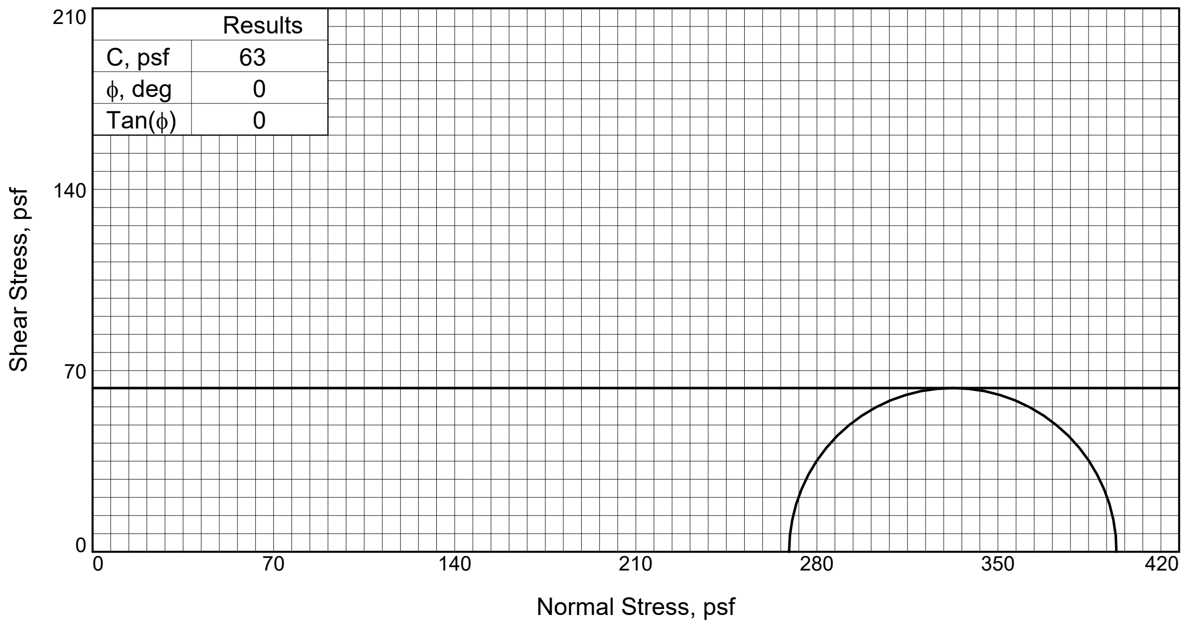
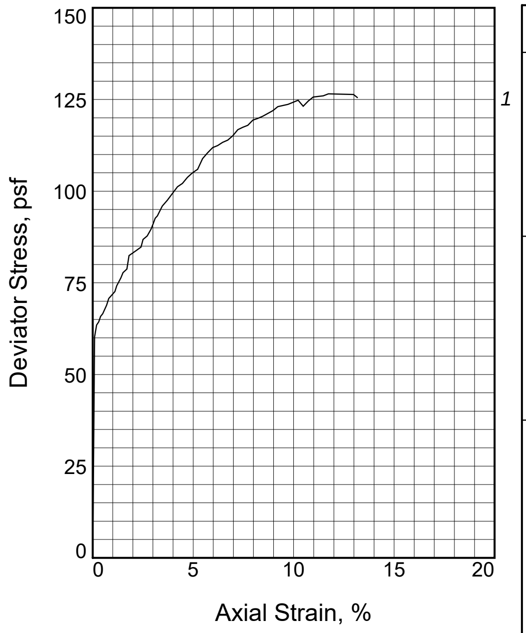


Results	
C, psf	63
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	134.1
	Dry Density, pcf	31.1
	Saturation, %	82.6
	Void Ratio	4.2397
	Diameter, in.	2.83
	Height, in.	5.62
At Test	Water Content, %	134.1
	Dry Density, pcf	31.1
	Saturation, %	82.6
	Void Ratio	4.2397
	Diameter, in.	2.83
	Height, in.	5.62
Strain rate, in./min.		0.88
Back Pressure, psi		0.00
Cell Pressure, psi		1.87
Fail. Stress, psf		127
Ult. Stress, psf		127
σ_1 Failure, psf		396
σ_3 Failure, psf		269

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Very Soft Gray Fat Clay (CH) with Fine Sand at the bottom

LL= 96 **PL=** 35 **PI=** 61
Specific Gravity= 2.61
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-18 **Depth:** 4-6
Sample Number: 3
Proj. No.: 1706-G038 **Date Sampled:** 07/17/2017

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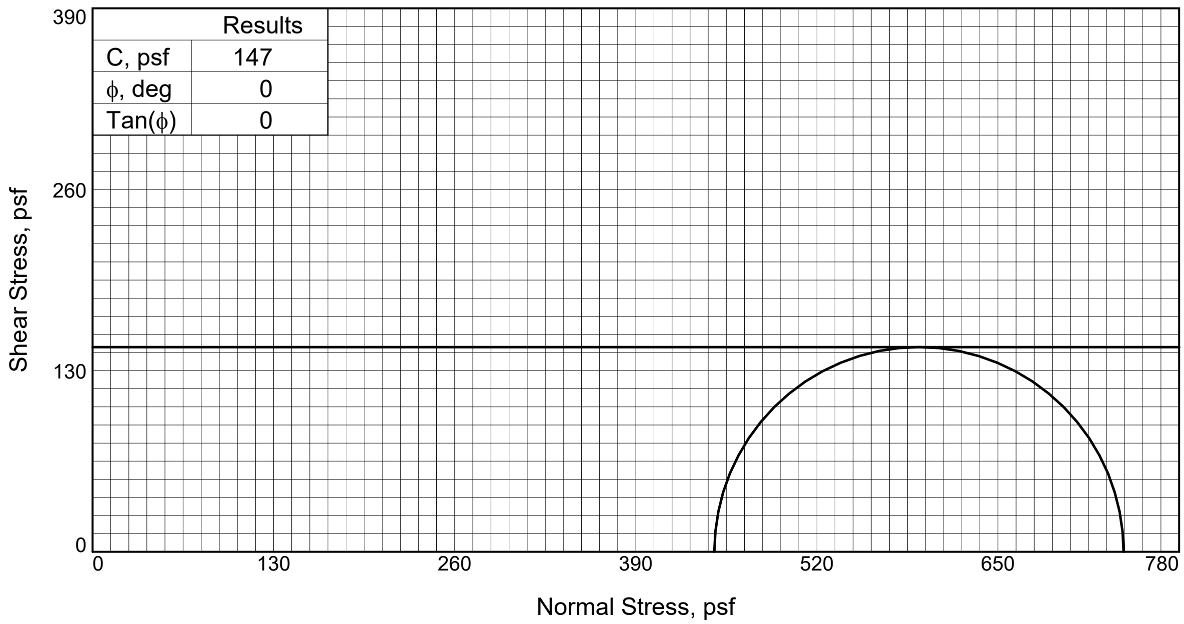
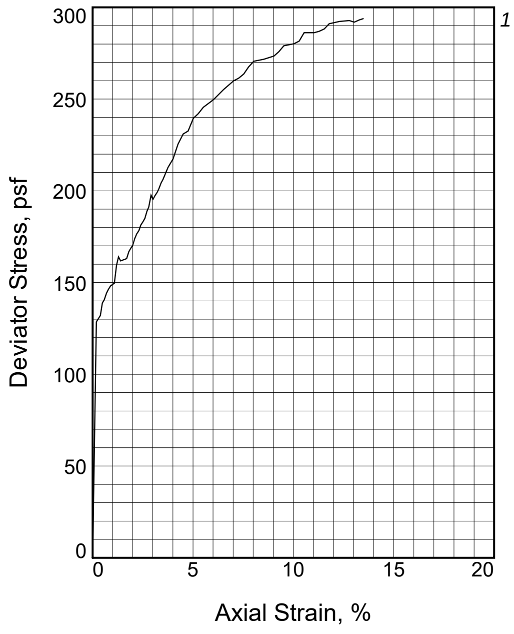


	Results
C, psf	147
ϕ, deg	0
Tan(ϕ)	0



	Sample No.	1
Initial	Water Content, %	63.6
	Dry Density, pcf	64.7
	Saturation, %	108.4
	Void Ratio	1.5555
	Diameter, in.	2.72
	Height, in.	5.82
At Test	Water Content, %	63.6
	Dry Density, pcf	64.7
	Saturation, %	108.4
	Void Ratio	1.5555
	Diameter, in.	2.72
	Height, in.	5.82
	Strain rate, in./min.	0.90
	Back Pressure, psi	0.00
	Cell Pressure, psi	3.10
	Fail. Stress, psf	294
	Ult. Stress, psf	294
	σ_1 Failure, psf	740
	σ_3 Failure, psf	446

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Very Soft Gray Lean Clay (CL) with Shells
LL= 44 **PL=** 22 **PI=** 22
Specific Gravity= 2.65
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-18 **Depth:** 8-10
Sample Number: 5
Proj. No.: 1706-G038 **Date Sampled:** 07/17/2017

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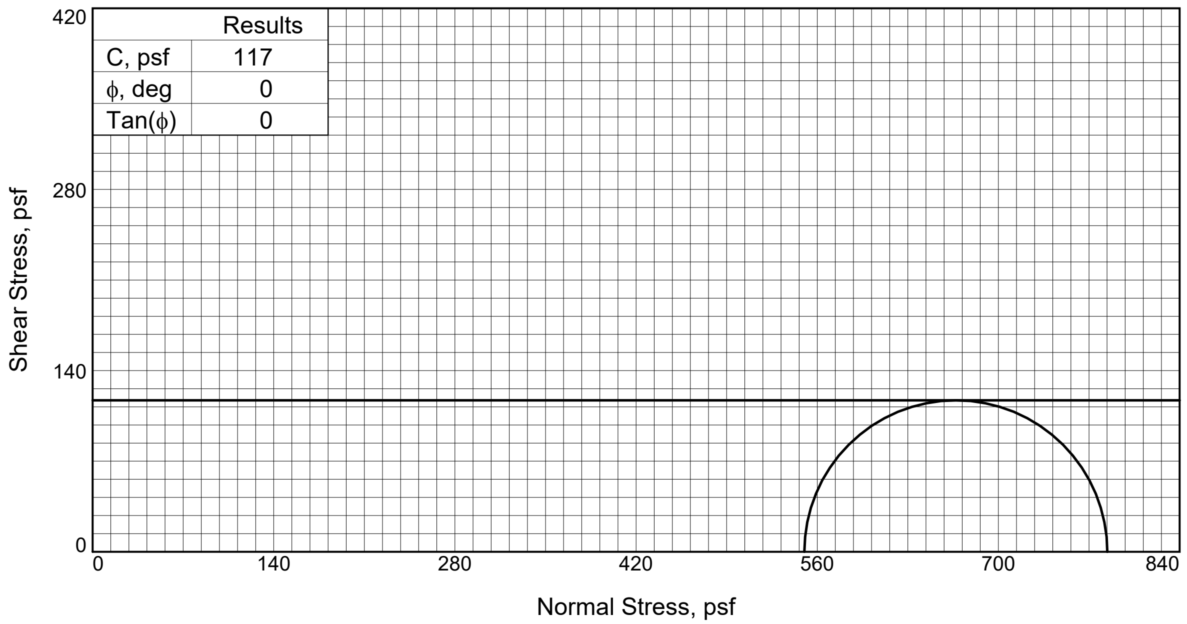
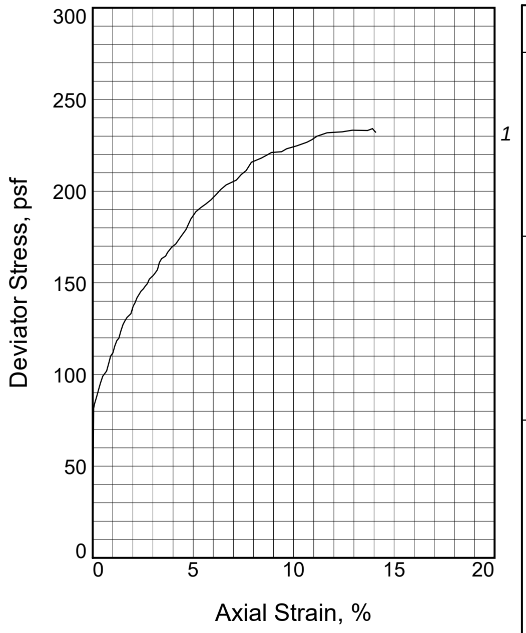


Results	
C, psf	117
ϕ, deg	0
Tan(ϕ)	0



	Sample No.	1
Initial	Water Content, %	64.3
	Dry Density, pcf	62.2
	Saturation, %	102.8
	Void Ratio	1.6577
	Diameter, in.	2.80
	Height, in.	5.95
At Test	Water Content, %	64.3
	Dry Density, pcf	62.2
	Saturation, %	102.8
	Void Ratio	1.6577
	Diameter, in.	2.80
	Height, in.	5.95
	Strain rate, in./min.	0.94
	Back Pressure, psi	0.00
	Cell Pressure, psi	3.82
	Fail. Stress, psf	234
	Ult. Stress, psf	234
	σ_1 Failure, psf	784
	σ_3 Failure, psf	550

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Very Soft Gray Lean Clay (CL) with Fine Sand Pockets

Specific Gravity= 2.65
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-18 **Depth:** 10-12
Sample Number: 6
Proj. No.: 1706-G038 **Date Sampled:** 07/17/2017

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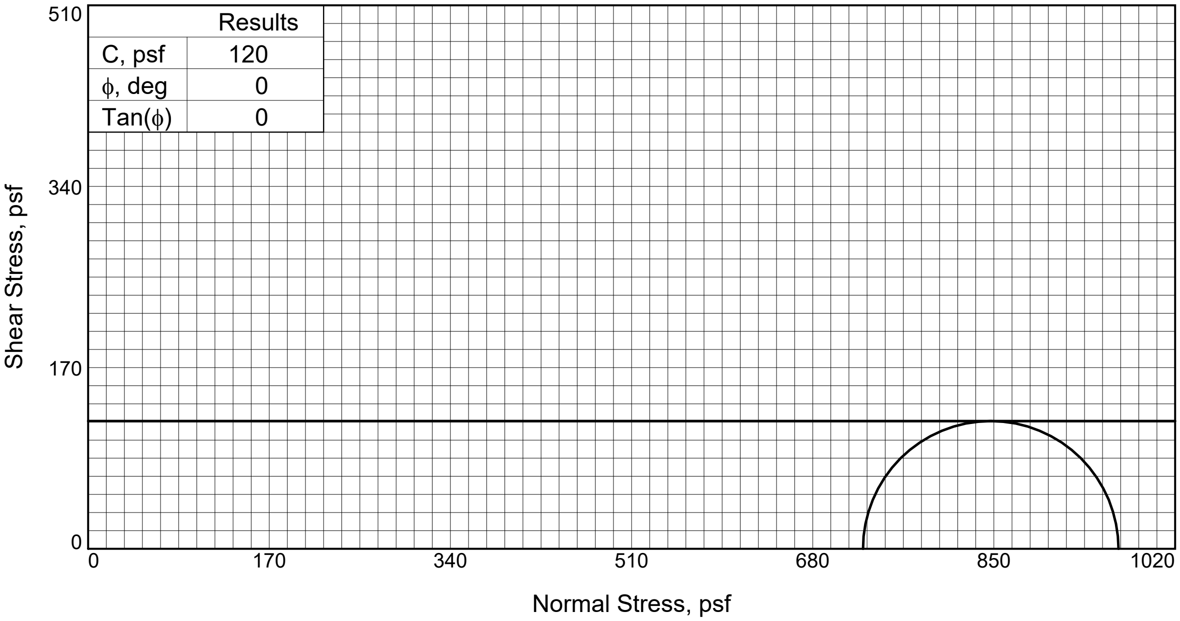
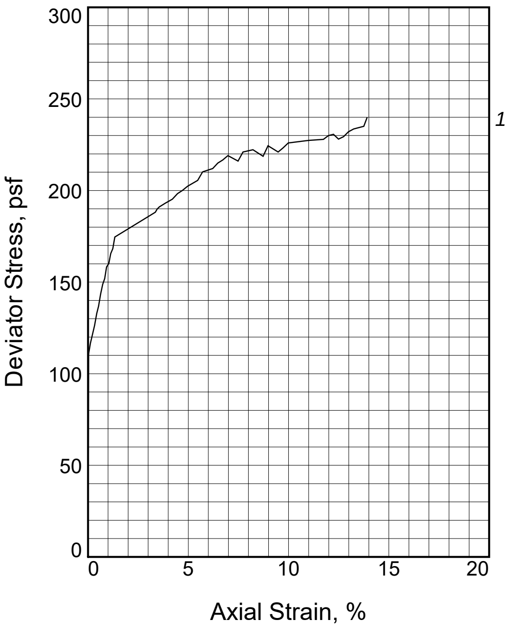


	Results
C, psf	120
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	60.5
	Dry Density, pcf	66.8
	Saturation, %	108.5
	Void Ratio	1.4781
	Diameter, in.	2.78
	Height, in.	6.24
At Test	Water Content, %	60.5
	Dry Density, pcf	66.8
	Saturation, %	108.5
	Void Ratio	1.4781
	Diameter, in.	2.78
	Height, in.	6.24
Strain rate, in./min.		0.93
Back Pressure, psi		0.00
Cell Pressure, psi		5.05
Fail. Stress, psf		240
Ult. Stress, psf		240
σ_1 Failure, psf		967
σ_3 Failure, psf		727

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Very Soft Gray Clay
with Fine Sand

Specific Gravity= 2.65
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-18 **Depth:** 14-16
Sample Number: 8
Proj. No.: 1706-G038 **Date Sampled:** 07/17/2017

