Preliminary Geotechnical Engineering Study
and Consolidation Evaluation
Proposed North Mare Island Business Park
Vallejo, California

July 20, 2001
8019.00-005

Prepared for
City of Vallejo
555 Santa Clara Street
Vallejo, California 94590

LFR
LEVINE • FRICKE

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July 20, 2001 8019.00-005

Mr. Sam Kumar
City of Vallejo, Public Works Department
555 Santa Clara Street
Vallejo, California 94590

Subject: Preliminary Geotechnical Engineering Study and Consolidation Evaluation, Proposed North Mare Business Park, Vallejo, California

Dear Sam:

Enclosed is the subject report, which presents the results of our preliminary geotechnical engineering study for the proposed North Mare Island Business Park in Vallejo, California ("the Site"). The report has been prepared in accordance with our December 12, 2000 proposal to Legacy Partners and the April 13, 2001 authorization from Korve Engineering, consultant to the City of Vallejo. The results of our field exploration and settlement analyses are presented along with other pertinent findings and conclusions.

Four geotechnical borings were drilled and sampled and eight Cone Penetration Test probes were pushed to obtain subsurface information from beneath the Site. An extensive laboratory testing program was performed to evaluate the consolidation characteristics of the soft soils beneath the Site.

The results of this study indicate that the Bay Mud beneath the Site is consolidated under the existing fill loads. Our analyses show that additional settlement will occur if new fill is placed. The resulting settlement should be accounted for in design so that appropriate pipe slopes can be maintained as settlement occurs and projected settlement for building pads can be estimated. The findings of this preliminary report should be supplemented with additional investigations, as necessary, as the project design is developed.

It has been a pleasure to work with you on this project. If you have any questions, please call me at (510) 596-9580, or Mr. Steve Moreland at our Mare Island office at (707) 562-7176.

Sincerely,

Christopher R. Nardi 7/10/01

REGISTERED PROFESSIONAL ENGINEER CHRISTOPHER R. NARDI NO. 628 Exp. 6-30-02 GEOTECHNICAL STATE OF CALIF.

Christopher R. Nardi, P.E., G.E.
Senior Associate Geotechnical Engineer

Enclosure

cc: Linda Rimbach, Korve Engineering
Scott Huntsman, Ninyo & Moore

CONTENTS

1.0 INTRODUCTION

LFR Levine·Fricke (LFR) has prepared this report to present the results of our preliminary geotechnical engineering study for the proposed North Mare Island Business Park project in Vallejo, California ("the Site"; Figure 1). The Site is located on the northern end of the former Mare Island Naval Shipyard and is bounded by the North Gate and Highway 37 on the north, Cedar Avenue on the west, Causeway Street (G Street) on the south, and Mare Island Strait on the east.

This study has been performed in accordance with LFR's December 12, 2000 proposal, originally submitted to Legacy Partners. This proposal was subsequently presented to the City of Vallejo by Korve Engineering ("Korve") under cover of its letter dated March 6, 2001. LFR was authorized to perform a reduced scope of work by Korve in its April 13, 2001 Notice to Proceed, signed by Ms. Linda Rimbach, Project Manager for Korve.

This study was conducted to develop preliminary geotechnical engineering recommendations and design criteria to be used in the planning of new underground utilities for the Site and establishing preliminary building pad elevations. Data obtained during this study are intended to provide geotechnical information on soil and groundwater conditions at the Site and to estimate the effects of long-term settlement on utilities and building pads.

2.0 PROJECT DESCRIPTION

The proposed project consists of master planning new utility corridors and preliminary street and building pad grades for North Mare Island in anticipation of future redevelopment activities at the former Mare Island Naval Shipyard. We understand that new wet and dry utilities will be constructed along with new roadway sections. We have based our settlement evaluations on the assumption that up to 5 feet of new fill may be placed at various areas of the Site. Additional details of the project are not known at this time.

3.0 SCOPE OF STUDY

Based on our understanding of future redevelopment plans the following scope of services was formulated and completed:

- Eight Cone Penetration Test (CPT) probes were pushed at selected locations across the Site to provide additional subsurface data between the boring locations.
- Four exploratory soil borings were drilled to depths of 78 to 100 feet below ground surface (bgs) at the corners of the Site.

- Soil samples collected from the borings were analyzed at URS Geotechnical Laboratory of Pleasant Hill, California ("URS") to provide soil characteristics for geotechnical engineering analyses.
- Using the laboratory data, estimated magnitude and rate of settlement of Bay Mud due to new fill loads were analyzed to develop preliminary geotechnical engineering criteria for the proposed project.

This report summarizes our study results and presents the above preliminary recommendations and design criteria, as well as the subsurface data on which they are based.

4.0 SUBSURFACE EXPLORATION AND LABORATORY TESTING

4.1 Cone Penetration Testing

Eight CPT probes were advanced on May 9 and 10, 2001, to collect stratigraphic data to assess subsurface soil conditions for the proposed development area. Each probe was pushed to a depth of approximately 89.5 to 120 feet bgs. The CPT program was conducted by Gregg Drilling and Testing of Martinez, California, using a piezo-cone penetrometer mounted on a truck capable of developing a 20-ton push using hydraulic rams. A computer printout was generated as the penetration progressed. Measurements of cone tip resistance, side friction, friction ratio, pore pressure, and differential pore pressure were obtained so that underlying soil types could be evaluated immediately.

Figure 2 illustrates the approximate locations of the CPT probes. The results of the CPT investigation, including plots and data interpretation, are presented in Appendix A.

4.2 Exploratory Soil Borings

In addition to the CPT program discussed above, a drilling program was completed from June 5 through 7, 2001. Spectrum Exploration of Stockton, California, used hollow-stem augers to drill four exploratory soil borings to depths of 78 to 100 feet bgs beneath the proposed development area to obtain soil samples for geotechnical analyses. Figure 2 illustrates the approximate locations of these borings, designated B-1 to B-4.

During drilling, soil samples were collected from the boreholes using a modified California sampler, a thin-walled Shelby tube, or a standard penetration test (SPT) sampler. Collected soil samples and the soil cuttings brought to the ground surface as drilling proceeded were logged at the Site near-continuously by an LFR engineer. The blows required to drive the sampler into the soil at the bottom of the boring (blow count) were recorded on the boring logs. Soils were classified according to the Unified Soil Classification System.

Appendix B presents a description of field methods used and lithologic logs, which were created using field notes and laboratory classifications and testing. A key explaining symbols used in the logs is presented on each log.

4.3 Laboratory Testing

Selected soil samples collected from the borings drilled during this study were retained and submitted to URS for further examination and testing. The following tests were performed on selected samples to evaluate their engineering characteristics for use in the geotechnical engineering analyses.

4.3.1 Moisture Content and Dry Density Tests (ASTM D 2216 and D2937)

Twenty moisture content and dry density tests were performed on representative samples recovered from the borings. The results of these tests are shown on the boring logs at the sample location.

4.3.2 Unconfined Compressive Strength Tests (ASTM D 2166)

Fourteen unconfined compressive strength tests were performed on representative clay samples retrieved using brass liners or Shelby tubes to evaluate shear strength parameters. The results of the unconfined compressive strength tests are shown on the boring logs at the sample location.

4.3.3 Unconsolidated Undrained Triaxial Tests (ASTM D 2850)

Ten unconsolidated undrained triaxial tests were performed on representative clay samples retrieved using brass liners or Shelby tubes to evaluate shear strength parameters. The results of the unconsolidated-undrained triaxial tests, including confining pressure, are shown on the boring logs at the sample location.

4.3.4 Consolidation Tests (ASTM D 2435)

Nine consolidation tests were performed on selected, representative, Shelby tube samples of Bay Mud retrieved from depths of approximately 11 to 42 feet bgs in borings B-1 to B-4. The results of these tests are presented in Appendix C.

4.3.5 Atterberg Limits (ASTM D 4318)

Four Atterberg limit tests were performed on selected, representative samples of Bay Mud at various depths and locations to aid engineering classification and design. The results of these tests are presented in Appendix C.

4.3.6 Particle Size Analysis Tests (ASTM D 422)

Four sieve analyses were performed on selected, representative samples at various depths and locations to aid engineering classification and design. The results of this test are presented in Appendix C.

5.0 SITE AND SUBSURFACE CONDITIONS

5.1 Site Description

The project site is located on the northern end of the former Mare Island Naval Shipyard and is bounded by the North Gate and Highway 37 on the north, Cedar Avenue on the west, Causeway Street (G Street) on the south, and Mare Island Strait on the east in Vallejo, California (Figure 1). The Site encompasses approximately 170 acres and is relatively level. Present site elevations vary from about 11.5 feet above mean sea level (msl) at G Street and Cedar Avenue to 1.5 feet msl near the projected intersections of Firedell Avenue and Q Street.

The Site is presently covered with fill, existing buildings and pavement. There is scattered vegetation in unpaved areas and landscaping around some of the existing buildings.

5.2 Subsurface Conditions

Subsurface soils encountered in the CPT probes and soil borings can be divided into three generalized soil types: surface fill materials, Bay Mud, and stiff to very stiff alluvial deposits. A description of each of these soil types is given below.

Fill Soils. A layer of fill soil, primarily sandy clay/clayey sand and sandy gravel with silt, is present from the existing ground surface to depths of 5 to 11 feet bgs in the borings and CPT probes. Estimated fill thickness contours across the Site are shown on Figure 3. The fill is generally olive or yellowish brown, but varies to gray, with some brown, black, and rust-colored mottling. The fill in these borings is soft/loose to very stiff.

Bay Mud. Silty clay Bay Mud is present beneath the fill soils in borings B-1 to B-4 to a depth of 48.5 feet bgs. Bay Mud thicknesses encountered range from 20 feet (boring B-3) to 50 feet (CPT-2). Contours of Bay Mud thickness are also shown on Figure 3. Consistency of the Bay Mud ranges from very soft to stiff. It is generally a dark greenish gray, but ranges to bluish or greenish black and very dark gray or brown with black mottling. It has an organic odor, and contains some very fine mica, sand, and silt nodules, and a layer of seashell fragments in boring B-4.

The Bay Mud is highly plastic and expansive, with plasticity index test results ranging from 36 to 51. Consolidation test results indicate that the Bay Mud is normally consolidated with the exception of the upper portion of the Bay Mud in boring B-3, which was slightly overconsolidated.

Alluvial Deposits. Beneath the Bay Mud, alluvial deposits were encountered to depths of 120 feet and consisted predominantly of silty and sandy clay, with some layers of silty or clayey sand and sandy or clayey silt. These soils are generally olive or yellowish brown, but vary to dark greenish or yellowish gray, with rust-colored mottling. Generally, the clayey deposits were stiff to very stiff and the sandy deposits medium dense.

Detailed descriptions of the subsurface soil conditions encountered in the exploratory borings for this study are presented in the boring logs in Appendix B.

5.3 Groundwater

Groundwater levels generally stabilized after drilling at depths of approximately 2 to 6 feet bgs (corresponding to elevations ranging from 1 foot below to 6 feet above msl) in the soil borings B-1 to B-4.

6.0 DISCUSSION

6.1 Material Property Characterization

North Mare Island is underlain by fill over Bay Mud. As such, new underground utilities may be constructed in soil ranging from good to poor. In addition, groundwater will be encountered at shallow depths. Fills constructed for new building pads will induce settlement in the soft Bay Mud layer.

In general, the results of the consolidation tests indicate that the Bay Mud is normally consolidated, which implies that the soil is fully consolidated under existing loads. The results of the consolidation test from one of the samples from B-3, however, shows that the upper portion of the Bay Mud at this location has an over-consolidation ratio of approximately 2. This indicates that in the past the Bay Mud in this area has been subjected to a load greater than the existing overburden pressure. Possible sources of additional load may include stockpiling of construction materials for construction of the adjacent former Petty Officers' Club or Bachelors' Quarters. The implication of this condition is that future settlement will be less than in normally consolidated areas and occur more quickly.

The nature of the underlying materials will affect how the Site is developed in the future. New fill should have sufficient shear strength to support future development

where deep foundations are not required. The strength and compressibility of the Bay Mud will affect the means and methods of constructing new fills and utility trenches.

6.2 Settlement

The amount of settlement that will occur at a given location is directly related to the magnitude of the applied load, the thicknesses of existing fill and compressible soil layers, depth to groundwater, and soil compressibility. For a given loading condition and compressibility, a thicker compressible soil layer or thinner fill will experience more settlement. Similarly, for a given loading condition and layer thickness, a soil with a greater compressibility will experience greater settlement. As the load on the soil layer is increased, such as when fill is placed or foundations are constructed, settlement will increase.

Future settlement along the proposed utility corridors was evaluated assuming new fill thicknesses of 1, 3, and 5 feet on idealized soil profiles with 5 to 10 feet of existing fill overlying 20 to 50 feet of Bay Mud. Settlement calculations were performed using one-dimensional consolidation theory and the procedures outlined in Duncan and Buchignani (1976). The computer program CONSOL (Duncan et al. 1988) was used to perform the calculations. The consolidation characteristics of the compressible layer were determined from consolidation test results presented in Appendix C. The results of the settlement analyses are shown on Figure 4.

We estimate that 95 percent of the ultimate consolidation settlement, shown on Figure 4, in the Bay Mud is expected to occur over a period of 20 to 90 years, depending on layer thickness. For periods of 20 and 30 years after placing new fill the percentage consolidation will range from 60 to 100 percent and 70 to 100 percent, respectively. If practical, surcharge fills could be designed for future development activities to reduce the magnitude of future settlement and the time over which they occur.

Primary consolidation is considered complete when the water pressure within the soil pores from the applied load has reached equilibrium with the applied load. However, although a constant load condition has been reached, some decrease in the layer thickness will continue to occur. This continued decrease in thickness with time is called secondary compression and usually occurs at a much slower rate than primary consolidation.

7.0 PRELIMINARY TRENCHING RECOMMENDATIONS

7.1 Excavation and Shoring

Trenches for new underground utilities will range in depth from 3 to 18 feet and can be excavated with conventional equipment. Trenches should be excavated as required by the plans and specifications using appropriate equipment. Trench spoils should not be

stockpiled within a 1 horizontal to 1 vertical plane extended upward from the bottom of the trench. Groundwater may be encountered in trenches deeper than 2 feet, depending upon location, and require dewatering.

Where necessary, trenches should be sloped or shored by the contractor in accordance with the strictest governing safety standards to provide a safe work site. The contractor shall be responsible for any temporary slopes and trenches excavated at the Site and for design of shoring, should it be required.

Trenches deeper than 3 to 4 feet may require sloping or shoring depending on the nature of the soils encountered and the depth to groundwater. Shoring needs may range from hydraulic shores in shallow clay soils to driven sheet piles in deeper trenches that may encounter Bay Mud greater than 3 feet thick at the trench bottom. Sheeting may be required if hydraulic shores are used for shallow trenches in granular soils. Trench boxes should be suitable for intermediate trenches in most soils; however, if the embedment into Bay Mud is greater than 2 or 3 feet and the Bay Mud begins to squeeze, removal may be difficult. Trenching systems need to be designed so that embedment is sufficient to maintain a stable bottom elevation and prevent bottom heave.

7.2 Bedding

All pipes should be bedded on appropriate material, such as fine sand, in accordance with the pipe manufacturers recommendations and City of Vallejo standards. For trenches that terminate in Bay Mud, it may be necessary to use a geotextile-wrapped drain rock layer to create a stable trench bottom so that the bedding and backfill material can be placed and compacted.

7.3 Backfill and Compaction

Trenches should be backfilled with compacted fill in accordance with the stricter of the recommendations contained in this section or in accordance with local requirements. Fill material should be placed in lifts no greater than 8 inches in loose thickness and compacted by mechanical means. Jetting of trench backfill is prohibited. Trench backfill should be compacted to a minimum of 90 percent relative compaction, except where located within a pavement section where the upper portion may require compaction to 95 percent.

7.4 Future Services

We recommend that the geotechnical aspects of the project be reviewed by LFR during the design process. The scope of our services may include:

- further geotechnical studies to address the following items:

- additional laboratory testing such as consolidated-undrained triaxial strength tests with pore pressure measurements
- design of surcharge fills
- evaluation of bearing capacity considerations due to fill placement
- shoring design parameters
- analyses to evaluate design parameters for shallow and deep foundations

- assisting the design team in providing specific recommendations for special cases
- reviewing the geotechnical portions of the project for possible cost savings through alternative approaches
- reviewing the proposed construction techniques to evaluate whether they satisfy the intent of LFR's recommendations
- reviewing and stamping drawings

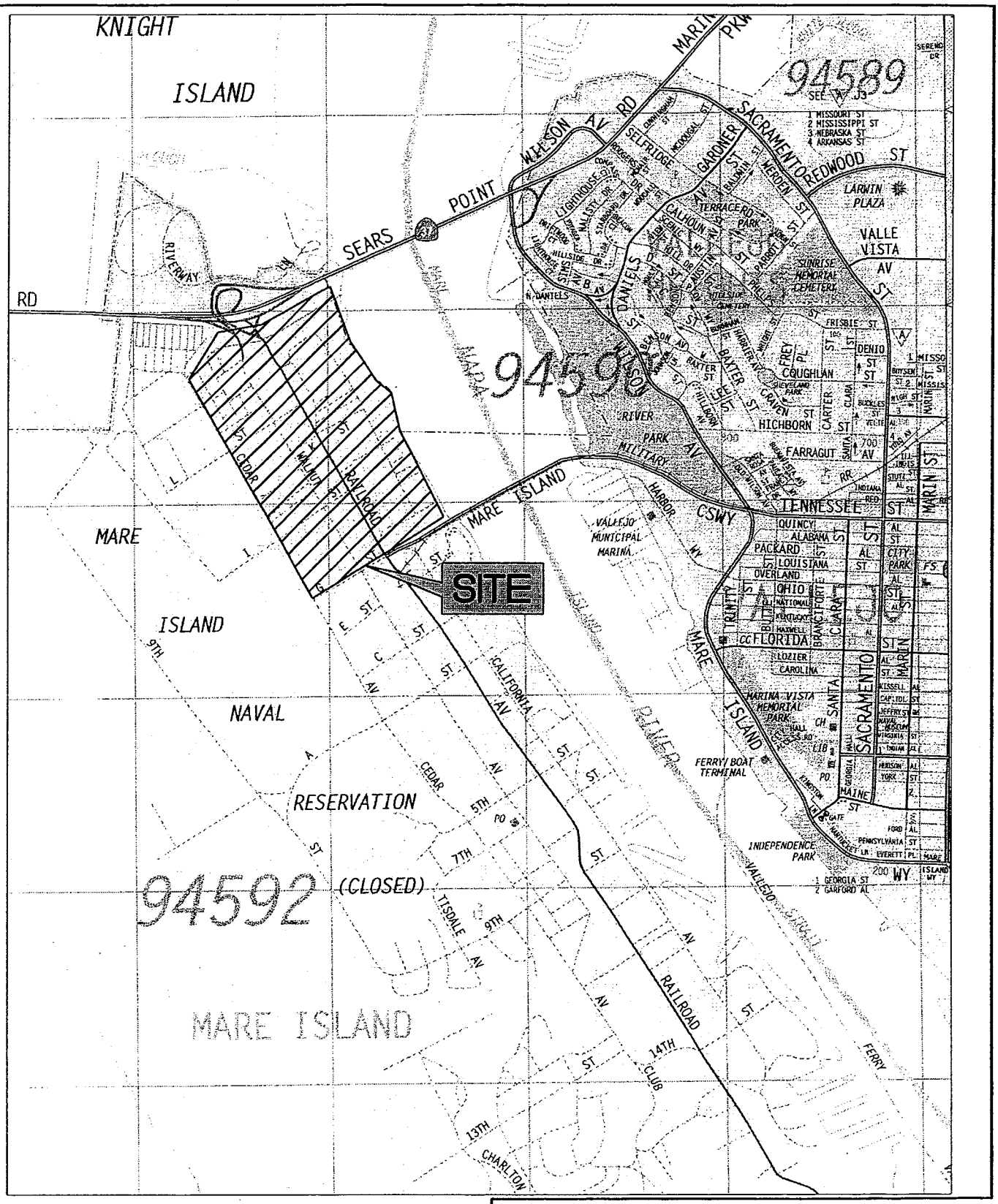
8.0 BASIS OF RECOMMENDATIONS

The recommendations in this report are based on the assumption that the soil conditions encountered in this study and previous studies are representative of the soils in the site area. The geotechnical engineer should be retained to review the appropriate portions of the project plans and specifications to verify that the recommendations made in this report and their intent have been incorporated. If conditions are encountered during construction that differ from those assumed in design and found in the test borings, the geotechnical engineer should be contacted to review the conditions and provide additional recommendations, if appropriate. The conclusions and recommendations are intended for use in final design and assume that the geotechnical engineer will observe site preparation and grading, foundation construction, site drainage provisions, and other geotechnical aspects of the project.

REFERENCES

Duncan, J. M., and A. L. Buchignani. 1976. An Engineering Manual for Settlement Studies. Department of Civil Engineering, University of California at Berkeley. June.

Duncan, J. M., R. W. Smith, T. L. Brandon, and K. S. Wong. 1988. CONSOL Version 2.0: A Computer Program for 1-D Consolidation Analysis of Layered Soil Masses. Department of Civil Engineering, Virginia Polytechnic Institute. February.



Site Vicinity Map

MARE ISLAND

LFR LEVINE•FRICKE

Figure 1

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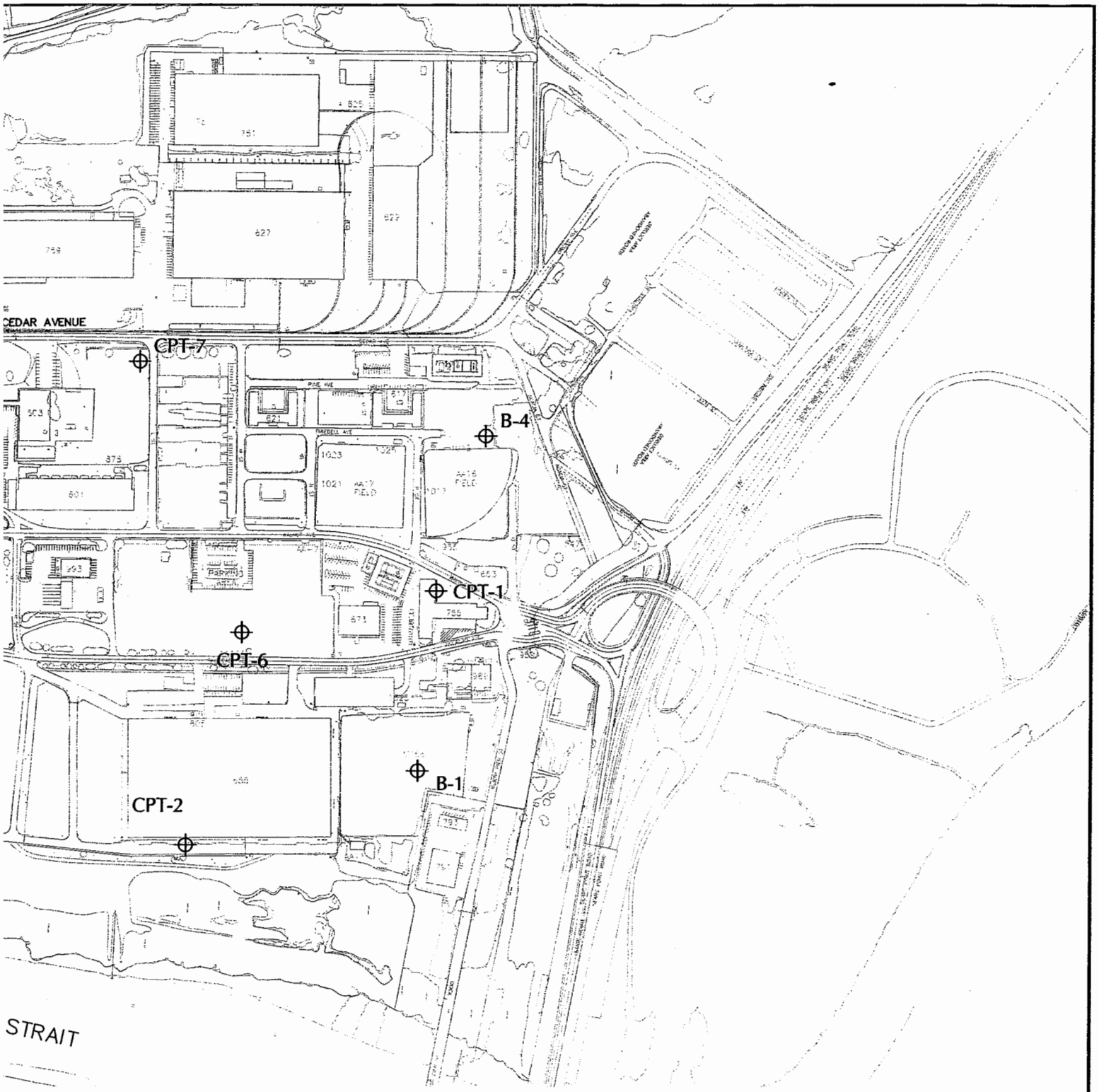

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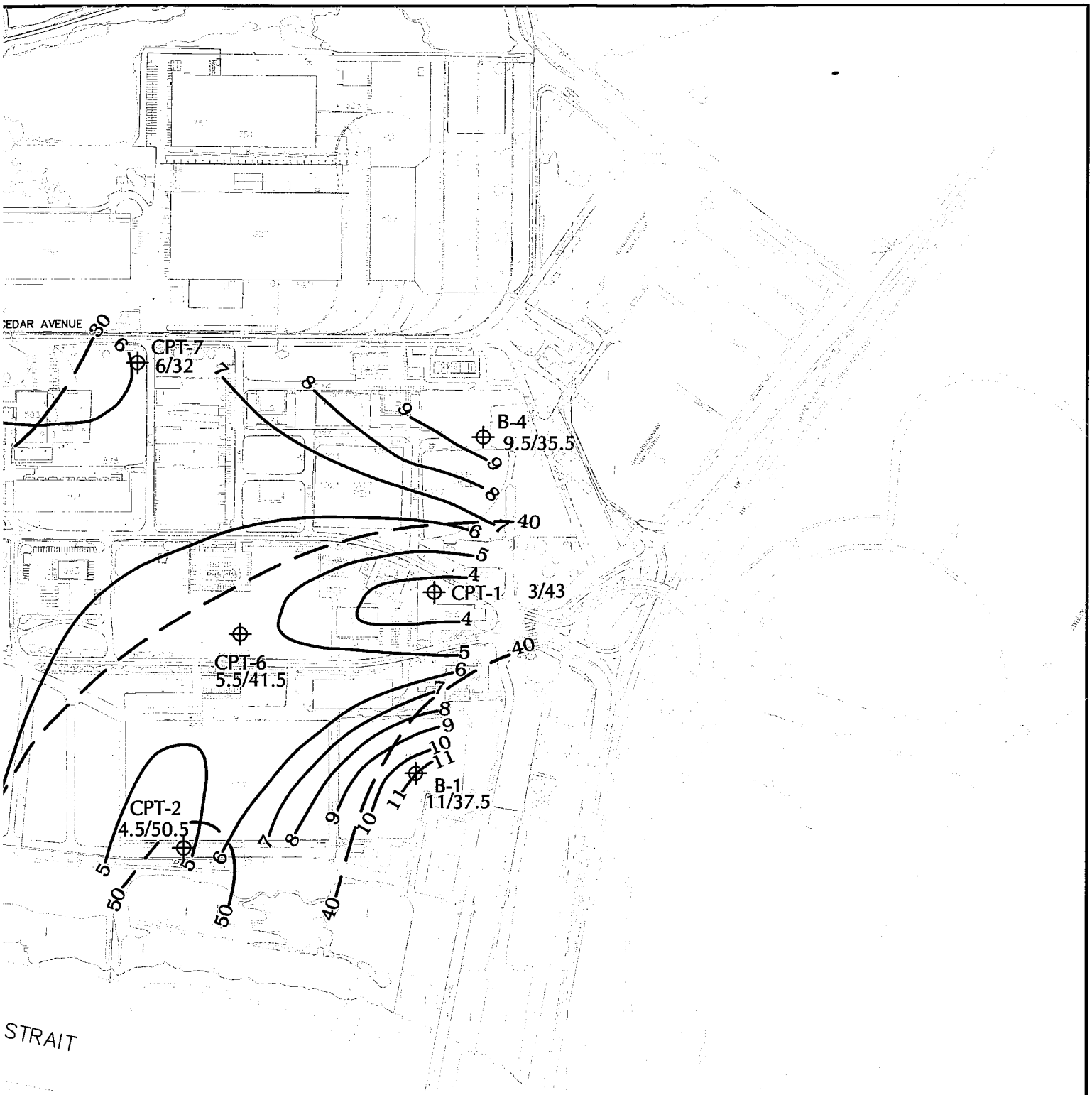
Site Plan
Boring and Cone Penetration Test
Location Map

MARE ISLAND

LFR LEVINE • FRICKE

Figure 2



and number

test location

ess at location

0 400 FEET

Site Plan Showing
Contours of Approximate
Fill and Bay Mud Thicknesses

MARE ISLAND

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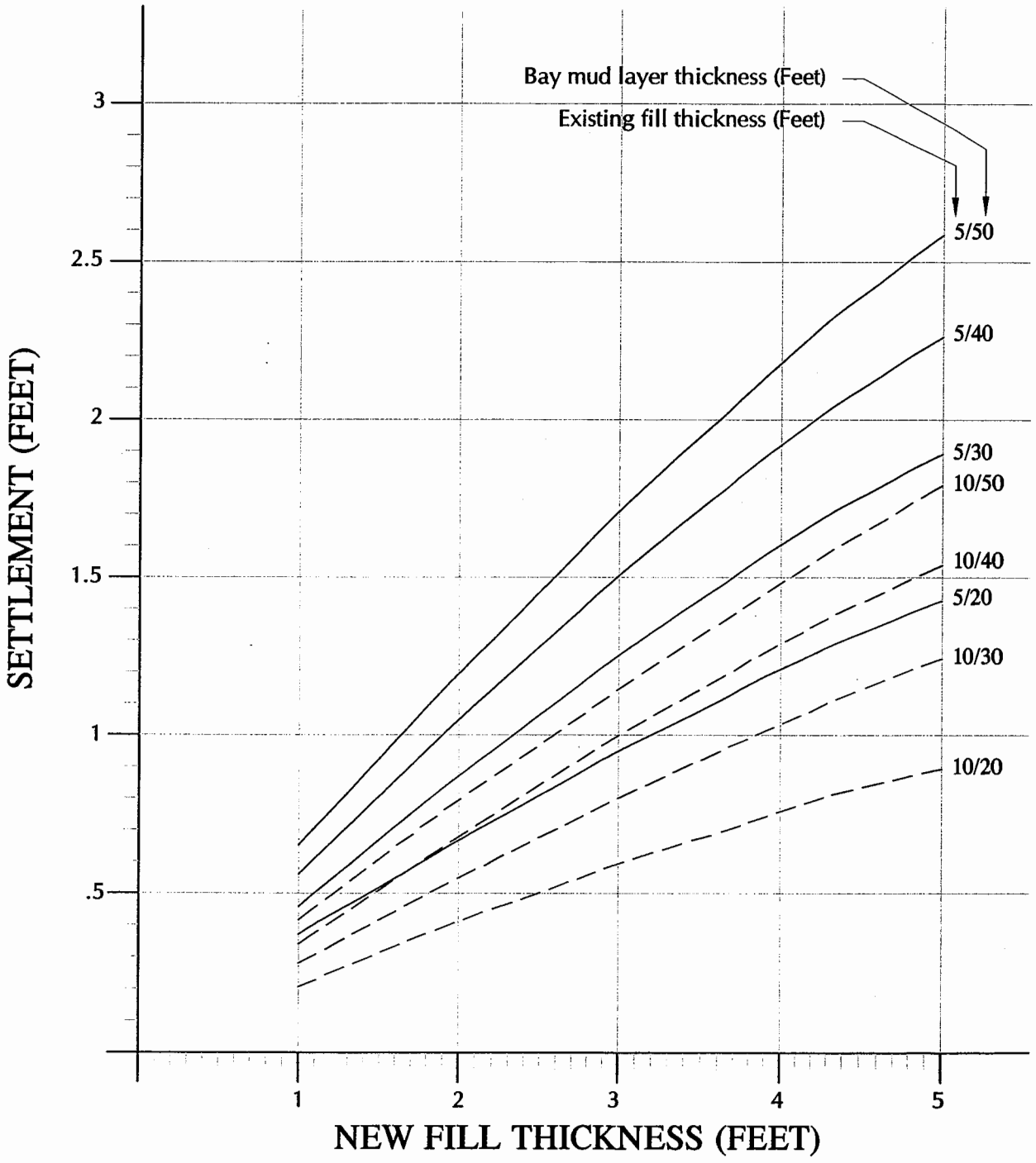
Figure 3



EXPLANATION:

——— Estimated settlement for 5 feet of existing fill

– – – – Estimated settlement for 10 feet of existing fill

Settlement Versus
New Fill Thickness

MARE ISLAND

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Figure 4

7/10/2001 3:02 P.M. - Drawing File(.DWG): J:\ENGCAD\8019\8019-002.DWG

APPENDIX A

CONE PENETRATION TEST RESULTS

GREGG DRILLING & TESTING, INC.

SPECIALIZING IN ENVIRONMENTAL, GEOTECHNICAL AND IN-SITU TESTING

May 14, 2001

Chris Nardi
Levine Fricke Recon
1900 Powell Street, 12th Floor
Emeryville, CA

Tel #: (510) 652-4500
Fax #: (510) 652-2246

RE: CPT Site Investigation – Mare Island, Vallejo Ca.
May 09-10,2001

Dear Chris,

Please find enclosed a data report and diskette for the site investigation work carried out at the above referenced site from May 09-10,2001 Please contact me at our Martinez office if you have any questions/comments concerning the enclosed contents.

Sincerely,

Tim J. Boyd, Operations Manager – CPT Division

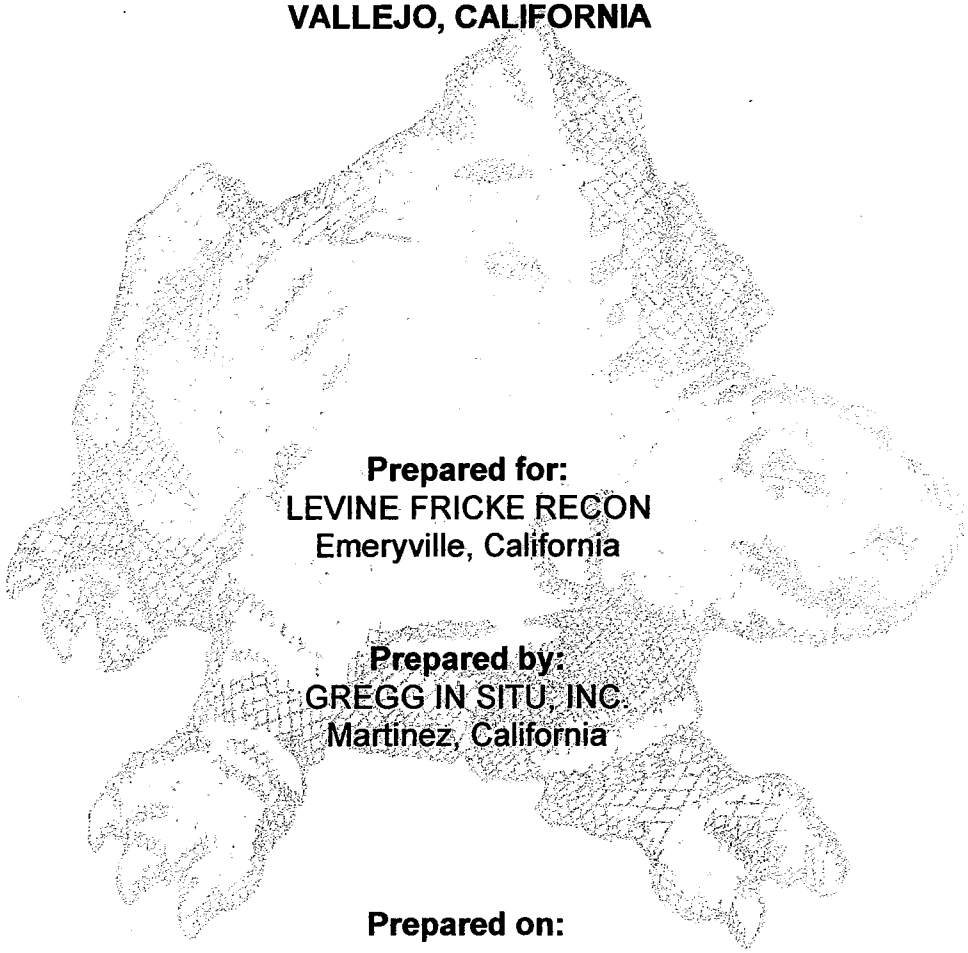
SOUTHERN CALIFORNIA: 2726 WALNUT AVENUE • SIGNAL HILL, CA 90806 • (562) 427-6899 • FAX (562) 427-3314
NORTHERN CALIFORNIA: 950 HOWE ROAD • MARTINEZ, CA 94553 • (925) 313-5800 • FAX (925) 313-0302
CENTRAL CALIFORNIA: P.O. BOX 3618 • PASO ROBLES, CA 93446 • (805) 226-9672
www.greggdrilling.com

GREGG DRILLING & TESTING, INC.

SPECIALIZING IN ENVIRONMENTAL, GEOTECHNICAL AND IN-SITU TESTING

PRESENTATION OF CONE PENETRATION TEST DATA

MARE ISLAND
VALLEJO, CALIFORNIA



Prepared for:
LEVINE FRICKE RECON
Emeryville, California

Prepared by:
GREGG IN SITU, INC.
Martinez, California

Prepared on:

May 14, 2001

SOUTHERN CALIFORNIA: 2726 WALNUT AVENUE • SIGNAL HILL, CA 90806 • (562) 427-6899 • FAX (562) 427-3314
NORTHERN CALIFORNIA: 950 HOWE ROAD • MARTINEZ, CA 94553 • (925) 313-5800 • FAX (925) 313-0302
CENTRAL CALIFORNIA: P.O. BOX 3618 • PASO ROBLES, CA 93446 • (805) 226-9672
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LFR

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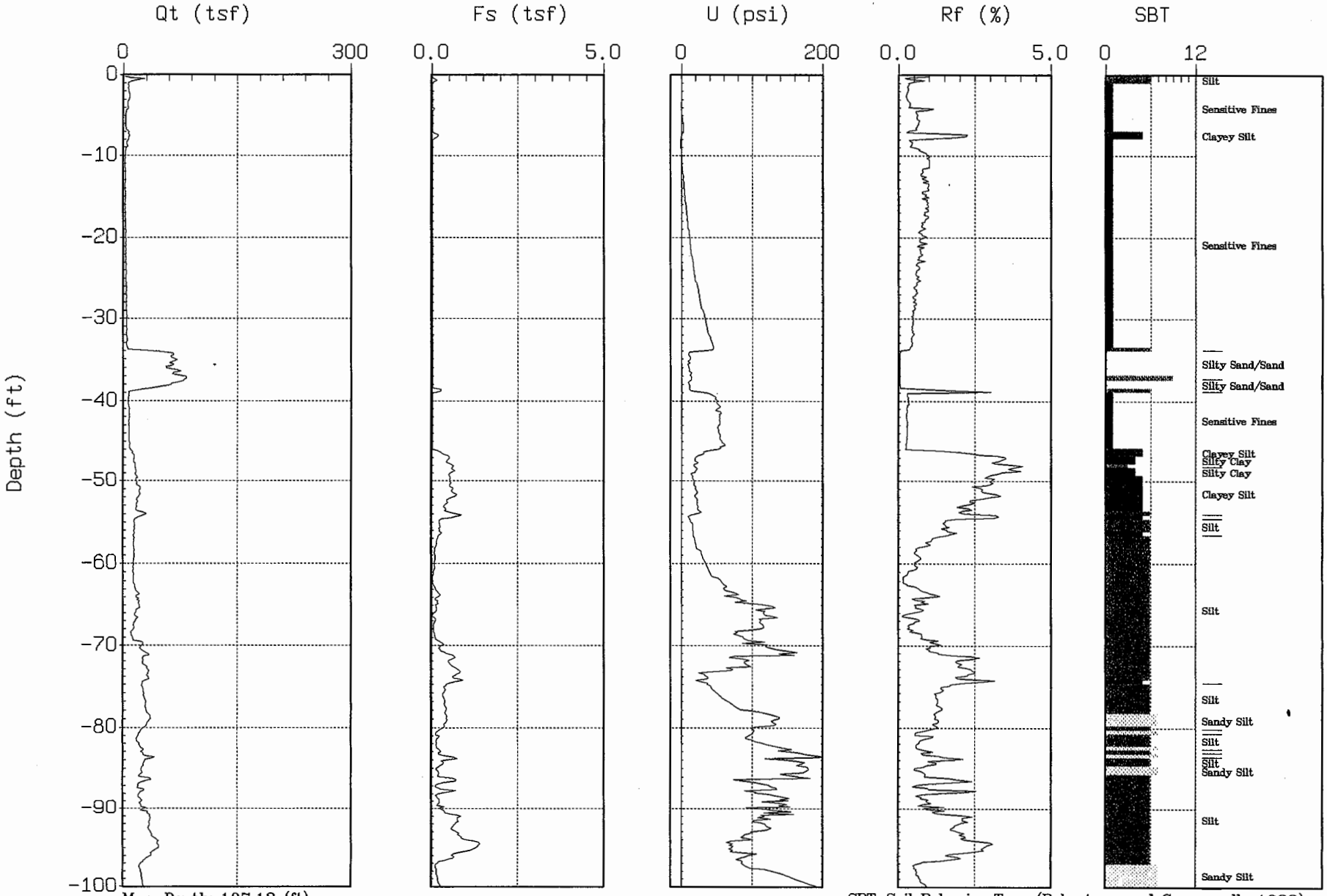
Location : CPT-1

Engineer: C. NARDI
Date : 05:09:01 14:22



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Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

LFR

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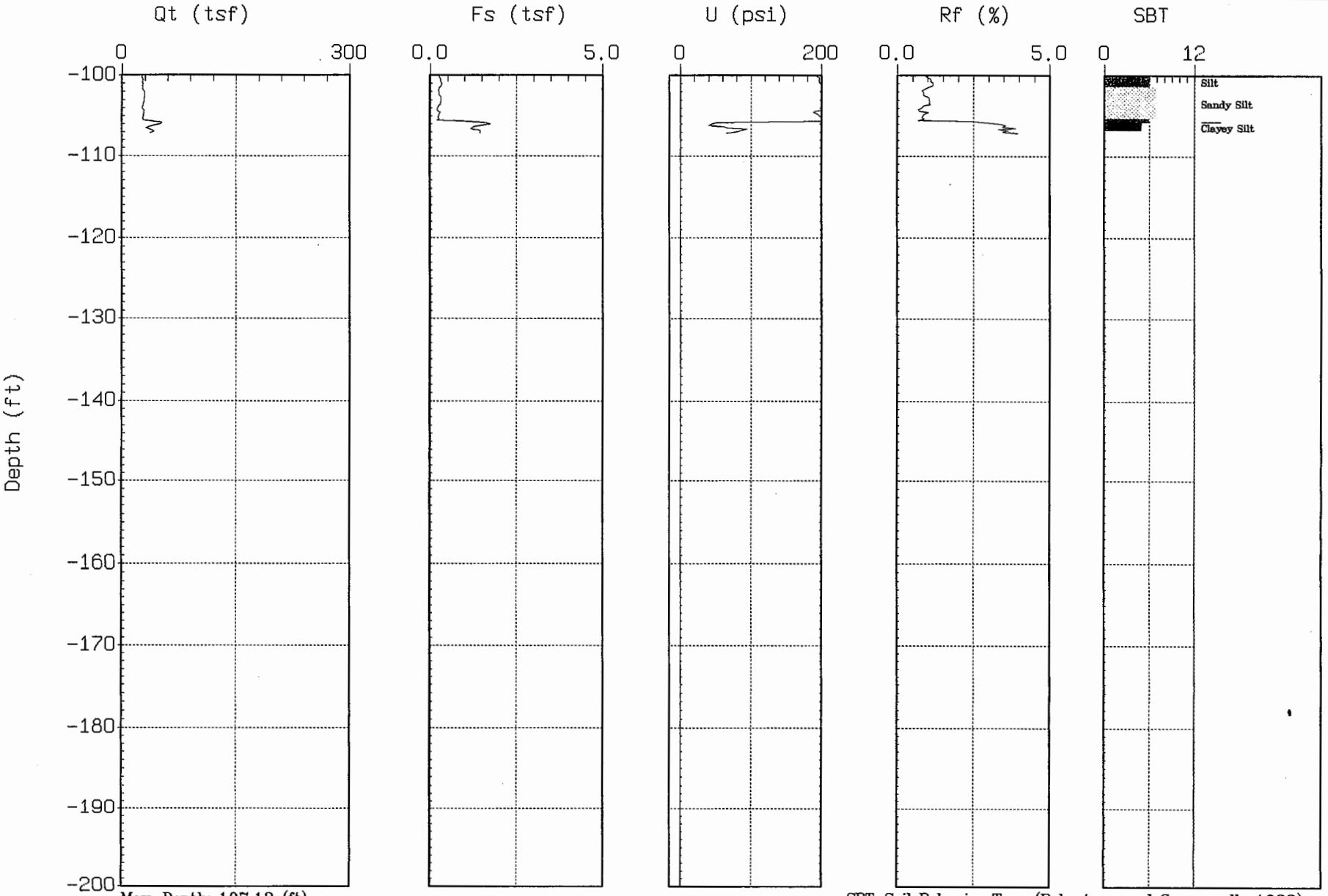
Location : CPT-1

Engineer: C. NARDI
Date : 05:09:01 14:22



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SBT: Soil Behavior Type (Robertson and Campanella 1988)

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Engineer: C. NARDI
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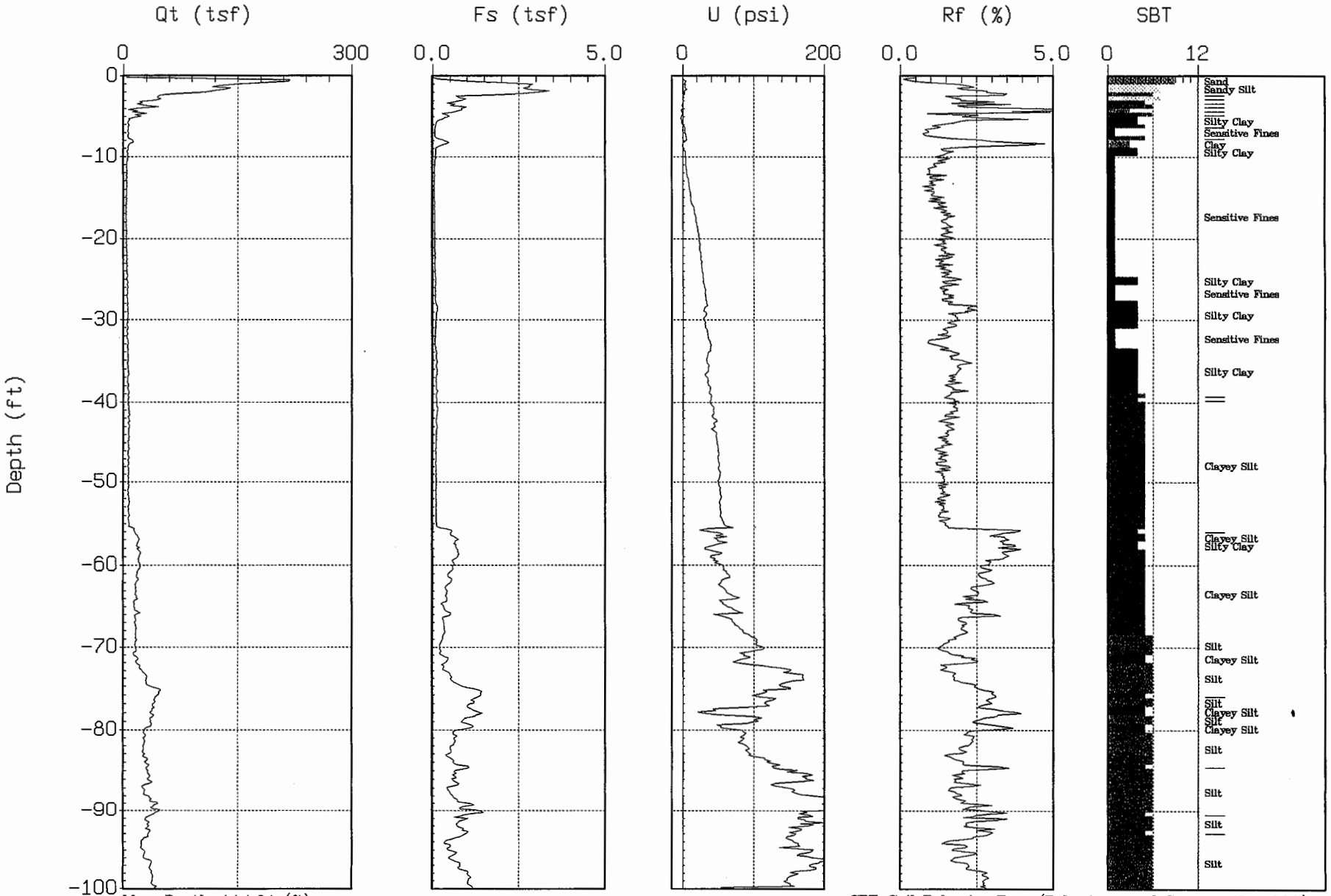

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Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson and Campanella 1988)

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LFR

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Engineer: C. NARDI
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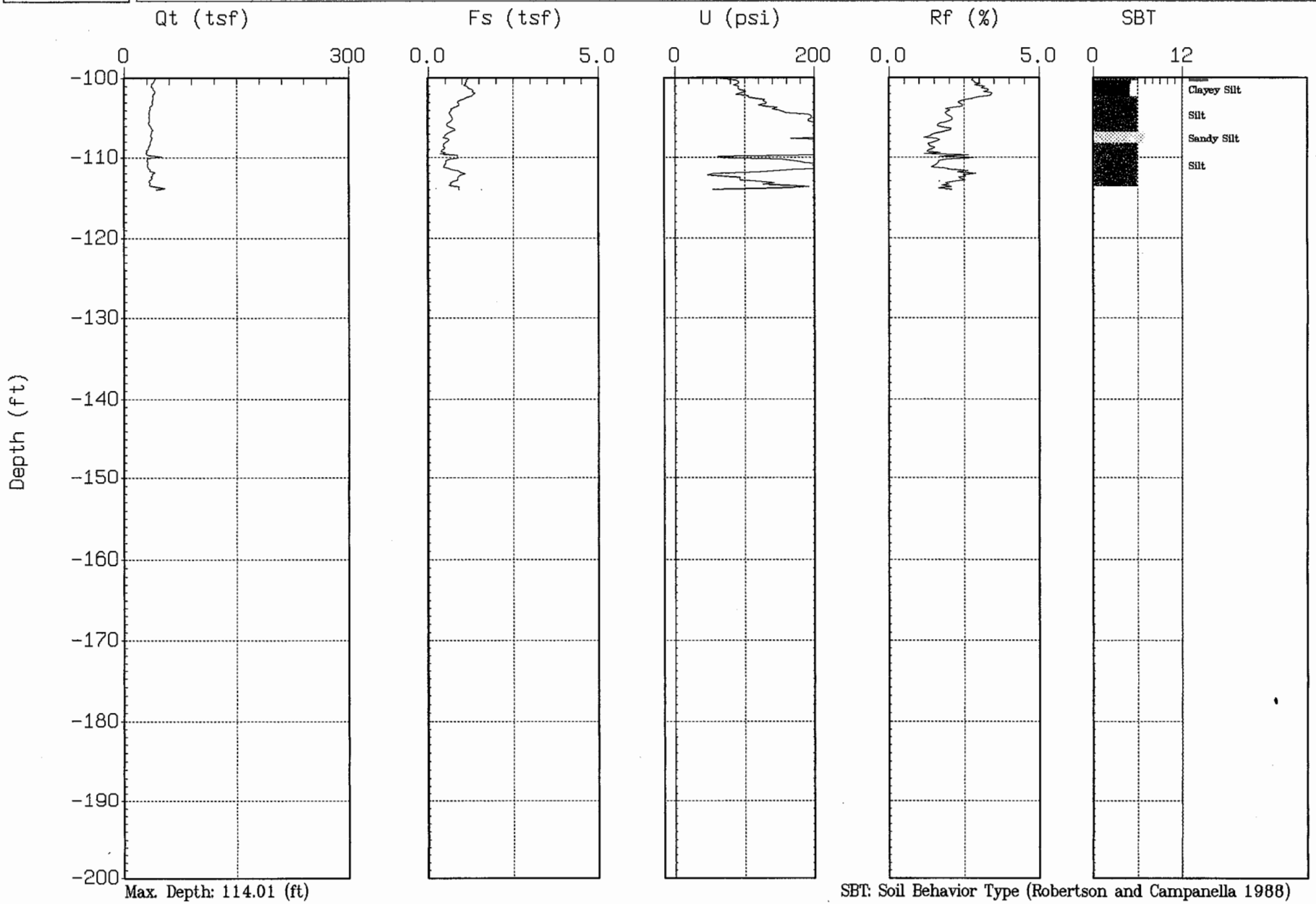

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Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson and Campanella 1988)

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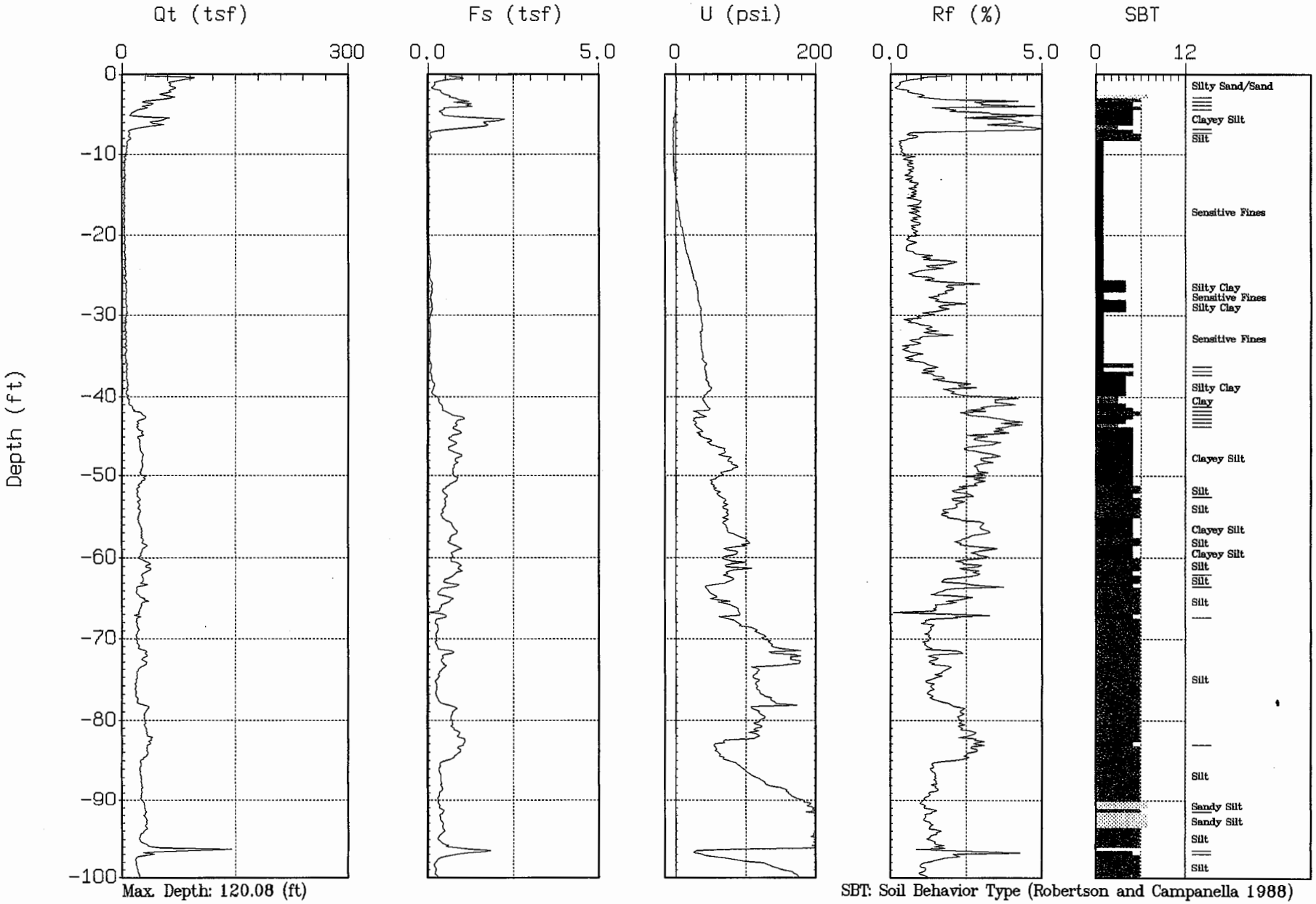
Location : CPT-3

Engineer: C. NARDI
Date : 05:09:01 09:04



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Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson and Campanella 1988)

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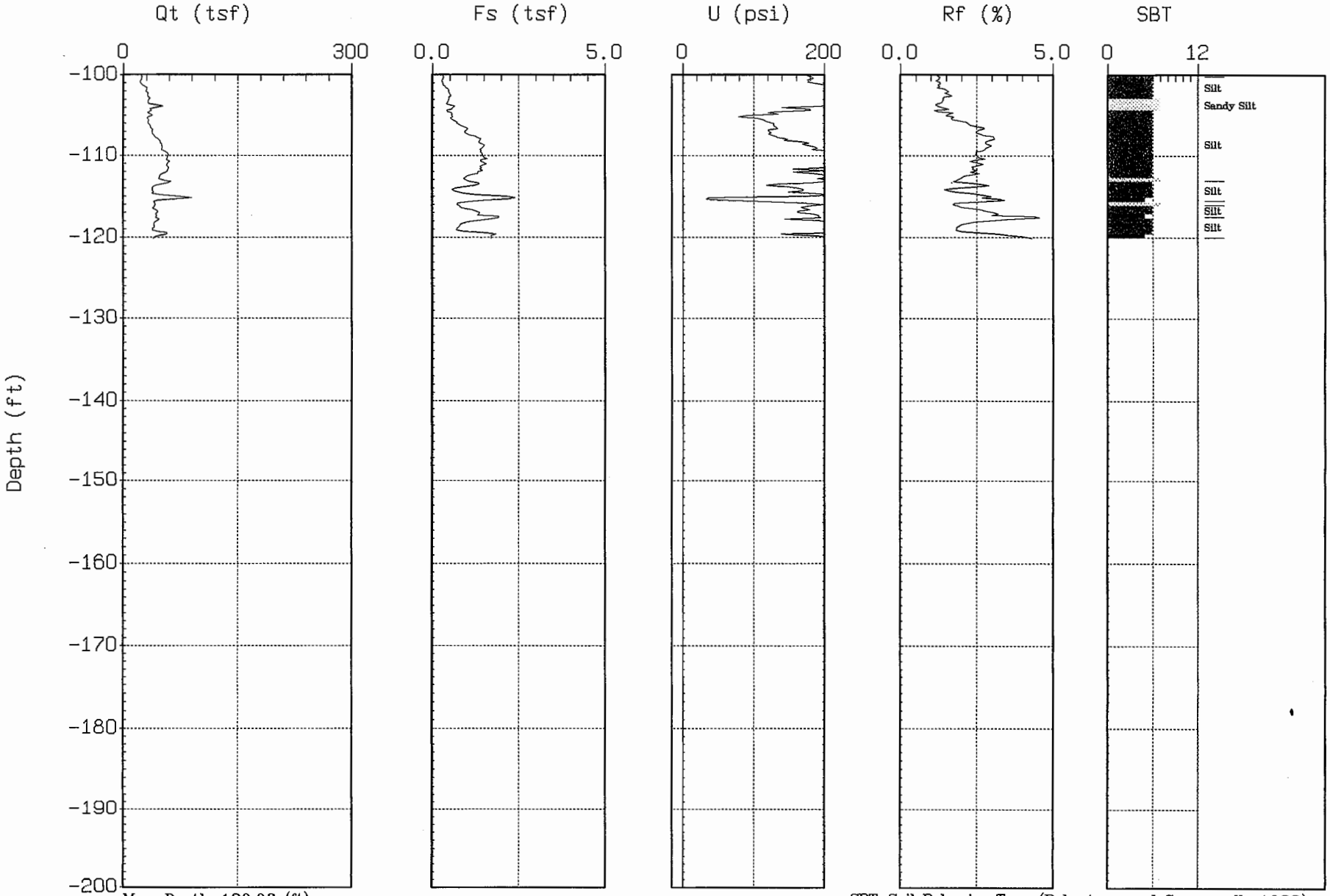
Location : CPT-3

