MAINE DEPARTMENT OF TRANSPORTATION
HIGHWAY PROGRAM
GEOTECHNICAL GROUP
AUGUSTA, MAINE

SUBSURFACE INVESTIGATION FOR RECONSTRUCTION OF EXIT 7, I-295 PORTLAND, ME

Prepared by:

Kitty Breskin, P.E.
Geotechnical Design Engineer

Cumberland County
PIN 15634.00

Soils Report No. 2010-106

Federal HP-1563(400)E
March 31, 2010

1.0 Introduction

1.1 Project Overview

Maine DOT proposes to alter and rebuild the exit ramps to I-295 at Exit 7, Franklin Street. Lanes will be added at both the northbound and southbound exits to accommodate increased traffic. The scope of work includes minor alignment changes and full construction of new lanes and shoulders. Both minor cuts and fills will be required. An overlay of existing Hot Mix Asphalt will be done in some areas of the project, but for the majority of the area new pavement will only be placed on the new lanes. This report describes existing conditions for this project.

2.0 Site and Subsurface Conditions

2.1 General Site Conditions

The north- and southbound exit lanes at the Exit 7 interchange of I-295, on Franklin Street in Portland, are inadequate for existing traffic. Native soils are soft clays and silts, but construction disturbance will be limited to the fill material placed during construction of the existing interchange. Traffic volumes are high, and land on the west side of the highway, immediately adjacent to the construction area, is used as a pedestrian/bike trail.

2.2 Mapped Data

The Maine Geologic Survey Surficial Geology map for the Portland West Quadrangle shows Presumpscot Formation soils at this site. These soils are described as “Silt, clay, and minor sand deposited on the sea floor during the late-glacial marine submergence.”

NRCS mapping appears to have been completed before construction of the existing interchange. This data extends to a depth of five feet, and shows “tidal marsh” and “cut and fill land” at this site. The relevant portions of these maps attached to this report.

2.3 Subsurface Investigation

The subsurface investigation for this project was completed by a consultant in May and June, 2008. Testing and sampling included split spoons with Standard Penetration Tests, Shelby tubes and shear vane tests. Borings were extended to depths of approximately 50 feet where the embankment is to be raised for southbound lanes.

2.4 Native Soils

Preload with wick drains was required for construction of the existing interchange. Sandy fill material extends as deep as 25 feet below the existing embankments, well below mean low water. Borings through the southbound exit encountered very soft, wet, organic silts below the fill materials. These were encountered at depths of between 20 and 34 feet below grade. These depths correspond to elevations between -8.5 feet and -25 feet, with thickness between 4 and 11 feet. Soils below these sediments were stiff to very stiff clay-silts of the Presumpscot Formation.

2.5 Existing Pavement

The existing pavement is in good condition. An overlay will be done on the portion of the southbound exit where work is to be done on both left and right sides of the ramp.

2.6 Groundwater
Shallow groundwater was encountered in borings between Stations 24+00 and 46+00 at depths of 5.5 to 8 feet below existing ground surface.

3.0 Design Recommendations

3.1 Embankment Fills
Small areas of shallow fill will be required to widen both north and southbound embankments. The fills are triangular areas not more than three feet maximum height, extending for as much as twenty feet laterally across the outer corner of the existing embankment.

The northbound exit was built with a flat embankment slope of approximate 5h:1v. The additional area will have a slope of 3h:1v to touch down on the upper part of the original slope. We do not anticipate any problems with this slope.

The southbound exit was built using slopes of approximately 4h:1v on the inner embankment and 6h:1v on the outer slope. The outer slope will require a fill slope of 2:1 to keep the toe of slope away from the trail along Back Bay. This is a steep slope for these soils, but the fills are generally less than three feet in height, with the toe of slope near the edge of the pedestrian trail.

Computer modeling done by others demonstrates that these embankments will meet minimum factors of safety for stability with the added fills in place. The layer of soft organic silt begins at least 20 feet below the bottom of the new construction on the southbound exit ramp, and it appears from the model that the existing fill from the highway embankment and running trail is adequate to support the weight of the new construction over the soft soils below with a minimum Factor of Safety greater than 1.5.

3.2 Soil Cut Slopes
Cut slopes will be built on the inside of the southbound ramp. The inner shoulder is to be widened, and shallow cuts approximately one foot deep will be needed along most of the length of the curve. Slopes of 3v:1h will be used to match the new edge of shoulder to the existing ground. The cut slopes will be in the fill placed for construction of the original ramp, and should be stable at these slopes.

3.3 Pavement Design
Full reconstruction will be required for the new portions of these ramps. The existing HMA will be sawcut to provide a clean edge, and the new pavement layers will be placed to match existing pavement.
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3.4 Surface Water Drainage
A subsurface drainage system will be required to control water on the inside of the curve for the southbound ramps, and to ensure that it does not enter the pavement structure.

3.5 Groundwater
Groundwater levels are well below the level of the proposed construction, and will be out of the subbase.

3.6 Frost Action
Frost action is not anticipated to be a problem for this construction.

Attachments
Boring location plan
Surficial Soils Map of area
NRCS map of area
Boring Logs
Lab Test data

Boring Location Plan

SB-814S: OFF SHOULDER

PC = STA. 43+06.82

SB-813S: JUST OFF SHOULDER

45+00

SB-812S: OFF SHOULDER (LOCATION MAY BE PUSHED NORTH TO IMPROVE SAFETY)

STEEP SLOPES
DRAINAGE DITCH
LIMITED ACCESS

SB-811S: BEHIND GUARDRAIL

40+00

PT = STA. 39+87.16

SB-809D: BEHIND GUARDRAIL (ACCESS FROM WALKING TRAIL, THROUGH FENCE. TRAIL WIDTH TO BE CONFIRMED FOR RIG; OTHERWISE AT SHOULDER WITH TRAFFIC DETAIL)

SB-810S: JUST OFF SHOULDER

PT = STA. 27+22.07

PC = STA. 28+68.29

SB-808D: BEHIND GUARDRAIL (ACCESS FROM WALKING TRAIL, THROUGH FENCE. TRAIL WIDTH TO BE CONFIRMED FOR RIG; OTHERWISE AT SHOULDER WITH TRAFFIC DETAIL)

SB-807D: BEHIND GUARDRAIL

SB-806D: BEHIND GUARDRAIL

35+00

SB-805S: JUST OFF SHOULDER

RIG ACCESS TO SB-808D AND SB-809D (THROUGH FENCE-EXISTING ACCESS POINT)

25+00

30+00

PC = STA. 35+50.60

PT = STA. 33+13.55

PC = STA. 22+72.04

PC = STA. 11+30.41

PT = STA. 8+26.49

PI = STA. 20+46.83

20+00

PC = STA. 0+00.00

PT = STA. 1+62.55

PC = STA. 2+63.55

10+00

PT = STA. 12+45.70

0+00

5+00

SB-804S: JUST BEHID CURB (UTILITIES NOTED)

POB = STA. 16+00.00

SB-803S: JUST OFF SHOULDER (UNDERGROUND ELECTRICAL NOTED)

SB-801S: BEHIND GUARDRAIL

SB-802S: JUST OFF SHOULDER (UNDERGROUND ELECTRICAL NOTED)

LEGEND

SB-808D	SOIL BORING (DEEP)
SB-801S	SOIL BORING (SHALLOW)

SEE DRAWINGS 11 THROUGH 17 PROVIDED HEREWITH FOR 1"=25' SCALE REPRESENTATION OF BORING LOCATIONS

PLAN

100 0 100 200

Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

HP-1563(400)E

PIN 15634.00

HIGHWAY PLANS

SIGNATURE

P.E. NUMBER

DATE

		BY	DATE
PROJ. MANAGER	J.M. FERGUSON		
DESIGN-DETAILED	M. MORIN	MRP	
CHECKED-REVIEWED			
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1	------		
REVISIONS 2	------		
REVISIONS 3	------		
REVISIONS 4	------		
FIELD CHANGES			

PORTLAND
I - 295 EXIST 7

DRILLING PROGRAM DETAIL

SHEET NUMBER

9

OF X

Surficial Soils Map of area

Portland West Quadrangle, Maine

Surficial geologic mapping by
Woodrow B. Thompson

Digital cartography by:
Robert A. Johnston

Robert G. Marvinney
State Geologist

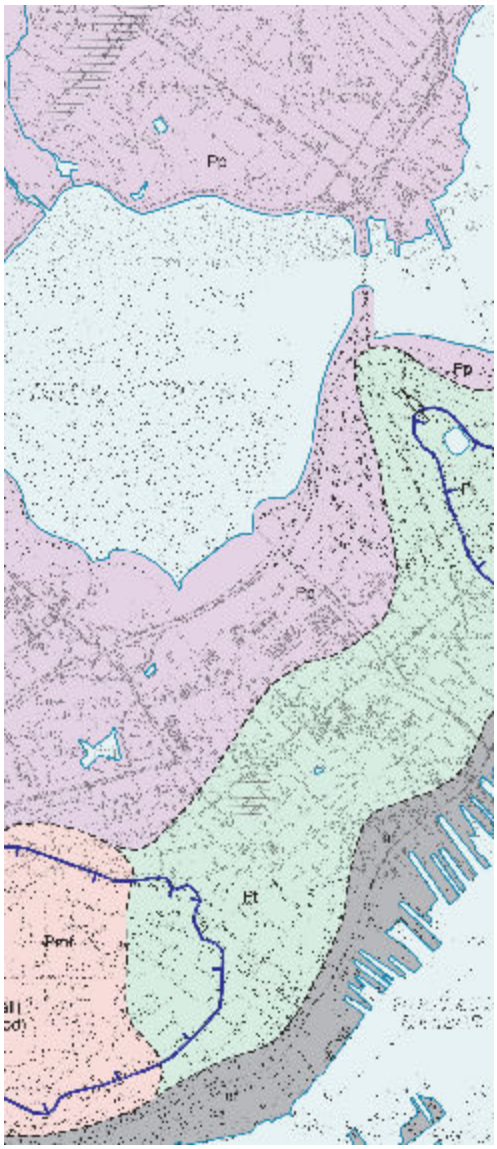
Cartographic design and editing by:
Robert D. Tucker

Funding for the preparation of this map was provided in part by the U.S. Geological Survey Cooperative Geological Mapping (COGEOMAP) Program, Cooperative Agreement No. 14-08-0001-A0520.

Maine Geological Survey
Address: 22 State House Station, Augusta, Maine 04333
Telephone: 207-287-2801 **E-mail:** mgs@maine.gov
Home page: http://www.maine.gov/doc/nrimc/mgs/mgs.htm

Open-File No. 08-16
2008
For additional information, see Open-File Report 97-65.
This map supersedes Open-File Map 97-31.

Surficial Geology



Pp — **Presumpscot Formation** - Silt, clay, and minor sand deposited on the sea floor during the late-glacial marine submergence.

NRCS map of area

70° 15' 56"
70° 15' 27"
43° 40' 13"
43° 40' 14"

43° 39' 45"
43° 39' 45"
70° 15' 56"
70° 15' 26"

Map Scale: 1:4,200 if printed on A size (8.5" x 11") sheet.

N

Meters
0 40 80 160 240

Feet
0 150 300 600 900

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Units

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other

Special Line Features
- Gully
- Short Steep Slope
- Other

Political Features
- Cities

Water Features
- Oceans
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

MAP INFORMATION

Map Scale: 1:4,200 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 19N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Cumberland County and Part of Oxford County, Maine
Survey Area Data: Version 7, Jan 8, 2009

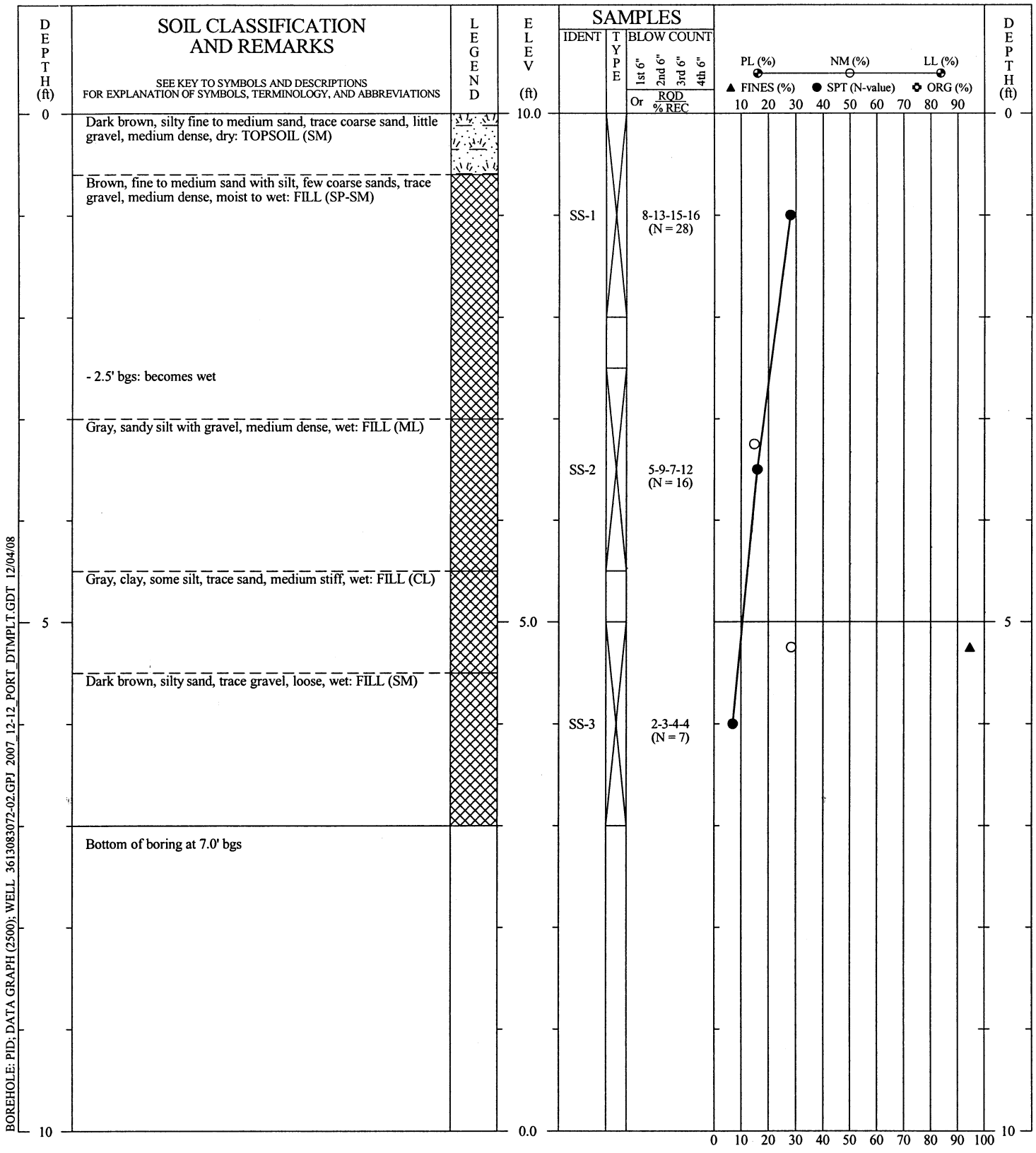
Date(s) aerial images were photographed: 6/7/1997; 4/29/1998

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Cumberland County and Part of Oxford County, Maine (ME005)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
Au	Au Gres loamy sand	11.1	13.9%
Cu	Cut and fill land	11.0	13.7%
Tm	Tidal marsh	30.0	37.6%
W	Water	27.8	34.8%
Totals for Area of Interest		**79.9**	**100.0%**

Boring Logs



BOREHOLE: PID; DATA GRAPH (2500); WELL 3613083072-02.GPJ 2007_12-12_PORT_DTMPLT.GDT 12/04/08

DRILLER:	Great Works Pump & Test Boring
EQUIPMENT:	Rubber-track-mounted CME 45
METHOD:	Hollow-Stem Augers
HOLE DIAM.:	4.25" ID
REMARKS:	Sampling via 2" split spoons, 140 lb safety hammer (rope and cathead), and AW rods.

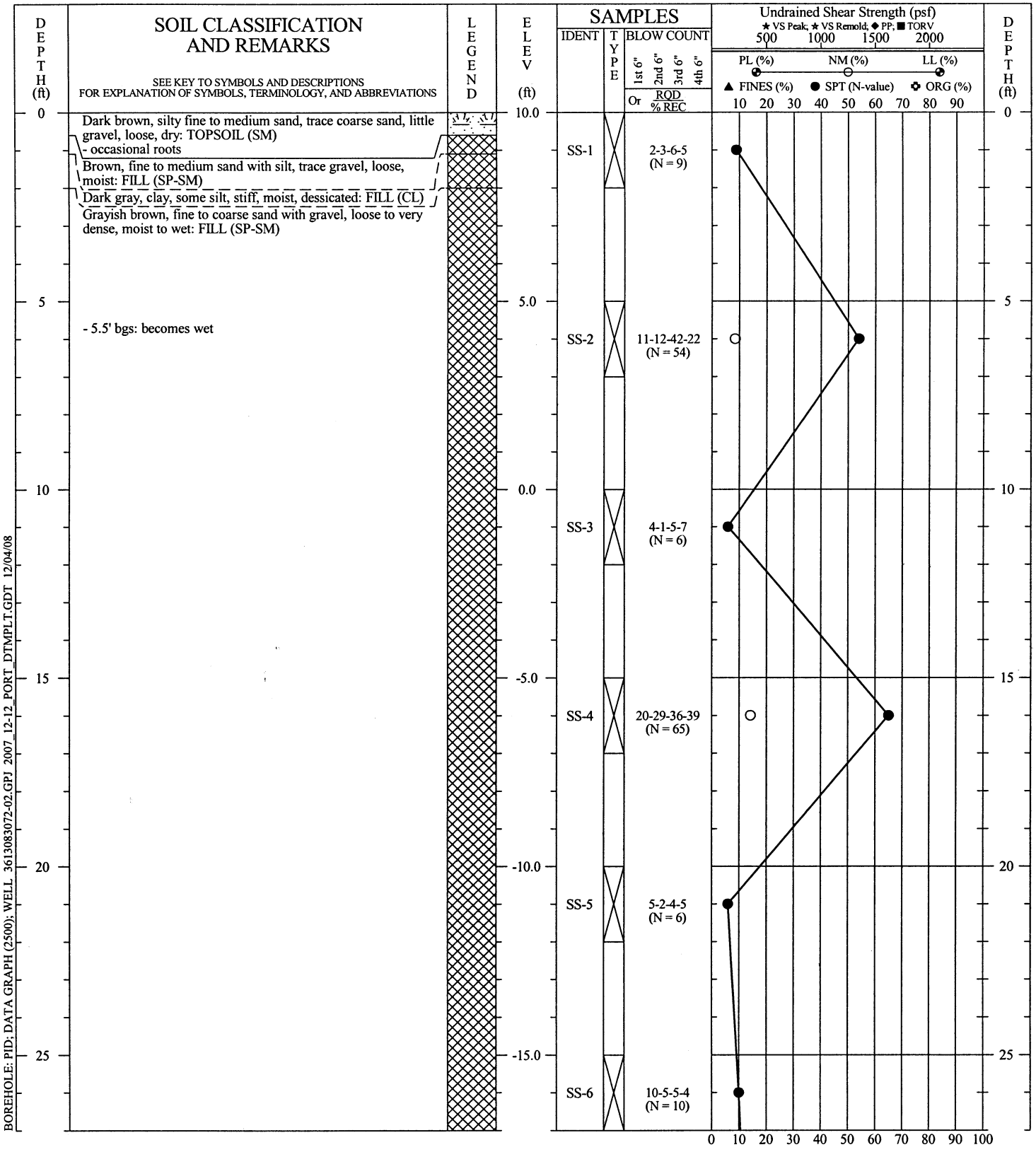
LOGGED BY: RSE CHECKED BY/DATE: TCC/10-2008

THIS BOREHOLE RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

SOIL BORING RECORD

BOREHOLE NO.: SB-805S
DRILLED: 05/28/08
PROJECT: MaineDOT - I-295 - Exit 7 (PIN 15634)
LOCATION: Portland, Maine
PROJECT NO.: 3613-08-3072-02 **PAGE** 1 **OF** 1

MACTEC



BOREHOLE: PID; DATA GRAPH (2500); WELL 3613083072-02.GPJ 2007_12-12_PORT_DTMPLT.GDT 12/04/08

DRILLER:	Great Works Pump & Test Boring
EQUIPMENT:	Rubber-track-mounted CME 45
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
REMARKS:	Switched from HSA drilling to rotary wash at 12' bgs. All sampling via 2" split spoons, 140 lb safety hammer (rope and cathead), and AW rods.

LOGGED BY: RSE CHECKED BY/DATE: TCC/10-2008

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SOIL BORING RECORD

BOREHOLE NO.: SB-806D
DRILLED: 05/28/08
PROJECT: MaineDOT - I-295 - Exit 7 (PIN 15634)
LOCATION: Portland, Maine
PROJECT NO.: 3613-08-3072-02 **PAGE 1 OF 2**

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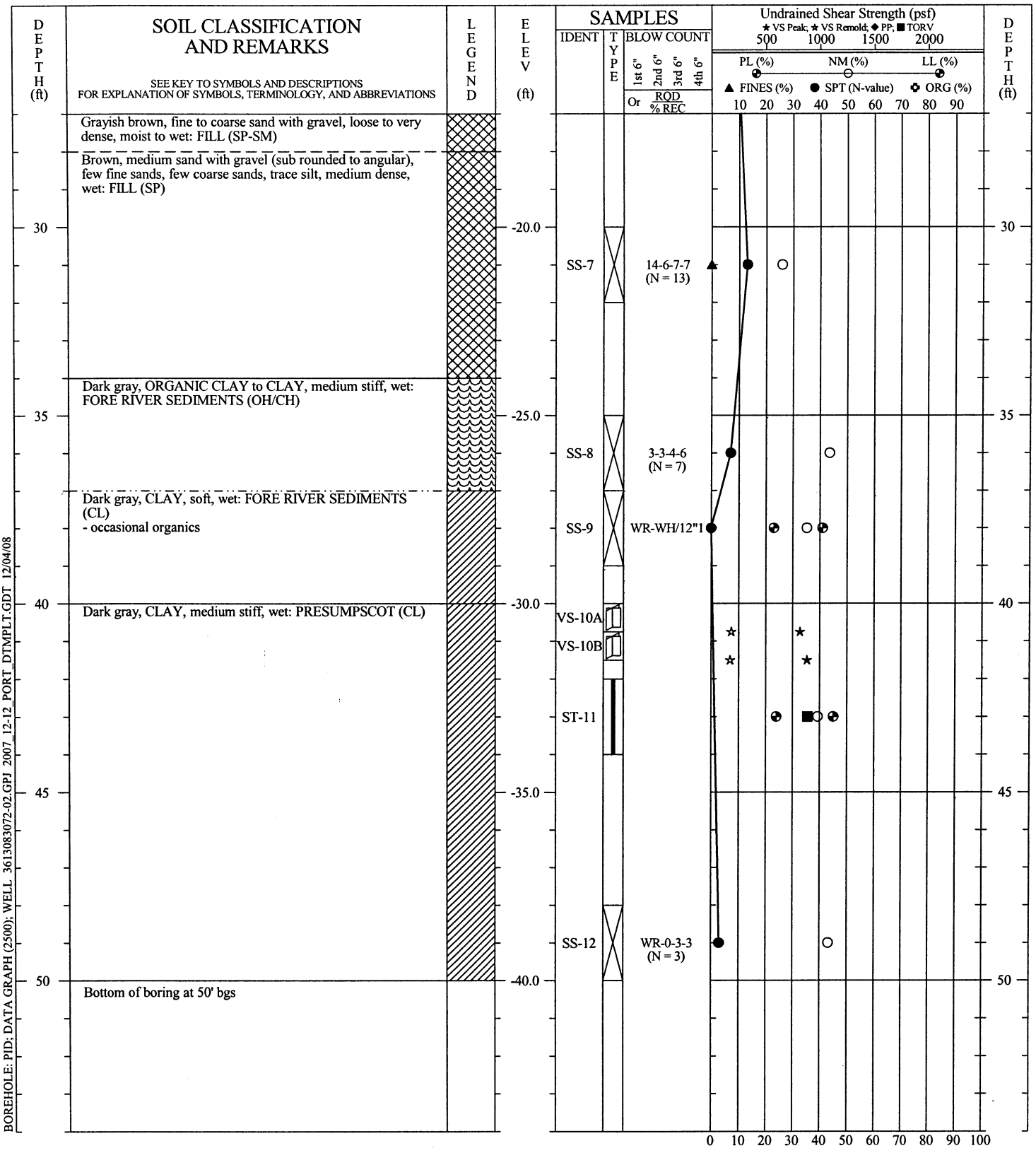

BOREHOLE: PID; DATA GRAPH (2500); WELL 3613083072-02.GPJ 2007_12-12_PORT_DTMPLT.GDT 12/04/08

DRILLER:	Great Works Pump & Test Boring
EQUIPMENT:	Rubber-track-mounted CME 45
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
REMARKS:	Switched from HSA drilling to rotary wash at 12' bgs. All sampling via 2" split spoons, 140 lb safety hammer (rope and cathead), and AW rods.

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BOREHOLE NO.: SB-806D
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PROJECT: MaineDOT - I-295 - Exit 7 (PIN 15634)
LOCATION: Portland, Maine
PROJECT NO.: 3613-08-3072-02 **PAGE 2 OF 2**

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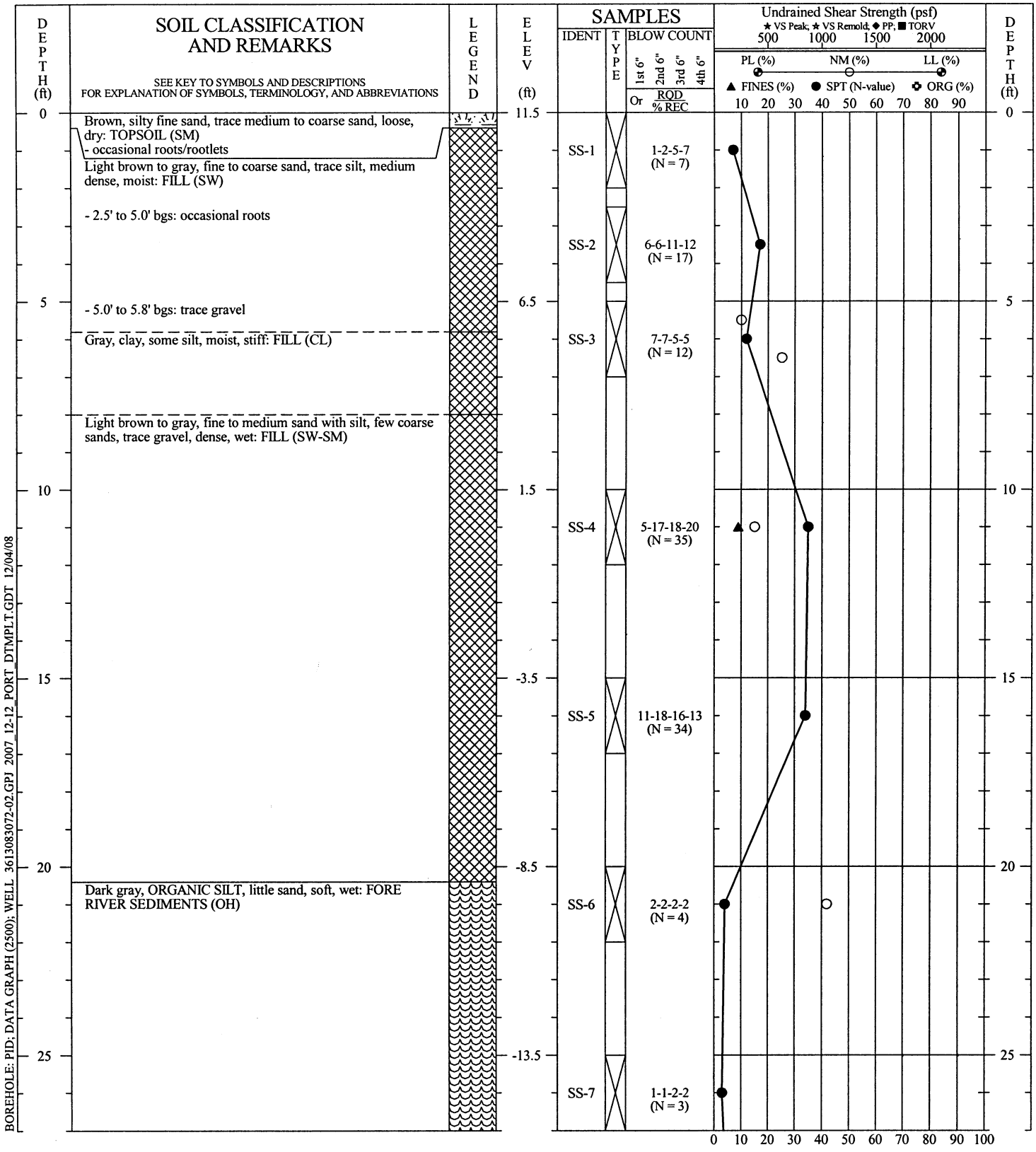

DRILLER:	Great Works Pump & Test Boring
EQUIPMENT:	Rubber-track-mounted CME 45,Hollow-Stem
METHOD:	Augers,4.25" ID,10
HOLE DIAM.:	Rotary Wash with Water (Cased)
REMARKS:	4"
	Sampling via 2" split spoons, 140 lb safety hammer (rope and cathead), and AW rods.