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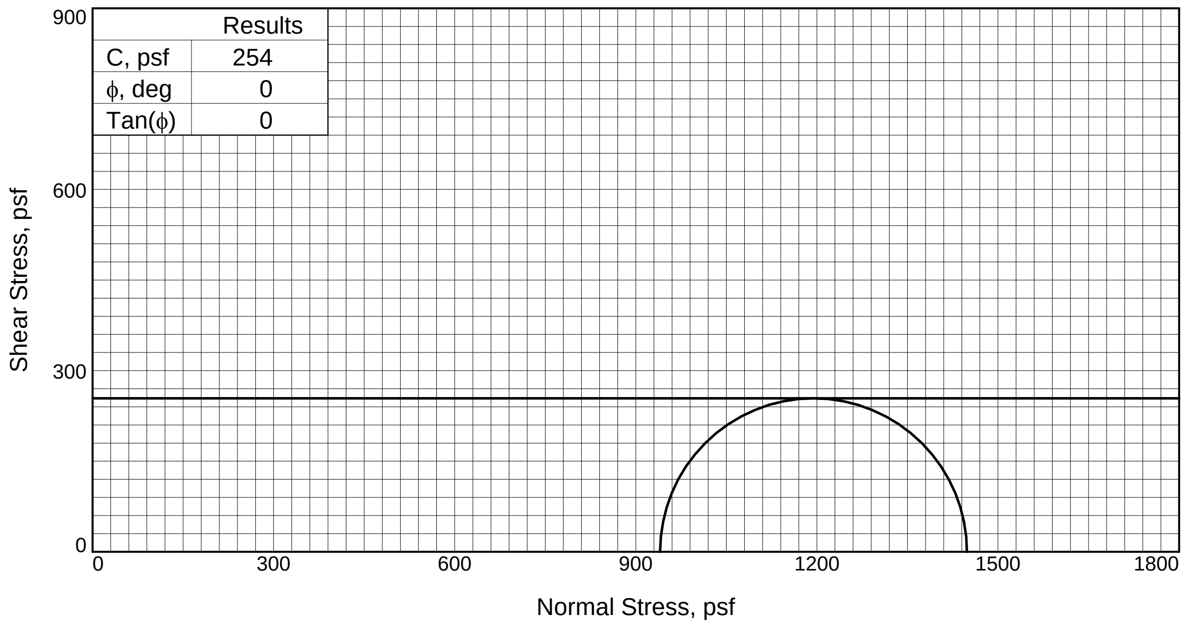
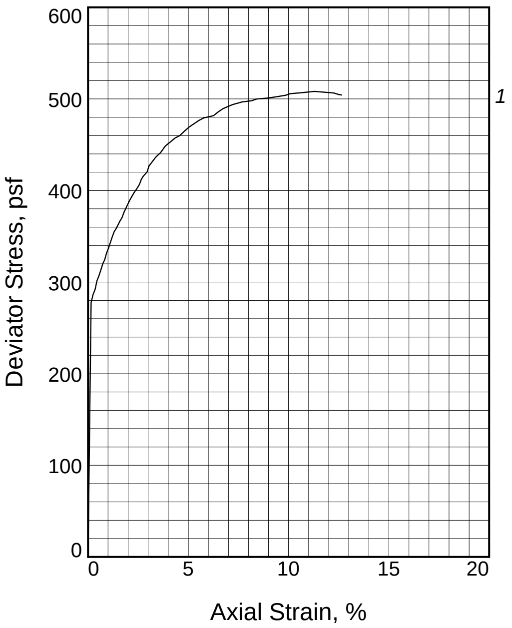


	Results
C, psf	254
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	39.3
	Dry Density, pcf	81.3
	Saturation, %	100.6
	Void Ratio	1.0355
	Diameter, in.	2.81
	Height, in.	6.05
At Test	Water Content, %	39.3
	Dry Density, pcf	81.3
	Saturation, %	100.6
	Void Ratio	1.0355
	Diameter, in.	2.81
	Height, in.	6.05
Strain rate, in./min.		0.88
Back Pressure, psi		0.00
Cell Pressure, psi		6.53
Fail. Stress, psf		508
Ult. Stress, psf		508
σ_1 Failure, psf		1449
σ_3 Failure, psf		940

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Soft Gray Fat Clay (CH)

LL= 55 **PL=** 19 **PI=** 36
Specific Gravity= 2.65
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-18 **Depth:** 18-20
Sample Number: 10
Proj. No.: 1706-G038 **Date Sampled:** 07/17/2017

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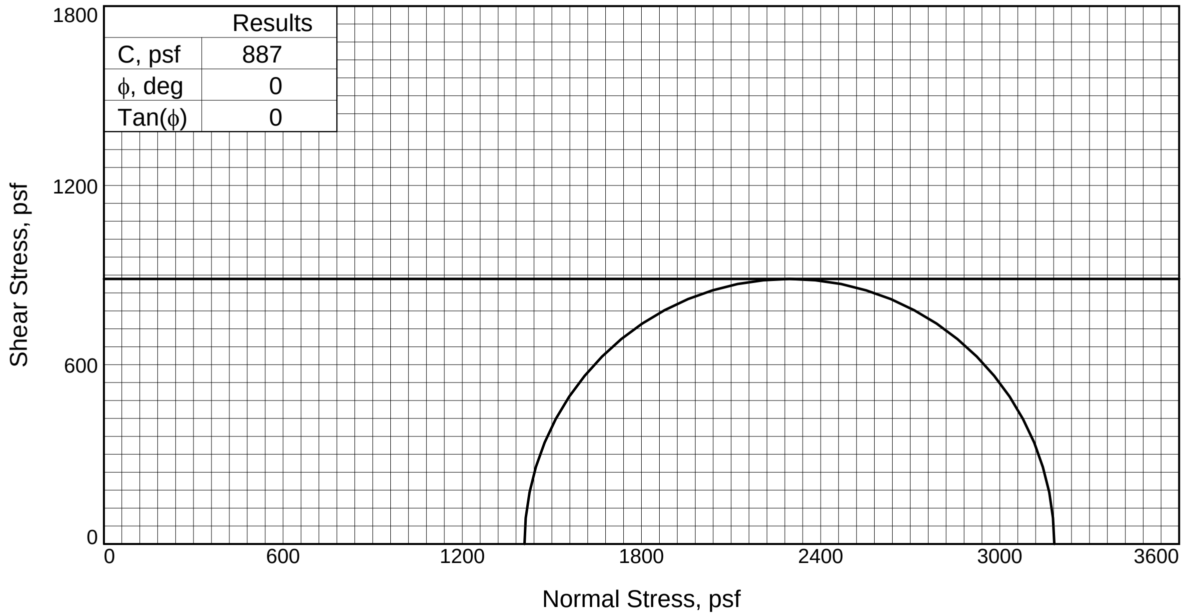
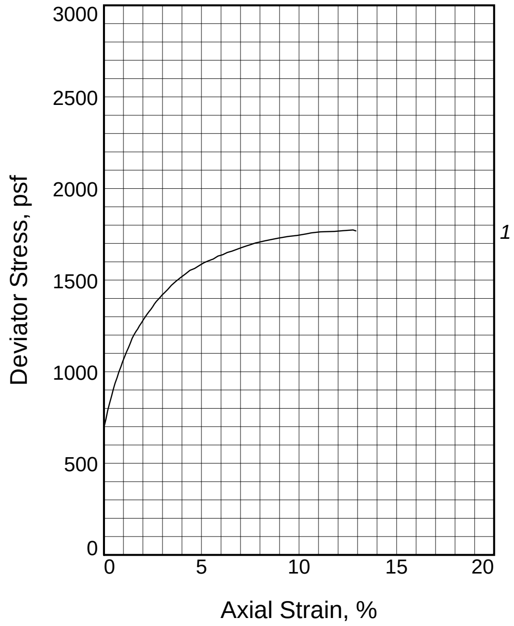


	Results
C, psf	887
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	32.8
	Dry Density, pcf	88.6
	Saturation, %	100.3
	Void Ratio	0.8679
	Diameter, in.	2.79
	Height, in.	6.20
At Test	Water Content, %	32.8
	Dry Density, pcf	88.6
	Saturation, %	100.3
	Void Ratio	0.8679
	Diameter, in.	2.79
	Height, in.	6.20
Strain rate, in./min.		0.90
Back Pressure, psi		0.00
Cell Pressure, psi		9.78
Fail. Stress, psf		1774
Ult. Stress, psf		1774
σ_1 Failure, psf		3182
σ_3 Failure, psf		1408

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Medium Stiff Gray Fat Clay (CH)

LL= 59 **PL=** 18 **PI=** 41
Specific Gravity= 2.65
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-18 **Depth:** 28-30
Sample Number: 12
Proj. No.: 1706-G038 **Date Sampled:** 07/17/2017

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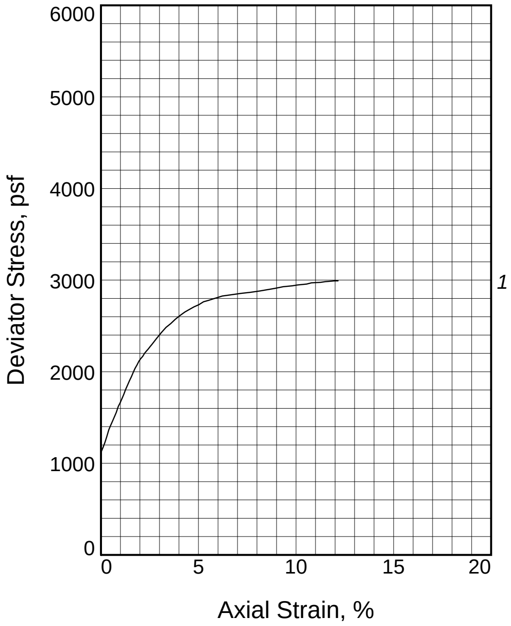
	Results
C, psf	1496
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	27.9
	Dry Density, pcf	95.6
	Saturation, %	101.3
	Void Ratio	0.7297
	Diameter, in.	2.82
	Height, in.	6.11
At Test	Water Content, %	27.9
	Dry Density, pcf	95.6
	Saturation, %	101.3
	Void Ratio	0.7297
	Diameter, in.	2.82
	Height, in.	6.11
Strain rate, in./min.		0.85
Back Pressure, psi		0.00
Cell Pressure, psi		11.44
Fail. Stress, psf		2992
Ult. Stress, psf		2992
σ_1 Failure, psf		4640
σ_3 Failure, psf		1647

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Stiff Gray Fat Clay (CH)

Specific Gravity= 2.65
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-18 **Depth:** 33-35
Sample Number: 13
Proj. No.: 1706-G038 **Date Sampled:** 07/17/2017

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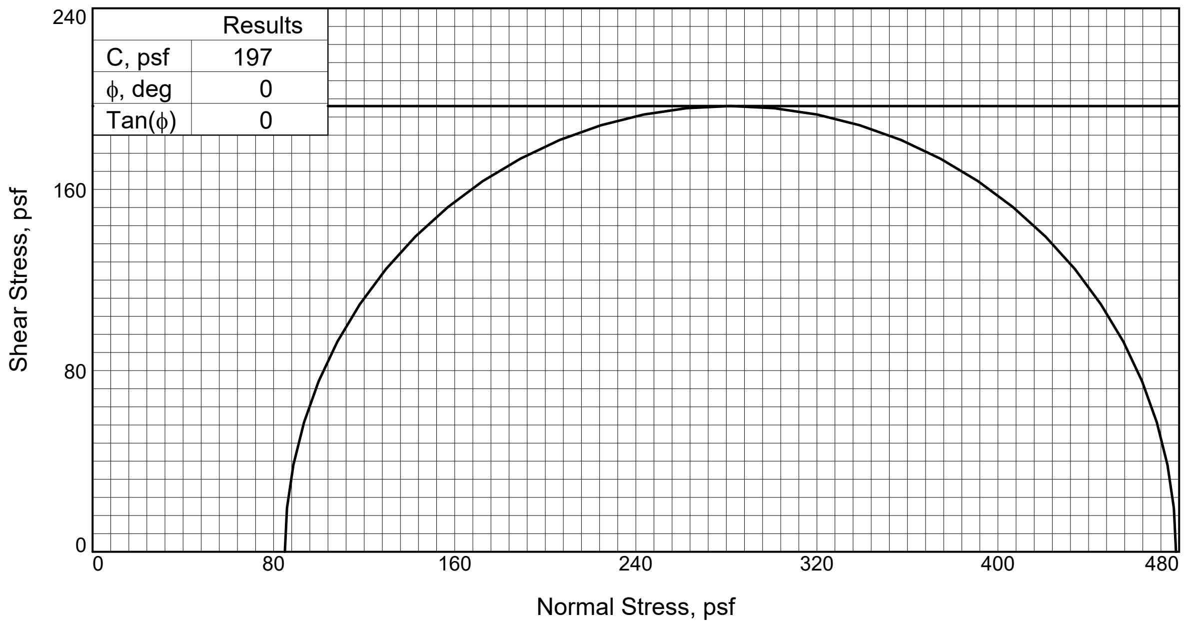
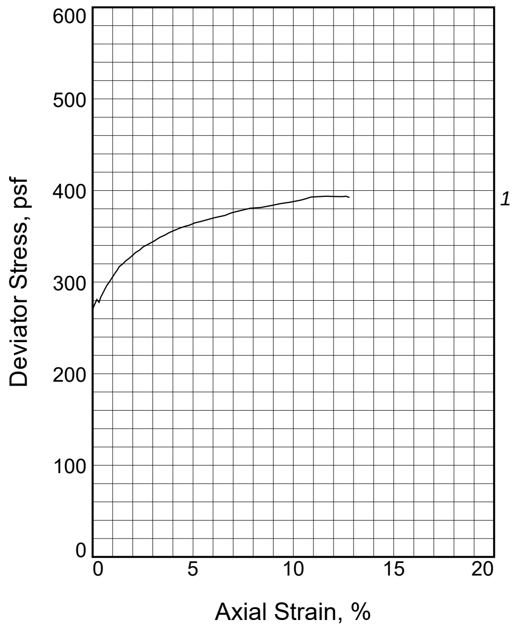


	Results
C, psf	197
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	142.4
	Dry Density, pcf	36.3
	Saturation, %	106.6
	Void Ratio	3.4872
	Diameter, in.	2.99
	Height, in.	5.80
At Test	Water Content, %	142.4
	Dry Density, pcf	36.3
	Saturation, %	106.6
	Void Ratio	3.4872
	Diameter, in.	2.99
	Height, in.	5.80
Strain rate, in./min.		0.85
Back Pressure, psi		0.00
Cell Pressure, psi		0.59
Fail. Stress, psf		394
Ult. Stress, psf		394
σ_1 Failure, psf		479
σ_3 Failure, psf		85

Type of Test: Unconsolidated Undrained

Sample Type: ST

Description: Very Soft Gray Fat Clay (CH) with 6" of Organics at the bottom

LL= 118 **PL=** 32 **PI=** 86

Specific Gravity= 2.61

Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-19 **Depth:** 0-2

Sample Number: 1

Proj. No.: 1706-G038 **Date Sampled:** 07/14/2017

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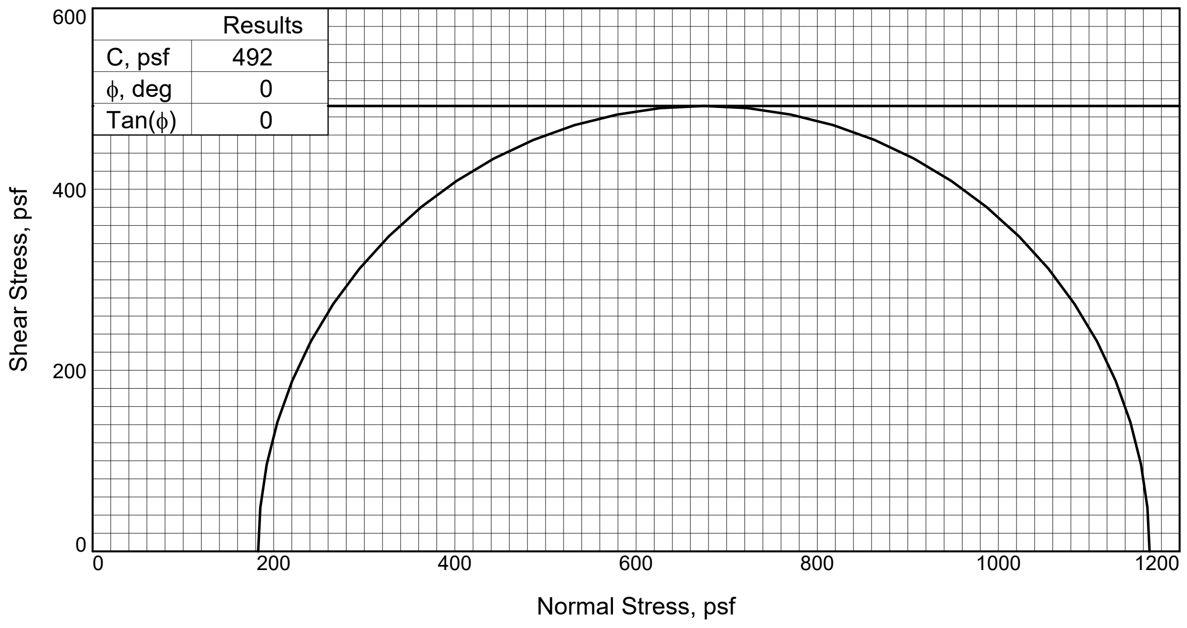
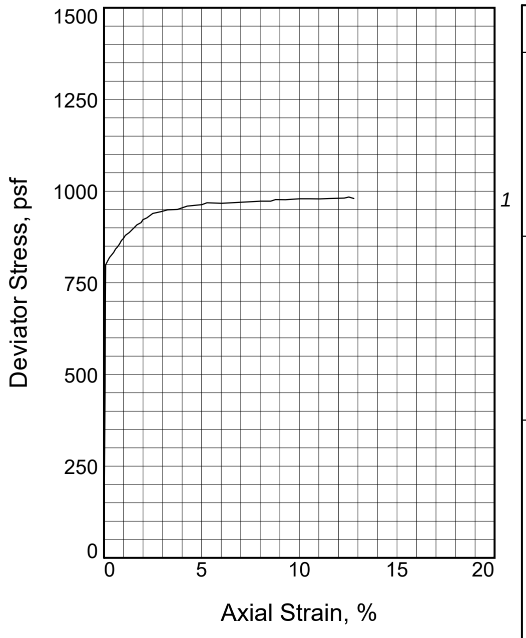