Engineer: C. NARDI
Date : 05:09:01 09:04



Max. Depth: 120.08 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson and Campanella 1988)

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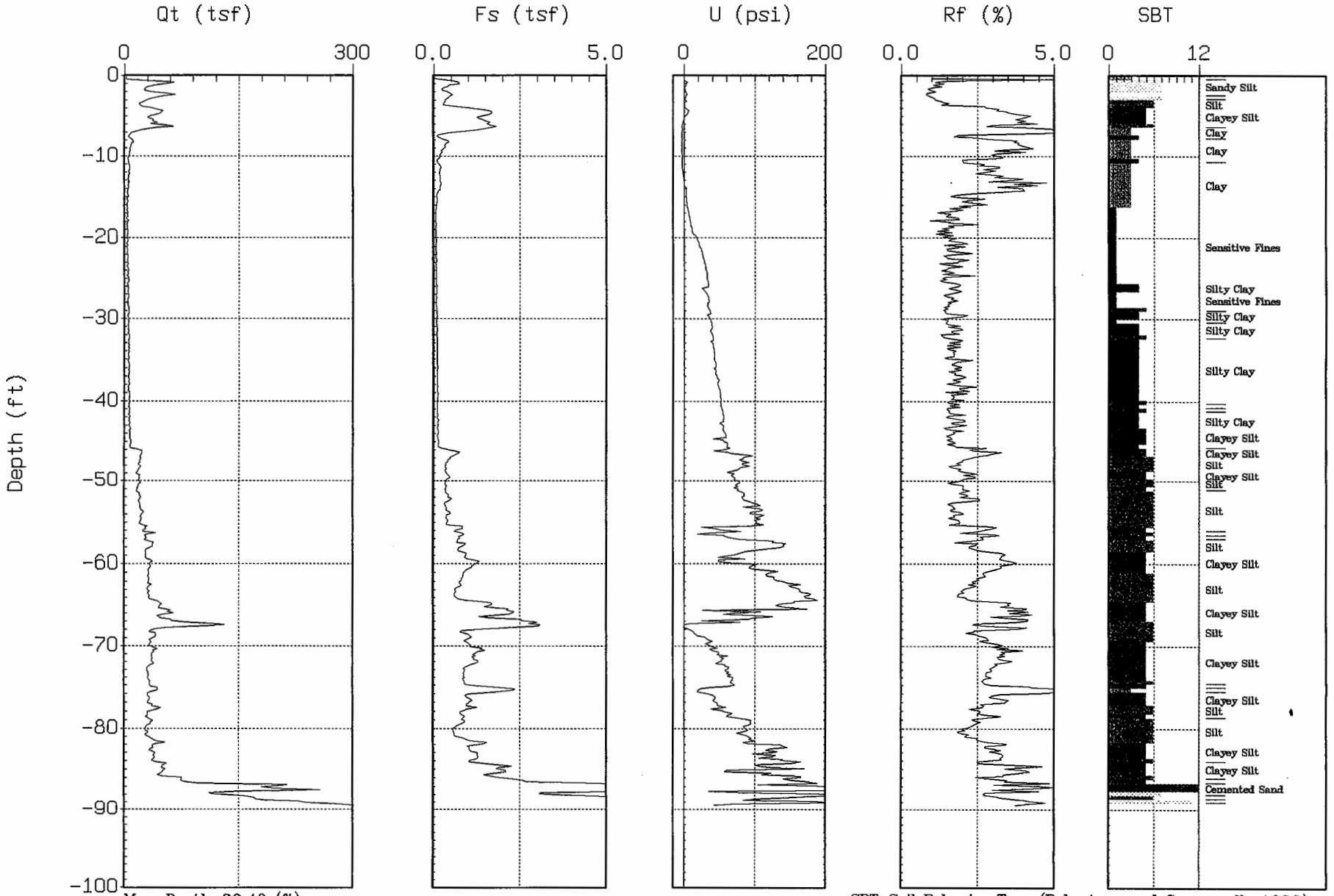
Site : N.E. MARE ISL.
Location : CPT-4

Engineer: C. NARDI
Date : 05:09:01 07:59



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Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson and Campanella 1988)

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LFR

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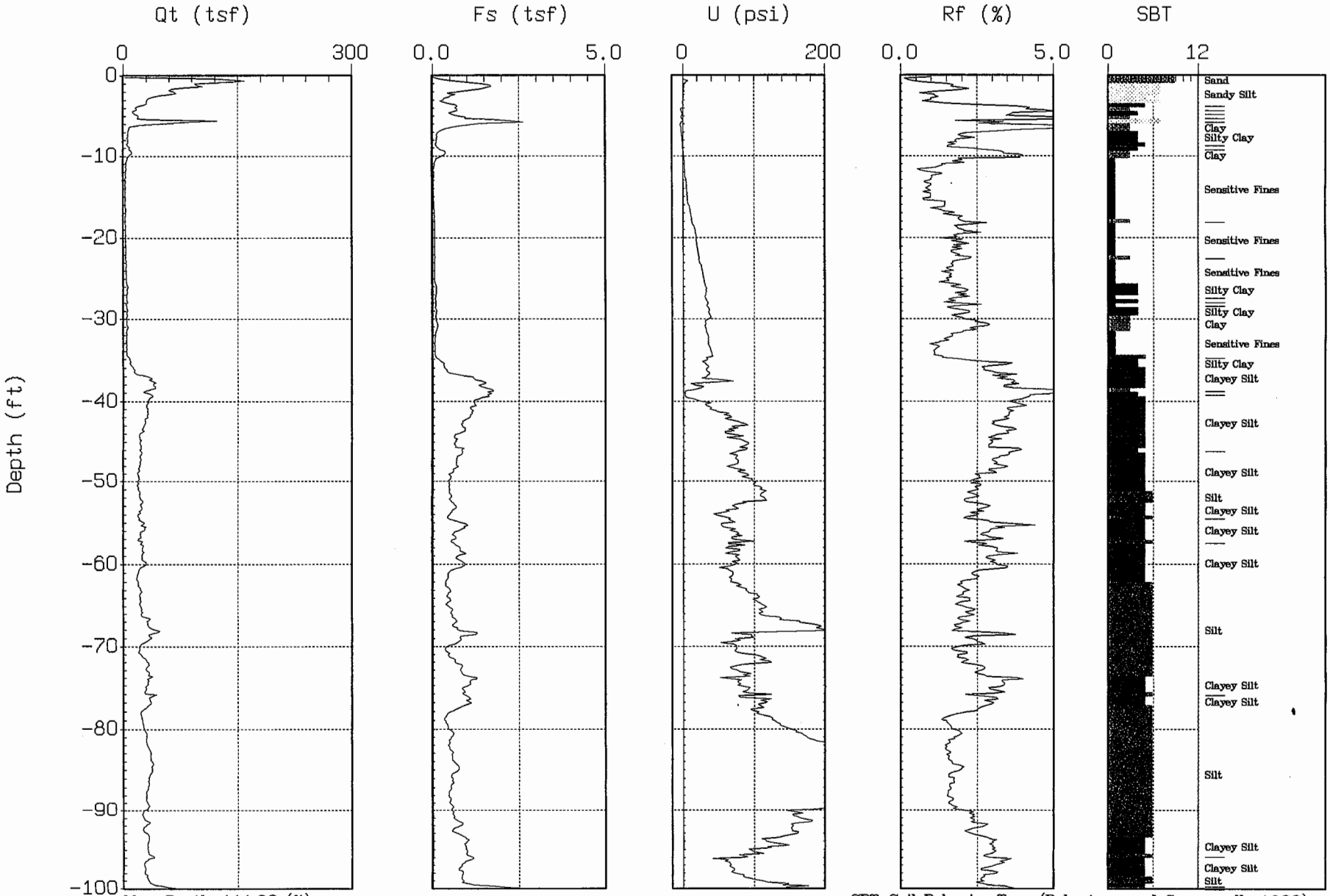
Location : CPT-5

Engineer: C. NARDI
Date : 05:09:01 10:12



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Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson and Campanella 1988)

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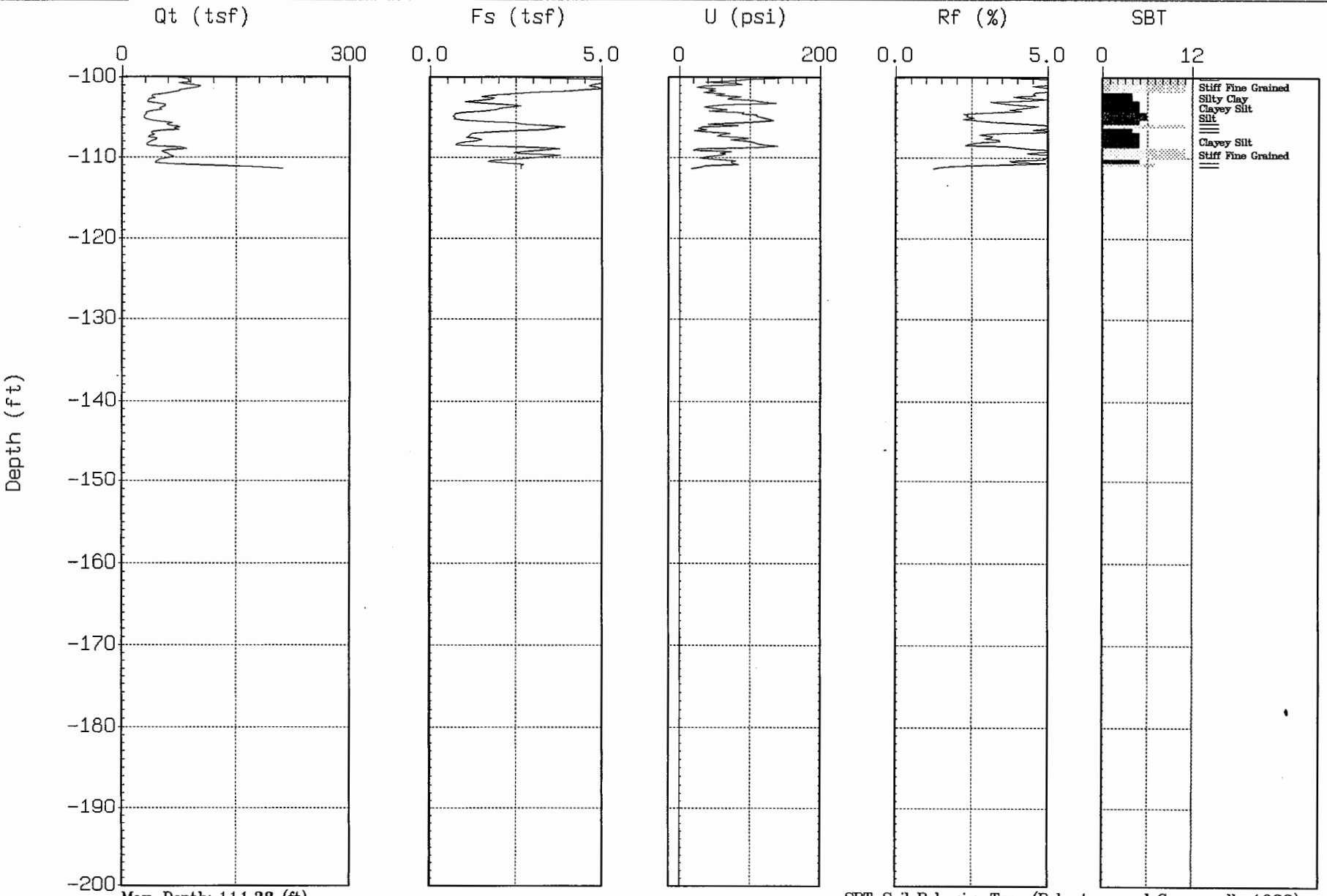
Engineer: C. NARDI
Date : 05:09:01 10:12



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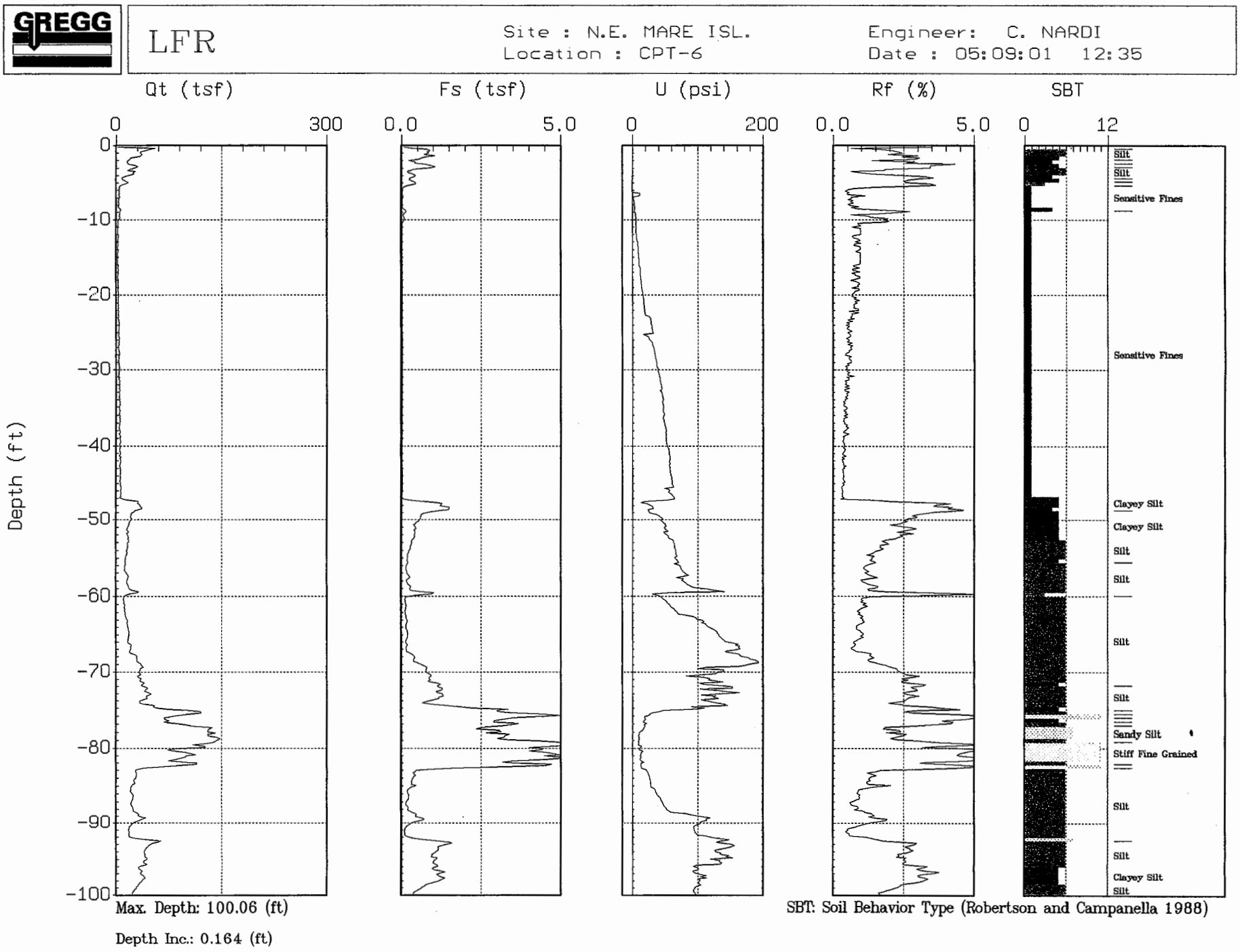
Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson and Campanella 1988)

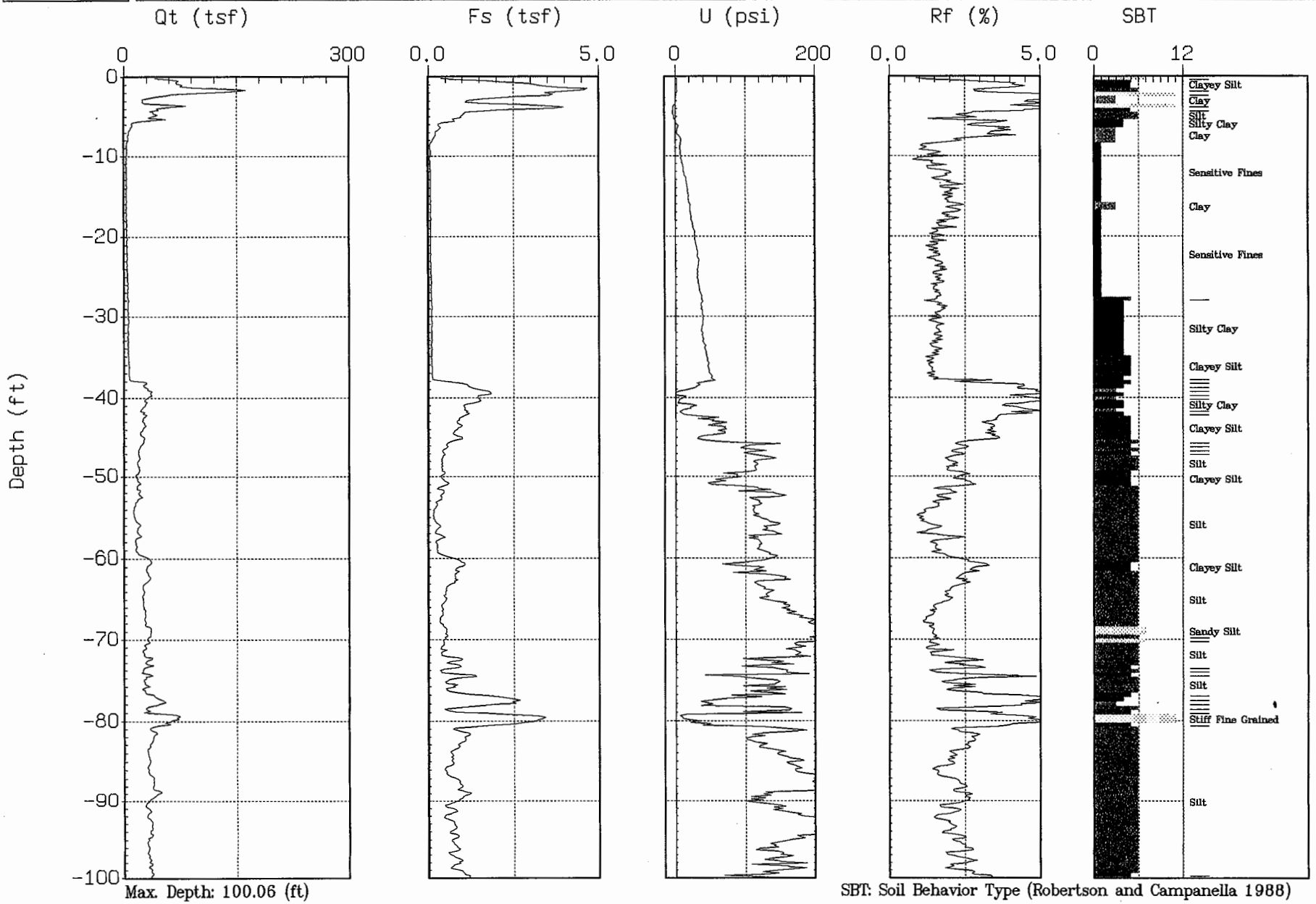

GREGG
LFR
Site : N.E. MARE ISL.
Location : CPT-6
Engineer: C. NARDI
Date : 05:09:01 12:35
Qt (tsf)
Fs (tsf)
U (psi)
Rf (%)
SBT
0
300
0.0
5.0
0
200
0.0
5.0
0
12
Depth (ft)
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Silt
Silt
Sensitive Fines
Sensitive Fines
Clayey Silt
Clayey Silt
Silt
Silt
Silt
Silt
Sandy Silt
Stiff Fine Grained
Silt
Silt
Clayey Silt
Silt
Max. Depth: 100.06 (ft)
Depth Inc.: 0.164 (ft)
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

LFR

Site : N.E. MARE ISL.
Location : CPT-7

Engineer: C. NARDI
Date : 05:10:01 08:19



Max. Depth: 100.06 (ft)

Depth Inc.: 0.164 (ft)

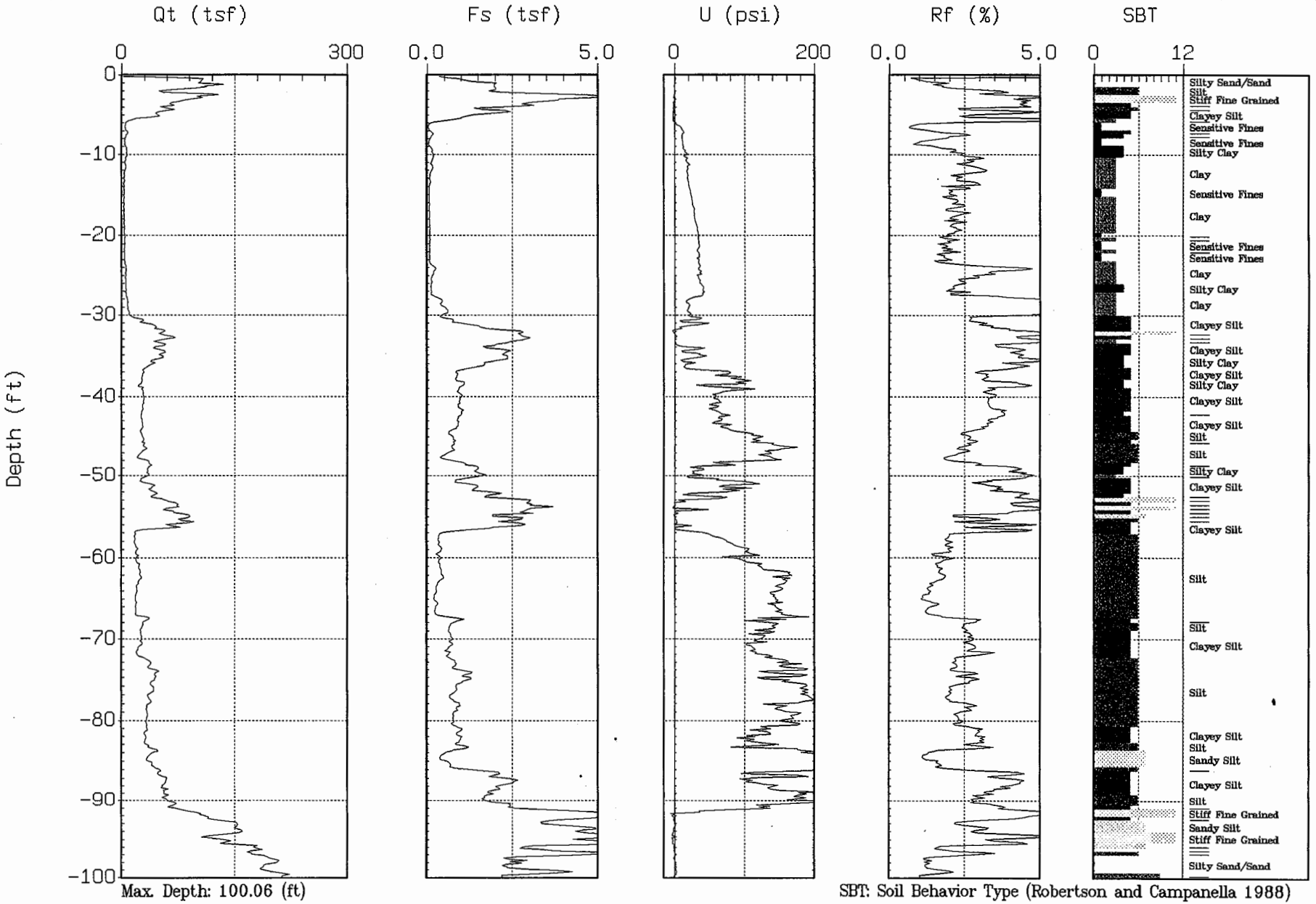
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

LFR

Site : N.E. MARE ISL.
Location : CPT-8

Engineer: C. NARDI
Date : 05:10:01 09:12



Max. Depth: 100.06 (ft)

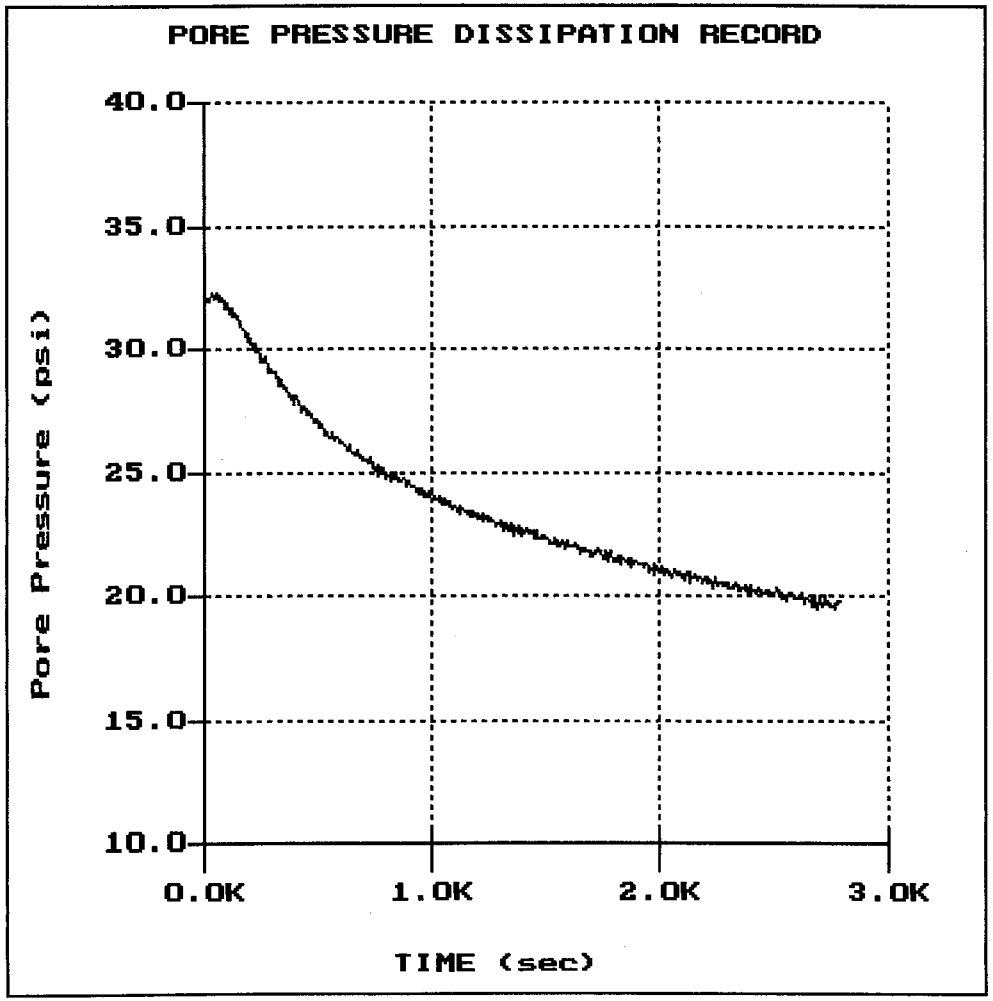
Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson and Campanella 1988)

LFR

Site:Mare Island
Location:CPT-6

Engineer: C.Nardi
Date:05:09:01 12:35



File: 075C06.PPD
Depth (m): 7.65
(ft): 25.10
Duration : 2785.0s
U-min: 19.53 2770.0s
U-max: 32.33 60.0s

Gregg In Situ, Inc.
Interpretation Output - Release 1.00.19c
Run No: 01-0511-1636-4798
Job No: 97-100
Client: LFR LEVINE FRICKE
Project: N.E. Mare Island, Vallejo, CA
Site: N.E. MARE ISL.
Location: CPT-1
Engineer: C. NARDI
CPT Date: 01/09/05
CPT Time: 14:22
CPT File: 075C01.COR

Water Table (m): 1.52 (ft): 5.0
Averaging Increment (m): 0.30
Su Nkt used: 15.00
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
Used Unit Weights Assigned to Soil Zones

Depth (ft)	Depth (m)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	E.Stress (tsf)	Hyd. Pr. (tsf)	N60 (blows/ft)	(N1)60	Delta (N1)60	(N1)60 CS	Su (tsf)	CRR	Dr (%)	Phi (deg)	OCR (ratio)	SBT
0.49	0.15	11.651	0.053	0.5	0.028	0.000	4.5	8.9	0.0	8.9	0.775	0.00	56.2	48.0	10.0	6
1.48	0.45	6.605	0.020	0.3	0.076	0.000	3.2	6.3	0.0	6.3	0.435	0.00	0.0	0.0	10.0	1
2.46	0.75	7.710	0.020	0.3	0.115	0.000	3.7	7.4	0.0	7.4	0.506	0.00	0.0	0.0	10.0	1
3.44	1.05	5.822	0.020	0.3	0.154	0.000	2.8	5.6	0.0	5.6	0.378	0.00	0.0	0.0	6.0	1
4.43	1.35	4.057	0.032	0.8	0.193	0.000	1.9	3.9	2.5	6.4	0.258	0.00	0.0	0.0	6.0	1
5.41	1.65	3.169	0.020	0.6	0.220	0.013	1.5	3.0	2.8	5.9	0.196	0.00	0.0	0.0	3.0	1
6.40	1.95	3.863	0.020	0.5	0.228	0.044	1.8	3.7	2.5	6.2	0.239	0.00	0.0	0.0	6.0	1
7.30	2.22	7.355	0.120	1.6	0.243	0.072	3.5	7.0	5.0	12.0	0.469	0.09	0.0	0.0	6.0	5
8.20	2.50	5.356	0.028	0.5	0.258	0.100	2.6	5.0	2.7	7.8	0.333	0.00	0.0	0.0	6.0	1
9.19	2.80	3.310	0.020	0.6	0.266	0.131	1.6	3.1	3.1	6.1	0.194	0.08	0.0	0.0	3.0	1
7	3.10	2.069	0.020	1.0	0.275	0.161	1.0	1.9	1.9	3.8	0.109	0.00	0.0	0.0	1.5	1
11.15	3.40	2.109	0.020	1.0	0.283	0.192	1.0	1.9	1.9	3.8	0.109	0.00	0.0	0.0	1.5	1
12.14	3.70	2.589	0.020	0.8	0.292	0.223	1.2	2.3	2.3	4.6	0.138	0.00	0.0	0.0	1.5	1
13.21	4.02	2.242	0.020	0.9	0.301	0.256	1.1	2.0	2.0	3.9	0.112	0.00	0.0	0.0	1.5	1
14.27	4.35	2.277	0.020	0.9	0.310	0.289	1.1	2.0	2.0	3.9	0.112	0.00	0.0	0.0	1.5	1
15.26	4.65	2.245	0.020	0.9	0.318	0.320	1.1	1.9	1.9	3.8	0.107	0.00	0.0	0.0	1.5	1
16.24	4.95	2.133	0.020	0.9	0.327	0.351	1.0	1.8	1.8	3.6	0.097	0.00	0.0	0.0	1.5	1
17.22	5.25	2.263	0.020	0.9	0.335	0.382	1.1	1.9	1.9	3.7	0.103	0.00	0.0	0.0	1.5	1
18.21	5.55	2.520	0.020	0.8	0.344	0.412	1.2	2.1	2.1	4.1	0.118	0.00	0.0	0.0	1.5	1
19.19	5.85	2.693	0.020	0.7	0.352	0.443	1.3	2.2	2.2	4.3	0.127	0.00	0.0	0.0	1.5	1
20.18	6.15	2.587	0.020	0.8	0.360	0.474	1.2	2.1	2.1	4.1	0.117	0.00	0.0	0.0	1.5	1
21.16	6.45	2.843	0.020	0.7	0.369	0.505	1.4	2.2	2.2	4.5	0.131	0.00	0.0	0.0	1.5	1
22.15	6.75	2.905	0.020	0.7	0.377	0.535	1.4	2.3	2.3	4.5	0.133	0.00	0.0	0.0	1.5	1
23.13	7.05	3.064	0.020	0.7	0.386	0.566	1.5	2.4	2.4	4.7	0.141	0.00	0.0	0.0	1.5	1
24.11	7.35	3.386	0.020	0.6	0.394	0.597	1.6	2.6	2.6	5.2	0.160	0.00	0.0	0.0	1.5	1
25.10	7.65	3.202	0.020	0.6	0.403	0.628	1.5	2.4	2.4	4.8	0.145	0.00	0.0	0.0	1.5	1
26.08	7.95	3.686	0.020	0.5	0.411	0.658	1.8	2.8	2.8	5.5	0.174	0.00	0.0	0.0	1.5	1
27.07	8.25	3.804	0.020	0.5	0.419	0.689	1.8	2.8	2.8	5.6	0.180	0.00	0.0	0.0	1.5	1
28.05	8.55	3.814	0.020	0.5	0.428	0.720	1.8	2.8	2.8	5.6	0.178	0.00	0.0	0.0	1.5	1
29.04	8.85	4.133	0.020	0.5	0.436	0.750	2.0	3.0	3.0	6.0	0.196	0.08	0.0	0.0	1.5	1
30.02	9.15	4.429	0.020	0.5	0.445	0.781	2.1	3.2	3.2	6.4	0.214	0.08	0.0	0.0	1.5	1
31.00	9.45	4.528	0.020	0.4	0.453	0.812	2.2	3.2	3.2	6.4	0.218	0.08	0.0	0.0	1.5	1
31.99	9.75	4.443	0.020	0.5	0.462	0.843	2.1	3.1	3.1	6.3	0.209	0.08	0.0	0.0	1.5	1
32.97	10.05	4.766	0.020	0.4	0.470	0.873	2.3	3.3	3.3	6.7	0.228	0.08	0.0	0.0	1.5	1
33.96	10.35	37.089	0.020	0.1	0.489	0.904	8.9	12.7	0.0	12.7	0.000	0.09	48.5	40.0	1.0	8
34.94	10.65	65.024	0.020	0.0	0.517	0.935	15.6	21.6	0.0	21.6	0.000	0.14	63.8	42.0	1.0	8
35.92	10.95	64.681	0.020	0.0	0.546	0.966	15.5	21.0	0.0	21.0	0.000	0.14	62.8	42.0	1.0	8

Depth (ft)	Depth (m)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	E.Stress (tsf)	Hyd. Pr. (tsf)	N60 (blows/ft)	(N1)60 (blows/ft)	Delta (N1)60	(N1)60 CS	Su (tsf)	CRR	Dr (%)	Phi (deg)	OCR (ratio)	SBT
36.91	11.25	74.898	0.020	0.0	0.576	0.996	14.3	18.9	0.0	18.9	0.000	0.16	66.3	44.0	1.0	9
37.89	11.55	60.494	0.020	0.0	0.605	1.027	14.5	18.6	0.0	18.6	0.000	0.12	59.4	42.0	1.0	8
38.88	11.85	11.154	0.132	1.2	0.633	1.058	5.3	6.7	6.7	13.4	0.631	0.11	0.0	0.0	3.0	5
39.86	12.15	6.434	0.020	0.3	0.650	1.088	3.1	3.8	3.8	7.6	0.313	0.09	0.0	0.0	1.5	1
40.85	12.45	7.293	0.020	0.3	0.658	1.119	3.5	4.3	4.3	8.6	0.368	0.09	0.0	0.0	3.0	1
41.83	12.75	7.783	0.020	0.3	0.666	1.150	3.7	4.6	4.6	9.1	0.398	0.09	0.0	0.0	3.0	1
42.81	13.05	7.238	0.020	0.3	0.675	1.181	3.5	4.2	4.2	8.4	0.359	0.09	0.0	0.0	3.0	1
43.80	13.35	7.292	0.020	0.3	0.683	1.211	3.5	4.2	4.2	8.4	0.360	0.09	0.0	0.0	3.0	1
44.78	13.65	7.771	0.020	0.3	0.692	1.242	3.7	4.5	4.5	8.9	0.389	0.09	0.0	0.0	3.0	1
45.77	13.95	9.448	0.079	0.8	0.709	1.273	3.6	4.3	4.3	8.6	0.498	0.10	30.0	30.0	3.0	6
46.75	14.25	13.755	0.431	3.1	0.734	1.304	8.8	10.2	10.2	20.5	0.781	0.13	0.0	0.0	6.0	4
47.74	14.55	14.771	0.521	3.5	0.760	1.334	9.4	10.8	0.0	10.8	0.845	0.00	0.0	0.0	6.0	4
48.72	14.85	16.253	0.571	3.5	0.786	1.365	10.4	11.7	0.0	11.7	0.940	0.00	0.0	0.0	6.0	4
49.70	15.15	17.568	0.528	3.0	0.811	1.396	8.4	9.3	9.3	18.7	1.024	0.16	0.0	0.0	6.0	5
50.69	15.45	20.482	0.558	2.7	0.837	1.427	9.8	10.7	10.7	21.4	1.215	0.20	0.0	0.0	6.0	5
51.67	15.75	20.752	0.627	3.0	0.863	1.457	9.9	10.7	10.7	21.4	1.229	0.20	0.0	0.0	6.0	5
52.66	16.05	18.099	0.409	2.3	0.888	1.488	8.7	9.2	9.2	18.4	1.048	0.16	0.0	0.0	6.0	5
53.64	16.35	22.293	0.530	2.4	0.914	1.519	8.5	8.9	8.9	17.9	1.324	0.22	30.0	34.0	6.0	6
54.63	16.65	16.431	0.369	2.2	0.940	1.549	7.9	8.1	8.1	16.2	0.929	0.13	0.0	0.0	3.0	5
55.61	16.95	14.600	0.227	1.6	0.965	1.580	5.6	5.7	5.7	11.4	0.804	0.12	30.0	32.0	3.0	6
56.59	17.25	14.144	0.205	1.5	0.991	1.611	5.4	5.4	5.4	10.9	0.769	0.11	30.0	30.0	3.0	6
57.58	17.55	13.716	0.125	0.9	1.017	1.642	5.3	5.2	5.2	10.4	0.737	0.11	30.0	30.0	3.0	6
58.56	17.85	14.312	0.082	0.6	1.042	1.672	5.5	5.4	5.4	10.7	0.773	0.11	30.0	30.0	3.0	6
59.55	18.15	13.525	0.085	0.6	1.068	1.703	5.2	5.0	5.0	10.0	0.717	0.10	30.0	30.0	3.0	6
60.53	18.45	12.980	0.063	0.5	1.094	1.734	5.0	4.8	4.8	9.5	0.677	0.10	30.0	30.0	3.0	6
61.51	18.75	13.108	0.025	0.2	1.119	1.765	5.0	4.7	0.0	4.7	0.682	0.00	30.0	30.0	3.0	6
[illegible]12	19.02	14.629	0.056	0.4	1.143	1.793	5.6	5.2	5.2	10.5	0.780	0.11	30.0	30.0	3.0	6
[illegible]32	19.30	18.392	0.184	1.0	1.166	1.821	7.0	6.5	6.5	13.0	1.027	0.13	30.0	32.0	3.0	6
64.30	19.60	19.355	0.145	0.8	1.192	1.852	7.4	6.8	6.8	13.6	1.087	0.14	30.0	32.0	3.0	6
65.29	19.90	19.633	0.125	0.6	1.218	1.882	7.5	6.8	6.6	13.4	1.102	0.13	30.0	32.0	3.0	6
66.27	20.20	16.472	0.057	0.3	1.243	1.913	6.3	5.7	0.0	5.7	0.888	0.00	30.0	30.0	3.0	6
67.26	20.50	14.361	0.067	0.5	1.269	1.944	5.5	4.9	4.9	9.8	0.743	0.10	30.0	30.0	3.0	6
68.24	20.80	11.402	0.060	0.5	1.295	1.975	4.4	3.8	3.8	7.7	0.542	0.09	30.0	30.0	1.5	6
69.22	21.10	16.837	0.172	1.0	1.320	2.005	6.4	5.6	5.6	11.2	0.901	0.11	30.0	30.0	3.0	6
70.21	21.40	23.804	0.254	1.1	1.346	2.036	9.1	7.9	7.9	15.7	1.361	0.17	30.0	32.0	6.0	6
71.19	21.70	29.083	0.560	1.9	1.372	2.067	11.1	9.5	9.5	19.0	1.710	0.25	30.0	34.0	6.0	6
72.18	22.00	26.926	0.528	2.0	1.397	2.097	10.3	8.7	8.7	17.5	1.562	0.21	30.0	32.0	6.0	6
73.16	22.30	32.424	0.770	2.4	1.423	2.128	12.4	10.4	10.4	20.8	1.925	0.30	30.0	34.0	6.0	6
74.15	22.60	30.803	0.720	2.3	1.449	2.159	11.8	9.8	9.8	19.6	1.813	0.26	30.0	34.0	6.0	6
75.13	22.90	25.383	0.409	1.6	1.474	2.190	9.7	8.0	8.0	16.0	1.448	0.18	30.0	32.0	3.0	6
76.11	23.20	27.169	0.344	1.3	1.500	2.220	10.4	8.5	8.5	17.0	1.563	0.20	30.0	32.0	6.0	6
77.10	23.50	29.229	0.376	1.3	1.525	2.251	11.2	9.1	9.1	18.1	1.697	0.22	30.0	32.0	6.0	6
78.08	23.80	31.724	0.408	1.3	1.552	2.282	10.1	8.1	8.1	16.3	0.000	0.26	30.0	32.0	1.0	7
79.07	24.10	33.815	0.416	1.2	1.579	2.313	10.8	8.6	8.3	16.9	0.000	0.26	30.0	34.0	1.0	7
80.05	24.40	25.903	0.272	1.1	1.606	2.343	9.9	7.8	7.8	15.7	1.464	0.17	30.0	32.0	3.0	6
81.04	24.70	18.995	0.154	0.8	1.631	2.374	7.3	5.7	5.7	11.4	0.999	0.12	30.0	30.0	3.0	6
82.02	25.00	21.197	0.130	0.6	1.657	2.405	8.1	6.3	6.3	12.6	1.142	0.13	30.0	30.0	3.0	6
83.00	25.30	26.065	0.246	0.9	1.683	2.436	8.3	6.4	6.4	12.8	0.000	0.17	30.0	32.0	1.0	7
83.99	25.60	31.159	0.468	1.5	1.710	2.466	11.9	9.1	9.1	18.3	1.799	0.23	30.0	32.0	6.0	6
84.97	25.90	24.882	0.180	0.7	1.736	2.497	7.9	6.0	6.0	12.1	0.000	0.15	30.0	32.0	1.0	7
85.96	26.20	27.551	0.424	1.5	1.763	2.528	10.6	8.0	8.0	15.9	1.551	0.18	30.0	32.0	3.0	6
86.94	26.50	21.428	0.200	0.9	1.788	2.558	8.2	6.1	6.1	12.3	1.139	0.12	30.0	30.0	3.0	6
87.93	26.80	21.907	0.316	1.4	1.814	2.589	8.4	6.2	6.2	12.5	1.167	0.13	30.0	30.0	3.0	6
88.91	27.10	22.859	0.204	0.9	1.840	2.620	8.8	6.5	6.5	12.9	1.227	0.13	30.0	30.0	3.0	6

Depth (ft)	Depth (m)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	E.Stress (tsf)	Hyd. Pr. (tsf)	N60 (blows/ft)	(N1)60	Delta (N1)60	CS	Su (tsf)	CRR	Dr (%)	Phi (deg)	OCR (ratio)	SBT
89.89	27.40	26.243	0.282	1.1	1.865	2.651	10.1	7.4	7.4	14.7	1.448	0.16	30.0	30.0	3.0	6
90.88	27.70	34.483	0.663	1.9	1.891	2.681	13.2	9.6	9.6	19.2	1.994	0.25	30.0	32.0	6.0	6
91.86	28.00	34.429	0.693	2.0	1.917	2.712	13.2	9.5	9.5	19.1	1.987	0.25	30.0	32.0	6.0	6
92.85	28.30	35.287	0.672	1.9	1.942	2.743	13.5	9.7	9.7	19.4	2.040	0.26	30.0	32.0	6.0	6
93.83	28.60	42.514	1.011	2.4	1.968	2.774	16.3	11.6	11.6	23.2	2.518	0.38	32.4	34.0	6.0	6
94.82	28.90	44.997	1.288	2.9	1.994	2.804	17.2	12.2	12.2	24.4	2.680	0.43	33.9	34.0	6.0	6
95.80	29.20	35.145	0.687	2.0	2.019	2.835	13.5	9.5	9.5	19.0	2.019	0.24	30.0	32.0	6.0	6
96.78	29.50	24.763	0.239	1.0	2.045	2.866	9.5	6.6	6.6	13.3	1.324	0.14	30.0	30.0	3.0	6
97.77	29.80	22.601	0.127	0.6	2.071	2.896	7.2	5.0	5.0	10.0	0.000	0.12	30.0	30.0	1.0	7
98.75	30.10	24.692	0.165	0.7	2.099	2.927	7.9	5.4	5.4	10.9	0.000	0.13	30.0	30.0	1.0	7
99.74	30.40	25.992	0.229	0.9	2.126	2.958	8.3	5.7	5.7	11.4	0.000	0.14	30.0	30.0	1.0	7
00.72	30.70	26.885	0.304	1.1	2.152	2.989	10.3	7.0	7.0	14.0	1.450	0.15	30.0	30.0	3.0	6
101.70	31.00	27.909	0.251	0.9	2.179	3.019	8.9	6.0	6.0	12.1	0.000	0.15	30.0	30.0	1.0	7
102.69	31.30	28.944	0.289	1.0	2.206	3.050	9.2	6.2	6.2	12.4	0.000	0.16	30.0	30.0	1.0	7
03.67	31.60	27.158	0.239	0.9	2.233	3.081	8.7	5.8	5.8	11.6	0.000	0.15	30.0	30.0	1.0	7
04.66	31.90	28.087	0.241	0.9	2.260	3.112	9.0	6.0	6.0	11.9	0.000	0.15	30.0	30.0	1.0	7
105.64	32.20	39.701	1.019	2.6	2.287	3.142	15.2	10.1	10.1	20.1	2.285	0.28	30.0	32.0	3.0	6

Gregg In Situ, Inc.
Interpretation Output - Release 1.00.19c
Run No: 01-0511-1636-4814
Job No: 97-100
Client: LFR LEVINE FRICKE
Project: N.E. Mare Island, Vallejo, CA
Site: N.E. MARE ISL.
Location: CPT-2
Engineer: C. NARDI
CPT Date: 01/10/05
CPT Time: 06:56
CPT File: 075C02.COR

Water Table (m): 1.52 (ft): 5.0
Averaging Increment (m): 0.30
Su Nkt used: 15.00
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
Used Unit Weights Assigned to Soil Zones

Depth (ft)	Depth (m)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	E.Stress (tsf)	Hyd. Pr. (tsf)	N60 (blows/ft)	(N1)60	Delta (N1)60	(N1)60 CS	Su (tsf)	CRR	Dr (%)	Phi (deg)	OCR (ratio)	SBT
0.49	0.15	150.847	1.113	0.7	0.031	0.000	28.9	57.8	0.0	57.8	0.000	0.00	95.0	50.0	1.0	9
1.48	0.45	123.741	2.905	2.3	0.090	0.000	39.5	79.0	0.0	79.0	0.000	0.00	95.0	50.0	1.0	7
2.46	0.75	50.243	1.231	2.5	0.147	0.000	19.2	38.5	0.0	38.5	3.340	0.00	74.4	48.0	10.0	6
3.44	1.05	25.891	0.667	2.6	0.204	0.000	9.9	19.8	4.9	24.7	1.712	0.12	50.7	44.0	10.0	6
4.43	1.35	17.832	0.545	3.1	0.260	0.000	8.5	16.7	8.5	25.3	1.171	0.12	0.0	0.0	10.0	5
5.41	1.65	7.673	0.185	2.4	0.303	0.013	4.9	8.9	8.9	17.8	0.490	0.11	0.0	0.0	6.0	4
6.40	1.95	5.998	0.062	1.0	0.321	0.044	2.9	5.1	4.5	9.6	0.376	0.09	0.0	0.0	6.0	1
7.30	2.22	6.267	0.068	1.1	0.335	0.072	3.0	5.2	4.9	10.1	0.391	0.09	0.0	0.0	6.0	5
8.20	2.50	9.450	0.327	3.5	0.358	0.100	9.0	15.1	15.1	30.2	0.599	0.12	0.0	0.0	6.0	3
9.19	2.80	5.486	0.084	1.5	0.383	0.131	3.5	5.7	5.7	11.3	0.331	0.09	0.0	0.0	3.0	4
10.17	3.10	5.016	0.068	1.4	0.400	0.161	2.4	3.8	3.8	7.6	0.297	0.09	0.0	0.0	3.0	1
11.15	3.40	4.277	0.045	1.1	0.409	0.192	2.0	3.2	3.2	6.4	0.245	0.08	0.0	0.0	3.0	1
12.14	3.70	4.100	0.042	1.0	0.417	0.223	2.0	3.0	3.0	6.1	0.231	0.08	0.0	0.0	3.0	1
13.21	4.02	3.778	0.039	1.0	0.426	0.256	1.8	2.8	2.8	5.5	0.206	0.00	0.0	0.0	1.5	1
14.27	4.35	3.739	0.038	1.0	0.435	0.289	1.8	2.7	2.7	5.4	0.201	0.00	0.0	0.0	1.5	1
15.26	4.65	3.609	0.043	1.2	0.444	0.320	1.7	2.6	2.6	5.2	0.190	0.00	0.0	0.0	1.5	1
16.24	4.95	3.331	0.045	1.4	0.452	0.351	1.6	2.4	2.4	4.7	0.169	0.00	0.0	0.0	1.5	1
17.22	5.25	3.269	0.050	1.5	0.460	0.382	1.6	2.3	2.3	4.6	0.162	0.00	0.0	0.0	1.5	1
18.21	5.55	3.469	0.052	1.5	0.469	0.412	1.7	2.4	2.4	4.9	0.172	0.00	0.0	0.0	1.5	1
19.19	5.85	3.673	0.055	1.5	0.477	0.443	1.8	2.5	2.5	5.1	0.183	0.00	0.0	0.0	1.5	1
20.18	6.15	3.757	0.052	1.4	0.486	0.474	1.8	2.6	2.6	5.2	0.186	0.00	0.0	0.0	1.5	1
21.16	6.45	4.117	0.058	1.4	0.494	0.505	2.0	2.8	2.8	5.6	0.208	0.00	0.0	0.0	1.5	1
22.15	6.75	4.363	0.063	1.5	0.503	0.535	2.1	2.9	2.9	5.9	0.222	0.08	0.0	0.0	1.5	1
23.13	7.05	4.332	0.058	1.3	0.511	0.566	2.1	2.9	2.9	5.8	0.217	0.00	0.0	0.0	1.5	1
24.11	7.35	4.561	0.068	1.5	0.519	0.597	2.2	3.0	3.0	6.1	0.230	0.08	0.0	0.0	1.5	1
25.10	7.65	4.659	0.079	1.7	0.537	0.628	3.0	4.1	4.1	8.1	0.233	0.08	0.0	0.0	1.5	4
26.08	7.95	4.987	0.070	1.4	0.554	0.658	2.4	3.2	3.2	6.4	0.252	0.08	0.0	0.0	1.5	1
27.07	8.25	4.723	0.072	1.5	0.562	0.689	2.3	3.0	3.0	6.0	0.231	0.08	0.0	0.0	1.5	1
28.05	8.55	5.218	0.102	2.0	0.579	0.720	3.3	4.4	4.4	8.8	0.261	0.08	0.0	0.0	1.5	4
29.04	8.85	5.567	0.110	2.0	0.605	0.750	3.6	4.6	4.6	9.1	0.281	0.08	0.0	0.0	1.5	4
30.02	9.15	4.799	0.085	1.8	0.630	0.781	3.1	3.9	3.9	7.7	0.226	0.00	0.0	0.0	1.5	4
31.00	9.45	4.773	0.075	1.6	0.647	0.812	2.3	2.8	2.8	5.7	0.221	0.00	0.0	0.0	1.5	1
31.99	9.75	4.706	0.063	1.3	0.656	0.843	2.3	2.8	2.8	5.6	0.214	0.00	0.0	0.0	1.5	1
32.97	10.05	5.411	0.062	1.1	0.664	0.873	2.6	3.2	3.2	6.4	0.258	0.08	0.0	0.0	1.5	1
33.96	10.35	5.567	0.094	1.7	0.681	0.904	3.6	4.3	4.3	8.6	0.265	0.08	0.0	0.0	1.5	4
34.94	10.65	5.476	0.107	2.0	0.707	0.935	3.5	4.2	4.2	8.3	0.256	0.08	0.0	0.0	1.5	4
35.92	10.95	5.813	0.110	1.9	0.733	0.966	3.7	4.3	4.3	8.7	0.274	0.08	0.0	0.0	1.5	4

Depth (ft)	Depth (m)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	E.Stress (tsf)	Hyd. Pr. (tsf)	N60 (blows/ft)	(N1)60	Delta (N1)60	(N1)60 CS	Su (tsf)	CRR	Dr (%)	Phi (deg)	OCR (ratio)	SBT
36.91	11.25	5.506	0.094	1.7	0.758	0.996	3.5	4.0	4.0	8.1	0.250	0.08	0.0	0.0	1.5	4
37.89	11.55	5.689	0.095	1.7	0.784	1.027	3.6	4.1	4.1	8.2	0.259	0.08	0.0	0.0	1.5	4
38.88	11.85	6.453	0.109	1.7	0.810	1.058	3.1	3.4	3.4	6.9	0.306	0.08	0.0	0.0	1.5	5
39.86	12.15	6.260	0.110	1.8	0.835	1.088	4.0	4.4	4.4	8.7	0.289	0.08	0.0	0.0	1.5	4
40.85	12.45	7.048	0.125	1.8	0.861	1.119	3.4	3.6	3.6	7.3	0.338	0.08	0.0	0.0	1.5	5
41.83	12.75	7.215	0.109	1.5	0.887	1.150	3.5	3.7	3.7	7.3	0.345	0.08	0.0	0.0	1.5	5
42.81	13.05	6.848	0.112	1.6	0.912	1.181	3.3	3.4	3.4	6.9	0.317	0.08	0.0	0.0	1.5	5
43.80	13.35	6.655	0.099	1.5	0.938	1.211	3.2	3.3	3.3	6.6	0.300	0.08	0.0	0.0	1.5	5
44.78	13.65	6.335	0.094	1.5	0.963	1.242	3.0	3.1	3.1	6.2	0.275	0.08	0.0	0.0	1.5	5
45.77	13.95	6.661	0.085	1.3	0.989	1.273	3.2	3.2	3.2	6.4	0.293	0.08	0.0	0.0	1.5	5
46.75	14.25	6.429	0.090	1.4	1.015	1.304	3.1	3.1	3.1	6.1	0.274	0.08	0.0	0.0	1.5	5
47.74	14.55	6.522	0.087	1.3	1.040	1.334	3.1	3.1	3.1	6.1	0.276	0.08	0.0	0.0	1.5	5
48.72	14.85	6.491	0.089	1.4	1.066	1.365	3.1	3.0	3.0	6.0	0.271	0.08	0.0	0.0	1.5	5
49.70	15.15	6.421	0.090	1.4	1.092	1.396	3.1	2.9	2.9	5.9	0.262	0.08	0.0	0.0	1.0	5
50.69	15.45	6.489	0.089	1.4	1.117	1.427	3.1	2.9	2.9	5.9	0.263	0.08	0.0	0.0	1.0	5
51.67	15.75	6.718	0.094	1.4	1.143	1.457	3.2	3.0	3.0	6.0	0.275	0.08	0.0	0.0	1.0	5
52.66	16.05	7.206	0.097	1.3	1.169	1.488	3.5	3.2	3.2	6.4	0.303	0.08	0.0	0.0	1.5	5
53.64	16.35	7.056	0.094	1.3	1.194	1.519	3.4	3.1	3.1	6.2	0.290	0.08	0.0	0.0	1.0	5
54.63	16.65	6.945	0.102	1.5	1.220	1.549	3.3	3.0	3.0	6.0	0.278	0.08	0.0	0.0	1.0	5
55.61	16.95	12.757	0.374	2.9	1.246	1.580	6.1	5.5	0.0	5.5	0.662	0.00	0.0	0.0	3.0	5
56.59	17.25	19.023	0.628	3.3	1.271	1.611	9.1	8.1	0.0	8.1	1.076	0.00	0.0	0.0	3.0	5
57.58	17.55	18.760	0.665	3.5	1.297	1.642	12.0	10.5	0.0	10.5	1.055	0.00	0.0	0.0	3.0	4
58.56	17.85	21.124	0.730	3.5	1.323	1.672	10.1	8.8	0.0	8.8	1.209	0.00	0.0	0.0	3.0	5
59.55	18.15	20.478	0.596	2.9	1.348	1.703	9.8	8.4	8.4	16.9	1.162	0.14	0.0	0.0	3.0	5
60.53	18.45	19.212	0.526	2.7	1.374	1.734	9.2	7.8	7.8	15.7	1.074	0.13	0.0	0.0	3.0	5
61.51	18.75	17.798	0.503	2.8	1.400	1.765	8.5	7.2	0.0	7.2	0.976	0.00	0.0	0.0	3.0	5
62	19.02	15.848	0.393	2.5	1.423	1.793	7.6	6.4	6.4	12.7	0.842	0.11	0.0	0.0	3.0	5
63.32	19.30	16.459	0.399	2.4	1.447	1.821	7.9	6.6	6.6	13.1	0.879	0.11	0.0	0.0	3.0	5
64.30	19.60	14.706	0.341	2.3	1.472	1.852	7.0	5.8	5.8	11.6	0.759	0.10	0.0	0.0	3.0	5
65.29	19.90	16.341	0.378	2.3	1.498	1.882	7.8	6.4	6.4	12.8	0.864	0.11	0.0	0.0	3.0	5
66.27	20.20	15.561	0.366	2.4	1.524	1.913	7.5	6.0	6.0	12.1	0.808	0.10	0.0	0.0	3.0	5
67.26	20.50	15.636	0.322	2.1	1.549	1.944	7.5	6.0	6.0	12.0	0.810	0.10	0.0	0.0	3.0	5
68.24	20.80	16.014	0.321	2.0	1.575	1.975	7.7	6.1	6.1	12.2	0.831	0.10	0.0	0.0	3.0	5
69.22	21.10	15.925	0.247	1.6	1.601	2.005	6.1	4.8	4.8	9.6	0.821	0.10	30.0	30.0	3.0	6
70.21	21.40	15.648	0.217	1.4	1.626	2.036	6.0	4.7	4.7	9.4	0.799	0.10	30.0	30.0	1.5	6
71.19	21.70	16.626	0.366	2.2	1.652	2.067	8.0	6.2	6.2	12.4	0.861	0.10	0.0	0.0	3.0	5
72.18	22.00	19.412	0.321	1.7	1.678	2.097	7.4	5.7	5.7	11.5	1.042	0.12	30.0	30.0	3.0	6
73.16	22.30	26.626	0.441	1.7	1.703	2.128	10.2	7.8	7.8	15.6	1.520	0.17	30.0	32.0	3.0	6
74.15	22.60	30.221	0.576	1.9	1.729	2.159	11.6	8.8	8.8	17.6	1.756	0.21	30.0	32.0	6.0	6
75.13	22.90	41.453	1.096	2.6	1.755	2.190	15.9	12.0	12.0	24.0	2.501	0.41	33.4	34.0	6.0	6
76.11	23.20	43.198	1.295	3.0	1.780	2.220	16.5	12.4	12.4	24.8	2.613	0.45	34.3	34.0	6.0	6
77.10	23.50	39.026	1.098	2.8	1.806	2.251	14.9	11.1	11.1	22.3	2.331	0.35	31.2	34.0	6.0	6
78.08	23.80	36.845	1.233	3.3	1.832	2.282	17.6	13.0	13.0	26.1	2.182	0.30	0.0	0.0	6.0	5
79.07	24.10	35.528	0.976	2.7	1.857	2.313	13.6	10.0	10.0	20.0	2.091	0.27	30.0	32.0	6.0	6
80.05	24.40	27.937	0.743	2.7	1.883	2.343	13.4	9.7	9.7	19.5	1.581	0.17	0.0	0.0	3.0	5
81.04	24.70	27.616	0.653	2.4	1.908	2.374	10.6	7.7	7.7	15.3	1.556	0.17	30.0	32.0	3.0	6
82.02	25.00	26.247	0.545	2.1	1.934	2.405	10.1	7.2	7.2	14.5	1.461	0.15	30.0	30.0	3.0	6
83.00	25.30	26.687	0.469	1.8	1.960	2.436	10.2	7.3	7.3	14.6	1.486	0.16	30.0	30.0	3.0	6
83.99	25.60	30.913	0.685	2.2	1.985	2.466	11.8	8.4	8.4	16.8	1.764	0.20	30.0	32.0	3.0	6
84.97	25.90	31.803	0.742	2.3	2.011	2.497	12.2	8.6	8.6	17.2	1.820	0.20	30.0	32.0	3.0	6
85.96	26.20	34.316	0.655	1.9	2.037	2.528	13.1	9.2	9.2	18.4	1.983	0.23	30.0	32.0	3.0	6
86.94	26.50	26.773	0.513	1.9	2.062	2.558	10.3	7.1	7.1	14.3	1.477	0.15	30.0	30.0	3.0	6
87.93	26.80	31.249	0.583	1.9	2.088	2.589	12.0	8.3	8.3	16.6	1.771	0.19	30.0	32.0	3.0	6
88.91	27.10	39.570	0.921	2.3	2.114	2.620	15.2	10.4	10.4	20.9	2.322	0.30	30.0	32.0	6.0	6