LOGGED BY: RSE CHECKED BY/DATE: TCC/10-2008

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SOIL BORING RECORD

BOREHOLE NO.: SB-807D
DRILLED: 06/03/08
PROJECT: MaineDOT - I-295 - Exit 7 (PIN 15634)
LOCATION: Portland, Maine
PROJECT NO.: 3613-08-3072-02 **PAGE 1 OF 2**

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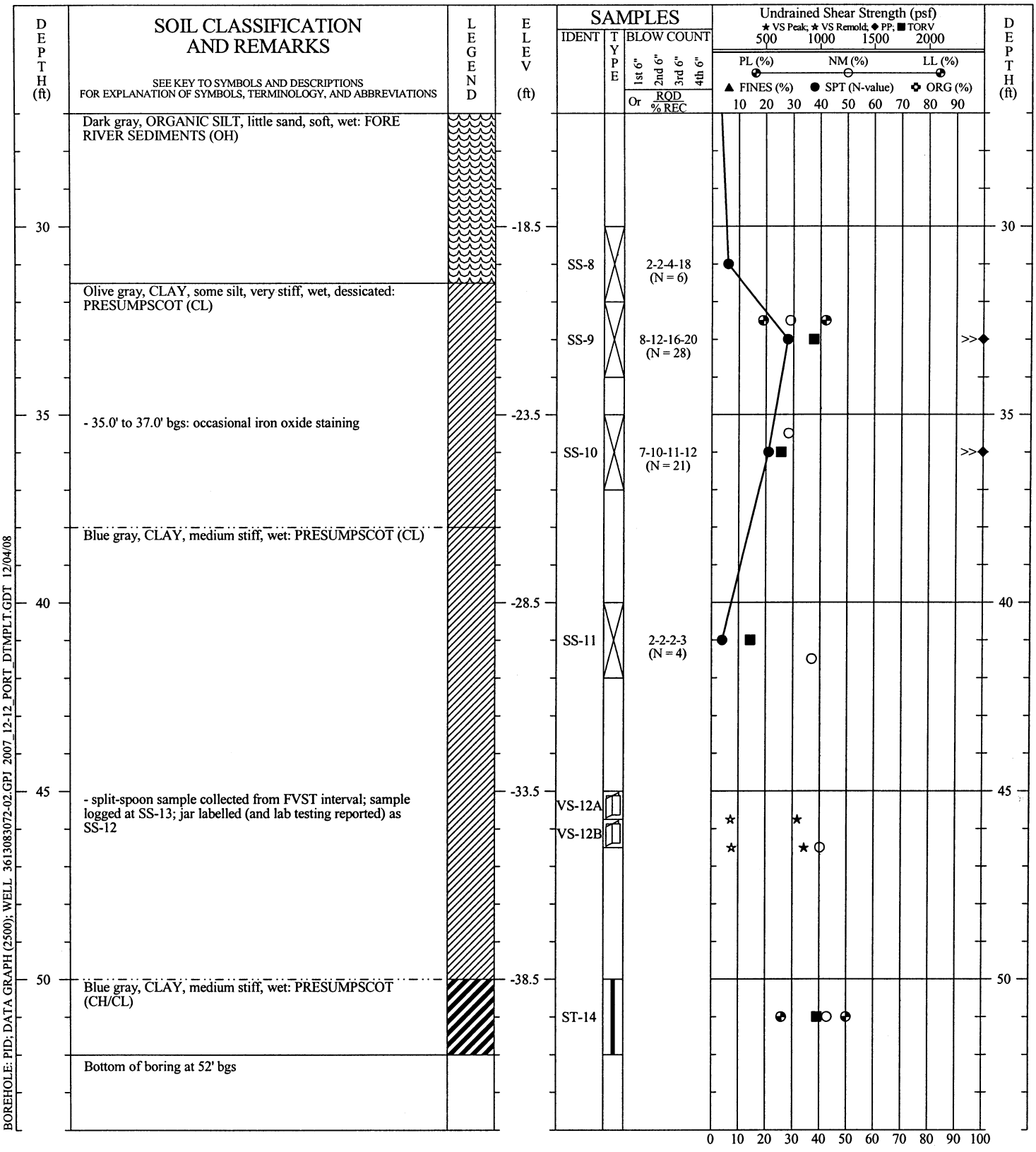

DRILLER:	Great Works Pump & Test Boring
EQUIPMENT:	Rubber-track-mounted CME 45,Hollow-Stem
METHOD:	Augers,4.25" ID,10
HOLE DIAM.:	Rotary Wash with Water (Cased)
REMARKS:	4" Sampling via 2" split spoons, 140 lb safety hammer (rope and cathead), and AW rods.

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DRILLED: 06/03/08
PROJECT: MaineDOT - I-295 - Exit 7 (PIN 15634)
LOCATION: Portland, Maine
PROJECT NO.: 3613-08-3072-02 **PAGE 2 OF 2**

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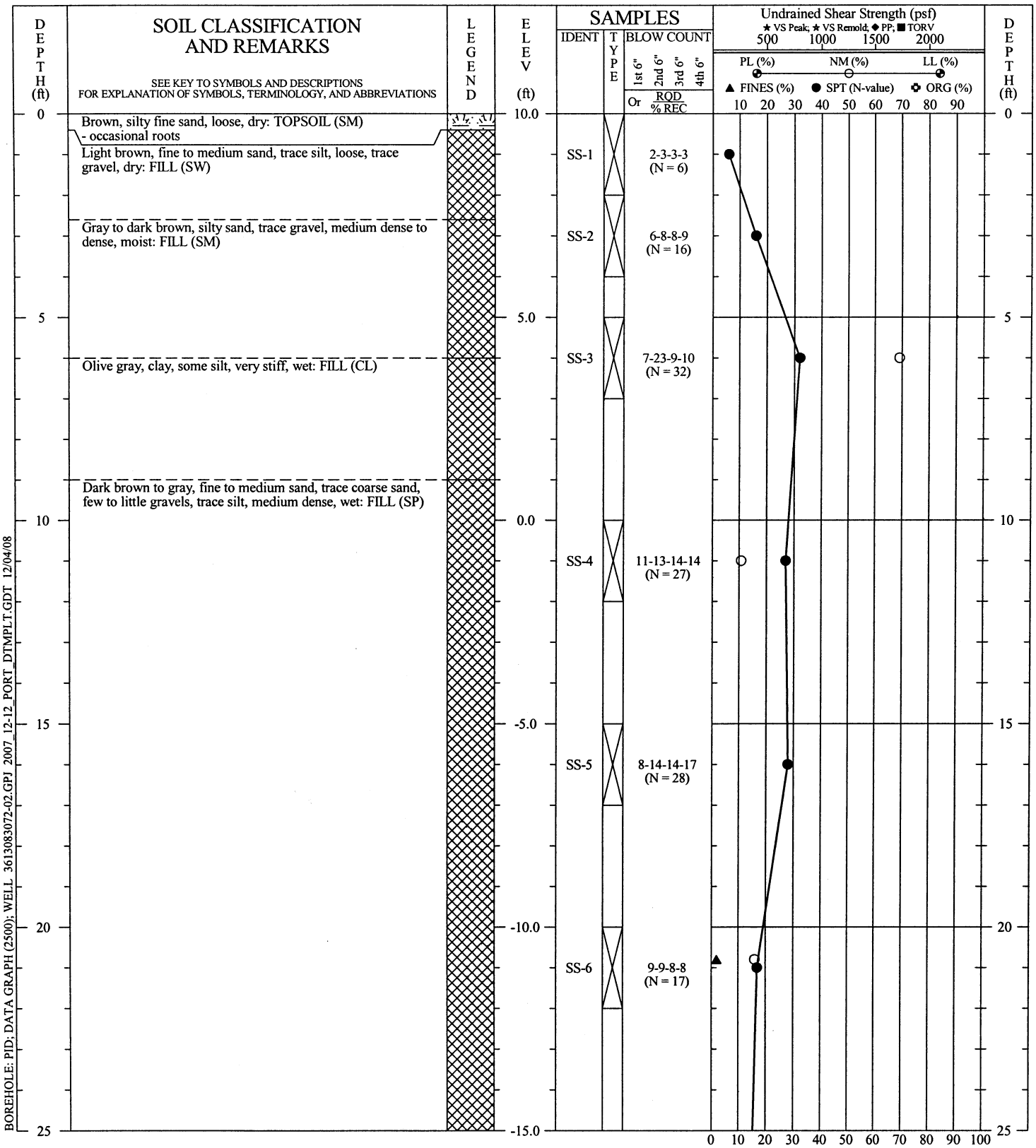

BOREHOLE: PID; DATA GRAPH (2500); WELL 3613083072-02.GPJ 2007_12-12_PORT_DTMPLT.GDT 12/04/08

DRILLER:	Great Works Pump & Test Boring
EQUIPMENT:	Rubber-track-mounted CME 45,Hollow-Stem
METHOD:	Augers,4.25" ID,10
HOLE DIAM.:	Rotary Wash with Water (Cased)
REMARKS:	4"
	Sampling via 2" split spoons, 140 lb safety hammer (rope and cathead), and AW rods.

LOGGED BY: RSE CHECKED BY/DATE: TCC/10-2008

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SOIL BORING RECORD

BOREHOLE NO.: SB-808D
DRILLED: 05/30/08
PROJECT: MaineDOT - I-295 - Exit 7 (PIN 15634)
LOCATION: Portland, Maine
PROJECT NO.: 3613-08-3072-02 **PAGE 1 OF 2**

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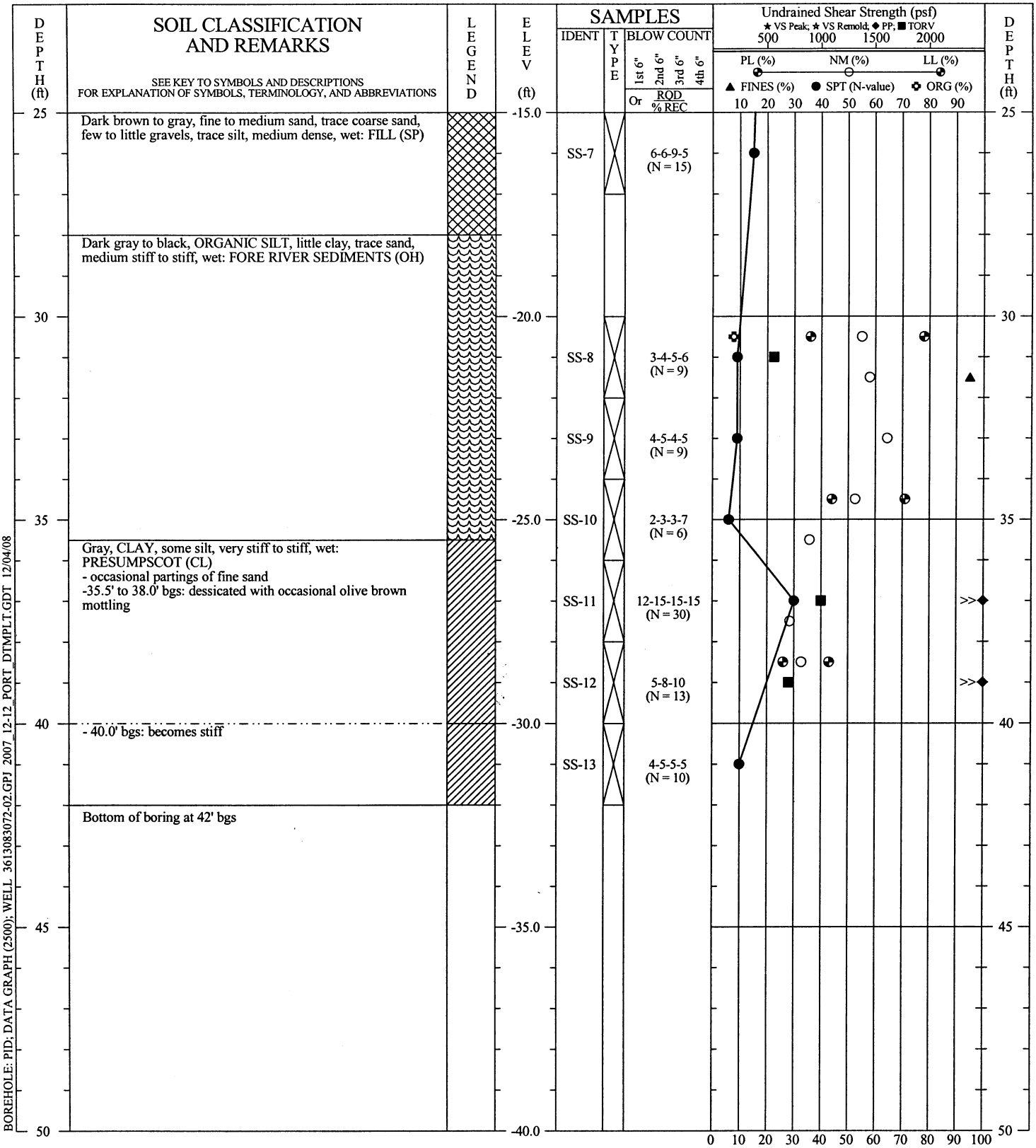

BOREHOLE: PID; DATA GRAPH (2500); WELL 3613083072-02.GPJ 2007_12-12_PORT_DTMPLT.GDT 12/04/08

DRILLER:	Great Works Pump & Test Boring
EQUIPMENT:	Rubber-track-mounted CME 45,Hollow-Stem
METHOD:	Augers,4.25" ID,10
HOLE DIAM.:	Rotary Wash with Water (Cased)
REMARKS:	4" Sampling via 2" split spoons, 140 lb safety hammer (rope and cathead), and AW rods.

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SOIL BORING RECORD

BOREHOLE NO.: SB-808D
DRILLED: 05/30/08
PROJECT: MaineDOT - I-295 - Exit 7 (PIN 15634)
LOCATION: Portland, Maine
PROJECT NO.: 3613-08-3072-02 **PAGE 2 OF 2**

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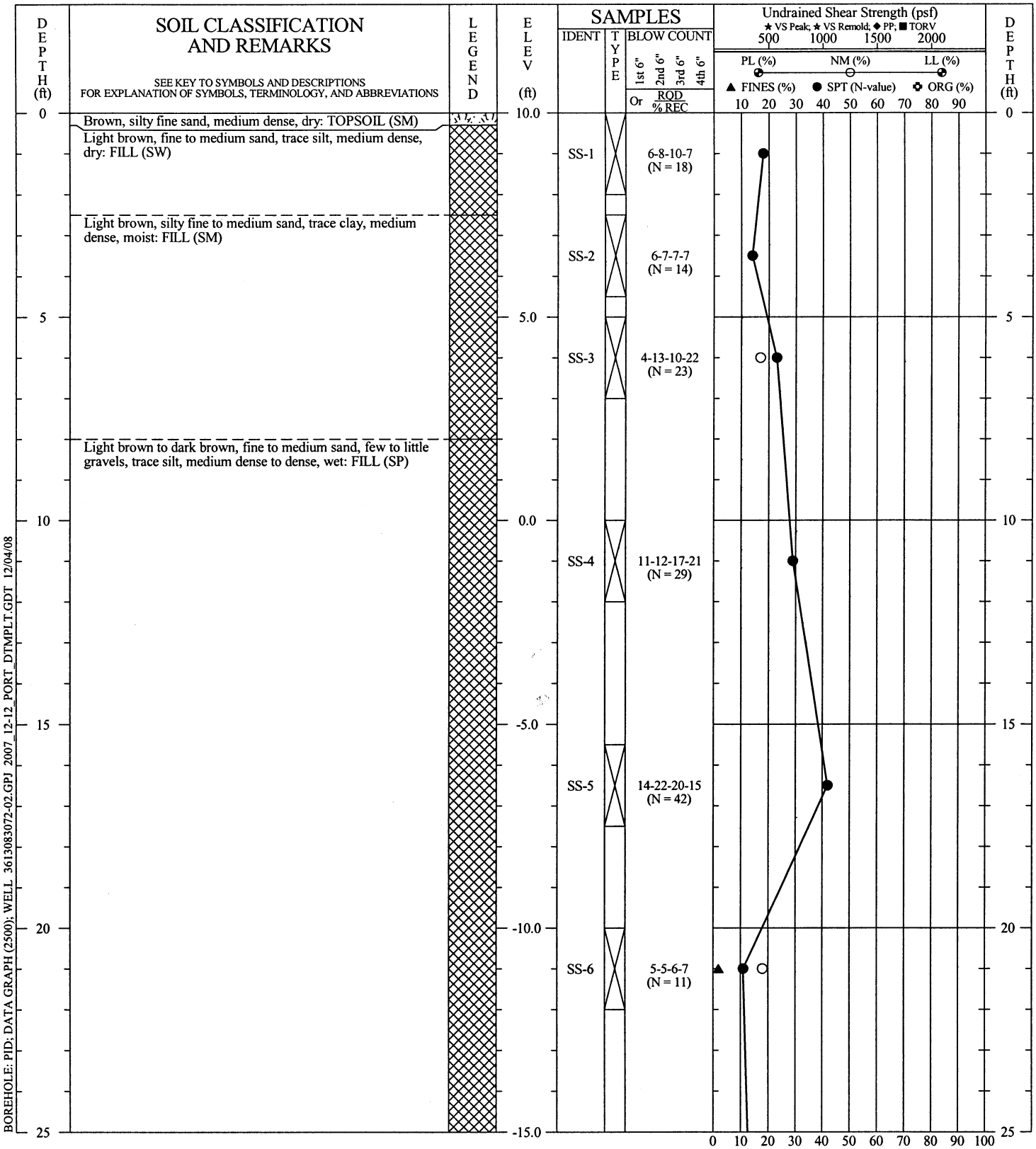

DRILLER:	Great Works Pump & Test Boring
EQUIPMENT:	Rubber-track-mounted CME 45,Hollow-Stem
METHOD:	Augers,4.25" ID,10
HOLE DIAM.:	Rotary Wash with Water (Cased)
REMARKS:	4"
	Sampling via 2" split spoons, 140 lb safety hammer (rope and cathead), and AW rods.

LOGGED BY: RSE CHECKED BY/DATE: TCC/10-2008

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SOIL BORING RECORD

BOREHOLE NO.: SB-809D
DRILLED: 05/29/08
PROJECT: MaineDOT - I-295 - Exit 7 (PIN 15634)
LOCATION: Portland, Maine
PROJECT NO.: 3613-08-3072-02 **PAGE 1 OF 2**

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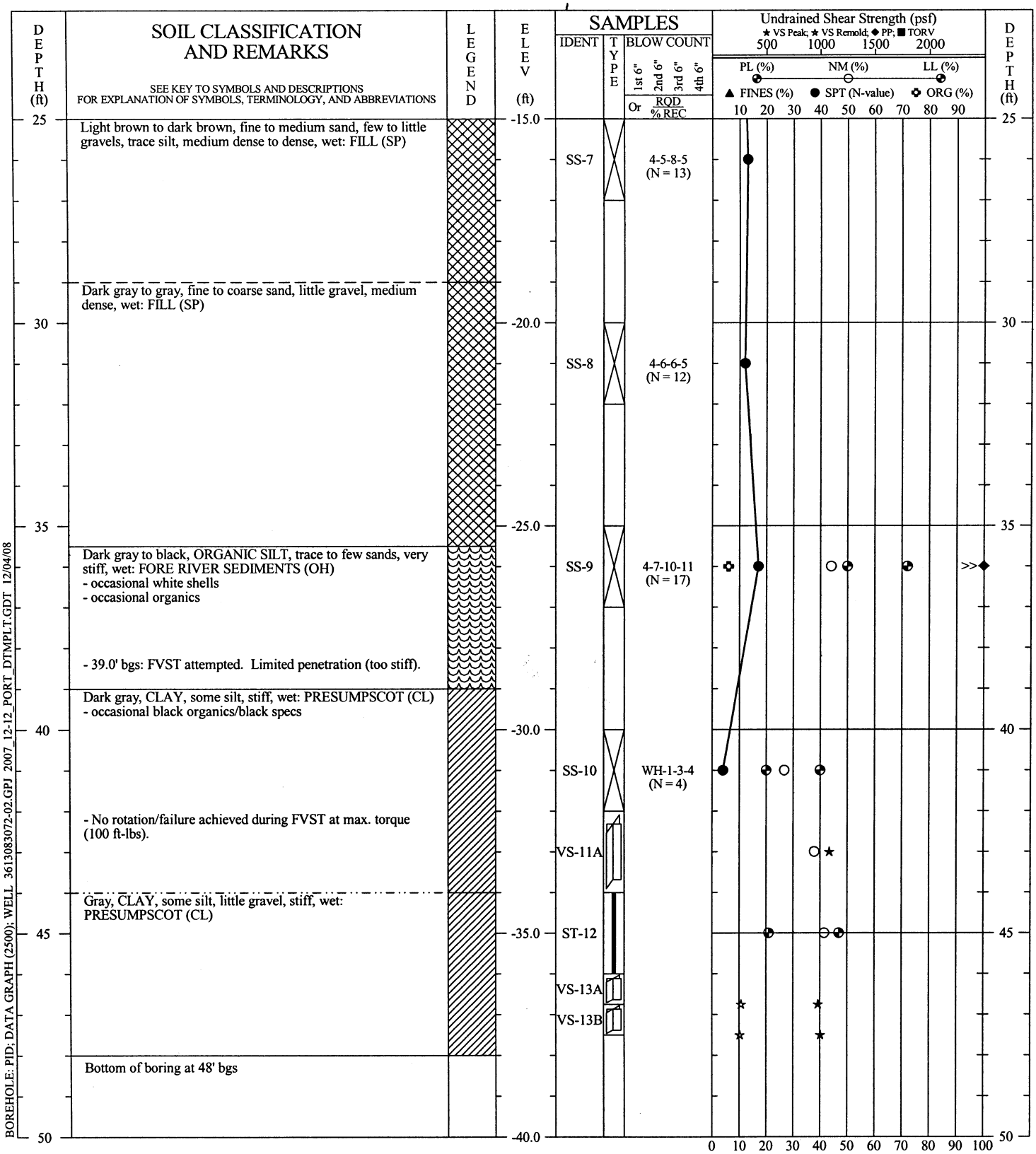

DRILLER:	Great Works Pump & Test Boring
EQUIPMENT:	Rubber-track-mounted CME 45,Hollow-Stem
METHOD:	Augers,4.25" ID,10
HOLE DIAM.:	Rotary Wash with Water (Cased)
REMARKS:	4" Sampling via 2" split spoons, 140 lb safety hammer (rope and cathead), and AW rods.

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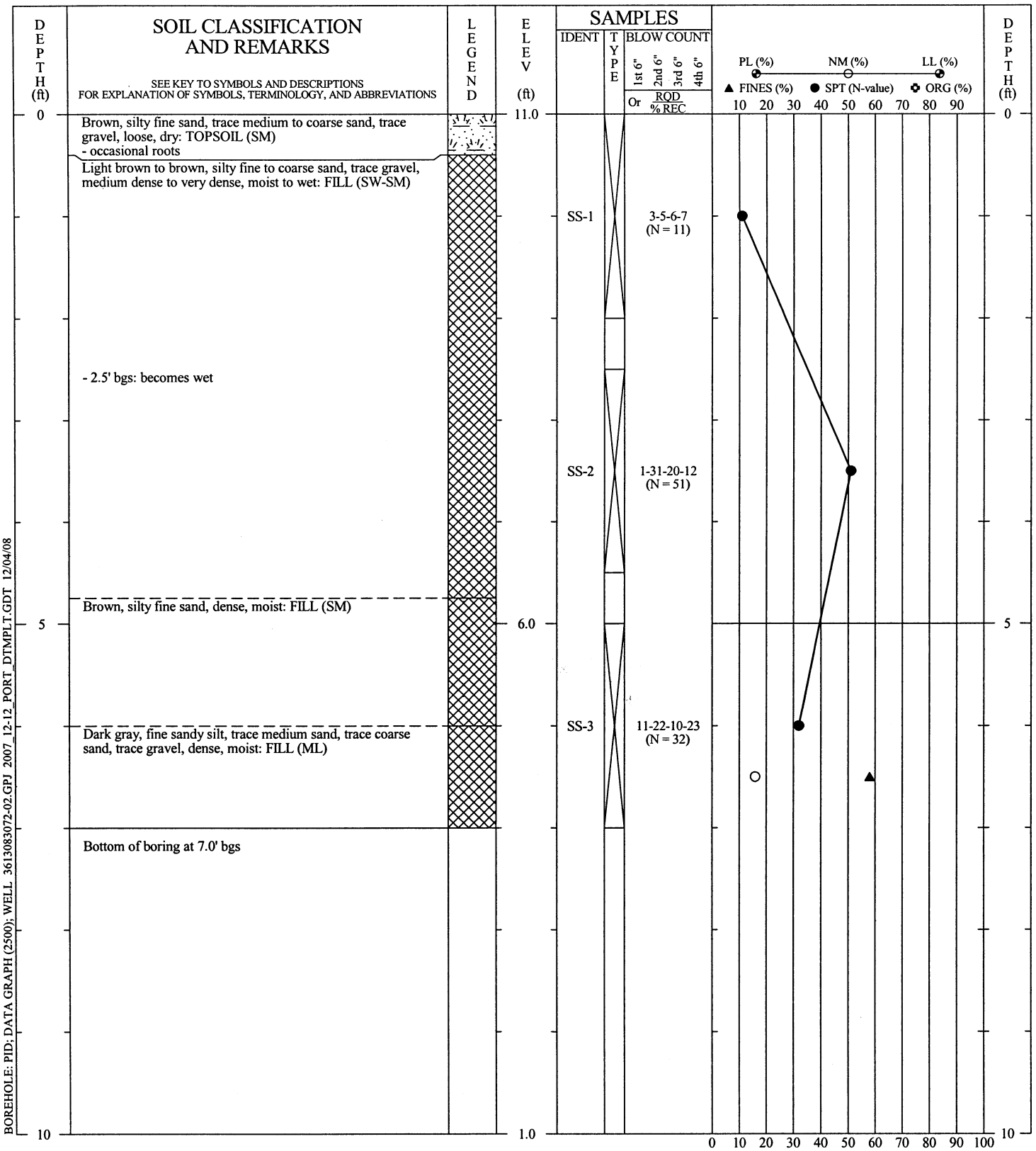
BOREHOLE NO.: SB-809D
DRILLED: 05/29/08
PROJECT: MaineDOT - I-295 - Exit 7 (PIN 15634)
LOCATION: Portland, Maine
PROJECT NO.: 3613-08-3072-02 **PAGE 2 OF 2**

MACTEC



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DRILLER:	Great Works Pump & Test Boring
EQUIPMENT:	Rubber-track-mounted CME 45
METHOD:	Hollow-Stem Augers
HOLE DIAM.:	4.25" ID
REMARKS:	Sampling via 2" split spoons, 140 lb safety hammer (rope and cathead), and AW rods.

LOGGED BY: RSE CHECKED BY/DATE: TCC/10-2008

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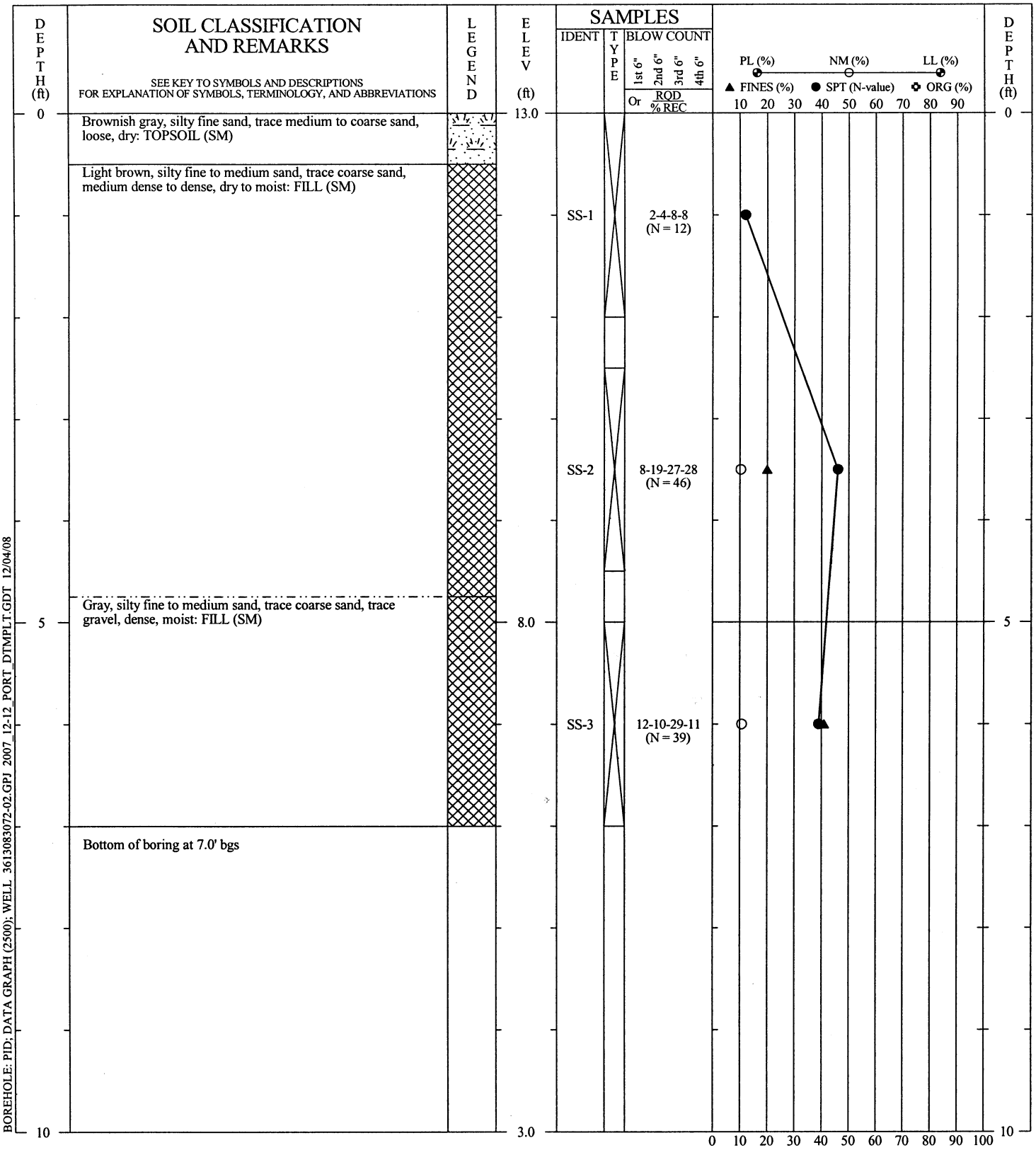
SOIL BORING RECORD

BOREHOLE NO.: SB-810S
DRILLED: 05/28/08
PROJECT: MaineDOT - I-295 - Exit 7 (PIN 15634)
LOCATION: Portland, Maine
PROJECT NO.: 3613-08-3072-02 **PAGE 1 OF 1**

MACTEC



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DRILLER:	Great Works Pump & Test Boring
EQUIPMENT:	Rubber-track-mounted CME 45,Hollow-Stem
METHOD:	Augers,4.25" ID,10
HOLE DIAM.:	Hollow-Stem Augers
REMARKS:	4.25" ID Sampling via 2" split spoons, 140 lb safety hammer (rope and cathead), and AW rods.