	Results
C, psf	492
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	83.8
	Dry Density, pcf	53.8
	Saturation, %	107.8
	Void Ratio	2.0273
	Diameter, in.	2.80
	Height, in.	5.85
At Test	Water Content, %	83.8
	Dry Density, pcf	53.8
	Saturation, %	107.8
	Void Ratio	2.0273
	Diameter, in.	2.80
	Height, in.	5.85
Strain rate, in./min.		0.86
Back Pressure, psi		0.00
Cell Pressure, psi		1.27
Fail. Stress, psf		984
Ult. Stress, psf		984
σ_1 Failure, psf		1167
σ_3 Failure, psf		183

Type of Test: Unconsolidated Undrained

Sample Type: ST

Description: Soft Gray Fat Clay (CH)
with 3" of Organics at the top

Specific Gravity= 2.61

Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-19 **Depth:** 2-4

Sample Number: 2

Proj. No.: 1706-G038 **Date Sampled:** 07/14/2017

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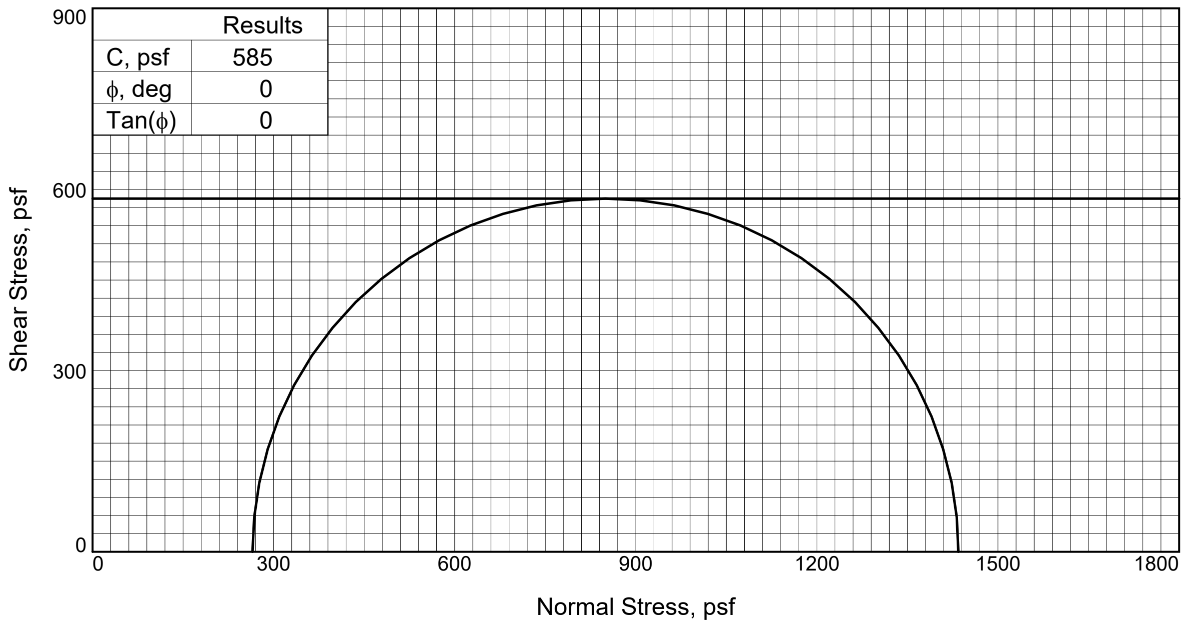
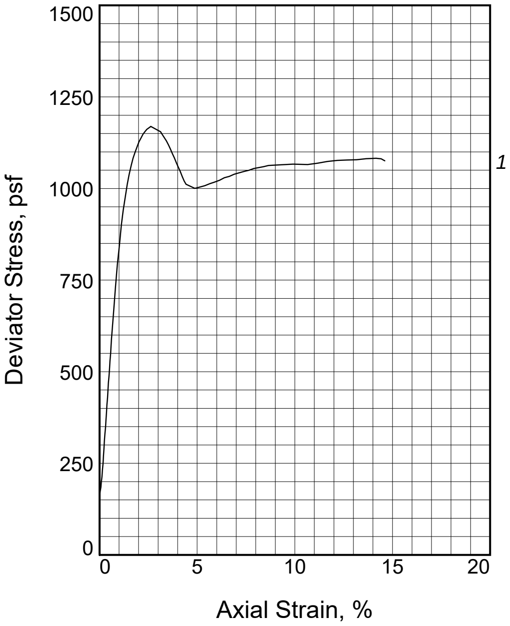


	Results
C, psf	585
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	43.6
	Dry Density, pcf	77.0
	Saturation, %	100.8
	Void Ratio	1.1472
	Diameter, in.	2.83
	Height, in.	5.84
At Test	Water Content, %	43.6
	Dry Density, pcf	77.0
	Saturation, %	100.8
	Void Ratio	1.1472
	Diameter, in.	2.83
	Height, in.	5.84
Strain rate, in./min.		0.97
Back Pressure, psi		0.00
Cell Pressure, psi		1.84
Fail. Stress, psf		1169
Ult. Stress, psf		1169
σ_1 Failure, psf		1434
σ_3 Failure, psf		265

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Medium Stiff Gray Fat Clay (CH)

LL= 94 **PL=** 26 **PI=** 68
Specific Gravity= 2.65
Remarks: Type of Failure : 45 (60 S.)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-19 **Depth:** 4-6
Sample Number: 3
Proj. No.: 1706-G038 **Date Sampled:** 07/14/2017

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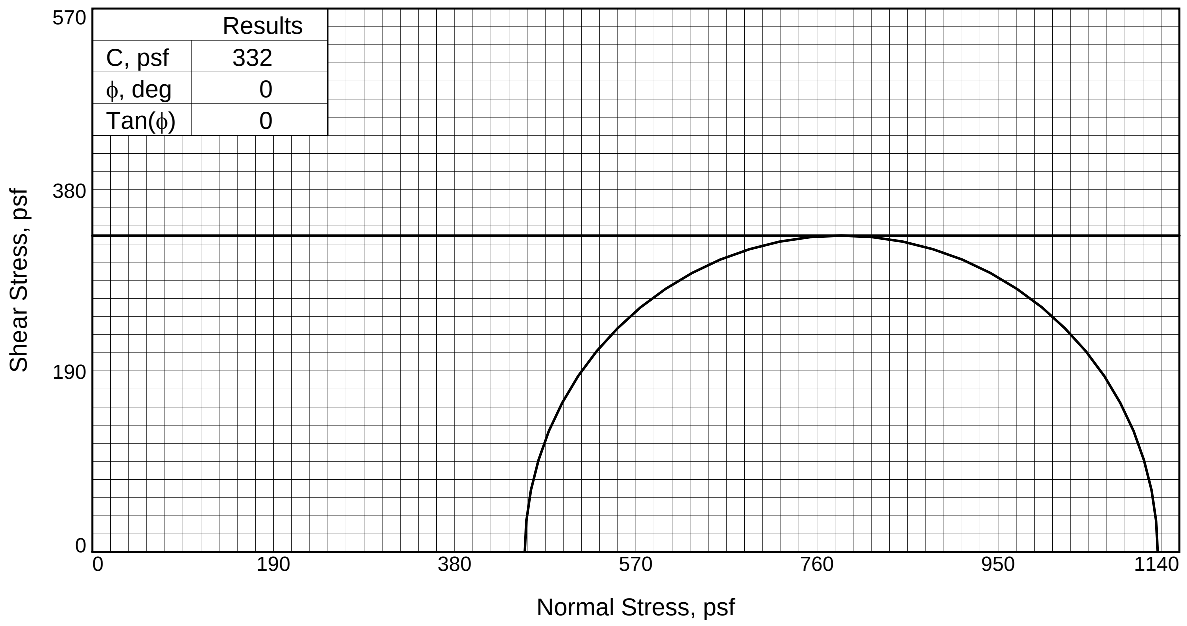
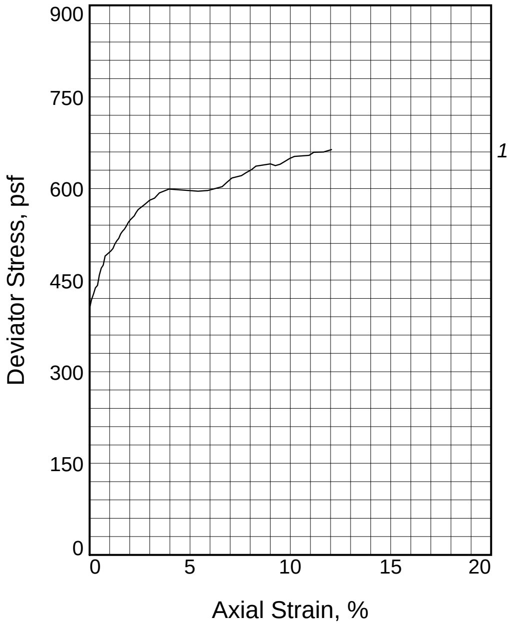


	Results
C, psf	332
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	52.3
	Dry Density, pcf	69.8
	Saturation, %	101.1
	Void Ratio	1.3710
	Diameter, in.	2.80
	Height, in.	6.06
At Test	Water Content, %	52.3
	Dry Density, pcf	69.8
	Saturation, %	101.1
	Void Ratio	1.3710
	Diameter, in.	2.80
	Height, in.	6.06
Strain rate, in./min.		0.84
Back Pressure, psi		0.00
Cell Pressure, psi		3.15
Fail. Stress, psf		664
Ult. Stress, psf		664
σ_1 Failure, psf		1117
σ_3 Failure, psf		454

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Soft Gray Fat Clay (CH)

Specific Gravity= 2.65
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-19 **Depth:** 8-10
Sample Number: 5
Proj. No.: 1706-G038 **Date Sampled:** 07/14/2017

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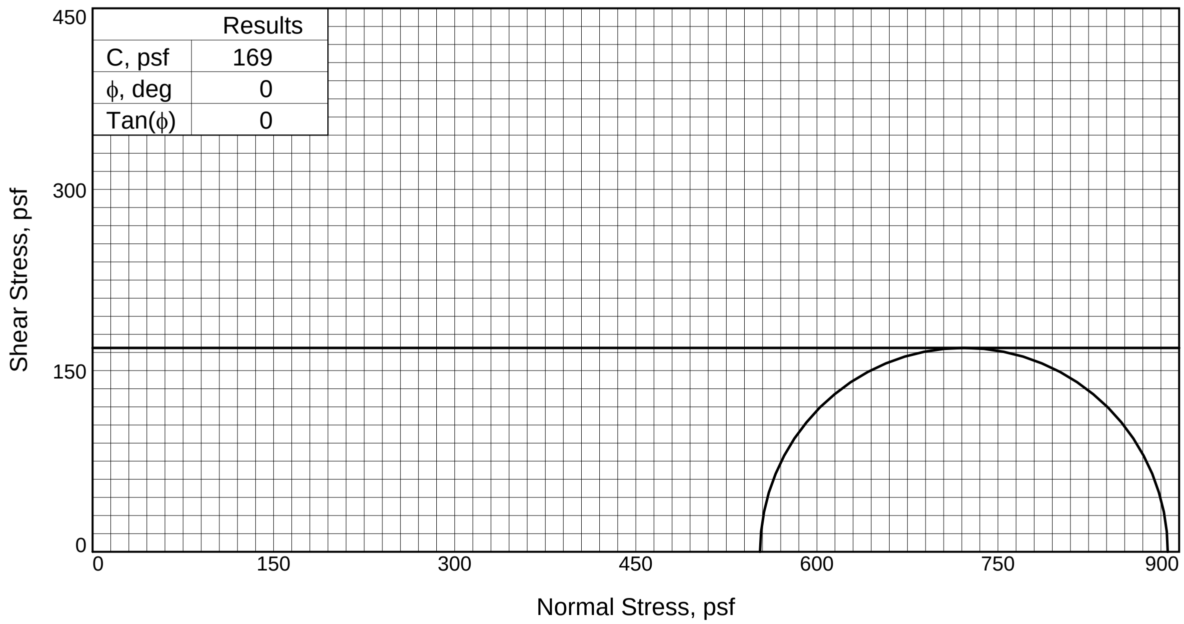
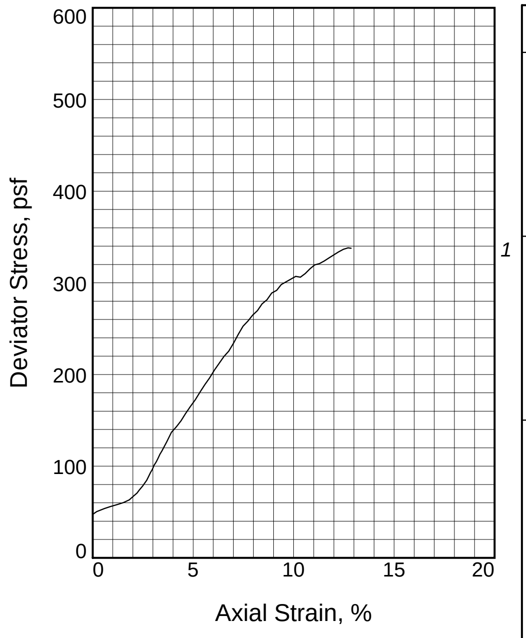
APS Engineering and Testing LLC
Baton Rouge, Louisiana



	Results
C, psf	169
ϕ, deg	0
Tan(ϕ)	0



	Sample No.	1
Initial	Water Content, %	46.1
	Dry Density, pcf	73.9
	Saturation, %	98.8
	Void Ratio	1.2376
	Diameter, in.	2.80
	Height, in.	5.99
At Test	Water Content, %	46.1
	Dry Density, pcf	73.9
	Saturation, %	98.8
	Void Ratio	1.2376
	Diameter, in.	2.80
	Height, in.	5.99
	Strain rate, in./min.	0.90
	Back Pressure, psi	0.00
	Cell Pressure, psi	3.84
	Fail. Stress, psf	338
	Ult. Stress, psf	338
	σ_1 Failure, psf	891
	σ_3 Failure, psf	553

Type of Test: Unconsolidated Undrained

Sample Type: ST

Description: Very Loose Gray Clayey Sand (SC)

Specific Gravity= 2.65

Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-19 **Depth:** 10-12

Sample Number: 6

Proj. No.: 1706-G038 **Date Sampled:** 07/17/2017

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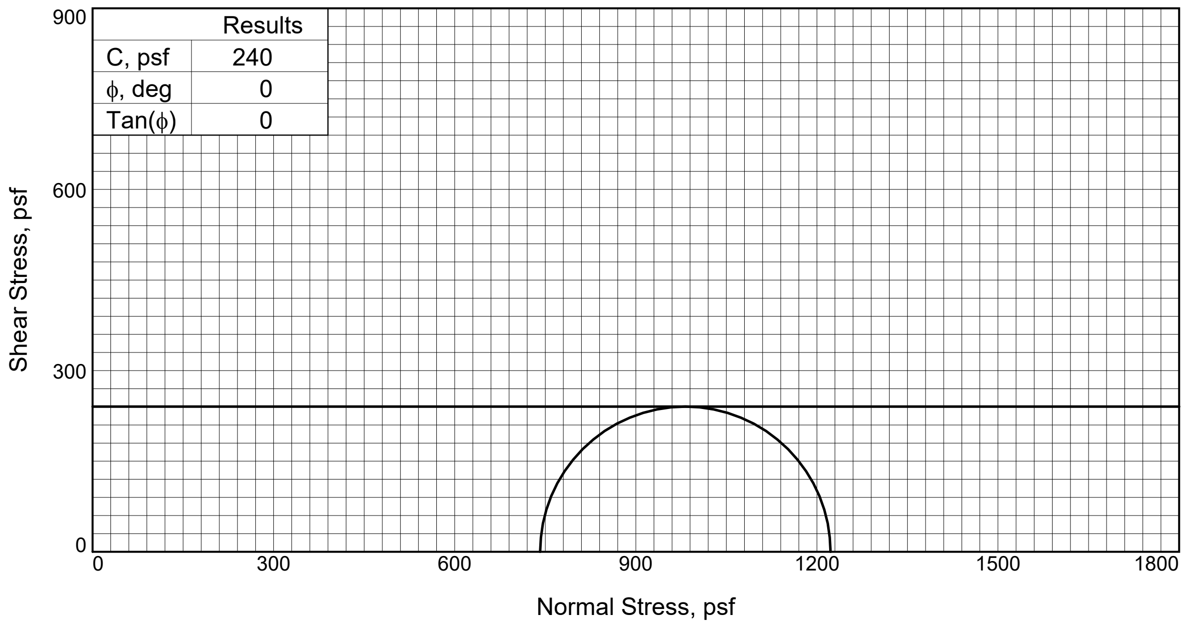
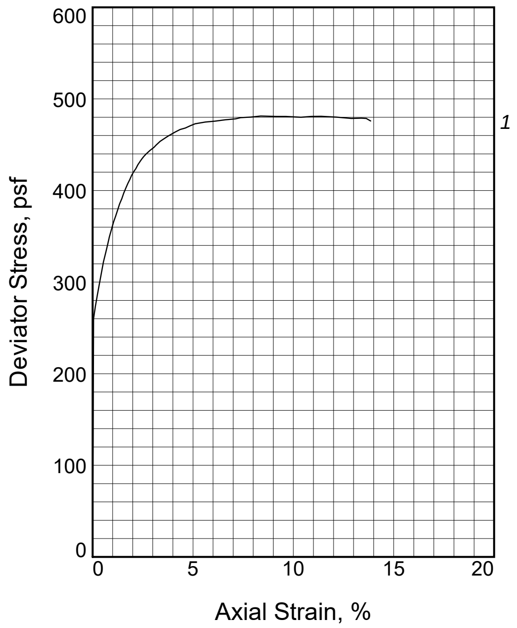
Baton Rouge, Louisiana