Depth (ft)	Depth (m)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	E.Stress (tsf)	Hyd. Pr. (tsf)	N60 (blows/ft)	(N1)60	Delta (N1)60	(N1)60 CS	Su (tsf)	CRR	Dr (%)	Phi (deg)	OCR (ratio)	SBT
89.89	27.40	42.078	1.139	2.7	2.139	2.651	16.1	11.0	11.0	22.0	2.486	0.34	30.9	32.0	6.0	6
90.88	27.70	31.572	0.835	2.6	2.165	2.681	12.1	8.2	8.2	16.4	1.782	0.19	30.0	32.0	3.0	6
91.86	28.00	32.176	0.750	2.3	2.191	2.712	12.3	8.3	8.3	16.7	1.818	0.19	30.0	32.0	3.0	6
92.85	28.30	33.260	0.916	2.8	2.216	2.743	12.7	8.6	8.6	17.1	1.887	0.20	30.0	32.0	3.0	6
93.83	28.60	24.642	0.453	1.8	2.242	2.774	9.4	6.3	6.3	12.6	1.308	0.13	30.0	30.0	3.0	6
94.82	28.90	25.323	0.518	2.0	2.268	2.804	9.7	6.4	6.4	12.9	1.350	0.13	30.0	30.0	3.0	6
95.80	29.20	28.206	0.548	1.9	2.293	2.835	10.8	7.1	7.1	14.3	1.539	0.15	30.0	30.0	3.0	6
96.78	29.50	35.672	0.759	2.1	2.319	2.866	13.7	9.0	9.0	17.9	2.032	0.22	30.0	32.0	3.0	6
97.77	29.80	36.812	0.956	2.6	2.345	2.896	14.1	9.2	9.2	18.4	2.105	0.23	30.0	32.0	3.0	6
98.75	30.10	38.003	1.056	2.8	2.370	2.927	14.6	9.5	9.5	18.9	2.180	0.24	30.0	32.0	3.0	6
99.74	30.40	40.548	1.111	2.7	2.396	2.958	15.5	10.0	10.0	20.1	2.346	0.28	30.0	32.0	3.0	6
00.72	30.70	37.734	1.119	3.0	2.422	2.989	18.1	11.6	11.6	23.2	2.155	0.24	0.0	0.0	3.0	5
101.70	31.00	39.371	1.308	3.3	2.447	3.019	18.9	12.1	0.0	12.1	2.260	0.00	0.0	0.0	3.0	5
102.69	31.30	37.880	0.969	2.6	2.473	3.050	14.5	9.2	9.2	18.5	2.157	0.23	30.0	32.0	3.0	6
03.67	31.60	34.613	0.745	2.2	2.499	3.081	13.3	8.4	8.4	16.8	1.936	0.19	30.0	30.0	3.0	6
04.66	31.90	33.347	0.667	2.0	2.524	3.112	12.8	8.0	8.0	16.1	1.847	0.18	30.0	30.0	3.0	6
105.64	32.20	33.882	0.598	1.8	2.550	3.142	13.0	8.1	8.1	16.3	1.879	0.18	30.0	30.0	3.0	6
106.63	32.50	36.634	0.655	1.8	2.576	3.173	14.0	8.7	8.7	17.5	2.059	0.21	30.0	30.0	3.0	6
07.61	32.80	35.749	0.525	1.5	2.602	3.204	11.4	7.1	7.1	14.2	0.000	0.20	30.0	30.0	1.0	7
08.59	33.10	32.605	0.448	1.4	2.629	3.235	10.4	6.4	6.4	12.8	0.000	0.17	30.0	30.0	1.0	7
109.58	33.40	34.026	0.638	1.9	2.656	3.265	13.0	8.0	8.0	16.0	1.874	0.18	30.0	30.0	3.0	6
110.56	33.70	31.145	0.516	1.7	2.681	3.296	11.9	7.3	7.3	14.6	1.678	0.15	30.0	30.0	3.0	6
11.55	34.00	35.363	0.780	2.2	2.707	3.327	13.5	8.2	8.2	16.5	1.955	0.19	30.0	30.0	3.0	6
12.53	34.30	35.665	0.859	2.4	2.733	3.357	13.7	8.3	8.3	16.5	1.972	0.19	30.0	30.0	3.0	6

Gregg In Situ, Inc.
Interpretation Output - Release 1.00.19c
Run No: 01-0511-1636-4754
Job No: 97-100
Client: LFR LEVINE FRICKE
Project: N.E. Mare Island, Vallejo, CA
Site: N.E. MARE ISL.
Location: CPT-3
Engineer: C. NARDI
CPT Date: 01/09/05
CPT Time: 09:04
CPT File: 075C03.COR

Water Table (m): 1.52 (ft): 5.0
Averaging Increment (m): 0.30
Su Nkt used: 15.00
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
Used Unit Weights Assigned to Soil Zones

Depth (ft)	Depth (m)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	E.Stress (tsf)	Hyd. Pr. (tsf)	N60 (blows/ft)	(N1)60	Delta (N1)60	(N1)60 CS	Su (tsf)	CRR	Dr (%)	Phi (deg)	OCR (ratio)	SBT
0.49	0.15	72.663	0.613	0.8	0.030	0.000	17.4	34.8	0.0	34.8	0.000	0.33	95.0	50.0	1.0	8
1.48	0.45	65.303	0.192	0.3	0.089	0.000	15.6	31.3	0.0	31.3	0.000	0.26	89.1	50.0	1.0	8
2.46	0.75	59.876	0.558	0.9	0.149	0.000	14.3	28.7	0.0	28.7	0.000	0.22	79.3	48.0	1.0	8
3.44	1.05	34.690	1.081	3.1	0.207	0.000	16.6	33.2	0.0	33.2	2.299	0.00	0.0	0.0	10.0	5
4.43	1.35	19.803	0.414	2.1	0.263	0.000	7.6	14.8	4.9	19.7	1.303	0.10	39.4	40.0	10.0	6
5.41	1.65	41.160	1.490	3.6	0.307	0.013	19.7	35.6	0.0	35.6	2.723	0.00	0.0	0.0	10.0	5
6.40	1.95	32.887	1.325	4.0	0.332	0.044	21.0	36.4	0.0	36.4	2.167	0.00	0.0	0.0	10.0	4
7.30	2.22	8.933	0.096	1.1	0.356	0.072	4.3	7.2	4.6	11.8	0.567	0.09	0.0	0.0	6.0	5
8.20	2.50	8.247	0.042	0.5	0.379	0.100	3.2	5.1	2.5	7.7	0.518	0.00	30.0	34.0	6.0	6
9.19	2.80	6.055	0.020	0.3	0.396	0.131	2.9	4.6	0.0	4.6	0.369	0.00	0.0	0.0	3.0	1
10.17	3.10	4.268	0.020	0.5	0.405	0.161	2.0	3.2	3.2	6.4	0.247	0.08	0.0	0.0	3.0	1
11.15	3.40	3.151	0.020	0.6	0.413	0.192	1.5	2.3	2.3	4.7	0.170	0.00	0.0	0.0	1.5	1
12.14	3.70	3.299	0.020	0.6	0.422	0.223	1.6	2.4	2.4	4.9	0.177	0.00	0.0	0.0	1.5	1
13.21	4.02	2.947	0.020	0.7	0.431	0.256	1.4	2.2	2.2	4.3	0.151	0.00	0.0	0.0	1.5	1
14.27	4.35	2.707	0.020	0.7	0.440	0.289	1.3	2.0	2.0	3.9	0.132	0.00	0.0	0.0	1.5	1
15.26	4.65	2.728	0.020	0.7	0.448	0.320	1.3	2.0	2.0	3.9	0.131	0.00	0.0	0.0	1.5	1
16.24	4.95	2.497	0.020	0.8	0.457	0.351	1.2	1.8	1.8	3.5	0.113	0.00	0.0	0.0	1.0	1
17.22	5.25	2.435	0.020	0.8	0.465	0.382	1.2	1.7	1.7	3.4	0.106	0.00	0.0	0.0	1.0	1
18.21	5.55	2.489	0.020	0.8	0.474	0.412	1.2	1.7	1.7	3.5	0.107	0.00	0.0	0.0	1.0	1
19.19	5.85	2.665	0.020	0.8	0.482	0.443	1.3	1.8	1.8	3.7	0.116	0.00	0.0	0.0	1.0	1
20.18	6.15	3.093	0.020	0.6	0.490	0.474	1.5	2.1	2.1	4.2	0.142	0.00	0.0	0.0	1.5	1
21.16	6.45	3.380	0.020	0.6	0.499	0.505	1.6	2.3	2.3	4.6	0.158	0.00	0.0	0.0	1.5	1
22.15	6.75	3.295	0.028	0.9	0.507	0.535	1.6	2.2	2.2	4.4	0.150	0.00	0.0	0.0	1.5	1
23.13	7.05	3.873	0.063	1.6	0.516	0.566	1.9	2.6	2.6	5.2	0.186	0.00	0.0	0.0	1.5	1
24.11	7.35	3.723	0.043	1.2	0.524	0.597	1.8	2.5	2.5	4.9	0.173	0.00	0.0	0.0	1.5	1
25.10	7.65	3.801	0.035	0.9	0.533	0.628	1.8	2.5	2.5	5.0	0.176	0.00	0.0	0.0	1.5	1
26.08	7.95	4.604	0.094	2.0	0.550	0.658	2.9	4.0	4.0	7.9	0.226	0.08	0.0	0.0	1.5	4
27.07	8.25	5.039	0.090	1.8	0.575	0.689	3.2	4.2	4.2	8.5	0.252	0.08	0.0	0.0	1.5	4
28.05	8.55	4.453	0.074	1.7	0.592	0.720	2.1	2.8	2.8	5.5	0.209	0.00	0.0	0.0	1.5	1
29.04	8.85	5.709	0.095	1.7	0.609	0.750	3.6	4.7	4.7	9.3	0.290	0.08	0.0	0.0	1.5	4
30.02	9.15	4.759	0.047	1.0	0.626	0.781	2.3	2.9	2.9	5.8	0.223	0.00	0.0	0.0	1.5	1
31.00	9.45	3.712	0.033	0.9	0.635	0.812	1.8	2.2	2.2	4.5	0.151	0.00	0.0	0.0	1.0	1
31.99	9.75	4.030	0.055	1.4	0.643	0.843	1.9	2.4	2.4	4.8	0.170	0.00	0.0	0.0	1.5	1
32.97	10.05	4.579	0.040	0.9	0.652	0.873	2.2	2.7	2.7	5.4	0.204	0.00	0.0	0.0	1.5	1
33.96	10.35	4.564	0.023	0.5	0.660	0.904	2.2	2.7	2.7	5.4	0.200	0.00	0.0	0.0	1.5	1
34.94	10.65	4.191	0.030	0.7	0.669	0.935	2.0	2.5	2.5	4.9	0.172	0.00	0.0	0.0	1.5	1
35.92	10.95	5.463	0.062	1.1	0.677	0.966	2.6	3.2	3.2	6.4	0.255	0.08	0.0	0.0	1.5	1

Depth (ft)	Depth (m)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	E.Stress (tsf)	Hyd. Pr. (tsf)	N60 (blows/ft)	(N1)60	Delta (N1)60	(N1)60 CS	Su (tsf)	CRR	Dr (%)	Phi (deg)	OCR (ratio)	SBT
36.91	11.25	5.565	0.068	1.2	0.685	0.996	2.7	3.2	3.2	6.4	0.259	0.08	0.0	0.0	1.5	1
37.89	11.55	6.121	0.117	1.9	0.702	1.027	3.9	4.7	4.7	9.3	0.293	0.08	0.0	0.0	1.5	4
38.88	11.85	6.333	0.137	2.2	0.728	1.058	4.0	4.7	0.0	4.7	0.303	0.00	0.0	0.0	1.5	4
39.86	12.15	6.964	0.212	3.0	0.753	1.088	6.7	7.7	0.0	7.7	0.342	0.00	0.0	0.0	1.5	3
40.85	12.45	10.264	0.356	3.5	0.777	1.119	9.8	11.2	0.0	11.2	0.558	0.00	0.0	0.0	3.0	3
41.83	12.75	20.533	0.540	2.6	0.802	1.150	9.8	11.0	11.0	22.0	1.239	0.21	0.0	0.0	6.0	5
42.81	13.05	25.455	0.922	3.6	0.828	1.181	12.2	13.4	13.4	26.8	1.563	0.32	0.0	0.0	6.0	5
43.80	13.35	21.486	0.807	3.8	0.853	1.211	13.7	14.9	14.9	29.7	1.295	0.22	0.0	0.0	6.0	4
44.78	13.65	23.836	0.732	3.1	0.879	1.242	11.4	12.2	12.2	24.4	1.448	0.26	0.0	0.0	6.0	5
45.77	13.95	23.212	0.728	3.1	0.905	1.273	11.1	11.7	11.7	23.4	1.402	0.24	0.0	0.0	6.0	5
46.75	14.25	25.498	0.743	2.9	0.930	1.304	12.2	12.7	12.7	25.3	1.551	0.28	0.0	0.0	6.0	5
47.74	14.55	26.465	0.852	3.2	0.956	1.334	12.7	13.0	13.0	25.9	1.612	0.30	0.0	0.0	6.0	5
48.72	14.85	26.187	0.750	2.9	0.982	1.365	12.5	12.7	12.7	25.3	1.589	0.28	0.0	0.0	6.0	5
49.70	15.15	25.898	0.750	2.9	1.007	1.396	12.4	12.4	12.4	24.7	1.566	0.27	0.0	0.0	6.0	5
50.69	15.45	25.933	0.745	2.9	1.033	1.427	12.4	12.2	12.2	24.4	1.565	0.26	0.0	0.0	6.0	5
51.67	15.75	20.559	0.469	2.3	1.058	1.457	7.9	7.7	7.7	15.3	1.203	0.17	30.0	32.0	6.0	6
52.66	16.05	21.747	0.513	2.4	1.084	1.488	8.3	8.0	8.0	16.0	1.278	0.18	30.0	32.0	6.0	6
53.64	16.35	22.404	0.469	2.1	1.110	1.519	8.6	8.1	8.1	16.3	1.318	0.18	30.0	32.0	6.0	6
54.63	16.65	22.296	0.401	1.8	1.135	1.549	8.5	8.0	8.0	16.0	1.307	0.18	30.0	32.0	6.0	6
55.61	16.95	21.981	0.613	2.8	1.161	1.580	10.5	9.8	9.8	19.5	1.283	0.17	0.0	0.0	6.0	5
56.59	17.25	25.668	0.797	3.1	1.187	1.611	12.3	11.3	11.3	22.6	1.525	0.22	0.0	0.0	6.0	5
57.58	17.55	26.366	0.643	2.4	1.212	1.642	10.1	9.2	9.2	18.3	1.567	0.23	30.0	34.0	6.0	6
58.56	17.85	29.191	0.812	2.8	1.238	1.672	14.0	12.6	12.6	25.1	1.752	0.28	0.0	0.0	6.0	5
59.55	18.15	24.069	0.702	2.9	1.264	1.703	11.5	10.3	10.3	20.5	1.407	0.19	0.0	0.0	6.0	5
60.53	18.45	32.178	0.819	2.5	1.289	1.734	12.3	10.9	10.9	21.7	1.944	0.33	30.5	34.0	6.0	6
61.51	18.75	32.039	0.860	2.7	1.315	1.765	12.3	10.7	10.7	21.4	1.931	0.32	30.1	34.0	6.0	6
62.52	19.02	27.282	0.537	2.0	1.339	1.793	10.5	9.0	9.0	18.1	1.610	0.22	30.0	32.0	6.0	6
63.32	19.30	23.649	0.635	2.7	1.362	1.821	11.3	9.7	9.7	19.4	1.364	0.17	0.0	0.0	6.0	5
64.30	19.60	20.668	0.384	1.9	1.388	1.852	7.9	6.7	6.7	13.4	1.162	0.14	30.0	32.0	3.0	6
65.29	19.90	28.615	0.581	2.0	1.413	1.882	11.0	9.2	9.2	18.4	1.688	0.23	30.0	32.0	6.0	6
66.27	20.20	23.214	0.289	1.2	1.439	1.913	8.9	7.4	7.4	14.8	1.324	0.16	30.0	32.0	3.0	6
67.26	20.50	20.227	0.393	1.9	1.465	1.944	7.7	6.4	6.4	12.8	1.121	0.13	30.0	30.0	3.0	6
68.24	20.80	19.683	0.251	1.3	1.490	1.975	7.5	6.2	6.2	12.4	1.081	0.13	30.0	30.0	3.0	6
69.22	21.10	19.800	0.247	1.2	1.516	2.005	7.6	6.2	6.2	12.3	1.085	0.13	30.0	30.0	3.0	6
70.21	21.40	19.558	0.232	1.2	1.542	2.036	7.5	6.0	6.0	12.1	1.065	0.12	30.0	30.0	3.0	6
71.19	21.70	25.341	0.419	1.7	1.567	2.067	9.7	7.8	7.8	15.5	1.447	0.17	30.0	32.0	3.0	6
72.18	22.00	29.713	0.469	1.6	1.593	2.097	11.4	9.0	9.0	18.0	1.735	0.22	30.0	32.0	6.0	6
73.16	22.30	29.635	0.451	1.5	1.619	2.128	11.4	8.9	8.9	17.8	1.726	0.22	30.0	32.0	6.0	6
74.15	22.60	20.640	0.356	1.7	1.644	2.159	7.9	6.2	6.2	12.3	1.122	0.13	30.0	30.0	3.0	6
75.13	22.90	19.011	0.262	1.4	1.670	2.190	7.3	5.6	5.6	11.3	1.010	0.11	30.0	30.0	3.0	6
76.11	23.20	17.580	0.239	1.4	1.696	2.220	6.7	5.2	5.2	10.3	0.911	0.11	30.0	30.0	3.0	6
77.10	23.50	18.800	0.247	1.3	1.721	2.251	7.2	5.5	5.5	11.0	0.989	0.11	30.0	30.0	3.0	6
78.08	23.80	27.298	0.556	2.0	1.747	2.282	10.5	7.9	7.9	15.8	1.551	0.18	30.0	32.0	3.0	6
79.07	24.10	30.490	0.708	2.3	1.773	2.313	11.7	8.8	8.8	17.5	1.760	0.21	30.0	32.0	3.0	6
80.05	24.40	29.967	0.695	2.3	1.798	2.343	11.5	8.6	8.6	17.1	1.722	0.20	30.0	32.0	3.0	6
81.04	24.70	31.630	0.779	2.5	1.824	2.374	12.1	9.0	9.0	17.9	1.829	0.22	30.0	32.0	6.0	6
82.02	25.00	35.819	0.941	2.6	1.850	2.405	13.7	10.1	10.1	20.2	2.104	0.28	30.0	32.0	6.0	6
83.00	25.30	34.643	0.986	2.8	1.875	2.436	16.6	12.1	12.1	24.2	2.022	0.26	0.0	0.0	6.0	5
83.99	25.60	32.929	0.877	2.7	1.901	2.466	12.6	9.2	9.2	18.3	1.904	0.23	30.0	32.0	6.0	6
84.97	25.90	25.584	0.505	2.0	1.927	2.497	9.8	7.1	7.1	14.1	1.411	0.15	30.0	30.0	3.0	6
85.96	26.20	23.845	0.329	1.4	1.952	2.528	9.1	6.5	6.5	13.1	1.291	0.13	30.0	30.0	3.0	6
86.94	26.50	24.998	0.369	1.5	1.978	2.558	9.6	6.8	6.8	13.6	1.364	0.14	30.0	30.0	3.0	6
87.93	26.80	25.903	0.384	1.5	2.003	2.589	9.9	7.0	7.0	14.0	1.421	0.15	30.0	30.0	3.0	6
88.91	27.10	25.352	0.344	1.4	2.029	2.620	9.7	6.8	6.8	13.6	1.380	0.14	30.0	30.0	3.0	6

Depth (ft)	Depth (m)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	E.Stress (tsf)	Hyd. Pr. (tsf)	N60 (blows/ft)	(N1)60	Delta (N1)60	(N1)60 CS	Su (tsf)	CRR	Dr (%)	Phi (deg)	OCR (ratio)	SBT
89.89	27.40	26.371	0.281	1.1	2.055	2.651	10.1	7.0	7.0	14.1	1.444	0.15	30.0	30.0	3.0	6
90.88	27.70	29.780	0.366	1.2	2.080	2.681	11.4	7.9	7.9	15.8	1.668	0.18	30.0	32.0	3.0	6
91.86	28.00	30.721	0.373	1.2	2.107	2.712	9.8	6.8	6.8	13.5	0.000	0.18	30.0	32.0	1.0	7
92.85	28.30	32.119	0.403	1.3	2.134	2.743	10.3	7.0	7.0	14.0	0.000	0.20	30.0	32.0	1.0	7
93.83	28.60	29.652	0.431	1.5	2.161	2.774	11.4	7.7	7.7	15.5	1.648	0.17	30.0	30.0	3.0	6
94.82	28.90	23.462	0.312	1.3	2.186	2.804	9.0	6.1	6.1	12.2	1.231	0.12	30.0	30.0	3.0	6
95.80	29.20	53.918	0.685	1.3	2.213	2.835	17.2	11.6	9.4	21.0	0.000	0.27	37.6	34.0	1.0	7
96.78	29.50	44.110	1.111	2.5	2.239	2.866	16.9	11.3	11.3	22.6	2.600	0.36	31.6	32.0	6.0	6
97.77	29.80	18.038	0.251	1.4	2.265	2.896	6.9	4.6	4.6	9.2	0.858	0.10	30.0	30.0	1.5	6
98.75	30.10	19.698	0.212	1.1	2.290	2.927	7.5	5.0	5.0	10.0	0.965	0.10	30.0	30.0	1.5	6
99.74	30.40	22.672	0.254	1.1	2.316	2.958	8.7	5.7	5.7	11.4	1.160	0.12	30.0	30.0	3.0	6
00.72	30.70	23.227	0.289	1.2	2.342	2.989	8.9	5.8	5.8	11.6	1.193	0.12	30.0	30.0	3.0	6
101.70	31.00	30.195	0.426	1.4	2.367	3.019	11.6	7.5	7.5	15.0	1.654	0.16	30.0	30.0	3.0	6
102.69	31.30	32.660	0.483	1.5	2.393	3.050	12.5	8.1	8.1	16.2	1.814	0.18	30.0	30.0	3.0	6
03.67	31.60	39.176	0.513	1.3	2.419	3.081	12.5	8.0	8.0	16.1	0.000	0.25	30.0	32.0	1.0	7
04.66	31.90	34.711	0.513	1.5	2.447	3.112	11.1	7.1	7.1	14.2	0.000	0.20	30.0	30.0	1.0	7
105.64	32.20	32.631	0.652	2.0	2.473	3.142	12.5	7.9	7.9	15.9	1.801	0.18	30.0	30.0	3.0	6
106.63	32.50	36.866	0.951	2.6	2.499	3.173	14.1	8.9	8.9	17.9	2.080	0.22	30.0	32.0	3.0	6
07.61	32.80	42.154	1.230	2.9	2.524	3.204	16.1	10.2	10.2	20.3	2.428	0.28	30.0	32.0	3.0	6
08.59	33.10	49.877	1.420	2.8	2.550	3.235	19.1	12.0	12.0	23.9	2.939	0.41	33.3	32.0	6.0	6
109.58	33.40	55.655	1.420	2.6	2.576	3.265	21.3	13.3	13.3	26.6	3.321	0.00	36.3	34.0	6.0	6
110.56	33.70	58.162	1.482	2.5	2.601	3.296	22.3	13.8	13.8	27.6	3.484	0.00	37.4	34.0	6.0	6
11.55	34.00	57.892	1.395	2.4	2.627	3.327	22.2	13.7	13.7	27.4	3.463	0.00	37.1	34.0	6.0	6
12.53	34.30	48.731	1.041	2.1	2.653	3.357	18.7	11.5	11.5	22.9	2.848	0.37	32.1	32.0	6.0	6
113.52	34.60	48.294	1.096	2.3	2.678	3.388	18.5	11.3	11.3	22.6	2.815	0.36	31.7	32.0	6.0	6
14.50	34.90	45.453	1.029	2.3	2.704	3.419	17.4	10.6	10.6	21.2	2.622	0.31	30.0	32.0	3.0	6
48	35.20	53.889	1.437	2.7	2.730	3.450	20.6	12.5	12.5	25.0	3.181	0.46	34.5	32.0	6.0	6
16.47	35.50	41.650	1.031	2.5	2.755	3.480	16.0	9.6	9.6	19.2	2.361	0.25	30.0	32.0	3.0	6
117.45	35.80	43.737	1.582	3.6	2.781	3.511	20.9	12.6	0.0	12.6	2.496	0.00	0.0	0.0	3.0	5
118.44	36.10	39.990	0.819	2.0	2.807	3.542	15.3	9.1	9.1	18.3	2.243	0.23	30.0	30.0	3.0	6
19.42	36.40	47.460	1.373	2.9	2.832	3.573	18.2	10.8	10.8	21.6	2.737	0.32	30.4	32.0	3.0	6

Gregg In Situ, Inc.
Interpretation Output - Release 1.00.19c
Run No: 01-0511-1636-4738
Job No: 97-100
Client: LFR LEVINE FRICKE
Project: N.E. Mare Island, Vallejo, CA
Site: N.E. MARE ISL.
Location: CPT-4
Engineer: C. NARDI
CPT Date: 01/09/05
CPT Time: 07:59
CPT File: 075C04.COR

Water Table (m): 1.52 (ft): 5.0
Averaging Increment (m): 0.30
Su Nkt used: 15.00
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
Used Unit Weights Assigned to Soil Zones

Depth (ft)	Depth (m)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	E.Stress (tsf)	Hyd. Pr. (tsf)	N60 (blows/ft)	(N1)60 (blows/ft)	Delta (N1)60 (blows/ft)	(N1)60 CS (blows/ft)	Su (tsf)	CRR	Dr (%)	Phi (deg)	OCR (ratio)	SBT
0.49	0.15	26.831	0.373	1.4	0.028	0.000	10.3	20.6	0.0	20.6	1.787	0.09	80.1	50.0	10.0	6
1.48	0.45	31.022	0.332	1.1	0.085	0.000	9.9	19.8	0.0	19.8	0.000	0.10	68.4	48.0	1.0	7
2.46	0.75	47.012	0.434	0.9	0.143	0.000	15.0	30.0	0.0	30.0	0.000	0.15	72.9	48.0	1.0	7
3.44	1.05	24.042	0.464	1.9	0.200	0.000	9.2	18.4	3.5	21.9	1.589	0.10	48.8	42.0	10.0	6
4.43	1.35	44.011	1.547	3.5	0.257	0.000	21.1	41.6	0.0	41.6	2.917	0.00	0.0	0.0	10.0	5
5.41	1.65	36.169	1.445	4.0	0.300	0.013	17.3	31.6	0.0	31.6	2.390	0.00	0.0	0.0	10.0	5
6.40	1.95	37.868	1.442	3.8	0.326	0.044	18.1	31.8	0.0	31.8	2.500	0.00	0.0	0.0	10.0	5
7.30	2.22	6.754	0.207	3.1	0.349	0.072	6.5	11.0	11.0	21.9	0.422	0.10	0.0	0.0	6.0	3
8.20	2.50	9.497	0.348	3.7	0.371	0.100	9.1	14.9	14.9	29.9	0.602	0.12	0.0	0.0	6.0	3
9.19	2.80	6.973	0.257	3.7	0.395	0.131	6.7	10.6	0.0	10.6	0.430	0.00	0.0	0.0	6.0	3
10.17	3.10	5.199	0.144	2.8	0.419	0.161	5.0	7.7	7.7	15.4	0.308	0.09	0.0	0.0	3.0	3
11.15	3.40	6.288	0.174	2.8	0.443	0.192	6.0	9.0	9.0	18.1	0.377	0.09	0.0	0.0	3.0	3
12.14	3.70	5.692	0.165	2.9	0.467	0.223	5.5	8.0	8.0	15.9	0.333	0.09	0.0	0.0	3.0	3
13.21	4.02	4.976	0.185	3.7	0.493	0.256	4.8	6.8	0.0	6.8	0.282	0.00	0.0	0.0	3.0	3
14.27	4.35	3.982	0.129	3.2	0.520	0.289	3.8	5.3	0.0	5.3	0.212	0.00	0.0	0.0	1.5	3
15.26	4.65	4.010	0.085	2.1	0.544	0.320	3.8	5.2	5.2	10.4	0.210	0.00	0.0	0.0	1.5	3
16.24	4.95	3.436	0.068	2.0	0.560	0.351	1.6	2.2	2.2	4.4	0.168	0.00	0.0	0.0	1.5	1
17.22	5.25	3.633	0.057	1.6	0.568	0.382	1.7	2.3	2.3	4.6	0.179	0.00	0.0	0.0	1.5	1
18.21	5.55	3.753	0.058	1.6	0.577	0.412	1.8	2.4	2.4	4.7	0.184	0.00	0.0	0.0	1.5	1
19.19	5.85	3.786	0.053	1.4	0.585	0.443	1.8	2.4	2.4	4.7	0.184	0.00	0.0	0.0	1.5	1
20.18	6.15	3.827	0.065	1.7	0.594	0.474	1.8	2.4	2.4	4.8	0.184	0.00	0.0	0.0	1.5	1
21.16	6.45	3.798	0.063	1.7	0.602	0.505	1.8	2.3	2.3	4.7	0.179	0.00	0.0	0.0	1.5	1
22.15	6.75	3.959	0.068	1.7	0.610	0.535	1.9	2.4	2.4	4.9	0.188	0.00	0.0	0.0	1.5	1
23.13	7.05	4.164	0.068	1.6	0.619	0.566	2.0	2.5	2.5	5.1	0.199	0.00	0.0	0.0	1.5	1
24.11	7.35	4.443	0.070	1.6	0.627	0.597	2.1	2.7	2.7	5.4	0.215	0.00	0.0	0.0	1.5	1
25.10	7.65	4.848	0.070	1.4	0.636	0.628	2.3	2.9	2.9	5.8	0.239	0.00	0.0	0.0	1.5	1
26.08	7.95	4.442	0.080	1.8	0.653	0.658	2.8	3.5	3.5	7.0	0.209	0.00	0.0	0.0	1.5	4
27.07	8.25	4.646	0.074	1.6	0.670	0.689	2.2	2.7	2.7	5.4	0.219	0.00	0.0	0.0	1.5	1
28.05	8.55	4.601	0.072	1.6	0.678	0.720	2.2	2.7	2.7	5.4	0.214	0.00	0.0	0.0	1.5	1
29.04	8.85	5.303	0.082	1.5	0.695	0.750	3.4	4.1	4.1	8.1	0.257	0.08	0.0	0.0	1.5	4
30.02	9.15	5.083	0.079	1.5	0.721	0.781	3.2	3.8	3.8	7.6	0.239	0.00	0.0	0.0	1.5	4
31.00	9.45	4.870	0.085	1.7	0.747	0.812	3.1	3.6	3.6	7.2	0.221	0.00	0.0	0.0	1.5	4
31.99	9.75	5.614	0.085	1.5	0.772	0.843	3.6	4.1	4.1	8.2	0.267	0.08	0.0	0.0	1.5	4
32.97	10.05	5.256	0.094	1.8	0.798	0.873	3.4	3.8	3.8	7.5	0.239	0.00	0.0	0.0	1.5	4
33.96	10.35	5.526	0.092	1.7	0.824	0.904	3.5	3.9	3.9	7.8	0.253	0.00	0.0	0.0	1.5	4
34.94	10.65	5.396	0.094	1.7	0.849	0.935	3.4	3.7	3.7	7.5	0.241	0.00	0.0	0.0	1.5	4
35.92	10.95	5.910	0.105	1.8	0.875	0.966	3.8	4.0	4.0	8.1	0.271	0.08	0.0	0.0	1.5	4

Depth (ft)	Depth (m)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	E.Stress (tsf)	Hyd. Pr. (tsf)	N60 (blows/ft)	(N1)60	Delta (N1)60	(N1)60 CS	Su (tsf)	CRR	Dr (%)	Phi (deg)	OCR (ratio)	SBT
36.91	11.25	5.407	0.100	1.9	0.900	0.996	3.5	3.6	0.0	3.6	0.234	0.00	0.0	0.0	1.5	4
37.89	11.55	5.361	0.100	1.9	0.926	1.027	3.4	3.6	0.0	3.6	0.227	0.00	0.0	0.0	1.0	4
38.88	11.85	5.871	0.107	1.8	0.952	1.058	3.7	3.8	0.0	3.8	0.257	0.00	0.0	0.0	1.5	4
39.86	12.15	6.087	0.104	1.7	0.977	1.088	3.9	3.9	3.9	7.9	0.268	0.08	0.0	0.0	1.5	4
40.85	12.45	6.262	0.100	1.6	1.003	1.119	3.0	3.0	3.0	6.0	0.276	0.08	0.0	0.0	1.5	5
41.83	12.75	6.208	0.109	1.7	1.029	1.150	4.0	3.9	0.0	3.9	0.269	0.00	0.0	0.0	1.5	4
42.81	13.05	6.373	0.112	1.8	1.054	1.181	4.1	4.0	0.0	4.0	0.276	0.00	0.0	0.0	1.5	4
43.80	13.35	6.791	0.114	1.7	1.080	1.211	3.3	3.1	3.1	6.3	0.300	0.08	0.0	0.0	1.5	5
44.78	13.65	7.537	0.122	1.6	1.106	1.242	3.6	3.4	3.4	6.9	0.346	0.08	0.0	0.0	1.5	5
45.77	13.95	13.946	0.354	2.5	1.131	1.273	6.7	6.3	6.3	12.6	0.769	0.10	0.0	0.0	3.0	5
46.75	14.25	21.432	0.538	2.5	1.157	1.304	10.3	9.5	9.5	19.1	1.265	0.17	0.0	0.0	6.0	5
47.74	14.55	19.816	0.358	1.8	1.183	1.334	7.6	7.0	7.0	14.0	1.153	0.15	30.0	32.0	3.0	6
48.72	14.85	17.415	0.358	2.1	1.208	1.365	8.3	7.6	7.6	15.2	0.989	0.12	0.0	0.0	3.0	5
49.70	15.15	19.216	0.391	2.0	1.234	1.396	7.4	6.6	6.6	13.3	1.106	0.14	30.0	32.0	3.0	6
50.69	15.45	17.215	0.344	2.0	1.260	1.427	6.6	5.9	5.9	11.8	0.969	0.12	30.0	30.0	3.0	6
51.67	15.75	19.598	0.414	2.1	1.285	1.457	7.5	6.6	6.6	13.2	1.124	0.14	30.0	32.0	3.0	6
52.66	16.05	19.717	0.366	1.9	1.311	1.488	7.6	6.6	6.6	13.2	1.128	0.14	30.0	32.0	3.0	6
53.64	16.35	22.676	0.406	1.8	1.337	1.519	8.7	7.5	7.5	15.0	1.321	0.16	30.0	32.0	3.0	6
54.63	16.65	21.018	0.376	1.8	1.362	1.549	8.1	6.9	6.9	13.8	1.207	0.14	30.0	32.0	3.0	6
55.61	16.95	26.033	0.683	2.6	1.388	1.580	12.5	10.6	10.6	21.2	1.538	0.20	0.0	0.0	6.0	5
56.59	17.25	29.641	0.780	2.6	1.414	1.611	11.4	9.6	9.6	19.1	1.774	0.25	30.0	34.0	6.0	6
57.58	17.55	35.343	0.789	2.2	1.439	1.642	13.5	11.3	11.3	22.6	2.151	0.36	31.6	34.0	6.0	6
58.56	17.85	28.015	0.827	3.0	1.465	1.672	13.4	11.1	11.1	22.2	1.659	0.22	0.0	0.0	6.0	5
59.55	18.15	32.439	1.124	3.5	1.491	1.703	15.5	12.7	12.7	25.4	1.950	0.28	0.0	0.0	6.0	5
60.53	18.45	32.305	0.986	3.1	1.516	1.734	15.5	12.6	12.6	25.1	1.937	0.28	0.0	0.0	6.0	5
61.51	18.75	31.605	0.815	2.6	1.542	1.765	12.1	9.8	9.8	19.5	1.887	0.26	30.0	32.0	6.0	6
.2	19.02	31.808	0.732	2.3	1.565	1.793	12.2	9.7	9.7	19.5	1.897	0.26	30.0	32.0	6.0	6
63.32	19.30	31.690	0.613	1.9	1.589	1.821	12.1	9.6	9.6	19.3	1.885	0.25	30.0	32.0	6.0	6
64.30	19.60	40.494	1.143	2.8	1.615	1.852	15.5	12.2	12.2	24.4	2.469	0.43	33.9	34.0	6.0	6
65.29	19.90	50.874	1.925	3.8	1.640	1.882	24.4	19.0	19.0	38.0	3.157	0.00	0.0	0.0	6.0	5
66.27	20.20	51.820	1.933	3.7	1.666	1.913	24.8	19.2	19.2	38.5	3.216	0.00	0.0	0.0	6.0	5
67.26	20.50	91.598	2.783	3.0	1.692	1.944	35.1	27.0	17.8	44.8	5.864	0.00	56.6	40.0	6.0	6
68.24	20.80	38.096	1.001	2.6	1.717	1.975	14.6	11.1	11.1	22.3	2.294	0.35	31.2	34.0	6.0	6
69.22	21.10	34.966	0.984	2.8	1.743	2.005	13.4	10.1	10.1	20.3	2.081	0.28	30.0	32.0	6.0	6
70.21	21.40	37.714	1.268	3.4	1.769	2.036	18.1	13.6	13.6	27.2	2.261	0.33	0.0	0.0	6.0	5
71.19	21.70	35.703	1.168	3.3	1.794	2.067	17.1	12.8	12.8	25.5	2.123	0.29	0.0	0.0	6.0	5
72.18	22.00	34.824	1.126	3.2	1.820	2.097	16.7	12.4	12.4	24.7	2.060	0.27	0.0	0.0	6.0	5
73.16	22.30	30.571	0.874	2.9	1.845	2.128	14.6	10.8	10.8	21.6	1.773	0.20	0.0	0.0	3.0	5
74.15	22.60	31.764	0.870	2.7	1.871	2.159	12.2	8.9	8.9	17.8	1.849	0.22	30.0	32.0	3.0	6
75.13	22.90	38.173	1.634	4.3	1.897	2.190	24.4	17.7	0.0	17.7	2.272	0.00	0.0	0.0	6.0	4
76.11	23.20	31.916	1.193	3.7	1.922	2.220	15.3	11.0	0.0	11.0	1.852	0.00	0.0	0.0	3.0	5
77.10	23.50	35.211	1.054	3.0	1.948	2.251	16.9	12.1	12.1	24.2	2.067	0.25	0.0	0.0	6.0	5
78.08	23.80	32.603	0.850	2.6	1.974	2.282	12.5	8.9	8.9	17.8	1.890	0.22	30.0	32.0	3.0	6
79.07	24.10	33.621	0.834	2.5	1.999	2.313	12.9	9.1	9.1	18.2	1.954	0.23	30.0	32.0	3.0	6
80.05	24.40	28.779	0.588	2.0	2.025	2.343	11.0	7.7	7.7	15.5	1.627	0.17	30.0	30.0	3.0	6
81.04	24.70	33.749	0.794	2.4	2.051	2.374	12.9	9.0	9.0	18.1	1.955	0.22	30.0	32.0	3.0	6
82.02	25.00	40.204	1.221	3.0	2.076	2.405	19.3	13.4	13.4	26.7	2.382	0.32	0.0	0.0	6.0	5
83.00	25.30	37.537	1.201	3.2	2.102	2.436	18.0	12.4	12.4	24.8	2.200	0.27	0.0	0.0	6.0	5
83.99	25.60	43.144	1.290	3.0	2.128	2.466	16.5	11.3	11.3	22.7	2.570	0.36	31.7	32.0	6.0	6
84.97	25.90	49.992	1.986	4.0	2.153	2.497	23.9	16.3	0.0	16.3	3.023	0.00	0.0	0.0	6.0	5
85.96	26.20	66.438	2.083	3.1	2.179	2.528	25.5	17.2	17.2	34.5	4.115	0.00	43.8	36.0	6.0	6
86.94	26.50	192.659	7.495	3.9	2.206	2.558	92.3	62.1	33.0	95.1	0.000	0.00	74.1	42.0	1.0	12
87.93	26.80	141.557	4.549	3.2	2.233	2.589	54.2	36.3	21.6	57.9	9.116	0.00	65.1	40.0	10.0	6

Gregg In Situ, Inc.
Interpretation Output - Release 1.00.19c
Run No: 01-0511-1636-4771
Job No: 97-100
Client: LFR LEVINE FRICKE
Project: N.E. Mare Island, Vallejo, CA
Site: N.E. MARE ISL.
Location: CPT-5
Engineer: C. NARDI
CPT Date: 01/09/05
CPT Time: 10:12
CPT File: 075C05.COR

Water Table (m): 1.52 (ft): 5.0
Averaging Increment (m): 0.30
Su Nkt used: 15.00
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
Used Unit Weights Assigned to Soil Zones

Depth (ft)	Depth (m)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	E.Stress (tsf)	Hyd. Pr. (tsf)	N60 (blows/ft)	(N1)60	Delta (N1)60	(N1)60 CS	Su (tsf)	CRR	Dr (%)	Phi (deg)	OCR (ratio)	SBT
0.49	0.15	105.959	0.568	0.5	0.031	0.000	20.3	40.6	0.0	40.6	0.000	0.00	95.0	50.0	1.0	9
1.48	0.45	78.748	1.355	1.7	0.090	0.000	25.1	50.3	0.0	50.3	0.000	0.00	94.3	50.0	1.0	7
2.46	0.75	46.301	0.451	1.0	0.148	0.000	14.8	29.6	0.0	29.6	0.000	0.14	72.0	46.0	1.0	7
3.44	1.05	25.277	0.506	2.0	0.205	0.000	9.7	19.4	3.7	23.1	1.671	0.11	49.9	42.0	10.0	6
4.43	1.35	15.377	0.627	4.1	0.261	0.000	14.7	28.8	22.2	51.0	1.008	0.16	0.0	0.0	6.0	3
5.41	1.65	54.239	1.632	3.0	0.303	0.013	20.8	37.7	0.0	37.7	3.595	0.00	66.2	44.0	10.0	6
6.40	1.95	10.085	0.516	5.1	0.328	0.044	9.7	16.9	0.0	16.9	0.648	0.00	0.0	0.0	6.0	3
7.30	2.22	5.719	0.118	2.1	0.351	0.072	3.7	6.2	6.2	12.3	0.353	0.09	0.0	0.0	6.0	4
8.20	2.50	5.634	0.097	1.7	0.375	0.100	3.6	5.9	5.9	11.8	0.344	0.09	0.0	0.0	3.0	4
9.19	2.80	9.221	0.261	2.8	0.400	0.131	5.9	9.3	9.3	18.6	0.579	0.11	0.0	0.0	6.0	4
10.17	3.10	5.541	0.170	3.1	0.425	0.161	5.3	8.1	8.1	16.3	0.330	0.09	0.0	0.0	3.0	3
11.15	3.40	3.315	0.042	1.3	0.441	0.192	1.6	2.4	2.4	4.8	0.179	0.00	0.0	0.0	1.5	1
12.14	3.70	2.936	0.030	1.0	0.450	0.223	1.4	2.1	2.1	4.2	0.151	0.00	0.0	0.0	1.5	1
13.21	4.02	2.236	0.020	0.9	0.459	0.256	1.1	1.6	1.6	3.2	0.101	0.00	0.0	0.0	1.0	1
14.27	4.35	2.275	0.020	0.9	0.468	0.289	1.1	1.6	1.6	3.2	0.101	0.00	0.0	0.0	1.0	1
15.26	4.65	2.289	0.023	1.0	0.477	0.320	1.1	1.6	1.6	3.2	0.099	0.00	0.0	0.0	1.0	1
16.24	4.95	2.562	0.033	1.3	0.485	0.351	1.2	1.8	1.8	3.5	0.115	0.00	0.0	0.0	1.0	1
17.22	5.25	2.400	0.042	1.7	0.493	0.382	1.1	1.6	0.0	1.6	0.102	0.00	0.0	0.0	1.0	1
18.21	5.55	2.473	0.052	2.1	0.502	0.412	1.2	1.7	0.0	1.7	0.104	0.00	0.0	0.0	1.0	1
19.19	5.85	2.551	0.052	2.0	0.510	0.443	1.2	1.7	0.0	1.7	0.107	0.00	0.0	0.0	1.0	1
20.18	6.15	2.770	0.050	1.8	0.519	0.474	1.3	1.8	0.0	1.8	0.119	0.00	0.0	0.0	1.0	1
21.16	6.45	2.921	0.052	1.8	0.527	0.505	1.4	1.9	0.0	1.9	0.126	0.00	0.0	0.0	1.0	1
22.15	6.75	3.004	0.060	2.0	0.535	0.535	1.4	2.0	0.0	2.0	0.129	0.00	0.0	0.0	1.0	1
23.13	7.05	3.431	0.057	1.7	0.544	0.566	1.6	2.2	2.2	4.5	0.155	0.00	0.0	0.0	1.5	1
24.11	7.35	3.510	0.055	1.6	0.552	0.597	1.7	2.3	2.3	4.5	0.157	0.00	0.0	0.0	1.5	1
25.10	7.65	3.927	0.060	1.5	0.561	0.628	1.9	2.5	2.5	5.0	0.183	0.00	0.0	0.0	1.5	1
26.08	7.95	4.912	0.095	1.9	0.578	0.658	3.1	4.1	4.1	8.3	0.245	0.08	0.0	0.0	1.5	4
27.07	8.25	4.281	0.080	1.9	0.603	0.689	2.7	3.5	3.5	7.0	0.199	0.00	0.0	0.0	1.5	4
28.05	8.55	4.446	0.079	1.8	0.621	0.720	2.1	2.7	2.7	5.4	0.207	0.00	0.0	0.0	1.5	1
29.04	8.85	4.772	0.095	2.0	0.638	0.750	3.0	3.8	3.8	7.6	0.226	0.00	0.0	0.0	1.5	4
30.02	9.15	4.290	0.097	2.3	0.662	0.781	4.1	5.0	0.0	5.0	0.190	0.00	0.0	0.0	1.5	3
31.00	9.45	4.887	0.122	2.5	0.687	0.812	4.7	5.6	0.0	5.6	0.226	0.00	0.0	0.0	1.5	3
31.99	9.75	4.120	0.068	1.7	0.703	0.843	2.0	2.4	0.0	2.4	0.172	0.00	0.0	0.0	1.0	1
32.97	10.05	4.058	0.050	1.2	0.711	0.873	1.9	2.3	2.3	4.6	0.165	0.00	0.0	0.0	1.0	1
33.96	10.35	4.545	0.050	1.1	0.720	0.904	2.2	2.6	2.6	5.1	0.195	0.00	0.0	0.0	1.5	1
34.94	10.65	8.048	0.182	2.3	0.737	0.935	5.1	6.0	6.0	12.0	0.425	0.09	0.0	0.0	3.0	4
35.92	10.95	12.343	0.354	2.9	0.762	0.966	5.9	6.8	6.8	13.5	0.708	0.11	0.0	0.0	3.0	5

Depth (ft)	Depth (m)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	E.Stress (tsf)	Hyd. Pr. (tsf)	N60 (blows/ft)	(N1)60	Delta (N1)60	(N1)60 CS	Su (tsf)	CRR	Dr (%)	Phi (deg)	OCR (ratio)	SBT
36.91	11.25	27.341	0.922	3.4	0.788	0.996	13.1	14.7	14.7	29.5	1.704	0.40	0.0	0.0	6.0	5
37.89	11.55	40.360	1.457	3.6	0.814	1.027	19.3	21.4	18.2	39.6	2.568	0.00	0.0	0.0	6.0	5
38.88	11.85	33.207	1.664	5.0	0.839	1.058	31.8	34.7	0.0	34.7	2.087	0.00	0.0	0.0	6.0	3
39.86	12.15	32.544	1.250	3.8	0.863	1.088	15.6	16.8	16.8	33.5	2.039	0.00	0.0	0.0	6.0	5
40.85	12.45	31.120	1.143	3.7	0.889	1.119	14.9	15.8	15.8	31.6	1.941	0.00	0.0	0.0	6.0	5
41.83	12.75	30.262	1.051	3.5	0.915	1.150	14.5	15.2	15.2	30.3	1.880	0.43	0.0	0.0	6.0	5
42.81	13.05	27.237	0.867	3.2	0.940	1.181	13.0	13.5	13.5	26.9	1.674	0.32	0.0	0.0	6.0	5
43.80	13.35	23.273	0.795	3.4	0.966	1.211	11.1	11.3	11.3	22.7	1.406	0.22	0.0	0.0	6.0	5
44.78	13.65	21.784	0.652	3.0	0.992	1.242	10.4	10.5	10.5	21.0	1.303	0.19	0.0	0.0	6.0	5
45.77	13.95	22.906	0.794	3.5	1.017	1.273	11.0	10.9	10.9	21.8	1.374	0.21	0.0	0.0	6.0	5
46.75	14.25	22.631	0.735	3.2	1.043	1.304	10.8	10.6	10.6	21.2	1.352	0.20	0.0	0.0	6.0	5
47.74	14.55	21.345	0.690	3.2	1.069	1.334	10.2	9.9	9.9	19.8	1.263	0.18	0.0	0.0	6.0	5
48.72	14.85	19.467	0.551	2.8	1.094	1.365	9.3	8.9	8.9	17.8	1.134	0.15	0.0	0.0	6.0	5
49.70	15.15	19.666	0.485	2.5	1.120	1.396	9.4	8.9	8.9	17.8	1.143	0.15	0.0	0.0	6.0	5
50.69	15.45	19.013	0.474	2.5	1.146	1.427	9.1	8.5	8.5	17.0	1.096	0.14	0.0	0.0	3.0	5
51.67	15.75	21.474	0.500	2.3	1.171	1.457	8.2	7.6	7.6	15.2	1.256	0.17	30.0	32.0	6.0	6
52.66	16.05	24.038	0.603	2.5	1.197	1.488	9.2	8.4	8.4	16.8	1.424	0.20	30.0	32.0	6.0	6
53.64	16.35	21.296	0.535	2.5	1.223	1.519	10.2	9.2	9.2	18.4	1.237	0.16	0.0	0.0	6.0	5
54.63	16.65	22.754	0.623	2.7	1.248	1.549	10.9	9.8	9.8	19.5	1.330	0.17	0.0	0.0	6.0	5
55.61	16.95	25.821	0.840	3.3	1.274	1.580	12.4	11.0	11.0	21.9	1.531	0.21	0.0	0.0	6.0	5
56.59	17.25	21.377	0.613	2.9	1.300	1.611	10.2	9.0	9.0	18.0	1.231	0.15	0.0	0.0	3.0	5
57.58	17.55	24.475	0.657	2.7	1.325	1.642	11.7	10.2	10.2	20.4	1.434	0.18	0.0	0.0	6.0	5
58.56	17.85	25.071	0.809	3.2	1.351	1.672	12.0	10.3	10.3	20.7	1.470	0.19	0.0	0.0	6.0	5
59.55	18.15	26.929	0.812	3.0	1.377	1.703	12.9	11.0	11.0	22.0	1.590	0.21	0.0	0.0	6.0	5
60.53	18.45	20.850	0.615	2.9	1.402	1.734	10.0	8.4	8.4	16.9	1.181	0.14	0.0	0.0	3.0	5
61.51	18.75	17.794	0.413	2.3	1.428	1.765	8.5	7.1	7.1	14.3	0.973	0.12	0.0	0.0	3.0	5
62	19.02	20.186	0.403	2.0	1.451	1.793	7.7	6.4	6.4	12.8	1.129	0.13	30.0	30.0	3.0	6
63.32	19.30	22.176	0.449	2.0	1.475	1.821	8.5	7.0	7.0	14.0	1.259	0.15	30.0	32.0	3.0	6
64.30	19.60	21.805	0.453	2.1	1.501	1.852	8.4	6.8	6.8	13.6	1.230	0.14	30.0	32.0	3.0	6
65.29	19.90	23.289	0.516	2.2	1.526	1.882	8.9	7.2	7.2	14.4	1.325	0.15	30.0	32.0	3.0	6
66.27	20.20	27.840	0.575	2.1	1.552	1.913	10.7	8.6	8.6	17.1	1.625	0.20	30.0	32.0	6.0	6
67.26	20.50	32.205	0.628	2.0	1.577	1.944	12.3	9.8	9.8	19.6	1.912	0.26	30.0	32.0	6.0	6
68.24	20.80	39.268	1.007	2.6	1.603	1.975	15.0	11.9	11.9	23.8	2.379	0.40	33.1	34.0	6.0	6
69.22	21.10	30.347	0.740	2.4	1.629	2.005	11.6	9.1	9.1	18.2	1.781	0.23	30.0	32.0	6.0	6
70.21	21.40	20.820	0.388	1.9	1.654	2.036	8.0	6.2	6.2	12.4	1.142	0.13	30.0	30.0	3.0	6
71.19	21.70	25.648	0.516	2.0	1.680	2.067	9.8	7.6	7.6	15.2	1.460	0.16	30.0	32.0	3.0	6
72.18	22.00	31.812	0.752	2.4	1.706	2.097	12.2	9.3	9.3	18.7	1.867	0.24	30.0	32.0	6.0	6
73.16	22.30	31.967	0.827	2.6	1.731	2.128	12.2	9.3	9.3	18.6	1.874	0.24	30.0	32.0	6.0	6
74.15	22.60	33.381	1.141	3.4	1.757	2.159	16.0	12.1	12.1	24.1	1.964	0.25	0.0	0.0	6.0	5
75.13	22.90	29.901	0.944	3.2	1.783	2.190	14.3	10.7	10.7	21.4	1.729	0.20	0.0	0.0	3.0	5
76.11	23.20	33.863	0.966	2.9	1.808	2.220	16.2	12.1	12.1	24.1	1.989	0.25	0.0	0.0	6.0	5
77.10	23.50	33.530	0.954	2.8	1.834	2.251	16.1	11.9	11.9	23.7	1.963	0.25	0.0	0.0	6.0	5
78.08	23.80	23.480	0.483	2.1	1.860	2.282	9.0	6.6	6.6	13.2	1.289	0.14	30.0	30.0	3.0	6
79.07	24.10	24.885	0.371	1.5	1.885	2.313	9.5	6.9	6.9	13.9	1.379	0.14	30.0	30.0	3.0	6
80.05	24.40	27.943	0.506	1.8	1.911	2.343	10.7	7.7	7.7	15.5	1.579	0.17	30.0	32.0	3.0	6
81.04	24.70	29.984	0.520	1.7	1.937	2.374	11.5	8.3	8.3	16.5	1.712	0.19	30.0	32.0	3.0	6
82.02	25.00	31.713	0.474	1.5	1.962	2.405	12.1	8.7	8.7	17.3	1.823	0.21	30.0	32.0	3.0	6
83.00	25.30	35.376	0.555	1.6	1.988	2.436	13.6	9.6	9.6	19.2	2.063	0.25	30.0	32.0	6.0	6
83.99	25.60	37.039	0.622	1.7	2.014	2.466	14.2	10.0	10.0	20.0	2.171	0.27	30.0	32.0	6.0	6
84.97	25.90	36.738	0.685	1.9	2.039	2.497	14.1	9.9	9.9	19.7	2.147	0.27	30.0	32.0	6.0	6
85.96	26.20	33.341	0.560	1.7	2.065	2.528	12.8	8.9	8.9	17.8	1.917	0.22	30.0	32.0	3.0	6
86.94	26.50	32.246	0.516	1.6	2.091	2.558	12.4	8.5	8.5	17.1	1.840	0.20	30.0	32.0	3.0	6
87.93	26.80	29.813	0.471	1.6	2.116	2.589	11.4	7.9	7.9	15.7	1.674	0.17	30.0	30.0	3.0	6
88.91	27.10	31.347	0.513	1.6	2.142	2.620	12.0	8.2	8.2	16.4	1.772	0.19	30.0	32.0	3.0	6

Depth (ft)	Depth (m)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	E.Stress (tsf)	Hyd. Pr. (tsf)	N60 (blows/ft)	(N1)60	Delta (N1)60	(N1)60 CS	Su (tsf)	CRR	Dr (%)	Phi (deg)	OCR (ratio)	SBT
89.89	27.40	28.135	0.565	2.0	2.168	2.651	10.8	7.3	7.3	14.6	1.554	0.16	30.0	30.0	3.0	6
90.88	27.70	26.361	0.625	2.4	2.193	2.681	10.1	6.8	6.8	13.6	1.432	0.14	30.0	30.0	3.0	6
91.86	28.00	29.969	0.770	2.6	2.219	2.712	11.5	7.7	7.7	15.4	1.669	0.17	30.0	30.0	3.0	6
92.85	28.30	29.025	0.675	2.3	2.245	2.743	11.1	7.4	7.4	14.8	1.603	0.16	30.0	30.0	3.0	6
93.83	28.60	32.432	0.962	3.0	2.270	2.774	15.5	10.3	10.3	20.6	1.826	0.19	0.0	0.0	3.0	5
94.82	28.90	31.568	0.961	3.0	2.296	2.804	15.1	10.0	0.0	10.0	1.764	0.00	0.0	0.0	3.0	5
95.80	29.20	35.071	1.066	3.0	2.322	2.835	16.8	11.0	11.0	22.0	1.994	0.21	0.0	0.0	3.0	5
96.78	29.50	27.339	0.860	3.1	2.347	2.866	13.1	8.5	0.0	8.5	1.475	0.00	0.0	0.0	3.0	5
97.77	29.80	28.610	0.819	2.9	2.373	2.896	13.7	8.9	0.0	8.9	1.556	0.00	0.0	0.0	3.0	5
98.75	30.10	32.234	0.849	2.6	2.398	2.927	12.3	8.0	8.0	15.9	1.794	0.18	30.0	30.0	3.0	6
99.74	30.40	59.118	2.439	4.1	2.424	2.958	28.3	18.2	0.0	18.2	3.582	0.00	0.0	0.0	6.0	5
100.72	30.70	90.191	5.089	5.6	2.454	2.989	86.4	55.1	0.0	55.1	0.000	0.00	50.8	38.0	1.0	11
101.70	31.00	66.238	3.465	5.2	2.487	3.019	63.4	40.2	0.0	40.2	0.000	0.00	41.8	34.0	1.0	11
102.69	31.30	38.059	1.535	4.0	2.517	3.050	18.2	11.5	0.0	11.5	2.166	0.00	0.0	0.0	3.0	5
103.67	31.60	50.934	2.134	4.2	2.542	3.081	24.4	15.3	0.0	15.3	3.021	0.00	0.0	0.0	6.0	5
104.66	31.90	30.166	0.742	2.5	2.568	3.112	11.6	7.2	7.2	14.4	1.632	0.15	30.0	30.0	3.0	6
105.64	32.20	59.023	2.523	4.3	2.594	3.142	28.3	17.6	0.0	17.6	3.552	0.00	0.0	0.0	6.0	5
106.63	32.50	52.241	2.311	4.4	2.619	3.173	25.0	15.5	0.0	15.5	3.097	0.00	0.0	0.0	6.0	5
107.61	32.80	38.685	1.211	3.1	2.645	3.204	18.5	11.4	0.0	11.4	2.189	0.00	0.0	0.0	3.0	5
108.59	33.10	53.794	2.172	4.0	2.671	3.235	25.8	15.8	0.0	15.8	3.193	0.00	0.0	0.0	6.0	5
109.58	33.40	59.965	3.014	5.0	2.700	3.265	57.4	35.0	0.0	35.0	0.000	0.00	37.8	34.0	1.0	11
110.56	33.70	64.919	2.227	3.4	2.730	3.296	31.1	18.8	18.8	37.6	3.926	0.00	0.0	0.0	6.0	5

Gregg In Situ, Inc.
Interpretation Output - Release 1.00.19c
Run No: 01-0511-1636-4787
Job No: 97-100
Client: LFR LEVINE FRICKE
Project: N.E. Mare Island, Vallejo, CA
Site: N.E. MARE ISL.
Location: CPT-6
Engineer: C. NARDI
CPT Date: 01/09/05
CPT Time: 12:35
CPT File: 075C06.COR

Water Table (m): 1.52 (ft): 5.0
Averaging Increment (m): 0.30
Su Nkt used: 15.00
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
Used Unit Weights Assigned to Soil Zones