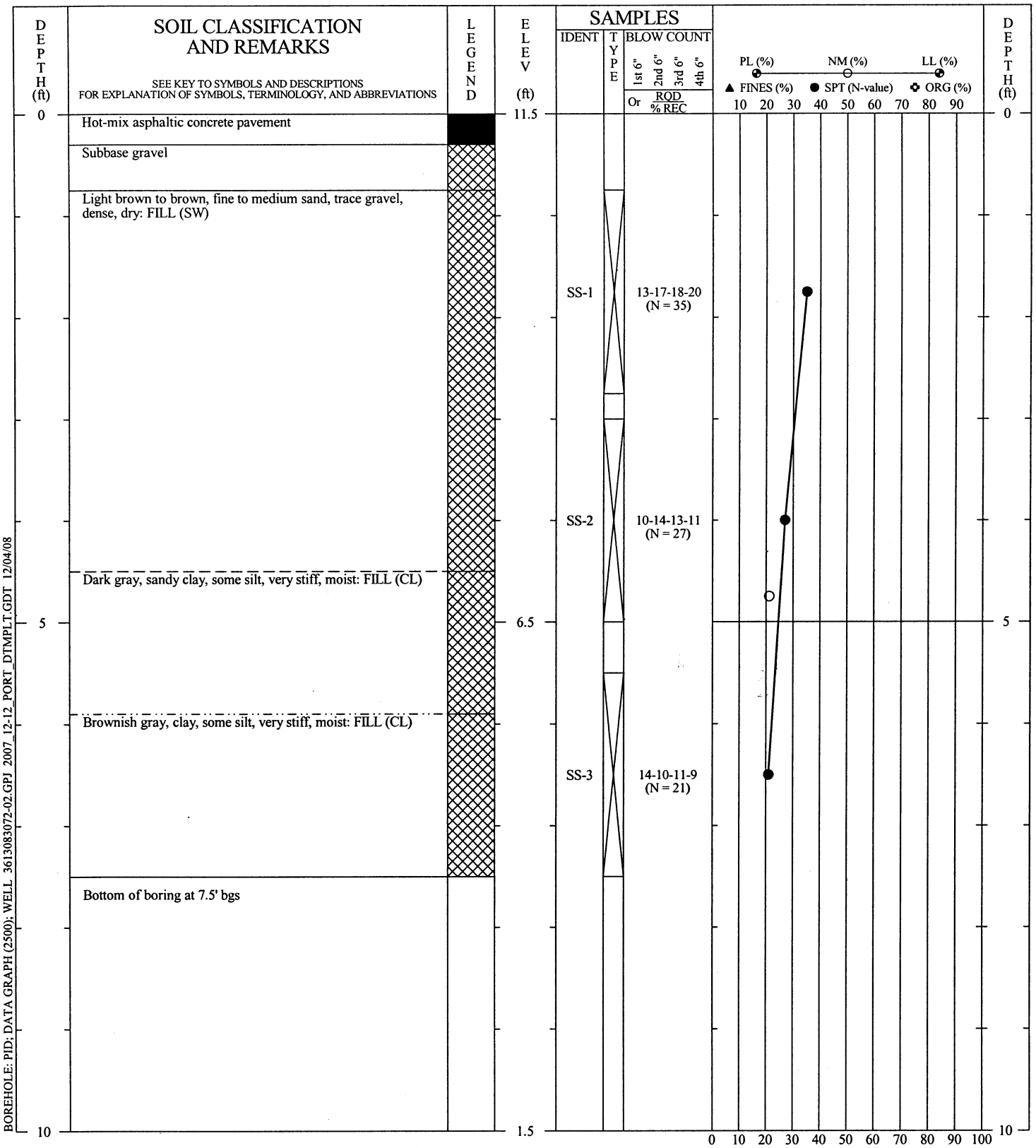
LOGGED BY: RSE CHECKED BY/DATE: TCC/10-2008

THIS BOREHOLE RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

SOIL BORING RECORD

BOREHOLE NO.: SB-816S
DRILLED: 05/29/08
PROJECT: MaineDOT - I-295 - Exit 7 (PIN 15634)
LOCATION: Portland, Maine
PROJECT NO.: 3613-08-3072-02 **PAGE 1 OF 1**

MACTEC



BOREHOLE: PID; DATA GRAPH (2500); WELL 3613083072-02.GPJ 2007_12-12_PORT_DTMPLT.GDT 12/04/08

DRILLER:	Great Works Pump & Test Boring
EQUIPMENT:	Rubber-track-mounted CME 45,Hollow-Stem
METHOD:	Augers,4.25" ID,10
HOLE DIAM.:	Hollow-Stem Augers
REMARKS:	4.25" ID Sampling via 2" split spoons, 140 lb safety hammer (rope and cathead), and AW rods.

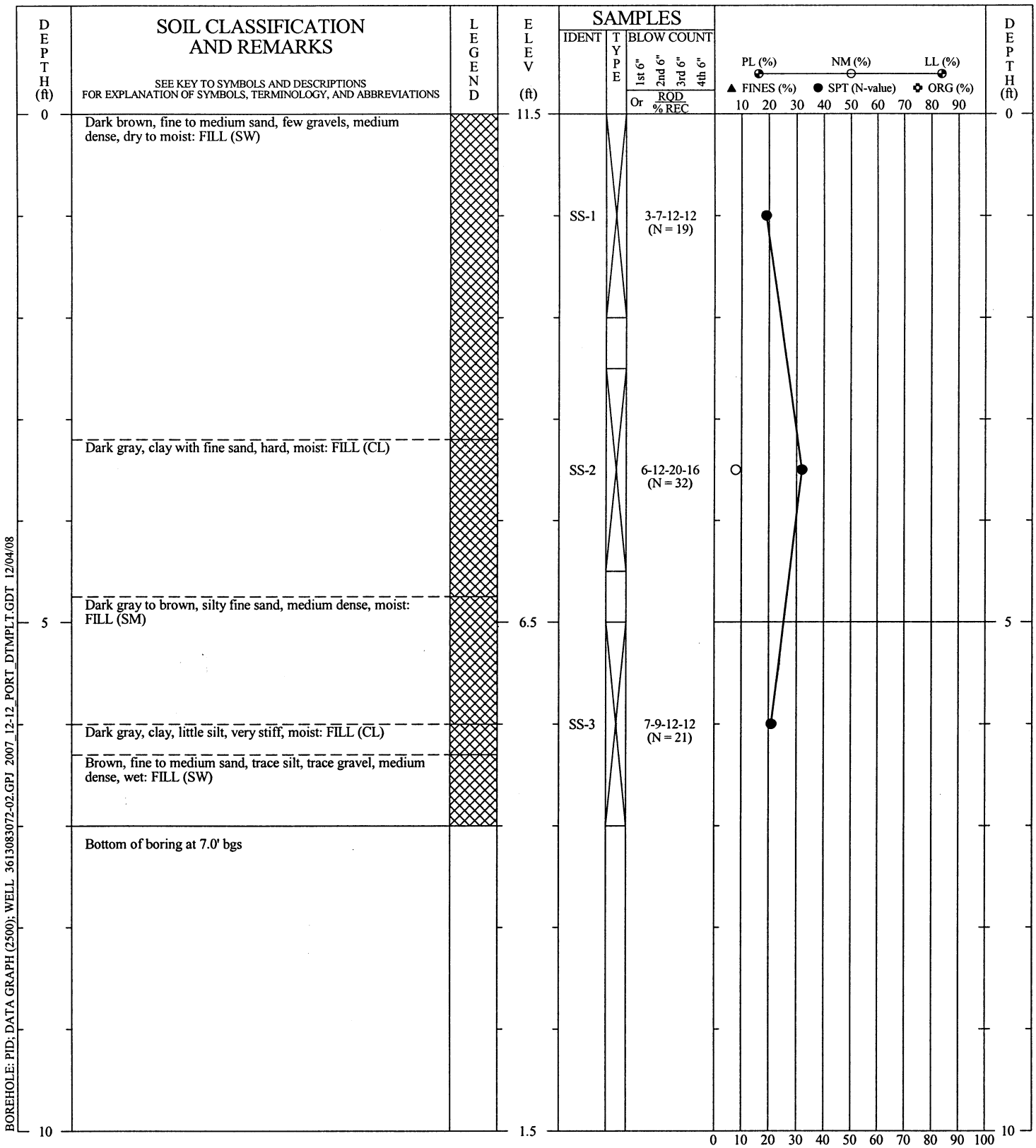
LOGGED BY: RSE CHECKED BY/DATE: TCC/10-2008

THIS BOREHOLE RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

SOIL BORING RECORD

BOREHOLE NO.: SB-817S
DRILLED: 05/29/08
PROJECT: MaineDOT - I-295 - Exit 7 (PIN 15634)
LOCATION: Portland, Maine
PROJECT NO.: 3613-08-3072-02 **PAGE 1 OF 1**

MACTEC



DRILLER:	Great Works Pump & Test Boring
EQUIPMENT:	Rubber-track-mounted CME 45
METHOD:	Hollow-Stem Augers
HOLE DIAM.:	4.25" ID
REMARKS:	Sampling via 2" split spoons, 140 lb safety hammer (rope and cathead), and AW rods.

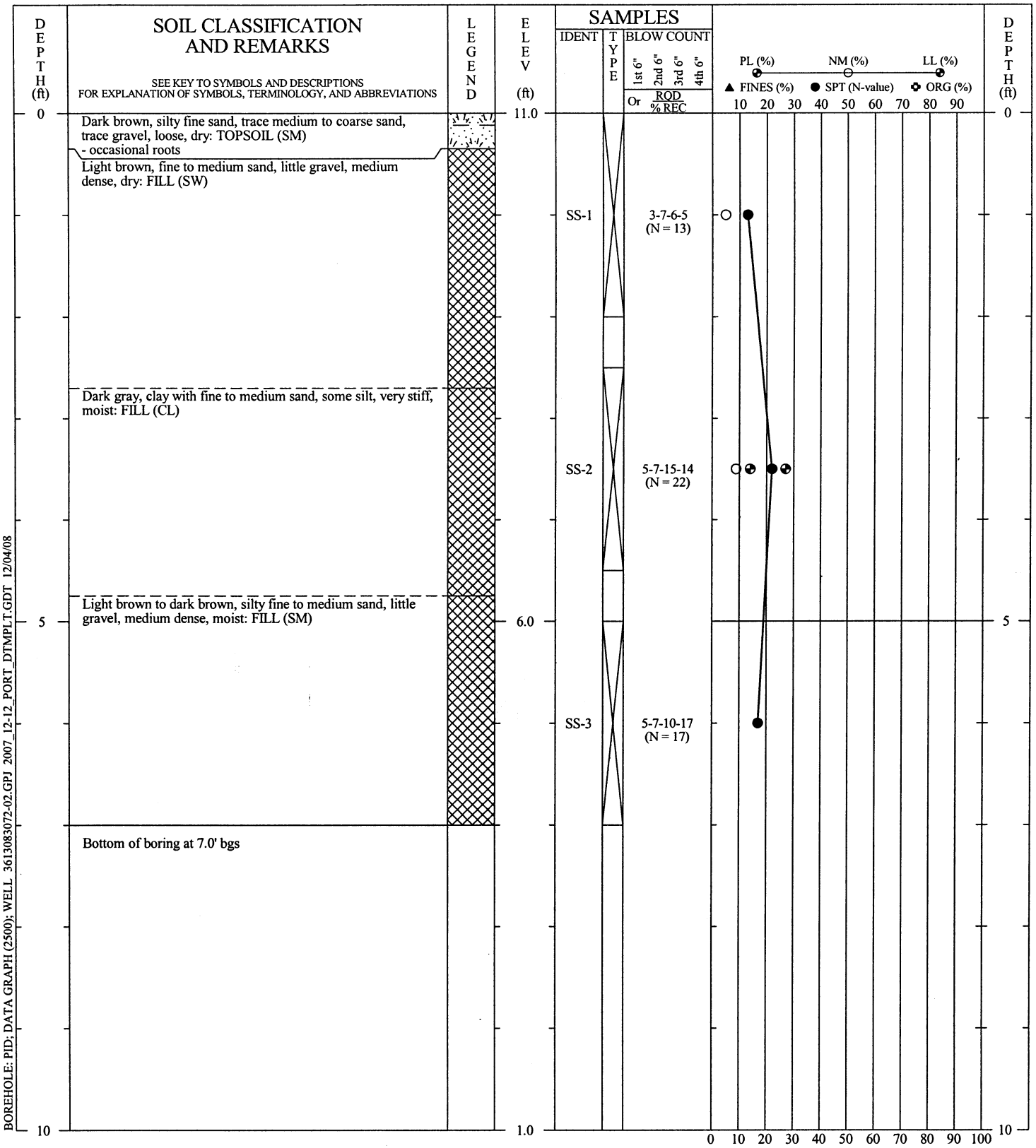
LOGGED BY: RSE CHECKED BY/DATE: TCC/10-2008

THIS BOREHOLE RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

SOIL BORING RECORD

BOREHOLE NO.: SB-811S
DRILLED: 05/28/08
PROJECT: MaineDOT - I-295 - Exit 7 (PIN 15634)
LOCATION: Portland, Maine
PROJECT NO.: 3613-08-3072-02 **PAGE 1 OF 1**

MACTEC



BOREHOLE: PID; DATA GRAPH (2500); WELL 3613083072-02.GPJ 2007_12-12_PORT_DTMPLT.GDT 12/04/08

DRILLER:	Great Works Pump & Test Boring
EQUIPMENT:	Rubber-track-mounted CME 45
METHOD:	Hollow-Stem Augers
HOLE DIAM.:	4.25" ID
REMARKS:	Sampling via 2" split spoons, 140 lb safety hammer (rope and cathead), and AW rods.

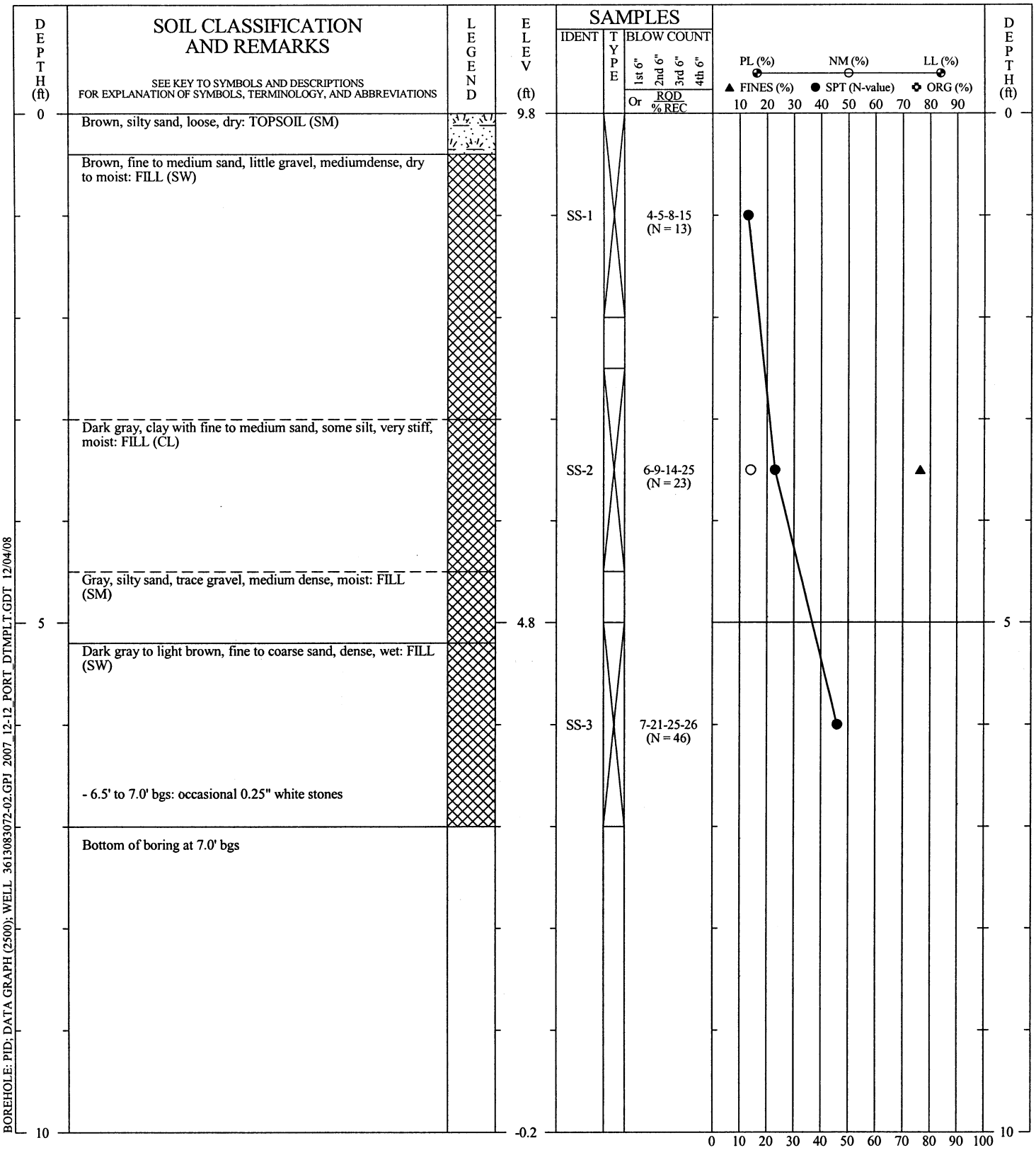
LOGGED BY: RSE CHECKED BY/DATE: TCC/10-2008

THIS BOREHOLE RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

SOIL BORING RECORD

BOREHOLE NO.: SB-812S
DRILLED: 05/28/08
PROJECT: MaineDOT - I-295 - Exit 7 (PIN 15634)
LOCATION: Portland, Maine
PROJECT NO.: 3613-08-3072-02 **PAGE 1 OF 1**

MACTEC



BOREHOLE: PID; DATA GRAPH (2500); WELL 3613083072-02.GPJ 2007_12-12_PORT_DTMPLT.GDT 12/04/08

DRILLER:	Great Works Pump & Test Boring
EQUIPMENT:	Rubber-track-mounted CME 45
METHOD:	Hollow-Stem Augers
HOLE DIAM.:	4.25" ID
REMARKS:	Sampling via 2" split spoons, 140 lb safety hammer (rope and cathead), and AW rods.

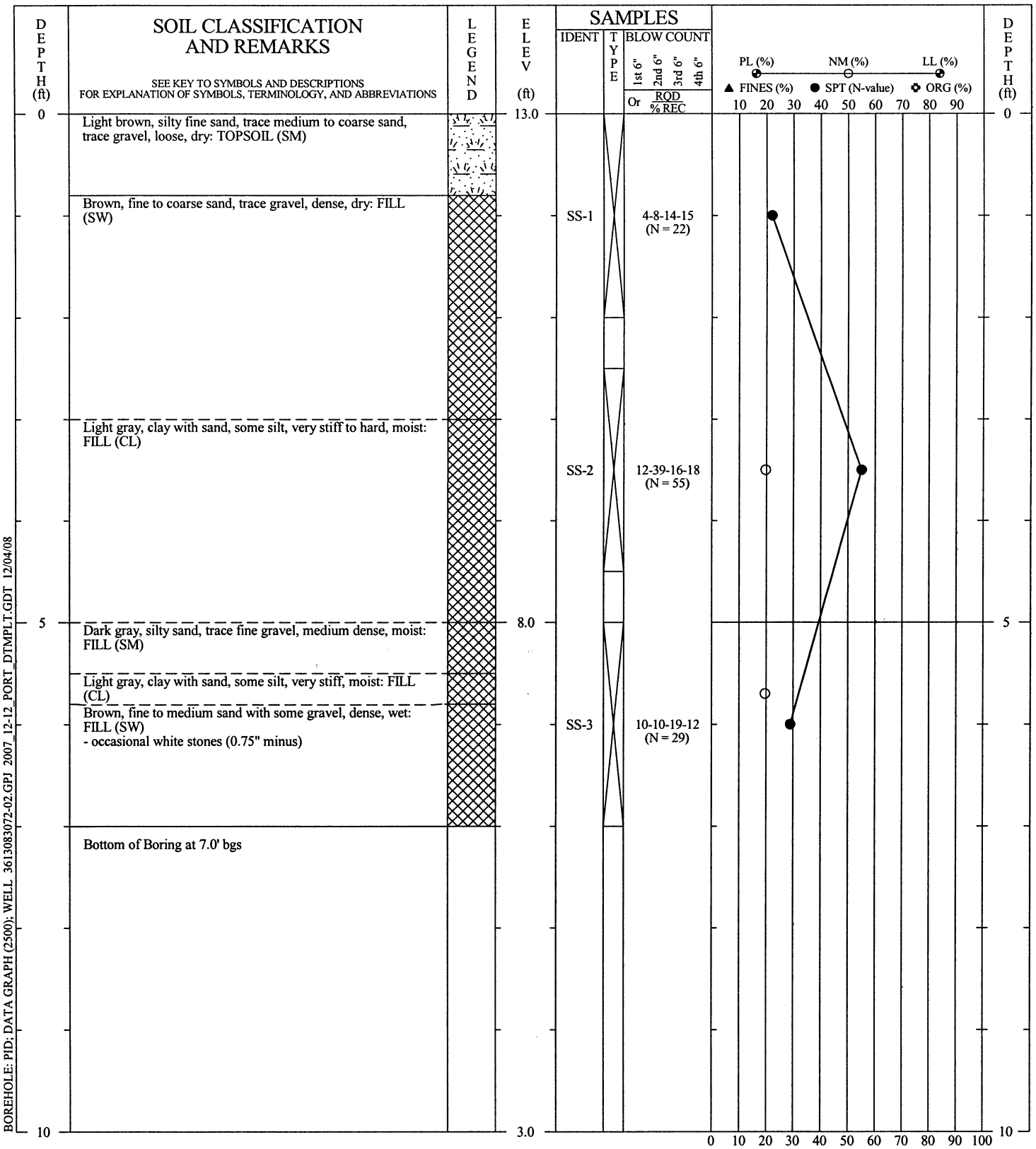
LOGGED BY: RSE CHECKED BY/DATE: TCC/10-2008

THIS BOREHOLE RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

SOIL BORING RECORD

BOREHOLE NO.: SB-813S
DRILLED: 05/28/08
PROJECT: MaineDOT - I-295 - Exit 7 (PIN 15634)
LOCATION: Portland, Maine
PROJECT NO.: 3613-08-3072-02 **PAGE 1 OF 1**

MACTEC



BOREHOLE: PID; DATA GRAPH (2500); WELL 3613083072-02.GPJ 2007_12-12_PORT_DTMPLT.GDT 12/04/08

DRILLER:	Great Works Pump & Test Boring
EQUIPMENT:	Rubber-track-mounted CME 45
METHOD:	Hollow-Stem Augers
HOLE DIAM.:	4.25" ID
REMARKS:	Sampling via 2" split spoons, 140 lb safety hammer (rope and cathead), and AW rods.

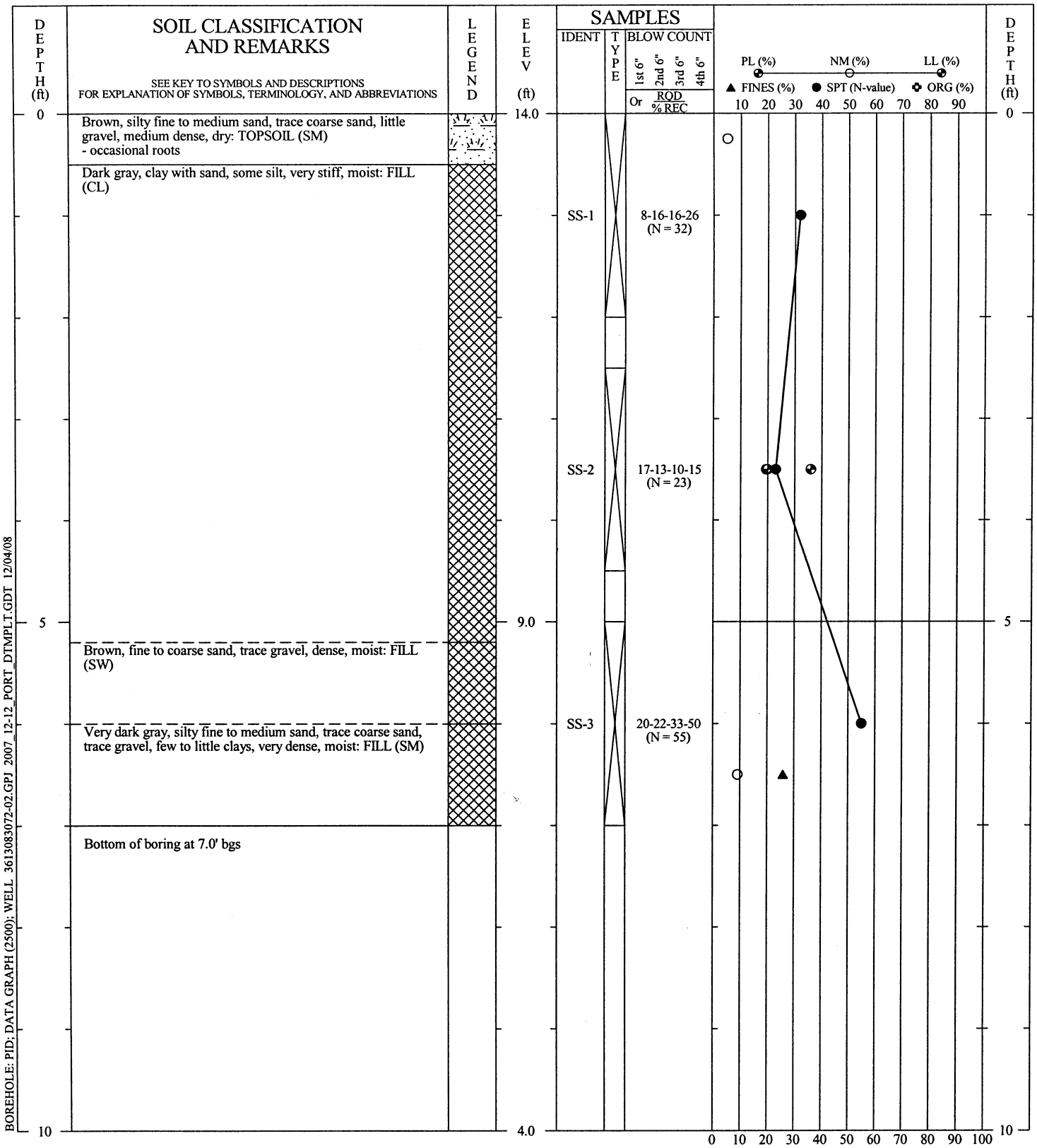
LOGGED BY: RSE CHECKED BY/DATE: TCC/10-2008

THIS BOREHOLE RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

SOIL BORING RECORD

BOREHOLE NO.: SB-814S
DRILLED: 05/28/08
PROJECT: MaineDOT - I-295 - Exit 7 (PIN 15634)
LOCATION: Portland, Maine
PROJECT NO.: 3613-08-3072-02 **PAGE 1 OF 1**

MACTEC



BOREHOLE: PID; DATA GRAPH (2500); WELL 3613083072-02.GPJ 2007_12-12_PORT_DTMPLT.GDT 12/04/08

DRILLER:	Great Works Pump & Test Boring
EQUIPMENT:	Rubber-track-mounted CME 45
METHOD:	Hollow-Stem Augers
HOLE DIAM.:	4.25" ID
REMARKS:	Sampling via 2" split spoons, 140 lb safety hammer (rope and cathead), and AW rods.