	Results
C, psf	240
φ, deg	0
Tan(φ)	0



Sample No.		1
Initial	Water Content, %	48.5
	Dry Density, pcf	73.0
	Saturation, %	101.5
	Void Ratio	1.2659
	Diameter, in.	2.76
	Height, in.	5.82
At Test	Water Content, %	48.5
	Dry Density, pcf	73.0
	Saturation, %	101.5
	Void Ratio	1.2659
	Diameter, in.	2.76
	Height, in.	5.82
Strain rate, in./min.		0.92
Back Pressure, psi		0.00
Cell Pressure, psi		5.15
Fail. Stress, psf		481
Ult. Stress, psf		481
σ_1 Failure, psf		1223
σ_3 Failure, psf		742

Type of Test: Unconsolidated Undrained
Sample Type: ST

Description: Very Soft Gray Fat Clay (CH) with 5" of Shells at the bottom

LL= 70 **PL=** 19 **PI=** 51

Specific Gravity= 2.65

Remarks: Type of Failure: 45 (60 S.)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-19 **Depth:** 14-16

Sample Number: 8

Proj. No.: 1706-G038 **Date Sampled:** 07/14/2017

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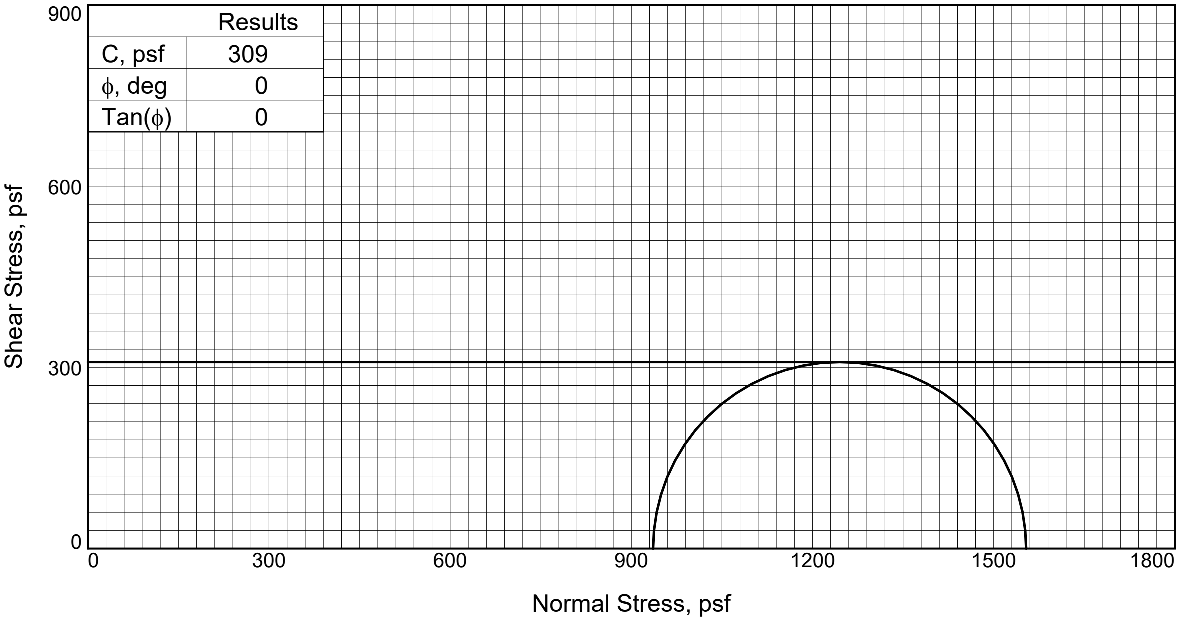
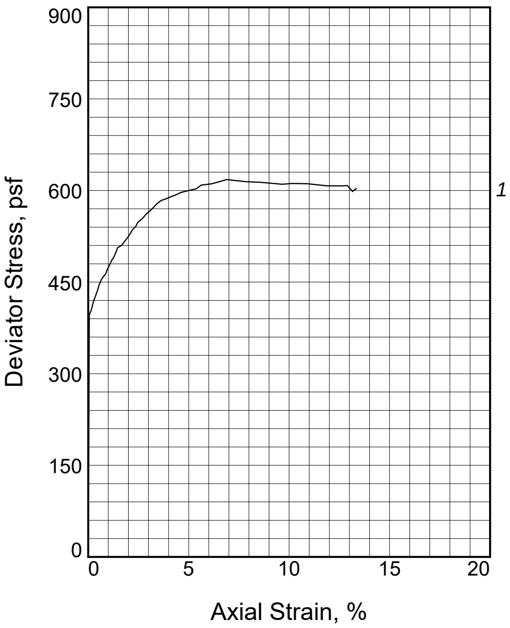
APS Engineering and Testing LLC
Baton Rouge, Louisiana



	Results
C, psf	309
ϕ, deg	0
Tan(ϕ)	0



	Sample No.	1
Initial	Water Content, %	33.7
	Dry Density, pcf	82.8
	Saturation, %	89.5
	Void Ratio	0.9985
	Diameter, in.	2.80
	Height, in.	5.77
At Test	Water Content, %	33.7
	Dry Density, pcf	82.8
	Saturation, %	89.5
	Void Ratio	0.9985
	Diameter, in.	2.80
	Height, in.	5.77
	Strain rate, in./min.	0.89
	Back Pressure, psi	0.00
	Cell Pressure, psi	6.50
	Fail. Stress, psf	618
	Ult. Stress, psf	618
	σ_1 Failure, psf	1554
	σ_3 Failure, psf	936

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Soft Gray Lean Clay (CL)

Specific Gravity= 2.65
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-19 **Depth:** 18-20
Sample Number: 10
Proj. No.: 1706-G038 **Date Sampled:** 07/14/2017

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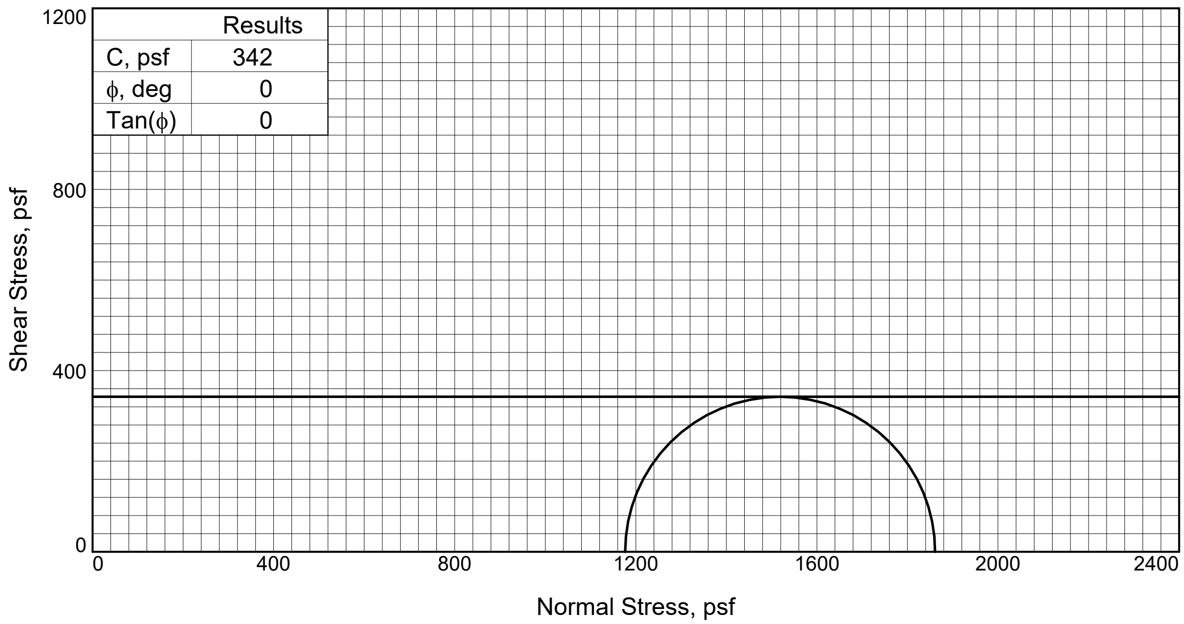
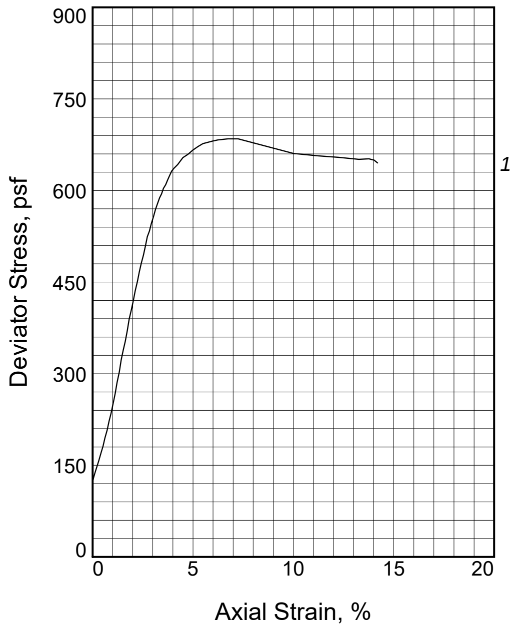
Baton Rouge, Louisiana



	Results
C, psf	342
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	38.3
	Dry Density, pcf	87.1
	Saturation, %	112.9
	Void Ratio	0.8997
	Diameter, in.	2.79
	Height, in.	5.82
At Test	Water Content, %	34.0
	Dry Density, pcf	87.1
	Saturation, %	100.0
	Void Ratio	0.8997
	Diameter, in.	2.79
	Height, in.	5.82
Strain rate, in./min.		0.95
Back Pressure, psi		0.00
Cell Pressure, psi		8.17
Fail. Stress, psf		685
Ult. Stress, psf		685
σ_1 Failure, psf		1861
σ_3 Failure, psf		1176

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Soft Gray Lean Clay (CL)
with Fine Sand Pockets

LL= 277 **PL=** 18 **PI=** 18
Specific Gravity= 2.65
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-19 **Depth:** 23-25
Sample Number: 11
Proj. No.: 1706-G038 **Date Sampled:** 07/14/2017

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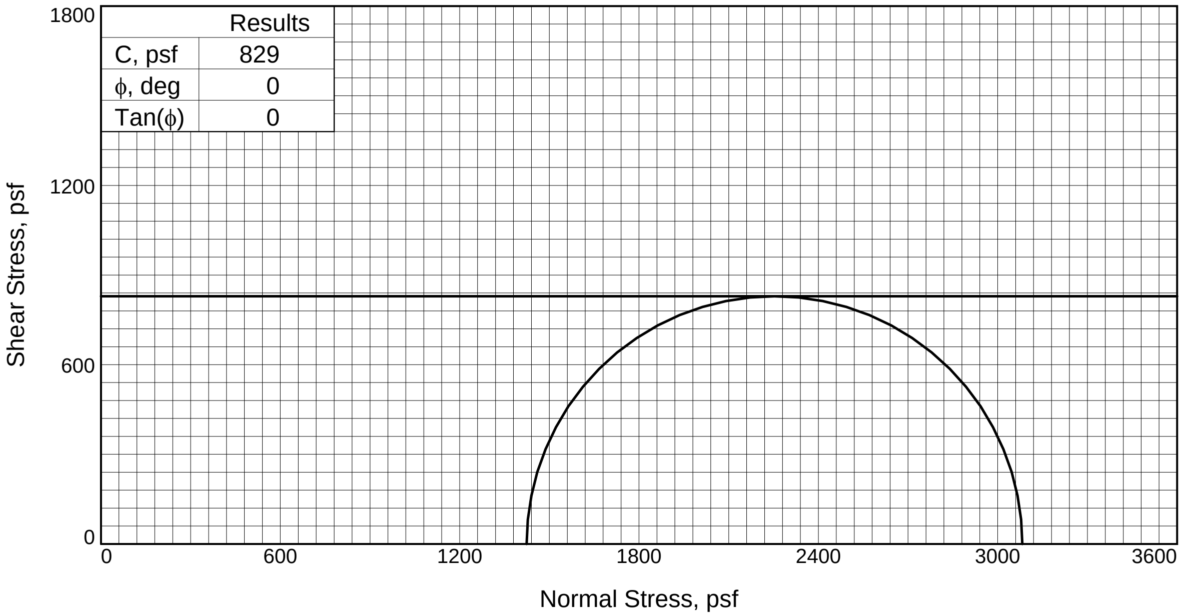
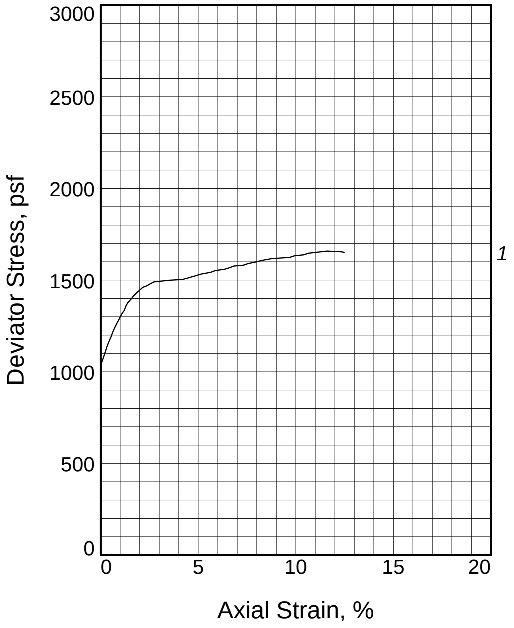
APS Engineering and Testing LLC
Baton Rouge, Louisiana



	Results
C, psf	829
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	23.3
	Dry Density, pcf	98.5
	Saturation, %	90.9
	Void Ratio	0.6801
	Diameter, in.	2.83
	Height, in.	6.13
At Test	Water Content, %	23.3
	Dry Density, pcf	98.5
	Saturation, %	90.9
	Void Ratio	0.6801
	Diameter, in.	2.83
	Height, in.	6.13
Strain rate, in./min.		0.87
Back Pressure, psi		0.00
Cell Pressure, psi		9.89
Fail. Stress, psf		1658
Ult. Stress, psf		1658
σ_1 Failure, psf		3082
σ_3 Failure, psf		1424

Type of Test: Unconsolidated Undrained
Sample Type: ST
Description: Medium Stiff Gray Lean Clay (CL)

Specific Gravity= 2.65
Remarks: Type of Failure: Bulge (SL)

Client: S & ME

Project: New Orleans Landbridge Marsh Creation (PO-169)

Source of Sample: B-19 **Depth:** 28-30
Sample Number: 12
Proj. No.: 1706-G038 **Date Sampled:** 07/14/2017

TRIAXIAL SHEAR TEST REPORT
APS Engineering and Testing LLC
Baton Rouge, Louisiana

APS Engineering and Testing

October 20, 2017

S&ME, Inc.,
2736 O'Neal Lane, Suite A
Baton Rouge, LA 70816

ATTN: Mr. Venu Tammineni, P.E.
Senior Engineer

Subject: Low Stress Consolidation Test Results
New Orleans Landbridge Marsh Creation
Orleans Parish, Louisiana
APS File No.: 1706-G038

Dear Mr. Tammineni:

APS has completed the Low Stress Consolidation testing of the two borrow area samples that were homogenized from Soil Borings B1 through B6. Sample 1 (B123) was prepared using Soil Borings B1, B2 and B3 and Sample 2 (B456) was prepared using Soil Borings B4, B5 and B6.

Please review these test results and contact our office at (225) 456 5714 for any questions or comments.

Respectfully Submitted by,
APS Engineering and Testing, LLC

Sairam Eddanapudi, P.E.
Project Manager

Low Stress Consolidation Test Procedure

- A composite sample of the prepared slurry (from Settling Column Test) was obtained to perform the Self Weight Consolidation Test.
- The initial moisture content, atterberg limits, hydrometer and percent fines (-200) tests were performed on the samples according to ASTM procedures.
- Then the slurry was prepared with a pre-determined moisture content equal to two to three times its liquid limit.
- The slurry was placed into the consolidometer setup and the initial weight was measured.
- The load cell was lowered in order to contact the slurry sample. It was very critical to perform this task with the minimum disturbance to the sample prior to loading.
- It is also very important to commence the test as practically as possible after the slurry was placed into the ring setup.
- The incremental loading cycles with a minimum applied duration of 24 hours were as follows: 1, 2, 5, 10, 25, 50, 100, 200 and 400 psf.
- The final weight of the consolidated sample with the consolidometer setup and the final moisture content of the consolidated sample were measured.
- The Casagrande (or Log time) and Taylor (or Root time) methods were employed to analyze the results to determine the coefficient of consolidation, cv.

The properties, weights and low stress test results of sample 1 (B123) and sample 2 (B456) are presented in the following tables.