Depth (ft)	Depth (m)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	E.Stress (tsf)	Hyd. Pr. (tsf)	N60 (blows/ft)	(N1)60	Delta (N1)60	(N1)60 CS	Su (tsf)	CRR	Dr (%)	Phi (deg)	OCR (ratio)	SBT
0.49	0.15	36.189	0.625	1.7	0.028	0.000	13.9	27.7	0.0	27.7	2.411	0.00	88.7	50.0	10.0	6
1.48	0.45	26.599	0.657	2.5	0.085	0.000	10.2	20.4	0.0	20.4	1.768	0.00	64.1	46.0	10.0	6
2.46	0.75	21.688	0.733	3.4	0.141	0.000	10.4	20.8	0.0	20.8	1.436	0.00	0.0	0.0	10.0	5
3.44	1.05	21.560	0.301	1.4	0.197	0.000	8.3	16.5	2.4	18.9	1.424	0.09	45.9	42.0	10.0	6
4.43	1.35	11.347	0.326	2.9	0.254	0.000	7.2	14.4	10.4	24.8	0.740	0.11	0.0	0.0	6.0	4
5.41	1.65	6.201	0.159	2.6	0.297	0.013	4.0	7.3	7.3	14.5	0.393	0.10	0.0	0.0	6.0	4
6.40	1.95	4.093	0.025	0.6	0.314	0.044	2.0	3.5	3.5	7.0	0.249	0.08	0.0	0.0	3.0	1
7.30	2.22	3.212	0.020	0.6	0.322	0.072	1.5	2.7	2.7	5.4	0.188	0.00	0.0	0.0	3.0	1
8.20	2.50	4.100	0.040	1.0	0.330	0.100	2.0	3.4	3.4	6.8	0.245	0.08	0.0	0.0	3.0	1
9.19	2.80	4.830	0.079	1.6	0.347	0.131	3.1	5.2	5.2	10.5	0.290	0.09	0.0	0.0	3.0	4
.7	3.10	2.895	0.047	1.6	0.364	0.161	1.4	2.3	2.3	4.6	0.158	0.00	0.0	0.0	1.5	1
11.15	3.40	2.228	0.020	0.9	0.372	0.192	1.1	1.7	1.7	3.5	0.111	0.00	0.0	0.0	1.5	1
12.14	3.70	2.502	0.020	0.8	0.381	0.223	1.2	1.9	1.9	3.9	0.127	0.00	0.0	0.0	1.5	1
13.21	4.02	2.332	0.020	0.9	0.390	0.256	1.1	1.8	1.8	3.6	0.112	0.00	0.0	0.0	1.5	1
14.27	4.35	2.209	0.020	0.9	0.399	0.289	1.1	1.7	1.7	3.4	0.101	0.00	0.0	0.0	1.5	1
15.26	4.65	2.110	0.020	1.0	0.407	0.320	1.0	1.6	1.6	3.2	0.092	0.00	0.0	0.0	1.0	1
16.24	4.95	2.622	0.020	0.8	0.416	0.351	1.3	1.9	1.9	3.9	0.124	0.00	0.0	0.0	1.5	1
17.22	5.25	2.436	0.020	0.8	0.424	0.382	1.2	1.8	1.8	3.6	0.109	0.00	0.0	0.0	1.5	1
18.21	5.55	2.522	0.020	0.8	0.433	0.412	1.2	1.8	1.8	3.7	0.112	0.00	0.0	0.0	1.5	1
19.19	5.85	2.496	0.020	0.8	0.441	0.443	1.2	1.8	1.8	3.6	0.107	0.00	0.0	0.0	1.0	1
20.18	6.15	2.728	0.020	0.7	0.449	0.474	1.3	1.9	1.9	3.9	0.120	0.00	0.0	0.0	1.5	1
21.16	6.45	2.662	0.020	0.8	0.458	0.505	1.3	1.9	1.9	3.8	0.113	0.00	0.0	0.0	1.0	1
22.15	6.75	2.705	0.020	0.7	0.466	0.535	1.3	1.9	1.9	3.8	0.114	0.00	0.0	0.0	1.0	1
23.13	7.05	3.341	0.020	0.6	0.475	0.566	1.6	2.3	2.3	4.6	0.153	0.00	0.0	0.0	1.5	1
24.11	7.35	3.844	0.020	0.5	0.483	0.597	1.8	2.6	2.6	5.3	0.184	0.00	0.0	0.0	1.5	1
25.10	7.65	3.474	0.020	0.6	0.492	0.628	1.7	2.4	2.4	4.7	0.157	0.00	0.0	0.0	1.5	1
26.08	7.95	3.774	0.020	0.5	0.500	0.658	1.8	2.6	2.6	5.1	0.174	0.00	0.0	0.0	1.5	1
27.07	8.25	3.288	0.020	0.6	0.508	0.689	1.6	2.2	2.2	4.4	0.139	0.00	0.0	0.0	1.5	1
28.05	8.55	3.971	0.020	0.5	0.517	0.720	1.9	2.6	2.6	5.3	0.182	0.00	0.0	0.0	1.5	1
29.04	8.85	3.644	0.020	0.6	0.525	0.750	1.7	2.4	2.4	4.8	0.158	0.00	0.0	0.0	1.5	1
30.02	9.15	4.011	0.020	0.5	0.534	0.781	1.9	2.6	2.6	5.3	0.180	0.00	0.0	0.0	1.5	1
31.00	9.45	3.834	0.020	0.5	0.542	0.812	1.8	2.5	2.5	5.0	0.165	0.00	0.0	0.0	1.5	1
31.99	9.75	4.274	0.020	0.5	0.551	0.843	2.0	2.8	2.8	5.5	0.192	0.00	0.0	0.0	1.5	1
32.97	10.05	4.303	0.020	0.5	0.559	0.873	2.1	2.8	2.8	5.5	0.191	0.00	0.0	0.0	1.5	1
33.96	10.35	4.811	0.020	0.4	0.567	0.904	2.3	3.1	3.1	6.1	0.223	0.08	0.0	0.0	1.5	1
34.94	10.65	4.882	0.020	0.4	0.576	0.935	2.3	3.1	3.1	6.2	0.225	0.08	0.0	0.0	1.5	1
35.92	10.95	4.676	0.020	0.4	0.584	0.966	2.2	2.9	2.9	5.9	0.208	0.00	0.0	0.0	1.5	1

...th ft	Depth (m)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	E.Stress (tsf)	Hyd. Pr. (tsf)	N60 (blows/ft)	(N1)60	Delta (N1)60	(N1)60 CS	Su (tsf)	CRR	Dr (%)	Phi (deg)	OCR (ratio)	SBT
36.91	11.25	4.885	0.020	0.4	0.593	0.996	2.3	3.0	3.0	6.1	0.220	0.08	0.0	0.0	1.5	1
37.89	11.55	4.427	0.020	0.5	0.601	1.027	2.1	2.7	2.7	5.5	0.187	0.00	0.0	0.0	1.5	1
3 88	11.85	5.504	0.020	0.4	0.610	1.058	2.6	3.4	3.4	6.8	0.256	0.08	0.0	0.0	1.5	1
3 86	12.15	5.187	0.020	0.4	0.618	1.088	2.5	3.2	0.0	3.2	0.232	0.00	0.0	0.0	1.5	1
40.85	12.45	5.291	0.020	0.4	0.626	1.119	2.5	3.2	0.0	3.2	0.236	0.00	0.0	0.0	1.5	1
41.83	12.75	5.908	0.020	0.3	0.635	1.150	2.8	3.6	3.6	7.1	0.275	0.08	0.0	0.0	1.5	1
4 81	13.05	5.458	0.020	0.4	0.643	1.181	2.6	3.3	0.0	3.3	0.242	0.00	0.0	0.0	1.5	1
4 80	13.35	5.662	0.020	0.4	0.652	1.211	2.7	3.4	0.0	3.4	0.253	0.00	0.0	0.0	1.5	1
44.78	13.65	5.534	0.020	0.4	0.660	1.242	2.6	3.3	0.0	3.3	0.242	0.00	0.0	0.0	1.5	1
45.77	13.95	6.503	0.020	0.3	0.669	1.273	3.1	3.8	3.8	7.6	0.304	0.09	0.0	0.0	1.5	1
4 75	14.25	7.885	0.055	0.7	0.686	1.304	3.8	4.6	4.6	9.1	0.393	0.09	0.0	0.0	3.0	5
4 74	14.55	32.566	1.154	3.5	0.711	1.334	15.6	18.5	17.3	35.8	2.035	0.00	0.0	0.0	6.0	5
48.72	14.85	27.218	1.074	3.9	0.737	1.365	17.4	20.2	20.2	40.5	1.674	0.43	0.0	0.0	6.0	4
49.70	15.15	20.804	0.570	2.7	0.763	1.396	10.0	11.4	11.4	22.8	1.243	0.23	0.0	0.0	6.0	5
5 69	15.45	17.099	0.419	2.5	0.788	1.427	8.2	9.2	9.2	18.4	0.992	0.16	0.0	0.0	6.0	5
5 67	15.75	16.184	0.404	2.5	0.814	1.457	7.7	8.6	8.6	17.2	0.928	0.14	0.0	0.0	6.0	5
52.66	16.05	16.995	0.337	2.0	0.840	1.488	6.5	7.1	7.1	14.2	0.978	0.15	30.0	32.0	6.0	6
53.64	16.35	15.755	0.261	1.7	0.865	1.519	6.0	6.5	6.5	13.0	0.891	0.13	30.0	32.0	6.0	6
5 63	16.65	14.033	0.190	1.4	0.891	1.549	5.4	5.7	5.7	11.4	0.773	0.12	30.0	32.0	3.0	6
5 61	16.95	12.514	0.165	1.3	0.917	1.580	4.8	5.0	5.0	10.0	0.668	0.10	30.0	30.0	3.0	6
56.59	17.25	13.083	0.152	1.2	0.942	1.611	5.0	5.2	5.2	10.3	0.702	0.11	30.0	30.0	3.0	6
57.58	17.55	16.172	0.205	1.3	0.968	1.642	6.2	6.3	6.3	12.6	0.904	0.13	30.0	32.0	3.0	6
5 56	17.85	16.943	0.231	1.4	0.993	1.672	6.5	6.5	6.5	13.0	0.952	0.13	30.0	32.0	3.0	6
5 55	18.15	20.836	0.565	2.7	1.019	1.703	10.0	9.9	9.9	19.8	1.208	0.18	0.0	0.0	6.0	5
60.53	18.45	10.860	0.114	1.0	1.045	1.734	4.2	4.1	4.1	8.1	0.539	0.09	30.0	30.0	3.0	6
6 51	18.75	11.918	0.119	1.0	1.070	1.765	4.6	4.4	4.4	8.8	0.606	0.10	30.0	30.0	3.0	6
62	19.02	13.495	0.134	1.0	1.094	1.793	5.2	4.9	4.9	9.9	0.707	0.10	30.0	30.0	3.0	6
6 32	19.30	15.932	0.155	1.0	1.117	1.821	6.1	5.8	5.8	11.5	0.866	0.12	30.0	30.0	3.0	6
64.30	19.60	17.587	0.164	0.9	1.143	1.852	6.7	6.3	6.3	12.6	0.973	0.13	30.0	32.0	3.0	6
65 29	19.90	17.228	0.167	1.0	1.169	1.882	6.6	6.1	6.1	12.2	0.945	0.12	30.0	32.0	3.0	6
6 27	20.20	19.245	0.142	0.7	1.194	1.913	7.4	6.7	6.7	13.5	1.076	0.14	30.0	32.0	3.0	6
6 26	20.50	21.157	0.214	1.0	1.220	1.944	8.1	7.3	7.3	14.7	1.200	0.16	30.0	32.0	3.0	6
68.24	20.80	29.602	0.398	1.3	1.246	1.975	11.3	10.2	9.2	19.3	1.759	0.20	30.0	34.0	6.0	6
69 22	21.10	35.695	0.720	2.0	1.271	2.005	13.7	12.1	12.1	24.2	2.161	0.42	33.7	36.0	6.0	6
7 21	21.40	32.716	0.857	2.6	1.297	2.036	12.5	11.0	11.0	22.0	1.959	0.34	30.9	34.0	6.0	6
7 19	21.70	36.215	0.972	2.7	1.323	2.067	13.9	12.1	12.1	24.1	2.188	0.42	33.5	34.0	6.0	6
72.18	22.00	41.170	1.193	2.9	1.348	2.097	15.8	13.6	13.6	27.2	2.515	0.00	36.9	36.0	6.0	6
7 16	22.30	45.408	1.228	2.7	1.374	2.128	17.4	14.8	14.8	29.7	2.794	0.00	39.5	36.0	6.0	6
7 15	22.60	38.932	0.934	2.4	1.400	2.159	14.9	12.6	12.6	25.2	2.358	0.00	34.8	36.0	6.0	6
7 13	22.90	87.601	2.815	3.2	1.425	2.190	33.6	28.1	17.4	45.5	5.599	0.00	57.8	40.0	6.0	6
76.11	23.20	79.960	3.913	4.9	1.455	2.220	76.6	63.5	63.5	127.0	0.000	0.00	54.9	40.0	1.0	11
7 10	23.50	104.994	3.009	2.9	1.484	2.251	40.2	33.0	16.1	49.1	6.751	0.00	62.4	40.0	10.0	6
7 08	23.80	134.463	3.119	2.3	1.511	2.282	42.9	34.9	11.1	46.1	0.000	0.00	69.2	42.0	1.0	7
7 07	24.10	135.212	4.625	3.4	1.537	2.313	51.8	41.8	19.6	61.4	8.757	0.00	69.1	42.0	10.0	6
80.05	24.40	99.942	4.371	4.4	1.567	2.343	95.7	76.5	61.4	137.8	0.000	0.00	60.2	40.0	1.0	11
8 04	24.70	98.911	4.848	4.9	1.600	2.374	94.7	74.9	69.6	144.4	0.000	0.00	59.6	40.0	1.0	11
8 02	25.00	92.498	3.789	4.1	1.630	2.405	44.3	34.7	29.3	64.0	5.898	0.00	0.0	0.0	6.0	5
8 00	25.30	30.299	0.700	2.3	1.656	2.436	11.6	9.0	9.0	18.0	1.747	0.22	30.0	32.0	6.0	6
83.99	25.60	26.773	0.354	1.3	1.681	2.466	10.3	7.9	7.9	15.8	1.508	0.18	30.0	32.0	3.0	6
8 97	25.90	22.529	0.302	1.3	1.707	2.497	8.6	6.6	6.6	13.2	1.222	0.14	30.0	30.0	3.0	6
8 96	26.20	22.790	0.205	0.9	1.733	2.528	8.7	6.6	6.6	13.3	1.235	0.14	30.0	30.0	3.0	6
86.94	26.50	22.123	0.160	0.7	1.758	2.558	8.5	6.4	6.4	12.8	1.187	0.13	30.0	30.0	3.0	6
87.93	26.80	24.227	0.227	0.9	1.784	2.589	9.3	6.9	6.9	13.9	1.324	0.15	30.0	30.0	3.0	6
8 91	27.10	34.382	0.513	1.5	1.810	2.620	13.2	9.8	9.8	19.6	1.997	0.26	30.0	32.0	6.0	6

Depth (ft)	Depth (m)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	E.Stress (tsf)	Hyd. Pr. (tsf)	N60 (blows/ft)	(N1)60	Delta (N1)60	(N1)60 CS	Su (tsf)	CRR	Dr (%)	Phi (deg)	OCR (ratio)	SBT
89.89	27.40	25.657	0.358	1.4	1.835	2.651	9.8	7.3	7.3	14.5	1.411	0.15	30.0	30.0	3.0	6
90.88	27.70	18.064	0.100	0.6	1.861	2.681	6.9	5.1	5.1	10.1	0.901	0.11	30.0	30.0	1.5	6
91.86	28.00	24.127	0.269	1.1	1.887	2.712	9.2	6.7	6.7	13.5	1.302	0.14	30.0	30.0	3.0	6
92.85	28.30	52.357	1.332	2.5	1.912	2.743	20.1	14.5	14.5	29.0	3.180	0.00	38.8	34.0	6.0	6
93.83	28.60	40.789	1.078	2.6	1.938	2.774	15.6	11.2	11.2	22.5	2.405	0.35	31.5	34.0	6.0	6
94.82	28.90	41.129	1.014	2.5	1.964	2.804	15.8	11.2	11.2	22.5	2.424	0.36	31.5	34.0	6.0	6
95.80	29.20	36.611	1.038	2.8	1.989	2.835	14.0	9.9	9.9	19.9	2.119	0.27	30.0	32.0	6.0	6
96.78	29.50	35.762	1.186	3.3	2.015	2.866	17.1	12.1	0.0	12.1	2.059	0.00	0.0	0.0	6.0	5
97.77	29.80	37.692	1.198	3.2	2.041	2.896	18.0	12.6	12.6	25.3	2.184	0.28	0.0	0.0	6.0	5
98.75	30.10	29.627	0.687	2.3	2.066	2.927	11.3	7.9	7.9	15.8	1.642	0.18	30.0	32.0	3.0	6

Gregg In Situ, Inc.
Interpretation Output - Release 1.00.19c
Run No: 01-0511-1636-4831
Job No: 97-100
Client: LFR LEVINE FRICKE
Project: N.E. Mare Island, Vallejo, CA
Site: N.E. MARE ISL.
Location: CPT-7
Engineer: C. NARDI
CPT Date: 01/10/05
CPT Time: 08:19
CPT File: 075C07.COR

Water Table (m): 1.52 (ft): 5.0
Averaging Increment (m): 0.30
Su Nkt used: 15.00
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
Used Unit Weights Assigned to Soil Zones

Depth (ft)	Depth (m)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	E.Stress (tsf)	Hyd. Pr. (tsf)	N60 (blows/ft)	(N1)60	Delta (N1)60	(N1)60 CS	Su (tsf)	CRR	Dr (%)	Phi (deg)	OCR (ratio)	SBT
0.49	0.15	65.831	1.846	2.8	0.028	0.000	25.2	50.4	0.0	50.4	4.387	0.00	95.0	50.0	10.0	6
1.48	0.45	118.300	3.990	3.4	0.085	0.000	45.3	90.6	0.0	90.6	7.881	0.00	95.0	50.0	10.0	6
2.46	0.75	40.946	2.419	5.9	0.140	0.000	39.2	78.4	0.0	78.4	2.720	0.00	0.0	0.0	10.0	3
3.44	1.05	48.524	2.693	5.6	0.195	0.000	46.5	92.9	0.0	92.9	3.222	0.00	0.0	0.0	10.0	3
4.43	1.35	40.458	1.286	3.2	0.251	0.000	19.4	38.7	0.0	38.7	2.681	0.00	0.0	0.0	10.0	5
5.41	1.65	28.042	0.642	2.3	0.294	0.013	10.7	19.8	5.6	25.5	1.849	0.12	47.8	42.0	10.0	6
6.40	1.95	8.570	0.294	3.4	0.319	0.044	8.2	14.5	14.5	29.1	0.547	0.12	0.0	0.0	6.0	3
7.30	2.22	5.659	0.186	3.3	0.341	0.072	5.4	9.3	9.3	18.6	0.350	0.09	0.0	0.0	6.0	3
8.20	2.50	4.075	0.074	1.8	0.355	0.100	2.0	3.3	3.3	6.5	0.241	0.08	0.0	0.0	3.0	1
9.19	2.80	3.653	0.048	1.3	0.364	0.131	1.7	2.9	2.9	5.8	0.211	0.00	0.0	0.0	3.0	1
.7	3.10	3.264	0.038	1.2	0.372	0.161	1.6	2.6	2.6	5.1	0.182	0.00	0.0	0.0	1.5	1
11.15	3.40	2.896	0.040	1.4	0.381	0.192	1.4	2.2	2.2	4.5	0.155	0.00	0.0	0.0	1.5	1
12.14	3.70	3.009	0.057	1.9	0.389	0.223	1.4	2.3	2.3	4.6	0.160	0.00	0.0	0.0	1.5	1
13.21	4.02	3.119	0.057	1.8	0.398	0.256	1.5	2.4	2.4	4.7	0.164	0.00	0.0	0.0	1.5	1
14.27	4.35	2.957	0.058	2.0	0.407	0.289	1.4	2.2	2.2	4.4	0.151	0.00	0.0	0.0	1.5	1
15.26	4.65	3.228	0.062	1.9	0.416	0.320	1.5	2.4	2.4	4.8	0.166	0.00	0.0	0.0	1.5	1
16.24	4.95	3.047	0.067	2.2	0.432	0.351	2.9	4.4	0.0	4.4	0.151	0.00	0.0	0.0	1.5	3
17.22	5.25	3.209	0.063	2.0	0.448	0.382	1.5	2.3	2.3	4.6	0.159	0.00	0.0	0.0	1.5	1
18.21	5.55	3.591	0.062	1.7	0.457	0.412	1.7	2.5	2.5	5.1	0.181	0.00	0.0	0.0	1.5	1
19.19	5.85	3.374	0.053	1.6	0.465	0.443	1.6	2.4	2.4	4.7	0.164	0.00	0.0	0.0	1.5	1
20.18	6.15	3.765	0.058	1.6	0.473	0.474	1.8	2.6	2.6	5.2	0.188	0.00	0.0	0.0	1.5	1
21.16	6.45	3.738	0.053	1.4	0.482	0.505	1.8	2.6	2.6	5.2	0.183	0.00	0.0	0.0	1.5	1
22.15	6.75	3.994	0.060	1.5	0.490	0.535	1.9	2.7	2.7	5.5	0.198	0.00	0.0	0.0	1.5	1
23.13	7.05	3.932	0.063	1.6	0.499	0.566	1.9	2.7	2.7	5.3	0.191	0.00	0.0	0.0	1.5	1
24.11	7.35	3.960	0.065	1.6	0.507	0.597	1.9	2.7	2.7	5.3	0.190	0.00	0.0	0.0	1.5	1
25.10	7.65	4.356	0.072	1.6	0.516	0.628	2.1	2.9	2.9	5.8	0.214	0.00	0.0	0.0	1.5	1
26.08	7.95	4.650	0.070	1.5	0.524	0.658	2.2	3.1	3.1	6.2	0.231	0.08	0.0	0.0	1.5	1
27.07	8.25	4.358	0.070	1.6	0.532	0.689	2.1	2.9	2.9	5.7	0.209	0.00	0.0	0.0	1.5	1
28.05	8.55	5.247	0.079	1.5	0.550	0.720	3.4	4.5	4.5	9.0	0.265	0.08	0.0	0.0	1.5	4
29.04	8.85	4.940	0.085	1.7	0.575	0.750	3.2	4.2	4.2	8.3	0.241	0.08	0.0	0.0	1.5	4
30.02	9.15	5.331	0.079	1.5	0.601	0.781	3.4	4.4	4.4	8.8	0.263	0.08	0.0	0.0	1.5	4
31.00	9.45	5.440	0.087	1.6	0.626	0.812	3.5	4.4	4.4	8.8	0.267	0.08	0.0	0.0	1.5	4
31.99	9.75	4.977	0.080	1.6	0.652	0.843	3.2	3.9	3.9	7.9	0.232	0.08	0.0	0.0	1.5	4
32.97	10.05	5.202	0.080	1.5	0.678	0.873	3.3	4.0	4.0	8.1	0.243	0.08	0.0	0.0	1.5	4
33.96	10.35	5.231	0.080	1.5	0.703	0.904	3.3	4.0	4.0	8.0	0.242	0.08	0.0	0.0	1.5	4
34.94	10.65	5.559	0.079	1.4	0.729	0.935	2.7	3.1	3.1	6.2	0.260	0.08	0.0	0.0	1.5	5
35.92	10.95	6.231	0.084	1.3	0.755	0.966	3.0	3.4	3.4	6.9	0.301	0.08	0.0	0.0	1.5	5

Depth (ft)	Depth (m)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	E.Stress (tsf)	Hyd. Pr. (tsf)	N60 (blows/ft)	(N1)60	Delta (N1)60	(N1)60 CS	Su (tsf)	CRR	Dr (%)	Phi (deg)	OCR (ratio)	SBT
36.91	11.25	6.408	0.089	1.4	0.780	0.996	3.1	3.5	3.5	6.9	0.309	0.08	0.0	0.0	1.5	5
37.89	11.55	17.848	0.538	3.0	0.806	1.027	8.5	9.5	9.5	19.0	1.068	0.17	0.0	0.0	6.0	5
38.88	11.85	31.468	1.474	4.7	0.831	1.058	30.1	33.1	0.0	33.1	1.972	0.00	0.0	0.0	6.0	3
39.86	12.15	31.756	1.532	4.8	0.855	1.088	30.4	32.9	0.0	32.9	1.987	0.00	0.0	0.0	6.0	3
40.85	12.45	27.416	1.156	4.2	0.880	1.119	17.5	18.7	18.7	37.3	1.694	0.35	0.0	0.0	6.0	4
41.83	12.75	25.631	1.096	4.3	0.906	1.150	16.4	17.2	0.0	17.2	1.572	0.00	0.0	0.0	6.0	4
42.81	13.05	25.625	0.870	3.4	0.931	1.181	12.3	12.7	12.7	25.4	1.568	0.28	0.0	0.0	6.0	5
43.80	13.35	25.042	0.855	3.4	0.957	1.211	12.0	12.3	12.3	24.5	1.525	0.26	0.0	0.0	6.0	5
44.78	13.65	24.510	0.834	3.4	0.983	1.242	11.7	11.8	11.8	23.7	1.486	0.24	0.0	0.0	6.0	5
45.77	13.95	23.155	0.555	2.4	1.008	1.273	8.9	8.8	8.8	17.7	1.392	0.21	30.0	34.0	6.0	6
46.75	14.25	19.398	0.431	2.2	1.034	1.304	7.4	7.3	7.3	14.6	1.137	0.16	30.0	32.0	6.0	6
47.74	14.55	19.293	0.388	2.0	1.059	1.334	7.4	7.2	7.2	14.4	1.127	0.15	30.0	32.0	6.0	6
48.72	14.85	19.179	0.383	2.0	1.085	1.365	7.3	7.1	7.1	14.1	1.115	0.15	30.0	32.0	6.0	6
49.70	15.15	17.054	0.408	2.4	1.111	1.396	8.2	7.7	7.7	15.5	0.970	0.13	0.0	0.0	3.0	5
50.69	15.45	18.647	0.490	2.6	1.136	1.427	8.9	8.4	8.4	16.8	1.072	0.14	0.0	0.0	3.0	5
51.67	15.75	19.161	0.368	1.9	1.162	1.457	7.3	6.8	6.8	13.6	1.103	0.14	30.0	32.0	3.0	6
52.66	16.05	19.306	0.322	1.7	1.188	1.488	7.4	6.8	6.8	13.6	1.109	0.14	30.0	32.0	3.0	6
53.64	16.35	13.524	0.200	1.5	1.213	1.519	5.2	4.7	4.7	9.4	0.719	0.10	30.0	30.0	3.0	6
54.63	16.65	13.201	0.139	1.1	1.239	1.549	5.1	4.5	4.5	9.1	0.694	0.10	30.0	30.0	3.0	6
55.61	16.95	18.492	0.244	1.3	1.265	1.580	7.1	6.3	6.3	12.6	1.043	0.13	30.0	32.0	3.0	6
56.59	17.25	18.258	0.242	1.3	1.290	1.611	7.0	6.2	6.2	12.3	1.024	0.13	30.0	30.0	3.0	6
57.58	17.55	17.341	0.327	1.9	1.316	1.642	6.6	5.8	5.8	11.6	0.959	0.12	30.0	30.0	3.0	6
58.56	17.85	15.704	0.246	1.6	1.342	1.672	6.0	5.2	5.2	10.4	0.846	0.11	30.0	30.0	3.0	6
59.55	18.15	24.664	0.473	1.9	1.367	1.703	9.4	8.1	8.1	16.2	1.440	0.18	30.0	32.0	6.0	6
60.53	18.45	33.334	0.967	2.9	1.393	1.734	16.0	13.5	13.5	27.0	2.014	0.33	0.0	0.0	6.0	5
61.51	18.75	30.601	0.797	2.6	1.419	1.765	11.7	9.8	9.8	19.7	1.828	0.26	30.0	34.0	6.0	6
62	19.02	32.320	0.782	2.4	1.442	1.793	12.4	10.3	10.3	20.6	1.939	0.29	30.0	34.0	6.0	6
63.32	19.30	25.273	0.545	2.2	1.466	1.821	9.7	8.0	8.0	16.0	1.466	0.18	30.0	32.0	6.0	6
64.30	19.60	25.175	0.483	1.9	1.491	1.852	9.6	7.9	7.9	15.8	1.455	0.18	30.0	32.0	3.0	6
65.29	19.90	24.943	0.436	1.7	1.517	1.882	9.6	7.8	7.8	15.5	1.436	0.17	30.0	32.0	3.0	6
66.27	20.20	26.900	0.396	1.5	1.543	1.913	10.3	8.3	8.3	16.6	1.563	0.19	30.0	32.0	6.0	6
67.26	20.50	27.478	0.342	1.2	1.568	1.944	10.5	8.4	8.4	16.8	1.598	0.20	30.0	32.0	6.0	6
68.24	20.80	31.179	0.428	1.4	1.594	1.975	11.9	9.5	9.5	18.9	1.841	0.24	30.0	32.0	6.0	6
69.22	21.10	34.317	0.501	1.5	1.620	2.005	11.0	8.6	8.6	17.2	0.000	0.29	30.0	34.0	1.0	7
70.21	21.40	30.426	0.441	1.4	1.647	2.036	11.7	9.1	9.1	18.2	1.783	0.23	30.0	32.0	6.0	6
71.19	21.70	26.593	0.391	1.5	1.673	2.067	10.2	7.9	7.9	15.8	1.524	0.17	30.0	32.0	3.0	6
72.18	22.00	30.749	0.668	2.2	1.698	2.097	11.8	9.0	9.0	18.1	1.797	0.22	30.0	32.0	6.0	6
73.16	22.30	30.620	0.760	2.5	1.724	2.128	11.7	8.9	8.9	17.9	1.785	0.22	30.0	32.0	6.0	6
74.15	22.60	28.103	0.611	2.2	1.750	2.159	10.8	8.1	8.1	16.3	1.613	0.18	30.0	32.0	3.0	6
75.13	22.90	27.201	0.725	2.7	1.775	2.190	13.0	9.8	9.8	19.6	1.549	0.17	0.0	0.0	3.0	5
76.11	23.20	27.961	0.655	2.3	1.801	2.220	10.7	8.0	8.0	16.0	1.596	0.18	30.0	32.0	3.0	6
77.10	23.50	41.548	1.829	4.4	1.826	2.251	26.5	19.6	0.0	19.6	2.498	0.00	0.0	0.0	6.0	4
78.08	23.80	39.156	1.607	4.1	1.852	2.282	18.7	13.8	0.0	13.8	2.335	0.00	0.0	0.0	6.0	5
79.07	24.10	52.638	1.985	3.8	1.878	2.313	25.2	18.4	18.4	36.8	3.230	0.00	0.0	0.0	6.0	5
80.05	24.40	59.522	2.780	4.7	1.903	2.343	38.0	27.5	0.0	27.5	3.685	0.00	0.0	0.0	6.0	4
81.04	24.70	38.059	0.962	2.5	1.929	2.374	14.6	10.5	10.5	21.0	2.250	0.30	30.0	32.0	6.0	6
82.02	25.00	38.411	1.089	2.8	1.955	2.405	14.7	10.5	10.5	21.1	2.270	0.31	30.0	32.0	6.0	6
83.00	25.30	33.411	0.869	2.6	1.980	2.436	12.8	9.1	9.1	18.2	1.933	0.23	30.0	32.0	3.0	6
83.99	25.60	31.608	0.667	2.1	2.006	2.466	12.1	8.5	8.5	17.1	1.809	0.20	30.0	32.0	3.0	6
84.97	25.90	33.163	0.677	2.0	2.032	2.497	12.7	8.9	8.9	17.8	1.909	0.22	30.0	32.0	3.0	6
85.96	26.20	31.886	0.493	1.5	2.057	2.528	12.2	8.5	8.5	17.0	1.820	0.20	30.0	32.0	3.0	6
86.94	26.50	38.171	0.769	2.0	2.083	2.558	14.6	10.1	10.1	20.3	2.235	0.28	30.0	32.0	6.0	6
87.93	26.80	38.452	0.921	2.4	2.109	2.589	14.7	10.1	10.1	20.3	2.250	0.28	30.0	32.0	6.0	6
88.91	27.10	44.460	1.088	2.4	2.134	2.620	17.0	11.7	11.7	23.3	2.647	0.39	32.6	34.0	6.0	6

Depth (ft)	Depth (m)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	E.Stress (tsf)	Hyd. Pr. (tsf)	N60 (blows/ft)	(N1)60	Delta (N1)60	(N1)60 CS	Su (tsf)	CRR	Dr (%)	Phi (deg)	OCR (ratio)	SBT
89.89	27.40	32.399	0.802	2.5	2.160	2.651	12.4	8.4	8.4	16.9	1.839	0.20	30.0	32.0	3.0	6
90.88	27.70	31.364	0.628	2.0	2.186	2.681	12.0	8.1	8.1	16.3	1.766	0.18	30.0	32.0	3.0	6
91.86	28.00	31.306	0.535	1.7	2.211	2.712	12.0	8.1	8.1	16.1	1.759	0.18	30.0	30.0	3.0	6
92.85	28.30	36.024	0.725	2.0	2.237	2.743	13.8	9.2	9.2	18.5	2.070	0.23	30.0	32.0	3.0	6
93.83	28.60	35.457	0.702	2.0	2.263	2.774	13.6	9.0	9.0	18.1	2.028	0.22	30.0	32.0	3.0	6
94.82	28.90	32.019	0.747	2.3	2.288	2.804	12.3	8.1	8.1	16.2	1.795	0.18	30.0	30.0	3.0	6
95.80	29.20	31.617	0.810	2.6	2.314	2.835	12.1	8.0	8.0	15.9	1.765	0.18	30.0	30.0	3.0	6
96.78	29.50	31.498	0.658	2.1	2.340	2.866	12.1	7.9	7.9	15.8	1.753	0.18	30.0	30.0	3.0	6
97.77	29.80	34.857	0.885	2.5	2.365	2.896	13.4	8.7	8.7	17.4	1.973	0.21	30.0	32.0	3.0	6
98.75	30.10	34.472	0.787	2.3	2.391	2.927	13.2	8.5	8.5	17.1	1.944	0.20	30.0	32.0	3.0	6

Gregg In Situ, Inc.
Interpretation Output - Release 1.00.19c
Run No: 01-0511-1636-4847
Job No: 97-100
Client: LFR LEVINE FRICKE
Project: N.E. Mare Island, Vallejo, CA
Site: N.E. MARE ISL.
Location: CPT-8
Engineer: C. NARDI
CPT Date: 01/10/05
CPT Time: 09:12
CPT File: 075C08.COR

Water Table (m): 1.52 (ft): 5.0
Averaging Increment (m): 0.30
Su Nkt used: 15.00
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
Used Unit Weights Assigned to Soil Zones

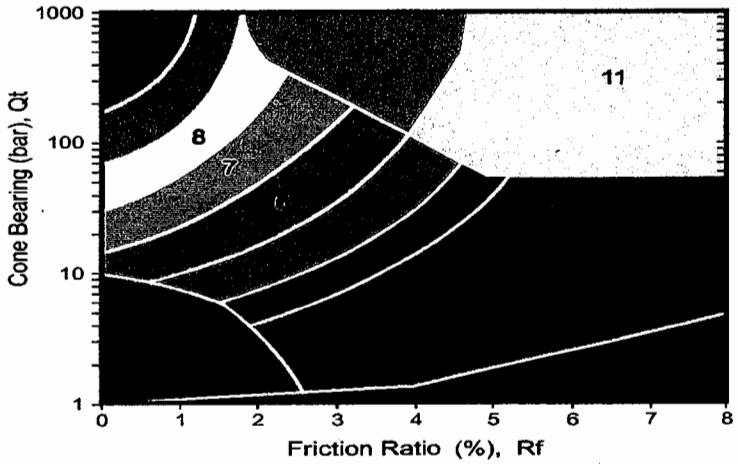
Depth (ft)	Depth (m)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	E.Stress (tsf)	Hyd. Pr. (tsf)	N60 (blows/ft)	(N1)60	Delta (N1)60	(N1)60 CS	Su (tsf)	CRR	Dr (%)	Phi (deg)	OCR (ratio)	SBT
0.49	0.15	85.326	1.061	1.2	0.030	0.000	20.4	40.9	0.0	40.9	0.000	0.00	95.0	50.0	1.0	8
1.48	0.45	95.407	1.960	2.1	0.088	0.000	30.5	60.9	0.0	60.9	0.000	0.00	95.0	50.0	1.0	7
2.46	0.75	100.463	4.190	4.2	0.150	0.000	96.2	192.4	0.0	192.4	0.000	0.00	94.0	50.0	1.0	11
3.44	1.05	68.172	3.081	4.5	0.210	0.000	32.6	65.3	0.0	65.3	4.531	0.00	0.0	0.0	10.0	5
4.43	1.35	55.250	1.849	3.3	0.266	0.000	26.5	51.3	0.0	51.3	3.666	0.00	0.0	0.0	10.0	5
5.41	1.65	22.579	0.745	3.3	0.310	0.013	10.8	19.4	10.1	29.5	1.484	0.14	0.0	0.0	10.0	5
6.40	1.95	4.700	0.042	0.9	0.327	0.044	2.3	3.9	3.9	7.9	0.289	0.09	0.0	0.0	3.0	1
7.30	2.22	6.758	0.140	2.1	0.342	0.072	4.3	7.4	7.4	14.8	0.423	0.10	0.0	0.0	6.0	4
8.20	2.50	4.163	0.053	1.3	0.357	0.100	2.0	3.3	3.3	6.7	0.247	0.08	0.0	0.0	3.0	1
9.19	2.80	6.180	0.117	1.9	0.374	0.131	3.9	6.5	6.5	12.9	0.378	0.09	0.0	0.0	6.0	4
10.17	3.10	6.216	0.164	2.6	0.399	0.161	4.0	6.3	6.3	12.6	0.377	0.09	0.0	0.0	3.0	4
11.15	3.40	4.965	0.132	2.7	0.424	0.192	4.8	7.3	7.3	14.6	0.290	0.08	0.0	0.0	3.0	3
12.14	3.70	3.850	0.109	2.8	0.448	0.223	3.7	5.5	0.0	5.5	0.212	0.00	0.0	0.0	1.5	3
13.21	4.02	3.001	0.076	2.5	0.474	0.256	2.9	4.2	0.0	4.2	0.151	0.00	0.0	0.0	1.5	3
14.27	4.35	2.822	0.060	2.1	0.500	0.289	2.7	3.8	0.0	3.8	0.135	0.00	0.0	0.0	1.5	3
15.26	4.65	2.815	0.058	2.1	0.517	0.320	1.3	1.9	0.0	1.9	0.132	0.00	0.0	0.0	1.5	1
16.24	4.95	2.861	0.063	2.2	0.533	0.351	2.7	3.8	0.0	3.8	0.132	0.00	0.0	0.0	1.0	3
17.22	5.25	3.028	0.068	2.3	0.557	0.382	2.9	3.9	0.0	3.9	0.139	0.00	0.0	0.0	1.5	3
18.21	5.55	3.215	0.068	2.1	0.581	0.412	3.1	4.0	0.0	4.0	0.148	0.00	0.0	0.0	1.5	3
19.19	5.85	3.268	0.072	2.2	0.605	0.443	3.1	4.0	0.0	4.0	0.148	0.00	0.0	0.0	1.0	3
20.18	6.15	3.687	0.072	1.9	0.621	0.474	1.8	2.2	0.0	2.2	0.173	0.00	0.0	0.0	1.5	1
21.16	6.45	3.758	0.070	1.9	0.630	0.505	1.8	2.3	2.3	4.5	0.175	0.00	0.0	0.0	1.5	1
22.15	6.75	3.676	0.068	1.9	0.638	0.535	1.8	2.2	0.0	2.2	0.167	0.00	0.0	0.0	1.5	1
23.13	7.05	3.990	0.079	2.0	0.655	0.566	3.8	4.7	0.0	4.7	0.185	0.00	0.0	0.0	1.5	3
24.11	7.35	5.346	0.209	3.9	0.679	0.597	5.1	6.2	0.0	6.2	0.271	0.00	0.0	0.0	1.5	3
25.10	7.65	4.803	0.135	2.8	0.703	0.628	4.6	5.5	0.0	5.5	0.232	0.00	0.0	0.0	1.5	3
26.08	7.95	4.926	0.114	2.3	0.727	0.658	4.7	5.5	0.0	5.5	0.236	0.00	0.0	0.0	1.5	3
27.07	8.25	5.317	0.125	2.4	0.752	0.689	3.4	3.9	0.0	3.9	0.258	0.00	0.0	0.0	1.5	4
28.05	8.55	7.317	0.384	5.3	0.777	0.720	7.0	8.0	0.0	8.0	0.388	0.00	0.0	0.0	1.5	3
29.04	8.85	8.195	0.526	6.4	0.801	0.750	7.8	8.8	0.0	8.8	0.443	0.00	0.0	0.0	3.0	3
30.02	9.15	14.586	0.505	3.5	0.826	0.781	9.3	10.3	0.0	10.3	0.865	0.00	0.0	0.0	6.0	4
31.00	9.45	35.479	1.119	3.2	0.851	0.812	17.0	18.4	16.4	34.8	2.254	0.41	0.0	0.0	6.0	5
31.99	9.75	52.635	2.483	4.7	0.877	0.843	33.6	35.9	32.4	68.3	3.394	0.00	0.0	0.0	6.0	4
32.97	10.05	57.057	2.722	4.8	0.903	0.873	36.4	38.3	33.3	71.7	3.685	0.00	0.0	0.0	10.0	4
33.96	10.35	51.065	2.008	3.9	0.928	0.904	24.5	25.4	20.9	46.2	3.282	0.00	0.0	0.0	6.0	5
34.94	10.65	52.747	2.304	4.4	0.954	0.935	25.3	25.9	23.5	49.3	3.391	0.00	0.0	0.0	6.0	5
35.92	10.95	38.265	1.716	4.5	0.980	0.966	24.4	24.7	24.7	49.4	2.421	0.00	0.0	0.0	6.0	4

Depth (ft)	Depth (m)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	E.Stress (tsf)	Hyd. Pr. (tsf)	N60 (blows/ft)	(N1)60	Delta (N1)60	(N1)60 CS	Su (tsf)	CRR	Dr (%)	Phi (deg)	OCR (ratio)	SBT
36.91	11.25	28.233	0.936	3.3	1.005	0.996	13.5	13.5	13.5	27.0	1.749	0.32	0.0	0.0	6.0	5
37.89	11.55	26.168	0.926	3.5	1.031	1.027	12.5	12.3	12.3	24.7	1.607	0.27	0.0	0.0	6.0	5
38.88	11.85	25.806	0.947	3.7	1.056	1.058	12.4	12.0	12.0	24.0	1.579	0.25	0.0	0.0	6.0	5
39.86	12.15	28.744	0.977	3.4	1.082	1.088	13.8	13.2	13.2	26.5	1.772	0.31	0.0	0.0	6.0	5
40.85	12.45	28.060	0.927	3.3	1.108	1.119	13.4	12.8	12.8	25.5	1.722	0.29	0.0	0.0	6.0	5
41.83	12.75	26.740	1.002	3.7	1.133	1.150	17.1	16.0	16.0	32.1	1.630	0.25	0.0	0.0	6.0	4
42.81	13.05	26.444	0.901	3.4	1.159	1.181	12.7	11.8	11.8	23.5	1.607	0.24	0.0	0.0	6.0	5
43.80	13.35	26.632	0.815	3.1	1.185	1.211	12.8	11.7	11.7	23.4	1.616	0.24	0.0	0.0	6.0	5
44.78	13.65	27.297	0.700	2.6	1.210	1.242	10.5	9.5	9.5	19.0	1.656	0.25	30.0	34.0	6.0	6
45.77	13.95	29.026	0.769	2.6	1.236	1.273	11.1	10.0	10.0	20.0	1.768	0.27	30.0	34.0	6.0	6
46.75	14.25	27.810	0.673	2.4	1.262	1.304	10.7	9.5	9.5	19.0	1.683	0.25	30.0	34.0	6.0	6
47.74	14.55	28.010	0.605	2.2	1.287	1.334	10.7	9.5	9.5	18.9	1.693	0.24	30.0	34.0	6.0	6
48.72	14.85	36.200	1.350	3.7	1.313	1.365	17.3	15.1	15.1	30.3	2.235	0.42	0.0	0.0	6.0	5
49.70	15.15	33.452	1.492	4.5	1.339	1.396	21.4	18.5	0.0	18.5	2.048	0.00	0.0	0.0	6.0	4
50.69	15.45	31.158	1.029	3.3	1.364	1.427	14.9	12.8	12.8	25.5	1.891	0.29	0.0	0.0	6.0	5
51.67	15.75	41.075	1.606	3.9	1.390	1.457	19.7	16.7	16.7	33.4	2.549	0.00	0.0	0.0	6.0	5
52.66	16.05	49.421	2.297	4.6	1.416	1.488	31.6	26.5	0.0	26.5	3.101	0.00	0.0	0.0	6.0	4
53.64	16.35	68.661	3.124	4.6	1.441	1.519	32.9	27.4	27.4	54.8	4.380	0.00	0.0	0.0	6.0	5
54.63	16.65	80.941	2.561	3.2	1.467	1.549	31.0	25.6	17.1	42.7	5.195	0.00	55.1	40.0	6.0	6
55.61	16.95	77.432	2.603	3.4	1.493	1.580	29.7	24.3	18.3	42.6	4.957	0.00	53.6	38.0	6.0	6
56.59	17.25	35.453	1.146	3.2	1.518	1.611	17.0	13.8	13.8	27.6	2.155	0.34	0.0	0.0	6.0	5
57.58	17.55	17.277	0.339	2.0	1.544	1.642	6.6	5.3	5.3	10.7	0.939	0.11	30.0	30.0	3.0	6
58.56	17.85	19.081	0.374	2.0	1.570	1.672	7.3	5.8	5.8	11.7	1.056	0.12	30.0	30.0	3.0	6
59.55	18.15	19.320	0.341	1.8	1.595	1.703	7.4	5.9	5.9	11.7	1.068	0.12	30.0	30.0	3.0	6
60.53	18.45	21.142	0.351	1.7	1.621	1.734	8.1	6.4	6.4	12.7	1.186	0.13	30.0	30.0	3.0	6
61.51	18.75	23.864	0.413	1.7	1.647	1.765	9.1	7.1	7.1	14.2	1.364	0.15	30.0	32.0	3.0	6
62.50	19.05	24.181	0.413	1.7	1.670	1.793	9.3	7.2	7.2	14.3	1.381	0.15	30.0	32.0	3.0	6
63.32	19.30	20.590	0.276	1.3	1.694	1.821	7.9	6.1	6.1	12.1	1.138	0.12	30.0	30.0	3.0	6
64.30	19.60	18.912	0.234	1.2	1.719	1.852	7.2	5.5	5.5	11.1	1.023	0.11	30.0	30.0	3.0	6
65.29	19.90	18.730	0.261	1.4	1.745	1.882	7.2	5.4	5.4	10.9	1.007	0.11	30.0	30.0	3.0	6
66.27	20.20	18.527	0.234	1.3	1.771	1.913	7.1	5.3	5.3	10.7	0.990	0.11	30.0	30.0	3.0	6
67.26	20.50	28.987	0.657	2.3	1.796	1.944	11.1	8.3	8.3	16.6	1.683	0.19	30.0	32.0	3.0	6
68.24	20.80	27.128	0.688	2.5	1.822	1.975	10.4	7.7	7.7	15.4	1.555	0.17	30.0	32.0	3.0	6
69.22	21.10	25.289	0.665	2.6	1.848	2.005	12.1	8.9	8.9	17.8	1.429	0.15	0.0	0.0	3.0	5
70.21	21.40	26.315	0.708	2.7	1.873	2.036	12.6	9.2	9.2	18.4	1.494	0.16	0.0	0.0	3.0	5
71.19	21.70	21.450	0.616	2.9	1.899	2.067	10.3	7.5	0.0	7.5	1.166	0.00	0.0	0.0	3.0	5
72.18	22.00	25.834	0.642	2.5	1.925	2.097	9.9	7.1	7.1	14.3	1.454	0.15	30.0	30.0	3.0	6
73.16	22.30	37.077	0.815	2.2	1.950	2.128	14.2	10.2	10.2	20.3	2.200	0.28	30.0	32.0	6.0	6
74.15	22.60	44.289	1.086	2.5	1.976	2.159	17.0	12.1	12.1	24.1	2.677	0.42	33.6	34.0	6.0	6
75.13	22.90	42.524	1.136	2.7	2.001	2.190	16.3	11.5	11.5	23.0	2.556	0.38	32.2	34.0	6.0	6
76.11	23.20	41.120	0.852	2.1	2.027	2.220	15.8	11.1	11.1	22.1	2.458	0.34	31.1	32.0	6.0	6
77.10	23.50	36.197	0.712	2.0	2.053	2.251	13.9	9.7	9.7	19.4	2.126	0.26	30.0	32.0	6.0	6
78.08	23.80	34.951	0.889	2.5	2.078	2.282	13.4	9.3	9.3	18.6	2.039	0.24	30.0	32.0	3.0	6
79.07	24.10	33.639	0.790	2.3	2.104	2.313	12.9	8.9	8.9	17.8	1.948	0.22	30.0	32.0	3.0	6
80.05	24.40	32.773	0.755	2.3	2.130	2.343	12.6	8.6	8.6	17.2	1.887	0.20	30.0	32.0	3.0	6
81.04	24.70	32.341	0.939	2.9	2.155	2.374	15.5	10.5	10.5	21.1	1.854	0.20	0.0	0.0	3.0	5
82.02	25.00	31.340	0.946	3.0	2.181	2.405	15.0	10.2	10.2	20.3	1.784	0.18	0.0	0.0	3.0	5
83.00	25.30	33.910	0.994	2.9	2.207	2.436	16.2	10.9	10.9	21.9	1.951	0.21	0.0	0.0	3.0	5
83.99	25.60	41.041	0.550	1.3	2.233	2.466	13.1	8.8	8.8	17.5	0.000	0.31	30.0	32.0	1.0	7
84.97	25.90	36.569	0.550	1.5	2.260	2.497	11.7	7.8	7.8	15.5	0.000	0.24	30.0	32.0	1.0	7
85.96	26.20	47.692	1.393	2.9	2.287	2.528	18.3	12.1	12.1	24.2	2.859	0.42	33.6	34.0	6.0	6
86.94	26.50	57.070	2.269	4.0	2.312	2.558	27.3	18.0	0.0	18.0	3.480	0.00	0.0	0.0	6.0	5
87.93	26.80	55.809	2.210	4.0	2.338	2.589	26.7	17.5	0.0	17.5	3.392	0.00	0.0	0.0	6.0	5
88.91	27.10	57.255	1.808	3.2	2.364	2.620	21.9	14.3	14.3	28.5	3.485	0.00	38.3	34.0	6.0	6

Depth (ft)	Depth (m)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	E.Stress (tsf)	Hyd. Pr. (tsf)	N60 (blows/ft)	(N1)60	Delta (N1)60	(N1)60 CS	Su (tsf)	CRR	Dr (%)	Phi (deg)	OCR (ratio)	SBT
89.89	27.40	62.678	1.839	2.9	2.389	2.651	24.0	15.5	15.5	31.1	3.843	0.00	40.8	34.0	6.0	6
90.88	27.70	71.925	2.919	4.1	2.415	2.681	34.4	22.2	22.2	44.3	4.455	0.00	0.0	0.0	6.0	5
91.86	28.00	108.002	5.178	4.8	2.445	2.712	103.4	66.2	66.2	132.3	0.000	0.00	56.1	38.0	1.0	11
92.85	28.30	146.106	3.711	2.5	2.475	2.743	46.6	29.6	15.2	44.9	0.000	0.00	64.5	40.0	1.0	7
93.83	28.60	152.773	4.873	3.2	2.501	2.774	58.5	37.0	22.6	59.6	9.833	0.00	65.7	40.0	6.0	6
94.82	28.90	126.323	5.462	4.3	2.531	2.804	121.0	76.0	76.3	152.3	0.000	0.00	60.0	38.0	1.0	11
95.80	29.20	168.837	3.774	2.2	2.561	2.835	53.9	33.7	13.8	47.5	0.000	0.00	68.2	40.0	1.0	7
96.78	29.50	178.021	4.459	2.5	2.589	2.866	56.8	35.3	15.4	50.8	0.000	0.00	69.6	40.0	1.0	7
97.77	29.80	202.679	2.529	1.2	2.617	2.896	48.5	30.0	6.0	36.0	0.000	0.00	73.1	40.0	1.0	8
98.75	30.10	189.830	2.961	1.6	2.645	2.927	45.4	27.9	7.6	35.5	0.000	0.00	71.1	40.0	1.0	8

CPT Classification Chart
(after Robertson 1990)

Non-Normalized Classification Chart



Zone	Q_t / N	Soil Behaviour Type
1	2	sensitive fine grained
2	1	organic material
3	1	clay
4	1.5	silty clay to clay
5	2	clayey silt to silty clay
6	2.5	sandy silt to clayey silt
7	3	silty sand to sandy silt
8	4	sand to silty sand
9	5	sand
10	6	gravelly sand to sand
11	1	very stiff fine grained *
12	2	sand to clayey sand *

* overconsolidated or cemented

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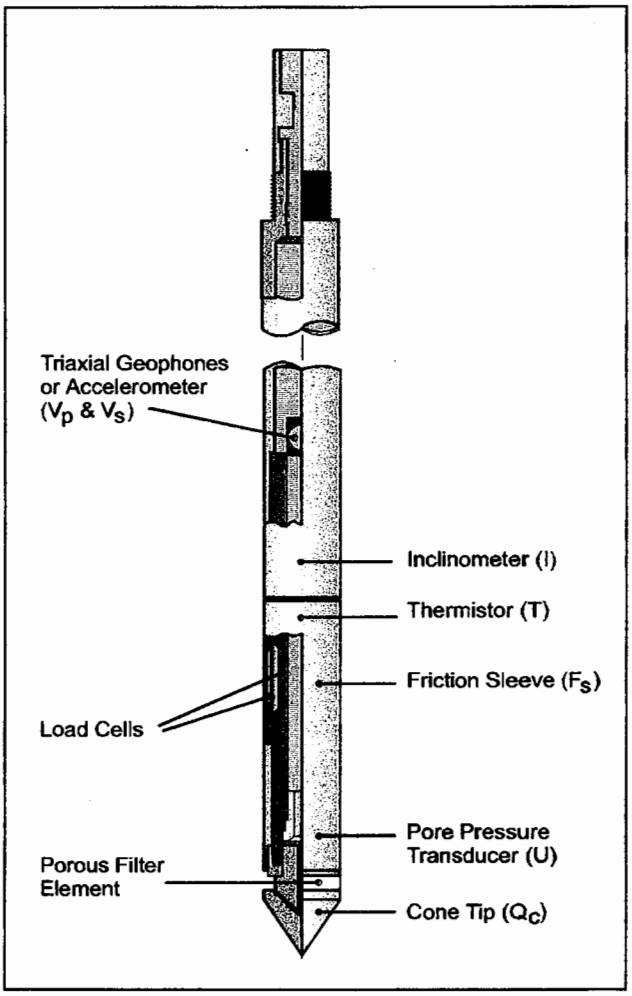

The electrical piezocone (CPTU) is the premier soil logging tool. The CPTU provides a rapid, reliable and economic means of determining soil stratigraphy, relative density, strength and equilibrium groundwater pressures.

Gregg In Situ offers a choice of 2.5, 5, 10 and 15 ton tip (Qc) capacity cones. Our cones also have variable capacity friction sleeves (Fs) and pore pressure (U). The pore pressure can be measured at one of 2 locations, either on the face of the cone tip or behind the cone tip. Pore pressure dissipation data is recorded automatically.

All data is displayed in real time at the ground surface, facilitating the on site decision making process. Field data reduction, plotting and CPT interpretation can be carried out upon request.

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ConeTec CPT Interpretations as of January 7, 1999 (Release 1.00.19)

ConeTec's interpretation routine should be considered a calculator of current published CPT correlations and is subject to change to reflect the current state of practice. The interpreted values are not considered valid for all soil types. The interpretations are presented only as a guide for geotechnical use and should be carefully scrutinized for consideration in any geotechnical design. Reference to current literature is strongly recommended.

The CPT interpretations are based on values of tip, sleeve friction and pore pressure averaged over a user specified interval (typically 0.25m). Note that Qt is the recorded tip value, Qc, corrected for pore pressure effects. Since all ConeTec cones have equal end area friction sleeves, pore pressure corrections to sleeve friction, Fs, are not required.

The tip correction is: $Qt = Qc + (1-a) \bullet Ud$

where: *Qt* is the corrected tip load
Qc is the recorded tip load
Ud is the recorded dynamic pore pressure
a is the Net Area Ratio for the cone (typically 0.85 for ConeTec cones)

Effective vertical overburden stresses are calculated based on a hydrostatic distribution of equilibrium pore pressures below the water table or from a user defined equilibrium pore pressure profile (this can be obtained from CPT dissipation tests). The stress calculations use unit weights assigned to the Soil Behaviour Type zones or from a user defined unit weight profile.

Details regarding the interpretation methods for all of the interpreted parameters is given in table 1. The appropriate references referred to in table 1 are listed in table 2.

The estimated Soil Behaviour Type is based on the charts developed by Robertson and Campanella shown in figure 1.