LOGGED BY: RSE CHECKED BY/DATE: TCC/10-2008

THIS BOREHOLE RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

SOIL BORING RECORD

BOREHOLE NO.: SB-815S
DRILLED: 05/28/08
PROJECT: MaineDOT - I-295 - Exit 7 (PIN 15634)
LOCATION: Portland, Maine
PROJECT NO.: 3613-08-3072-02 **PAGE 1 OF 1**

MACTEC

Lab Test data

Table X.X
Summary of Geotechnical Laboratory Testing Data

General Location	Boring No.	Sample Information						Laboratory Testing Data																										
														Particle-Size Analysis D 422				Atterberg Limits D 4318						Specific Gravity D 854	Vane Shear D 4648		1-D Consolidation D 2435					
		No.	Type	Depth Interval	Approx. In-Situ Effective Stress σ'_v	Primary Stratum	USCS D 2487 D 2488	Water Content D 2216	Organic Content D 2974	Approx. Total Unit Weight γ_t	Approx. Dry Unit Weight γ_d	Approx. Initial Void Ratio e	Approx. Initial Deg. of Saturat. S	Gravel	Sand	Silt	Clay	LL Wet Prep.	LL Oven Dried	LL ODLL WPLL Ratio	PL	PI	LI		Avg. Peak	Avg. Remold	$C_c\varepsilon$ $C_c/(1+e_0)$	$C_r\varepsilon$ $C_r/(1+e_0)$	C_v	$\sigma'p$	Approx. OCR
				(ft bgs)	(psf)			(%)	(%)	(pcf)	(pcf)		(%)	(%)	(%)	(%)	(%)								(psf)	(psf)			(ft^2/day)	(psf)	
Northbound Off-Ramp	SB-801S	SS-03 -	Jar	05 - 07	-	FILL	SW-SM	4.7	-	-	-	-	-	3.9	85.4	10.7		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SB-802S	SS-02 -	Jar	2.5 - 4.5	-	FILL	SP-SM	5.3	-	-	-	-	-	42.0	50.9	7.1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SS-03 -	Jar	05 - 07	-	FILL	SP	5.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SB-803S	SS-02 -	Jar	2.5 - 4.5	-	FILL	SW-SM	4.4	-	-	-	-	-	10.6	77.5	11.9		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SS-03 -	Jar	05 - 07	-	FILL	SP-SM	3.0	-	-	-	-	-	21.0	73.5	5.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SB-804S	SS-02 -	Jar	2.5 - 4.5	-	FILL	SP-SM	6.7	-	-	-	-	-	1.3	91.2	7.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SS-03 -	Jar	05 - 07	-	FILL	SP-SM	9.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Southbound Off-Ramp	SB-805S	SS-02 -	Jar	2.5 - 4.5	-	FILL	ML	14.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SS-03 -	Jar	05 - 07	-	FILL	CL	28.4	-	-	-	-	-	0.0	5.3	34.2	60.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SB-806D	SS-02 -	Jar	05 - 07	-	FILL	SP-SM	8.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SS-04 -	Jar	15 - 17	-	FILL	SP-SM	14.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SS-07 -	Jar	30 - 32	-	FILL	SP	25.9	-	-	-	-	-	45.9	53.7	0.4		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SS-08 -	Jar	35 - 37	-	FORE RIVER	OH	43.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SS-09 -	Jar	37 - 39	-	FORE RIVER	CL	35.2	-	-	-	-	-	-	-	-	-	41	-	-	23	18	0.7	-	-	-	-	-	-	-	-	-
		ST-11 -	Tube	42 - 44	3000	PRESUMPSCOT	CL	40.0	-	117	83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
								39.3	-	113.1	81.2	1.06	99.3	-	-	-	-	45	-	-	24	21	0.7	2.68	890	-	0.20	0.02	0.10 - 0.60	5200	1.7
		SS-12 -	Jar	48 - 50	-	PRESUMPSCOT	CL	43.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SB-807D	SS-03 A	Jar	05 - 07	-	FILL	SW	10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SS-03 B	Jar	05 - 07	-	FILL	CL	25.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SS-04 -	Jar	10 - 12	-	FILL	SW-SM	15.1	-	-	-	-	-	4.2	87.1	8.7		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SS-06 -	Jar	20 - 22	-	FORE RIVER	OH	41.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SS-09 A	Jar	32 - 34	-	PRESUMPSCOT	CL	28.9	-	-	-	-	-	-	-	-	-	42	-	-	19	23	0.4	-	-	-	-	-	-	-	-	-
		SS-10 A	Jar	35 - 37	-	PRESUMPSCOT	CL	28.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SS-11 B	Jar	40 - 42	-	PRESUMPSCOT	CL	37.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SS-12 B	Jar	45 - 47	-	PRESUMPSCOT	CL	40.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		ST-14 -	Tube	50 - 52	3300	PRESUMPSCOT	CH	42.0	-	114	81	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
								42.9	-	-	-	-	-	-	-	-	-	50	-	-	26	24	0.7	-	-	-	-	-	-	-	-	-
								38.3	-	113.8	82.3	1.03	99.8	-	-	-	-	-	-	-	-	-	-	2.69	980	-	0.16	0.02	0.10 - 0.20	5000	1.5
	SB-808D	SS-03 -	Jar	05 - 07	-	FILL	CL	69.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SS-04 -	Jar	10 - 12	-	FILL	SP	10.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SS-06 -	Jar	20 - 22	-	FILL	SP	16.1	-	-	-	-	-	11.8	85.8	2.4		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SS-08 A	Jar	30 - 32	-	FORE RIVER	OH	55.0	7.7	-	-	-	-	-	-	-	-	78	52	0.67	36	42	0.5	-	-	-	-	-	-	-	-	-
		SS-08 B	Jar	30 - 32	-	FORE RIVER	OH	57.9	-	-	-	-	-	0.0	4.7	74.0	21.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SS-09 -	Jar	32 - 34	-	FORE RIVER	OH	64.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SS-10 A	Jar	34 - 36	-	FORE RIVER	OH	52.6	-	-	-	-	-	-	-	-	-	71	44	0.62	38	33	0.4	-	-	-	-	-	-	-	-	-
		SS-10 B	Jar	34 - 36	-	PRESUMPSCOT	CL	35.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SS-11 B	Jar	36 - 38	-	PRESUMPSCOT	CL	28.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SS-12 A	Jar	38 - 40	-	PRESUMPSCOT	CL	32.7	-	-	-	-	-	-	-	-	-	43	-	-	26	17	0.4	-	-	-	-	-	-	-	-	-
	SB-809D	SS-03 -	Jar	05 - 07	-	FILL	SM	17.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SS-06 -	Jar	20 - 22	-	FILL	SP	18.0	-	-	-	-	-	9.6	88.7	1.7		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SS-09 -	Jar	35 - 37	-	FORE RIVER	OH	44.0	6.0	-	-	-	-	-	-	-	-	72	50	0.69	36	36	0.2	-	-	-	-	-	-	-	-	-
		SS-10 -	Jar	40 - 42	-	PRESUMPSCOT	CL	26.7	-	-	-	-	-	-	-	-	-	40	32	0.80	20	20	0.3	-	-	-	-	-	-	-	-	-
		SS-11 -	Jar	42 - 44	-	PRESUMPSCOT	CL	37.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		ST-12 -	Tube	44 - 46	-	PRESUMPSCOT	CL	41.6	-	-	-	-	-	-	-	-	-	47	-	-	21	26	0.8	-	-	-	-	-	-	-	-	-
	SB-810S	SS-03 -	Jar	05 - 07	-	FILL	ML	15.9	-	-	-	-	-	1.2	41.1	57.7		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SB-816S	SS-02 -	Jar	2.5 - 4.5	-	FILL	SM	10.3	-	-	-	-	-	0.3	79.6	20.1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SS-03 -	Jar	05 - 07	-	FILL	SM	10.6	-	-	-	-	-	2.6	56.7	40.7		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SB-817S	SS-02 -	Jar	03 - 05	-	FILL	CL	21.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table X.X
Summary of Geotechnical Laboratory Testing Data

General Location	Boring No.	Sample Information						Laboratory Testing Data																								
		No.	Type	Depth Interval	Approx. In-Situ Effective Stress σ'_v	Primary Stratum	USCS D 2487 D 2488	Water Content D 2216	Organic Content D 2974	Approx. Total Unit Weight γ_t	Approx. Dry Unit Weight γ_d	Approx. Initial Void Ratio e	Approx. Initial Deg. of Saturat. S	Particle-Size Analysis D 422				Atterberg Limits D 4318						Specific Gravity D 854	Vane Shear D 4648		1-D Consolidation D 2435					
														Gravel	Sand	Silt	Clay	LL			PL	PI	LI		Avg. Peak	Avg. Remold	Cc ε $C_c/(1+e_0)$	Cr ε $C_r/(1+e_0)$	C_v	σ'p	Approx. OCR
																		Wet Prep.	Oven Dried	ODLL WPLL Ratio												
				(ft bgs)	(psf)			(%)	(%)	(pcf)	(pcf)		(%)	(%)	(%)	(%)	(%)								(psf)	(psf)			(ft^2/day)	(psf)	
Southbound I-295	SB-811S	SS-02 -	Jar	2.5 - 4.5	-	FILL	CL	7.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SB-812S	SS-01 -	Jar	00 - 02	-	FILL	SW	4.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SS-02 -	Jar	2.5 - 4.5	-	FILL	CL	8.8	-	-	-	-	-	-	-	-	-	27	-	-	14	13	-0.4	-	-	-	-	-	-	-	-
	SB-813S	SS-02 -	Jar	2.5 - 4.5	-	FILL	CL	14.0	-	-	-	-	-	0.0	23.7	33.8	42.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SB-814S	SS-02 -	Jar	2.5 - 4.5	-	FILL	CL	19.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SS-03 -	Jar	05 - 07	-	FILL	CL	19.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SB-815S	SS-01 -	Jar	00 - 02	-	TOPSOIL	SM	5.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		SS-02 -	Jar	2.5 - 4.5	-	FILL	CL	19.4	-	-	-	-	-	-	-	-	-	36	-	-	20	16	0.0	-	-	-	-	-	-	-	-
		SS-03 -	Jar	05 - 07	-	FILL	SM	9.1	-	-	-	-	-	4.3	70.1	13.4	12.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Prepared by/Date: RSE 09-2008
Checked by/Date: TCC 10-2008

Table x.x
Summary of Field Vane Shear Testing

SB-806D	VS-10	A	CLAY	40.8	Acker	Large	0.905	76.0	17.0	0.0	76.0	17.0	825	185	45	24	21	0.99	819	183	4	-
	VS-10	B	CLAY	41.5	Acker	Large	0.905	82.0	16.0	0.0	82.0	16.0	891	174	45	24	21	0.99	884	172	5	-
SB-807D	VS-12	A	CLAY	45.8	Acker	Large	0.905	75.0	17.0	0.0	75.0	17.0	815	185	46	23	23	0.98	795	180	4	Bjerrum based on avg. LL, PL, and PI from Atterberg limits above and below.
	VS-12	B	CLAY	46.5	Acker	Large	0.905	81.0	18.0	0.0	81.0	18.0	880	195	46	23	23	0.98	859	191	5	
SB-809D	VS-11	A	CLAY	39.8	Acker	Large	0.905	100.0	0.0	0.0	100.0	0.0	1086	-	40	20	20	1.00	1086	-	-	No rotation/failure achieved.
	VS-13	A	CLAY	46.8	Acker	Large	0.905	95.0	26.0	0.0	95.0	26.0	1032	282	47	21	26	0.95	983	269	4	-
	VS-13	B	CLAY	47.5	Acker	Large	0.905	97.0	25.0	0.0	97.0	25.0	1053	271	47	21	26	0.95	1004	259	4	-

Prepared By/Date: RSE 07-2008
Checked By/Date: TCC 08-2008

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Client:	MACTEC Engineering & Consulting		
Project Name:	I-295 Exit 7 Interchange		
Project Location:	Portland, ME		
GTX #:	8319	Tested By:	md
Test Date:	08/20/08	Checked By:	jdt

TCC 10/2008

Density of Soil In Place by the Drive Cylinder Method by ASTM D 2937 and Moisture Content by ASTM D 2216

Boring ID	Sample ID	Depth, ft	Section	Visual Description	Bulk Density, lb/ft^3	Moisture Content, %	Dry Density, lb/ft^3
SB806D	ST-11	42	Bottom	Moist, gray clay	117	40	83
SB807D	ST-14	50	Bottom	Moist, gray clay	114	42	81

Notes: Density determined on undisturbed tube sample provided to GeoTesting Express in Shelby tubes

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Client:	MACTEC Engineering &Consulting				
Project:	I-295 Exit 7 Interchange				
Location:	Portland, ME			Project No:	GTX-8319
Boring ID:	---	Sample Type:	---	Tested By:	ap
Sample ID:	---	Test Date:	08/26/08	Checked By:	jdt
Depth :	---	Test Id:	136960		Tkc 10/2008

Specific Gravity of Soils by ASTM D 854-06

Boring ID	Sample ID	Depth	Visual Description	Specific Gravity
SB806D	ST-11	42ft	Moist, gray clay	2.68
SB807D	ST-14	50ft	Moist, gray clay	2.69

Notes: Specific Gravity performed by using method A (oven dried specimens) of ASTM D 854
Moisture Content determined by ASTM D 2216.

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	MACTEC Engineering & Consulting
Project Name:	I-295 Exit 7 Interchange
Project Location:	Portland, ME
GTX #:	8319
Date:	08/20/08
Tested by:	md
Checked by:	jdt

Tcc 10/2008

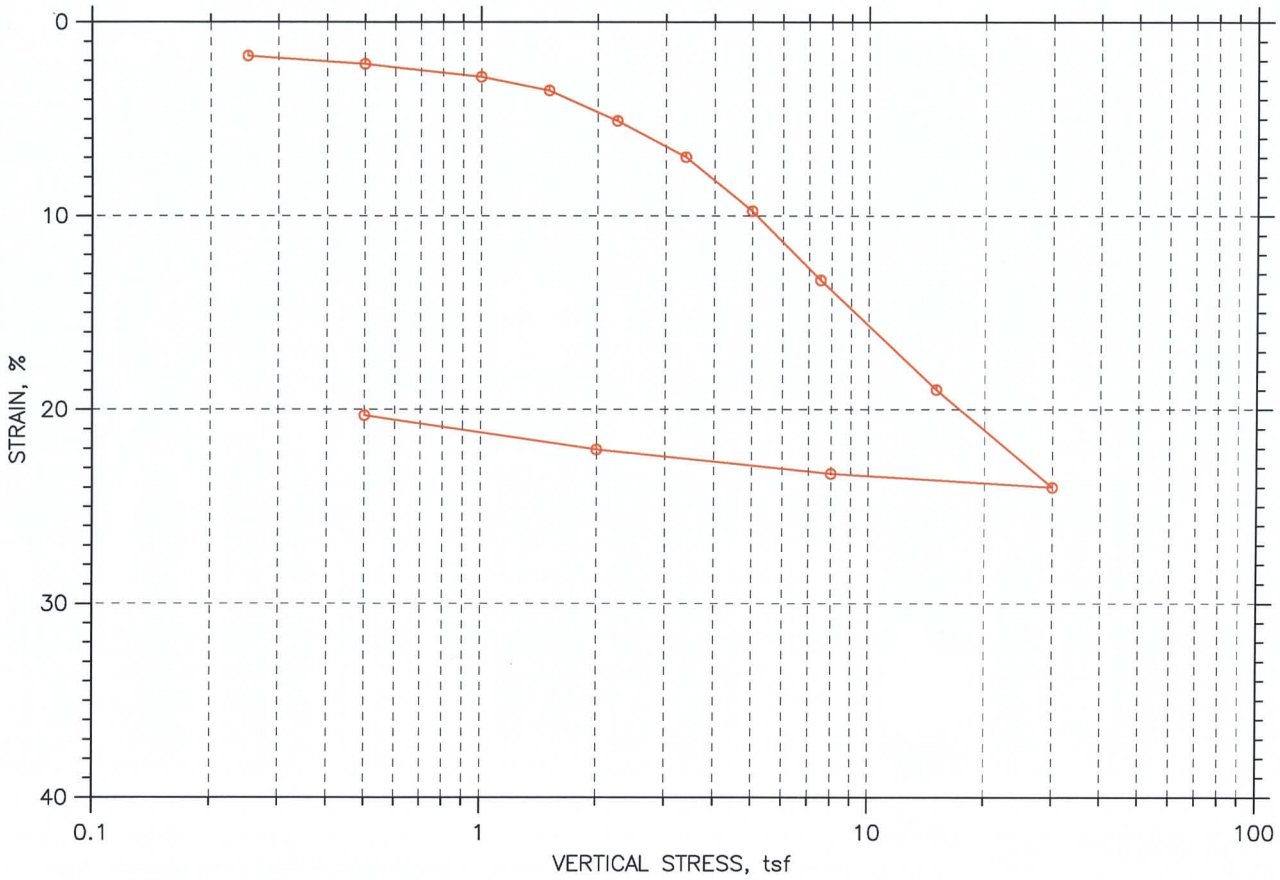
Laboratory Vane Shear by ASTM D 4648

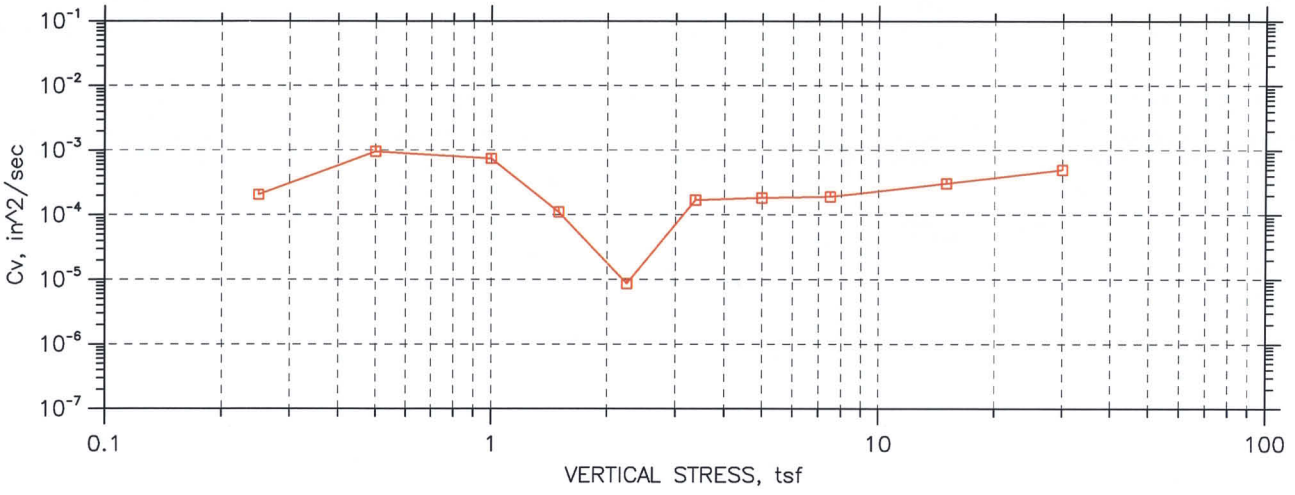
Boring ID	Sample ID	Depth, ft	Visual Description	Vane Shear Strength, kN/m^2	Vane Shear Strength, tsf
SB806D	ST-11	42	Moist, gray clay	46.7	0.49
			bottom of tube	47.9	0.50
				44.0	0.46
			Average	46.2	0.48
SB806D	ST-11	42	Moist, gray clay	37.2	0.39
			bottom-middle of tube	39.9	0.42
				39.5	0.41
			Average	38.9	0.41
SB807D	ST-14	50	Moist, gray clay	42.2	0.44
			middle of tube	43.5	0.45
				42.6	0.45
			Average	42.8	0.45
SB807D	ST-14	50	Moist, gray clay	52.9	0.55
			middle of tube	50.7	0.53
				49.4	0.52
			Average	51.0	0.53

Comments:

CONSOLIDATION TEST DATA

SUMMARY REPORT



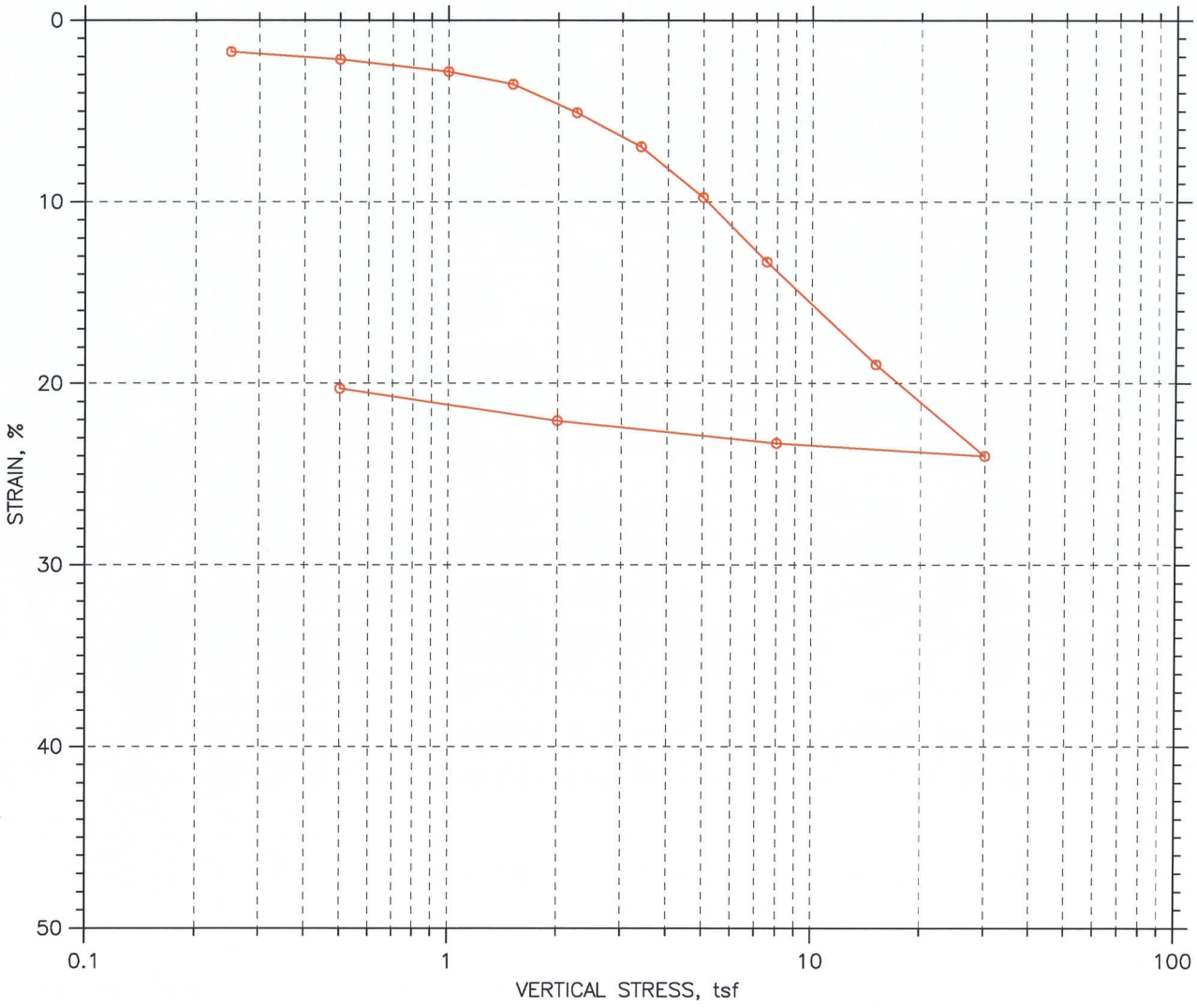


GeoTesting express a subsidiary of Geocomp Corporation	Project: I-295 Exit 7	Location: Portland, ME	Project No.: GTX-8319
	Boring No.: SB-806D	Tested By: njh	Checked By: jdt
	Sample No.: ST-11	Test Date: 08/20/08	Depth: 42 ft
	Test No.: C-1	Sample Type: tube	Elevation: ---
	Description: Moist, gray clay		TCC 10/2008
	Remarks: System G		

Wed, 27-AUG-2008 14:00:17

CONSOLIDATION TEST DATA

SUMMARY REPORT



				Before Test	After Test
Overburden Pressure: ---				Water Content, %	39.30	23.99
Preconsolidation Pressure: ---				Dry Unit Weight, pcf	81.18	101.8
Compression Index: ---				Saturation, %	99.28	99.99
Diameter: 2.5 in		Height: 1 in		Void Ratio	1.06	0.64
LL: 45	PL: 24	PI: 21	GS: 2.68			

GeoTesting express a subsidiary of Geocomp Corporation	Project: I-295 Exit 7	Location: Portland, ME	Project No.: GTX-8319
	Boring No.: SB-806D	Tested By: njh	Checked By: jdt
	Sample No.: ST-11	Test Date: 08/20/08	Depth: 42 ft
	Test No.: C-1	Sample Type: tube	Elevation: ---
	Description: Moist, gray clay		
	Remarks: System G		

CONSOLIDATION TEST DATA

Project: I-295 Exit 7
Boring No.: SB-806D
Sample No.: ST-11
Test No.: C-1

Location: Portland, ME
Tested By: njh
Test Date: 08/20/08
Sample Type: tube

Project No.: GTX-8319
Checked By: jdt
Depth: 42 ft
Elevation: ---

Soil Description: Moist, gray clay
Remarks: System G

Measured Specific Gravity: 2.68
Initial Void Ratio: 1.06
Final Void Ratio: 0.64

Liquid Limit: 45
Plastic Limit: 24
Plasticity Index: 21

Initial Height: 1.00 in
Specimen Diameter: 2.50 in

	Before Consolidation		After Consolidation	
	Trimmings	Specimen+Ring	Specimen+Ring	Trimmings
Container ID	pincers	RING		3304
Wt. Container + Wet Soil, gm	191.42	362.15	346.13	137.36
Wt. Container + Dry Soil, gm	138.81	321.04	321.04	112.37
Wt. Container, gm	8.16	216.44	216.44	8.19
Wt. Dry Soil, gm	130.65	104.6	104.6	104.18
Water Content, %	40.27	39.30	23.99	23.99
Void Ratio	---	1.06	0.64	---
Degree of Saturation, %	---	99.28	99.99	---
Dry Unit Weight, pcf	---	81.178	101.84	---

CONSOLIDATION TEST DATA

Project: I-295 Exit 7
Boring No.: SB-806D
Sample No.: ST-11
Test No.: C-1

Location: Portland, ME
Tested By: njh
Test Date: 08/20/08
Sample Type: tube

Project No.: GTX-8319
Checked By: jdt
Depth: 42 ft
Elevation: ---

Soil Description: Moist, gray clay
Remarks: System G

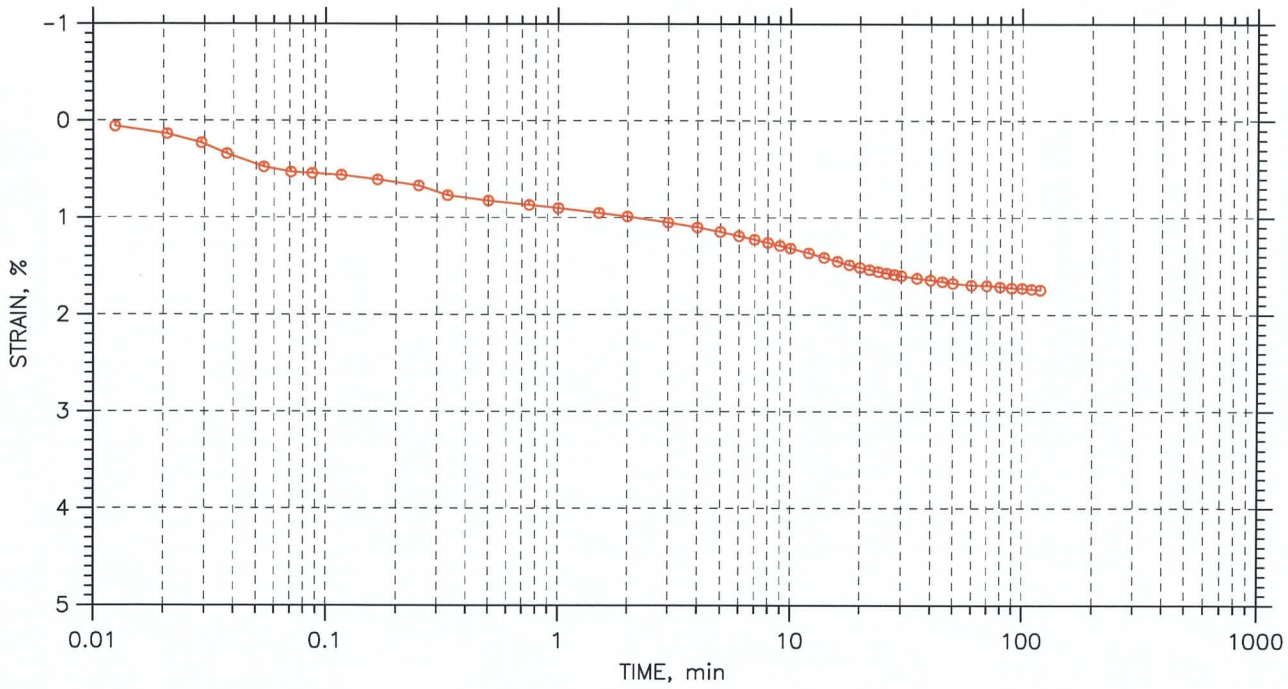
	Applied Stress tsf	Final Displacement in	Void Ratio	Strain at End %	T50 Fitting Sq.Rt. min	T50 Fitting Log min	Coefficient of Consolidation Sq.Rt. in^2/sec	Coefficient of Consolidation Log in^2/sec	Coefficient of Consolidation Ave. in^2/sec
1	0.25	0.01743	1.025	1.74	3.9	0.0	2.06e-004	0.00e+000	2.06e-004
2	0.5	0.02156	1.017	2.16	0.9	0.8	9.01e-004	1.04e-003	9.65e-004
3	1	0.02822	1.003	2.82	1.0	0.0	7.46e-004	0.00e+000	7.46e-004
4	1.5	0.03525	0.988	3.53	7.2	6.7	1.07e-004	1.15e-004	1.11e-004
5	2.25	0.05091	0.956	5.09	86.7	0.0	8.68e-006	0.00e+000	8.68e-006
6	3.38	0.06962	0.917	6.96	3.5	5.1	2.08e-004	1.43e-004	1.69e-004
7	5	0.09754	0.860	9.75	3.8	3.8	1.83e-004	1.84e-004	1.83e-004
8	7.5	0.1331	0.787	13.31	3.1	3.6	2.06e-004	1.80e-004	1.92e-004
9	15	0.1896	0.670	18.96	1.4	2.4	4.17e-004	2.44e-004	3.08e-004
10	30	0.24	0.566	24.00	0.9	1.1	5.64e-004	4.46e-004	4.98e-004
11	8	0.2329	0.581	23.29	0.2	0.0	2.72e-003	0.00e+000	2.72e-003
12	2	0.2206	0.606	22.06	1.4	1.8	3.54e-004	2.76e-004	3.10e-004
13	0.5	0.2029	0.643	20.29	5.2	7.6	9.80e-005	6.73e-005	7.98e-005

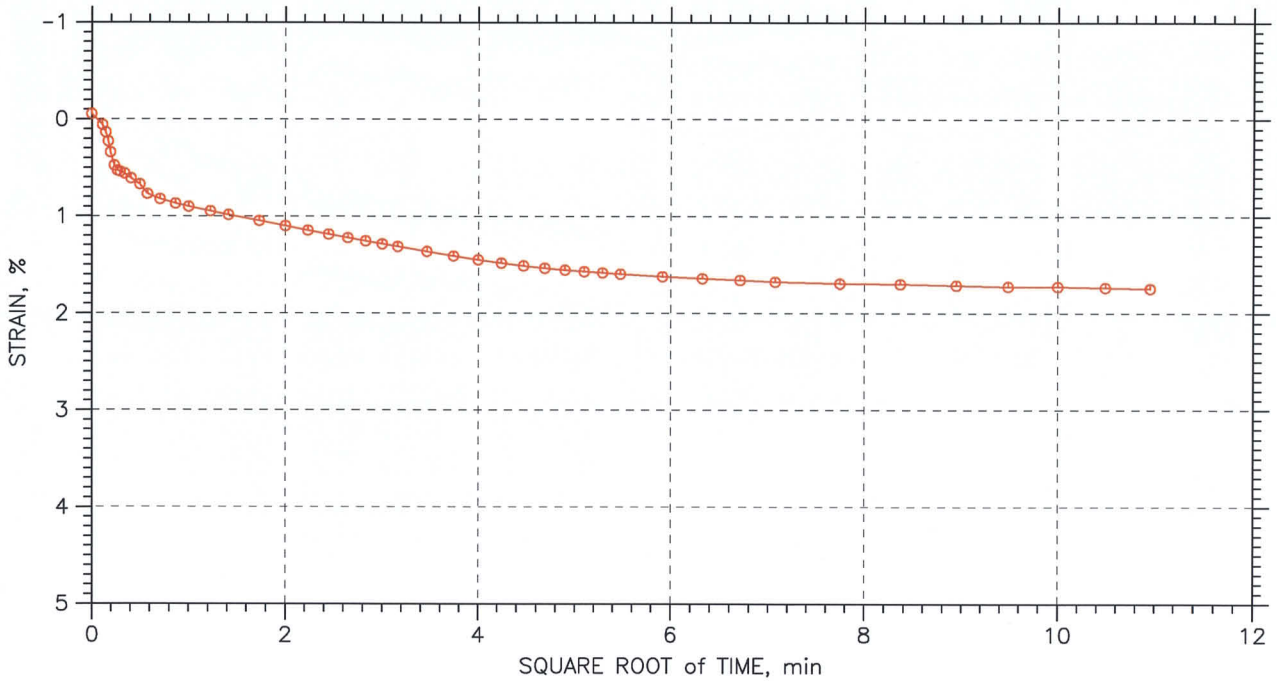
CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 1 of 13