TABLE 1.0: Properties of Slurry Samples

Sample ID	Initial Water Content of Slurry (%)	Liquid Limit (LL)	Plastic Limit (PL)	Plasticity Index (PI)	Percentage of		
					Clay	Silt	Sand
B123	199.6	64	24	40	13.5	83.2	3.3
B456	158.2	67	24	43	25.7	72.5	1.8

TABLE 2.0: Slurry Sample initial (before test) and final (after test) weights

Sample ID	Initial Water Content of Slurry (%)	Initial weight of Slurry Sample (grams)	Final weight of Slurry sample (grams)	Final weight of oven dry sample (W_{solids}) (grams)
B123	199.6	98.17	56.98	32.77
B456	158.2	96.35	56.54	37.32

Sample 1 (B123)

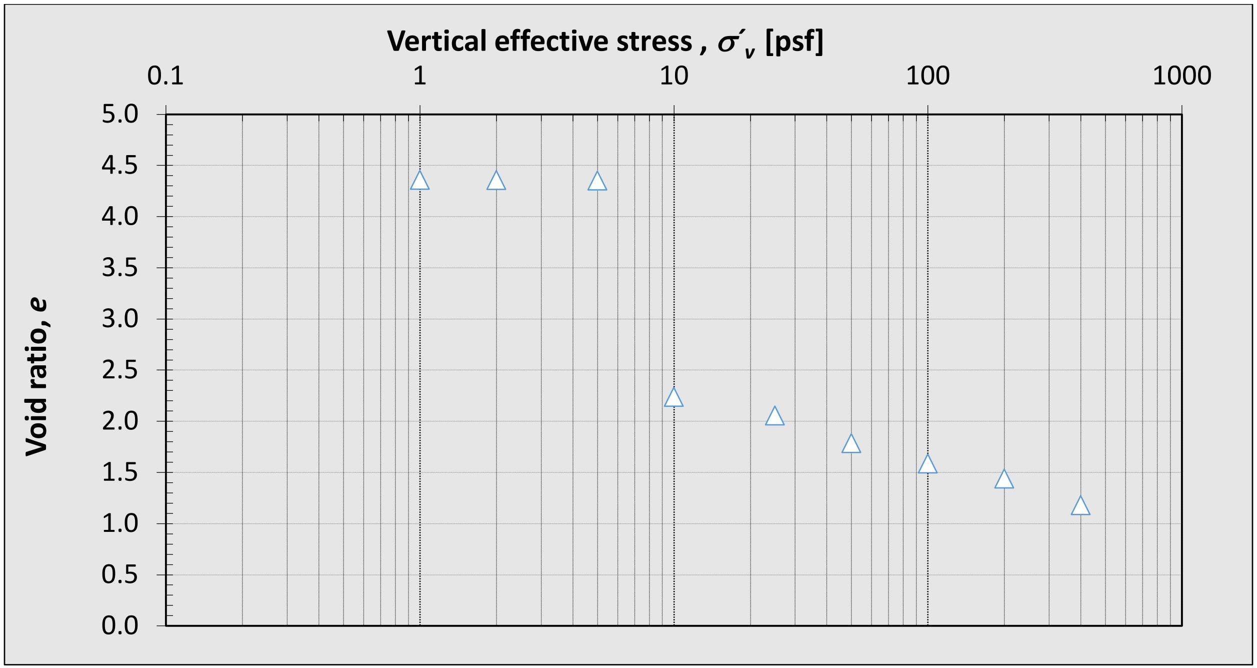
- Ring Volume = 80.4 cm^3
- Initial Void Ratio (e_o) of Sample 1 = V_v (=V_w) / V_s = 65.4 / 15 = 4.36
- Compression Index (C_c) = (4.3582 - 1.1788) / LOG (400 / 1) = 1.22

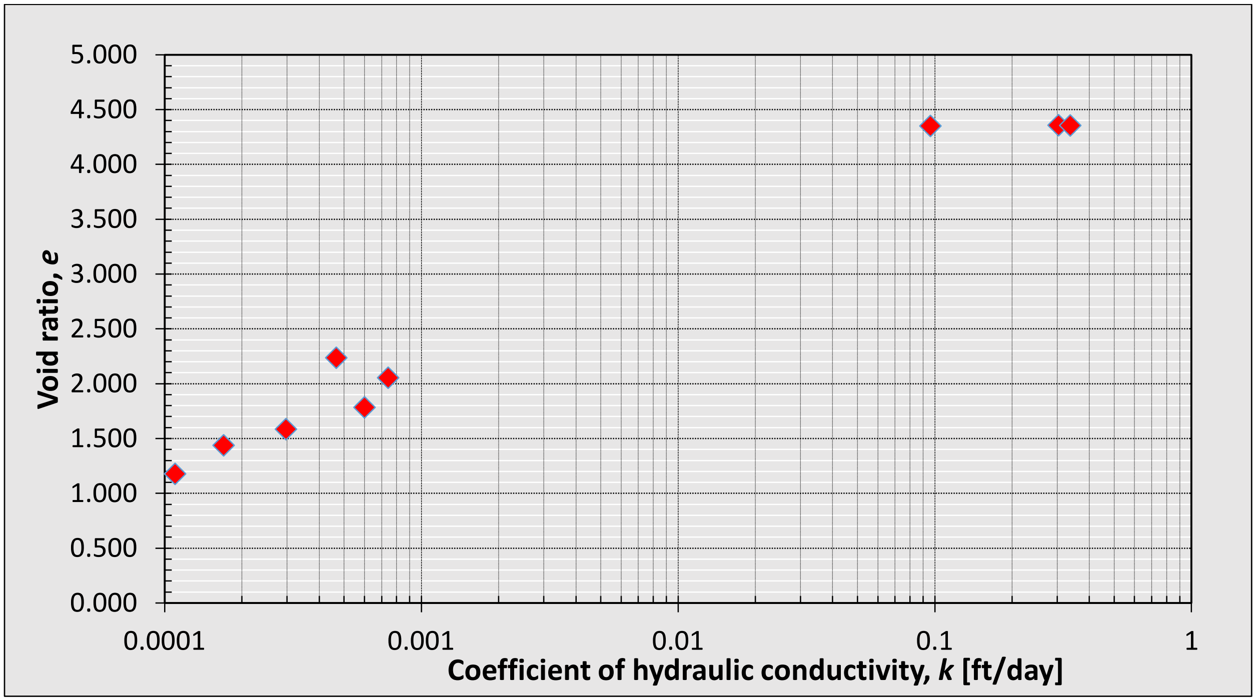
TABLE 3.0: SAMPLE 1 (B123) TEST RESULTS

Applied Pressure(σ')	Initial Height (H_i)	d_{100}	Final Height (H_f)	Drainage Length (H_d)	T_{50}	T_{90}	e_{100}	Δe_{100}
1	1.0000	0.0003	0.9996	0.49989	10	36	4.3582	0.00180
2	0.9996	0.0007	0.9993	0.49971	6	24	4.3561	0.00394
5	0.9993	0.0016	0.9984	0.49942	9	21.2	4.3516	0.008415
10	0.9984	0.396	0.5930	0.39785	550	993	2.2374	2.12260
25	0.5930	0.430	0.5697	0.29067	79	343	2.0552	2.30480
50	0.5697	0.4804	0.5196	0.27234	40	143	1.7851	2.57490
100	0.5196	0.5175	0.4788	0.24962	34	157	1.5862	2.77380
200	0.4788	0.5705	0.4549	0.23344	26	125	1.4388	2.92120
400	0.4549	0.5935	0.4039	0.21471	17	52	1.1788	3.18120

TABLE 4.0: SAMPLE 1 (B123) TEST RESULTS

Applied Pressure(σ')	$C_{\alpha s}$	Cv (ft2 / min)	K (ft / min)
1	0.0087	3.4186E-05	0.000211049
2	0.0083	5.6935E-05	0.000234326
5	0.0076	3.7914E-05	6.68749E-05
10	0.0072	3.9371E-07	3.24079E-07
25	0.0070	1.4631E-06	5.1614E-07
50	0.0055	2.5366E-06	4.17601E-07
100	0.0039	5.5071E-06	2.06368E-07
200	0.0021	2.8674E-06	1.1801E-07
400	0.0013	3.7099E-06	7.6345E-08


Vertical effective stress , σ'_v [psf]
0.1
1
10
100
1000
Void ratio, *e*
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0


Void ratio, *e*
5.000
4.500
4.000
3.500
3.000
2.500
2.000
1.500
1.000
0.500
0.000
0.0001
0.001
0.01
0.1
1
Coefficient of hydraulic conductivity, *k* [ft/day]

Sample 2 (B456)

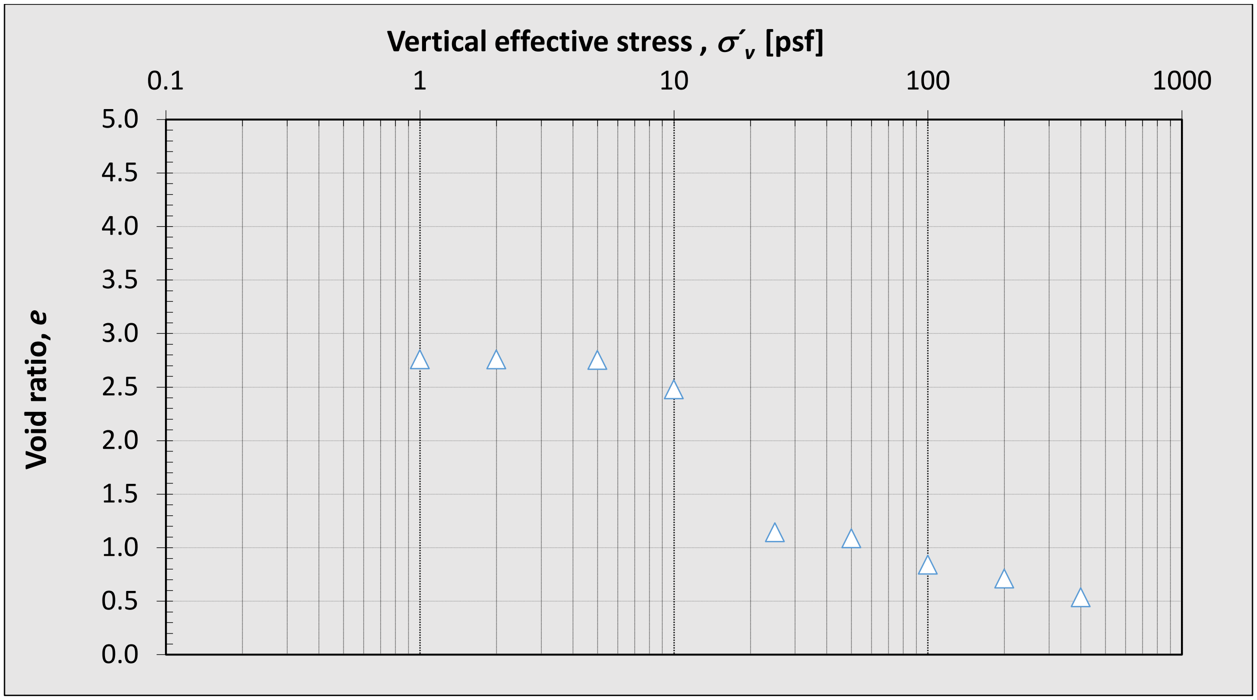
- Ring Volume = 80.4 cm^3
- Initial Void Ratio (e_o) of Sample 1 = V_v (=V_w) / V_s = 59.03 / 21.37 = 2.76
- Compression Index (C_c) = (2.76 - 0.5360) / LOG (400 / 1) = 0.85

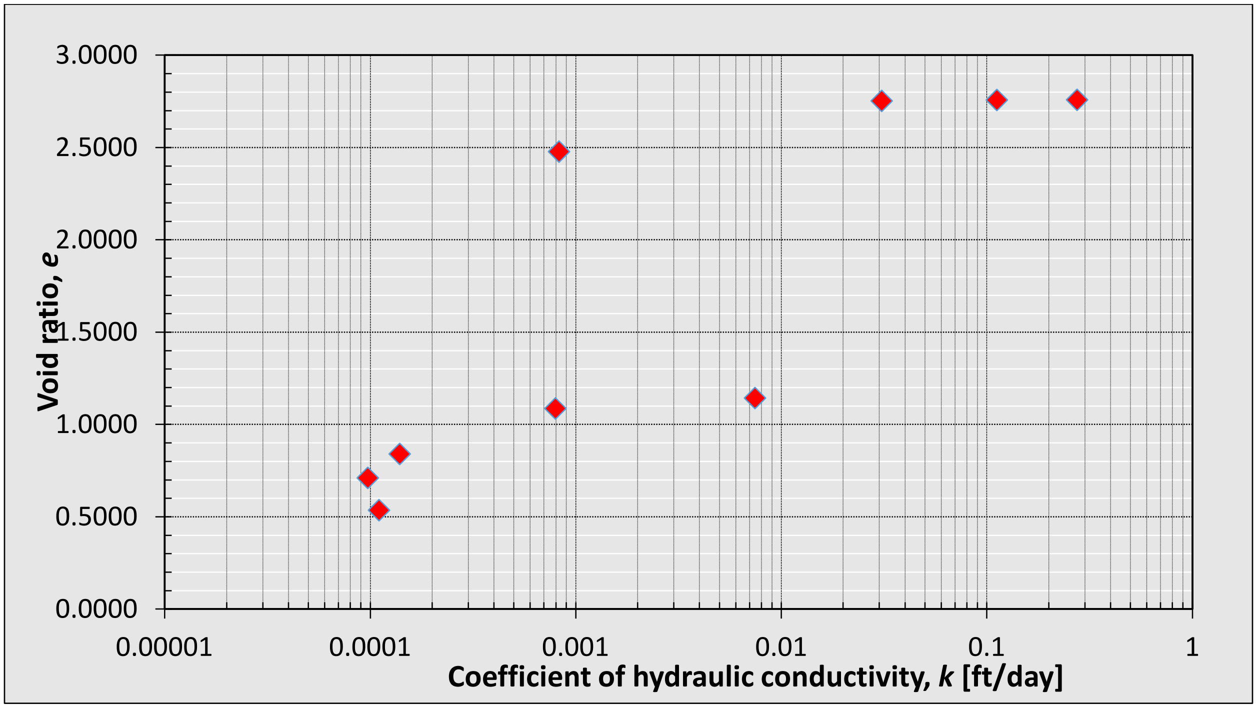
TABLE 5.0: SAMPLE 2 (B456) TEST RESULTS

Applied Pressure(σ')	Initial Height (H_i)	d_{100}	Final Height (H_f)	Drainage Length (H_d)	T_{50}	T_{90}	e_{100}	Δe_{100}
1	1.0000	0.0004	0.9996	0.4999	11	33.60	2.7584	0.0016
2	0.9996	0.0006	0.9993	0.4997	18	45.80	2.7576	0.0024
5	0.9993	0.002	0.9980	0.4994	28	68.90	2.7526	0.0074
10	0.9980	0.075	0.9251	0.4808	450	1296.00	2.4780	0.2820
25	0.9251	0.43	0.7249	0.4125	15.8	23.50	1.1432	1.6168
50	0.7249	0.445	0.5314	0.3141	40	625.00	1.0868	1.6732
100	0.5314	0.5105	0.4856	0.2542	75	225.00	0.8405	1.9195
200	0.4856	0.545	0.4461	0.2392	45	182.25	0.7108	2.0492
400	0.4461	0.5915	0.4036	0.2124	16.5	110.25	0.5360	2.2240

TABLE 4.0: SAMPLE 2 (B456) TEST RESULTS

Applied Pressure(σ')	$C_{\alpha s}$	C_V (ft2 / min)	K (ft / min)
1	0.0002	4.38E-05	0.00019119
2	6E-05	3.21E-05	7.78427E-05
5	0.0005	2.13E-05	2.14135E-05
10	0.0189	1.05E-06	5.76412E-07
25	0.0950	4.26E-05	5.17942E-06
50	0.0640	9.2951E-07	5.53505E-07
100	0.0110	1.69181E-06	9.67139E-08
200	0.0080	1.7528E-06	6.76354E-08
400	0.0067	2.40997E-06	7.67117E-08


Vertical effective stress , σ'_v [psf]
0.1
1
10
100
1000
Void ratio, e
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0


Void ratio, e
3.0000
2.5000
2.0000
1.5000
1.0000
0.5000
0.0000
0.00001
0.0001
0.001
0.01
0.1
1
Coefficient of hydraulic conductivity, k [ft/day]

Final Report:

Settling Properties of Fine-Grained Sediments Which May be Hydraulically Dredged: New Orleans Landbridge Shoreline Stabilization & Marsh Creation Project (PO-169)

(S&ME Job No. 458517006)

Submitted to:

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September 26, 2017

1.0 Introduction, Scope, and Objectives

The objective of the testing reported here was to evaluate the settling properties of fine-grained sediments which may be hydraulically dredged as part of the New Orleans Landbridge Shoreline Stabilization & Marsh Creation Project (PO-169)(S&ME Job No. 458517006).

2.0 Experimental Procedures and Results

2.1 Materials Provided for Testing

Seven five-gallon buckets of water from the proposed dredging area were provided by S&ME for laboratory testing. The salinity of the seven water samples was measured gravimetrically with drying at 180 ºC[1]. Results are reported in Table 1 in units of parts per thousand (ppt).

Table 1. Salinity measured in water samples provided from the proposed dredge location

Bucket ID	Salinity (ppt)
B-1 Marsh water sample PO-169, 13’ depth	1.17
B-2 Marsh water sample PO-169, 16.5’ depth	1.12
B-3 Marsh water sample PO-169, 10’ depth	1.09
B-4 Marsh water sample PO-169, 15’ depth	1.15
B-5 Marsh water sample PO-169, 6’ depth	1.16
B-6 Marsh water sample PO-169, 5’ depth	1.22
B-20 Marsh water sample PO-169, 6.5’ depth	1.07

Four five-gallon buckets of sediment from the proposed dredging area were provided for testing. Two of the buckets contained a composite of sediment from borings B-4, B-5, and B-6. The other two buckets contained composited sediment from boring B-1, B-2, and B-3. The contents of the two buckets of material from borings B-4, B-5, and B-6 were combined together in a single container and homogenized via mechanical mixing. Subsamples were then collected by personnel from APS Design and Testing, LLC (APS) prior to the remainder being used for settling column testing. For the B-1, B-2, and B-3 composite material, the contents of each bucket were homogenized separately. Separate subsamples were collected by APS personnel from each of the two buckets of homogenized materials from B-1, B-2, and B-3 prior to the remainder being used for settling column testing.