Table 1 CPT Interpretation Methods

Interpreted Parameter	Description	Equation	Ref
Depth	mid layer depth		
AvgQt	Averaged corrected tip (Qt)	$AvgQt = \frac{1}{n}\sum_{i=1}^{n} Qt_i$	
AvgFs	Averaged sleeve friction (Fs)	$AvgFs = \frac{1}{n}\sum_{i=1}^{n} Fs_i$	
AvgRf	Averaged friction ratio (Rf)	$AvgRf = 100\% \bullet \frac{AvgFs}{AvgQt}$	
AvgUd	Averaged dynamic pore pressure (Ud)	$AvgUd = \frac{1}{n}\sum_{i=1}^{n} Ud_i$	
SBT	Soil Behavior Type as defined by Robertson and Campanella		1

U.Wt.	Unit Weight of soil determined from: 1) uniform value or 2) value assigned to each SBT zone 3) user supplied unit weight profile		
TStress	Total vertical overburden stress at mid layer depth	$TStress = \sum_{i=1}^{n} \gamma_i h_i$ where γ_i is layer unit weight h_i is layer thickness	
EStress	Effective vertical overburden stress at mid layer depth	$EStress = TStress - Ueq$	
Ueq	Equilibrium pore pressure determined from: 1) hydrostatic from water table depth 2) user supplied profile		
Cn	SPT N_{60} overburden correction factor	$Cn=(\sigma_v')^{-0.5}$ where σ_v' is in tsf $0.5 < C_n < 2.0$	
N_{60}	SPT N value at 60% energy calculated from Qt/N ratios assigned to each SBT zone		3
$(N1)_{60}$	SPT N_{60} value corrected for overburden pressure	$N1_{60} = Cn \bullet N_{60}$	3
$\Delta(N1)_{60}$	Equivalent Clean Sand Correction to $(N1)_{60}$	$\Delta(N1)_{60} = \frac{K_{SPT}}{1 - K_{SPT}} \bullet (N1)_{60}$ Where: K_{SPT} is defined as: 0.0 for FC < 5% 0.0167 • (FC - 5) for 5% < FC < 35% 0.5 for FC > 35% FC - Fines Content in %	7
$(N1)_{60cs}$	Equivalent Clean Sand $(N1)_{60}$	$(N1)_{60cs} = (N1)_{60} + \Delta(N1)_{60}$	7
Su	Undrained shear strength - Nkt is use selectable	$Su = \frac{Qt - \sigma_v}{N_{kt}}$	2
k	Coefficient of permeability (assigned to each SBT zone)		6
Bq	Pore pressure parameter	$Bq = \frac{\Delta u}{Qt - \sigma_v}$	2
Qtn	Normalized Qt for Soil Behavior Type classification as defined by Robertson, 1990	$Qtn = \frac{Qt - \sigma_v}{\sigma_v}$	4
Rfn	Normalized Rf for Soil Behavior Type classification as defined by Robertson, 1990	$Rfn = 100\% \bullet \frac{f_s}{Qt - \sigma_v}$	4
SBTn	Normalized Soil Behavior Type (slightly modified from that published by Robertson, 1990. This version includes all the soil zones of the original non-normalized SBT chart - see figure 1)		4
Qc1	Normalized Qt for seismic analysis	$qc1 = qc \bullet (Pa/\sigma_v')^{0.5}$ where: Pa = atm. pressure	5
Qc1N	Dimensionless Normalized Qt1	$qc1N = qc1 / Pa$ where: Pa = atm. pressure	

ΔQc1N1	Equivalent clean sand correction	$\Delta qc1N = \frac{K_{CPT}}{1 - K_{CPT}} \bullet qc1N$ Where: K_{CPT} is defined as: 0.0 for FC < 5% 0.0267 • (FC - 5) for 5% < FC < 35% 0.5 for FC > 35% FC - Fines Content in %	5
Qc1Ncs	Clean Sand equivalent Qc1N	$qc1Ncs = qc1N + \Delta qc1N$	5
Ic	Soil index for estimating grain characteristics	$Ic = [(3.47 - logQ)^2 + (log F + 1.22)^2]^{0.5}$	5
FC	Fines content (%)	$FC=1.75(Ic^{3.25}) - 3.7$ $FC=100$ for $Ic > 3.5$ $FC=0$ for $Ic < 1.26$ $FC = 5\%$ if $1.64 < Ic < 2.6$ AND $Rfn<0.5$	8
PHI	Friction Angle	Campanella and Robertson Durunoglu and Mitchel Janbu	1
Dr	Relative Density	Ticino Sand Hokksund Sand Schmertmann 1976 Jamiolkowski - All Sands	1
OCR	Over Consolidation Ratio		1
State Parameter			9
CRR	Cyclic Resistance Ratio		7

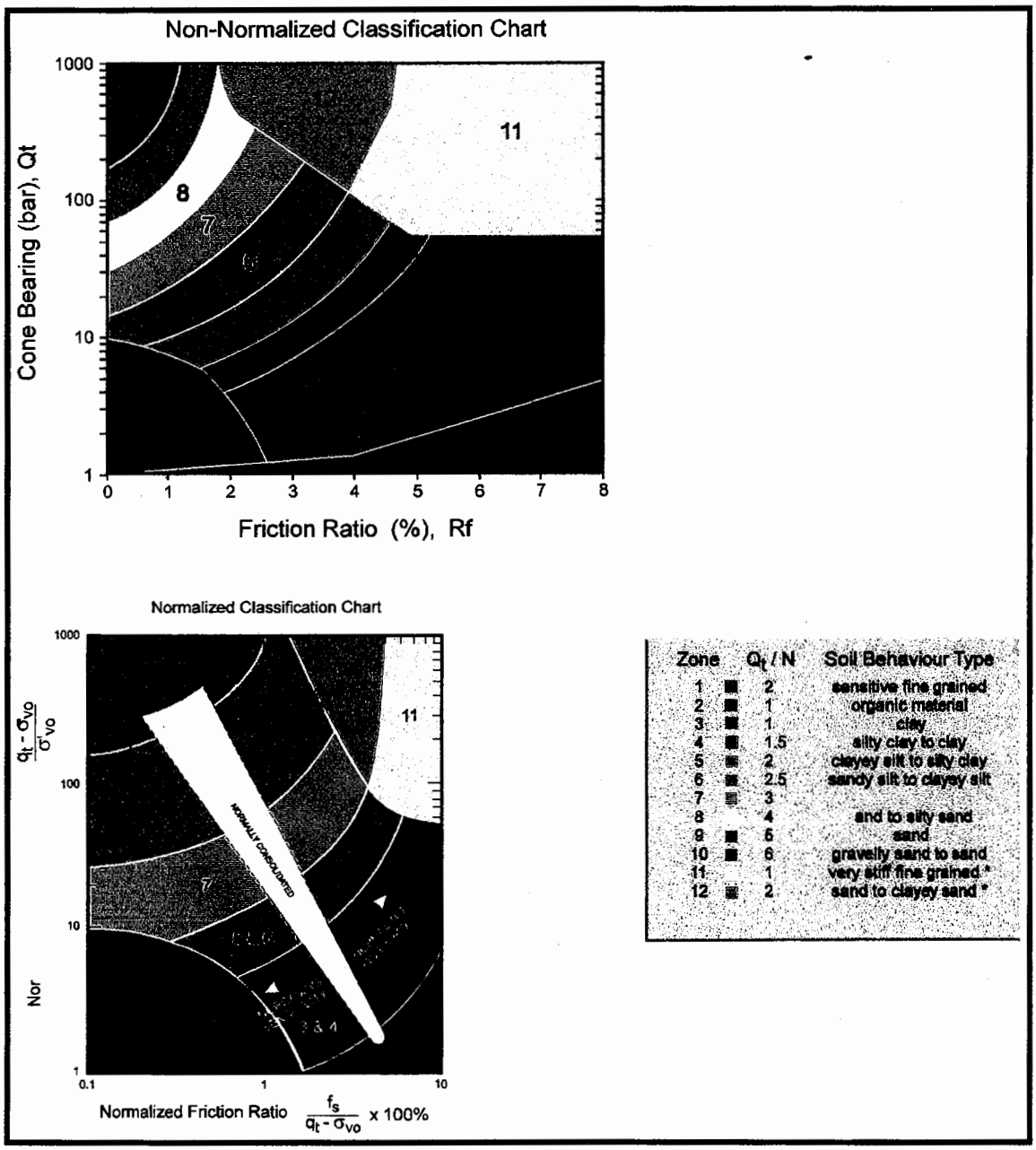


Figure 1 Non-Normalized and Normalized Soil Behaviour Type Classification Charts

Table 2 References

No.	Reference
1	Robertson, P.K. and Campanella, R.G., 1986, "Guidelines for Use, Interpretation and Application of the CPT and CPTU", UBC, Soil Mechanics Series No. 105, Civil Eng. Dept., Vancouver, B.C., Canada
2	Robertson, P.K., Campanella, R.G., Gillespie, D. and Greig, J., 1986, "Use of Piezometer Cone Data", Proceedings of InSitu 86, ASCE Specialty Conference, Blacksburg, Virginia.
3	Robertson, P.K. and Campanella, R.G., 1989, "Guidelines for Geotechnical Design Using CPT and CPTU", UBC, Soil Mechanics Series No. 120, Civil Eng. Dept., Vancouver, B.C., Canada
4	Robertson, P.K., 1990, "Soil Classification Using the Cone Penetration Test", Canadian Geotechnical Journal, Volume 27.
5	Robertson, P.K. and Fear, C.E., 1995, "Liquefaction of Sands and its Evaluation", Keynote Lecture, First International Conference on Earthquake Geotechnical Enginnering, Tokyo, Japan.
6	ConeTec Internal Report
7	Robertson, P.K. and Wride, C.E., 1997, "Cyclic Liquefaction and its Evaluation Based on SPT and CPT", NCEER Workshop Paper, January 22, 1997
8	Wride, C.E. and Robertson, P.K., 1997, "Phase II Data Review Report (Massey and Kidd Sites, Fraser River Delta)", Volume 1 - Data Report (June 1997), University of Alberta.
9	Plewes, H.D., Davies, M.P. and Jefferies, M.G., 1992, "CPT Based Screening Procedure for Evaluating Liquefaction Susceptibility", 45th Canadian Geotechnical Conference, Toronto, Ontario, October 1992.

APPENDIX B

FIELD EXPLORATION AND BORING LOGS

FIELD EXPLORATION AND BORING LOGS

Four exploratory borings were drilled for geotechnical and environmental purposes at the locations shown on the site plan and boring location map (Figure 2). The borings were approximately 78 to 100 feet deep and were drilled on June 5 through 7, 2001, using a hollow-stem auger drill rig operated by Spectrum Exploration of Stockton, California. Ms. Julie Sharp, P.E., LFR Senior Geotechnical Engineer, observed the drilling and sampling operations and logged the borings in the field.

Samples of soil for possible consolidation testing were obtained by hydraulically pushing a thin-walled Shelby tube into the soil. Relatively undisturbed samples of soils encountered in the borings were obtained using a modified California drive sampler (2-inch-inner diameter). The modified California drive sampler was lined with thin brass tubes. The sampler was driven into the soil with a 140-pound hammer falling 30 inches. The samplers were driven 18 inches, in most cases, and the blow counts recorded for the bottom 12 inches of driving. The resulting blow counts are presented at the corresponding sample location on the boring logs.

When the modified California sampler or Shelby tube was withdrawn from the boring, the tubes containing the soil samples were carefully sealed to preserve the natural moisture content of the soil. Soil samples recovered from the standard penetration sampler were sealed in plastic bags. The samples were then delivered to the laboratory for further examination and testing. Preliminary visual soil classifications were made in the field and were verified by further inspection of the samples in the laboratory and by test results. Boring logs were prepared from the field and laboratory data and are included in this Appendix. The borings were backfilled with cement-bentonite grout after completion of the borehole.

The test borings were located in the field with the aid of a site plan.

Depth, feet	Graphic Log	Visual Description	ID of Samples Analyzed	Penetration Rate (Blows/ft.)	Moisture Content (%)	Dry Density (pcf)	Compressive Strength (psf)
		LITHOLOGY		**SAMPLING DATA**		**LABORATORY DATA**	
		SANDY CLAY (CL), stiff to very stiff, dark grayish brown, low to medium plasticity, dry, fine sand, with fine subangular gravel and roots					
	▽		B-1-1 (2-2.5)	12	17	107	
		grades to dark olive brown with black mottling, damp					
5							
		grades to dark yellowish brown/olive brown with orange and black mottling, low plasticity, with sandstone	B-1-2 (5.5-6)	21	17	112	3,340
		FILL					
10							
		dark yellowish-brown with blue gray	B-1-3 (10-12.5)	0 psi push			
		SILTY CLAY (CH), BAY MUD, soft, bluish black, high plasticity, wet, moderate organic odor					
15							
20		uniform color, no sand, shells, or organics noted					
		BAY MUD					
25							
		some mica, trace organics/shells	B-1-4 (25-27.5)	100 psi push	76	54	780 (8 psi)
30							
35		Continued					

EXPLANATION

Clay
Silt
Sand
Gravel

Modified California Sampler
Shelby Tube
Standard Penetration Split Spoon Sampler

Hammer Wt./ Drop: 140#/30" (Automatic)

LFR Field Staff: Julie Sharp

Date Boring Drilled: 6/5-6/6/01

▽ Approximate Groundwater Level

Approved by: C.R. Nash

Drilling Method: Hollow Stem Auger

Drilling Company: Spectrum

Shaded Areas Indicate Samples Retained for Geotechnical Analysis

LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-1

Depth, feet	Graphic Log	Visual Description	ID of Samples Analyzed	Penetration Rate (Blows/ft.)	Moisture Content (%)	Dry Density (pcf)	Compressive Strength (psf)
		BAY MUD					
40		soft to medium stiff, no sand or shells noted					
		trace organics	B-1-5 (40-42.5)	150 psi push	81	52	
45							
50		SILTY CLAY (CH), stiff, dark greenish gray, high plasticity, wet, with claystone, with some mica, occasional brown silt nodules <1/16" diameter	B-1-6 (50-52.5')		58	80	1,210
55		SILTY CLAY (CL), medium stiff, olive brown with rust mottling, wet, trace fine sand and mica	B-1-7 (55.5-56.5)	8	44	75	1,130 (15 psi)
60		varies to dark greenish gray, with parting	B-1-8 (61-61.5')	8	39	77	
65		stiff, dark greenish gray with orange-rust mottling, more silt and fine sand	B-1-9 (65.5-66)	20			
70		SANDY SILT (ML), medium dense, dark greenish gray, low plasticity, wet, fine sand and mica					

Continued

EXPLANATION

Clay
Silt
Sand
Gravel

Modified California Sampler
Shelby Tube
Standard Penetration Split Spoon Sampler

Hammer Wt./ Drop: 140#/30" (Automatic)

LFR Field Staff: Julie Sharp

Date Boring Drilled: 6/5-6/6/01

▽ Approximate Groundwater Level

Approved by: C.R. Nard

Drilling Method: Hollow Stem Auger

Drilling Company: Spectrum

Shaded Areas Indicate Samples Retained for Geotechnical Analysis

LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-1 (CONTINUED)

Depth, feet	Visual Description	ID of Samples Analyzed	Penetration Rate (Blows/ft.)	Moisture Content (%)	Dry Density (pcf)	Compressive Strength (psf)
	varies to SILTY SAND (SM), medium dense, dark greenish gray, wet, fine sand, with clay and mica	B-1-10 (70.5-71)	30	26	98	4,050 (21 psi)
75	SILTY CLAY (CL), medium stiff, dark greenish gray, medium plasticity, moist, trace subangular fine gravel	B-1-11 (75.5-76.5)	8			
80	as above with sand, medium stiff to stiff, low plasticity, with orange-rust mottling, mica	B-1-12 (81-81.5)	9	37	84	1,230
85	stiff, lightens to greenish gray, less silt and sand, medium plasticity	B-1-13 (86-86.5)	16	41	76	
90	increase in silt and sand, less plastic	B-1-14 (91-91.5)	19			
95		B-1-15 (96-96.5)	14	36	83	1,820
100	grades to light olive brown with orange-rust mottling very stiff, increased plasticity to medium plasticity, some medium grained subangular sand	B-1-16 (100.5-101)	37	20	106	

Bottom of boring = 101.5 feet bgs
Boring backfilled with cement-bentonite grout.

EXPLANATION

Clay
Silt
Sand
Gravel

Modified California Sampler
Shelby Tube
Standard Penetration Split Spoon Sampler

Hammer Wt./ Drop: 140#/30" (Automatic)

LFR Field Staff: Julie Sharp
Date Boring Drilled: 6/5-6/6/01
▽ Approximate Groundwater Level
Approved by: C. R. Nard

Drilling Method: Hollow Stem Auger
Drilling Company: Spectrum
Shaded Areas Indicate Samples Retained for Geotechnical Analysis

LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-1 (CONTINUED)

Depth, feet	Visual Description	ID of Samples Analyzed	Penetration Rate (Blows/ft.)	Moisture Content (%)	Dry Density (pcf)	Compressive Strength (psf)
	Asphalt concrete pavement					
	SILTY SANDY GRAVEL (GM), aggregate base, dark greenish gray, moist, subangular to subrounded gravel to 1-inch					
		B-2-1 (2-2.5)	10	21	101	2,180
	CLAYEY SAND/SANDY CLAY (SC/CL), FILL, loose/stiff to very stiff, mottled gray, rust, and olive brown, wet, with gravel, claystone, and minor fine sand					
5						
▽		B-2-2 (S-6)	4	28 49	82 68	
	SILTY CLAY (CH), BAY MUD, very soft to soft, dark greenish gray with some minor black mottling, high plasticity, saturated, trace fine sand, minor mica, slight organic odor.					
10	soft to medium stiff	B-2-3	0 psi push	no recovery		
		B-2-4 (13-15.5)	0 psi push	86	50	
15	trace organics					
	BAY MUD					
20		B-2-5 (20-22.5)	100 psi push			
				71	55	850 (8 psi)
25						
30		B-2-6 (30-32.5')	100 psi push			
	trace organics			73	56	
35						

Continued

EXPLANATION

Clay, Silt, Sand, Gravel

Modified California Sampler

Shelby Tube

Standard Penetration Split Spoon Sampler

Hammer Wt./ Drop: 140#/30" (Automatic)

LFR Field Staff: Julie Sharp

Drilling Method: Hollow Stem Auger

Date Boring Drilled: 6/7/01

Drilling Company: Spectrum

▽ Approximate Groundwater Level

Shaded Areas Indicate Samples Retained for Geotechnical Analysis

Approved by: C.R. Nardi

LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-2

Depth, feet	Visual Description	ID of Samples Analyzed	Penetration Rate (Blows/ft.)	Moisture Content (%)	Dry Density (pcf)	Compressive Strength (psf)
	SILTY CLAY (CL), stiff, olive brown with orange-rust mottling, low plasticity, wet, with calcareous nodules.	B-3-8 (35.5-36)	21	28	92	
40	fine mica	B-3-9 (41-41.5)	16			
45	SANDY CLAY/CLAYEY SAND (CL/SC), stiff/loose, olive brown, low plasticity, wet, fine sand	B-3-10 (46-46.5)	15	30	91	1,450
50	SILTY CLAY (CL), stiff, pinkish gray with lenses of olive gray, medium plasticity, moist	B-3-11 (51-51.5)	17			
55	SILTY CLAY (CL), very stiff, olive brown with orange-rust mottling, low plasticity, wet, with fine sand	B-3-12 (56-56.5)	19	30	92	3,280
60	SILTY SAND (SC), dense, olive brown, fine grained, wet	B-3-13 (60.5-61)	37			
65	SILTY CLAY (CL), stiff, olive brown, low plasticity, wet	B-3-14 (65.5-66.5)	14			
70						

Continued

EXPLANATION

Clay, Silt, Sand, Gravel

Modified California Sampler

Shelby Tube

Standard Penetration Split Spoon Sampler

Hammer Wt./ Drop: 140#/30" (Automatic)

LFR Field Staff: Julie Sharp

Date Boring Drilled: 6/5/01

▽ Approximate Groundwater Level

Approved by: C.R. Nard

Drilling Method: Hollow Stem Auger

Drilling Company: Spectrum

Shaded Areas Indicate Samples Retained for Geotechnical Analysis

LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-3 (CONTINUED)

Depth, feet	Graphic Log	Visual Description	ID of Samples Analyzed	Penetration Rate (Blows/ft.)	Moisture Content (%)	Dry Density (pcf)	Compressive Strength (psf)
		very stiff, with lenses of clayey silty sand, fine sand	B-3-15 (70-71)	27	18	109	
75		CLAYEY SAND (SC), medium dense, olive brown with rust mottling, fine to medium sand, wet					
		Bottom of boring = 78 feet bgs Boring backfilled with cement-bentonite grout.					

LITHOLOGY **SAMPLING DATA** **LABORATORY DATA**

EXPLANATION

Clay
Silt
Sand
Gravel

Modified California Sampler
Shelby Tube
Standard Penetration Split Spoon Sampler

Hammer Wt./ Drop: 140#/30" (Automatic)

LFR Field Staff: Julie Sharp

Date Boring Drilled: 6/5/01

▽ Approximate Groundwater Level

Approved by: C.R. Nardi

Drilling Method: Hollow Stem Auger

Drilling Company: Spectrum

Shaded Areas Indicate Samples Retained for Geotechnical Analysis

LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-3 (CONTINUED)

Depth, feet	Graphic Log	Visual Description	ID of Samples Analyzed	Penetration Rate (Blows/ft.)	Moisture Content (%)	Dry Density (pcf)	Compressive Strength (psf)
		LITHOLOGY		**SAMPLING DATA**		**LABORATORY DATA**	
		SILTY CLAY (CL), FILL, soft, yellowish brown, low plasticity, dry, with fine sand, roots					
	▽	grades to dark gray with brown and black mottling, wet	B-4-1 (2-2.5)	4	31	85	
5		SANDY CLAY (CL), soft, dark gray with brown and black mottling, low plasticity, wet	B-4-2 (5-5.5)	4	34	88	
		FILL					
10		PEAT (PT), BAY MUD, soft, very dark brown with black mottling, medium plasticity, saturated, strong organic odor, with trace clay	B-4-3 (10-12.5)	150 psi push	204	25	
15		**BAY MUD**					
20		grades very soft					
25		grades to SILTY CLAY (CH), soft, very dark gray, high plasticity, saturated, some mica	B-4-4 (25-27.5)	175-200 psi push	80	52	960 (7 psi)
30		>6-inch thick layer of shell fragments, dark greenish gray, wet	B-4-5 (30-31)	2			
		very silty, with some fine sand					
35		Continued					

EXPLANATION

Clay
Silt
Sand
Gravel

Modified California Sampler
Shelby Tube
Standard Penetration Split Spoon Sampler

Hammer Wt./ Drop: 140#/30" (Automatic)

LFR Field Staff: Julie Sharp

Date Boring Drilled: 6/6-6/7/01

▽ Approximate Groundwater Level

Approved by: C.R. Nardi

Drilling Method: Hollow Stem Auger

Drilling Company: Spectrum

Shaded Areas Indicate Samples Retained for Geotechnical Analysis

LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-4

Depth, feet	Graphic Log	Visual Description	ID of Samples Analyzed	Penetration Rate (Blows/ft.)	Moisture Content (%)	Dry Density (pcf)	Compressive Strength (psf)
		LITHOLOGY	**SAMPLING DATA**				**LABORATORY DATA**
		SILTY CLAY (CH), soft, very dark gray, high plasticity, saturated, some mica					
40		**BAY MUD**					
45		SILTY CLAY (CL), medium stiff, light olive brown with orange-rust mottling, moist, medium plasticity					
			B-4-6 (48-49)	7	45	74	2,180
50							
		SILTY CLAY (CL), medium stiff, dark greenish gray, with fine sand and mica					
55							
			B-4-7 (56-56.5)	5	52	69	
60		becomes stiff, increasing silt and mica, low to medium plasticity					
			B-4-8 (61-61.5)	13	33	85	2,770
65		minor fine sand					
			B-4-9 (65.5-66)	18	41	79	
70		Continued					

EXPLANATION

Clay
Silt
Sand
Gravel

Modified California Sampler
Shelby Tube
Standard Penetration Split Spoon Sampler

Hammer Wt./ Drop: 140#/30" (Automatic)

LFR Field Staff: Julie Sharp

Date Boring Drilled: 6/6-6/7/01

▽ Approximate Groundwater Level

Approved by: C.R. Nandi

Drilling Method: Hollow Stem Auger

Drilling Company: Spectrum

Shaded Areas Indicate Samples Retained for Geotechnical Analysis

LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-4 (CONTINUED)

Depth, feet	Graphic Log	Visual Description	ID of Samples Analyzed	Penetration Rate (Blows/ft.)	Moisture Content (%)	Dry Density (pcf)	Compressive Strength (psf)
		LITHOLOGY		**SAMPLING DATA**		**LABORATORY DATA**	
		SILTY CLAY (CL), very stiff, dark greenish gray with trace reddish-brown mottling, high plasticity, saturated, with stringers and nodules of light green, fine sand to 1/8-inch thickness and 1/4-inch diameter	B-4-10 (70.5-71)	31			
75			75				
		SILTY SAND (SM), medium dense, dark greenish gray, saturated, micaceous, some clay	B-4-11 (75.5-76)	26	31	85	1,500 (23 psi)
80		SANDY SILT (ML), medium dense, olive brown, low plasticity, saturated, fine sand, micaceous	80 B-4-12 (81-81.5)	16			
85		SILTY CLAY (CL), stiff, dark greenish gray, low to medium plasticity, saturated, with fine sand, micaceous	85 B-4-13 (86-86.5)	17	43	77	1,690
90		becomes very stiff, medium plasticity, some fine sand, less mica, occasional very light green 1/4-inch nodules of fine sand	90 B-4-14 (90.5-91)	37			
95		becomes slightly lighter and greener, with minor reddish brown mottling, more fine sand	95 B-4-15 (95.5-96)	27	31	90	
100		becomes slightly darker, less reddish brown mottling, trace fine sand, some mica	100 (101-101.5)	19	36	84	
		Bottom of boring = 101.5 feet bgs Boring backfilled with cement-bentonite grout.					

EXPLANATION

Clay
Silt
Sand
Gravel

Modified California Sampler
Shelby Tube
Standard Penetration Split Spoon Sampler
Hammer Wt./ Drop: 140#/30" (Automatic)

LFR Field Staff: Julie Sharp

Date Boring Drilled: 6/6-6/7/01

▽ Approximate Groundwater Level

Approved by: C.R. Nardi

Drilling Method: Hollow Stem Auger

Drilling Company: Spectrum

Shaded Areas Indicate Samples Retained for Geotechnical Analysis

LITHOLOGY AND SAMPLE DATA FOR SOIL BORING B-4 (CONTINUED)

APPENDIX C

RESULTS OF LABORATORY TESTING

RESULTS OF LABORATORY TESTING

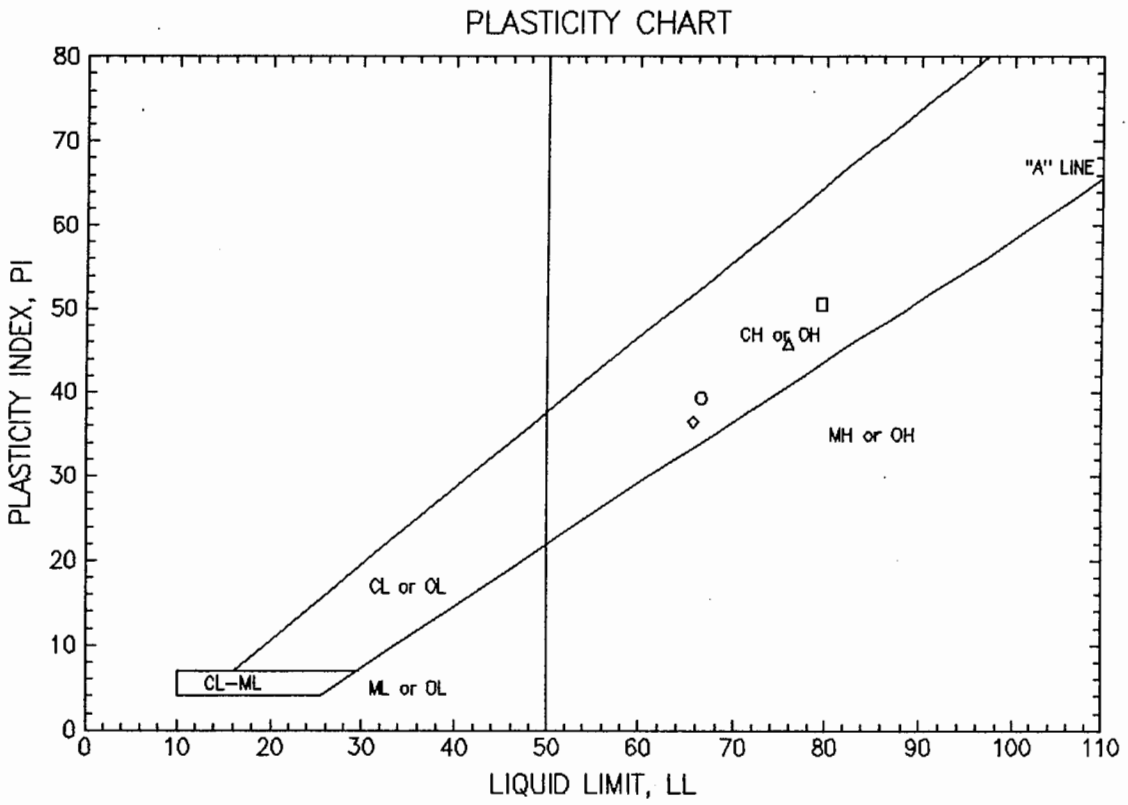
A laboratory testing program was performed on 14 soil samples for moisture content (American Society for Testing and Materials [ASTM] D2216-98), dry density (ASTM D2850-82), and unconfined compressive strength (ASTM D2166-98a) determinations. Ten soil samples were tested for moisture content, dry density, and unconsolidated-undrained triaxial compressive strength (ASTM D2850-87) determinations. Twenty samples were tested for moisture content and dry density only. Results of these tests at the respective sample locations are presented in the boring logs (Appendix A).

Nine samples of the Bay Mud were tested to evaluate consolidation characteristics (ASTM D2435-96). Four samples were tested for liquid and plastic limits (ASTM D4318-84). Four samples were tested for grain size distribution (ASTM D422).

The figures that follow present the results of these tests.

URS

Project : LEVINE FRICKE RECON (8019.00-005)
Project No. : 51-0016148A.00
Location : Korve/Mare Island Improvements
Date : Mon Jun 18 2001

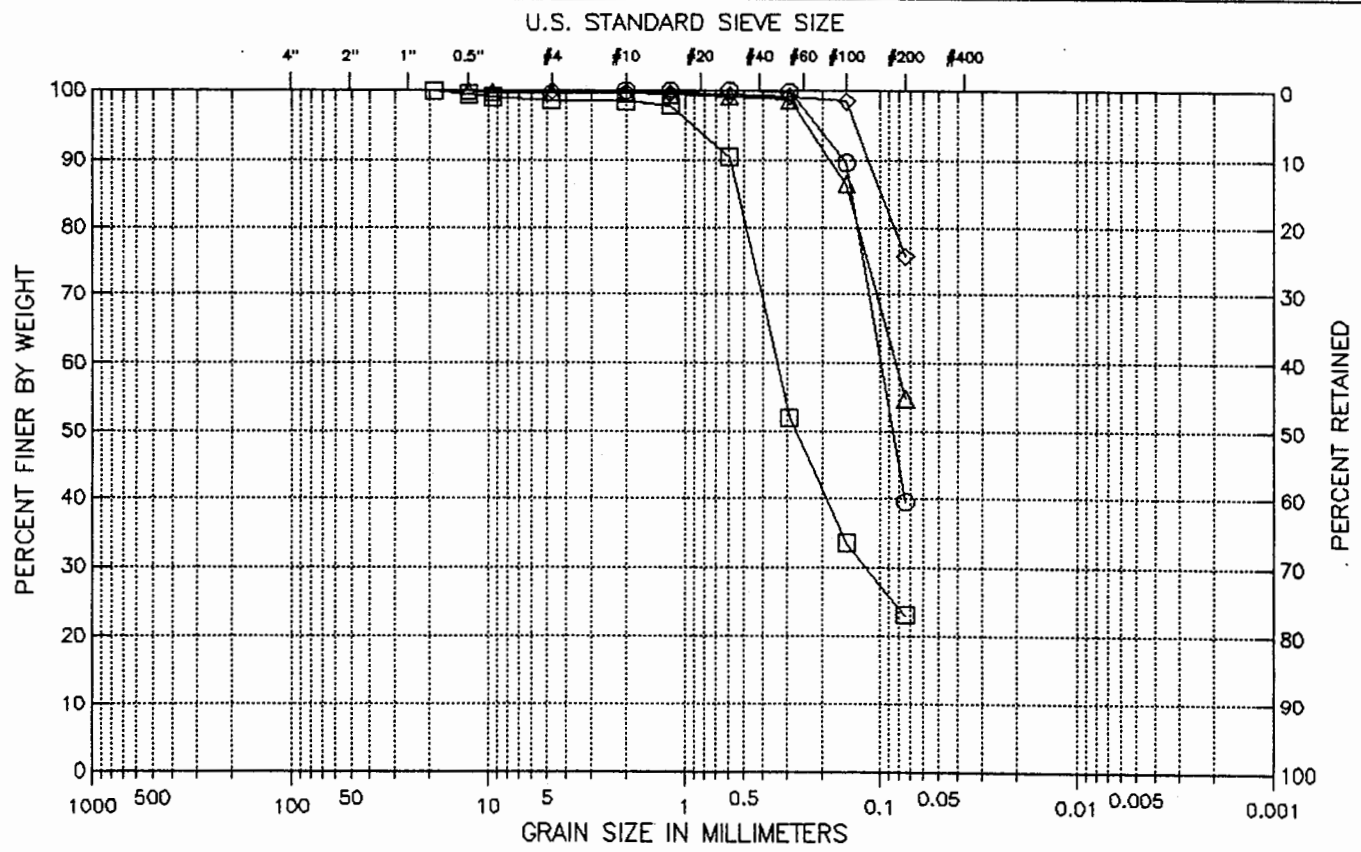


Symbol	Boring No.	Sample No.	Liquid Limit	Plastic Limit	Plasticity Index
○	B-1	25-27.5	66.46	27.14	39.32
△	B-2	21.5-22	75.81	29.97	45.84
□	B-3	15-17.5	79.55	28.93	50.61
◇	B-4	26-26.5	65.69	29.24	36.45

Figure 1

URS

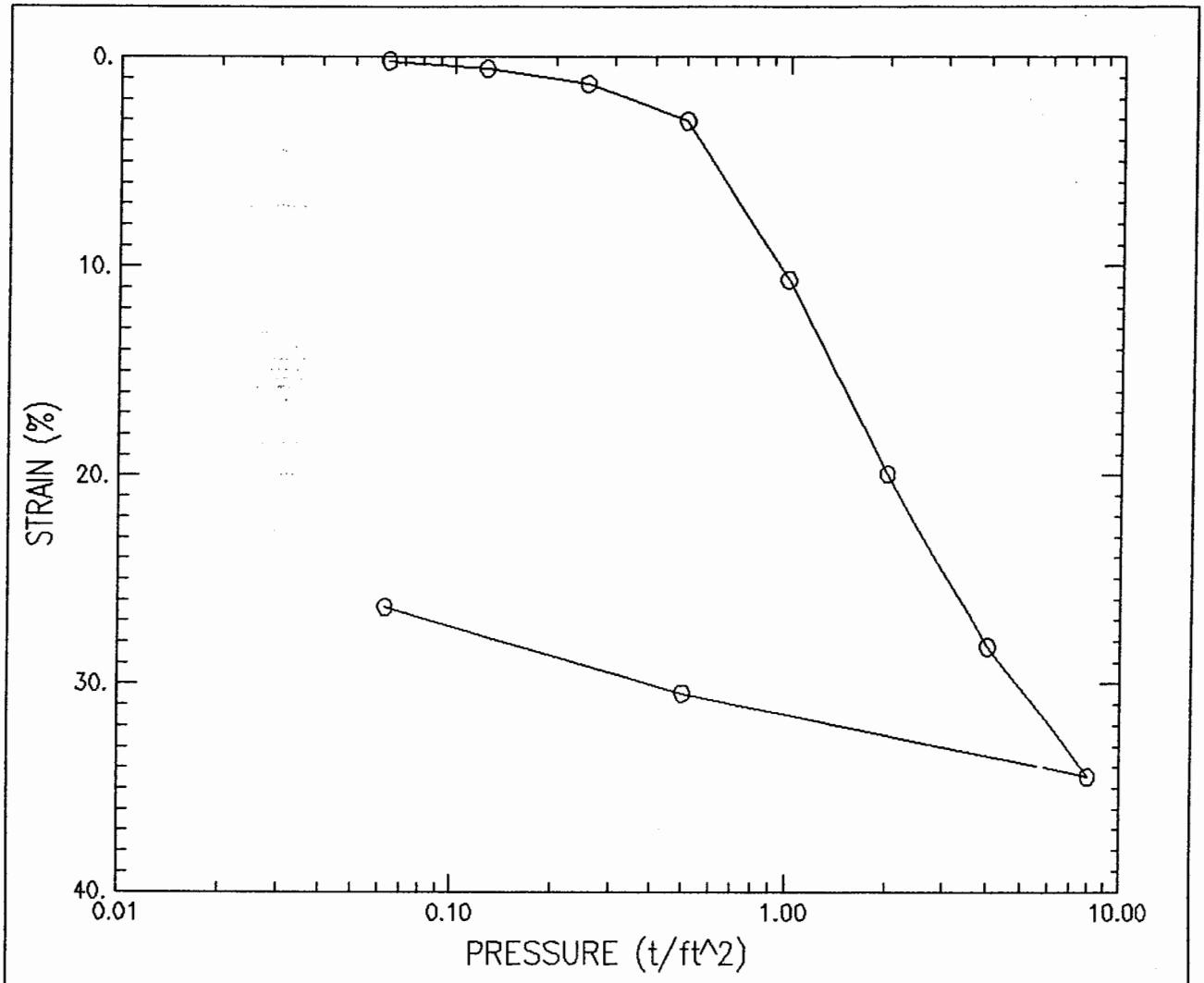
Project : LEVINE FRICKE RECON (8019.00-005)
Project No.: 51-0016148A.00
Location: Korve/North Mare Island
Date : Fri Jun 15 2001



Symbol	Boring No.	Sample No.	Depth	Filename	Classification / Description
⊖	B-1	70.5-71	70.5-71.0 ft	B1@70	Gray clayey silty Sand
△	B-2	50.5-51	50.5-51.0 ft	B2@50	Light Tan Rusty Brown sandy clayey Silt
⊟	B-3	60.5-61	60.5-61.0 ft	B3@60	Brown silty Sand
◇	B-4	81-81.5	81.0-81.5 ft	B4@81	Light Rusty Brown clayey sandy Silt

Figure 1

URS



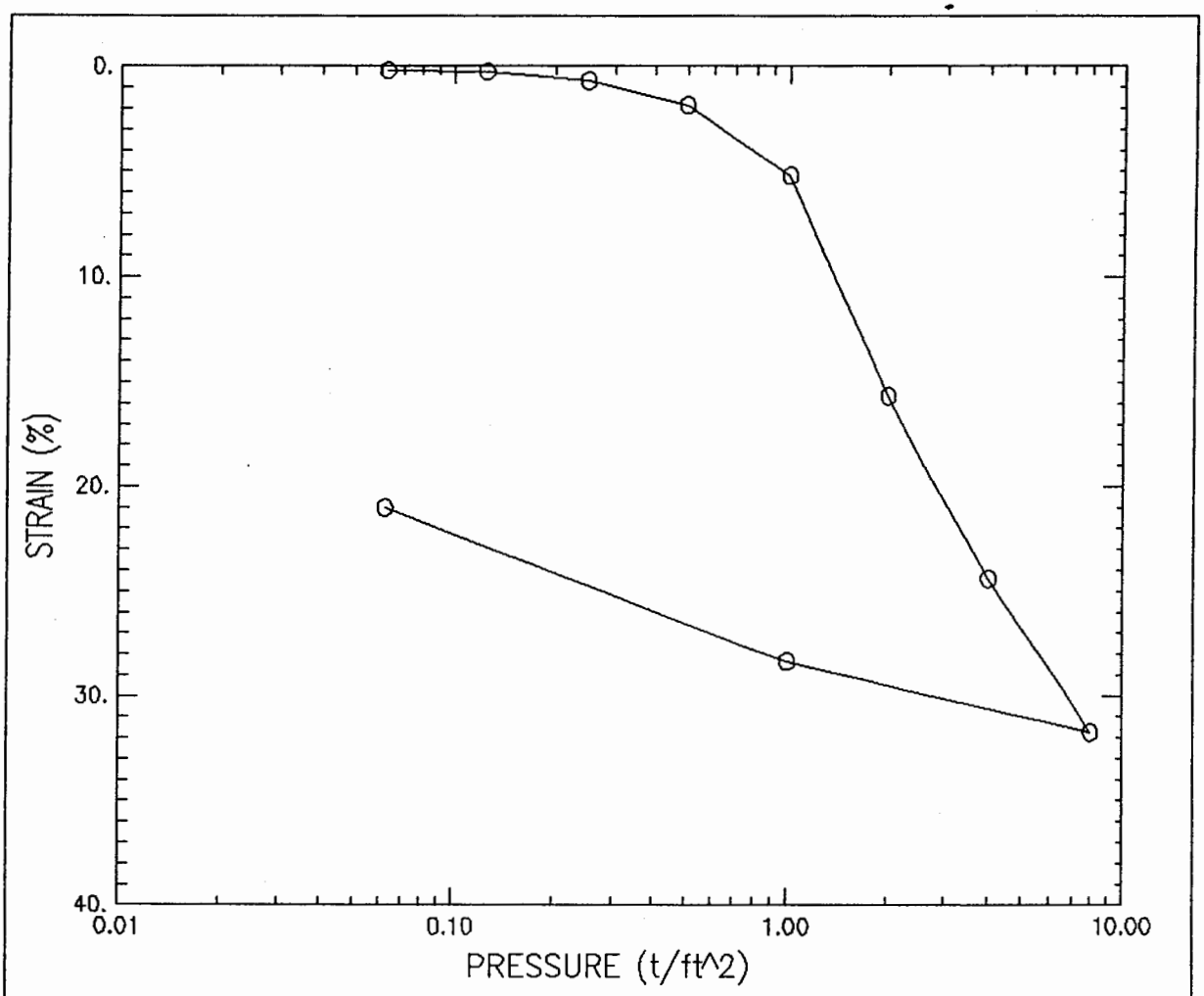
			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE (t/ft^2)		WATER CONTENT (%)	72.685	46.080
PRECONSOL. PRESSURE (t/ft^2)		DRY DENSITY (lb/ft^3)	56.031	76.074
COMPRESSION INDEX		SATURATION (%)	96.341	99.978
TYPE SPECIMEN		VOID RATIO	2.097	1.281
DIA. (in) 2.430	HT. (in) 0.950	BACK PRESSURE (t/ft^2)		

CLASSIFICATION Gray silty Clay with traces of organics/shells

LL 66.5	PL 27.1	PI 39.3	PROJECT LFR LEVINE FRICKE
GS 2.780	D_{10}		Data File: LPT1
REMARKS		BORING NO. B-1	SAMPLE NO. BOTTOM
		DEPTH 27-27.5 FT	DATE 08/07/01

Woodward Clyde Consultants
CONSOLIDATION TEST REPORT

URS



			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE (t/ft^2)		WATER CONTENT (%)	81.064	57.493
PRECONSOL. PRESSURE (t/ft^2)		DRY DENSITY (lb/ft^3)	52.154	66.041
COMPRESSION INDEX		SATURATION (%)	98.065	100.002
TYPE SPECIMEN		VOID RATIO	2.232	1.552
DIA. (in) 2.427	HT. (in) 0.947	BACK PRESSURE (t/ft^2)		
CLASSIFICATION Gray silty Clay with traces of organics				
LL 0.0	PL 0.0 PI 0.0	PROJECT L. F. R. #8019.00-005		
GS 2.700	D_{10}	Data File: LPT1		
REMARKS		BORING NO. B-1	SAMPLE NO. BOTTOM	
		DEPTH 42-42.5 FT	DATE 06/07/01	
		Woodward Clyde Consultants CONSOLIDATION TEST REPORT		

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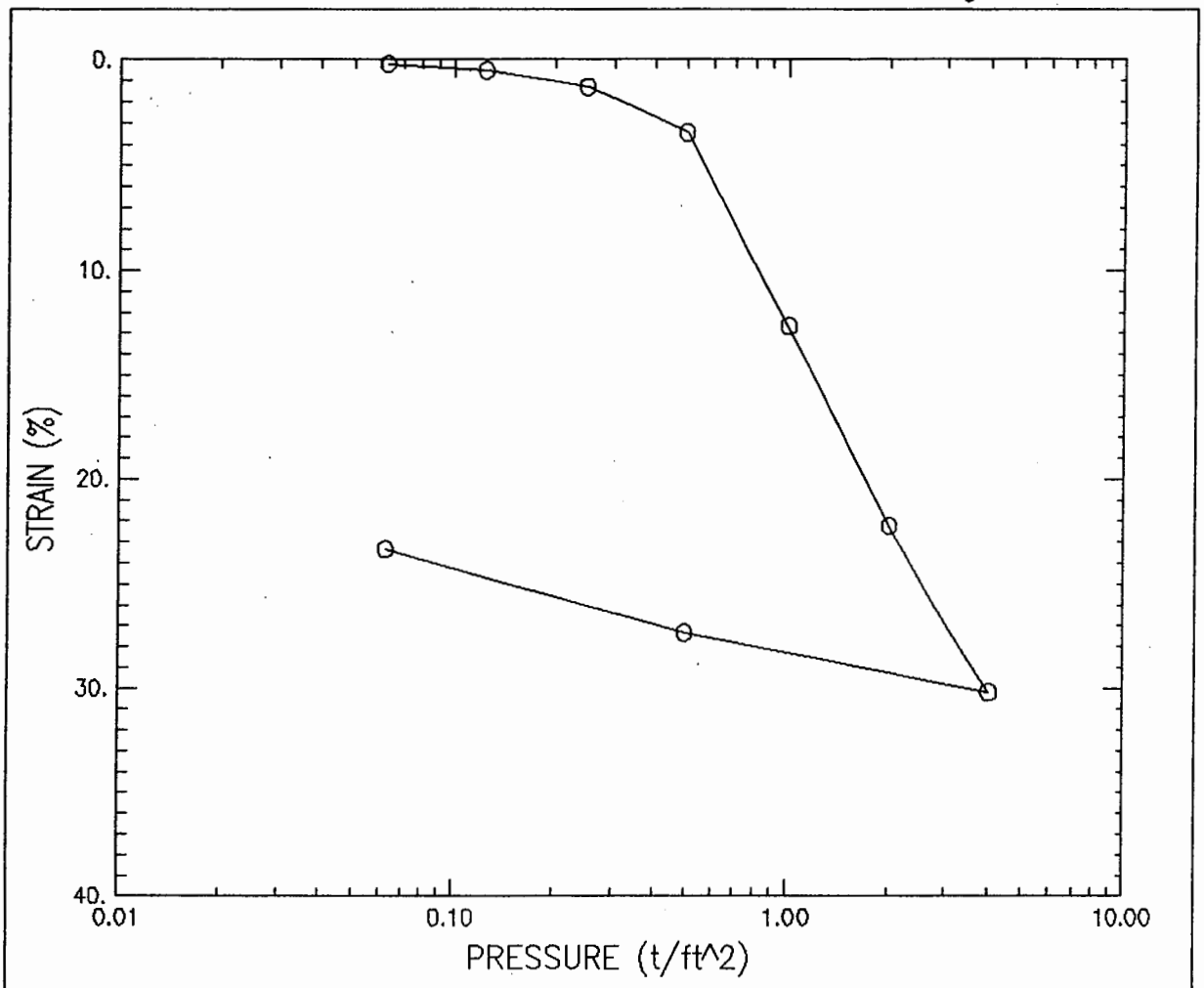

			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE (t/ft^2)		WATER CONTENT (%)	85.617	61.803
PRECONSOL. PRESSURE (t/ft^2)		DRY DENSITY (lb/ft^3)	50.414	64.182
COMPRESSION INDEX		SATURATION (%)	96.886	99.996
TYPE SPECIMEN		VOID RATIO	2.492	1.743
DIA. (in) 2.428	HT. (in) 0.953	BACK PRESSURE (t/ft^2)		
CLASSIFICATION Lt. to Dark Gray silty Clay w/ traces of organics				
LL 0.0	PL 0.0 PI 0.0	PROJECT LFR LEVINE FRICKE		
GS 2.820	D_{10}	Data File: LPT1		
REMARKS		BORING NO. B-2	SAMPLE NO. MIDDLE	
		DEPTH 14.5–15 FT	DATE 06/14/01	
		Woodward Clyde Consultants CONSOLIDATION TEST REPORT		

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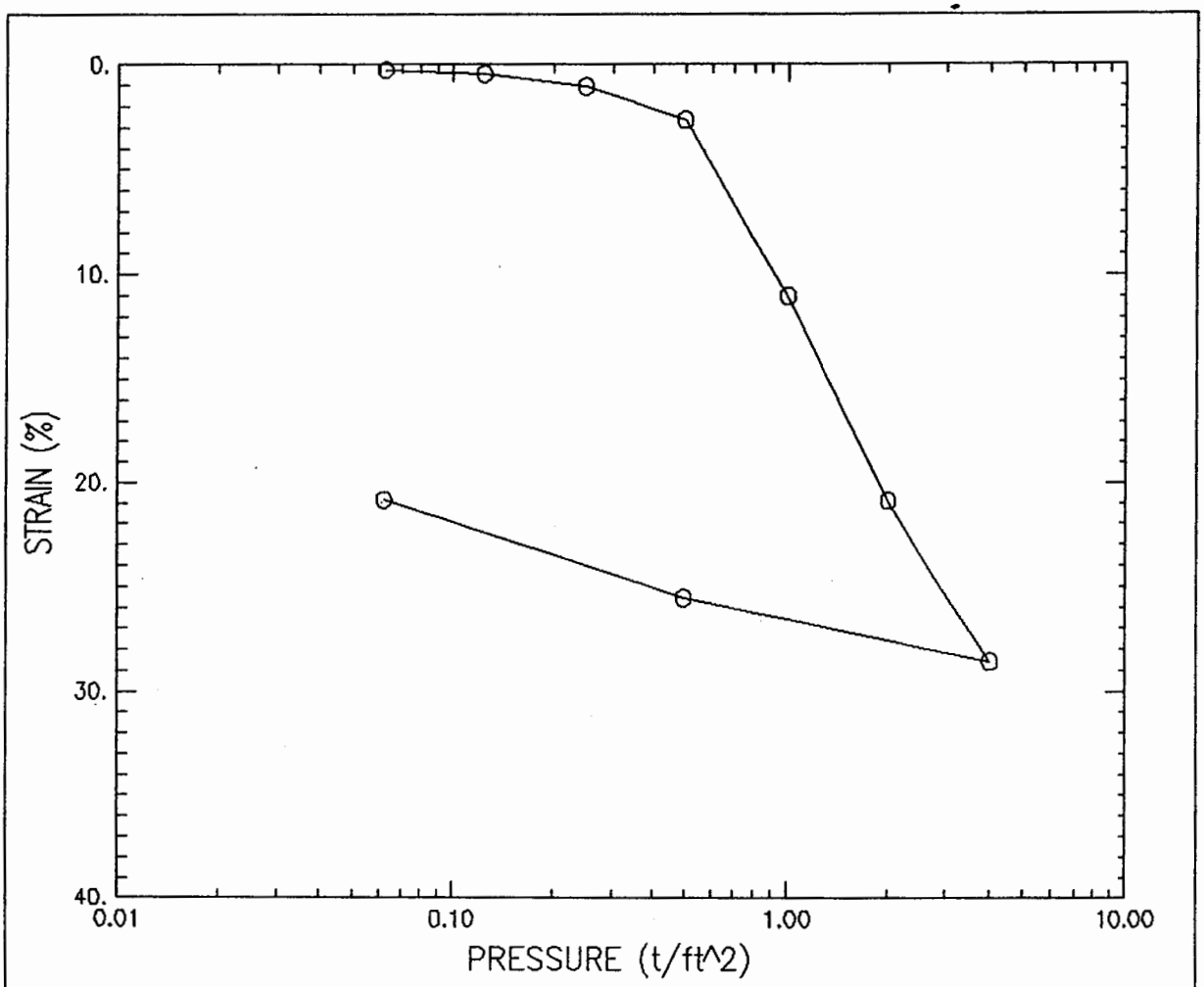

			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE (t/ft^2)		WATER CONTENT (%)	78.204	55.839
PRECONSOL. PRESSURE (t/ft^2)		DRY DENSITY (lb/ft^3)	53.204	67.217
COMPRESSION INDEX		SATURATION (%)	97.390	100.001
TYPE SPECIMEN		VOID RATIO	2.168	1.508
DIA. (in) 2.429	HT. (in) 0.950	BACK PRESSURE (t/ft^2)		

CLASSIFICATION Gray slightly brown silty Clay

LL 75.8	PL 30.0	PI 45.8	PROJECT LFR LEVINE FRICKE
GS 2.700	D_{10}		Data File: B2-22.CON
REMARKS		BORING NO. B-2	SAMPLE NO. BOTTOM
		DEPTH 22-22.5 FT	DATE 06/14/01

Woodward Clyde Consultants
CONSOLIDATION TEST REPORT

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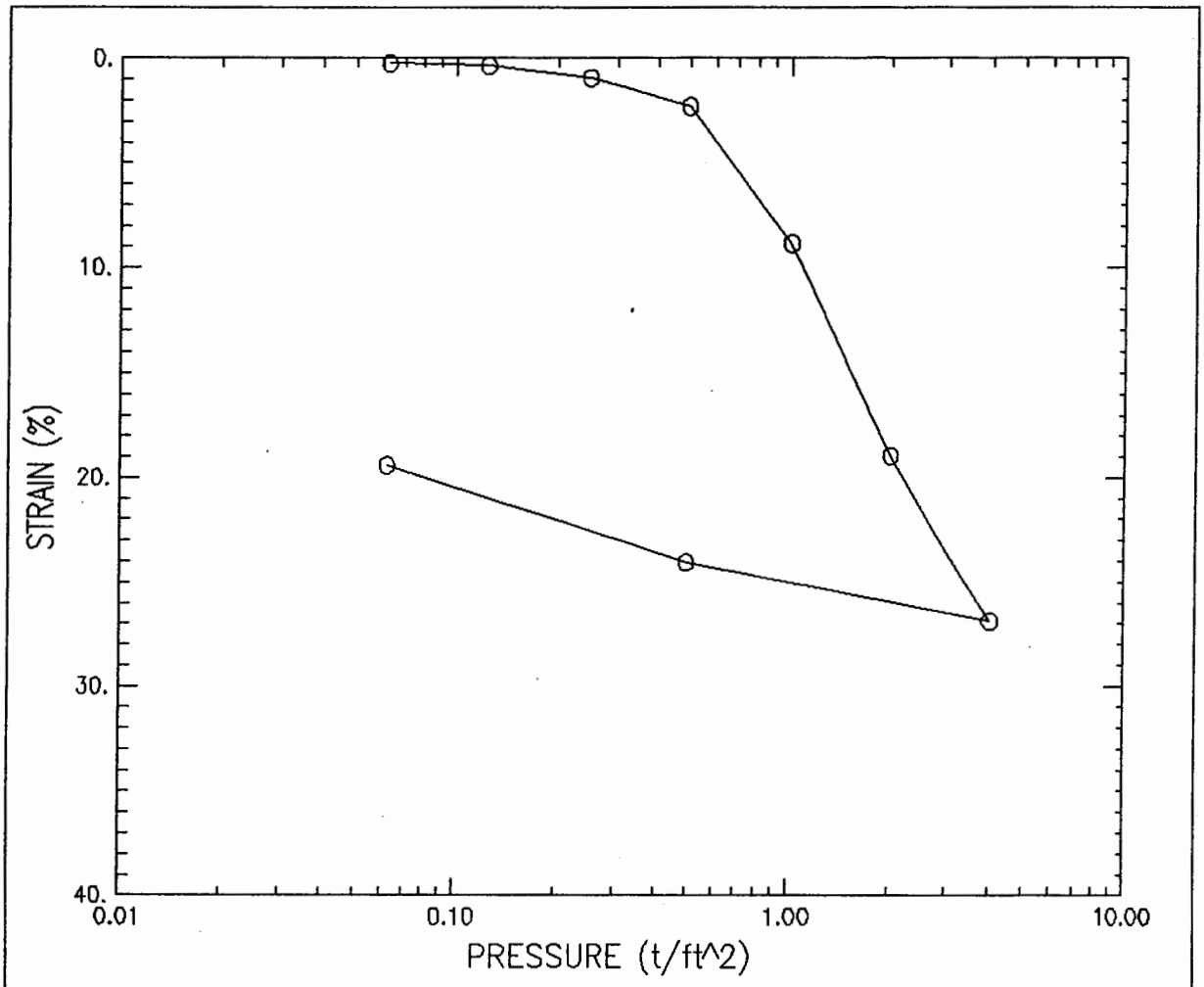

			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE (t/ft^2)		WATER CONTENT (%)	72.927	52.207
PRECONSOL. PRESSURE (t/ft^2)		DRY DENSITY (lb/ft^3)	56.373	69.950
COMPRESSION INDEX		SATURATION (%)	98.947	99.996
TYPE SPECIMEN		VOID RATIO	1.990	1.410
DIA. (In) 2.425	HT. (In) 0.951	BACK PRESSURE (t/ft^2)		

CLASSIFICATION Gray silty Clay with traces of organics

LL 0.0	PL 0.0	PI 0.0	PROJECT LFR LEVINE FRICKE
GS 2.700	D_{10}		Data File: B2-32.CON
REMARKS			BORING NO. B-2 / SAMPLE NO. BOTTOM
			DEPTH 32-32.5 FT / DATE 06/14/01

Woodward Clyde Consultants
CONSOLIDATION TEST REPORT

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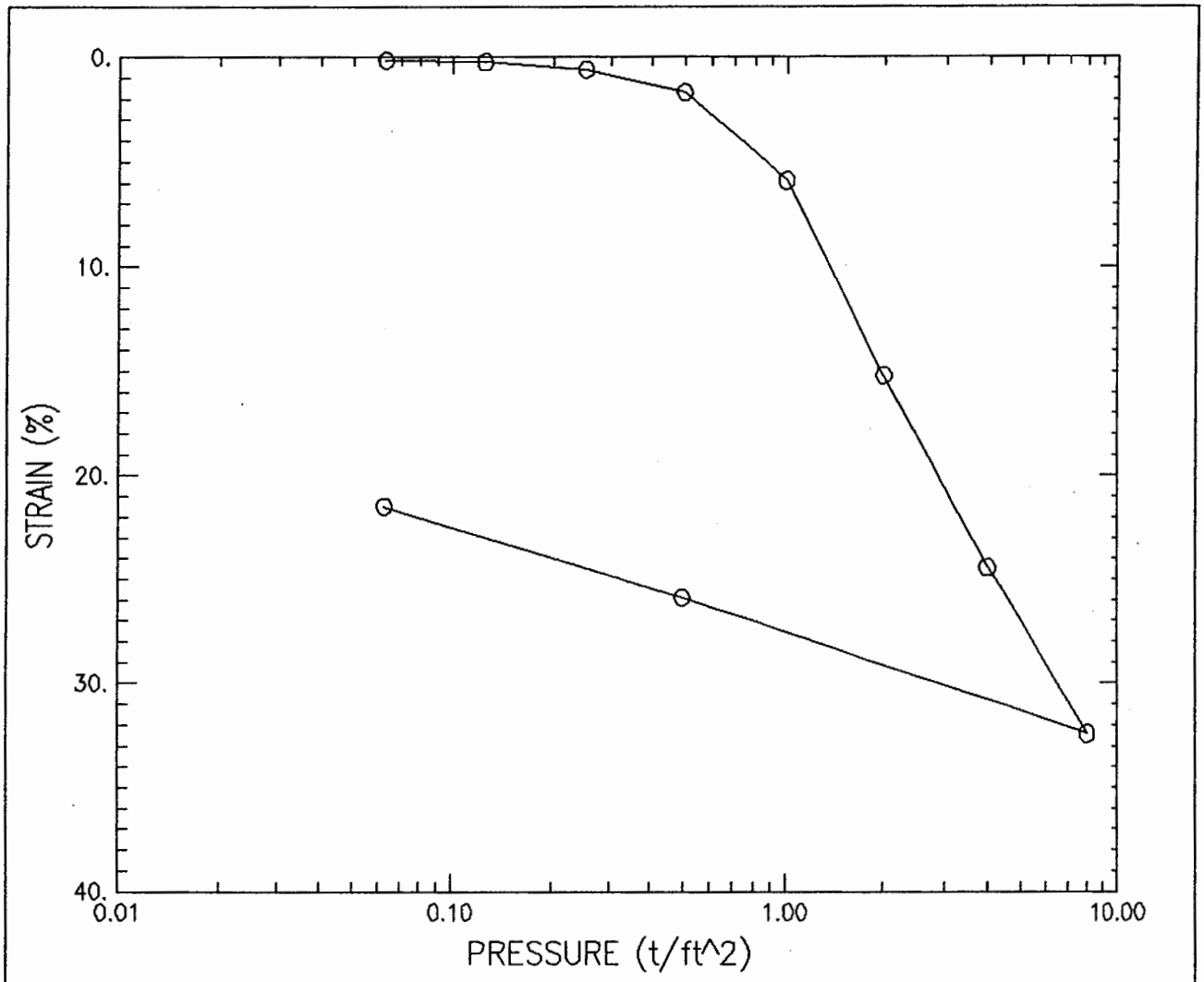

		BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE (t/ft^2)		WATER CONTENT (%)	76.779	55.676
PRECONSOL. PRESSURE (t/ft^2)		DRY DENSITY (lb/ft^3)	53.499	68.113
COMPRESSION INDEX		SATURATION (%)	95.118	99.990
TYPE SPECIMEN		VOID RATIO	2.244	1.548
DIA. (in) 2.429	HT. (in) 0.950	BACK PRESSURE (t/ft^2)		

CLASSIFICATION Lt. gray brown silty Clay

LL 0.0	PL 0.0	PI 0.0	PROJECT LFR LEVINE FRICKE
GS 2.780	D_{10}		Data File: LPT1
REMARKS		BORING NO. B-3	SAMPLE NO. MIDDLE
		DEPTH 11-11.5	DATE 06/07/01