Stress: 0.25 tsf





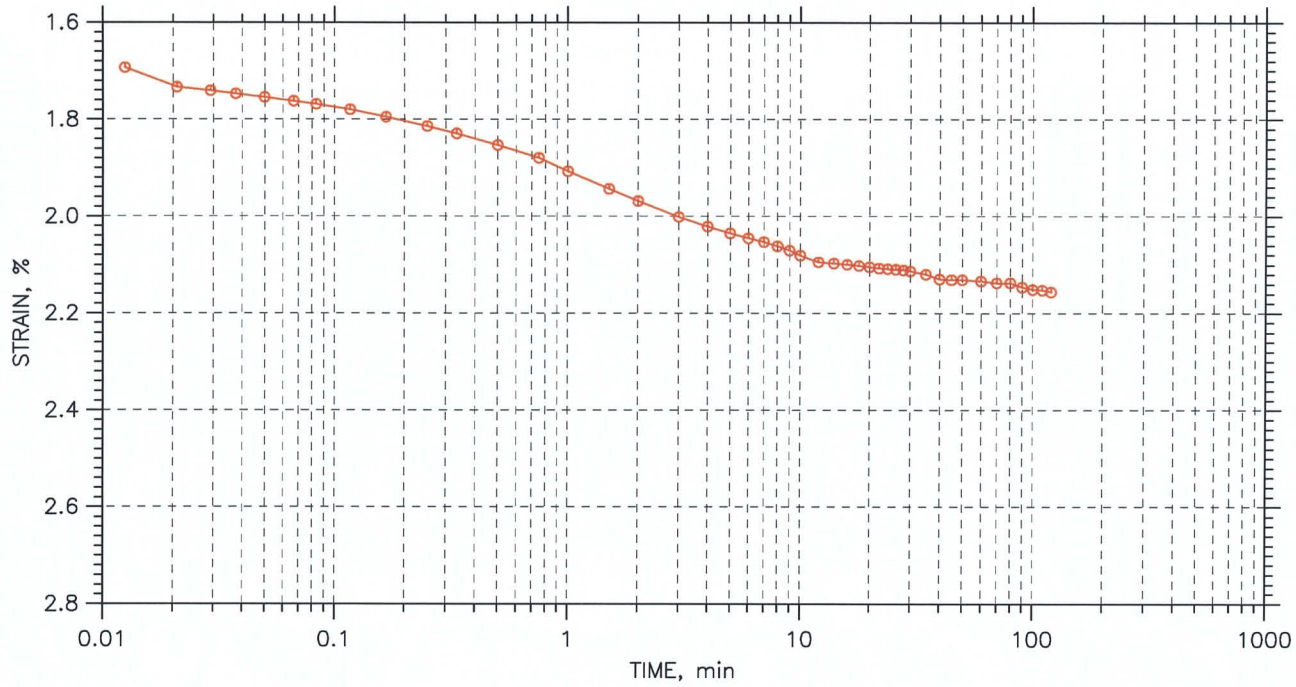
GeoTesting express a subsidiary of Geocomp Corporation	Project: I-295 Exit 7	Location: Portland, ME	Project No.: GTX-8319
	Boring No.: SB-806D	Tested By: njh	Checked By: jdt
	Sample No.: ST-11	Test Date: 08/20/08	Depth: 42 ft
	Test No.: C-1	Sample Type: tube	Elevation: ---
	Description: Moist, gray clay		
	Remarks: System G		

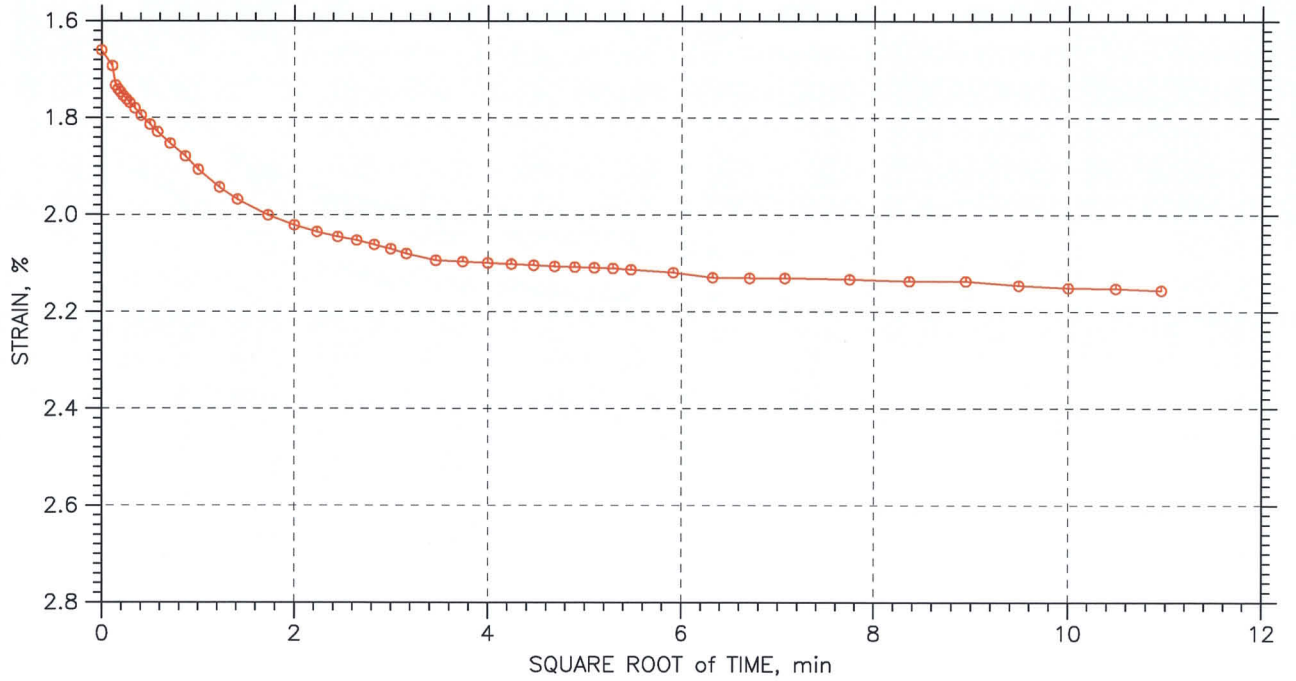
CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 2 of 13

Stress: 0.5 tsf





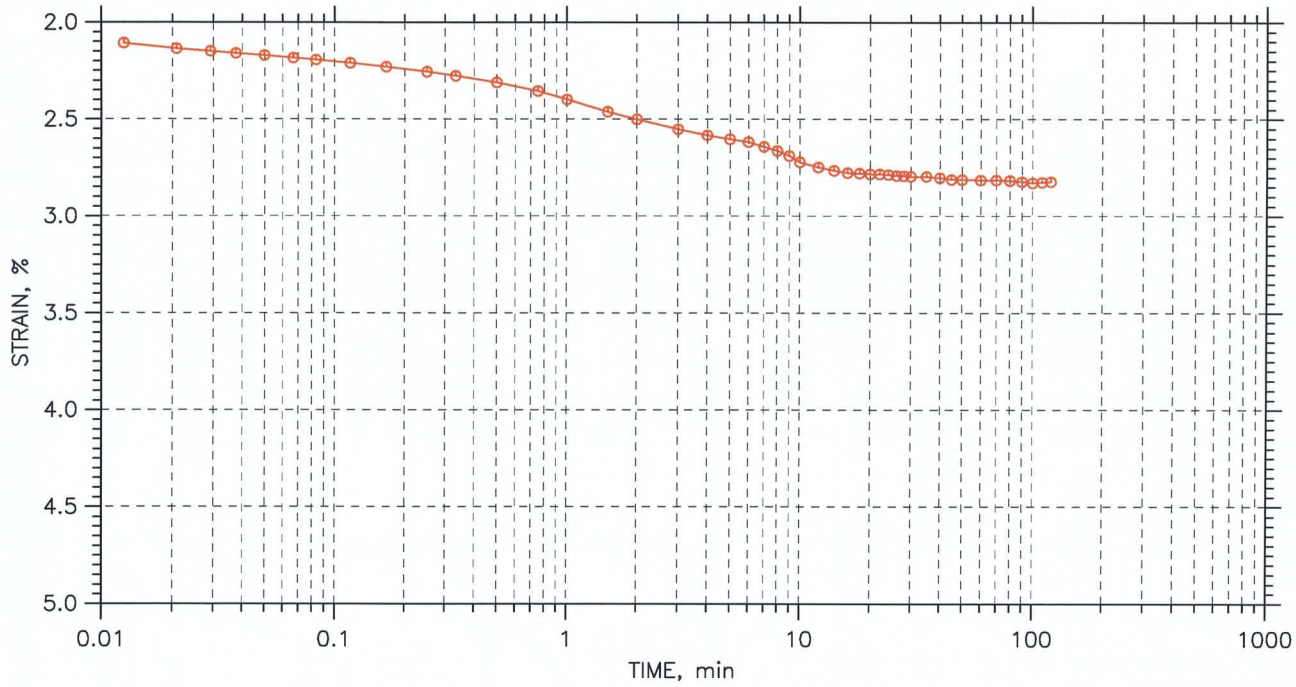
GeoTesting express a subsidiary of Geocomp Corporation	Project: I-295 Exit 7	Location: Portland, ME	Project No.: GTX-8319
	Boring No.: SB-806D	Tested By: njh	Checked By: jdt
	Sample No.: ST-11	Test Date: 08/20/08	Depth: 42 ft
	Test No.: C-1	Sample Type: tube	Elevation: ---
	Description: Moist, gray clay		
	Remarks: System G		

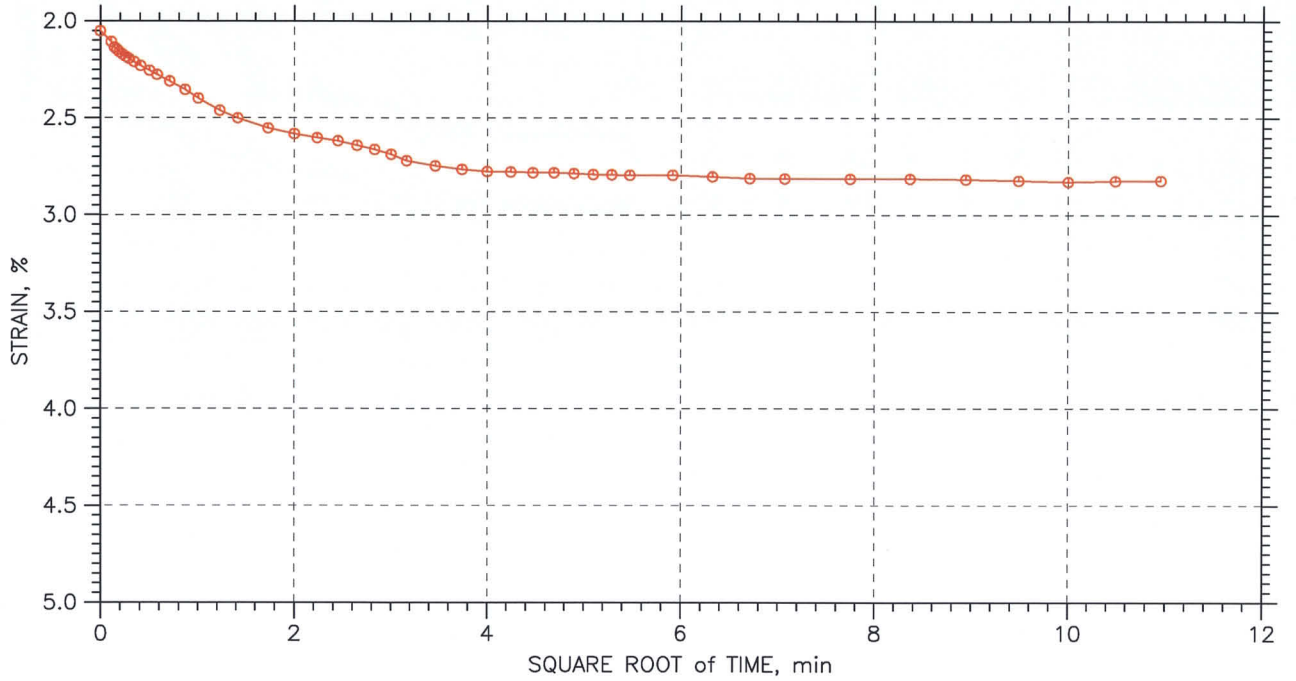
CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 3 of 13

Stress: 1. tsf





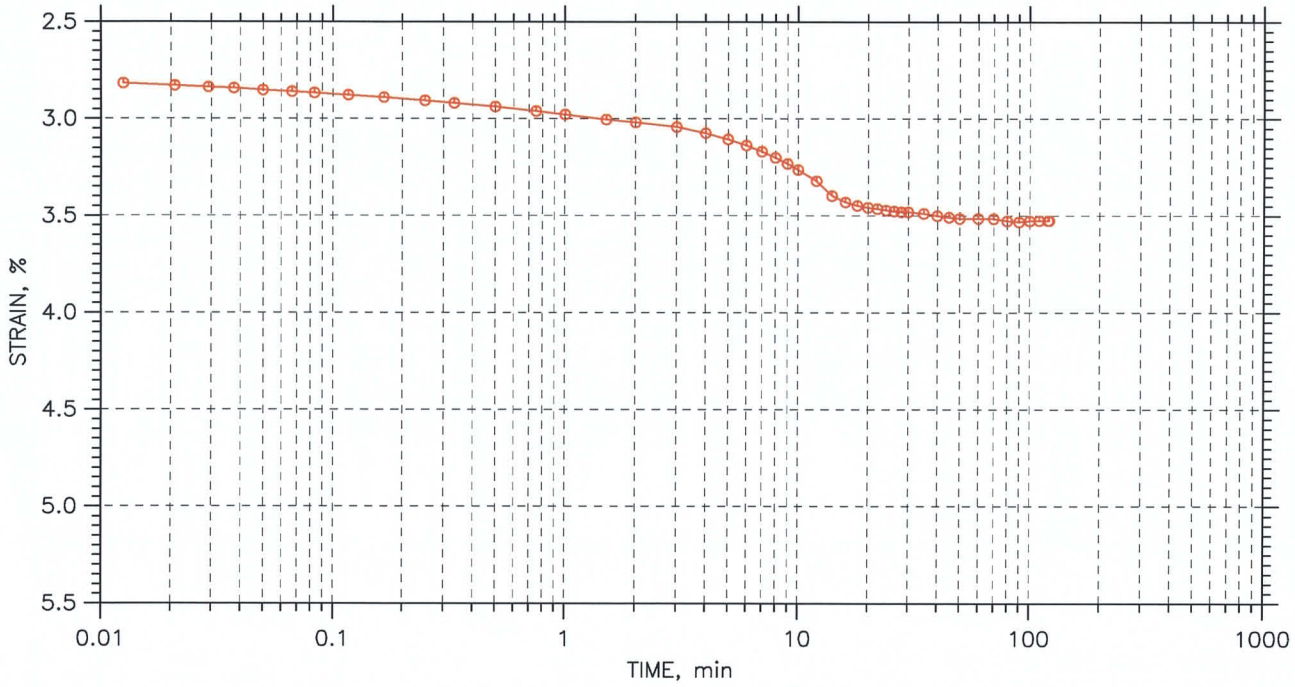
GeoTesting express a subsidiary of Geocomp Corporation	Project: I-295 Exit 7	Location: Portland, ME	Project No.: GTX-8319
	Boring No.: SB-806D	Tested By: njh	Checked By: jdt
	Sample No.: ST-11	Test Date: 08/20/08	Depth: 42 ft
	Test No.: C-1	Sample Type: tube	Elevation: ---
	Description: Moist, gray clay		
	Remarks: System G		

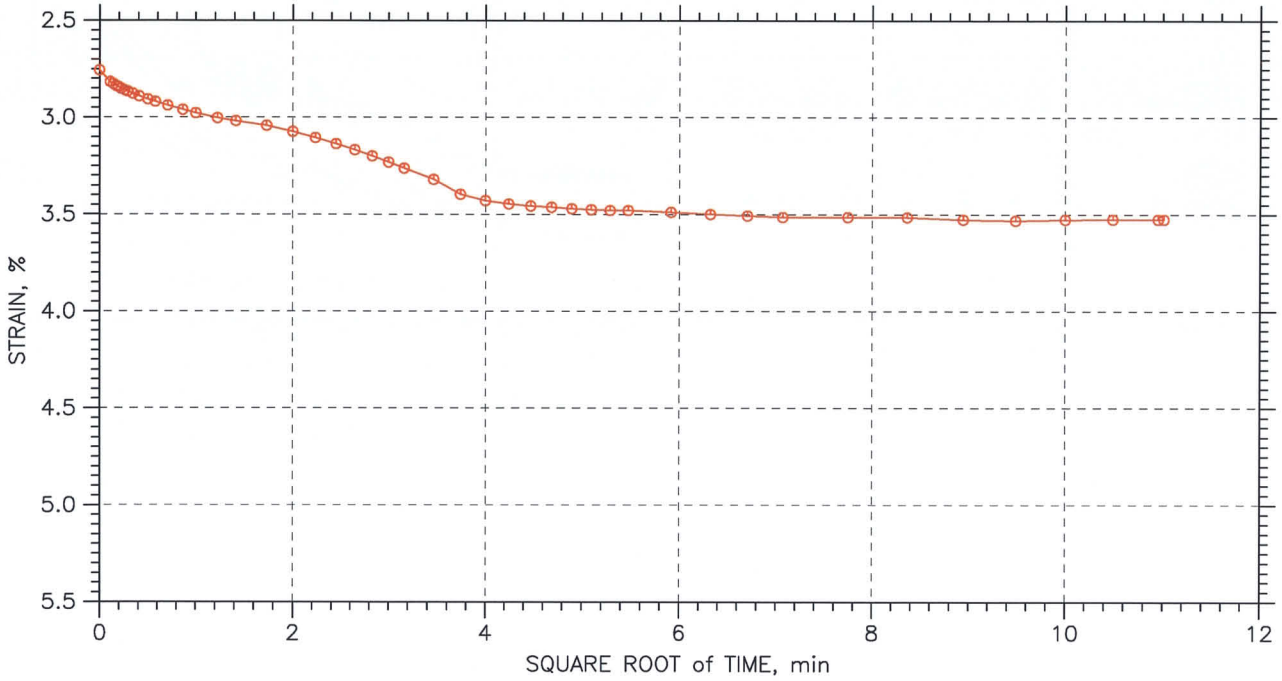
CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 4 of 13

Stress: 1.5 tsf





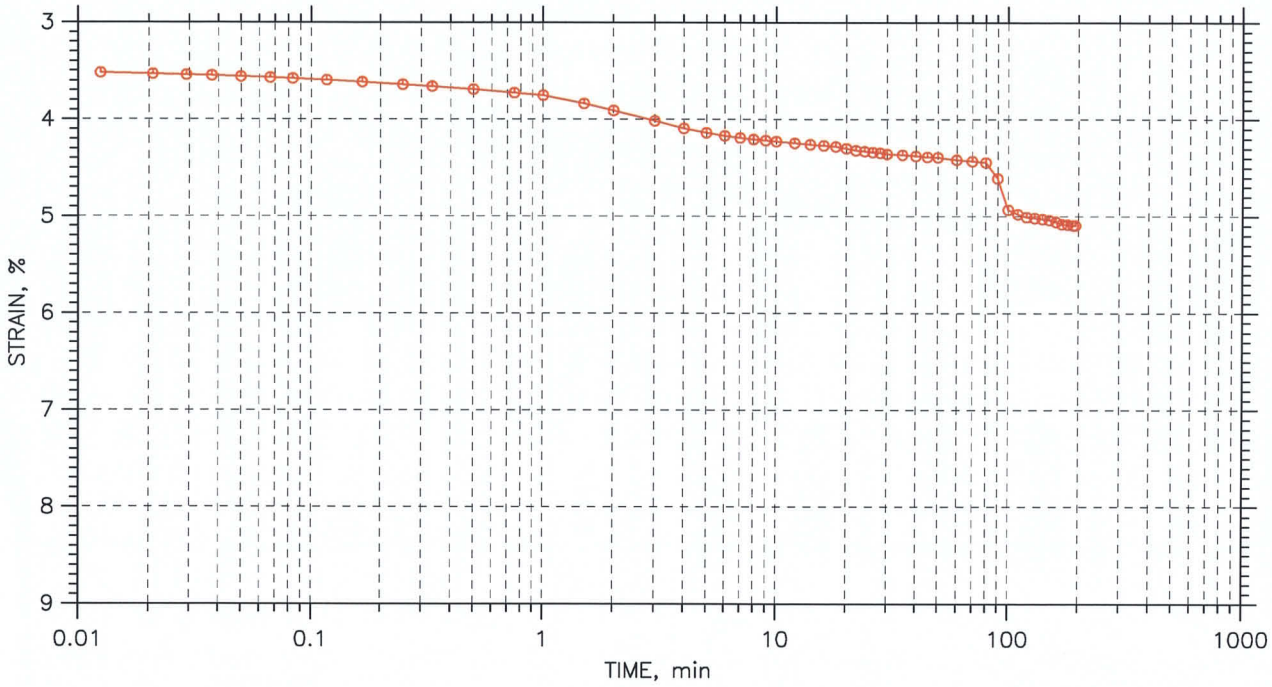
GeoTesting express a subsidiary of Geocomp Corporation	Project: I-295 Exit 7	Location: Portland, ME	Project No.: GTX-8319
	Boring No.: SB-806D	Tested By: njh	Checked By: jdt
	Sample No.: ST-11	Test Date: 08/20/08	Depth: 42 ft
	Test No.: C-1	Sample Type: tube	Elevation: ---
	Description: Moist, gray clay		
	Remarks: System G		

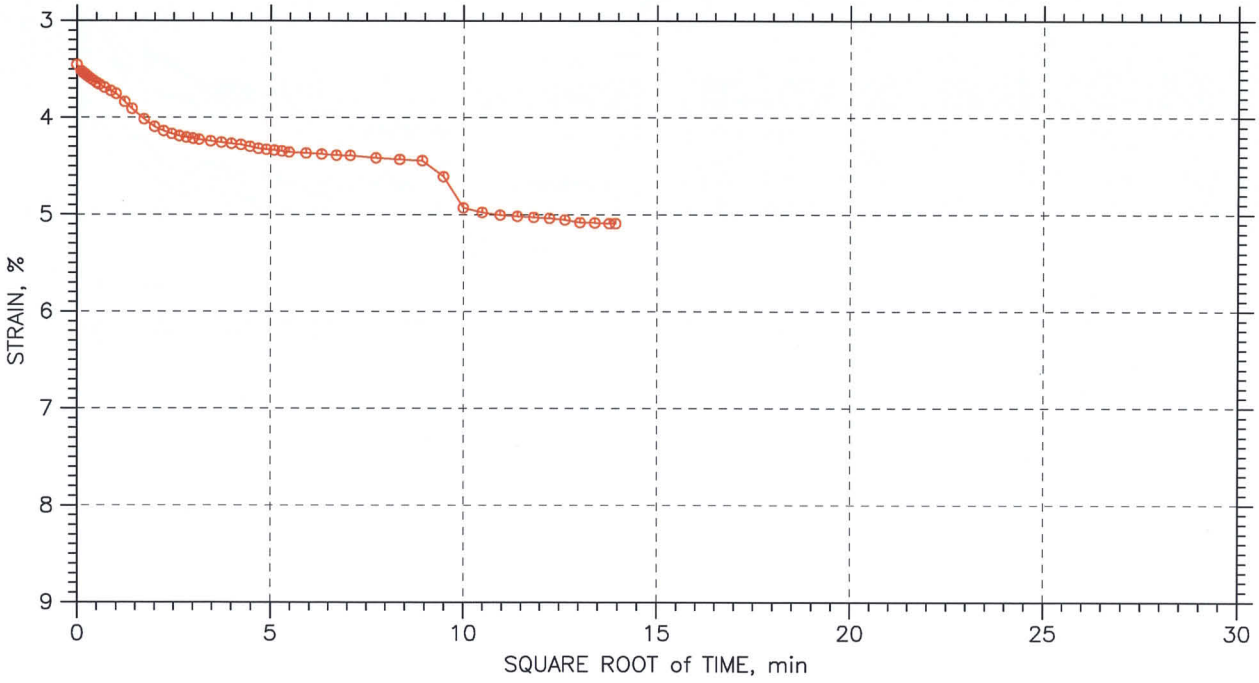
CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 5 of 13

Stress: 2.25 tsf





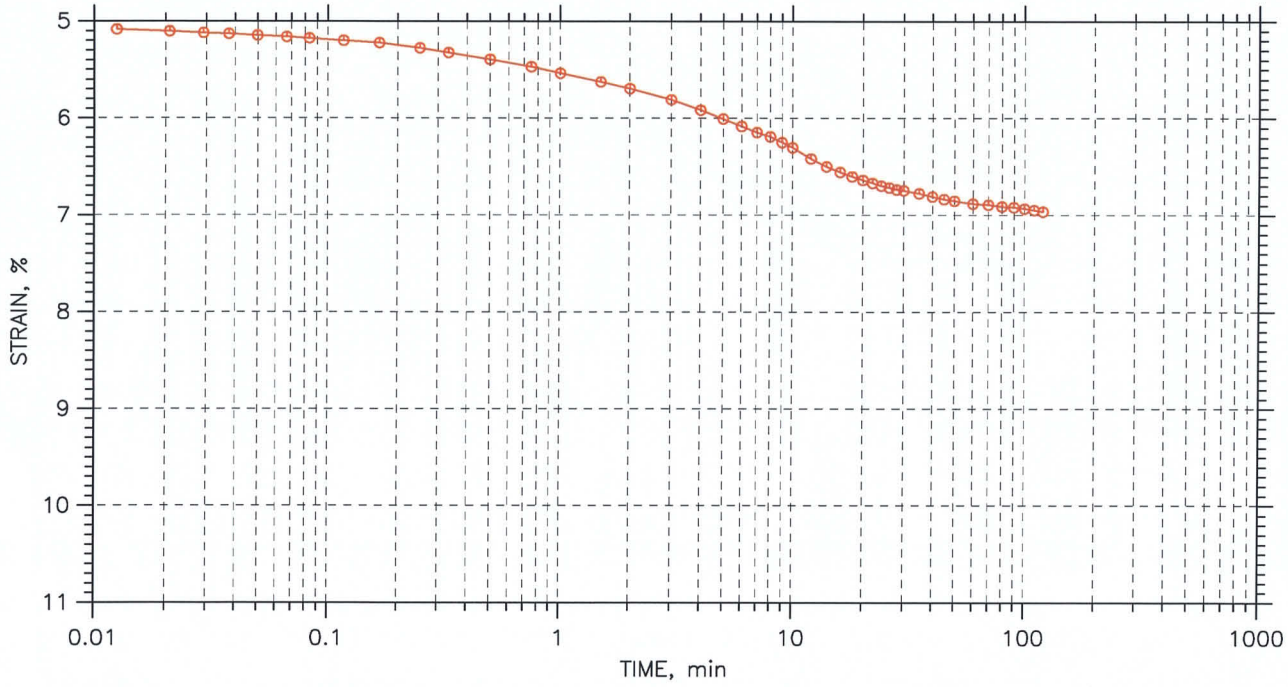
GeoTesting express a subsidiary of Geocomp Corporation	Project: I-295 Exit 7	Location: Portland, ME	Project No.: GTX-8319
	Boring No.: SB-806D	Tested By: njh	Checked By: jdt
	Sample No.: ST-11	Test Date: 08/20/08	Depth: 42 ft
	Test No.: C-1	Sample Type: tube	Elevation: ---
	Description: Moist, gray clay		
	Remarks: System G		

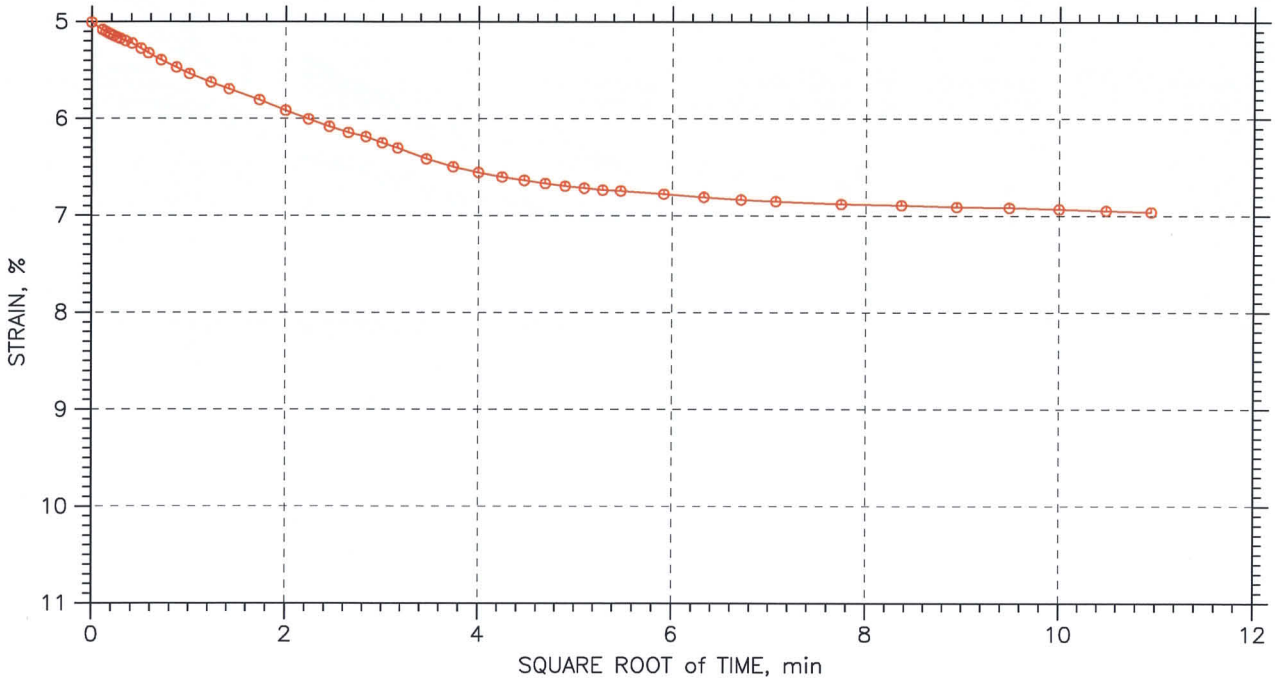
CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 6 of 13