2.2 Pilot-Scale Settling Column Test Results for Composite of Samples from Boring ID numbers B-4, B-5, and B-6

For the sediment from borings B-4, B-5, and B-6, slurry was prepared by mixing the composited sediment with equal volumes of water from each of the B-4, B-5, and B-6 marsh sampling locations plus tap water supplemented with synthetic sea salts (Instant Ocean) to match the average salinity of the three water samples (average salinity of 1.18 parts per thousand (ppt)). Slurry containing the fine-grained fraction of sediments was obtained by thoroughly mixing the slurry and then allowing coarse grained materials, to separate by differential settling as described in the US Army Corps of Engineers Manual No. 1110-2-5027[1]. The fine-grained sediment slurry was loaded into a large-scale (8.0 inch ID) column while mixing with air sparging as described in the US Army Corps of Engineers Manual No. 1110-2-5027[1]. Solids concentrations in the slurry at the start of the settling test were measured in samples collected along the height of the column at one foot intervals (see Table A1 in Appendix A for tabulated data). The average particulate concentration at the start of the settling test was 135.8 g/L.

A clear sediment-water interface was observed shortly after the start of the settling test (< 1 hour), indicating zone settling. The height of the sediment-water interface above the bottom of the column was measured and recorded over a period lasting more than 46 days as depicted in Figure 1 (see Table B1 in Appendix B for tabulated data). As shown in Figure 1, zone settling was observed during the first day of the settling test, followed by compression settling thereafter.

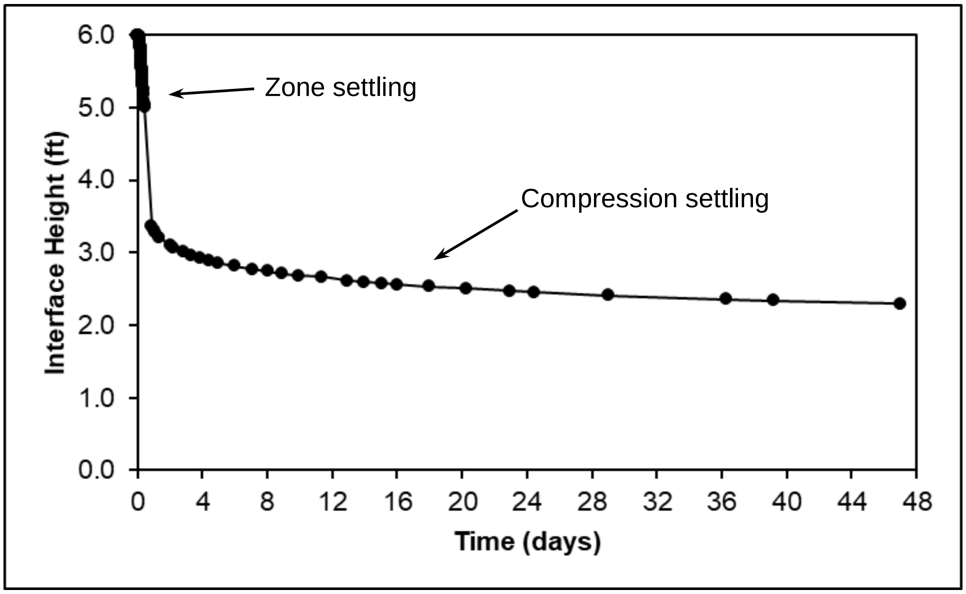

Figure 1: Interface height as a function of time during the pilot-scale settling test of fine-grained sediment slurry prepared from composited sediment from borings B-4, B-5, and B-6 (C_o=135.8 g/L).

Data for the time interval of 4 to 22 hours of the settling test, during which relatively rapid zone settling was clearly observed, is depicted separately in Figure 2. A linear regression was performed with the resulting equation and correlation coefficient depicted on the graph. The slope of the regression line, which corresponds to the zone settling velocity, was 0.143 ft/hr (3.4 ft/day).

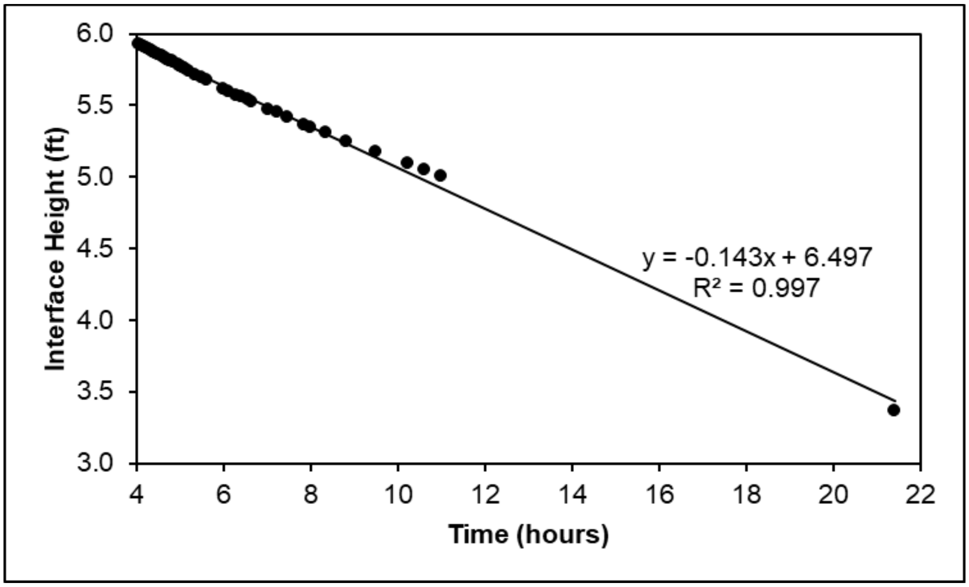

Figure 2: Interface height as a function of time during the zone settling portion of the pilot-scale settling test of fine-grained sediment slurry prepared from composited sediment from borings B-4, B-5, and B-6 (C_o=135.8 g/L).

For the portion of the settling test during which compression settling was observed, the concentration in the settled solids at each time interval was calculated using the following equation (equation 3-11 in ref. 1).

$$C = \frac{C_o H_i}{H_t}$$

Where:

C = slurry suspended solids concentration at time t (g/L)
C_o = initial slurry suspended solids concentration (g/L)
H_i = initial slurry height (ft)
H_t = height of the interface at time t (ft)

The corresponding suspended solids concentration as a function of time during compression settling is depicted in Figure 3.

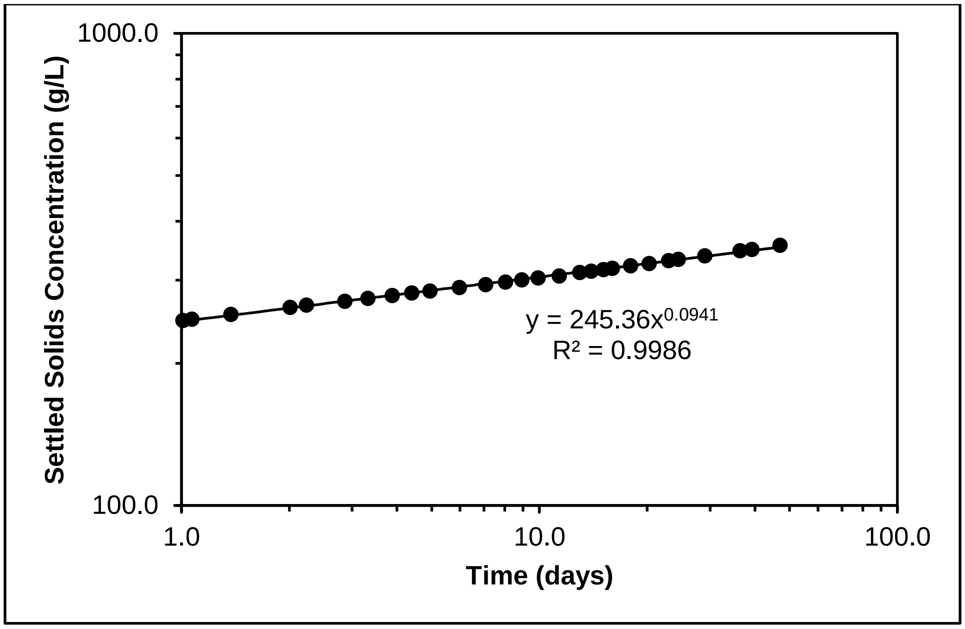

Figure 3: Concentration of settled solids as a function of time during the compression settling portion of the pilot-scale settling test of fine-grained sediment slurry prepared from composited sediment from borings B-4, B-5, and B-6.

For analysis of flocculent settling as described in the US Army Corps of Engineers Manual No. 1110-2-5027[1], water samples were collected from the clarified layer above the sediment-water interface for measurement of total suspended solids (TSS) following Standard Method 2450D[2]. The first of these samples was collected 7.5 hours after the start of settling when the sediment-water interface was sufficiently below the uppermost sample port to allow sample collection. Subsequent samples were collected at six additional time steps (ranging from total settling durations of 9 to 81 hours). Tabulated data are provided in Table C1 (Appendix C). The TSS concentration in the initial sample collected above the sediment-water interface at a time of 7.5 hours was 127 mg/L. The TSS concentration subsequently decreased to less than 25 mg/L in all samples collected after a total settling time of 48 hours.

2.3 Pilot-Scale Settling Column Test Results for Composite of Samples from Boring ID numbers B-1, B-2, and B-3

Test # 1

For the sediment from borings B-1, B-2, and B-3, slurry was prepared by mixing composited sediment with equal volumes of water from each of the marsh water sample locations B-1, B-2, and B-3 plus tap water supplemented with synthetic sea salts (Instant Ocean) to match the average salinity of the three water samples (average salinity of 1.13 parts per thousand (ppt)). Slurry containing the fine-grained fraction of sediments was obtained by thoroughly mixing the slurry and then allowing coarse grained materials, to separate by differential settling as described in the US Army Corps of Engineers Manual No. 1110-2-5027[1]. Because the particulate concentration in the resulting slurry was below the target concentration for testing, additional sediment was added, the material was thoroughly remixed, and then coarse grained materials were again allowed to separate by differential settling. The fine-grained sediment slurry was loaded into a large-scale (8.0 inch ID) column while mixing with air sparging as described in the US Army Corps of Engineers Manual No. 1110-2-5027[1]. Solids concentrations in the slurry at the start of the settling test were measured in samples collected along the height of the column at one foot intervals (see Table A2 in Appendix A for tabulated data). The average particulate concentration at the start of the settling test was 149.2 g/L.

A very small but clearly visible sediment-water interface was observed two hours after the start of the settling test. The height of the sediment-water interface above the bottom of the column was measured and recorded over a period lasting 61.1 hours as depicted in Figure 4 (see Table B2 in Appendix B for tabulated data). As shown in Figure 4, the amount of settling was quite small, with the interface settling only 0.1 inch after one day of settling and 0.7 inches total after 49.3 hours of settling. To assess whether flocculent settling was the dominant process occurring in the settling column, samples were withdrawn from side ports located at 5.5 and 4.0 ft above the bottom of the column at a time of 61.1 hours. The particulate concentrations measured in these samples, 150.0 and 149.7 g/L, respectively, indicate that flocculent settling was not a dominant process and the test was started at a particulate concentration in the compression settling regime.

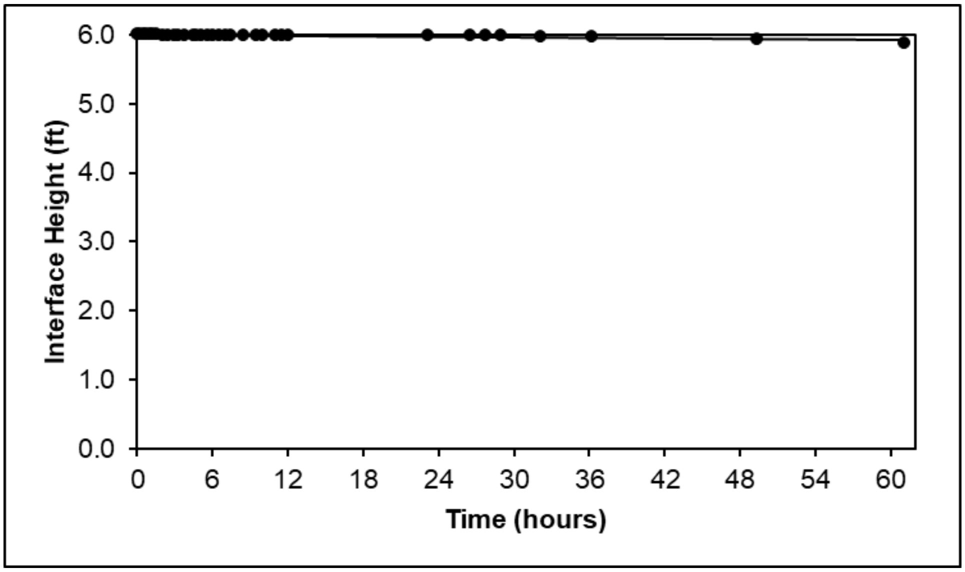

Figure 4: Interface height as a function of time during the first pilot-scale settling test conducted with fine-grained sediment slurry from the composited B-1, B-2, and B-3 sediments (C_o=149.2 g/L).

Test #2

The fine-grained sediment present in the settling column at the end of the first pilot-scale test was removed from the column, transferred to a mixing barrel, and diluted with additional tap water supplemented with synthetic sea salts (Instant Ocean) to match the average salinity of the B-1, B-2, and B-3 water samples (1.13 parts per thousand (ppt)). After thorough remixing, the fine-grained sediment slurry was loaded into a large-scale (8.0 inch ID) column while mixing with air sparging as described in the US Army Corps of Engineers Manual No. 1110-2-5027[1]. Solids concentrations in the slurry at the start of the settling test were measured in samples collected along the height of the column at one foot intervals (see Table A3 in Appendix A for tabulated data). The average particulate concentration at the start of the settling test was 108.5 g/L.

A clear sediment-water interface was observed shortly after the start of the settling test (< 1 hour), indicating zone settling. The height of the sediment-water interface above the bottom of the column was measured and recorded over a period lasting approximately two days as depicted in Figure 5 (see Table B3 in Appendix B for tabulated data). As shown in Figure 5, zone settling was observed during the first day of the settling test, followed by a transition to compression settling thereafter.

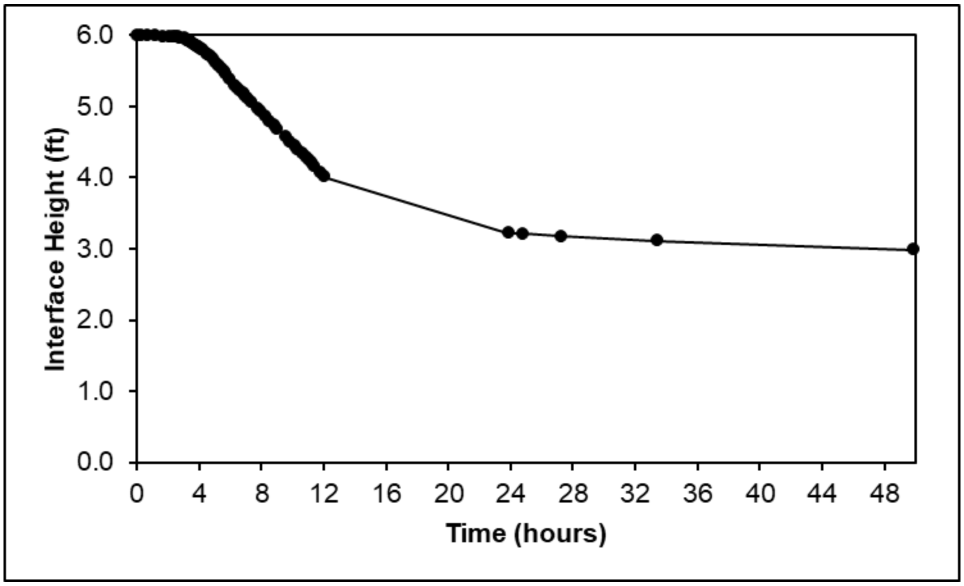

Figure 5: Interface height as a function of time during the second pilot-scale settling test conducted with fine-grained sediment slurry from the composited B-1, B-2, and B-3 sediments (C_o=108.5 g/L).

Data for the time interval of 3 to 12 hours of the settling test, during which relatively rapid zone settling was clearly observed, is depicted separately in Figure 6. A linear regression was performed with the resulting equation and correlation coefficient depicted on the graph. The slope of the regression line, which corresponds to the zone settling velocity, was 0.223 ft/hr (5.35 ft/day).

For analysis of flocculent settling as described in the US Army Corps of Engineers Manual No. 1110-2-5027[1], water samples were collected from the clarified layer above the sediment-water interface for measurement of total suspended (TSS) following Standard Method 2450D[2]. The first of these samples was collected 6 hours after the start of settling when the sediment-water interface was sufficiently below the uppermost sample port to allow sample collection. Subsequent samples were collected at additional time steps out to a total settling duration of 48 hours. Tabulated data are provided in Table C2 in Appendix C. The TSS concentration in the initial sample collected above the sediment-water interface at a time of 6 hours was 778 mg/L. The TSS concentration subsequently decreased to the range of 58 to 72 mg/L in ports sampled at a time of 48 hours. During the interval when the TSS concentrations above the sediment water interface were decreasing, it was visually observed that a layer of lighter colored sediments accumulated at the top of the sediment-water interface. At the time when the test was terminated (t=49.92 hours), the thickness of the light colored sediment layer was approximately 0.6 inches thick.