Woodward Clyde Consultants
CONSOLIDATION TEST REPORT

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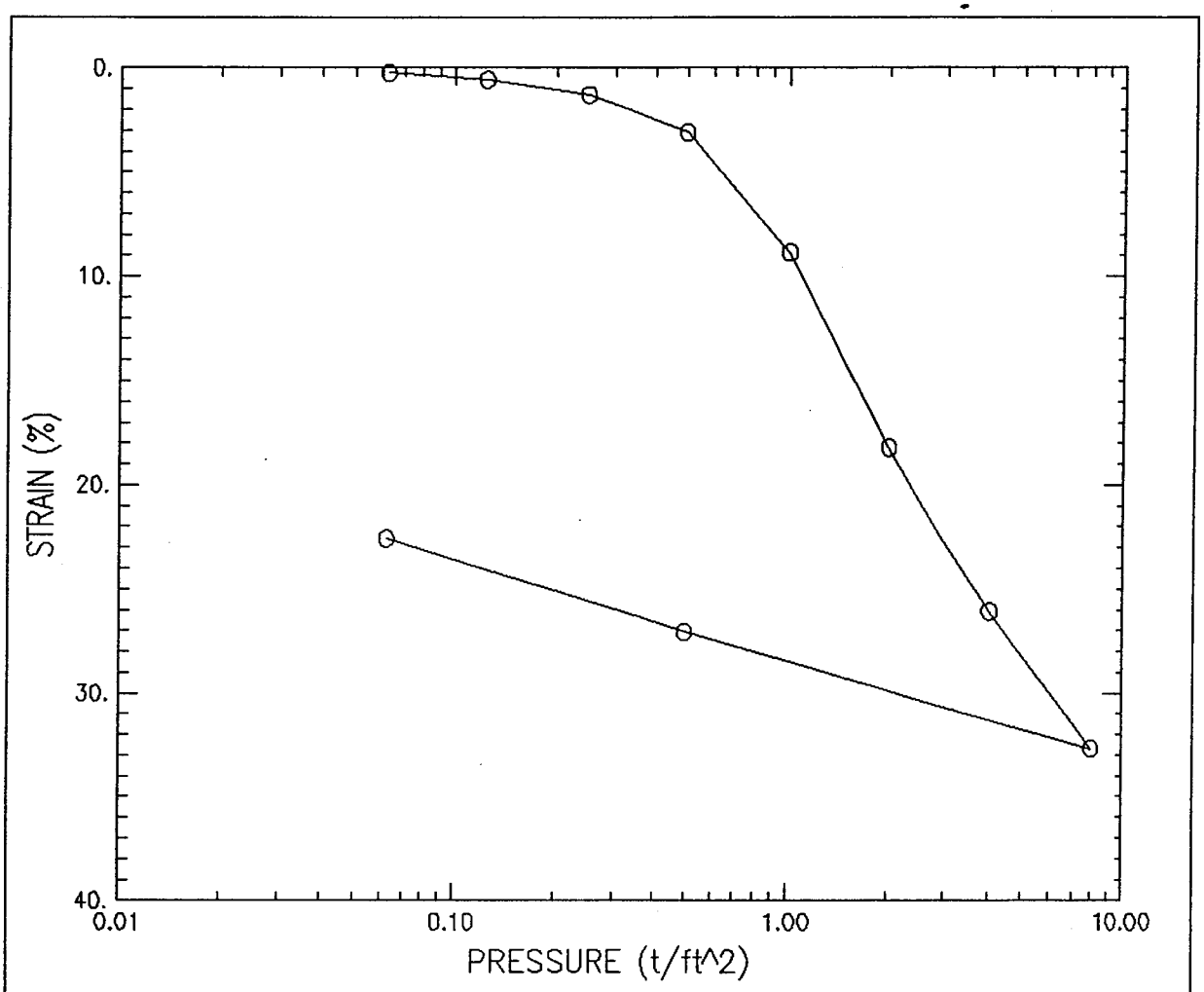

			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE (t/ft^2)		WATER CONTENT (%)	68.420	45.922
PRECONSOL. PRESSURE (t/ft^2)		DRY DENSITY (lb/ft^3)	59.013	76.224
COMPRESSION INDEX		SATURATION (%)	98.000	99.985
TYPE SPECIMEN		VOID RATIO	1.941	1.277
DIA. (in) 2.428	HT. (in) 0.949	BACK PRESSURE (t/ft^2)		

CLASSIFICATION Gray silty Clay with traces of organics

LL 79.6	PL 28.9	PI 50.6	PROJECT LFR LEVINE FRICKE
GS 2.780	D_{10}		Data File: LPT1
REMARKS		BORING NO. B-3	SAMPLE NO. BOTTOM
		DEPTH 17-17.5 FT	DATE 06/07/01

Woodward Clyde Consultants
CONSOLIDATION TEST REPORT

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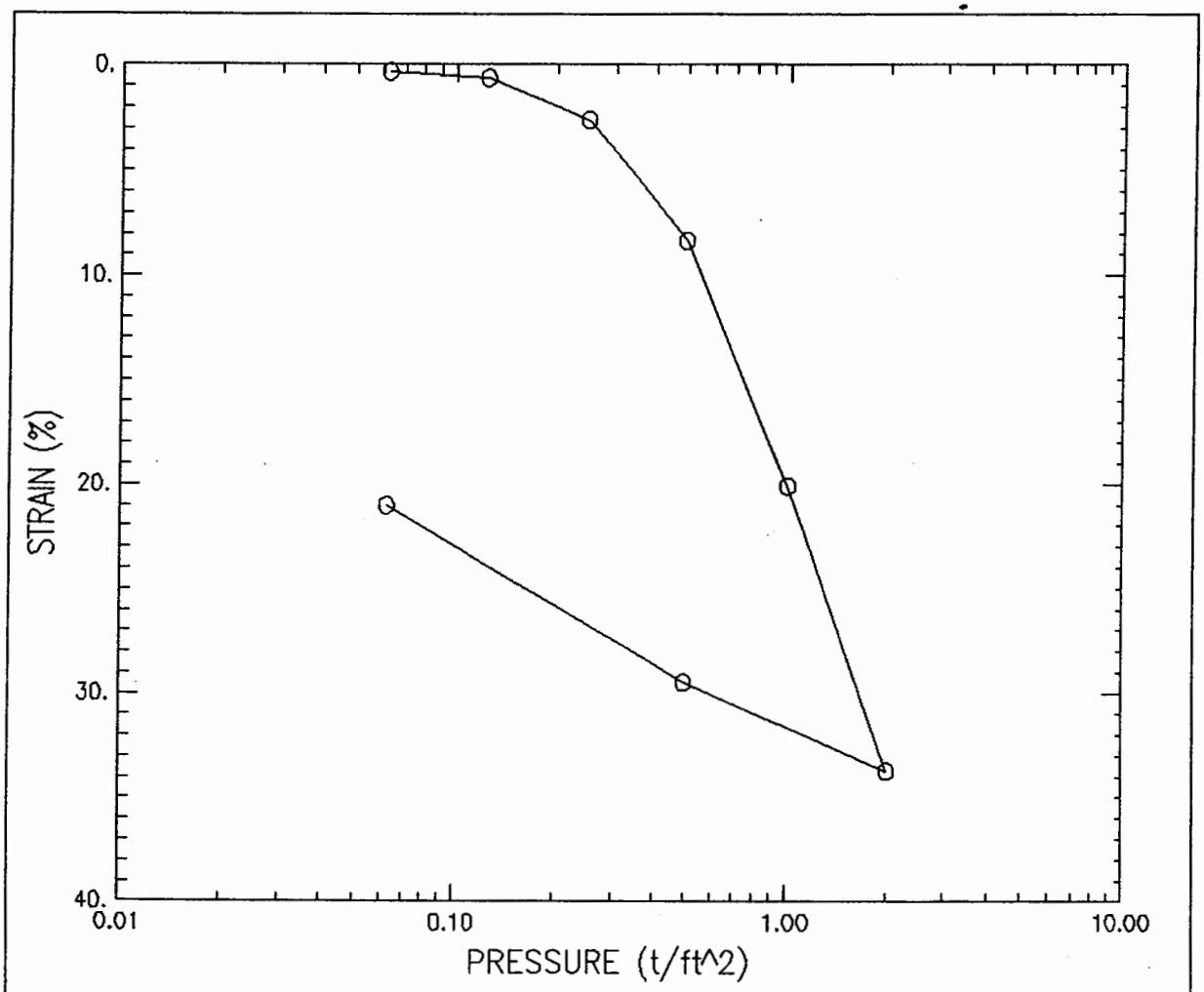

			BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE (t/ft^2)		WATER CONTENT (%)	204.497	156.624
PRECONSOL. PRESSURE (t/ft^2)		DRY DENSITY (lb/ft^3)	24.642	31.198
COMPRESSION INDEX		SATURATION (%)	97.445	99.999
TYPE SPECIMEN		VOID RATIO	4.827	3.602
DIA. (in) 2.430	HT. (in) 0.964	BACK PRESSURE (t/ft^2)		
CLASSIFICATION Lt. to Dark Brown Organic Peat w/ traces of clay				
LL 0.0	PL 0.0 PI 0.0	PROJECT LFR LEVINE FRICKE		
GS 2.300	D_{10}	Data File: B4-12.CON		
REMARKS		BORING NO. B-4	SAMPLE NO. BOTTOM	
		DEPTH 12-12.5 FT	DATE 06/14/01	
		Woodward Clyde Consultants CONSOLIDATION TEST REPORT		

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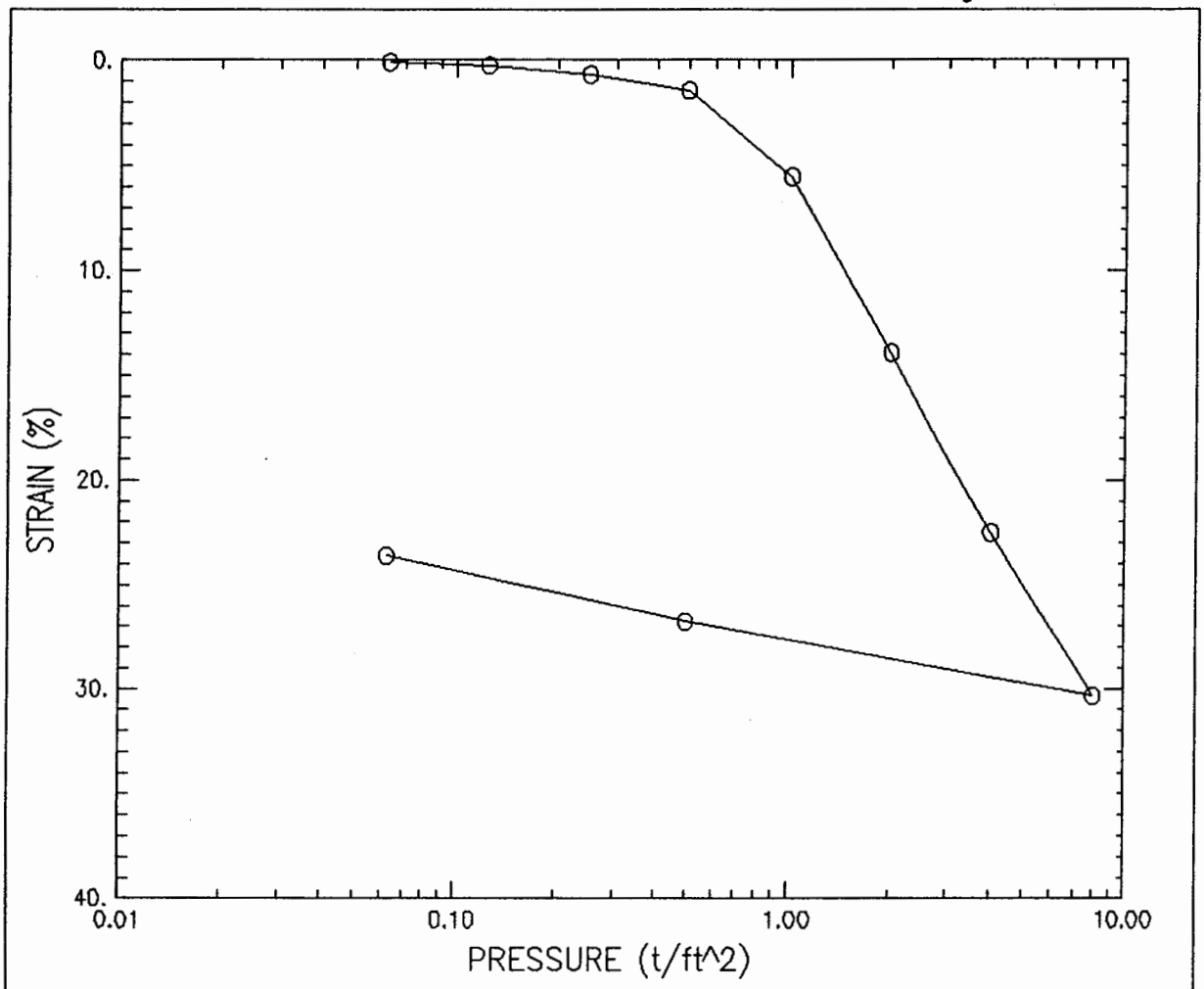


		BEFORE TEST	AFTER TEST
OVERBURDEN PRESSURE (t/ft^2)		WATER CONTENT (%)	78.367	54.476
PRECONSOL. PRESSURE (t/ft^2)		DRY DENSITY (lb/ft^3)	53.030	69.415
COMPRESSION INDEX		SATURATION (%)	95.266	100.004
TYPE SPECIMEN		VOID RATIO	2.320	1.536
DIA. (in) 2.430	HT. (in) 0.947	BACK PRESSURE (t/ft^2)		

CLASSIFICATION Gray silty Clay

LL 0.0	PL 0.0	PI 0.0	PROJECT LFR LEVINE FRICKE
GS 2.820	D_{10}		Data File: B4-27.CON

REMARKS	BORING NO. B-4	SAMPLE NO. MIDDLE
	DEPTH 26.5-27 FT	DATE 06/14/01

Woodward Clyde Consultants
CONSOLIDATION TEST REPORT

URS

UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST
ASTM D2850

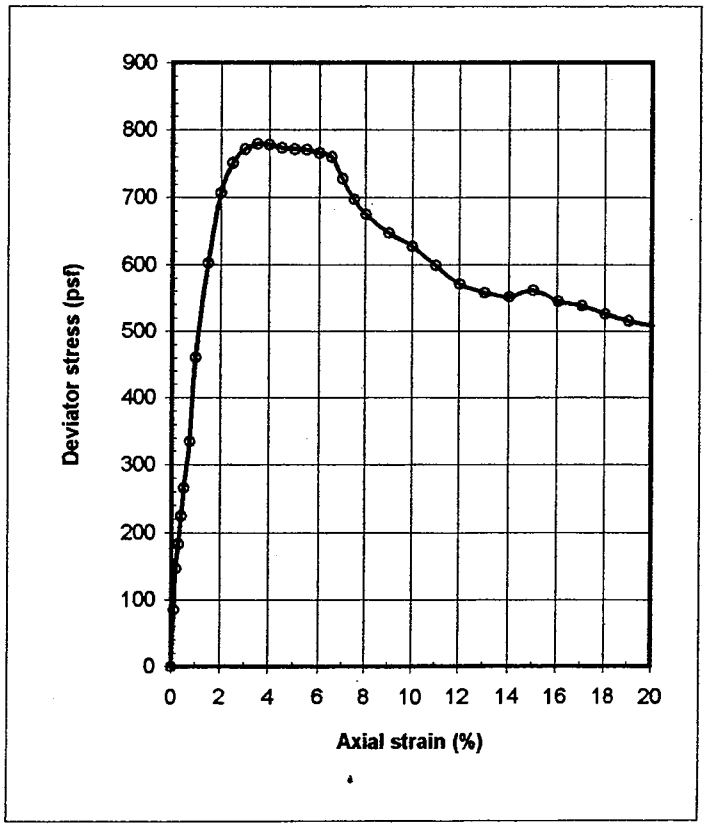
Client : LFR LEVINE FRICKE 8019.00-005
Project : Korve/North Mare Island
Job # : 51-0016148A.00
Boring # B-1
Sample # : 26.5-27.0 ft.
Depth (ft) : 26.5-27.0
Date tested : 06/13/01
Soil : Gray silty clay
:

Data Reduction:

Dial factor = 1.0 in/unit
Load factor = 1.1 lb/unit

Specimen: Total wt. =	967.8	gms	
Ht. =	5.984	in	
Ave dia. =	2.860	in	
Area =	6.424	sq.in	
Volume =	630.0	c.c.	
Shearing rate =	0.05	inch/min	
Shearing rate =	0.84	%/min	
Gs (assumed) =	2.70		

Test Report:		
Void ratio	2.099	
Ht/Dia ratio	2.09	
Moisture	76.3	%
Total density	95.9	pcf
Dry density	54.4	pcf
Saturation	98.1	%
Chamber pressure	1152	psf
Max. deviator stress	779	psf
Strain @ failure	3.51	%



Dial Read.	Load Read.	Axial Strain (%)	Deviator Stress (psf)
0.000	0.0	0.00	0.0
0.006	3.5	0.10	85.6
0.012	6.0	0.20	146.6
0.018	7.5	0.30	183.0
0.024	9.2	0.40	224.3
0.030	10.9	0.50	265.5
0.045	13.8	0.75	335.2
0.060	19.0	1.00	460.4
0.090	25.0	1.50	602.7
0.120	29.5	2.01	707.6
0.150	31.5	2.51	751.7
0.180	32.5	3.01	771.6
0.210	33.0	3.51	779.4
0.240	33.1	4.01	777.7
0.270	33.1	4.51	773.6
0.300	33.2	5.01	771.9
0.330	33.3	5.51	770.1
0.360	33.3	6.02	766.1
0.390	33.2	6.52	759.7
0.420	32.0	7.02	728.3
0.450	30.8	7.52	697.2
0.480	30.0	8.02	675.4
0.540	29.1	9.02	648.0
0.600	28.5	10.03	627.7
0.660	27.5	11.03	598.9
0.720	26.5	12.03	570.6
0.780	26.2	13.03	557.7
0.840	26.2	14.04	551.3
0.900	27.0	15.04	561.5
0.960	26.5	16.04	544.6
1.020	26.5	17.05	538.1
1.080	26.2	18.05	525.6
1.140	26.0	19.05	515.2
1.200	26.0	20.05	508.8

URS

UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST
ASTM D2850

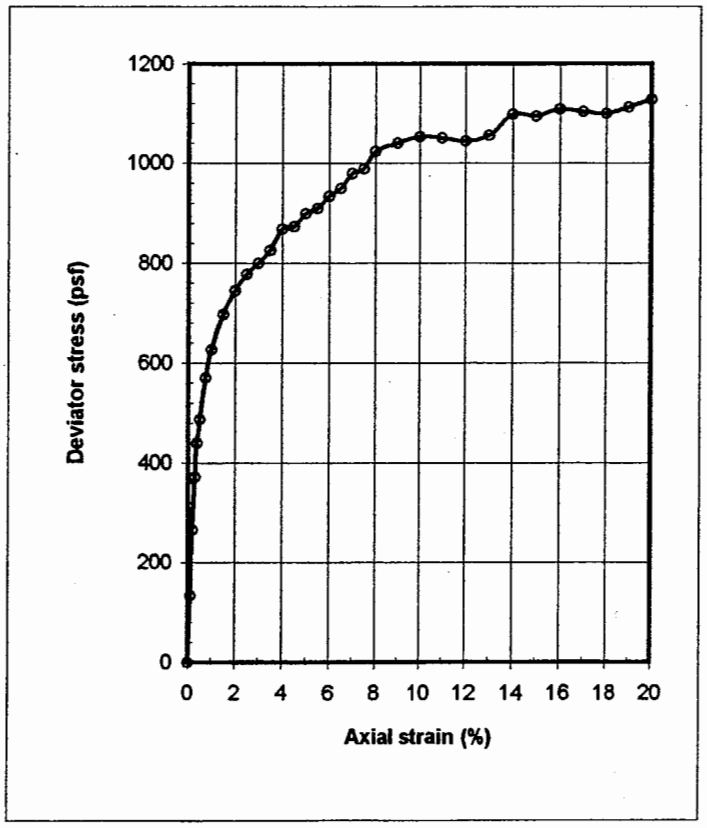
Client : LFR LEVINE FRICKE 8019.00-005
Project : Korve/North Mare Island
Job # : 51-0016148A.00
Boring # B-1
Sample # : 56.0-56.5 ft.
Depth (ft) : 56.0-56.5
Date tested : 06/13/01
Soil : Rusty brown silty clay

Data Reduction:

Dial factor = 1.0 in/unit
Load factor = 1.1 lb/unit

Specimen: Total wt. =	335.3	gms	
Ht. =	4.000	in	
Ave dia. =	1.940	in	
Area =	2.956	sq.in	
Volume =	193.8	c.c.	
Shearing rate =	0.05	inch/min	
Shearing rate =	1.25	%/min	
Gs (assumed) =	2.70		

Test Report:		
Void ratio	1.252	
Ht/Dia ratio	2.06	
Moisture	44.3	%
Total density	108.0	pcf
Dry density	74.8	pcf
Saturation	95.5	%
Chamber pressure	2198	psf
Max. deviator stress	1128	psf
Strain @ failure	20.00	%



Dial Read.	Load Read.	Axial Strain (%)	Deviator Stress (psf)
0.000	0.0	0.00	0.0
0.004	2.5	0.10	132.9
0.008	5.0	0.20	265.5
0.012	7.0	0.30	371.3
0.016	8.3	0.40	439.8
0.020	9.2	0.50	487.0
0.030	10.8	0.75	570.2
0.040	11.9	1.00	626.7
0.060	13.3	1.50	696.9
0.080	14.3	2.00	745.5
0.100	15.0	2.50	778.0
0.120	15.5	3.00	799.8
0.140	16.1	3.50	826.5
0.160	17.0	4.00	868.2
0.180	17.2	4.50	873.8
0.200	17.8	5.00	899.6
0.220	18.1	5.50	909.9
0.240	18.7	6.00	935.1
0.260	19.1	6.50	950.0
0.280	19.8	7.00	979.6
0.300	20.1	7.50	989.1
0.320	20.9	8.00	1022.9
0.360	21.5	9.00	1040.8
0.400	22.0	10.00	1053.3
0.440	22.2	11.00	1051.1
0.480	22.3	12.00	1043.9
0.520	22.8	13.00	1055.2
0.560	24.0	14.00	1098.0
0.600	24.2	15.00	1094.3
0.640	24.8	16.00	1108.2
0.680	25.0	17.00	1103.8
0.720	25.2	18.00	1099.3
0.760	25.8	19.00	1111.7
0.800	26.5	20.00	1127.8

URS

UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST
ASTM D2850

Client : LFR LEVINE FRICKE 8019.00-005
Project : Korve/North Mare Island
Job # : 51-0016148A.00
Boring # B-1
Sample # : 70.5-71.0 ft.
Depth (ft) : 70.5-71.0
Date tested : 06/13/01
Soil : Gray clayey silty sand

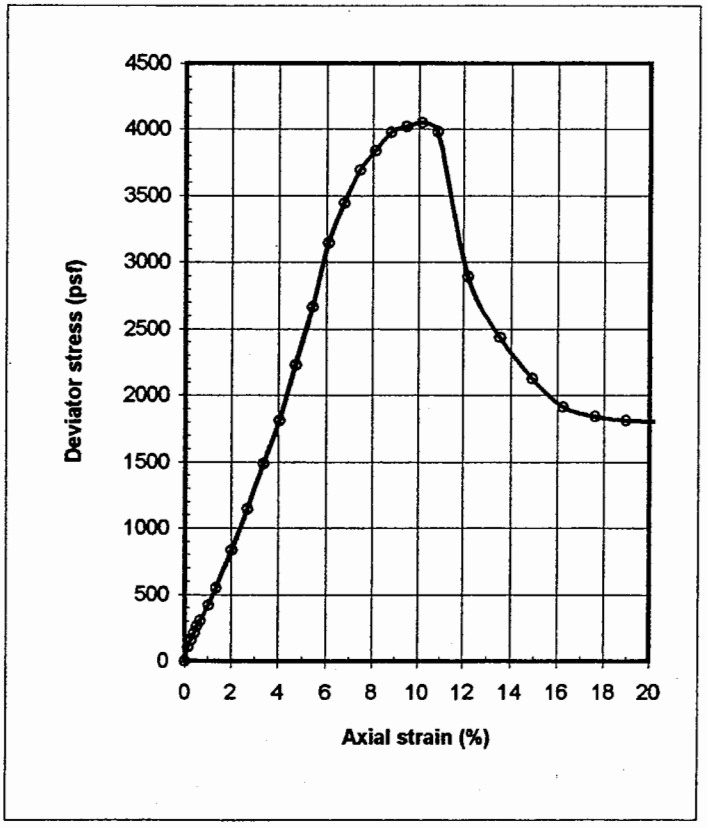
Data Reduction:

Dial factor = 1.0 in/unit
Load factor = 1.1 lb/unit

Specimen: Total wt. = 282.7 gms
Ht. = 2.953 in
Ave dia. = 1.940 in
Area = 2.956 sq.in
Volume = 143.0 c.c.
Shearing rate = 0.05 inch/min
Shearing rate = 1.69 %/min
Gs (assumed) = 2.70

Test Report:

Void ratio	0.721	
Ht/Dia ratio	1.52	
Moisture	25.9	%
Total density	123.3	pcf
Dry density	97.9	pcf
Saturation	97.1	%
Chamber pressure	3034	psf
Max. deviator stress	4053	psf
Strain @ failure	10.16	%



Dial Read.	Load Read.	Axial Strain (%)	Deviator Stress (psf)
0.000	0.0	0.00	0.0
0.004	2.0	0.14	106.3
0.008	3.0	0.27	159.2
0.012	4.0	0.41	211.9
0.016	5.0	0.54	264.5
0.020	5.8	0.68	306.5
0.030	8.0	1.02	421.3
0.040	10.5	1.35	551.0
0.060	16.0	2.03	833.9
0.080	22.1	2.71	1143.8
0.100	29.0	3.39	1490.5
0.120	35.5	4.06	1811.8
0.140	44.0	4.74	2229.7
0.160	53.0	5.42	2666.7
0.180	63.0	6.10	3147.2
0.200	69.5	6.77	3446.8
0.220	75.0	7.45	3692.6
0.240	78.5	8.13	3836.6
0.260	82.0	8.80	3978.1
0.280	83.5	9.48	4020.8
0.300	84.8	10.16	4052.8
0.320	84.0	10.84	3984.3
0.360	62.0	12.19	2896.2
0.400	53.0	13.55	2437.6
0.440	47.0	14.90	2127.7
0.480	43.0	16.25	1915.7
0.520	42.0	17.61	1840.9
0.560	42.0	18.96	1810.6
0.600	42.5	20.32	1801.5

URS

UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST
ASTM D2850

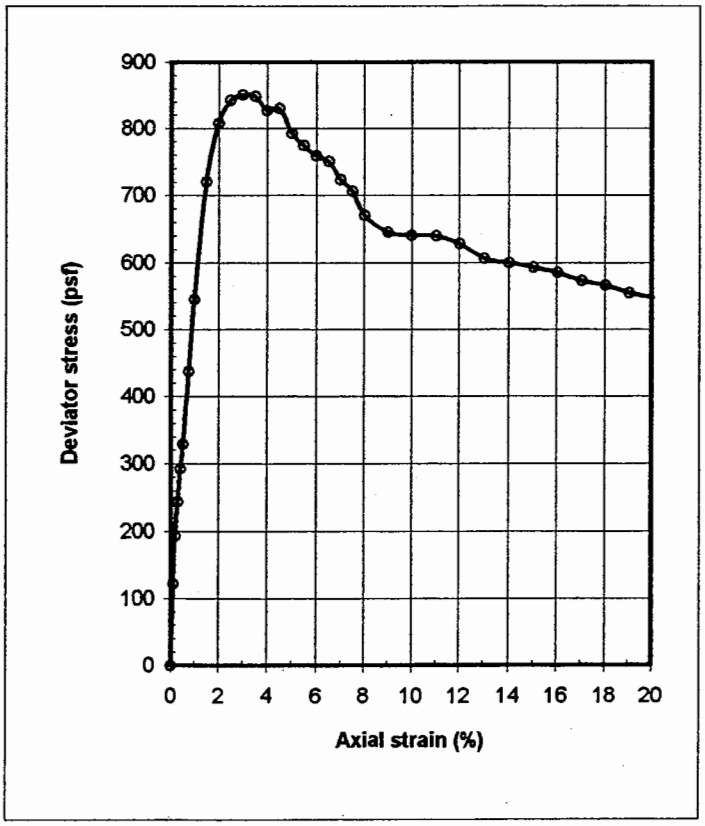
Client : LFR LEVINE FRICKE 8019.00-005
Project : Korve/North Mare Island
Job # : 51-0016148A.00
Boring # B-2
Sample # : 21.5-22.0 ft.
Depth (ft) : 21.5-22.0
Date tested : 06/13/01
Soil : Gray clay (Bay Mud)
:

Data Reduction:

Dial factor = 1.0 in/unit
Load factor = 1.1 lb/unit

Specimen: Total wt. =	957.0	gms	
Ht. =	5.984	in	
Ave dia. =	2.860	in	
Area =	6.424	sq.in	
Volume =	630.0	c.c.	
Shearing rate =	0.05	inch/min	
Shearing rate =	0.84	%/min	
Gs (assumed) =	2.70		

Test Report:		
Void ratio	2.047	
Ht/Dia ratio	2.09	
Moisture	71.4	%
Total density	94.8	pcf
Dry density	55.3	pcf
Saturation	94.1	%
Chamber pressure	1085	psf
Max. deviator stress	850	psf
Strain @ failure	3.01	%



Dial Read.	Load Read.	Axial Strain (%)	Deviator Stress (psf)
0.000	0.0	0.00	0.0
0.006	5.0	0.10	122.3
0.012	7.9	0.20	193.0
0.018	10.0	0.30	244.0
0.024	12.0	0.40	292.5
0.030	13.5	0.50	328.8
0.045	18.0	0.75	437.3
0.060	22.5	1.00	545.2
0.090	29.9	1.50	720.9
0.120	33.7	2.01	808.3
0.150	35.3	2.51	842.4
0.180	35.8	3.01	849.9
0.210	35.9	3.51	847.9
0.240	35.2	4.01	827.0
0.270	35.5	4.51	829.7
0.300	34.1	5.01	792.8
0.330	33.5	5.51	774.8
0.360	33.0	6.02	759.2
0.390	32.8	6.52	750.5
0.420	31.8	7.02	723.7
0.450	31.2	7.52	706.3
0.480	29.8	8.02	670.9
0.540	29.0	9.02	645.8
0.600	29.1	10.03	640.9
0.660	29.4	11.03	640.3
0.720	29.2	12.03	628.7
0.780	28.5	13.03	606.7
0.840	28.5	14.04	599.7
0.900	28.5	15.04	592.7
0.960	28.5	16.04	585.7
1.020	28.2	17.05	572.6
1.080	28.2	18.05	565.7
1.140	28.0	19.05	554.8
1.200	28.0	20.05	547.9

URS

UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST
ASTM D2850

Client : LFR LEVINE FRICKE 8019.00-005
Project : Korve/North Mare Island
Job # : 51-0016148A.00
Boring # B-2
Sample # : 45.5-46.0 ft.
Depth (ft) : 45.5-46.0
Date tested : 06/13/01
Soil : Lt. tan rusty brown silty clay with slickenside

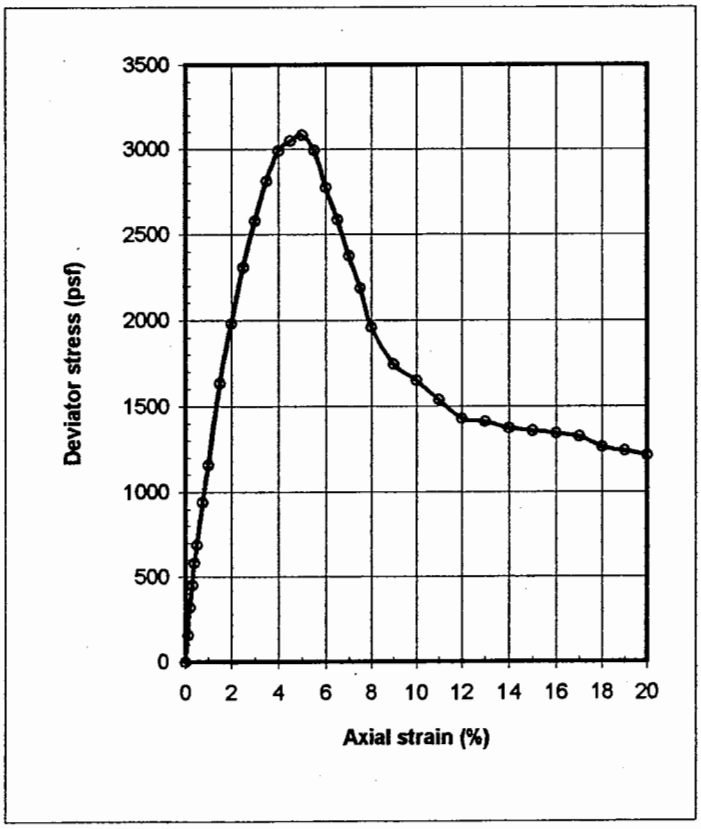
Data Reduction:

Dial factor = 1.0 in/unit
Load factor = 1.1 lb/unit

Specimen: Total wt. = 376.0 gms
Ht. = 4.000 in
Ave dia. = 1.940 in
Area = 2.956 sq.in
Volume = 193.8 c.c.
Shearing rate = 0.05 inch/min
Shearing rate = 1.25 %/min
Gs (assumed) = 2.70

Test Report:

Void ratio	0.764	
Ht/Dia ratio	2.06	
Moisture	26.8	%
Total density	121.1	pcf
Dry density	95.5	pcf
Saturation	94.5	%
Chamber pressure	2025	psf
Max. deviator stress	3083	psf
Strain @ failure	5.00	%



Dial Read.	Load Read.	Axial Strain (%)	Deviator Stress (psf)
0.000	0.0	0.00	0.0
0.004	3.0	0.10	159.4
0.008	6.0	0.20	318.5
0.012	8.5	0.30	450.8
0.016	11.0	0.40	582.8
0.020	13.0	0.50	688.1
0.030	17.8	0.75	939.8
0.040	22.0	1.00	1158.6
0.060	31.2	1.50	1634.9
0.080	38.0	2.00	1981.1
0.100	44.5	2.50	2308.1
0.120	50.0	3.00	2580.1
0.140	54.8	3.50	2813.2
0.160	58.5	4.00	2987.6
0.180	60.0	4.50	3048.2
0.200	61.0	5.00	3082.8
0.220	59.5	5.50	2991.2
0.240	55.5	6.00	2775.3
0.260	52.0	6.50	2586.5
0.280	48.0	7.00	2374.7
0.300	44.5	7.50	2189.7
0.320	40.0	8.00	1957.7
0.360	36.0	9.00	1742.7
0.400	34.5	10.00	1651.8
0.440	32.5	11.00	1538.7
0.480	30.5	12.00	1427.8
0.520	30.5	13.00	1411.6
0.560	30.0	14.00	1372.5
0.600	30.0	15.00	1356.5
0.640	30.0	16.00	1340.6
0.680	30.0	17.00	1324.6
0.720	29.0	18.00	1265.0
0.760	28.8	19.00	1241.0
0.800	28.5	20.00	1212.9

URS

UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST
ASTM D2850

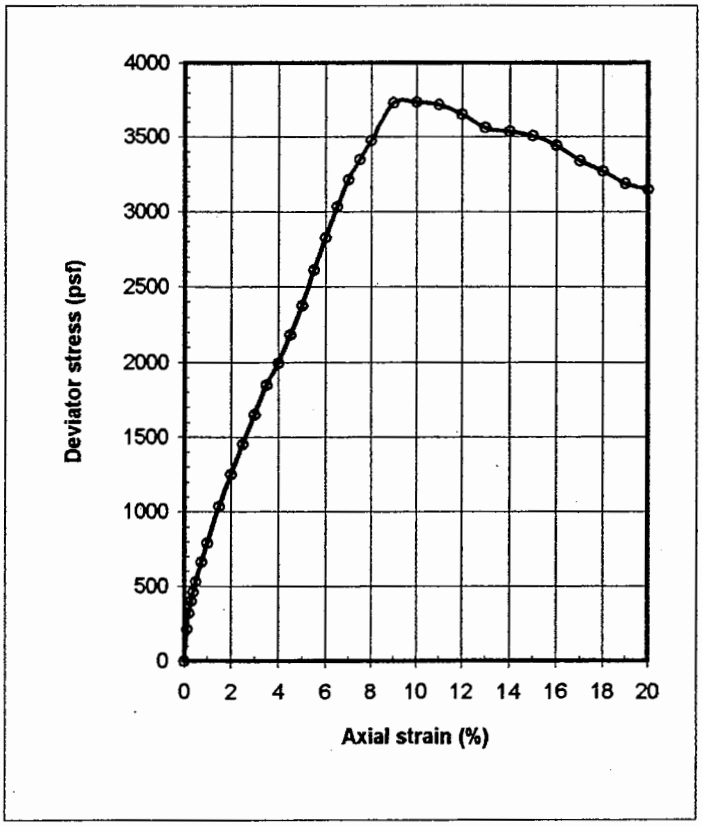
Client : LFR LEVINE FRICKE 8019.00-005
Project : Korve/North Mare Island
Job # : 51-0016148A.00
Boring # B-2
Sample # : 75.5-76.0 ft.
Depth (ft) : 75.5-76.0
Date tested : 06/13/01
Soil : Rusty brown fine sandy clayey silt

Data Reduction:

Dial factor = 1.0 in/unit
Load factor = 1.1 lb/unit

Specimen: Total wt. =	374.2	gms	
Ht. =	4.000	in	
Ave dia. =	1.940	in	
Area =	2.956	sq.in	
Volume =	193.8	c.c.	
Shearing rate =	0.05	inch/min	
Shearing rate =	1.25	%/min	
Gs (assumed) =	2.75		

Test Report:		
Void ratio	0.858	
Ht/Dia ratio	2.06	
Moisture	30.5	%
Total density	120.5	pcf
Dry density	92.4	pcf
Saturation	97.6	%
Chamber pressure	3753	psf
Max. deviator stress	3734	psf
Strain @ failure	10.00	%



Dial Read.	Load Read.	Axial Strain (%)	Deviator Stress (psf)
0.000	0.0	0.00	0.0
0.004	4.0	0.10	212.6
0.008	6.0	0.20	318.5
0.012	7.5	0.30	397.8
0.016	8.7	0.40	461.0
0.020	10.0	0.50	529.3
0.030	12.5	0.75	660.0
0.040	15.0	1.00	790.0
0.060	19.8	1.50	1037.5
0.080	24.0	2.00	1251.2
0.100	28.0	2.50	1452.3
0.120	32.0	3.00	1651.2
0.140	36.0	3.50	1848.1
0.160	39.0	4.00	1991.7
0.180	43.0	4.50	2184.6
0.200	47.0	5.00	2375.3
0.220	52.0	5.50	2614.1
0.240	56.5	6.00	2825.3
0.260	61.0	6.50	3034.1
0.280	65.0	7.00	3215.8
0.300	68.0	7.50	3346.1
0.320	71.0	8.00	3474.9
0.360	77.0	9.00	3727.5
0.400	78.0	10.00	3734.5
0.440	78.5	11.00	3716.6
0.480	78.0	12.00	3651.5
0.520	77.0	13.00	3563.7
0.560	77.3	14.00	3536.5
0.600	77.5	15.00	3504.4
0.640	77.0	16.00	3440.8
0.680	75.6	17.00	3338.0
0.720	75.0	18.00	3271.6
0.760	74.0	19.00	3188.7
0.800	74.0	20.00	3149.3

URS

UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST
ASTM D2850

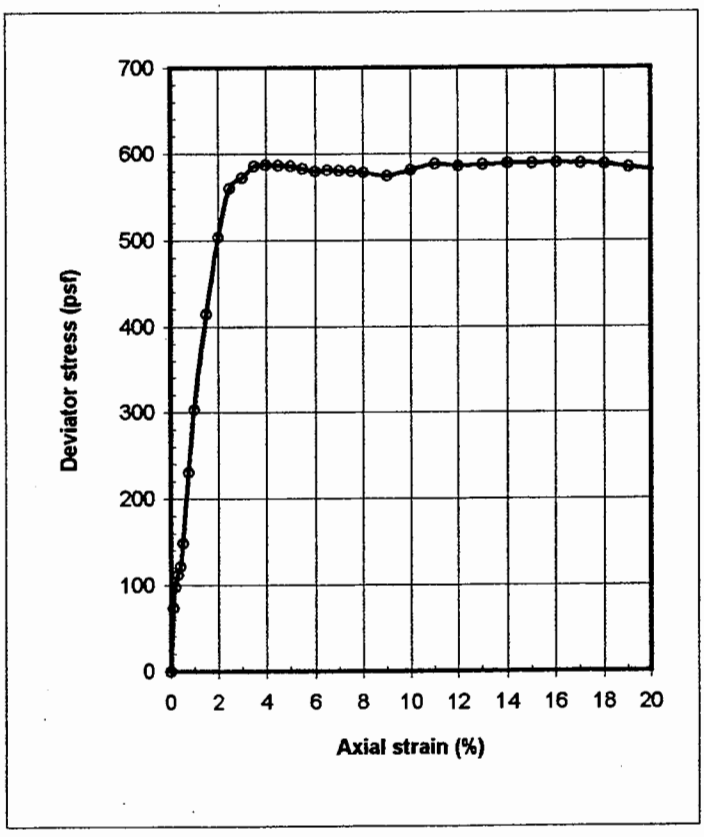
Client : LFR LEVINE FRICKE 8019.00-005
Project : Korve/North Mare Island
Job # : 51-0016148A.00
Boring # B-3
Sample # : 16.5-17.0 ft.
Depth (ft) : 16.5-17.0
Date tested : 06/13/01
Soil : Gray clay (Bay Mud)
:

Data Reduction:

Dial factor = 1.0 in/unit
Load factor = 1.1 lb/unit

Specimen: Total wt. =	986.6	gms	
Ht. =	5.984	in	
Ave dia. =	2.860	in	
Area =	6.424	sq.in	
Volume =	630.0	c.c.	
Shearing rate =	0.05	inch/min	
Shearing rate =	0.84	%/min	
Gs (assumed) =	2.70		

Test Report:		
Void ratio	1.851	
Ht/Dia ratio	2.09	
Moisture	65.3	%
Total density	97.7	pcf
Dry density	59.1	pcf
Saturation	95.3	%
Chamber pressure	924	psf
Max. deviator stress	590	psf
Strain @ failure	16.04	%



Dial Read.	Load Read.	Axial Strain (%)	Deviator Stress (psf)
0.000	0.0	0.00	0.0
0.006	3.0	0.10	73.4
0.012	4.0	0.20	97.7
0.018	4.6	0.30	112.3
0.024	5.0	0.40	121.9
0.030	6.1	0.50	148.6
0.045	9.5	0.75	230.8
0.060	12.5	1.00	302.9
0.090	17.2	1.50	414.7
0.120	21.0	2.01	503.7
0.150	23.5	2.51	560.8
0.180	24.1	3.01	572.2
0.210	24.8	3.51	585.7
0.240	25.0	4.01	587.4
0.270	25.1	4.51	586.7
0.300	25.2	5.01	585.9
0.330	25.2	5.51	582.8
0.360	25.2	6.02	579.7
0.390	25.4	6.52	581.2
0.420	25.5	7.02	580.4
0.450	25.6	7.52	579.5
0.480	25.7	8.02	578.6
0.540	25.8	9.02	574.5
0.600	26.4	10.03	581.4
0.660	27.0	11.03	588.0
0.720	27.2	12.03	585.7
0.780	27.6	13.03	587.5
0.840	28.0	14.04	589.2
0.900	28.3	15.04	588.5
0.960	28.7	16.04	589.8
1.020	29.0	17.05	588.8
1.080	29.3	18.05	587.7
1.140	29.5	19.05	584.5
1.200	29.7	20.05	581.2

URS

UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST
ASTM D2850

Client : LFR LEVINE FRICKE 8019.00-005
Project : Korve/North Mare Island
Job # : 51-0016148A.00
Boring # B-3
Sample # : 30.5-31.0 ft.
Depth (ft) : 30.5-31.0
Date tested : 06/14/01
Soil : Gray silty clay with shells

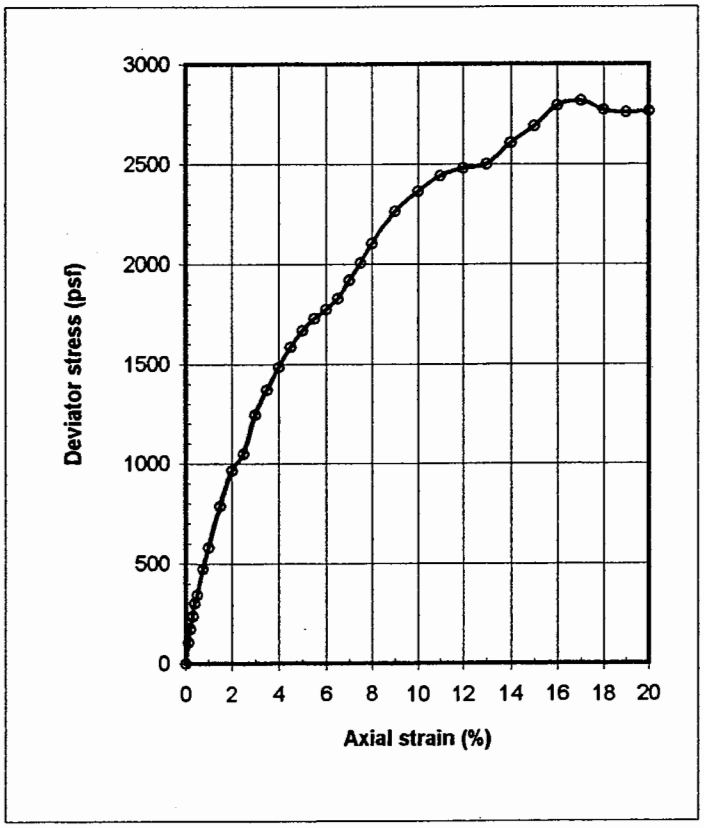
Data Reduction:

Dial factor = 1.0 in/unit
Load factor = 1.1 lb/unit

Specimen: Total wt. = 370.5 gms
Ht. = 4.000 in
Ave dia. = 1.940 in
Area = 2.956 sq.in
Volume = 193.8 c.c.
Shearing rate = 0.05 inch/min
Shearing rate = 1.25 %/min
Gs (assumed) = 2.70

Test Report:

Void ratio	0.823	
Ht/Dia ratio	2.06	
Moisture	29.0	%
Total density	119.3	pcf
Dry density	92.5	pcf
Saturation	95.3	%
Chamber pressure	1483	psf
Max. deviator stress	2817	psf
Strain @ failure	17.00	%



Dial Read.	Load Read.	Axial Strain (%)	Deviator Stress (psf)
0.000	0.0	0.00	0.0
0.004	2.0	0.10	106.3
0.008	3.3	0.20	175.2
0.012	4.5	0.30	238.7
0.016	5.7	0.40	302.0
0.020	6.5	0.50	344.1
0.030	9.0	0.75	475.2
0.040	11.0	1.00	579.3
0.060	15.0	1.50	786.0
0.080	18.5	2.00	964.5
0.100	20.2	2.50	1047.7
0.120	24.1	3.00	1243.6
0.140	26.7	3.50	1370.7
0.160	29.0	4.00	1481.0
0.180	31.2	4.50	1585.1
0.200	33.0	5.00	1667.7
0.220	34.4	5.50	1729.3
0.240	35.5	6.00	1775.2
0.260	36.8	6.50	1830.4
0.280	38.8	7.00	1919.6
0.300	40.8	7.50	2007.7
0.320	43.0	8.00	2104.5
0.360	46.8	9.00	2265.6
0.400	49.4	10.00	2365.2
0.440	51.6	11.00	2443.0
0.480	53.0	12.00	2481.1
0.520	54.0	13.00	2499.2
0.560	57.0	14.00	2607.7
0.600	59.5	15.00	2690.5
0.640	62.5	16.00	2792.9
0.680	63.8	17.00	2817.0
0.720	63.5	18.00	2770.0
0.760	64.0	19.00	2757.8
0.800	65.0	20.00	2766.3

URS

UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST
ASTM D2850

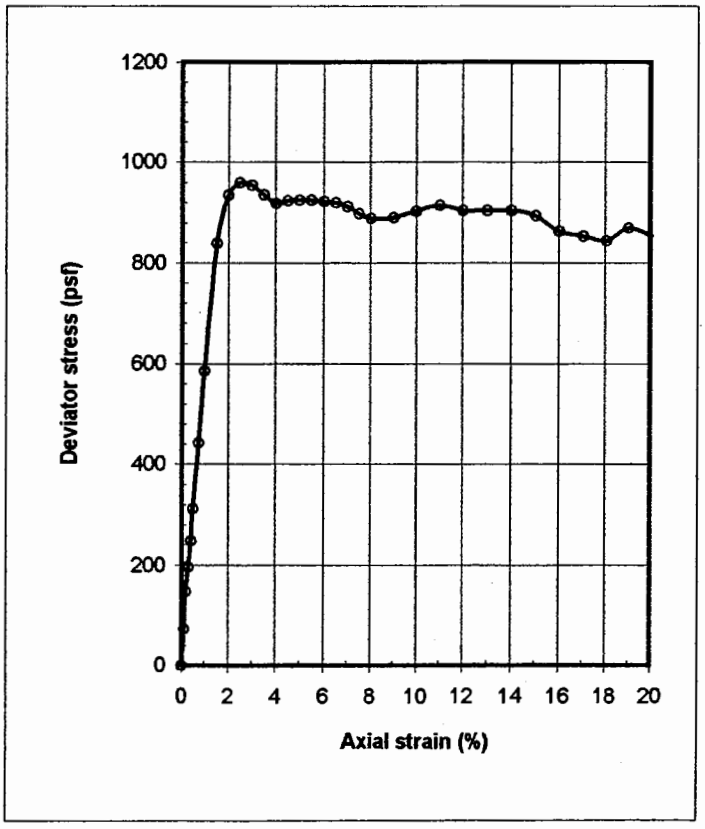
Client : LFR LEVINE FRICKE 8019.00-005
Project : Korve/North Mare Island
Job # : 51-0016148A.00
Boring # B-4
Sample # : 26.0-26.5 ft.
Depth (ft) : 26.0-26.5
Date tested : 06/13/01
Soil : Gray clay (Bay Mud)
:

Data Reduction:

Dial factor = 1.0 in/unit
Load factor = 1.1 lb/unit

Specimen: Total wt. =	950.7	gms	
Ht. =	5.984	in	
Ave dia. =	2.860	in	
Area =	6.424	sq.in	
Volume =	630.0	c.c.	
Shearing rate =	0.05	inch/min	
Shearing rate =	0.84	%/min	
Gs (assumed) =	2.70		

Test Report:		
Void ratio	2.228	
Ht/Dia ratio	2.09	
Moisture	80.3	%
Total density	94.2	pcf
Dry density	52.2	pcf
Saturation	97.4	%
Chamber pressure	1058	psf
Max. deviator stress	959	psf
Strain @ failure	2.51	%



Dial Read.	Load Read.	Axial Strain (%)	Deviator Stress (psf)
0.000	0.0	0.00	0.0
0.006	3.0	0.10	73.4
0.012	6.0	0.20	146.6
0.018	8.0	0.30	195.2
0.024	10.2	0.40	248.7
0.030	12.8	0.50	311.7
0.045	18.2	0.75	442.1
0.060	24.2	1.00	586.4
0.090	34.8	1.50	839.0
0.120	39.0	2.01	935.5
0.150	40.2	2.51	959.3
0.180	40.2	3.01	954.4
0.210	39.6	3.51	935.3
0.240	39.1	4.01	918.7
0.270	39.5	4.51	923.2
0.300	39.8	5.01	925.4
0.330	40.0	5.51	925.1
0.360	40.1	6.02	922.5
0.390	40.2	6.52	919.9
0.420	40.1	7.02	912.6
0.450	39.7	7.52	898.7
0.480	39.5	8.02	889.3
0.540	40.0	9.02	890.7
0.600	41.0	10.03	902.9
0.660	42.0	11.03	914.7
0.720	42.0	12.03	904.3
0.780	42.5	13.03	904.7
0.840	43.0	14.04	904.8
0.900	43.0	15.04	894.2
0.960	42.0	16.04	863.1
1.020	42.0	17.05	852.8
1.080	42.1	18.05	844.5
1.140	43.9	19.05	869.8
1.200	43.7	20.05	855.2

URS

UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST
ASTM D2850

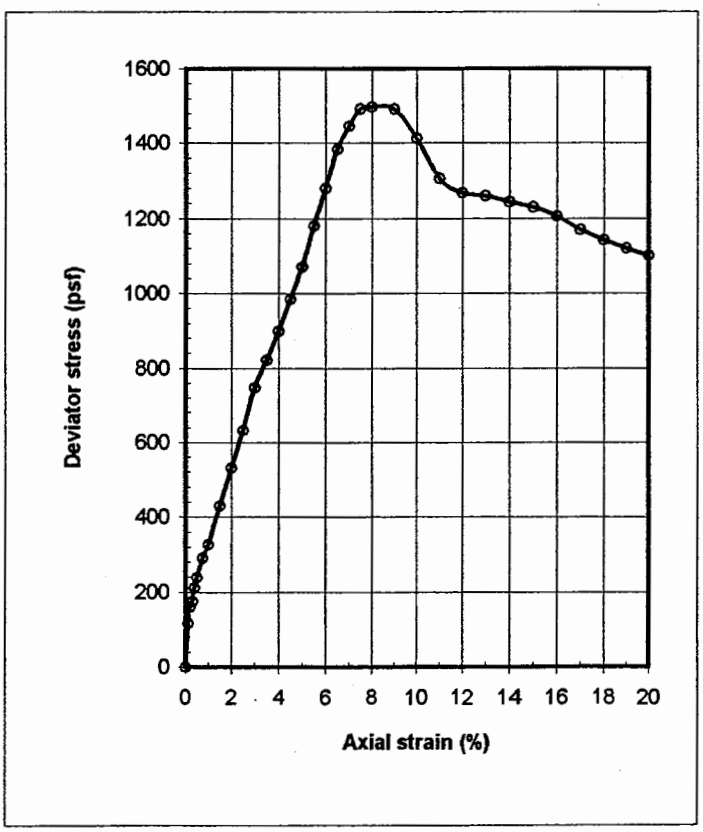
Client : LFR LEVINE FRICKE 8019.00-005
Project : Korve/North Mare Island
Job # : 51-0016148A.00
Boring # B-4
Sample # : 75.5-76.0 ft.
Depth (ft) : 75.5-76.0
Date tested : 06/14/01
Soil : Gray clayey silty sand

Data Reduction:

Dial factor = 1.0 in/unit
Load factor = 1.1 lb/unit

Specimen: Total wt. =	344.5	gms	
Ht. =	4.000	in	
Ave dia. =	1.940	in	
Area =	2.956	sq.in	
Volume =	193.8	c.c.	
Shearing rate =	0.05	inch/min	
Shearing rate =	1.25	%/min	
Gs (assumed) =	2.65		

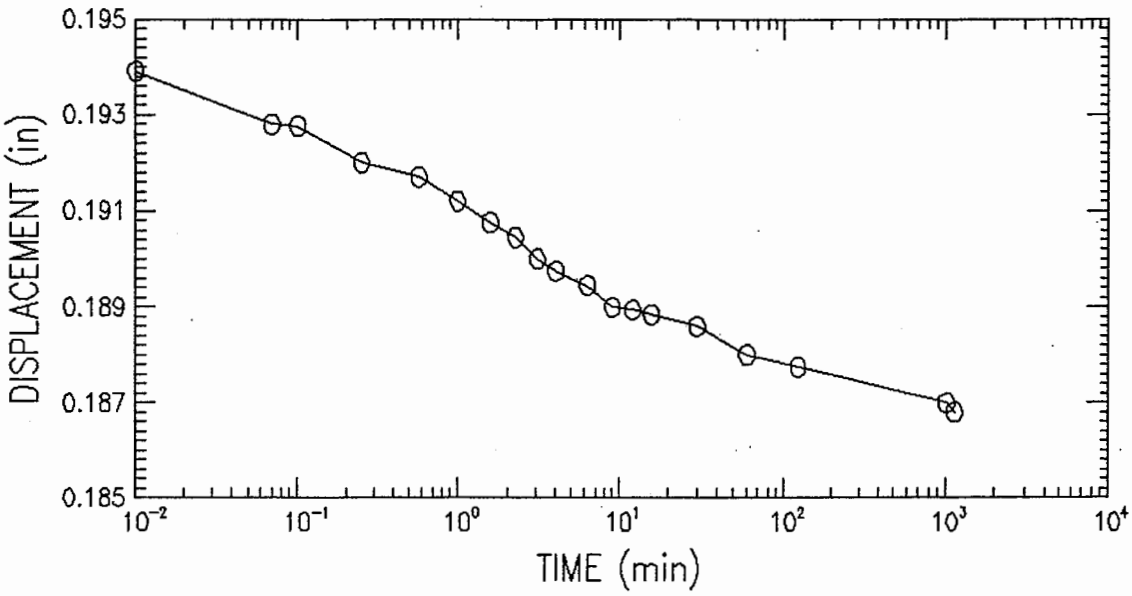
Test Report:		
Void ratio	0.948	
Ht/Dia ratio	2.06	
Moisture	30.6	%
Total density	110.9	pcf
Dry density	84.9	pcf
Saturation	85.7	%
Chamber pressure	3347	psf
Max. deviator stress	1498	psf
Strain @ failure	8.00	%

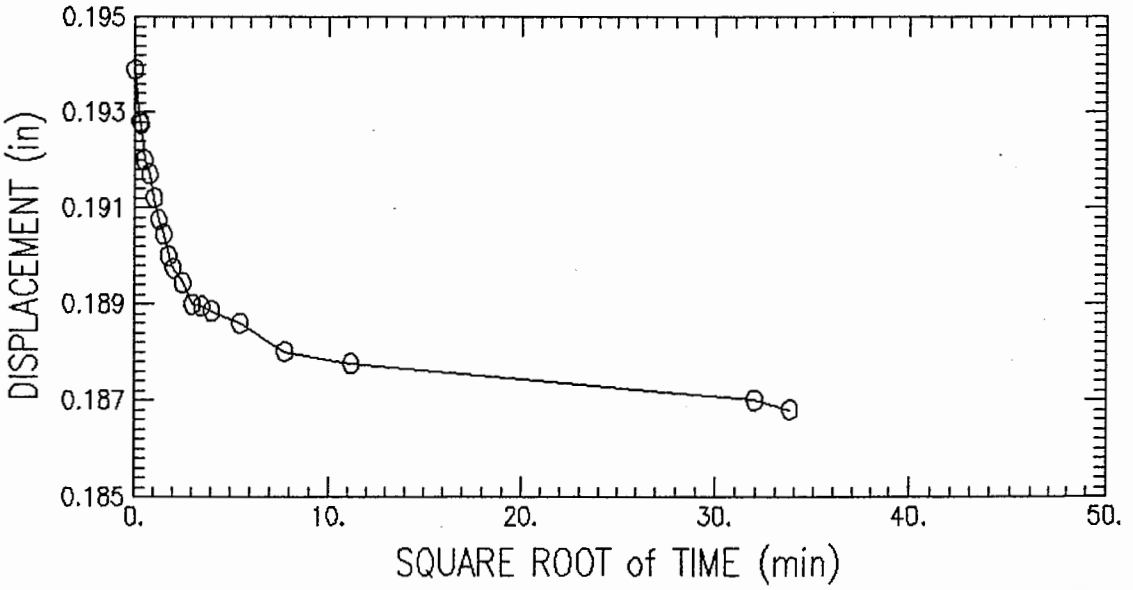


Dial Read.	Load Read.	Axial Strain (%)	Deviator Stress (psf)
0.000	0.0	0.00	0.0
0.004	2.2	0.10	116.9
0.008	3.0	0.20	159.3
0.012	3.3	0.30	175.0
0.016	4.0	0.40	211.9
0.020	4.5	0.50	238.2
0.030	5.5	0.75	290.4
0.040	6.2	1.00	326.5
0.060	8.2	1.50	429.7
0.080	10.2	2.00	531.8
0.100	12.2	2.50	632.8
0.120	14.5	3.00	748.2
0.140	16.0	3.50	821.4
0.160	17.6	4.00	898.8
0.180	19.4	4.50	985.6
0.200	21.2	5.00	1071.4
0.220	23.5	5.50	1181.4
0.240	25.6	6.00	1280.1
0.260	27.8	6.50	1382.8
0.280	29.2	7.00	1444.6
0.300	30.3	7.50	1491.0
0.320	30.6	8.00	1497.6
0.360	30.8	9.00	1491.0
0.400	29.5	10.00	1412.4
0.440	27.6	11.00	1306.7
0.480	27.1	12.00	1268.7
0.520	27.2	13.00	1258.9
0.560	27.2	14.00	1244.4
0.600	27.2	15.00	1229.9
0.640	27.0	16.00	1206.5
0.680	26.5	17.00	1170.1
0.720	26.2	18.00	1142.9
0.760	26.0	19.00	1120.3
0.800	25.9	20.00	1102.3

URS

CONSOLIDATION TEST
TIME CURVES (STEP 3 OF 10)
STRESS : 0.25 (t/ft^2)