Stress: 3.375 tsf





GeoTesting express a subsidiary of Geocomp Corporation	Project: I-295 Exit 7	Location: Portland, ME	Project No.: GTX-8319
	Boring No.: SB-806D	Tested By: njh	Checked By: jdt
	Sample No.: ST-11	Test Date: 08/20/08	Depth: 42 ft
	Test No.: C-1	Sample Type: tube	Elevation: ---
	Description: Moist, gray clay		
	Remarks: System G		

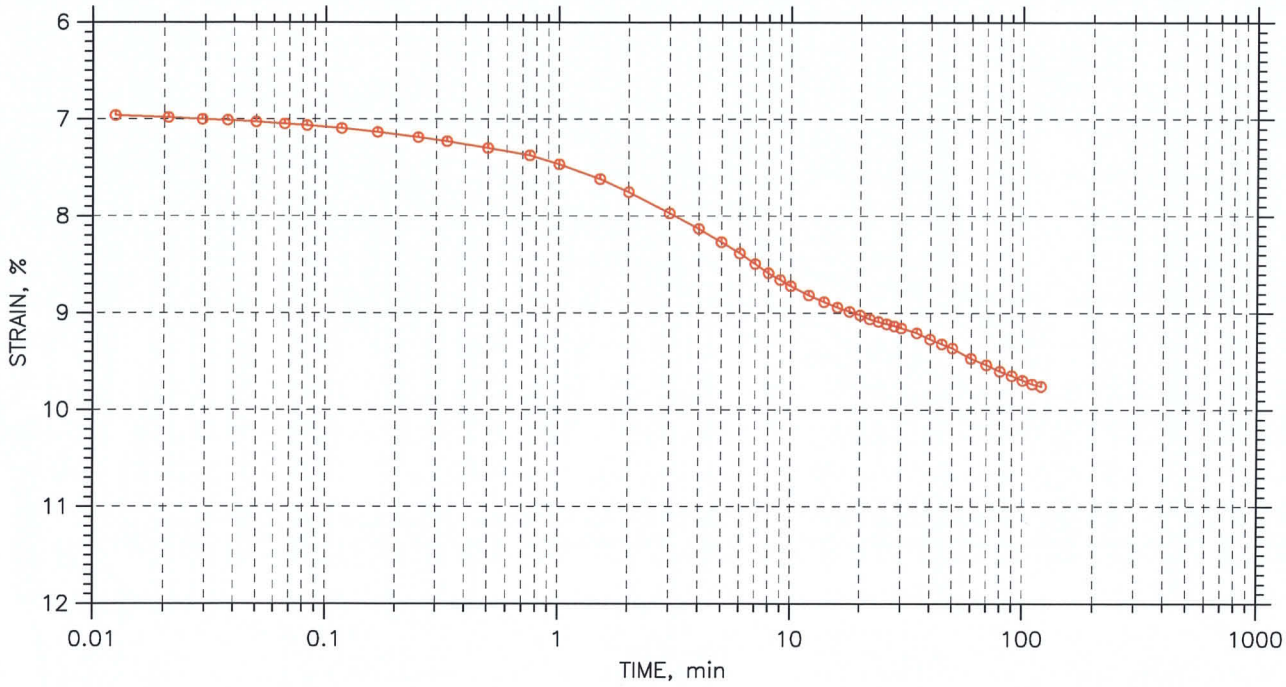
Wed, 27-AUG-2008 14:01:59

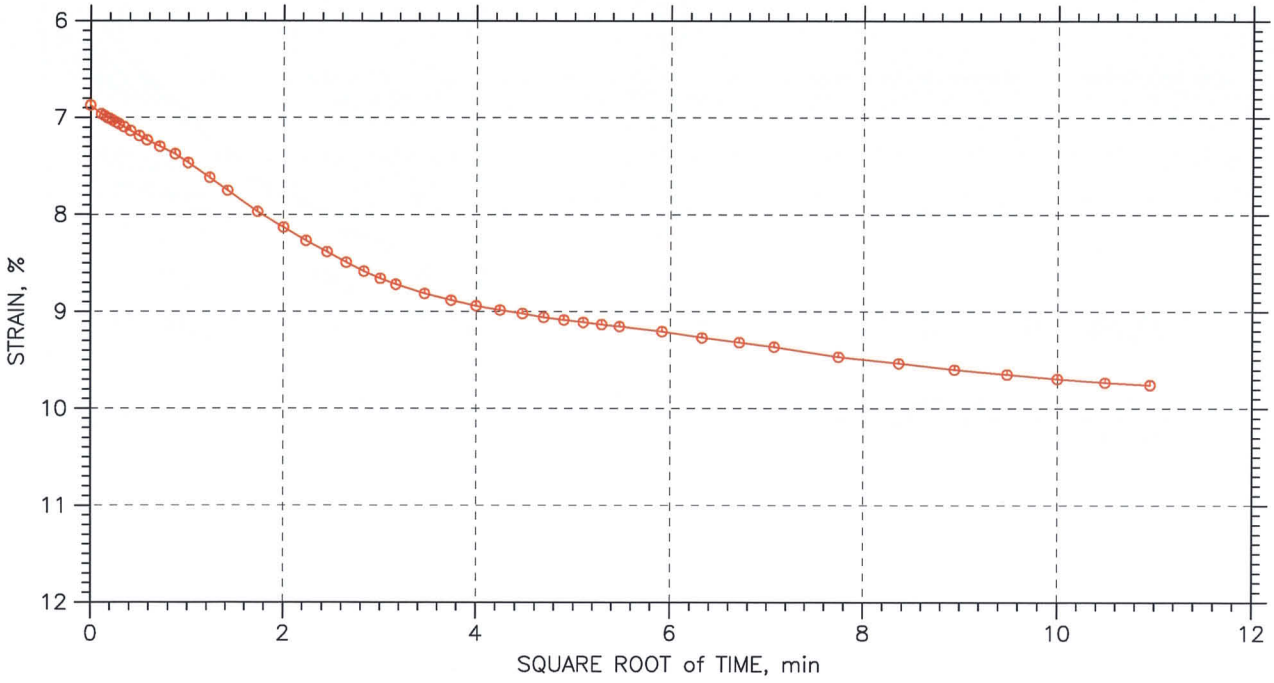
CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 7 of 13

Stress: 5. tsf





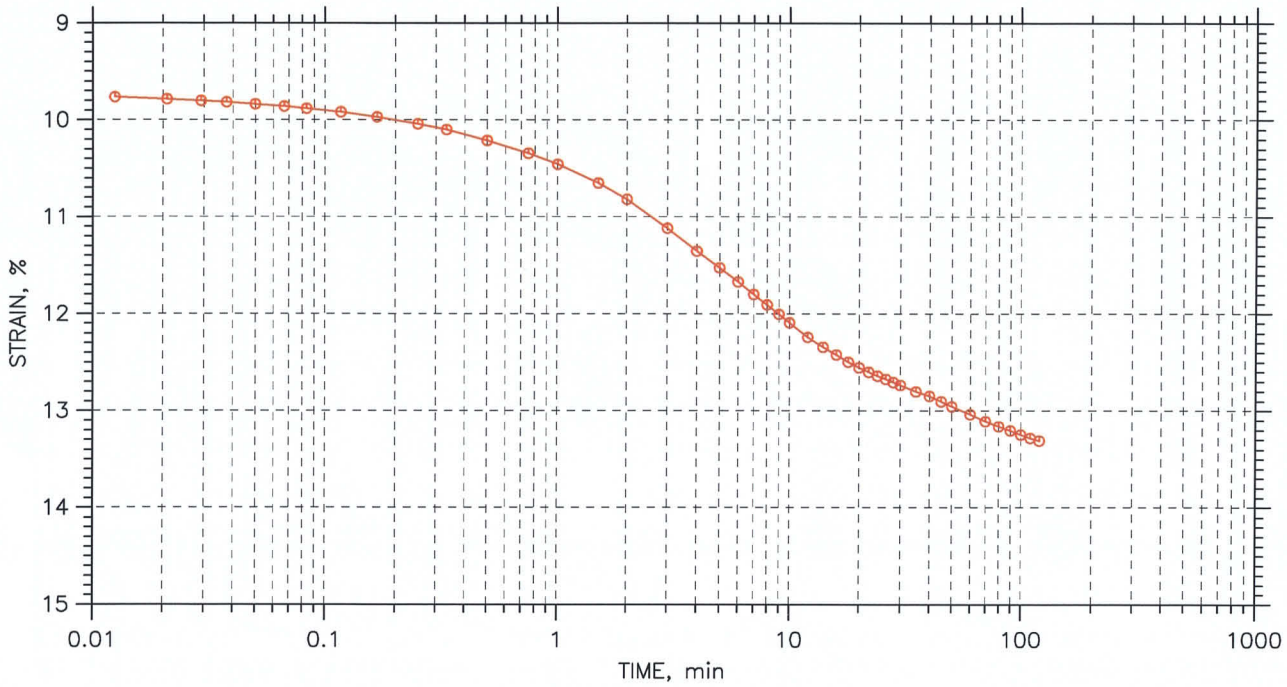
GeoTesting express a subsidiary of Geocomp Corporation	Project: I-295 Exit 7	Location: Portland, ME	Project No.: GTX-8319
	Boring No.: SB-806D	Tested By: njh	Checked By: jdt
	Sample No.: ST-11	Test Date: 08/20/08	Depth: 42 ft
	Test No.: C-1	Sample Type: tube	Elevation: ---
	Description: Moist, gray clay		
	Remarks: System G		

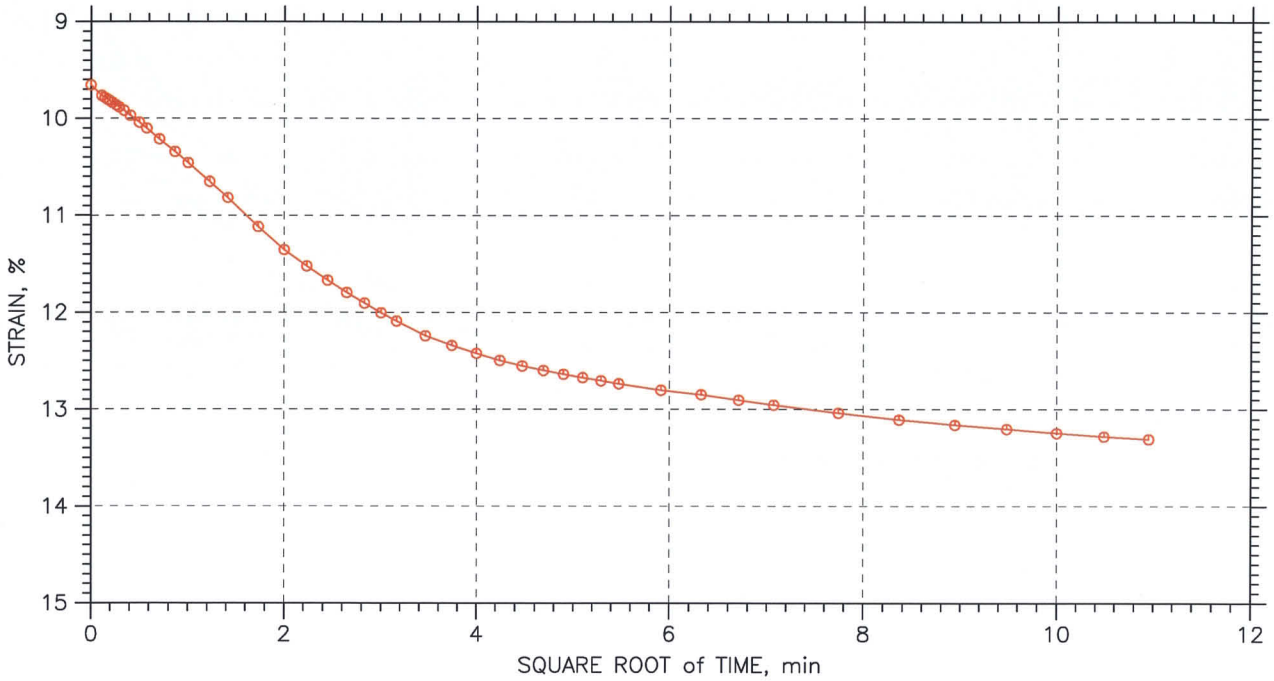
CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 8 of 13

Stress: 7.5 tsf





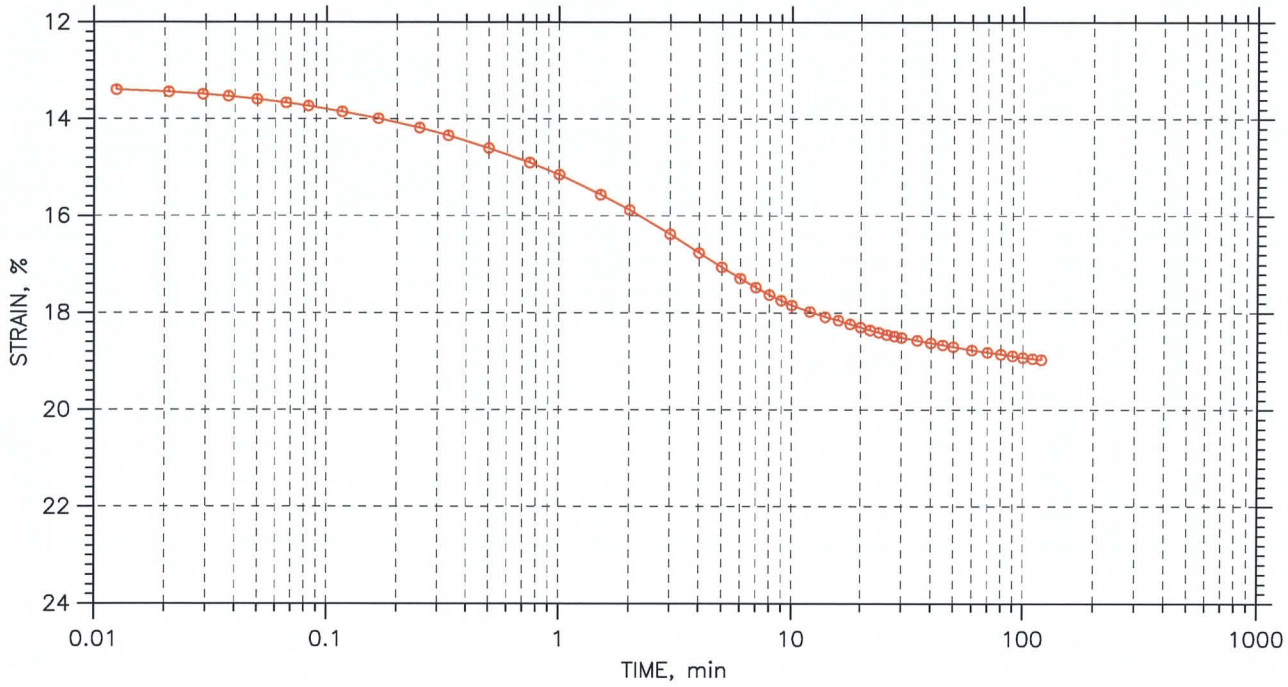
GeoTesting express a subsidiary of Geocomp Corporation	Project: I-295 Exit 7	Location: Portland, ME	Project No.: GTX-8319
	Boring No.: SB-806D	Tested By: njh	Checked By: jdt
	Sample No.: ST-11	Test Date: 08/20/08	Depth: 42 ft
	Test No.: C-1	Sample Type: tube	Elevation: ---
	Description: Moist, gray clay		
	Remarks: System G		

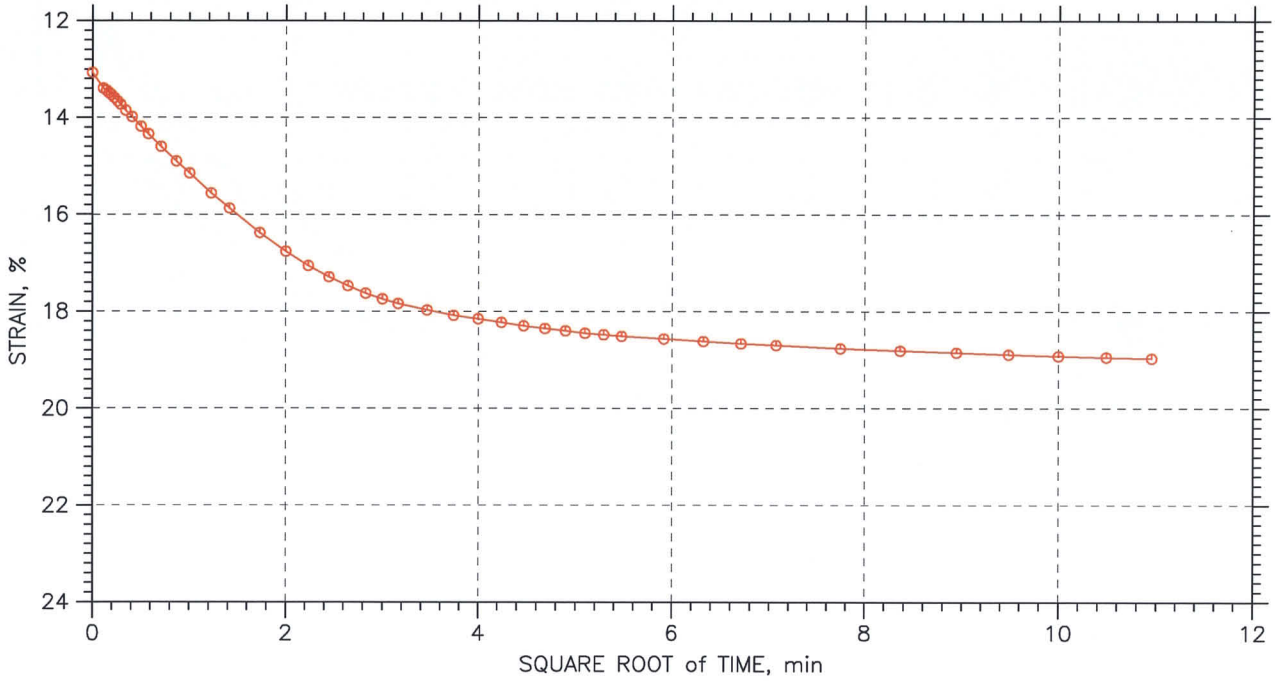
CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 9 of 13

Stress: 15. tsf





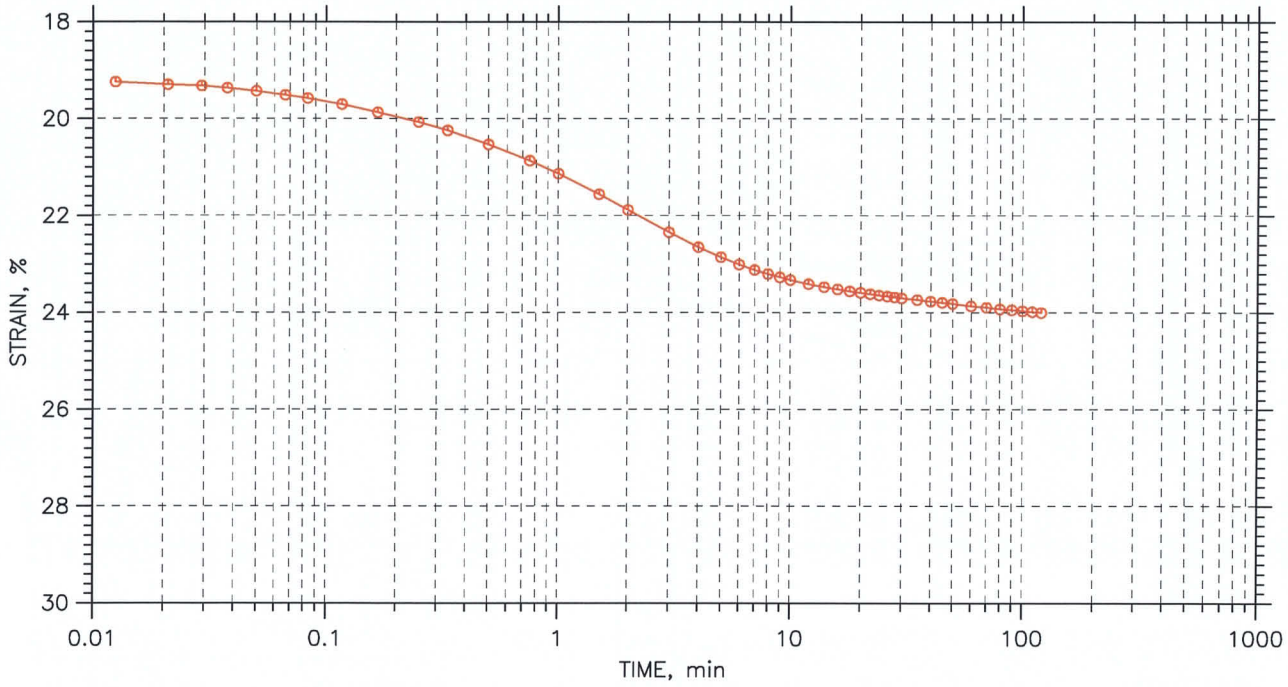
GeoTesting express a subsidiary of Geocomp Corporation	Project: I-295 Exit 7	Location: Portland, ME	Project No.: GTX-8319
	Boring No.: SB-806D	Tested By: njh	Checked By: jdt
	Sample No.: ST-11	Test Date: 08/20/08	Depth: 42 ft
	Test No.: C-1	Sample Type: tube	Elevation: ---
	Description: Moist, gray clay		
	Remarks: System G		

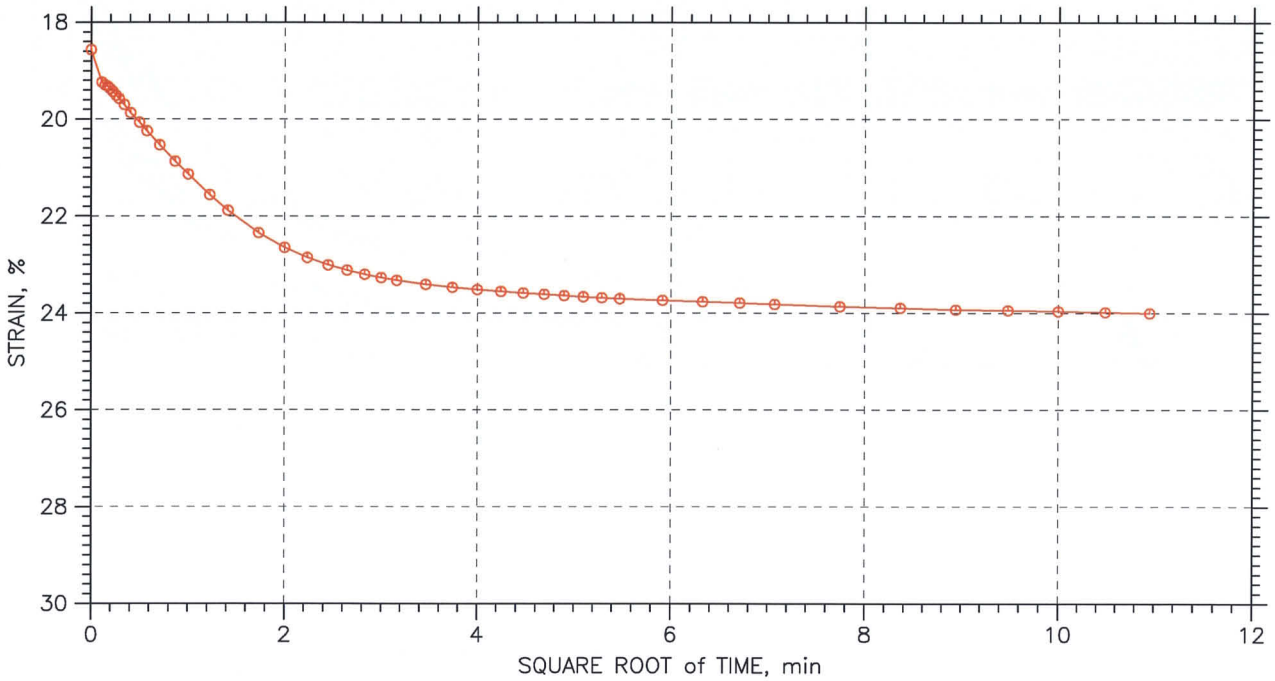
CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 10 of 13

Stress: 30. tsf





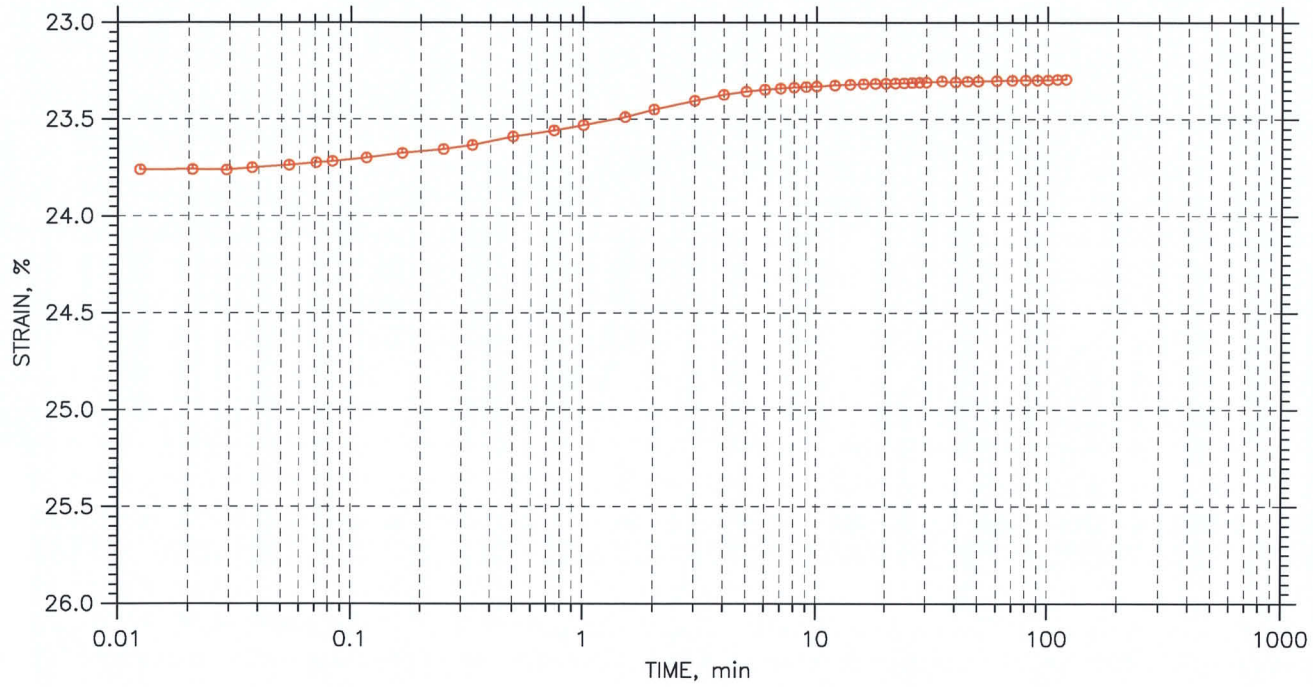
GeoTesting express a subsidiary of Geocomp Corporation	Project: I-295 Exit 7	Location: Portland, ME	Project No.: GTX-8319
	Boring No.: SB-806D	Tested By: njh	Checked By: jdt
	Sample No.: ST-11	Test Date: 08/20/08	Depth: 42 ft
	Test No.: C-1	Sample Type: tube	Elevation: ---
	Description: Moist, gray clay		
	Remarks: System G		

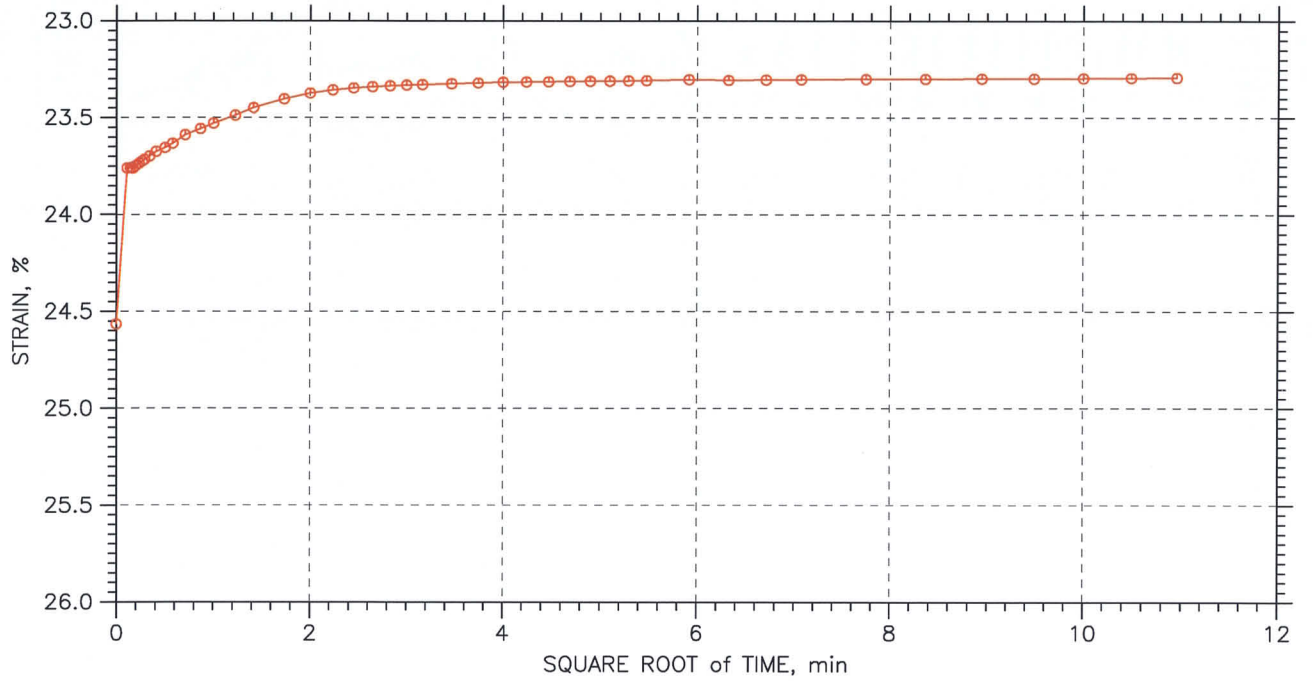
CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 11 of 13