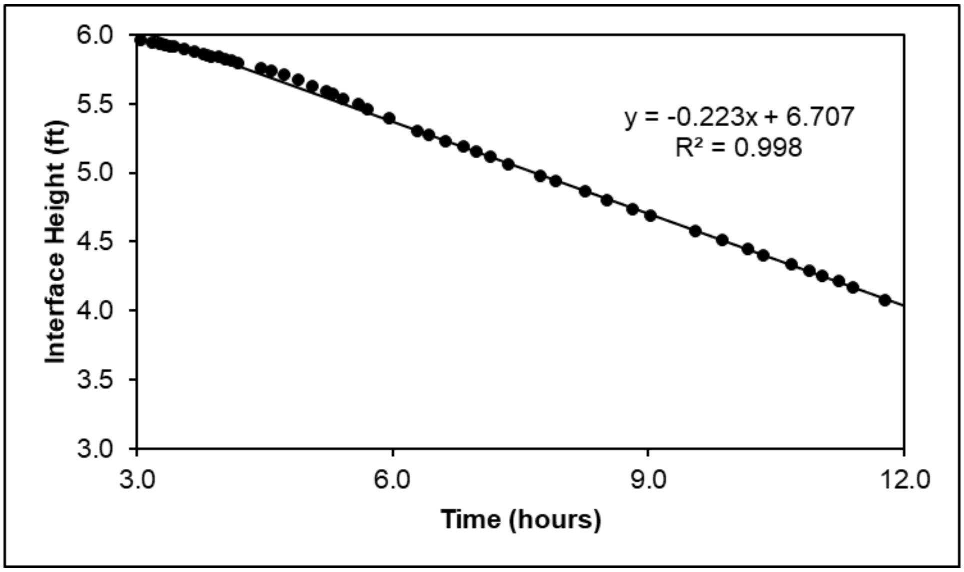

Figure 6: Interface height as a function of time during the zone settling portion of the second pilot-scale settling test conducted with fine-grained sediment slurry from composite B-1, B-2, and B-3 sediments (C_o=108.5 g/L).

Test #3

In order to obtain a full settling curve for fine-grained sediment at a concentration between the initial test (C_o=149.2 g/L) which exhibited compression settling and the second test (C_o=108.5 g/L) where rapid zone settling was observed, in consultation with S&ME, it was decided to restart the pilot-scale settling test using an intermediate concentration.

A portion of the clarified water present at the top of the settling column at the termination of the second settling test with composite sediment from boring B-1, B-2 and B-3 was decanted, and the remaining sediments were re-suspended by air sparging, transferred to a mixing barrel, and combined with additional fine-grained sediments prepared from the B-1, B-2, and B3 composite. After thorough mixing to homogenize the materials, the fine-grained sediment slurry was loaded into a large-scale (8.0 inch ID) column while mixing with air sparging as described in the US Army Corps of Engineers Manual No. 1110-2-5027[1]. Solids concentrations in the slurry at the start of the settling test were measured in samples collected along the height of the column at one foot intervals (see Table A4 in Appendix A for tabulated data). The average particulate concentration at the start of the settling test was 128.6 g/L.

A clear sediment-water interface was observed shortly after the start of the settling test (< 1 hour), indicating zone settling. The height of the sediment-water interface above the bottom of the column was measured and recorded over a period lasting more than 40 days as depicted in Figure 7 (see Table B4 in Appendix B for tabulated data). As shown in Figure 7, behavior that was well-described as zone settling was observed during the time interval of 0.5 to 2 days of the settling test, followed by compression settling thereafter.

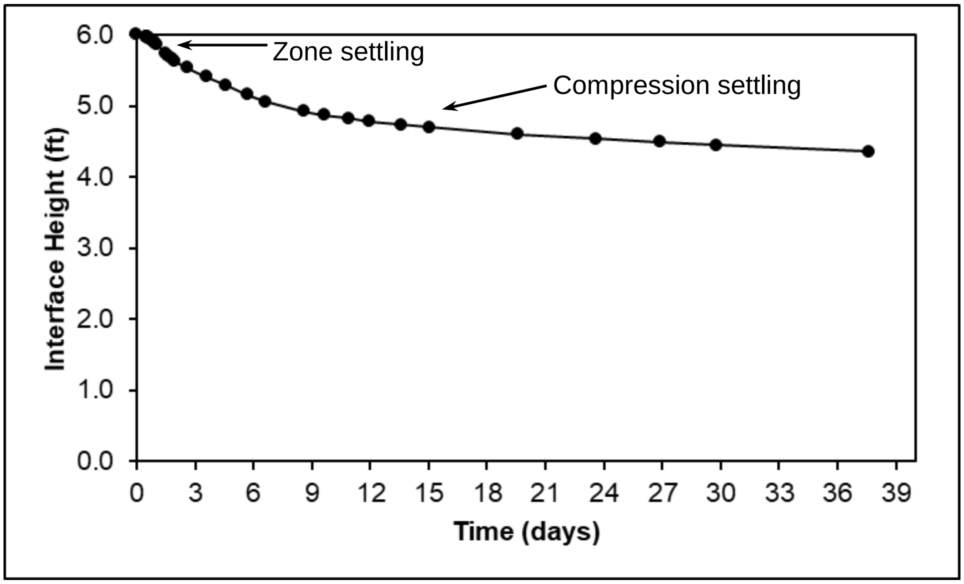

Figure 7: Interface height as a function of time during the third pilot-scale settling test of fine-grained sediment slurry prepared from composited sediment from borings B-1, B-2, and B-3 (C_o=128.6 g/L).

Data for the time interval of 11 to 48 hours of the settling test, during which zone settling behavior was dominant, is depicted separately in Figure 8. A linear regression was performed with the resulting equation and correlation coefficient depicted on the graph. The slope of the regression line, which corresponds to the zone settling velocity, was 0.010 ft/hr (0.24 ft/day).

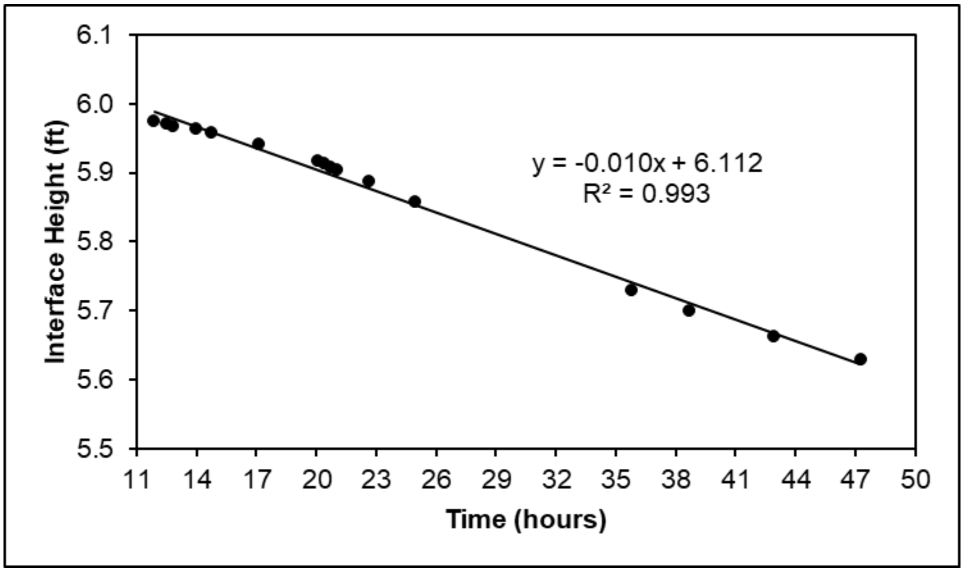

Figure 8: Interface height as a function of time during the zone settling portion of the third pilot-scale settling test of fine-grained sediment slurry prepared from composited sediment from borings B-1, B-2, and B-3 (C_o=128.6 g/L).

For the portion of the settling test during which compression settling was observed, the concentration in the settled solids at each time interval was calculated using the following equation (equation 3-11 in ref. 1).

$$C = \frac{C_o H_i}{H_t}$$

Where:

C = slurry suspended solids concentration at time t (g/L)
C_o = initial slurry suspended solids concentration (g/L)
H_i = initial slurry height (ft)
H_t = height of the interface at time t (ft)

The corresponding suspended solids concentration as a function of time during compression settling is depicted in Figure 9.

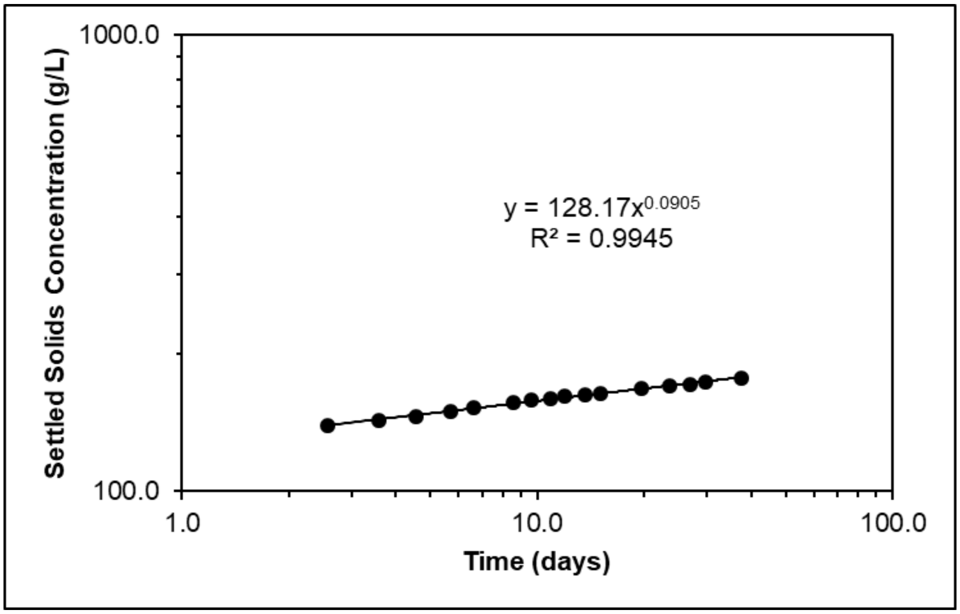

Figure 9: Concentration of settled solids as a function of time during the compression settling portion of the third pilot-scale settling test (C_o=128.6 g/L) of fine-grained sediment slurry prepared from composited sediment from borings B-1, B-3, and B-3.

For analysis of flocculent settling as described in the US Army Corps of Engineers Manual No. 1110-2-5027[1], water was collected from the clarified layer above the sediment-water interface for measurement of total suspended (TSS) following Standard Method 2450D[2]. The first of these samples was collected 86 hours after the start of settling when the sediment-water interface was sufficiently below the uppermost sample port to allow sample collection. Because the TSS concentration in samples collected for characterization of flocculent settling in the zone above the sediment-water interface was low, the mass of suspended solids retained on the filters was lower than 2.5 mg, the minimum mass required for an acceptable analysis following Standard Method 2450D[2]. Consequently, the TSS concentration for all samples from flocculent settling above the sediment-water interface is reported here as <25 mg/L (calculated as the minimum residue mass required for acceptable analysis, 2.5 mg, divided by the sample volume filtered, 0.10 L)

2.4 Data Comparisons

For comparison purposes, the settling behavior observed during the initial two days of the first pilot-scale settling column test conducted using composited sediment from borings B-1, B-2, and B-3 (C_o=149.2 g/L) is shown in comparison with the data from the zone settling portion of the data collected during test 2 (C_o=108.5 g/L) and test 3 (C_o=128.6 g/L) for the B-1, B-2, and B-3 composite sediment. As clearly shown in Figure 10, the zone settling behavior (or lack of zone settling in the case of the first test) heavily depended on the initial concentration of fine-grained particulates in the test.

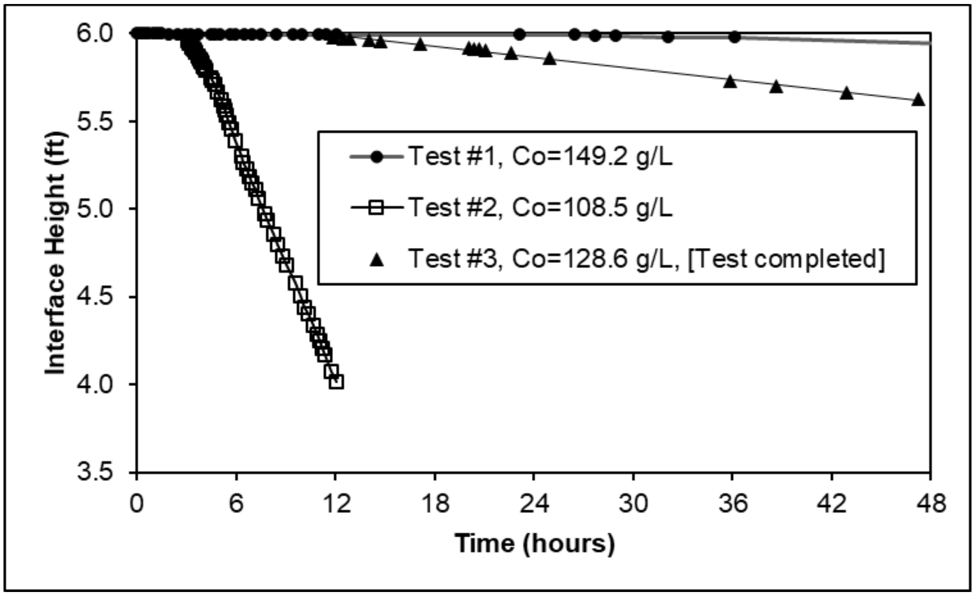

Figure 10: Interface height as a function of time during the first two days of the first pilot-scale column settling test conducted using fine-grained sediment from B-1, B-2, and B-3 (C_o=108.5 g/L) along with zone settling data from pilot-scale settling column test 2 (C_o=108.5 g/L) and test 3 (C_o=128.6 g/L).

Also for comparison purposes, the compression settling behavior of the settled solids in the pilot-scale settling column test conducted using fine-grained sediment slurry prepared from the B-4, B-5, and B-6 composited sediment (C_o=135.8 g/L) is shown below in Figure 11 along with the data from the settled solids in the pilot scale settling column test conducted to completion for fine-grained sediment slurry prepared using B-1, B-2, and B-3 composited sediment (C_o=128.6 g/L). As shown in the figure, the two composited sediment samples exhibited markedly different compression settling, with the B-4, B-5, and B-6 composite sample compacting to a much higher solids concentration than did the B-1, B-2, and B-3 composite sample.

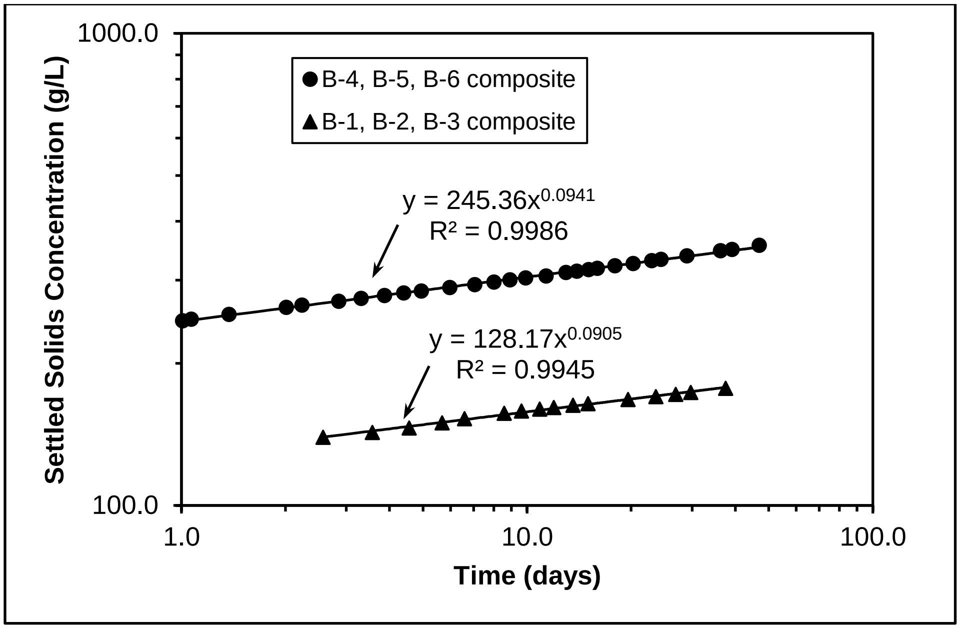

Figure 11: Concentration of settled solids as a function of time during the compression settling portion of the pilot-scale settling test conducted with fine-grained sediment slurry prepared from composite sediment from borings B-4, B-5, and B-6 compared with fine-grained sediment slurry prepared from composite sediment from borings B-1, B-3, and B-3.

2.5 Material Recovery at the Conclusion of Settling Column Testing

At the end of the settling column test conducted using fine-grained sediment slurry prepared from the B-4, B-5, and B-6 composite material, clarified water was decanted from above the sediment water interface to a level of 3.0 ft. The settled solids were resuspended by sparging compressed air into the bottom of the column for a period lasting 15 minutes. Approximately four gallons of the resuspended sediment was drained from a side port into a five gallon bucket for use in subsequent testing.

At the end of the final settling column test conducted using fine-grained sediment slurry prepared from the B-1, B-2, and B-3 composite material, clarified water was decanted from above the sediment water interface to a level of 4.5 ft. The settled solids were resuspended by sparging compressed air into the bottom of the column for a period lasting 15 minutes. Approximately four gallons of the resuspended sediment was drained from a side port into a five gallon bucket for use in subsequent testing.

As requested by S&ME, the resuspended sediment samples described above were delivered to APS Design and Testing LLC (APS) for additional testing.

3.0 References

[1] US Army Corps of Engineers (1987) *Engineering and Design - Confined Disposal of Dredged Material*, Engineer Manual No. 1110-2-5027.

[2] American Public Health Association (1998) *Standard Methods for the Examination of Water and Wastewater*, 20th Edition, American Water Works Association, Water Pollution Control Federation, Washington, DC.

Appendix A

Table A1. Particulate concentrations measured in samples collected from side ports at the start (t=0) of the pilot-scale settling column test for fine-grained slurry prepared from composited sediment from borings B-4, B-5, and B-6.