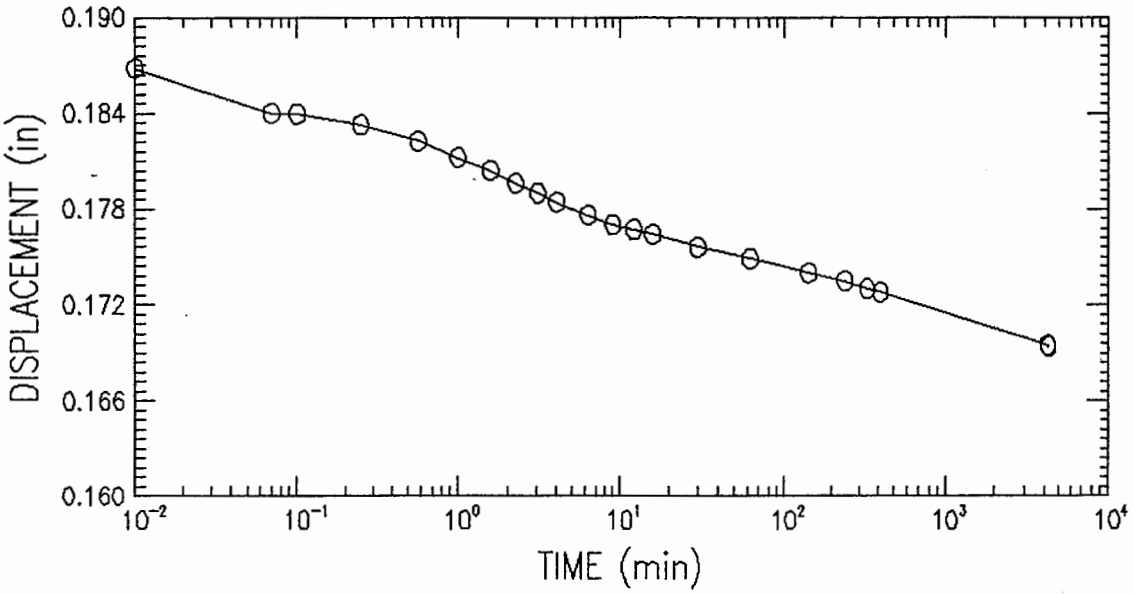


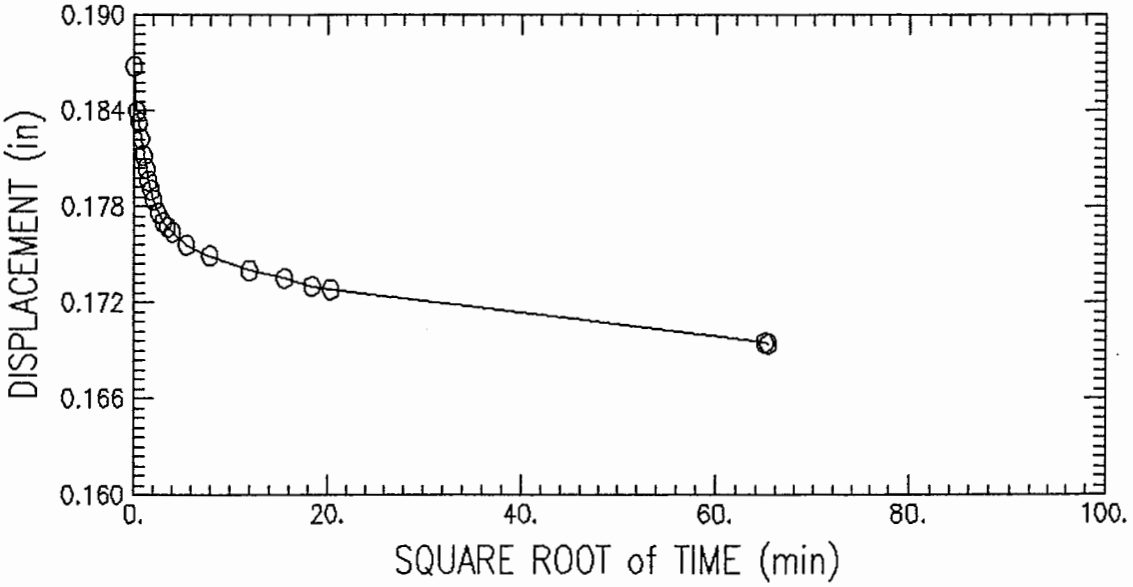


Woodward Clyde Consultants
Project Name : LFR LEVINE FRICKE
Project No : 510016148A Boring No : B-1 Sample No : BOTTOM
Test Date : 06/07/01 Test No : B1@27-27.5 Depth : 27-27.5 FT
Description : Gray silty Clay with traces of organics/shells

URS

CONSOLIDATION TEST
TIME CURVES (STEP 4 OF 10)
STRESS : 0.5 (t/ft^2)

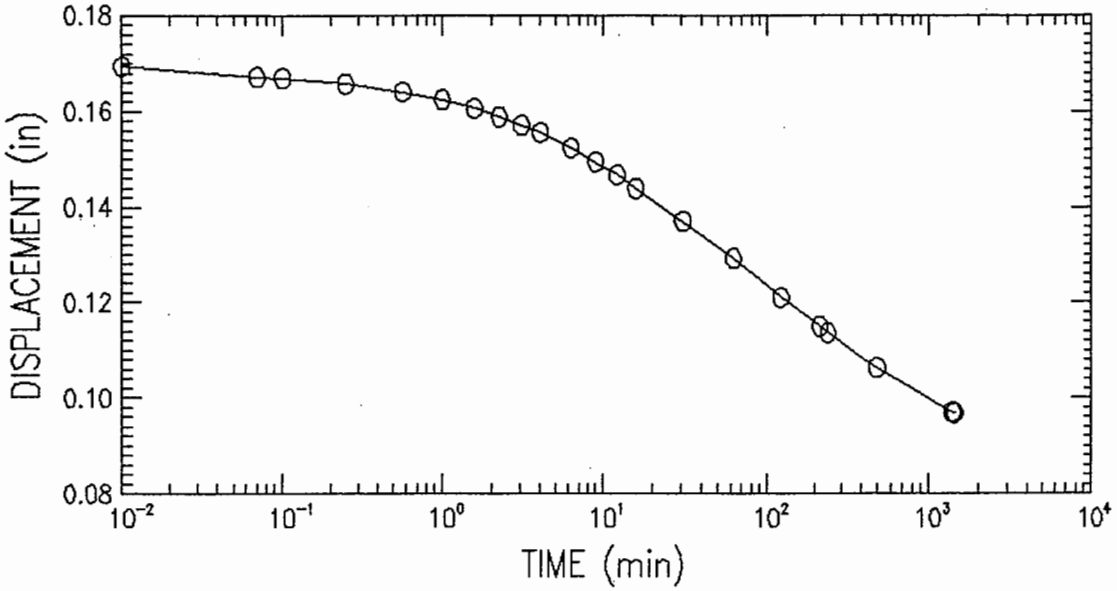


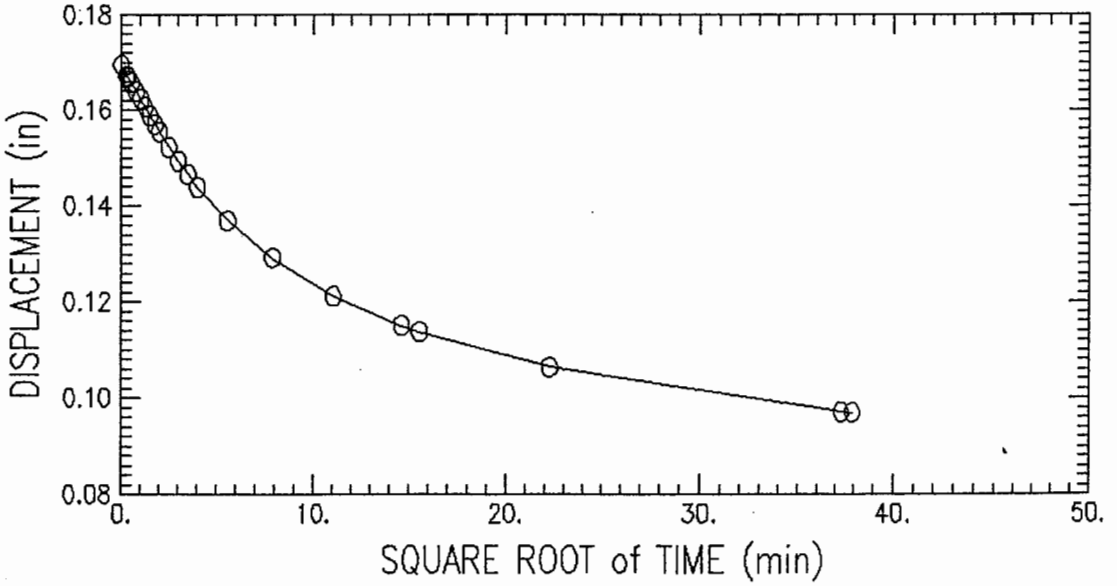


Woodward Clyde Consultants
Project Name : LFR LEVINE FRICKE
Project No : 510016148A Boring No : B-1 Sample No : BOTTOM
Test Date : 06/07/01 Test No : B1@27-27.5 Depth : 27-27.5 FT
Description : Gray silty Clay with traces of organics/shells

URS

CONSOLIDATION TEST
TIME CURVES (STEP 5 OF 10)
STRESS : 1 (t/ft^2)

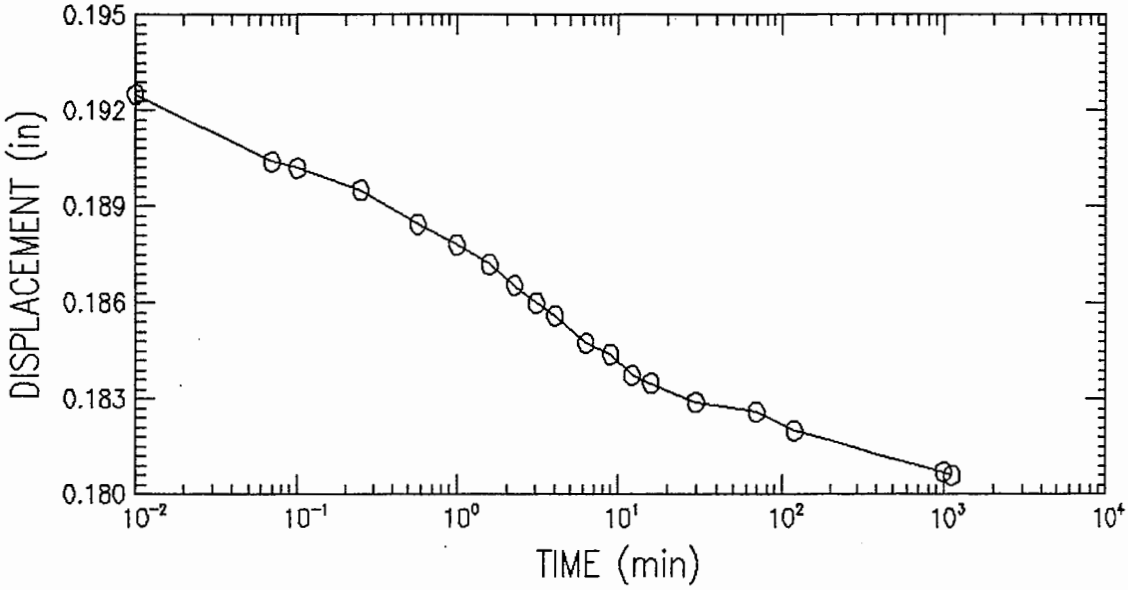


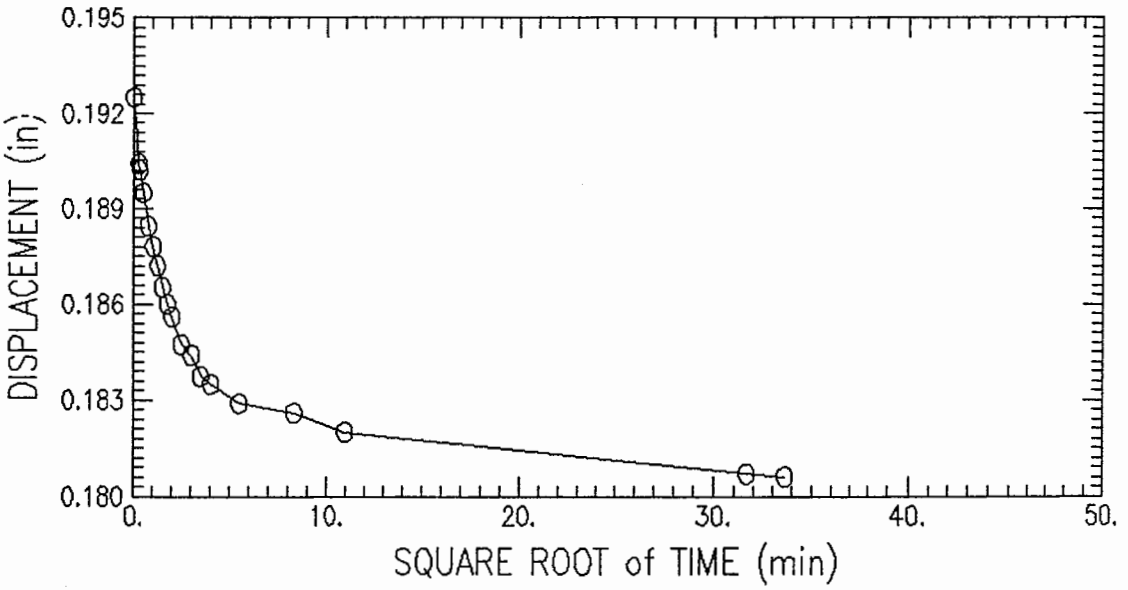


Woodward Clyde Consultants
Project Name : LFR LEVINE FRICKE
Project No : 510016148A Boring No : B-1 Sample No : BOTTOM
Test Date : 06/07/01 Test No : B1@27-27.5 Depth : 27-27.5 FT
Description : Gray silty Clay with traces of organics/shells

URS

CONSOLIDATION TEST
TIME CURVES (STEP 4 OF 10)
STRESS : 0.5 (t/ft^2)

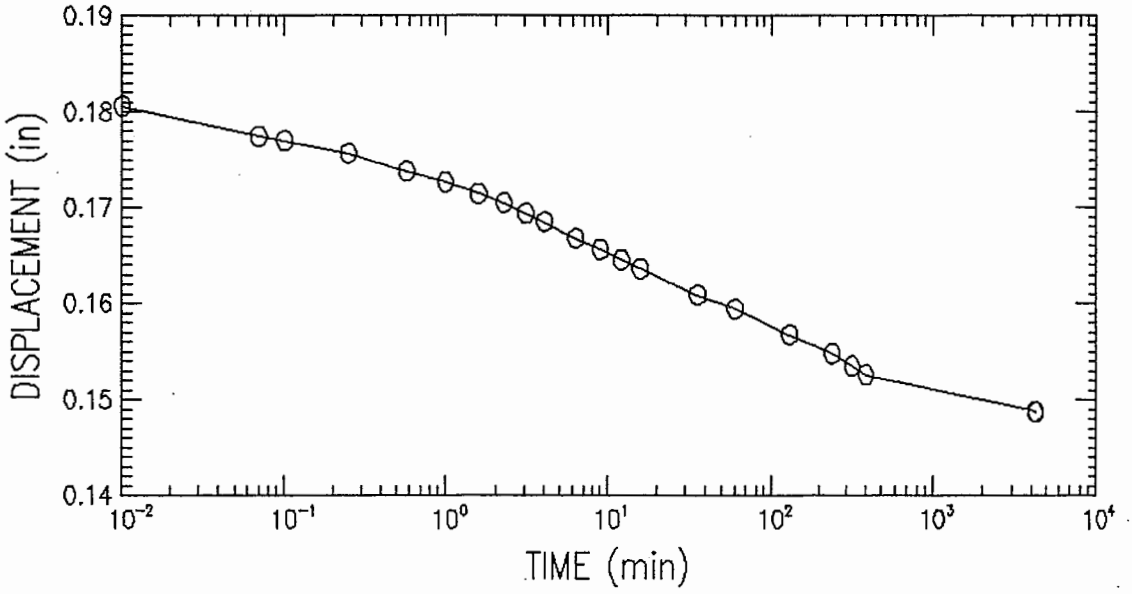


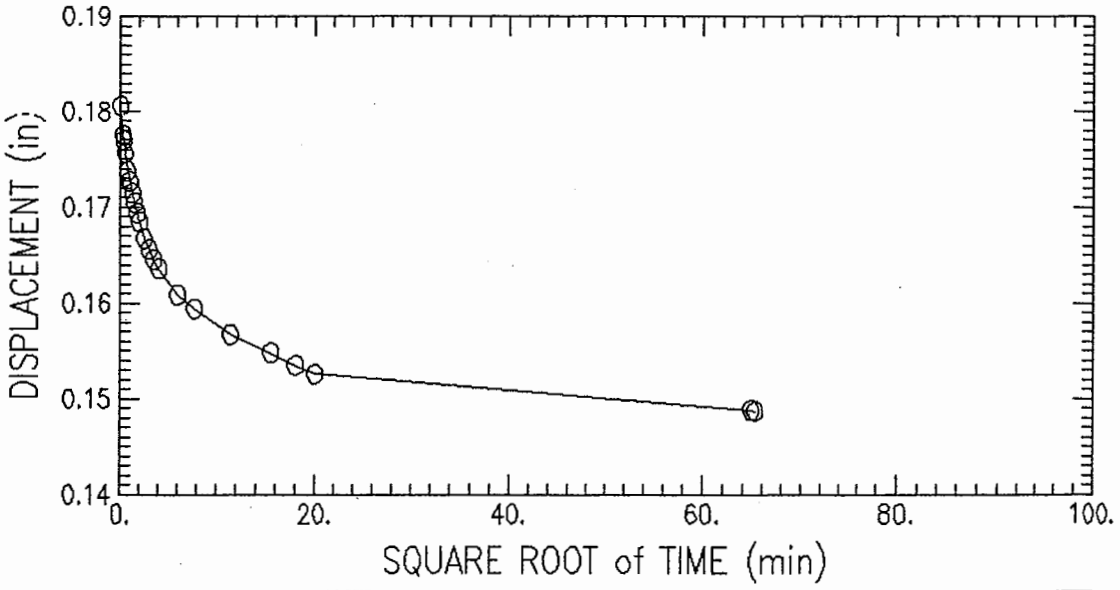


Woodward Clyde Consultants
Project Name : L. F. R. #8019.00-005
Project No : 510016148A Boring No : B-1 Sample No : BOTTOM
Test Date : 06/07/01 Test No : B1@42-42.5 Depth : 42-42.5 FT
Description : Gray silty Clay with traces of organics

URS

CONSOLIDATION TEST
TIME CURVES (STEP 5 OF 10)
STRESS : 1 (t/ft^2)

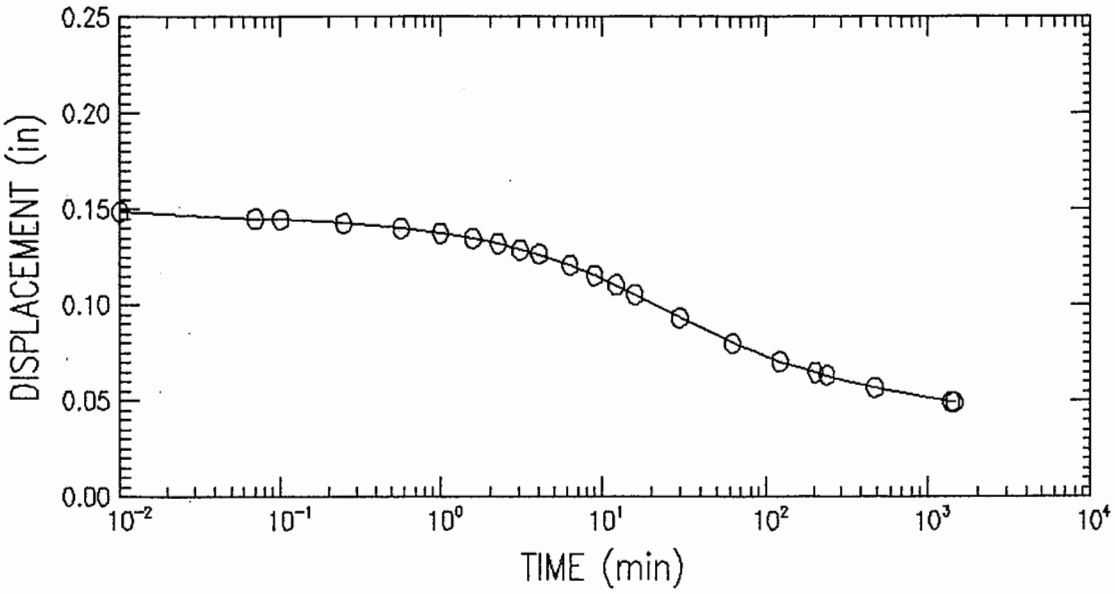


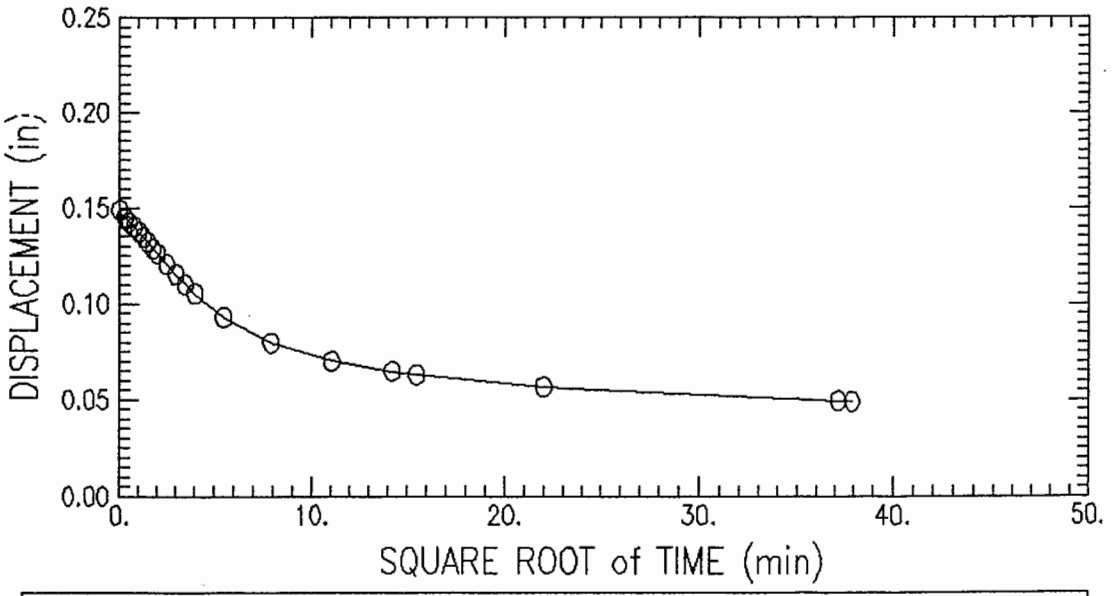


Woodward Clyde Consultants
Project Name : L. F. R. #8019.00-005
Project No : 510016148A Boring No : B-1 Sample No : BOTTOM
Test Date : 06/07/01 Test No : B1@42-42.5 Depth : 42-42.5 FT
Description : Gray silty Clay with traces of organics

URS

CONSOLIDATION TEST
TIME CURVES (STEP 6 OF 10)
STRESS : 2 (t/ft^2)

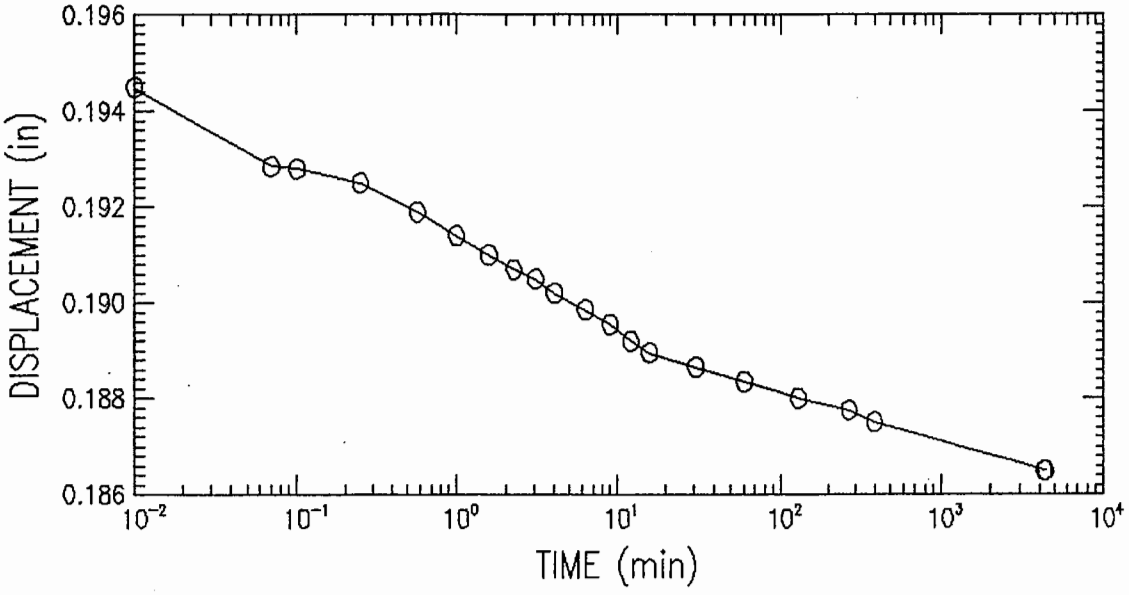


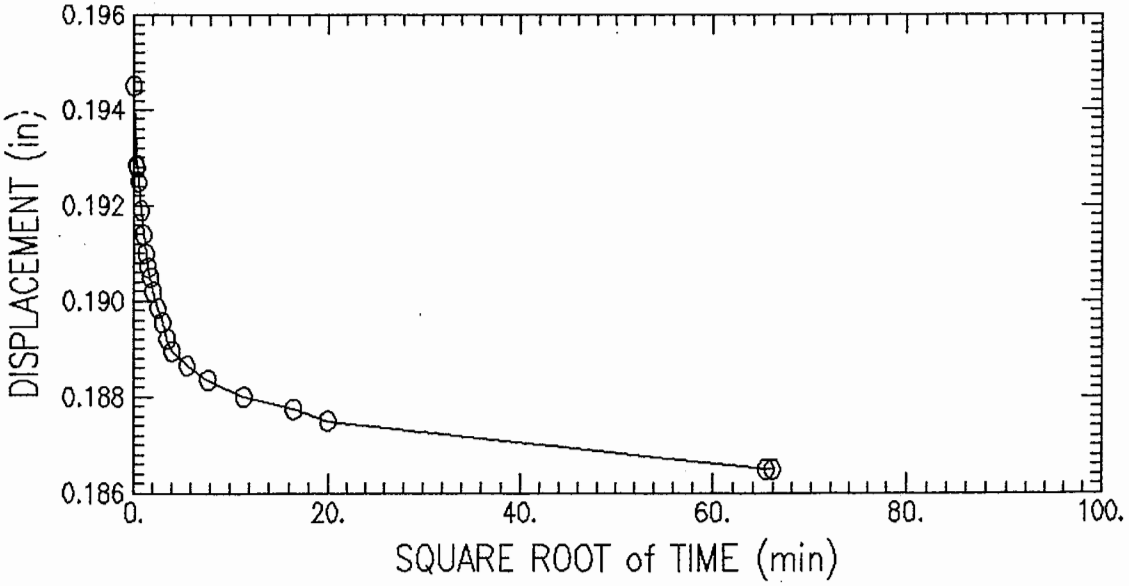


Woodward Clyde Consultants
Project Name : L. F. R. #8019.00-005
Project No : 510016148A Boring No : B-1 Sample No : BOTTOM
Test Date : 06/07/01 Test No : B1@42-42.5 Depth : 42-42.5 FT
Description : Gray silty Clay with traces of organics

URS

CONSOLIDATION TEST
TIME CURVES (STEP 3 OF 9)
STRESS : 0.25 (t/ft^2)

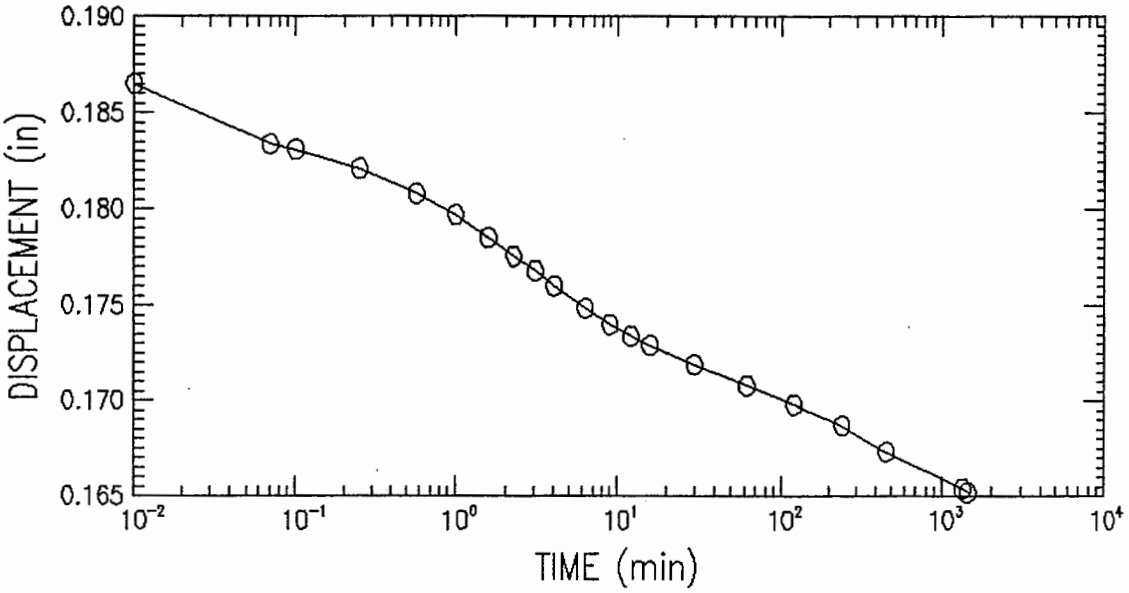


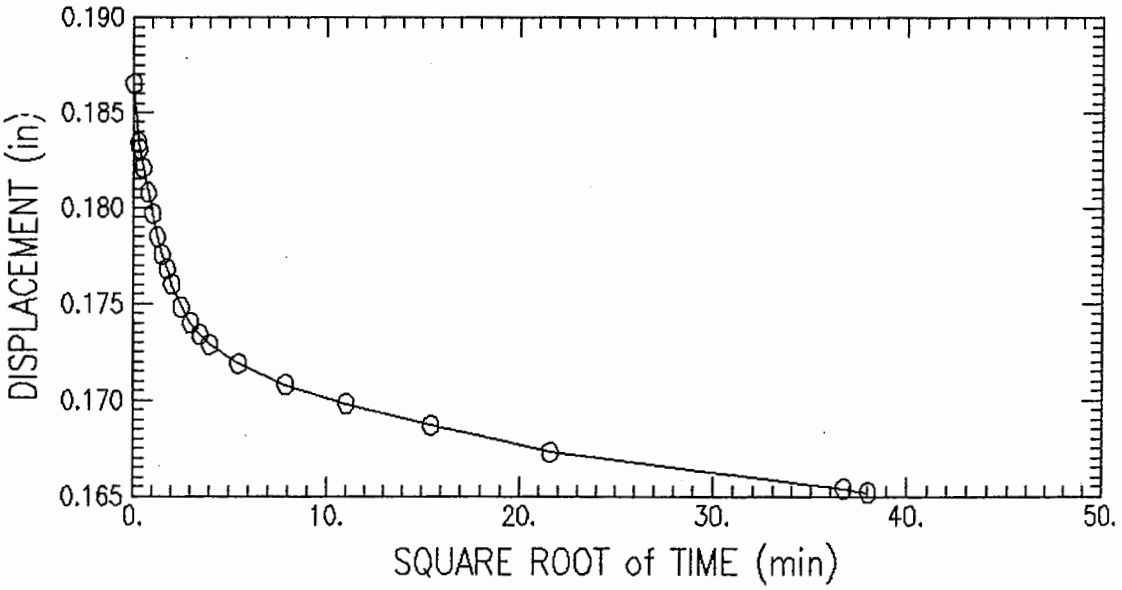


Woodward Clyde Consultants
Project Name : LFR LEVINE FRICKE
Project No : 510016148A Boring No : B-2 Sample No : MIDDLE
Test Date : 06/14/01 Test No : B2@14.4-15 Depth : 14.5-15 FT
Description : Lt. to Dark Gray silty Clay w/ traces of organics

URS

CONSOLIDATION TEST
TIME CURVES (STEP 4 OF 9)
STRESS : 0.5 (t/ft^2)

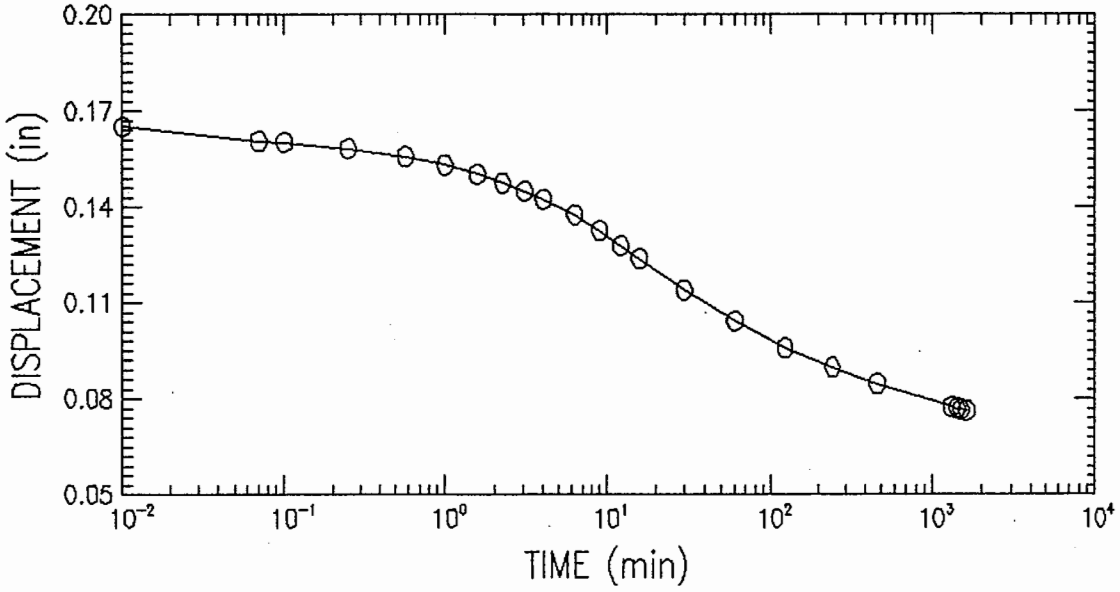


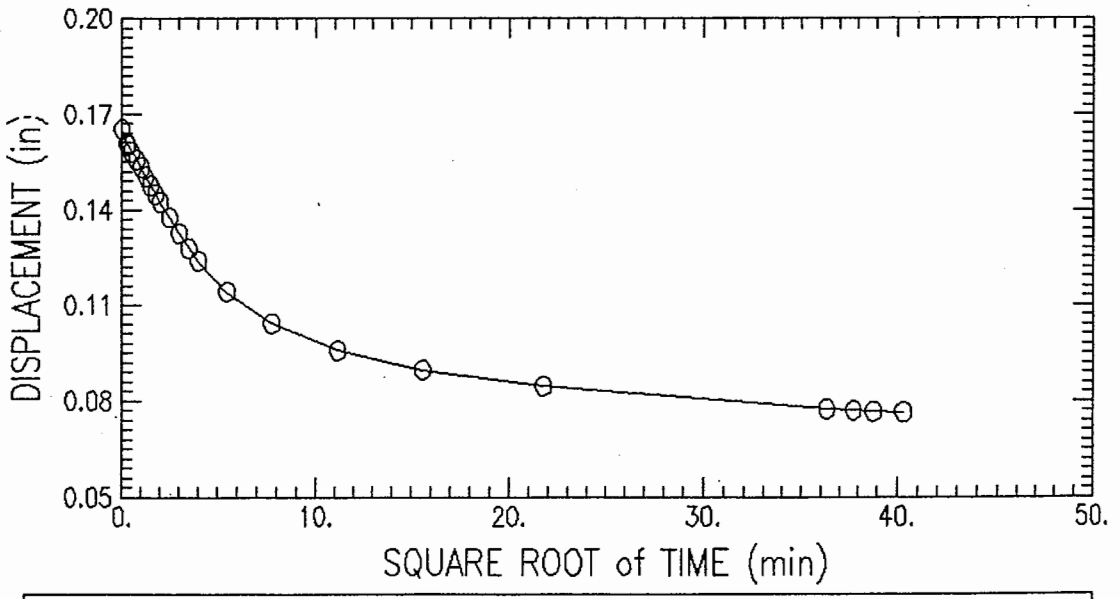


Woodward Clyde Consultants
Project Name : LFR LEVINE FRICKE
Project No : 510016148A Boring No : B-2 Sample No : MIDDLE
Test Date : 06/14/01 Test No : B2@14.4-15 Depth : 14.5-15 FT
Description : Lt. to Dark Gray silty Clay w/ traces of organics

URS

CONSOLIDATION TEST
TIME CURVES (STEP 5 OF 9)
STRESS : 1 (t/ft^2)

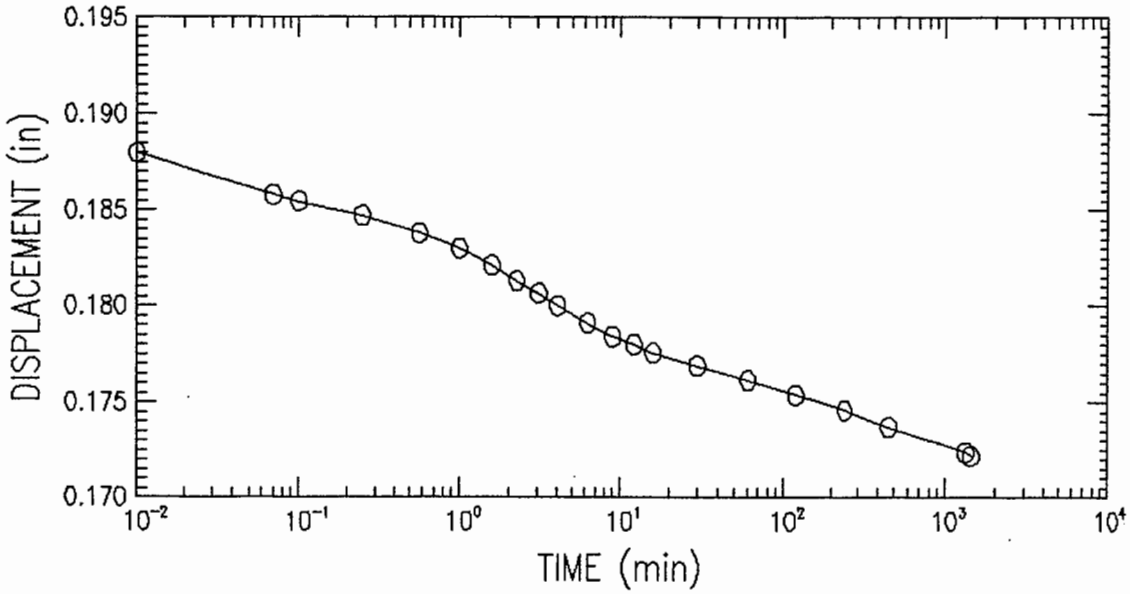


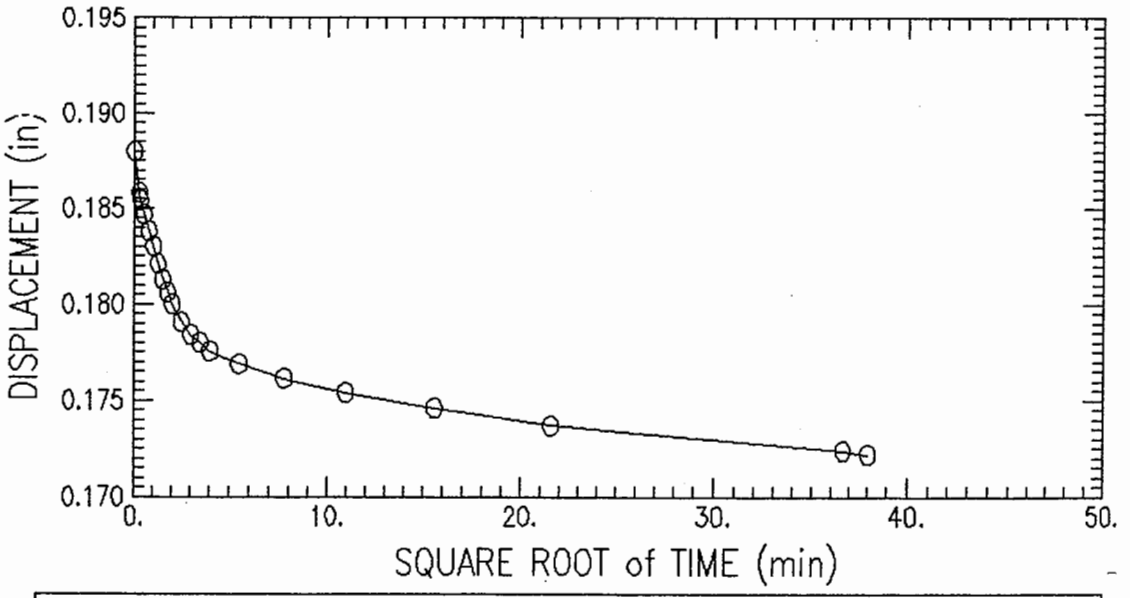


Woodward Clyde Consultants
Project Name : LFR LEVINE FRICKE
Project No : 510016148A Boring No : B-2 Sample No : MIDDLE
Test Date : 06/14/01 Test No : B2@14.4-15 Depth : 14.5-15 FT
Description : Lt. to Dark Gray silty Clay w/ traces of organics

URS

CONSOLIDATION TEST
TIME CURVES (STEP 4 OF 9)
STRESS : 0.5 (t/ft^2)

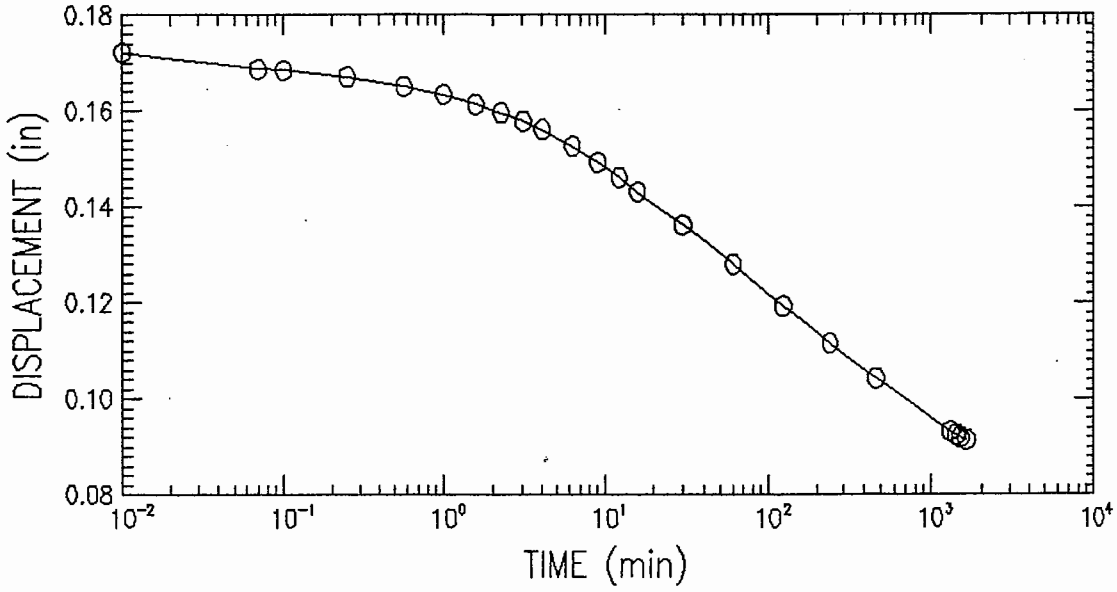


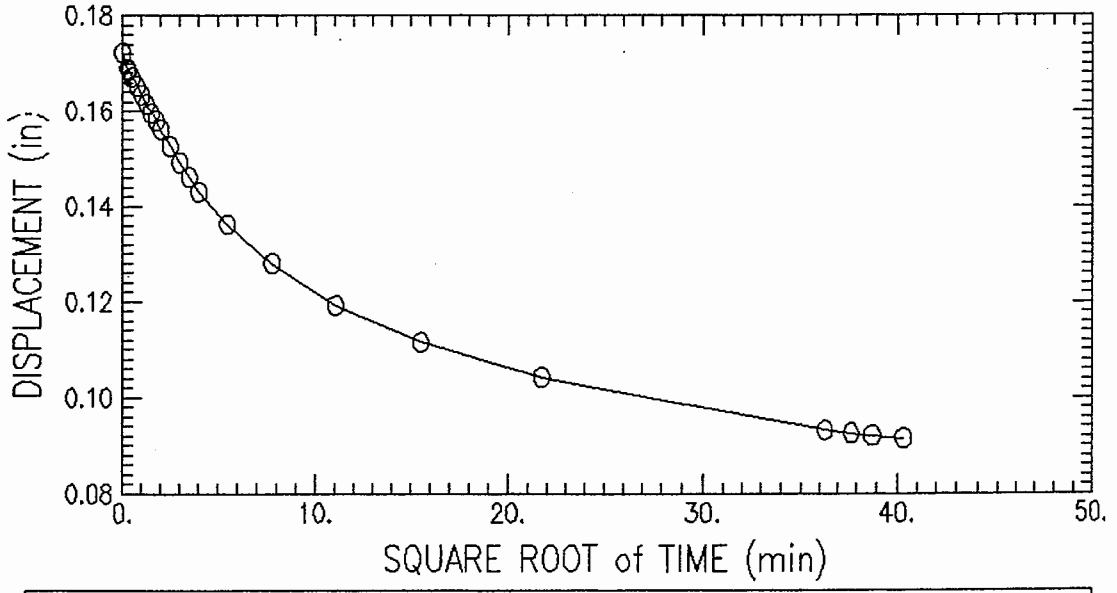


Woodward Clyde Consultants
Project Name : LFR LEVINE FRICKE
Project No : 510016148A Boring No : B-2 Sample No : BOTTOM
Test Date : 06/14/01 Test No : B2@22-22.5 Depth : 22-22.5 FT
Description : Gray slightly brown silty Clay

URS

CONSOLIDATION TEST
TIME CURVES (STEP 5 OF 9)
STRESS : 1 (t/ft^2)

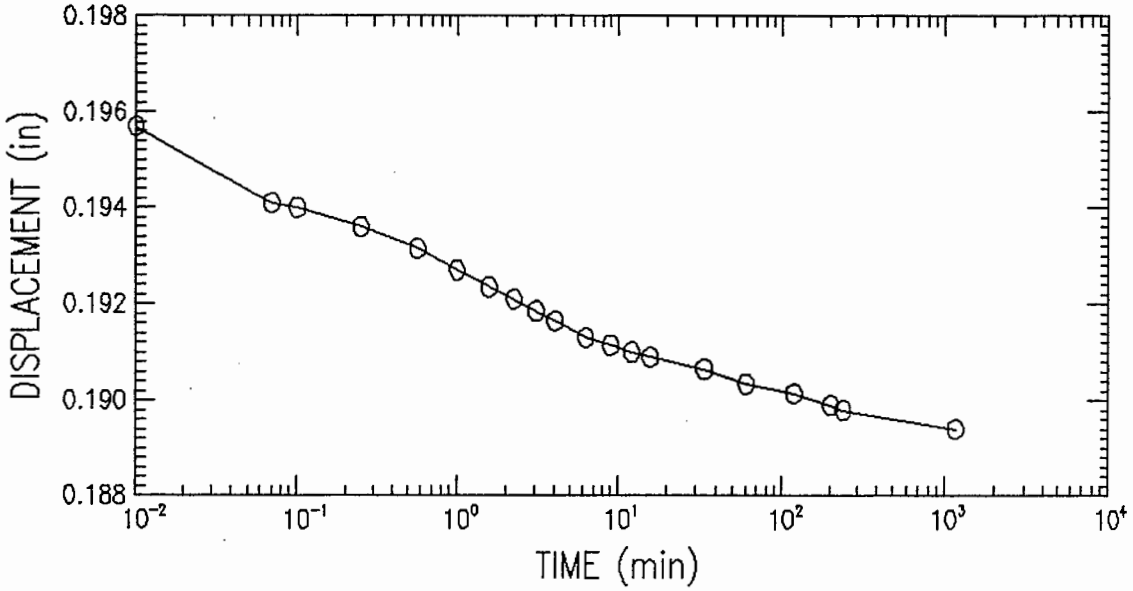


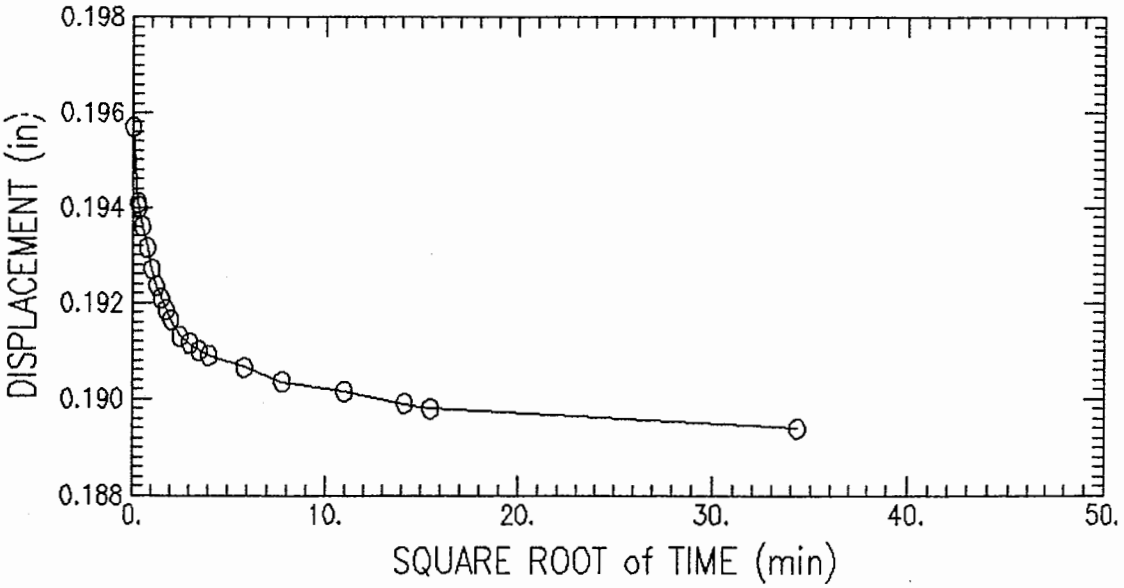


Woodward Clyde Consultants
Project Name : LFR LEVINE FRICKE
Project No : 510016148A Boring No : B-2 Sample No : BOTTOM
Test Date : 06/14/01 Test No : B2@22-22.5 Depth : 22-22.5 FT
Description : Gray slightly brown silty Clay

URS

CONSOLIDATION TEST
TIME CURVES (STEP 3 OF 9)
STRESS : 0.25 (t/ft^2)

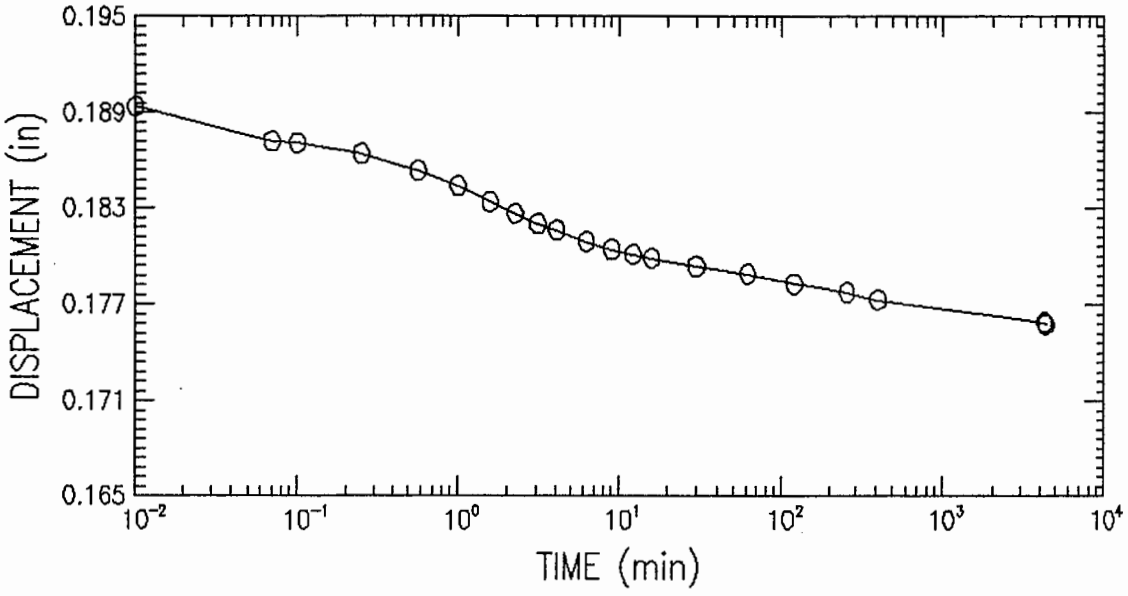


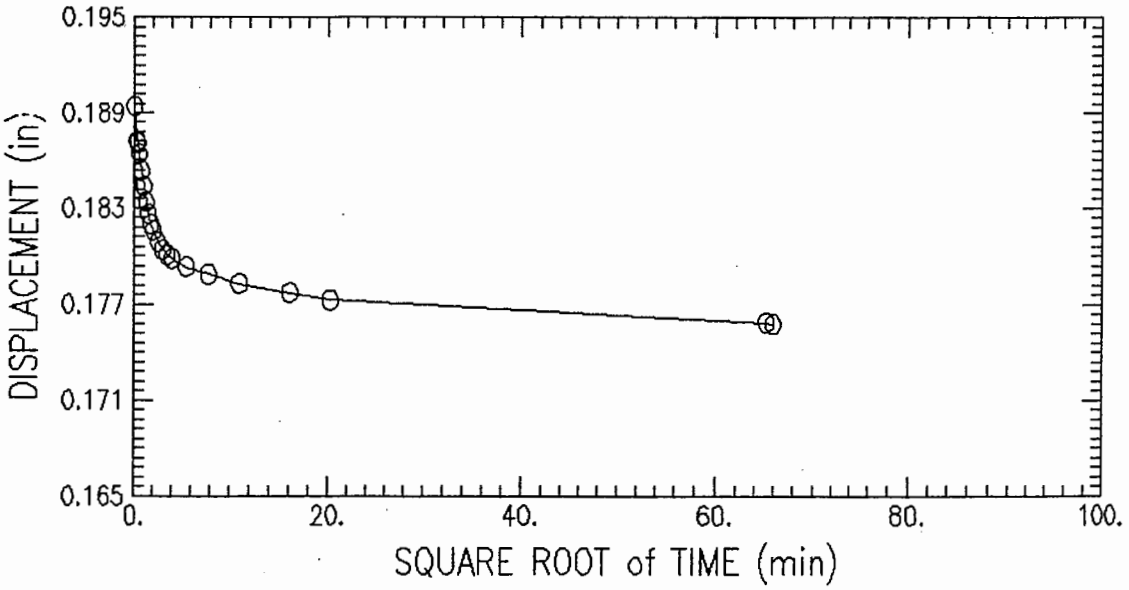


Woodward Clyde Consultants
Project Name : LFR LEVINE FRICKE
Project No : 510016148A Boring No : B-2 Sample No : BOTTOM
Test Date : 06/14/01 Test No : B2@32-32.5 Depth : 32-32.5 FT
Description : Gray silty Clay with traces of organics

URS

CONSOLIDATION TEST
TIME CURVES (STEP 4 OF 9)
STRESS : 0.5 (t/ft^2)

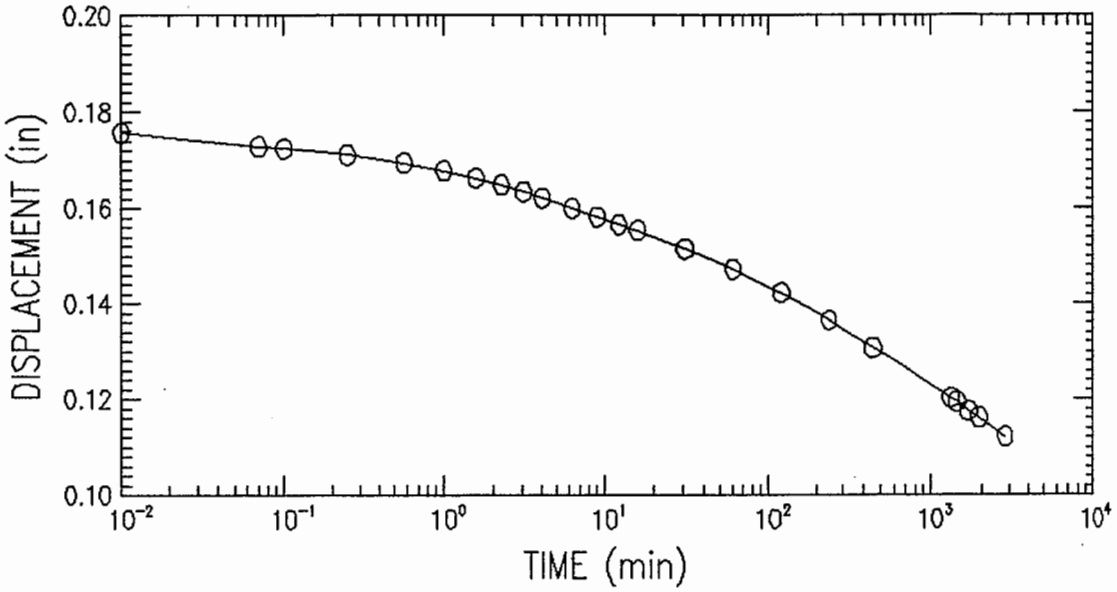


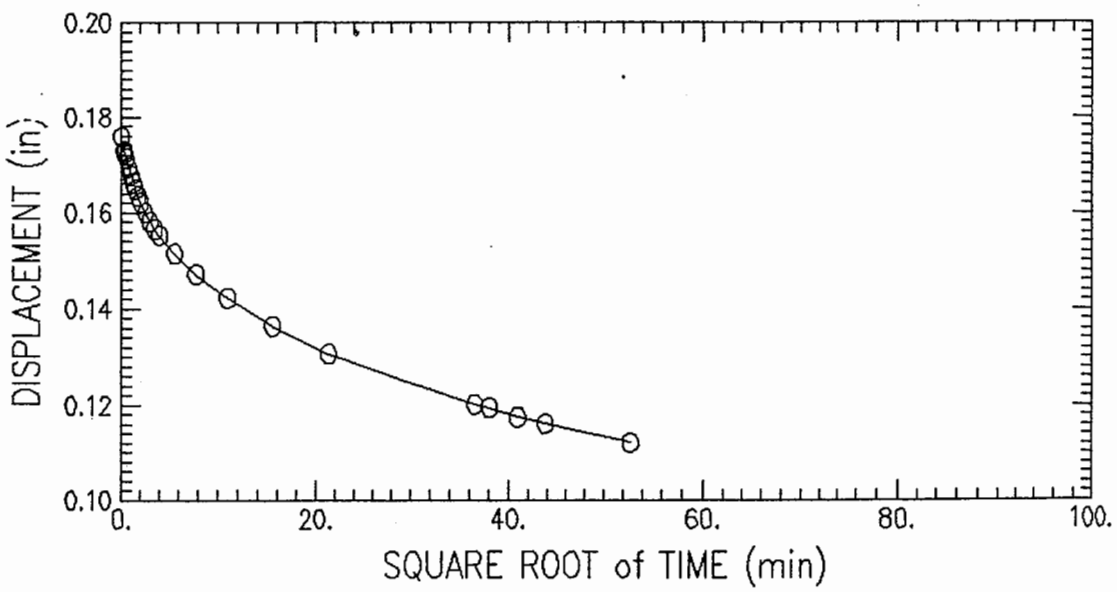


Woodward Clyde Consultants
Project Name : LFR LEVINE FRICKE
Project No : 510016148A Boring No : B-2 Sample No : BOTTOM
Test Date : 06/14/01 Test No : B2@32-32.5 Depth : 32-32.5 FT
Description : Gray silty Clay with traces of organics

URS

CONSOLIDATION TEST
TIME CURVES (STEP 5 OF 9)
STRESS : 1 (t/ft^2)