Stress: 8. tsf





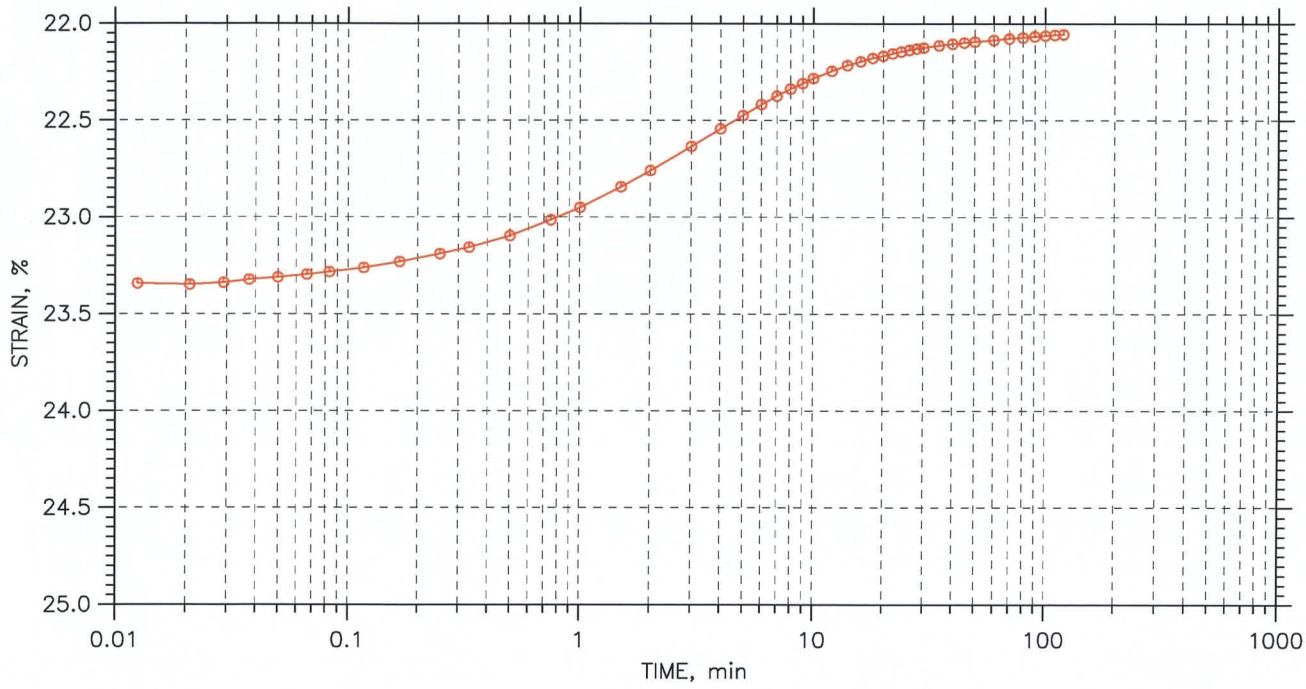
GeoTesting express a subsidiary of Geocomp Corporation	Project: I-295 Exit 7	Location: Portland, ME	Project No.: GTX-8319
	Boring No.: SB-806D	Tested By: njh	Checked By: jdt
	Sample No.: ST-11	Test Date: 08/20/08	Depth: 42 ft
	Test No.: C-1	Sample Type: tube	Elevation: ---
	Description: Moist, gray clay		
	Remarks: System G		

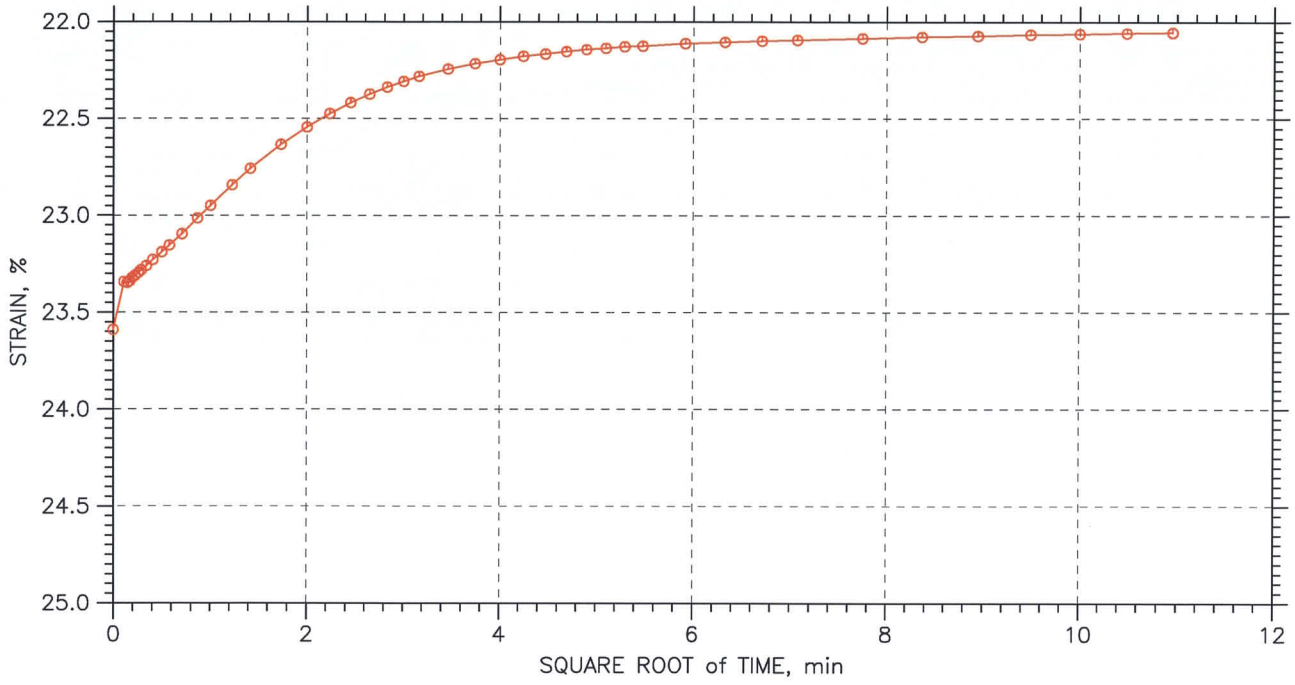
CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 12 of 13

Stress: 2. tsf





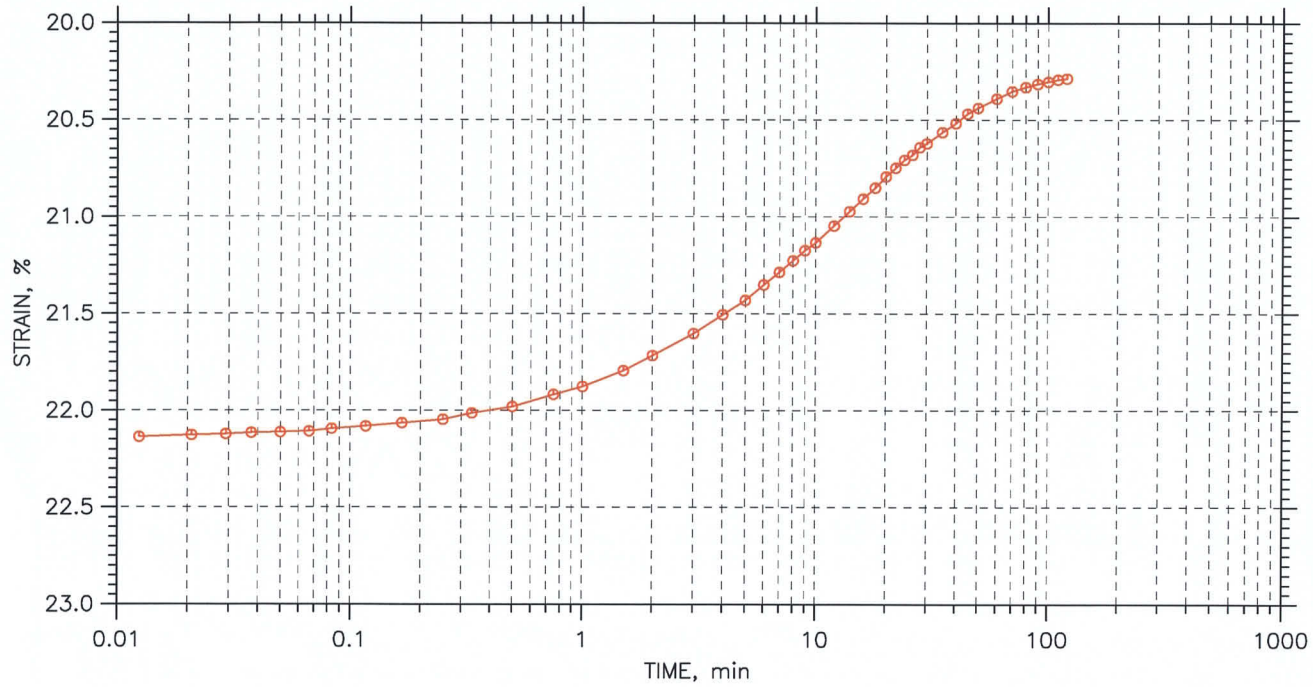
GeoTesting express a subsidiary of Geocomp Corporation	Project: I-295 Exit 7	Location: Portland, ME	Project No.: GTX-8319
	Boring No.: SB-806D	Tested By: njh	Checked By: jdt
	Sample No.: ST-11	Test Date: 08/20/08	Depth: 42 ft
	Test No.: C-1	Sample Type: tube	Elevation: ---
	Description: Moist, gray clay		
	Remarks: System G		

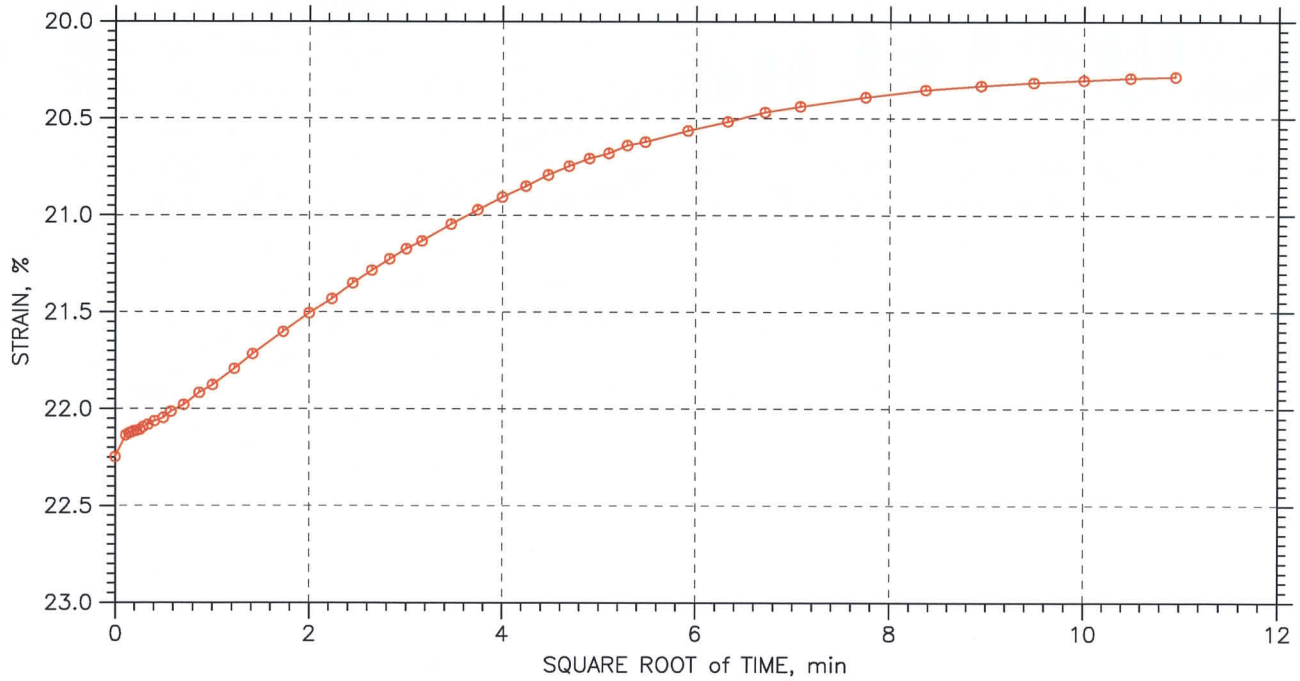
CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 13 of 13

Stress: 0.5 tsf





GeoTesting express a subsidiary of Geocomp Corporation	Project: I-295 Exit 7	Location: Portland, ME	Project No.: GTX-8319
	Boring No.: SB-806D	Tested By: njh	Checked By: jdt
	Sample No.: ST-11	Test Date: 08/20/08	Depth: 42 ft
	Test No.: C-1	Sample Type: tube	Elevation: ---
	Description: Moist, gray clay		
	Remarks: System G		

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GeoTesting express
a subsidiary of Geocomp Corporation

Client:	MACTEC Engineering &Consulting				
Project:	1-295 Exit 7 Interchange				
Location:	Portland, ME			Project No:	GTX-8319
Boring ID:	---	Sample Type:	---	Tested By:	ap
Sample ID:	---	Test Date:	07/11/08	Checked By:	n/a
Depth :	---	Sample Id:	---		Tec 10/2008

Moisture Content of Soil - ASTM D 2216-05

Boring ID	Sample ID	Depth	Description	Moisture Content,%
SB801S	S-3	5ft	Moist, olive brown sand with silt	4.7
SB802S	S-2	2.5ft	Moist, olive brown sand with silt and gravel	5.3
SB802S	S-3	5ft	Moist, light brown, sand	5.9
SB803S	S-2	2.5ft	Moist, pale brown sand with silt	4.4
SB803S	S-3	5ft	Moist, light olive brown sand with silt	3
SB804S	S-2	2.5ft	Moist, light olive brown sand with gravel	6.7
SB804S	S-3	5ft	Moist, dark yellowish brown sand with gravel	9.1
SB805S	S-2	2.5ft	Moist, olive sandy silt	14.9
SB805S	S-3	5ft	Moist, olive brown clay	28.4

Notes: Temperature of Drying : 110° Celsius

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	MACTEC Engineering &Consulting				
Project:	1-295 Exit 7 Interchange				
Location:	Portland, ME			Project No:	GTX-8319
Boring ID: ---		Sample Type: ---		Tested By:	ap
Sample ID:---		Test Date:	07/11/08	Checked By:	n/a
Depth : ---		Sample Id: ---			TCC 10/2008

Moisture Content of Soil - ASTM D 2216-05

Boring ID	Sample ID	Depth	Description	Moisture Content,%
SB806D	S-2	5ft	Moist, yellowish brown sand	8.5
SB806D	S-4	15ft	Moist, olive brown silty sand	14.2
SB806D	S-7	30ft	Moist, dark olive brown sand with gravel	25.9
SB806D	S-8	35ft	Moist, greenish black clay with gravel	43.5
SB806D	S-9	37ft	Moist, dark greenish gray and bluish gray clay	35.2
SB806D	S-12	48ft	Moist, dark greenish gray clay	43.2
SB807D	S-3A	5ft	Moist, dark yellowish brown sand	10
SB807D	S-3B	5ft	Moist, olive brown silty sand	25.2
SB807D	S-4	10ft	Moist, dark greenish gray sand with silt	15.1
SB807D	S-6	20ft	Moist, greenish black silty clay	41.9

Notes: Temperature of Drying : 110° Celsius

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	MACTEC Engineering &Consulting				
Project:	1-295 Exit 7 Interchange				
Location:	Portland, ME			Project No:	GTX-8319
Boring ID:	---	Sample Type:	---	Tested By:	ap
Sample ID:	---	Test Date:	07/11/08	Checked By:	n/a
Depth :	---	Sample Id:	---		TLC 10/2008

Moisture Content of Soil - ASTM D 2216-05

Boring ID	Sample ID	Depth	Description	Moisture Content,%
SB807D	S-9A	32ft	Moist, dark gray silty clay	28.9
SB807D	S-10A	35ft	Moist, yellowish brown silty clay	28.3
SB808D	S-4	10ft	Moist, dark greenish gray silty sand	10.8
SB808D	S-6	20ft	Moist, olive sand	16.1
SB808D	S-8B	30ft	Moist, dark greenish gray silt	57.9
SB808D	S-9	32ft	Moist, greenish black silty clay	64.4
SB808D	S-10B	34ft	Moist, very dark gray silty clay	35.7
SB808D	S-12A	38ft	Moist, olive clay	32.7
SB809D	S-3	5ft	Moist, olive gray, silty sandy clay	17
SB809D	S-6	20ft	Moist, light yellowish brown sand	18

Notes: Temperature of Drying : 110° Celsius

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	MACTEC Engineering &Consulting				
Project:	I-295 Exit 7 Interchange				
Location:	Portland, ME			Project No:	GTX-8319
Boring ID:	---	Sample Type:	---	Tested By:	ap
Sample ID:	---	Test Date:	08/28/08	Checked By:	jdt
Depth :	---	Sample Id:	---		Tic 10/2008

Moisture Content of Soil - ASTM D 2216-05

Boring ID	Sample ID	Depth	Description	Moisture Content,%
SB806D	ST-11	42ft	Moist, gray clay	39.3
SB807D	ST-14	50ft	Moist, gray clay	42.9
SB809D	ST-12	44ft	Moist. dark greenish gray clay	41.6

Notes: Temperature of Drying : 110º Celsius

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	MACTEC Engineering &Consulting				
Project:	I-295 Exit 7 Interchange				
Location:	Portland, ME			Project No:	GTX-8319
Boring ID: ---		Sample Type: ---		Tested By:	ap
Sample ID:---		Test Date:	09/11/08	Checked By:	jdt
Depth : ---		Sample Id:	---		TCC 10/2008

Moisture Content of Soil - ASTM D 2216-05

Boring ID	Sample ID	Depth	Description	Moisture Content,%
SB807D	SS-11B	40-42 ft	Moist, olive clay	37
SB807D	SS-12B	45-47 ft	Moist, olive clay	40.2
SB808D	SS-03	5-7 ft	Moist, olive silt/clay	69.1
SB808D	SS-10A	34-36 ft	Moist, black organic silt	52.6
SB808D	SS-11B	36-38 ft	Moist, dark gray clay	28.4
SB809D	SS-11	42-44 ft	Moist, olive clay	37.9

Notes: Temperature of Drying : 110º Celsius

GeoTesting express
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Client:	MACTEC Engineering &Consulting				
Project:	I-295 Exit 7 Interchange				
Location:	Portland, ME			Project No:	GTX-8319
Boring ID:	---	Sample Type:	---	Tested By:	ap
Sample ID:	---	Test Date:	10/13/08	Checked By:	jdt
Depth :	---	Sample Id:	---		TCC 10/2008

Moisture Content of Soil - ASTM D 2216-05

Boring ID	Sample ID	Depth	Description	Moisture Content,%
SB809D	S-10	40ft	Moist, dark greenish gray clay	26.7
SB810S	S-3	5ft	Moist, olive sandy silt	15.9
SB811S	S-2	2.5ft	Moist, olive brown silty clay	7.9
SB812S	S-1	0ft	Moist, olive brown ~~sandy dirt~~ silty sand (Topsoil)	4.9
SB812S	S-2	2.5ft	Moist, olive clay	8.8
SB813S	S-2	2.5ft	Moist, olive brown silty clay with sand	14
SB814S	S-2	2.5ft	Moist, olive silty clay	19.7
SB814S	S-3	5ft	Moist, olive brown sandy clay	19.6

Notes: Temperature of Drying : 110° Celsius

GeoTesting express
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Client:	MACTEC Engineering &Consulting				
Project:	I-295 Exit 7 Interchange				
Location:	Portland, ME			Project No:	GTX-8319
Boring ID:	---	Sample Type:	---	Tested By:	ap
Sample ID:	---	Test Date:	10/13/08	Checked By:	jdt
Depth :	---	Sample Id:	---		TCC 10/2008

Moisture Content of Soil - ASTM D 2216-05

Boring ID	Sample ID	Depth	Description	Moisture Content,%
SB815S	S-1	0ft	Moist, dark olive brown Silty Sand (Topsoil)	5.1
SB815S	S-2	2.5ft	Moist, olive clay	19.4
SB815S	S-3	5ft	Moist, olive silty sand	9.1
SB816S	S-2	2.5ft	Moist, olive silty sand	10.3
SB816S	S-3	5ft	Moist, olive brown silty sand	10.6
SB817S	S-2	3ft	Moist, greenish gray sandy clay	21.2

Notes: Temperature of Drying : 110° Celsius

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GeoTesting express
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Client:	MACTEC Engineering &Consulting				
Project:	I-295 Exit 7 Interchange				
Location:	Portland, ME			Project No:	GTX-8319
Boring ID: ---		Sample Type: ---		Tested By:	ap
Sample ID:---		Test Date:	09/04/08	Checked By:	jdt
Depth : ---		Test Id:	137737		Tcc 10/2008

Moisture, Ash, and Organic Matter - ASTM D 2974

Boring ID	Sample ID	Depth	Description	Moisture Content,%	Ash Content,%	Organic Matter,%
SB808D	SS-08A	30-32 ft	Moist, very dark gray organic silt	55	92.3	7.7
SB809D	SS-09	35-37 ft	Moist, black organic silt	44	94.	6.

Notes: Moisture content determined by Method A and reported as a percentage of oven-dried mass;
dried to a constant mass at temperature of 110° C
Ash content and organic matter determined by Method C; dried to constant mass at temperature 440° C

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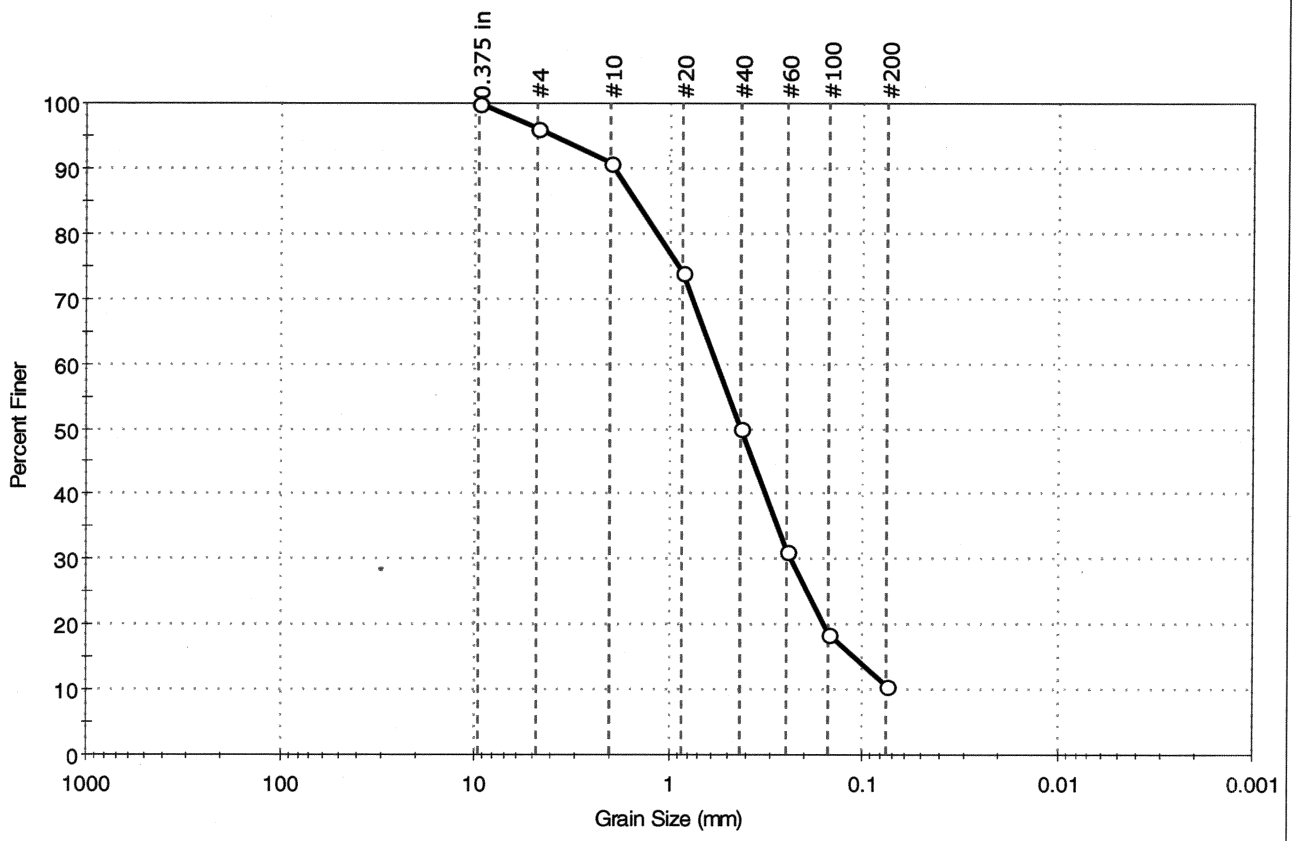
Client:	MACTEC Engineering &Consulting				
Project:	1-295 Exit 7 Interchange				
Location:	Portland, ME			Project No:	GTX-8319
Boring ID:	SB801S	Sample Type:	jar	Tested By:	ap
Sample ID:	S-3	Test Date:	07/09/08	Checked By:	ap
Depth :	5ft	Test Id:	133631		TCC 10/2008
Test Comment:	---				
Sample Description:	Moist, olive brown sand with silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	3.9	85.4	10.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	96		
#10	2.00	91		
#20	0.85	74		
#40	0.42	50		
#60	0.25	31		
#100	0.15	19		
#200	0.075	11		

Coefficients

D_{85} =1.4852 mm	D_{30} =0.2387 mm
D_{60} =0.5661 mm	D_{15} =0.1097 mm
D_{50} =0.4238 mm	D_{10} =0.0705 mm
C_u =8.030	C_c =1.428

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

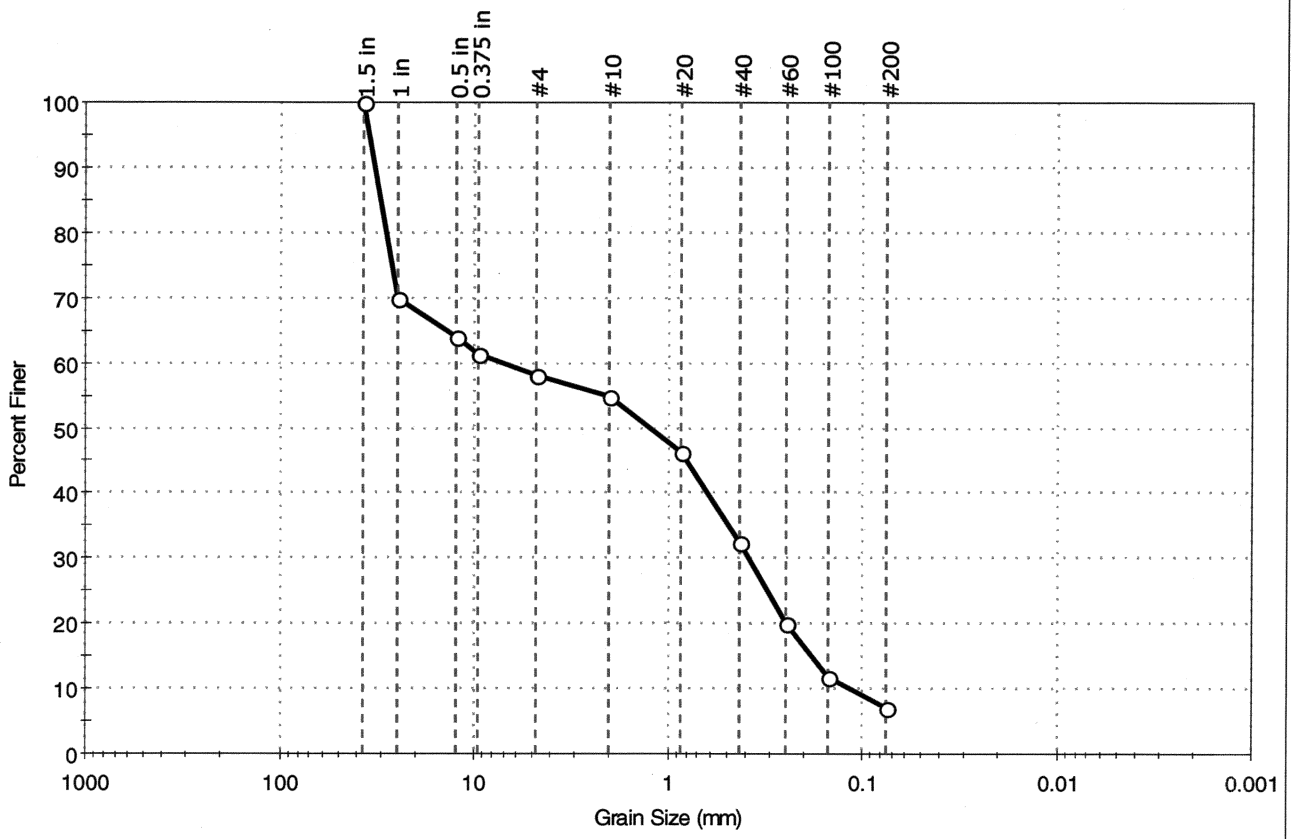
Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	MACTEC Engineering &Consulting				
Project:	1-295 Exit 7 Interchange				
Location:	Portland, ME			Project No:	GTX-8319
Boring ID:	SB802S	Sample Type:	jar	Tested By:	ap
Sample ID:	S-2	Test Date:	07/02/08	Checked By:	jdt
Depth :	2.5ft	Test Id:	133632		TCC 10/2008
Test Comment:	---				
Sample Description:	Moist, olive brown sand with silt and gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	42.0	50.9	7.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1.5 in	37.50	100		
1 in	25.00	70		
0.5 in	12.50	64		
0.375 in	9.50	61		
#4	4.75	58		
#10	2.00	55		
#20	0.85	46		
#40	0.42	32		
#60	0.25	20		
#100	0.15	12		
#200	0.075	7		

Coefficients

D_{85} =30.6611 mm	D_{30} =0.3827 mm
D_{60} =7.1519 mm	D_{15} =0.1834 mm
D_{50} =1.2289 mm	D_{10} =0.1156 mm
C_u =61.868	C_c =0.177