Port height (ft)[a]	**Particulate Conc. (g/L)**
1.0	136.6
2.0	136.0
3.0	136.0
4.0	135.5
5.0	135.0
6.0	135.5
Average	**135.8**

[a] As measured from the bottom of the column

Table A2. Particulate concentrations measured in samples collected from side ports at the start (t=0) of the first pilot-scale settling column test for fine-grained slurry prepared from composited sediment from borings B-1, B-2, and B-3 [Note: test was terminated before completion.]

Port height (ft)[a]	**Particulate Conc. (g/L)**
1.0	150.6
2.0	149.9
3.0	149.2
4.0	148.5
5.0	148.7
6.0	148.3
Average	**149.2**

[a] As measured from the bottom of the column

Table A3. Particulate concentrations measured in samples collected from side ports at the start (t=0) of the first pilot-scale settling column test for fine-grained slurry prepared from composited sediment from borings B-1, B-2, and B-3 [Note: test was terminated before completion.]

Port height (ft)[a]	Particulate Conc. (g/L)
1.0	108.4
2.0	109.7
3.0	108.3
4.0	107.6
5.0	107.8
6.0	108.9
Average	**108.5**

[a] As measured from the bottom of the column

Table A4. Particulate concentrations measured in samples collected from side ports at the start (t=0) of the third pilot-scale settling column test for fine-grained slurry prepared from composited sediment from borings B-1, B-2, and B-3. Test was run to completion.

Port height (ft)[a]	Particulate Conc. (g/L)
1.0	129.9
2.0	129.1
3.0	128.2
4.0	127.9
5.0	128.3
6.0	128.0
Average	**128.6**

[a] As measured from the bottom of the column

Appendix B

Table B1. Settling data for the pilot-scale settling column test for fine-grained slurry prepared from composited sediment from borings B-4, B-5, and B-6

The height of the sediment-water interface above the bottom of the column was recorded as a function of time as summarized in the table below.

Elapsed Time (hr)	Elapsed Time (days)	Solids Interface Height (ft)	Head height (ft)	Settled Solids Conc. (g/L) [a]
0.00	0.000	6.000	6.000	135.8
0.25	0.010	5.996	6.000	135.9
0.53	0.022	5.996	6.000	135.9
1.15	0.048	5.992	6.000	136.0
1.48	0.062	5.990	6.000	136.0
1.75	0.073	5.984	6.000	136.2
2.00	0.083	5.984	6.000	136.2
2.45	0.102	5.983	6.000	136.2
2.67	0.111	5.979	6.000	136.3
2.92	0.122	5.975	6.000	136.4
3.22	0.134	5.971	6.000	136.5
3.43	0.143	5.958	6.000	136.7
3.58	0.149	5.950	6.000	136.9
3.78	0.158	5.942	6.000	137.1
3.87	0.161	5.938	6.000	137.2
3.95	0.165	5.933	6.000	137.3
4.03	0.168	5.925	6.000	137.5
4.10	0.171	5.917	6.000	137.7
4.17	0.174	5.908	6.000	137.9
4.23	0.176	5.900	6.000	138.1
4.28	0.178	5.892	6.000	138.3
4.33	0.181	5.883	6.000	138.5
4.38	0.183	5.875	6.000	138.7
4.43	0.185	5.867	6.000	138.9
4.50	0.188	5.858	6.000	139.1
4.57	0.190	5.850	6.000	139.3
4.62	0.192	5.842	6.000	139.5
4.67	0.194	5.833	6.000	139.7
4.70	0.196	5.825	6.000	139.9

[a] Calculated using equation 3-11 in ref. 1 based on the average particulate concentration measured at t=0 and the height of the sediment-water interface at each time interval.

Table B1. Continued from previous page

Elapsed Time (hr)	Elapsed Time (days)	Solids Interface Height (ft)	Head height (ft)	Settled Solids Conc. (g/L) [a]
4.75	0.198	5.817	6.000	140.1
4.80	0.200	5.808	6.000	140.3
4.85	0.202	5.800	6.000	140.5
4.95	0.206	5.783	6.000	140.9
5.00	0.208	5.775	6.000	141.1
5.05	0.210	5.767	6.000	141.3
5.10	0.213	5.758	6.000	141.5
5.20	0.217	5.742	6.000	141.9
5.35	0.223	5.717	6.000	142.5
5.50	0.229	5.692	6.000	143.2
5.60	0.233	5.675	6.000	143.6
5.98	0.249	5.617	6.000	145.1
6.12	0.255	5.600	6.000	145.5
6.28	0.262	5.575	6.000	146.2
6.40	0.267	5.558	6.000	146.6
6.53	0.272	5.542	6.000	147.0
6.65	0.277	5.525	6.000	147.5
7.02	0.292	5.475	6.000	148.8
7.22	0.301	5.450	6.000	149.5
7.47	0.311	5.417	6.000	150.4
7.85	0.327	5.367	5.958	151.8
8.00	0.333	5.350	5.958	152.3
8.33	0.347	5.308	5.958	153.5
8.80	0.367	5.250	5.958	155.2
9.50	0.396	5.175	5.942	157.4
10.22	0.426	5.092	5.942	160.0
10.62	0.442	5.050	5.942	161.3
11.00	0.458	5.008	5.942	162.7
21.42	0.892	3.367	5.933	242.0
24.20	1.008	3.308	5.925	246.3
25.63	1.068	3.288	5.925	247.8
33.00	1.375	3.208	5.842	254.0
48.28	2.012	3.100	5.792	262.8

[a] Calculated using equation 3-11 in ref. 1 based on the average particulate concentration measured at t=0 and the height of the sediment-water interface at each time interval.

Table B1. Continued from previous page

Elapsed Time (hr)	Elapsed Time (days)	Solids Interface Height (ft)	Head height (ft)	Settled Solids Conc. (g/L) [a]
53.60	2.233	3.067	5.733	265.7
68.57	2.857	3.008	5.733	270.8
79.50	3.313	2.967	5.725	274.7
93.00	3.875	2.925	5.658	278.6
105.5	4.397	2.892	5.658	281.8
118.7	4.946	2.863	5.658	284.6
143.4	5.974	2.817	5.658	289.3
169.5	7.064	2.775	5.658	293.6
192.7	8.029	2.742	5.658	297.2
214.3	8.931	2.713	5.658	300.4
238.0	9.917	2.688	5.658	303.2
272.5	11.356	2.663	5.658	306.0
311.0	12.958	2.617	5.658	311.4
334.8	13.949	2.600	5.658	313.4
361.7	15.071	2.579	5.658	315.9
383.6	15.985	2.563	5.658	318.0
431.3	17.969	2.533	5.658	321.6
486.2	20.258	2.504	5.658	325.4
551.3	22.972	2.471	5.658	329.8
586.0	24.417	2.454	5.658	332.0
695.8	28.993	2.413	5.658	337.7
871.0	36.292	2.354	5.658	346.1
940.0	39.168	2.338	5.658	348.6
1127.0	46.960	2.292	5.658	355.5

[a] Calculated using equation 3-11 in ref. 1 based on the average particulate concentration measured at t=0 and the height of the sediment-water interface at each time interval.

Table B2. Settling data for the first pilot-scale settling column test for fine-grained slurry prepared from composited sediment from borings B-1, B-2, and B-3. [Note: test was terminated at t=61.1 hours]

Elapsed Time (hr)	Elapsed Time (days)	Solids Interface Height (ft)	Head height (ft)	Settled Solids Conc. (g/L)
0.00	0.000	6.000	6.000	149.2
0.25	0.010	6.000	6.000	149.2
0.50	0.021	6.000	6.000	149.2
0.75	0.031	6.000	6.000	149.2
1.00	0.042	6.000	6.000	149.2
1.50	0.063	6.000	6.000	149.2
2.00	0.083	5.995	6.000	149.3
2.50	0.104	5.995	6.000	149.3
3.00	0.125	5.995	6.000	149.3
3.25	0.135	5.995	6.000	149.3
3.75	0.156	5.995	6.000	149.3
4.50	0.188	5.995	6.000	149.3
4.75	0.198	5.995	6.000	149.3
5.08	0.212	5.995	6.000	149.3
5.65	0.235	5.995	6.000	149.3
6.00	0.250	5.995	6.000	149.3
7.00	0.292	5.995	6.000	149.3
7.50	0.313	5.995	6.000	149.3
8.50	0.354	5.992	6.000	149.4
9.50	0.396	5.992	6.000	149.4
10.00	0.417	5.992	6.000	149.4
11.00	0.458	5.992	6.000	149.4
11.50	0.479	5.992	6.000	149.4
12.08	0.503	5.992	6.000	149.4
23.17	0.965	5.992	6.000	149.4
26.50	1.104	5.992	6.000	149.4
27.75	1.156	5.988	6.000	149.5
29.00	1.208	5.984	6.000	149.6
32.17	1.340	5.979	6.000	149.7
36.20	1.508	5.974	6.000	149.9
49.33	2.056	5.942	6.000	150.7
61.10	2.546	5.888	6.000	152.1

[a] Calculated using equation 3-11 in ref. 1 based on the average particulate concentration measured at t=0 and the height of the sediment-water interface at each time interval.

Table B3. Settling data for the second pilot-scale settling column test for fine-grained slurry prepared from composited sediment from borings B-1, B-2, and B-3. [Note: test was terminated at t=49.92 hours]

Elapsed Time (hr)	Elapsed Time (days)	Solids Interface Height (ft)	Head height (ft)	Settled Solids Conc. (g/L)[a]
0.00	0.000	6.000	6.000	108.5
0.30	0.013	6.000	6.000	108.5
0.67	0.028	5.996	6.000	108.6
1.20	0.050	5.992	6.000	108.7
1.72	0.072	5.988	6.000	108.7
2.13	0.089	5.983	6.000	108.8
2.35	0.098	5.979	6.000	108.9
2.50	0.104	5.975	6.000	109.0
2.65	0.110	5.971	6.000	109.0
2.78	0.116	5.967	6.000	109.1
3.05	0.127	5.958	6.000	109.3
3.18	0.133	5.942	6.000	109.6
3.28	0.137	5.933	6.000	109.7
3.33	0.139	5.925	6.000	109.9
3.40	0.142	5.917	6.000	110.0
3.45	0.144	5.908	6.000	110.2
3.57	0.149	5.892	6.000	110.5
3.68	0.153	5.875	6.000	110.8
3.78	0.158	5.858	6.000	111.1
3.83	0.160	5.850	6.000	111.3
3.88	0.162	5.842	6.000	111.4
3.97	0.165	5.833	6.000	111.6
4.05	0.169	5.817	6.000	111.9
4.12	0.172	5.808	6.000	112.1
4.20	0.175	5.792	6.000	112.4
4.47	0.186	5.750	6.000	113.2
4.58	0.191	5.733	6.000	113.5
4.73	0.197	5.708	6.000	114.0
4.90	0.204	5.667	6.000	114.9
5.07	0.211	5.625	6.000	115.7
5.23	0.218	5.583	6.000	116.6
5.30	0.221	5.567	6.000	116.9

[a] Calculated using equation 3-11 in ref. 1 based on the average particulate concentration measured at t=0 and the height of the sediment-water interface at each time interval.

Table B3. Continued from previous page

Elapsed Time (hr)	Elapsed Time (days)	Solids Interface Height (ft)	Head height (ft)	Settled Solids Conc. (g/L)[a]
5.43	0.226	5.533	6.000	117.7
5.60	0.233	5.492	6.000	118.5
5.72	0.238	5.458	6.000	119.3
5.97	0.249	5.392	6.000	120.7
6.30	0.263	5.300	5.983	122.8
6.43	0.268	5.267	5.983	123.6
6.63	0.276	5.225	5.983	124.6
6.83	0.285	5.183	5.983	125.6
6.98	0.291	5.150	5.983	126.4
7.15	0.298	5.108	5.975	127.4
7.37	0.307	5.058	5.975	128.7
7.73	0.322	4.975	5.975	130.9
7.92	0.330	4.933	5.975	132.0
8.27	0.344	4.858	5.950	134.0
8.52	0.355	4.800	5.950	135.6
8.82	0.367	4.733	5.950	137.5
9.03	0.376	4.683	5.950	139.0
9.55	0.398	4.575	5.950	142.3
9.87	0.411	4.508	5.950	144.4
10.17	0.424	4.442	5.950	146.6
10.35	0.431	4.400	5.950	148.0
10.68	0.445	4.333	5.950	150.2
10.90	0.454	4.283	5.950	152.0
11.05	0.460	4.250	5.950	153.2
11.23	0.468	4.208	5.950	154.7
11.40	0.475	4.167	5.950	156.2
11.78	0.491	4.075	5.950	159.8
12.03	0.501	4.017	5.908	162.1
23.88	0.995	3.225	5.908	201.9
24.83	1.035	3.208	5.833	202.9
27.23	1.135	3.175	5.833	205.0
33.42	1.392	3.108	5.833	209.4
49.92	2.080	2.988	5.833	217.9

[a] Calculated using equation 3-11 in ref. 1 based on the average particulate concentration measured at t=0 and the height of the sediment-water interface at each time interval.

Table B4. Settling data for the third pilot-scale settling column test for fine-grained slurry prepared from composited sediment from borings B-1, B-2, and B-3. [Note: test was run to completion.]

Elapsed Time (hr)	Elapsed Time (days)	Solids Interface Height (ft)	Head height (ft)	Settled Solids Conc. (g/L)[a]
0.00	0.000	6.000	6.000	128.6
11.43	0.476	5.979	6.000	129.0
11.90	0.496	5.975	6.000	129.1
12.52	0.522	5.971	6.000	129.2
12.85	0.535	5.967	6.000	129.3
14.02	0.584	5.963	6.000	129.4
14.77	0.615	5.958	6.000	129.5
17.12	0.713	5.942	6.000	129.9
20.10	0.838	5.917	6.000	130.4
20.40	0.850	5.913	6.000	130.5
20.73	0.864	5.908	6.000	130.6
21.05	0.877	5.904	6.000	130.7
22.65	0.944	5.888	6.000	131.1
24.93	1.039	5.858	6.000	131.7
35.83	1.493	5.729	6.000	134.7
38.68	1.612	5.700	6.000	135.4
42.90	1.788	5.663	6.000	136.3
47.27	1.969	5.629	6.000	137.1
61.77	2.574	5.533	6.000	139.4
85.63	3.568	5.408	6.000	142.7
109.50	4.563	5.292	5.975	145.8
136.43	5.685	5.154	5.975	149.7
158.35	6.598	5.058	5.975	152.5
205.97	8.582	4.921	5.975	156.8
231.30	9.638	4.871	5.975	158.4
260.93	10.872	4.821	5.975	160.1
287.10	11.963	4.783	5.975	161.3
326.07	13.586	4.733	5.975	163.0
360.75	15.031	4.696	5.975	164.3
470.57	19.607	4.600	5.975	167.7
565.87	23.578	4.538	5.967	170.0
645.77	26.907	4.488	5.967	171.9
714.78	29.783	4.450	5.958	173.4
902.00	37.583	4.358	5.958	177.0

[a] Calculated using equation 3-11 in ref. 1 based on the average particulate concentration measured at t=0 and the height of the sediment-water interface at each time interval.

Appendix C

Table C1. Total suspended solids (TSS) concentrations measured above the sediment-water interface for characterization of flocculent settling during the pilot-scale column settling test for fine-grained slurry prepared from composited sediment from borings B-4, B-5, and B-6.

Sample Extraction Time (hr)	Port Height (ft) [a]	Head Height (ft) [a]	Depth of Sample Extraction (ft) [b]	TSS (mg/L)
7.5	5.50	6.00	0.50	127
9.0	5.50	5.96	0.46	70
11	5.50	5.94	0.44	48
24	5.50	5.93	0.43	<25[c]
24	5.00	5.93	0.93	27
24	4.50	5.93	1.43	33
24	4.00	5.93	1.93	96
24	3.50	5.93	2.43	116
33	5.50	5.84	0.34	<25[c]
33	5.00	5.84	0.84	<25[c]
33	4.50	5.84	1.34	<25[c]
33	4.00	5.84	1.84	<25[c]
33	3.50	5.84	2.34	35
48	5.50	5.79	0.29	<25[c]
48	5.00	5.79	0.79	<25[c]
48	4.50	5.79	1.29	<25[c]
48	4.00	5.79	1.79	<25[c]
48	3.50	5.79	2.29	<25[c]
81	5.50	5.73	0.23	<25[c]
81	5.00	5.73	0.73	<25[c]
81	4.50	5.73	1.23	<25[c]
81	4.00	5.73	1.73	<25[c]
81	3.50	5.73	2.23	<25[c]
81	3.00	5.73	2.73	<25[c]

[a] As measured from the bottom of the column

[b] Relative to the top liquid level

[c] The mass of dry residue retained on the filter was less than 2.5 mg (the minimum required for an acceptable analysis). The result is reported here as <25 mg/L [calculated as the minimum residue mass required for acceptable analysis, 2.5 mg, divided by the sample volume filtered (0.10 L)].

Table C2. Total suspended solids (TSS) concentrations measured above the sediment-water interface for characterization of flocculent settling during the second pilot-scale column settling test for fine-grained slurry prepared from composited sediment from borings B-1, B-2, and B-3 (Initial slurry particulate concentration, C_o=108.5 g/L)

Sample Extraction Time (hr)	Port Height (ft) [a]	Head Height (ft) [a]	Depth of Sample Extraction (ft) [b]	TSS (mg/L)
6	5.50	6.00	0.50	778
7	5.50	5.98	0.48	400
8	5.50	5.98	0.48	266
8	5.00	5.98	0.98	880
12	5.50	5.95	0.45	110
12	5.00	5.95	0.95	276
12	4.50	5.95	1.45	592
24	5.50	5.91	0.41	80
24	5.00	5.91	0.91	131
24	4.50	5.91	1.41	134
24	4.00	5.91	1.91	143
24	3.50	5.91	2.41	153
48	5.50	5.83	0.33	58
48	5.00	5.83	0.83	63
48	4.50	5.83	1.33	69
48	4.00	5.83	1.83	71
48	3.50	5.83	2.33	72

[a] As measured from the bottom of the column

[b] Relative to the top liquid level