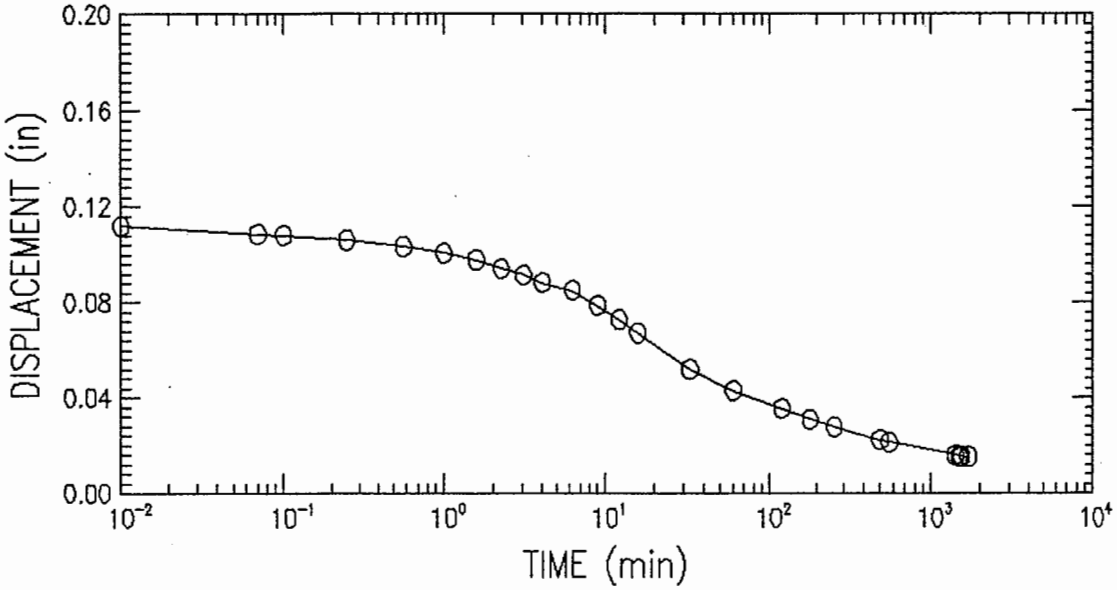


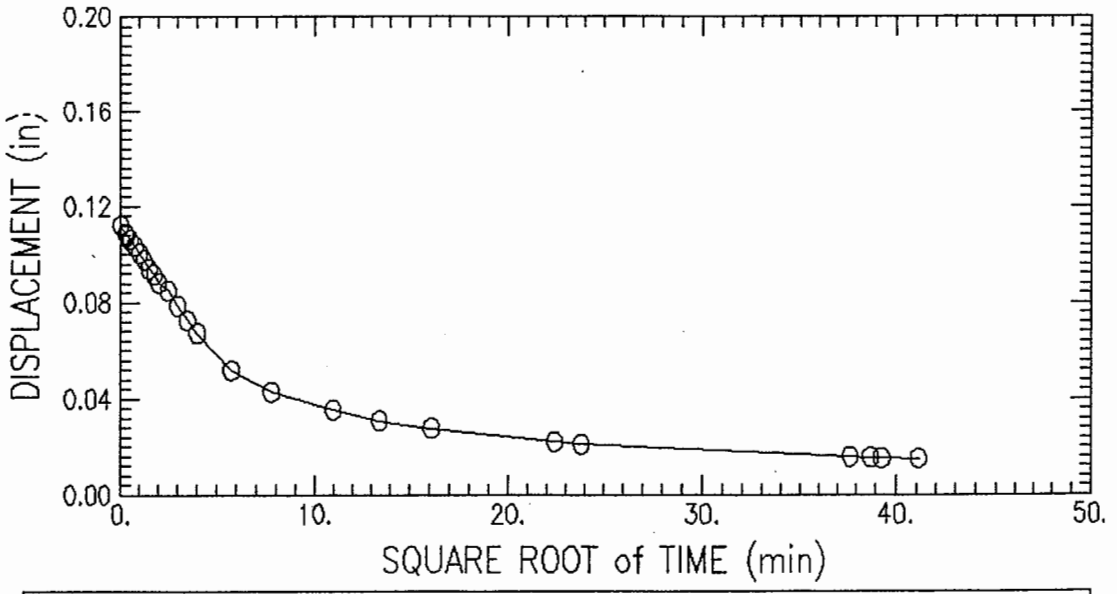


Woodward Clyde Consultants
Project Name : LFR LEVINE FRICKE
Project No : 510016148A Boring No : B-2 Sample No : BOTTOM
Test Date : 06/14/01 Test No : B2@32-32.5 Depth : 32-32.5 FT
Description : Gray silty Clay with traces of organics

URS

CONSOLIDATION TEST
TIME CURVES (STEP 6 OF 9)
STRESS : 2 (t/ft^2)

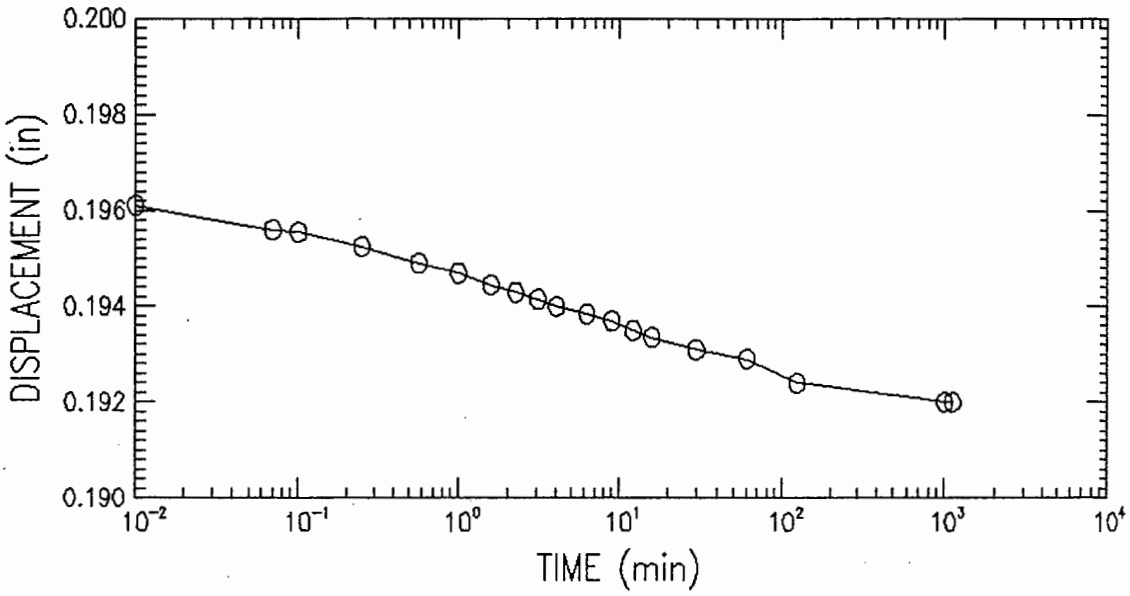


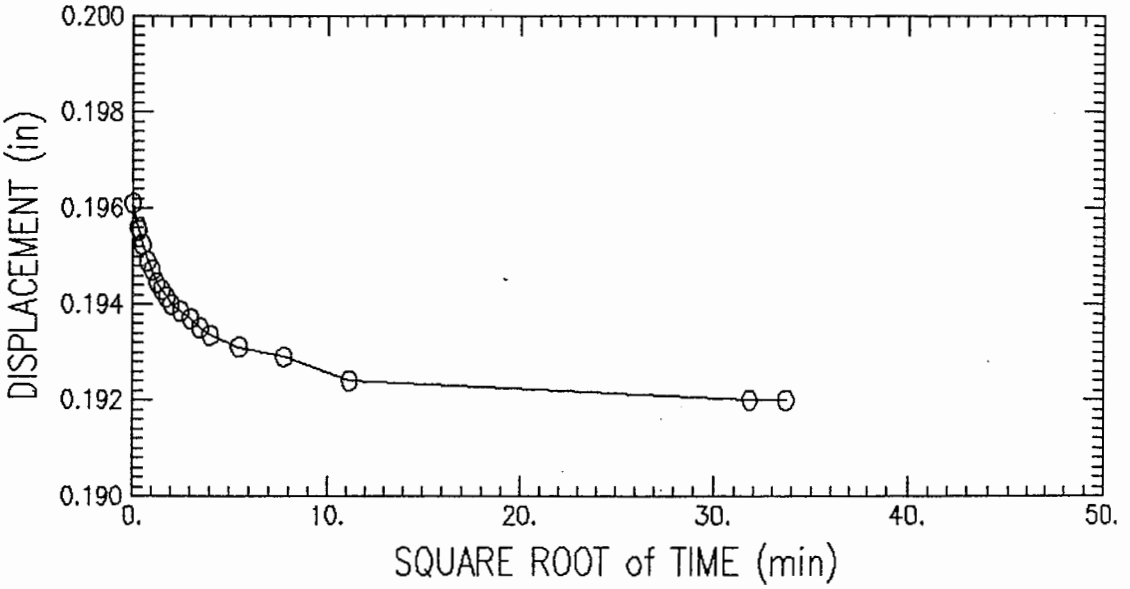


Woodward Clyde Consultants
Project Name : LFR LEVINE FRICKE
Project No : 510016148A Boring No : B-2 Sample No : BOTTOM
Test Date : 06/14/01 Test No : B2@32-32.5 Depth : 32-32.5 FT
Description : Gray silty Clay with traces of organics

URS

CONSOLIDATION TEST
TIME CURVES (STEP 3 OF 10)
STRESS : 0.25 (t/ft^2)

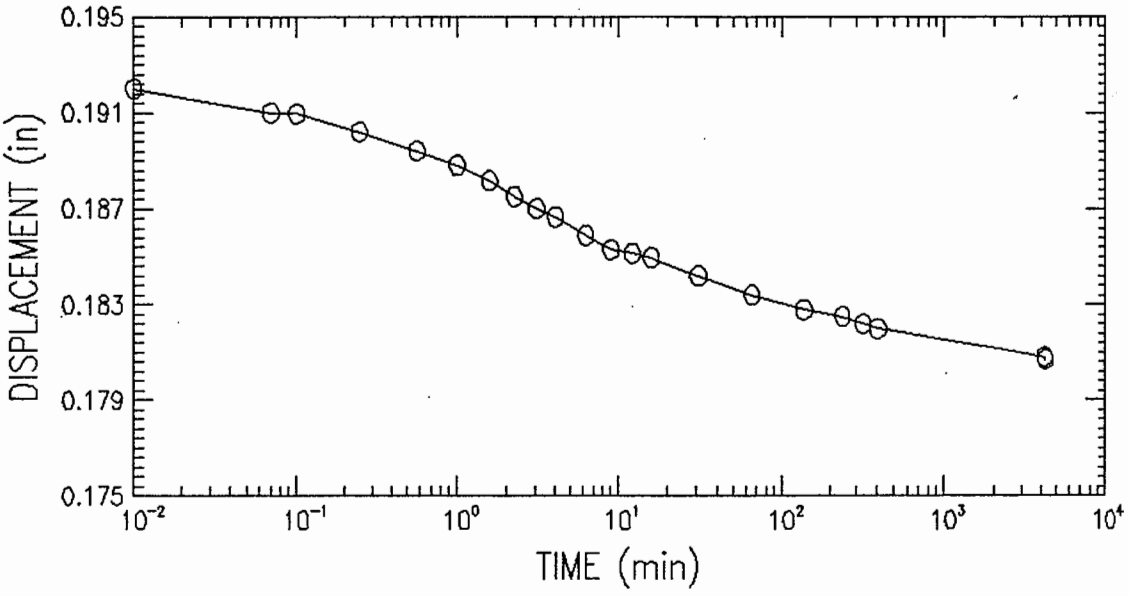


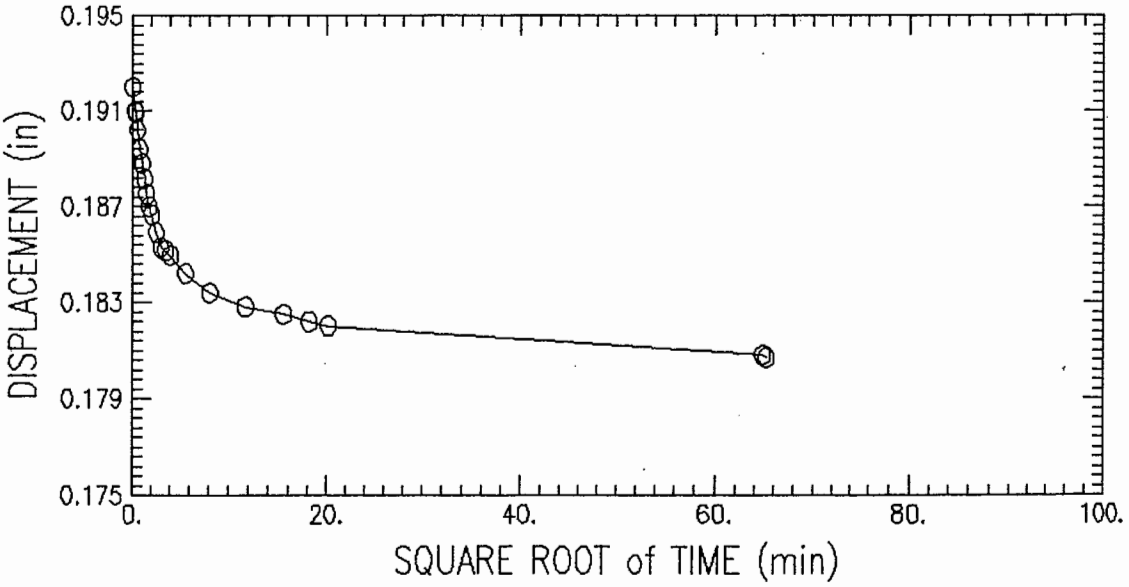


Woodward Clyde Consultants
Project Name : LFR LEVINE FRICKE
Project No : 510016148A Boring No : B-3 Sample No : MIDDLE
Test Date : 06/07/01 Test No : B3@11-11.5 Depth : 11-11.5
Description : Lt. gray brown silty Clay

URS

CONSOLIDATION TEST
TIME CURVES (STEP 4 OF 10)
STRESS : 0.5 (t/ft^2)

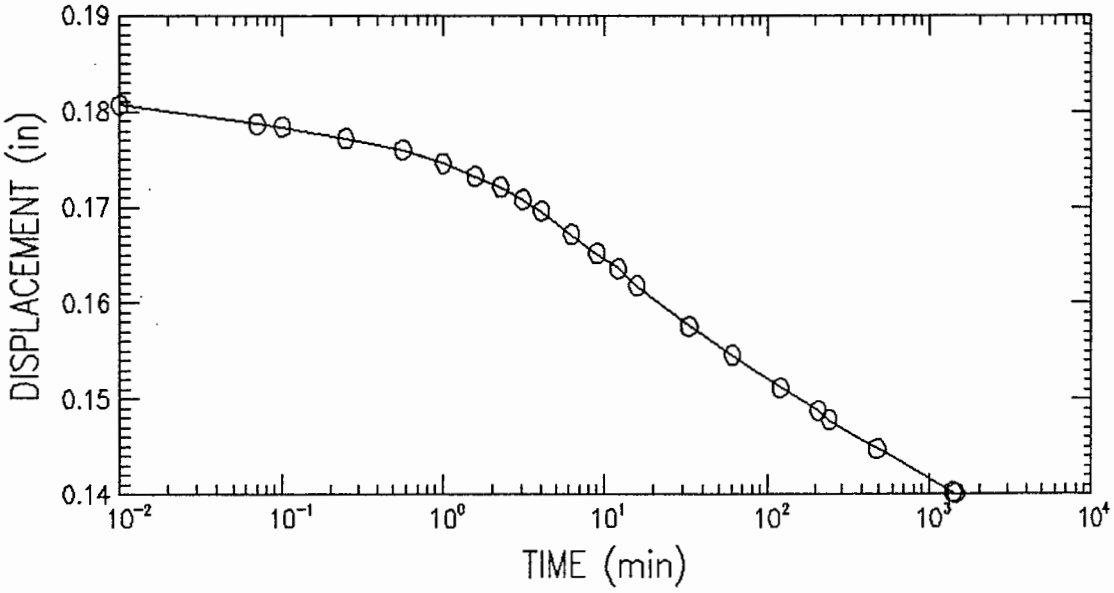


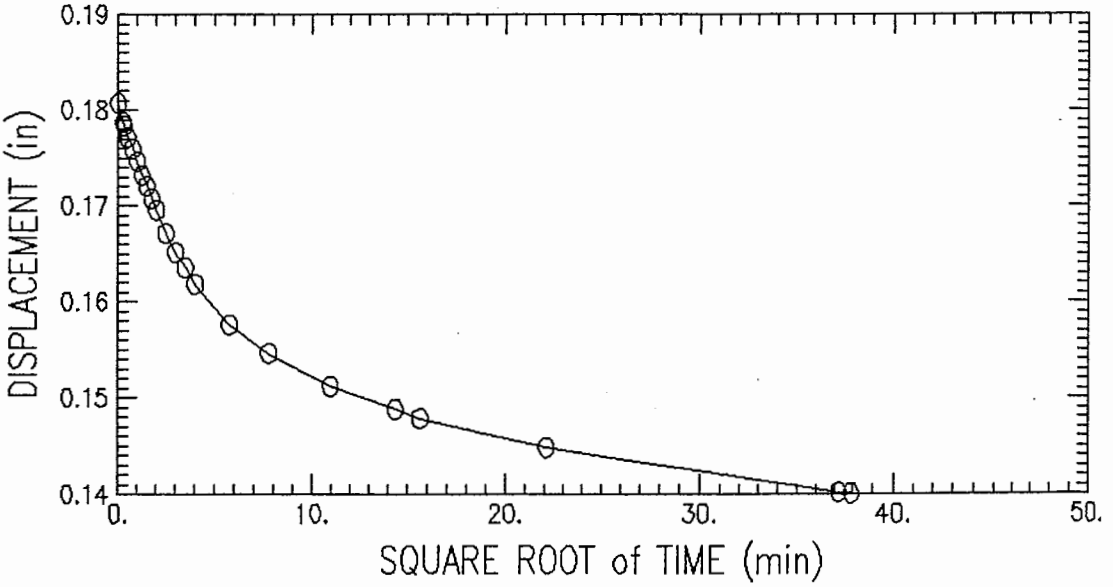


Woodward Clyde Consultants
Project Name : LFR LEVINE FRICKE
Project No : 510016148A Boring No : B-3 Sample No : MIDDLE
Test Date : 06/07/01 Test No : B3@11-11.5 Depth : 11-11.5
Description : Lt. gray brown silty Clay

URS

CONSOLIDATION TEST
TIME CURVES (STEP 5 OF 10)
STRESS : 1 (t/ft^2)

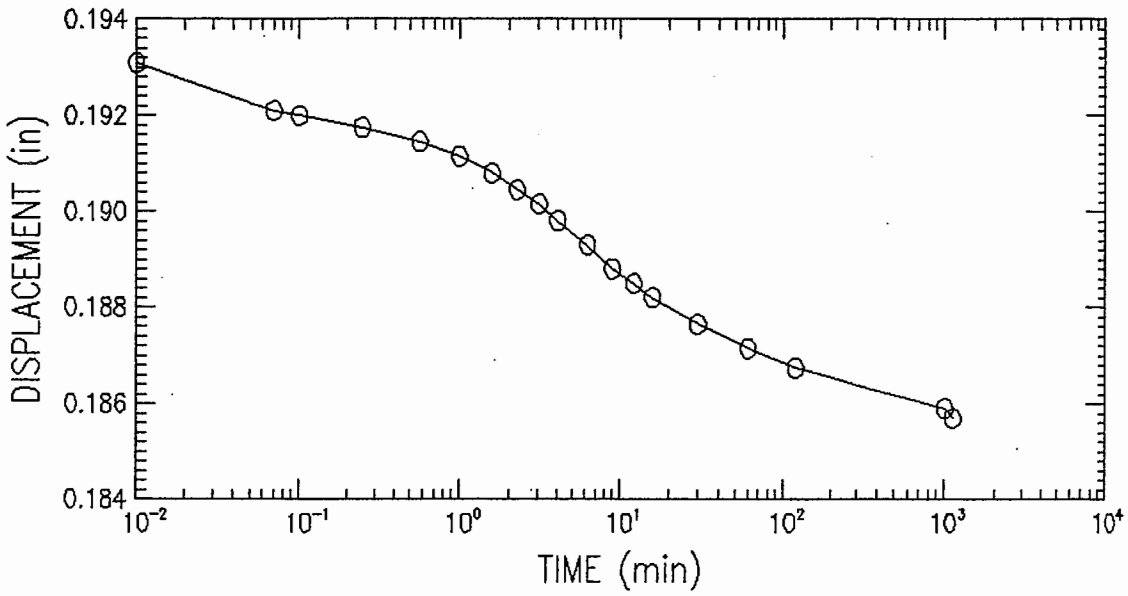


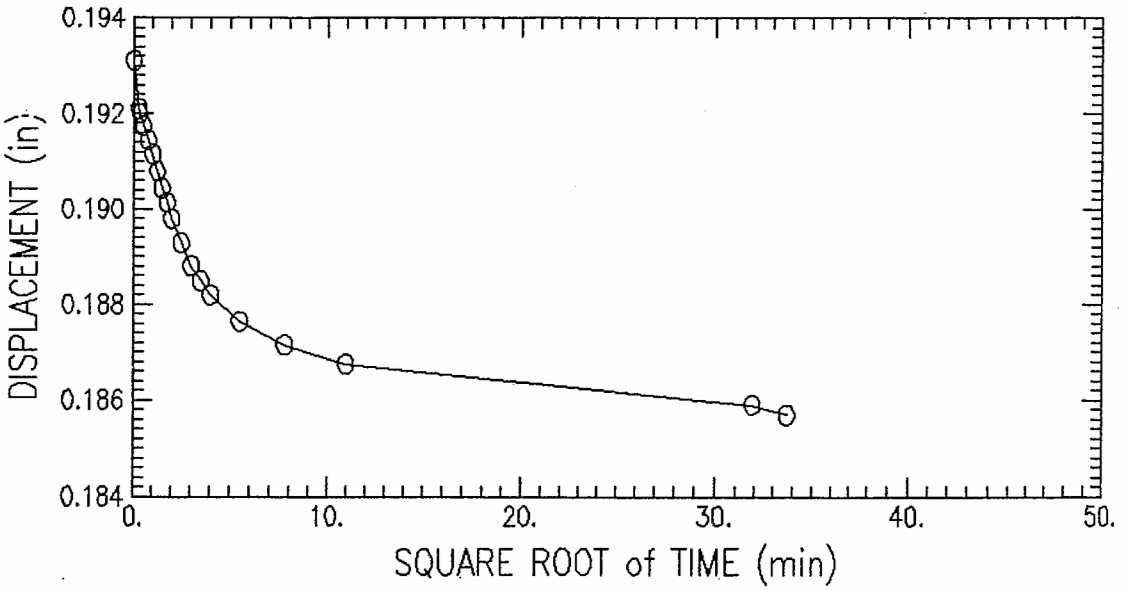


Woodward Clyde Consultants
Project Name : LFR LEVINE FRICKE
Project No : 510016148A Boring No : B-3 Sample No : MIDDLE
Test Date : 06/07/01 Test No : B3@11-11.5 Depth : 11-11.5
Description : Lt. gray brown silty Clay

URS

CONSOLIDATION TEST
TIME CURVES (STEP 3 OF 10)
STRESS : 0.25 (t/ft^2)

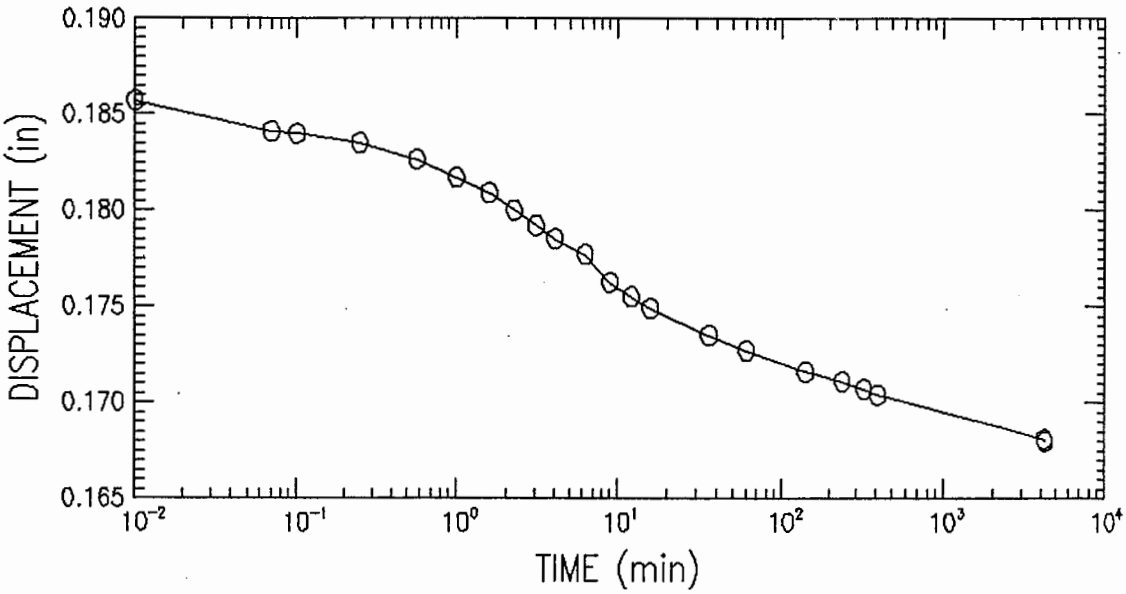


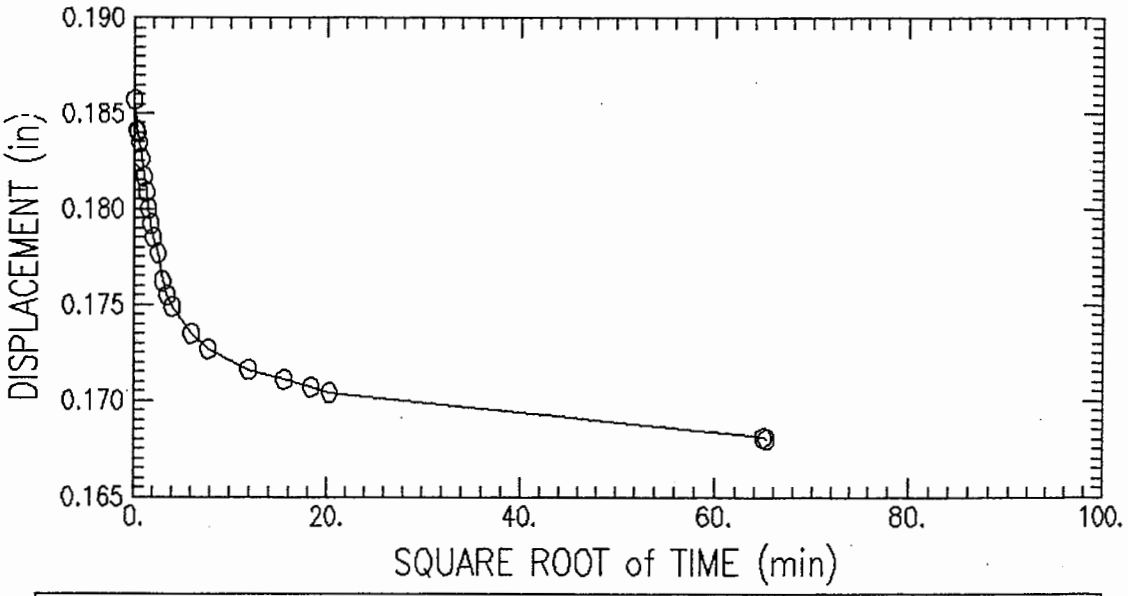


Woodward Clyde Consultants
Project Name : LFR LEVINE FRICKE
Project No : 510016148A Boring No : B-3 Sample No : BOTTOM
Test Date : 06/07/01 Test No : B3@17-17.5 Depth : 17-17.5 FT
Description : Gray silty Clay with traces of organics

URS

CONSOLIDATION TEST
TIME CURVES (STEP 4 OF 10)
STRESS : 0.5 (t/ft^2)

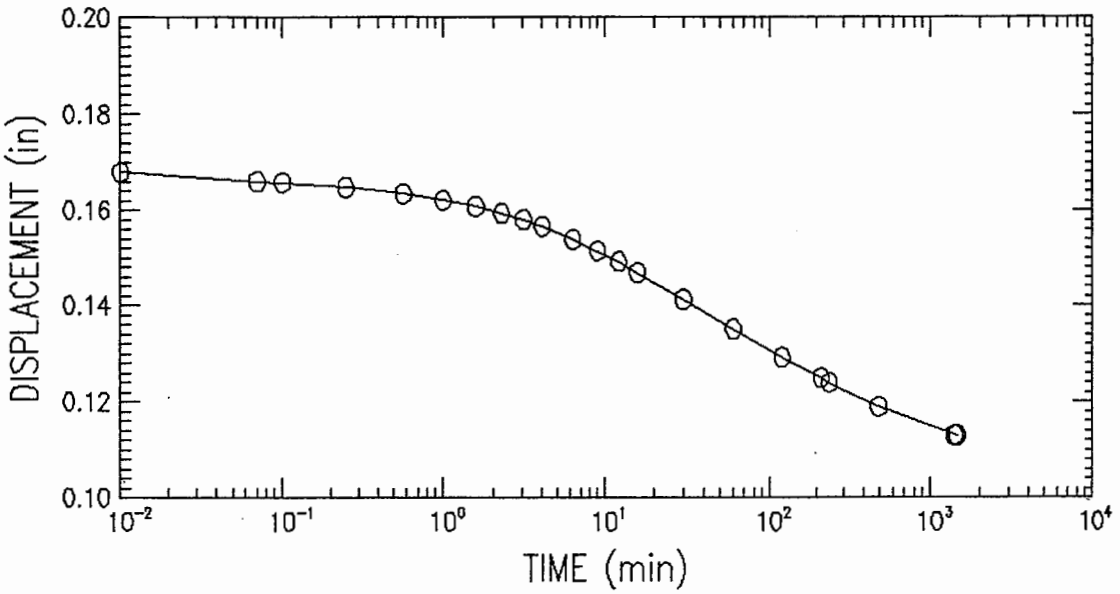


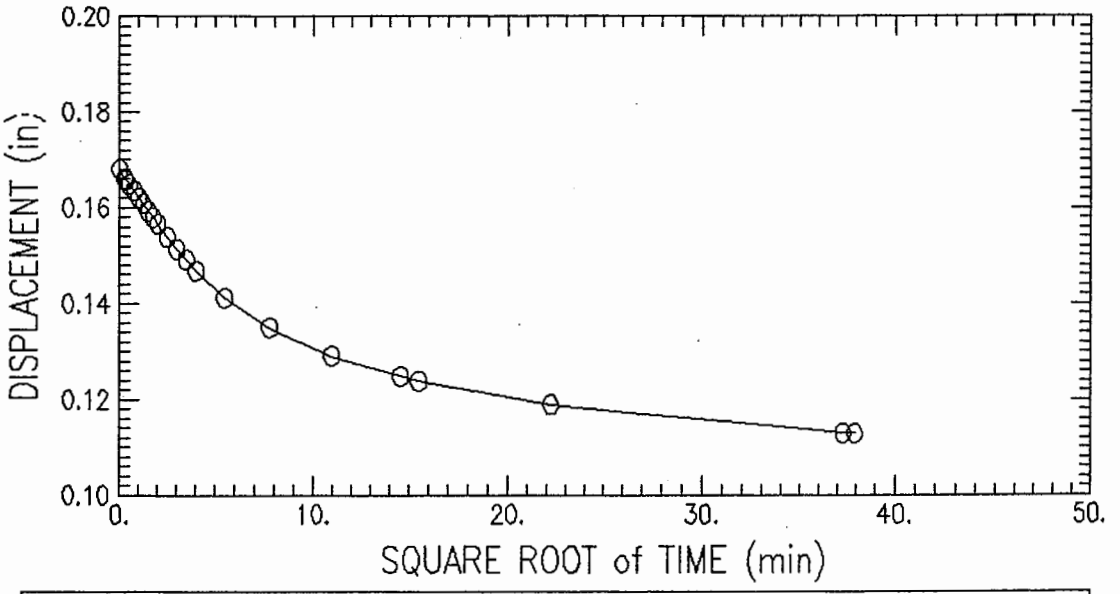


Woodward Clyde Consultants
Project Name : LFR LEVINE FRICKE
Project No : 510016148A Boring No : B-3 Sample No : BOTTOM
Test Date : 06/07/01 Test No : B3@17-17.5 Depth : 17-17.5 FT
Description : Gray silty Clay with traces of organics

URS

CONSOLIDATION TEST
TIME CURVES (STEP 5 OF 10)
STRESS : 1 (t/ft^2)

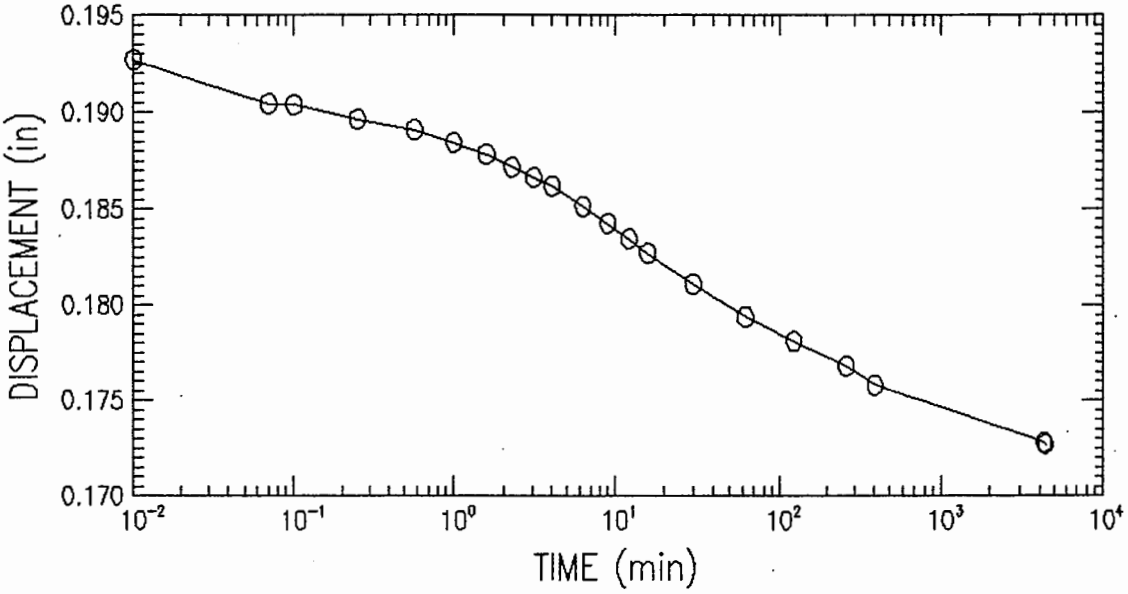


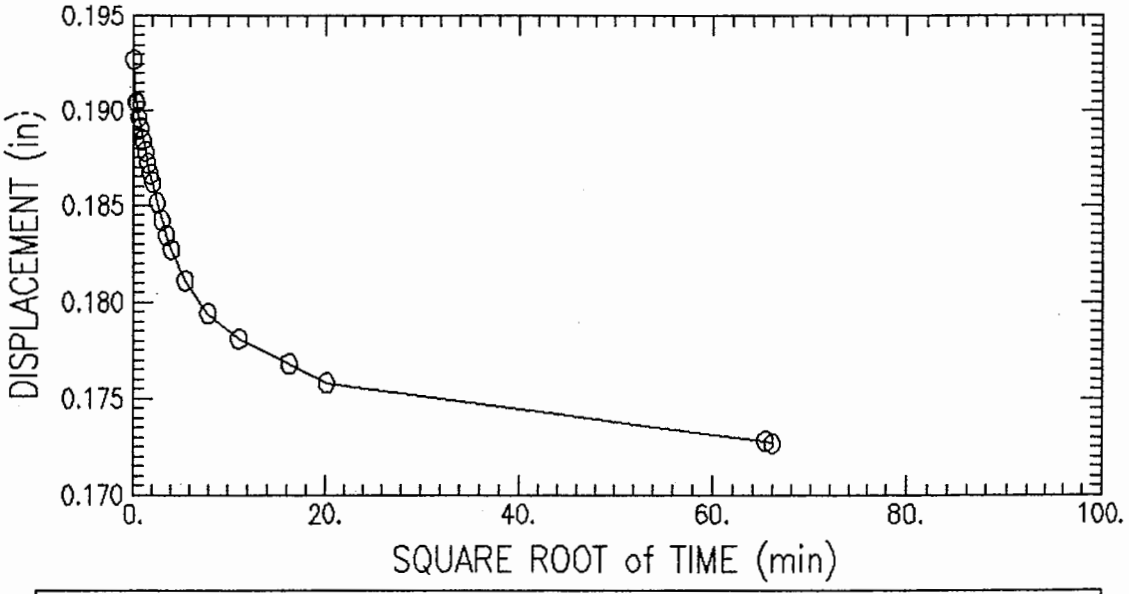


Woodward Clyde Consultants
Project Name : LFR LEVINE FRICKE
Project No : 510016148A Boring No : B-3 Sample No : BOTTOM
Test Date : 06/07/01 Test No : B3@17-17.5 Depth : 17-17.5 FT
Description : Gray silty Clay with traces of organics

URS

CONSOLIDATION TEST
TIME CURVES (STEP 3 OF 8)
STRESS : 0.25 (t/ft^2)

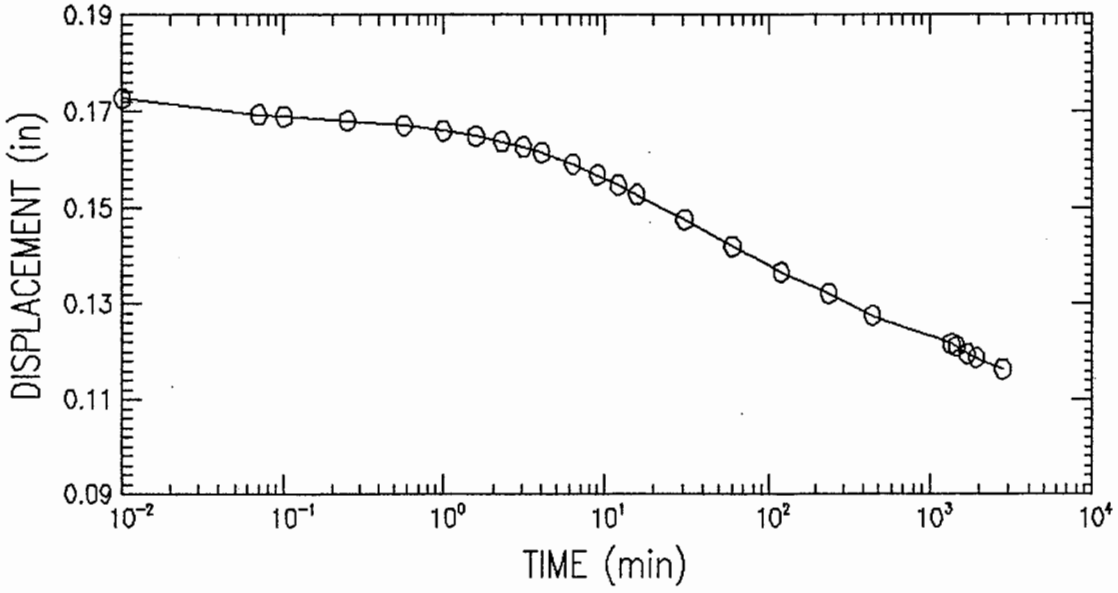


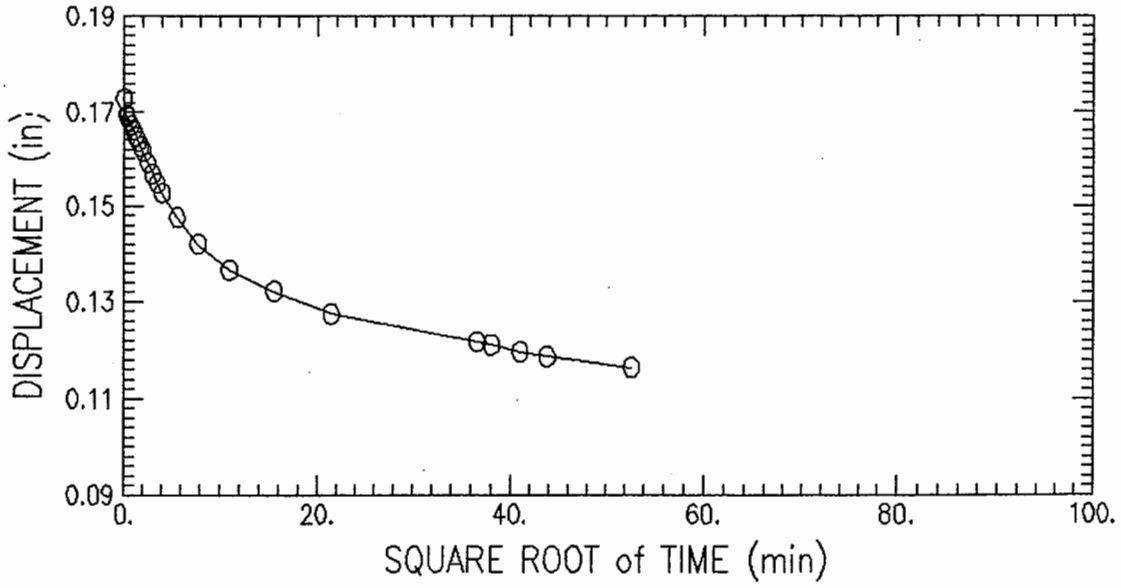


Woodward Clyde Consultants
Project Name : LFR LEVINE FRICKE
Project No : 510016148A Boring No : B-4 Sample No : BOTTOM
Test Date : 06/14/01 Test No : B4@12-12.5 Depth : 12-12.5 FT
Description : Lt. to Dark Brown Organic Peat w/ traces of clay

URS

CONSOLIDATION TEST
TIME CURVES (STEP 4 OF 8)
STRESS : 0.5 (t/ft^2)

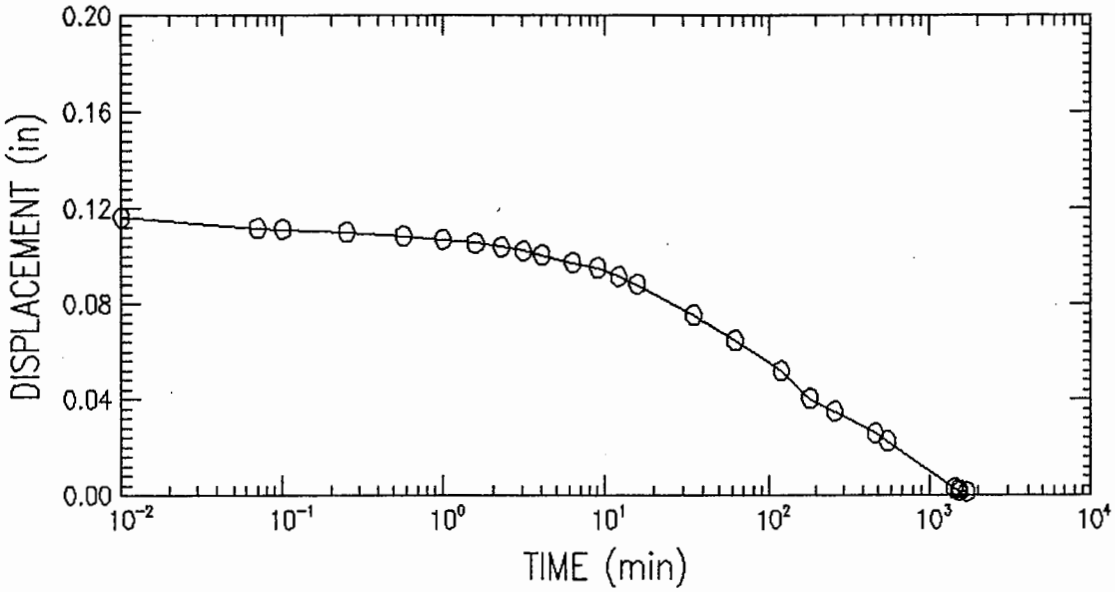


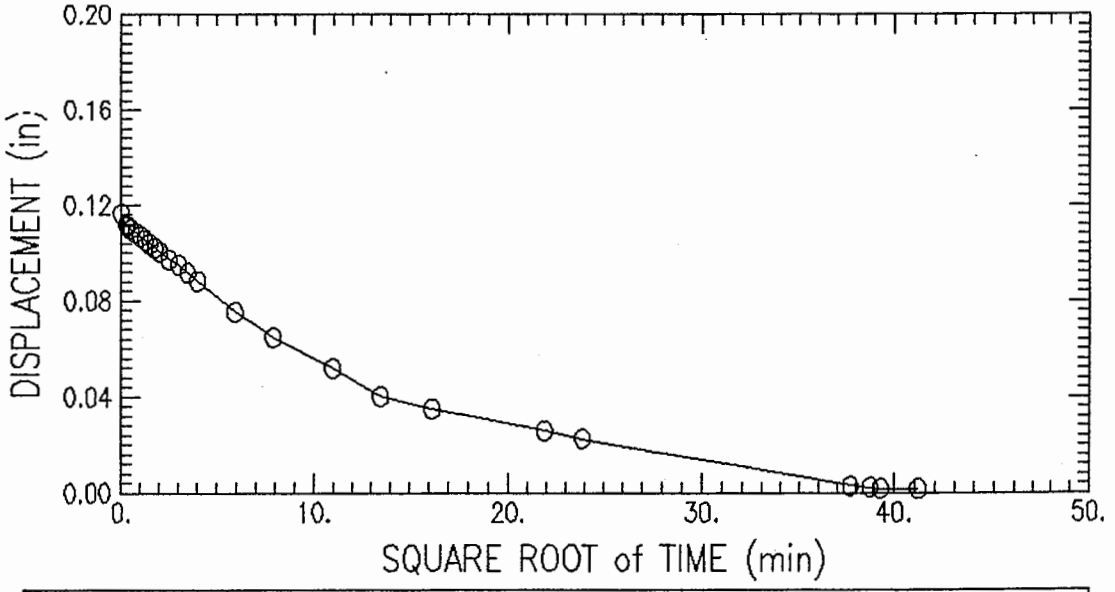


Woodward Clyde Consultants
Project Name : LFR LEVINE FRICKE
Project No : 510016148A Boring No : B-4 Sample No : BOTTOM
Test Date : 06/14/01 Test No : B4@12-12.5 Depth : 12-12.5 FT
Description : Lt. to Dark Brown Organic Peat w/ traces of clay

URS

CONSOLIDATION TEST
TIME CURVES (STEP 5 OF 8)
STRESS : 1 (t/ft^2)

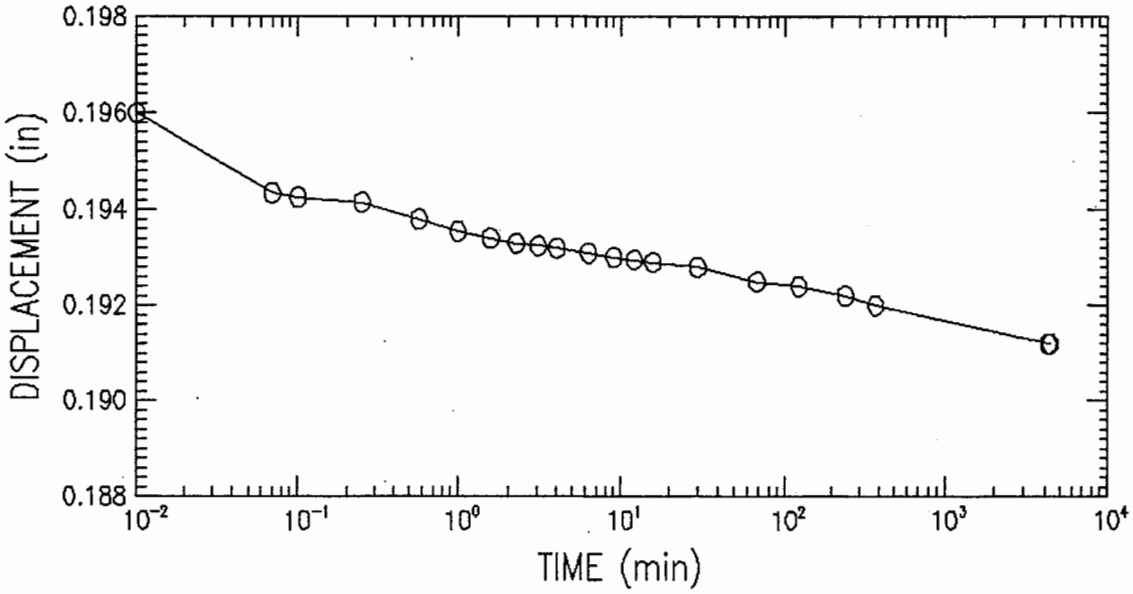


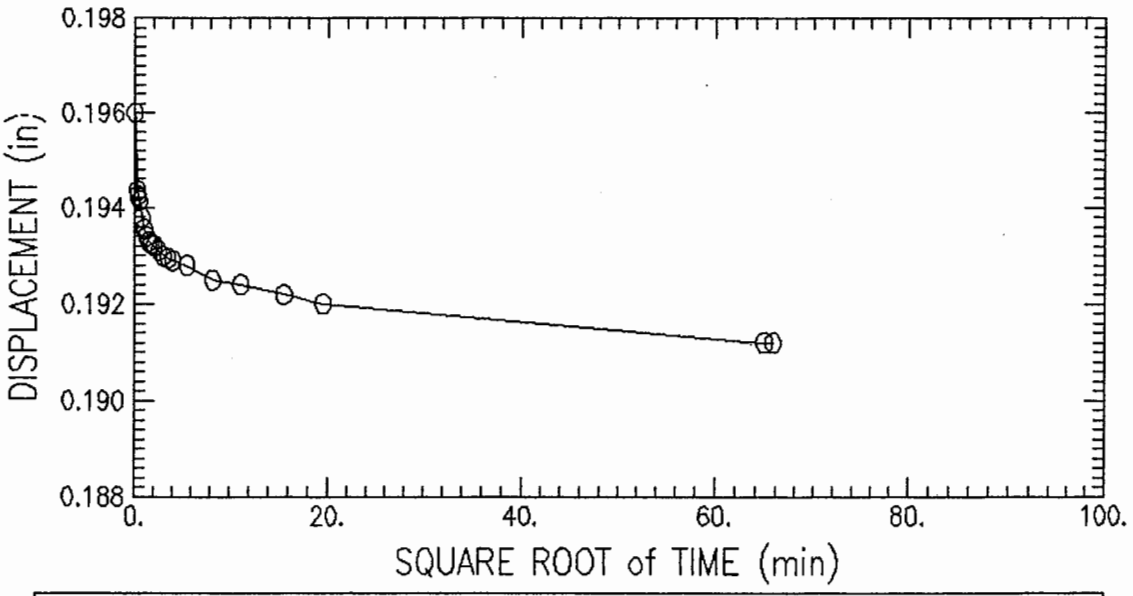


Woodward Clyde Consultants
Project Name : LFR LEVINE FRICKE
Project No : 510016148A Boring No : B-4 Sample No : BOTTOM
Test Date : 06/14/01 Test No : B4@12-12.5 Depth : 12-12.5 FT
Description : Lt. to Dark Brown Organic Peat w/ traces of clay

URS

CONSOLIDATION TEST
TIME CURVES (STEP 3 OF 10)
STRESS : 0.25 (t/ft^2)

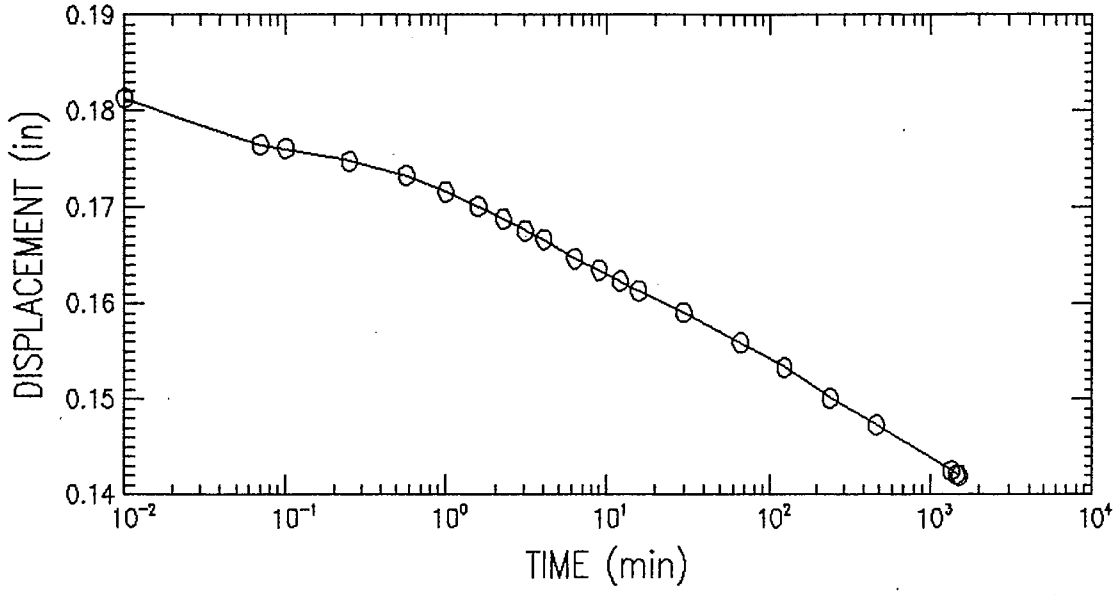


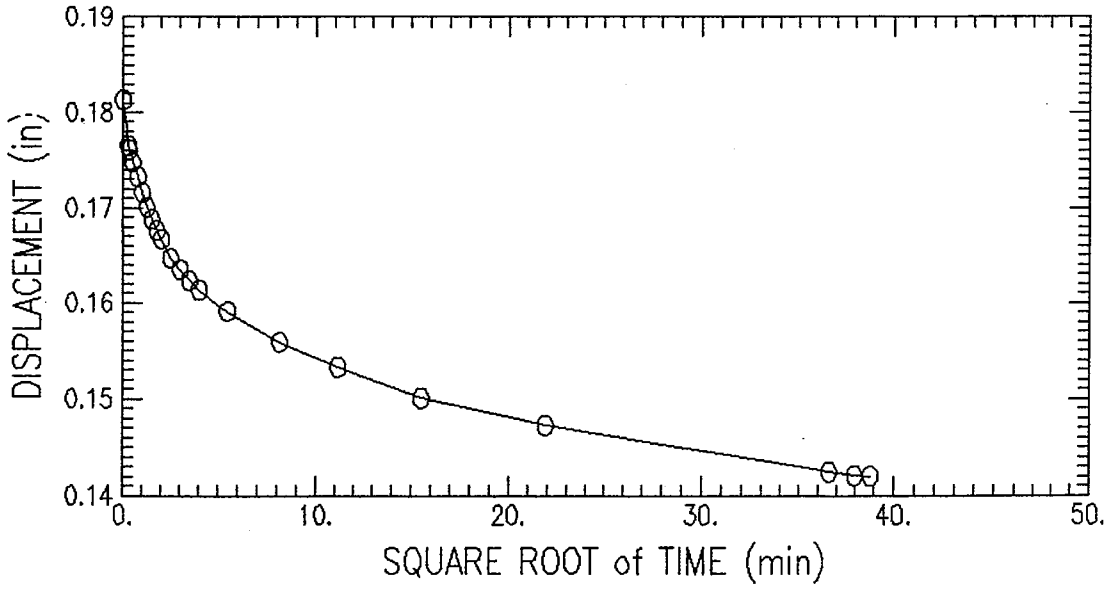


Woodward Clyde Consultants
Project Name : LFR LEVINE FRICKE
Project No : 510016148A | Boring No : B-4 | Sample No : MIDDLE
Test Date : 06/14/01 | Test No : B4@26.5-27 | Depth : 26.5-27 FT
Description : Gray silty Clay

URS

CONSOLIDATION TEST
TIME CURVES (STEP 5 OF 10)
STRESS : 1 (t/ft^2)

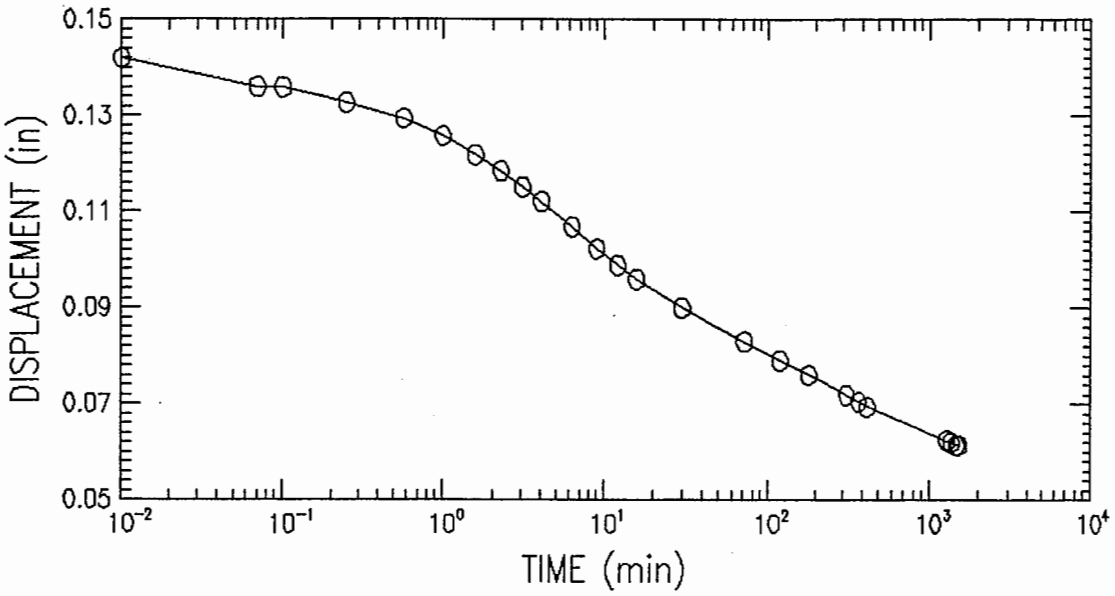


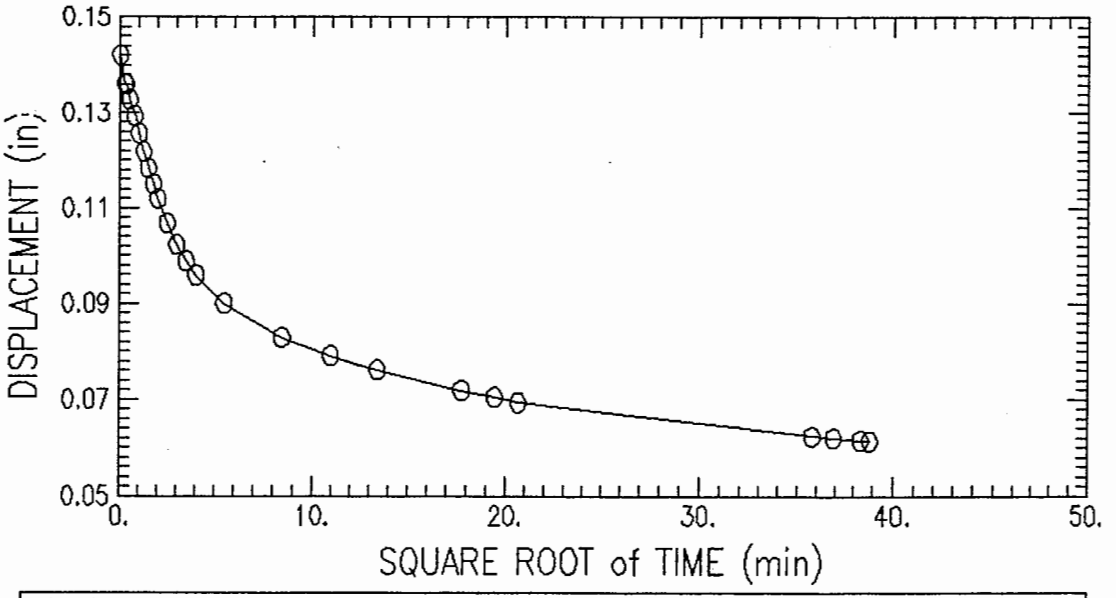


Woodward Clyde Consultants
Project Name : LFR LEVINE FRICKE
Project No : 510016148A Boring No : B-4 Sample No : MIDDLE
Test Date : 06/14/01 Test No : B4@26.5-27 Depth : 26.5-27 FT
Description : Gray silty Clay

URS

CONSOLIDATION TEST
TIME CURVES (STEP 6 OF 10)
STRESS : 2 (t/ft^2)





Woodward Clyde Consultants
Project Name : LFR LEVINE FRICKE
Project No : 510016148A Boring No : B-4 Sample No : MIDDLE
Test Date : 06/14/01 Test No : B4@26.5-27 Depth : 26.5-27 FT
Description : Gray silty Clay