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

Sample/Test Description

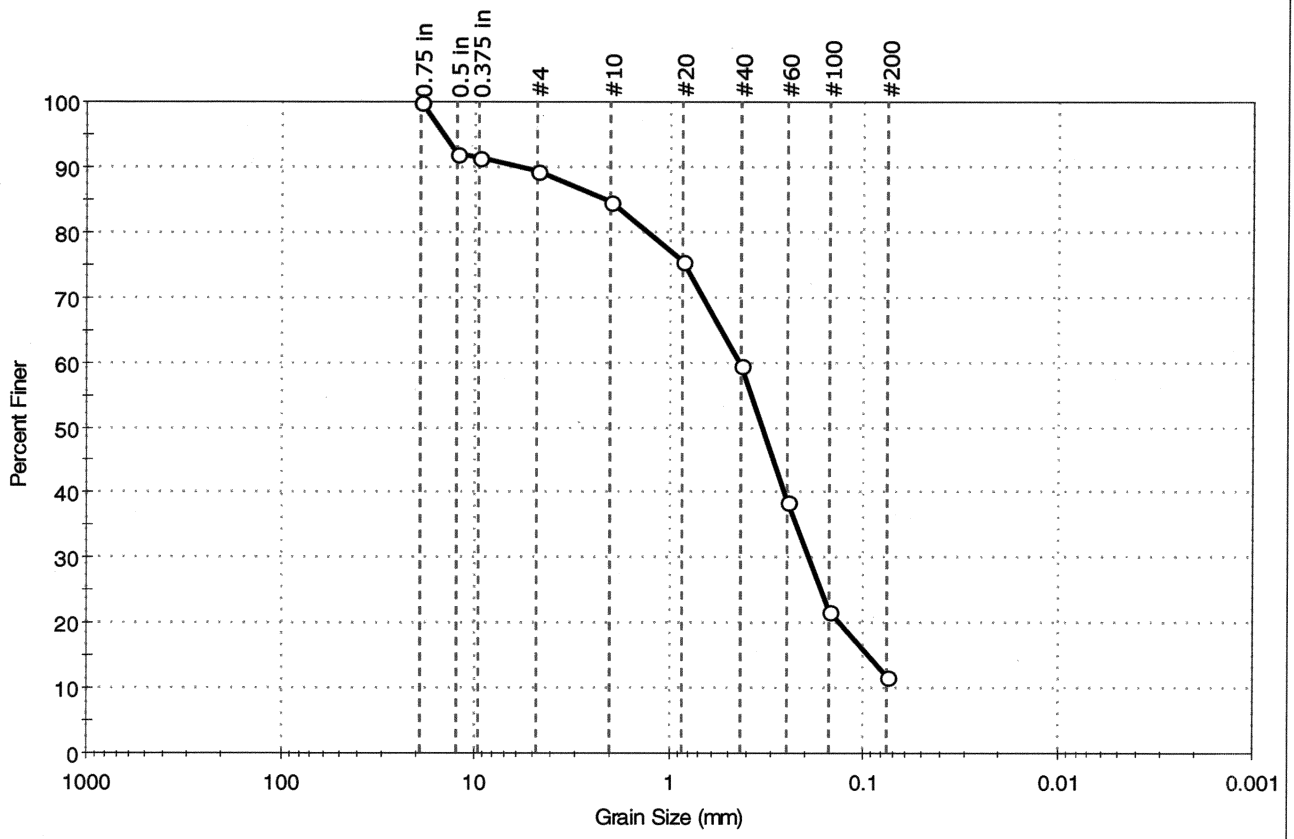
Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	MACTEC Engineering &Consulting		
Project:	1-295 Exit 7 Interchange		
Location:	Portland, ME	Project No:	GTX-8319
Boring ID: SB803S	Sample Type: jar	Tested By:	ap
Sample ID:S-2	Test Date: 07/02/08	Checked By:	jdt
Depth : 2.5ft	Test Id: 133633		TCC 10/2008
Test Comment:	---		
Sample Description:	Moist, pale brown sand with silt		
Sample Comment:	---		

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



%Cobble	%Gravel	%Sand	%Silt & Clay Size
--	10.6	77.5	11.9

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	92		
0.375 in	9.50	91		
#4	4.75	89		
#10	2.00	85		
#20	0.85	76		
#40	0.42	60		
#60	0.25	39		
#100	0.15	22		
#200	0.075	12		

Coefficients

D_{85} =2.1688 mm	D_{30} =0.1921 mm
D_{60} =0.4315 mm	D_{15} =0.0931 mm
D_{50} =0.3325 mm	D_{10} =0.0654 mm
C_u =6.598	C_c =1.308

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

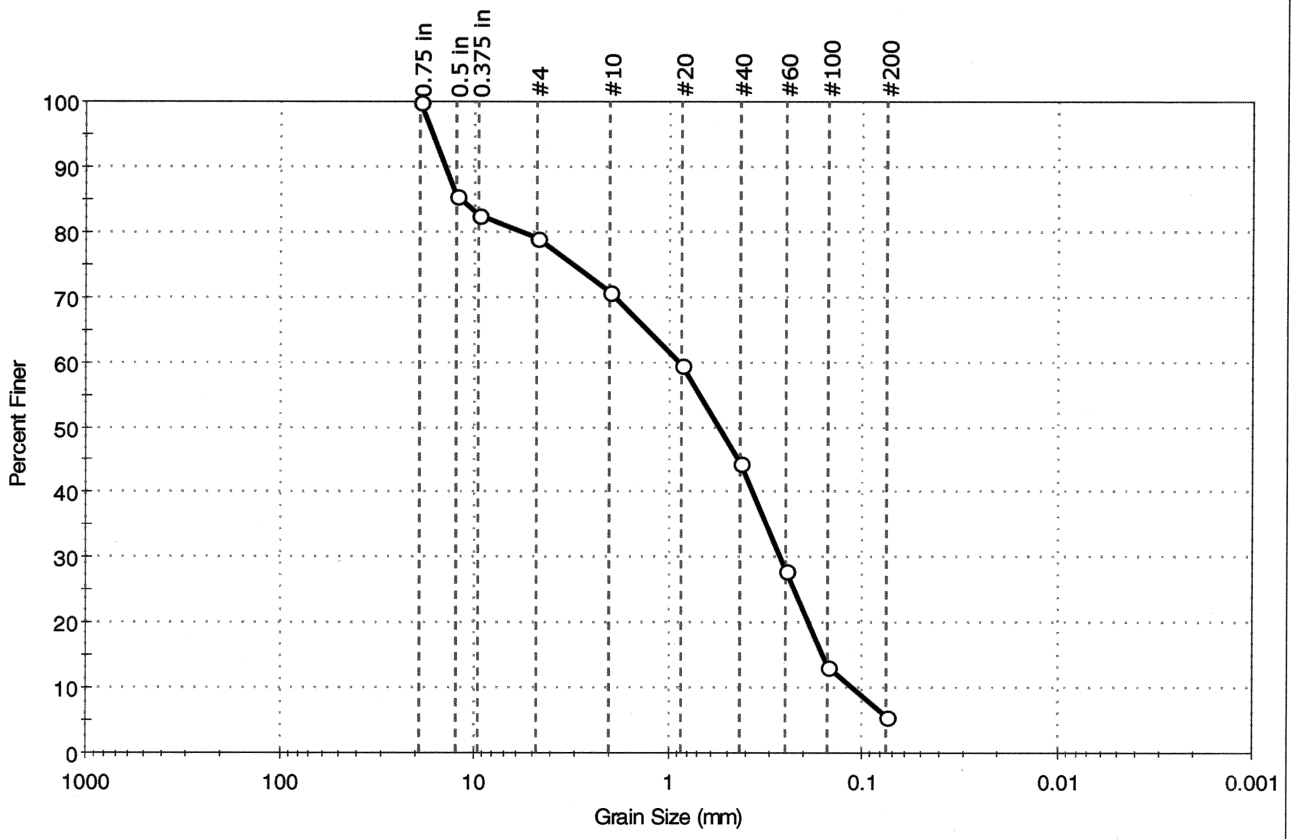
Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	MACTEC Engineering &Consulting				
Project:	1-295 Exit 7 Interchange				
Location:	Portland, ME			Project No:	GTX-8319
Boring ID:	SB803S	Sample Type:	jar	Tested By:	ap
Sample ID:	S-3	Test Date:	07/07/08	Checked By:	jdt
Depth :	5ft	Test Id:	133634		Tcc 10/2008
Test Comment:	---				
Sample Description:	Moist, light olive brown sand with silt and gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	21.0	73.5	5.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	86		
0.375 in	9.50	83		
#4	4.75	79		
#10	2.00	71		
#20	0.85	60		
#40	0.42	45		
#60	0.25	28		
#100	0.15	13		
#200	0.075	5		

Coefficients

D_{85} =11.7771 mm	D_{30} =0.2661 mm
D_{60} =0.8712 mm	D_{15} =0.1591 mm
D_{50} =0.5452 mm	D_{10} =0.1119 mm
C_u =7.786	C_c =0.726

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

Sample/Test Description

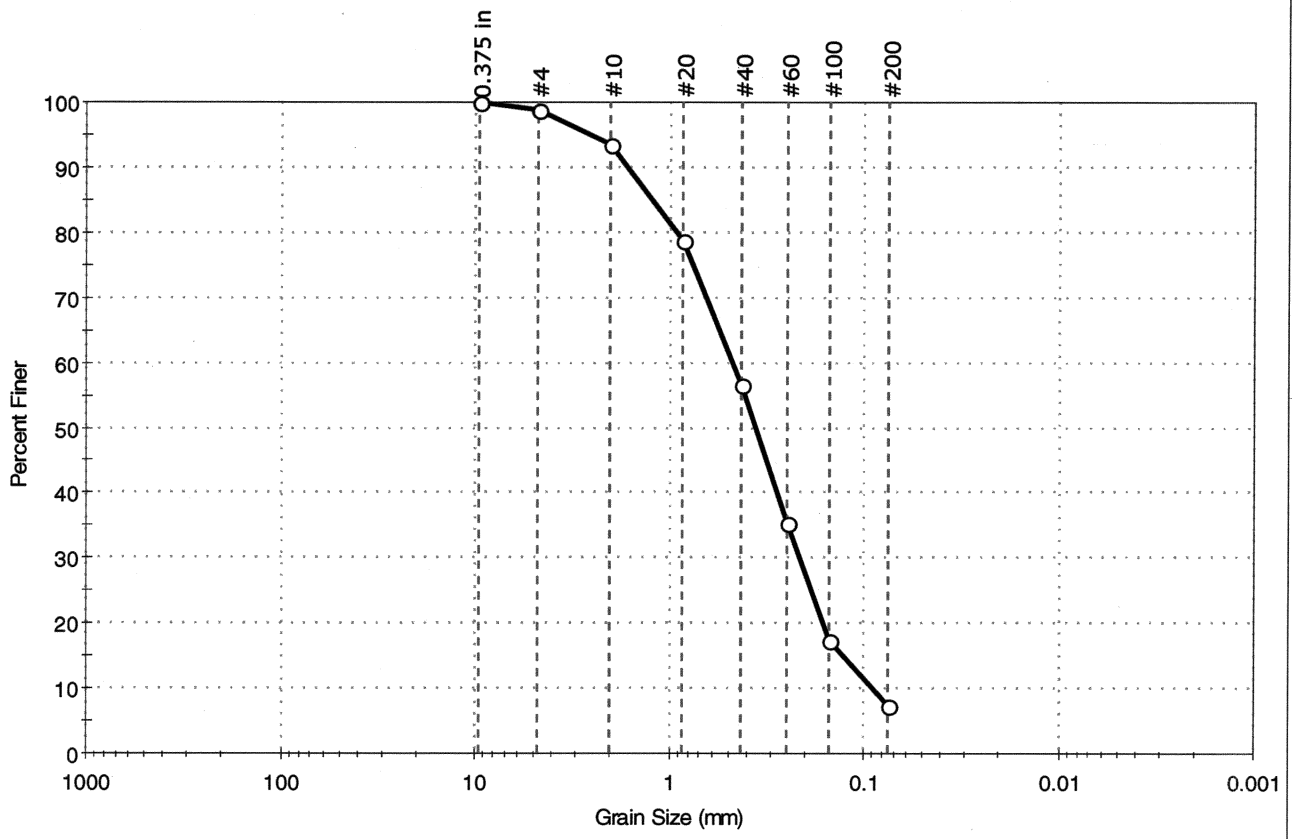
Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	MACTEC Engineering &Consulting				
Project:	1-295 Exit 7 Interchange				
Location:	Portland, ME			Project No:	GTX-8319
Boring ID:	SB804S	Sample Type:	jar	Tested By:	ap
Sample ID:	S-2	Test Date:	07/09/08	Checked By:	n/a
Depth :	2.5ft	Test Id:	133635		TCC 10/2008
Test Comment:	---				
Sample Description:	Moist, light olive brown sand with silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	1.3	91.2	7.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	99		
#10	2.00	93		
#20	0.85	79		
#40	0.42	57		
#60	0.25	35		
#100	0.15	18		
#200	0.075	7		

Coefficients

D_{85} = 1.2275 mm	D_{30} = 0.2146 mm
D_{60} = 0.4719 mm	D_{15} = 0.1259 mm
D_{50} = 0.3600 mm	D_{10} = 0.0891 mm
C_u = 5.296	C_c = 1.095

Classification

ASTM N/A

AASHTO Fine Sand (A-3 (0))

Sample/Test Description

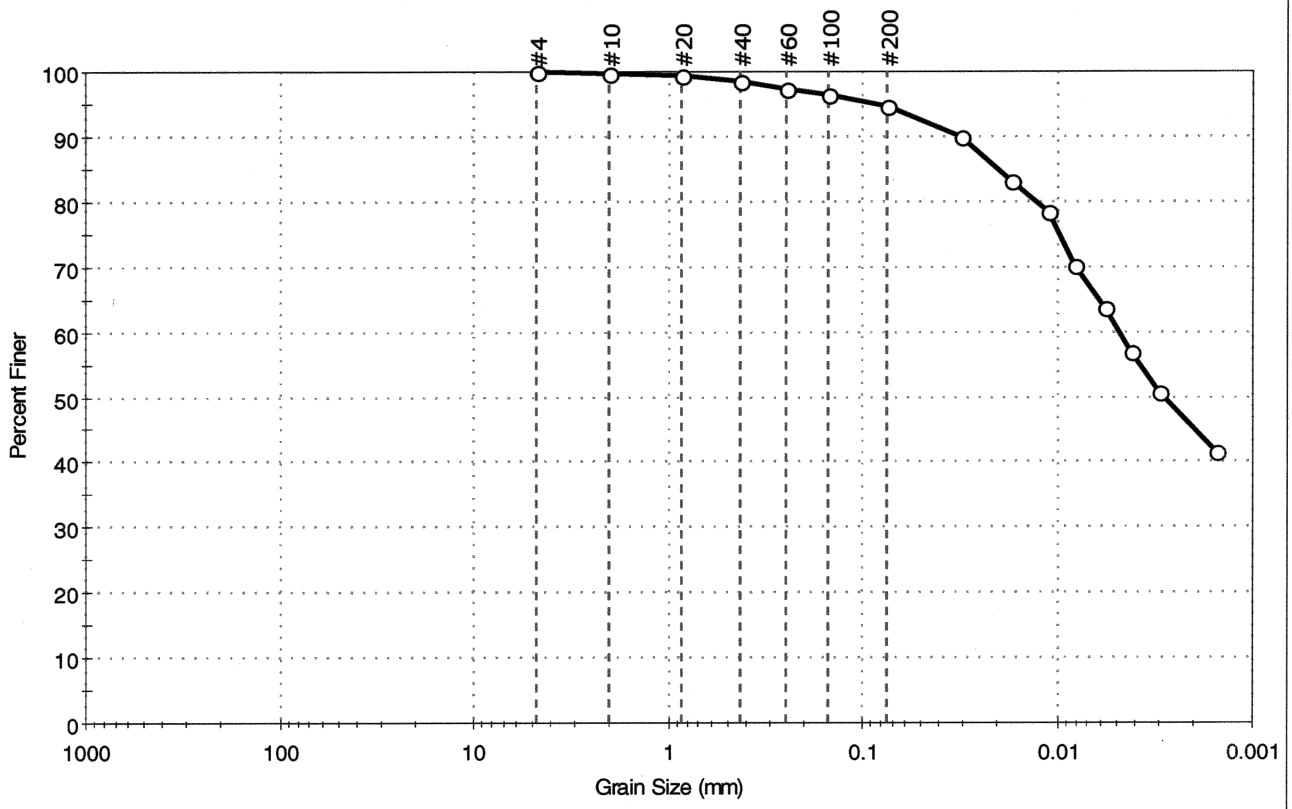
Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	MACTEC Engineering &Consulting				
Project:	1-295 Exit 7 Interchange				
Location:	Portland, ME			Project No:	GTX-8319
Boring ID:	SB805S	Sample Type:	jar	Tested By:	ap
Sample ID:	S-3	Test Date:	07/08/08	Checked By:	jdt
Depth :	5ft	Test Id:	133643		TCC 10/2008
Test Comment:	---				
Sample Description:	Moist, olive brown clay				
Sample Comment:	---				

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.0	5.3	94.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	98		
#60	0.25	97		
#100	0.15	96		
#200	0.075	95		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0308	90		
---	0.0171	83		
---	0.0113	78		
---	0.0081	70		
---	0.0058	64		
---	0.0042	57		
---	0.0030	51		
---	0.0015	42		

Coefficients

D_{85} =0.0201 mm	D_{30} =N/A
D_{60} =0.0048 mm	D_{15} =N/A
D_{50} =0.0028 mm	D_{10} =N/A
C_u =N/A	C_c =N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

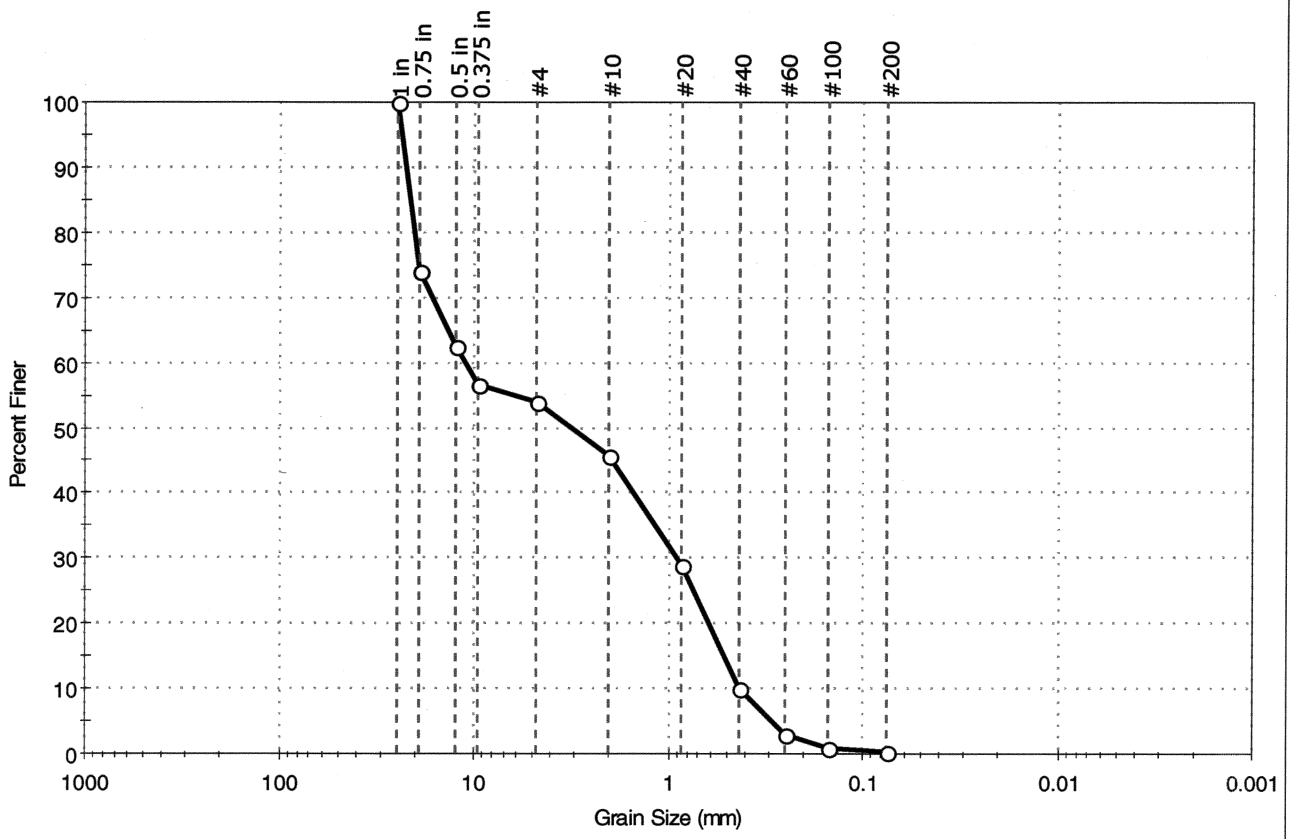
Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	MACTEC Engineering &Consulting				
Project:	1-295 Exit 7 Interchange				
Location:	Portland, ME			Project No:	GTX-8319
Boring ID:	SB806D	Sample Type:	jar	Tested By:	ap
Sample ID:	S-7	Test Date:	07/07/08	Checked By:	n/a
Depth :	30ft	Test Id:	133636		TCC 10/2008
Test Comment:	---				
Sample Description:	Moist, dark olive brown sand with gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
---	45.9	53.7	0.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	74		
0.5 in	12.50	63		
0.375 in	9.50	57		
#4	4.75	54		
#10	2.00	46		
#20	0.85	29		
#40	0.42	10		
#60	0.25	3		
#100	0.15	1		
#200	0.075	0		

Coefficients

D_{85} =21.3247 mm	D_{30} =0.8992 mm
D_{60} =11.1251 mm	D_{15} =0.5102 mm
D_{50} =3.1220 mm	D_{10} =0.4242 mm
C_u =26.226	C_c =0.171

Classification

ASTM — Poorly graded sand with gravel (SP)

AASHTO — Stone Fragments, Gravel and Sand (A-1-a (0))

Sample/Test Description

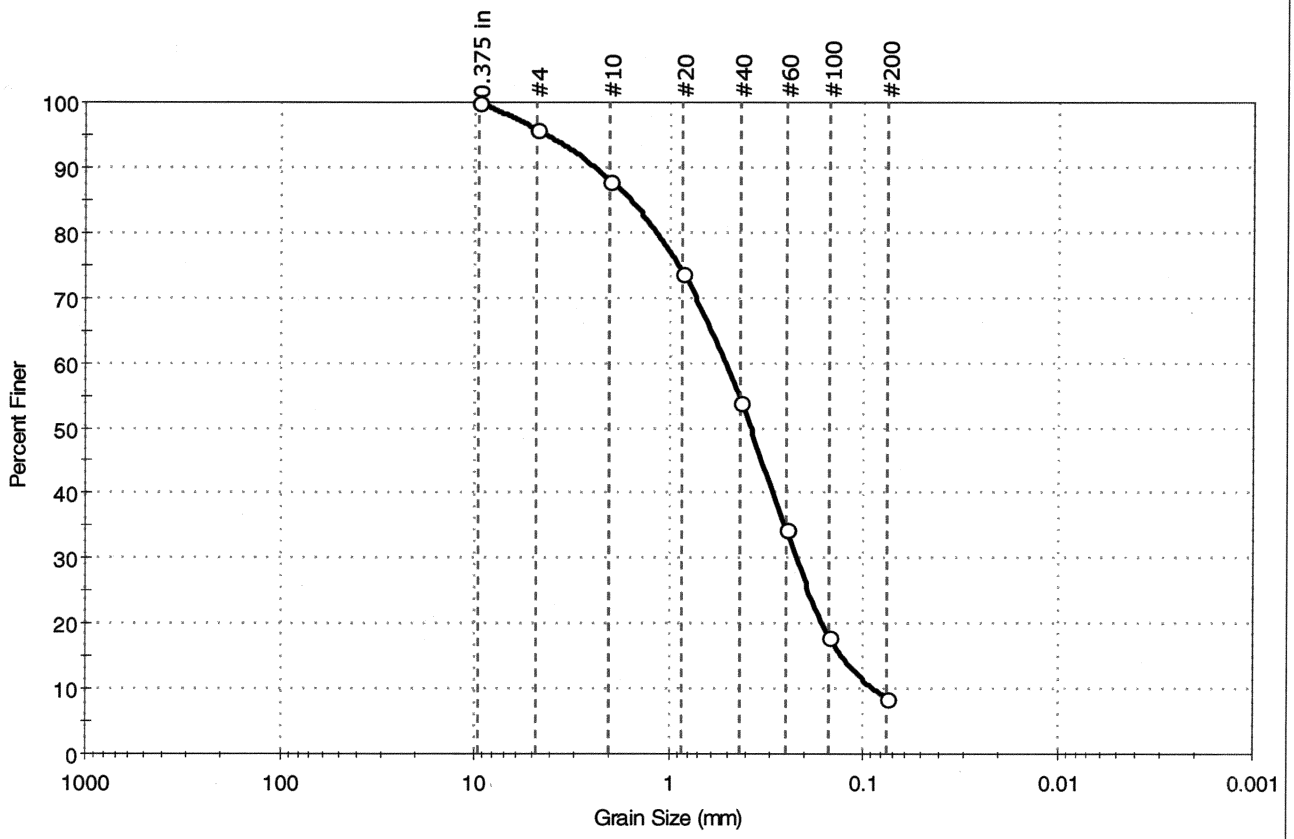
Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	MACTEC Engineering &Consulting				
Project:	1-295 Exit 7 Interchange				
Location:	Portland, ME			Project No:	GTX-8319
Boring ID:	SB807D	Sample Type:	jar	Tested By:	ap
Sample ID:	S-4	Test Date:	07/01/08	Checked By:	jdt
Depth :	10ft	Test Id:	133637		Tcc 10/2008
Test Comment:	---				
Sample Description:	Moist, dark greenish gray sand with silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	4.2	87.1	8.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	96		
#10	2.00	88		
#20	0.85	74		
#40	0.42	54		
#60	0.25	35		
#100	0.15	18		
#200	0.075	9		

Coefficients

D_{85} = 1.6718 mm	D_{30} = 0.2170 mm
D_{60} = 0.5244 mm	D_{15} = 0.1192 mm
D_{50} = 0.3809 mm	D_{10} = 0.0826 mm
C_u = 6.349	C_c = 1.087

Classification

ASTM N/A

AASHTO Fine Sand (A-3 (0))

Sample/Test Description

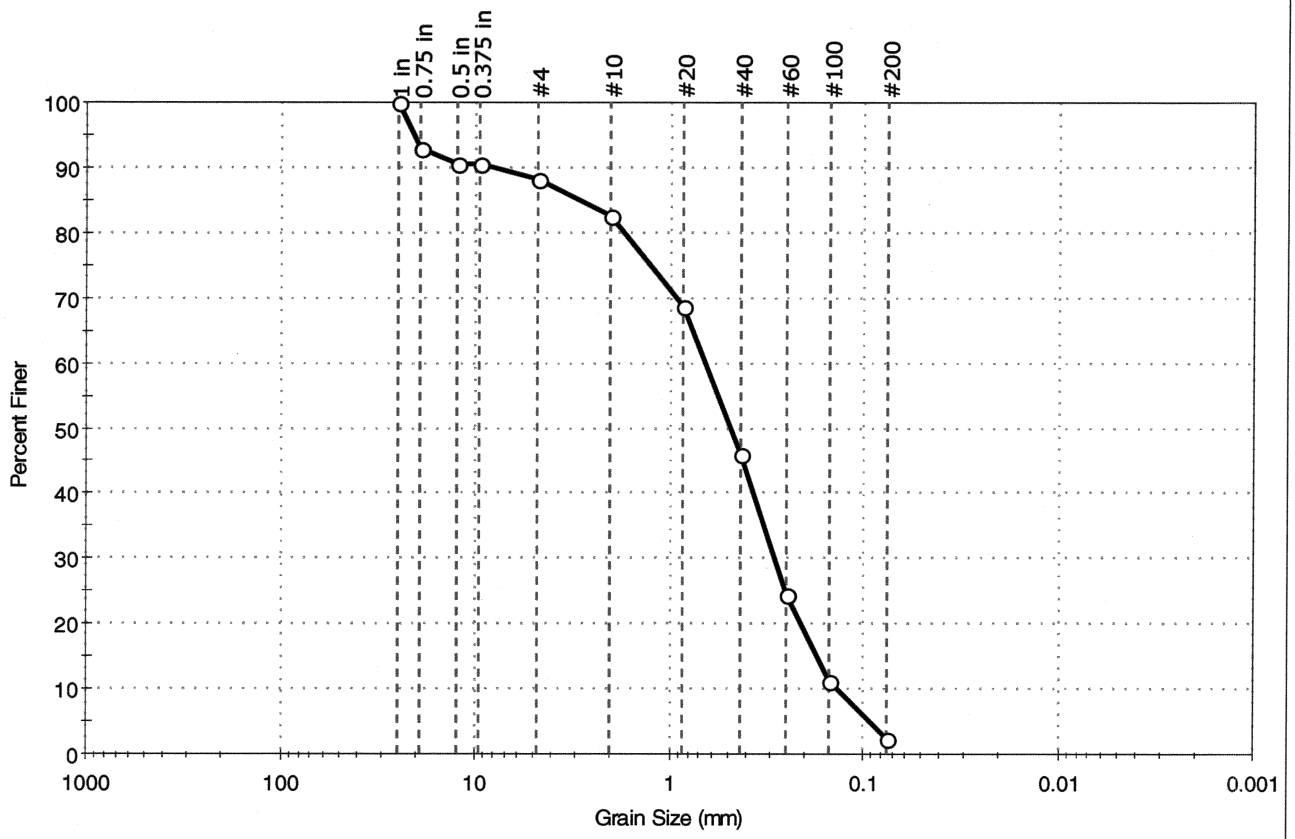
Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	MACTEC Engineering &Consulting				
Project:	1-295 Exit 7 Interchange				
Location:	Portland, ME			Project No:	GTX-8319
Boring ID:	SB808D	Sample Type:	jar	Tested By:	ap
Sample ID:	S-6	Test Date:	07/09/08	Checked By:	jdt
Depth :	20ft	Test Id:	133638		Tcc 10/2008
Test Comment:	---				
Sample Description:	Moist, olive sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	11.8	85.8	2.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	93		
0.5 in	12.50	91		
0.375 in	9.50	91		
#4	4.75	88		
#10	2.00	83		
#20	0.85	69		
#40	0.42	46		
#60	0.25	24		
#100	0.15	11		
#200	0.075	2		

Coefficients

D_{85} =2.9242 mm	D_{30} =0.2865 mm
D_{60} =0.6509 mm	D_{15} =0.1729 mm
D_{50} =0.4802 mm	D_{10} =0.1352 mm
C_u =4.814	C_c =0.933

Classification

ASTM Poorly graded sand (SP)

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

Sample/Test Description

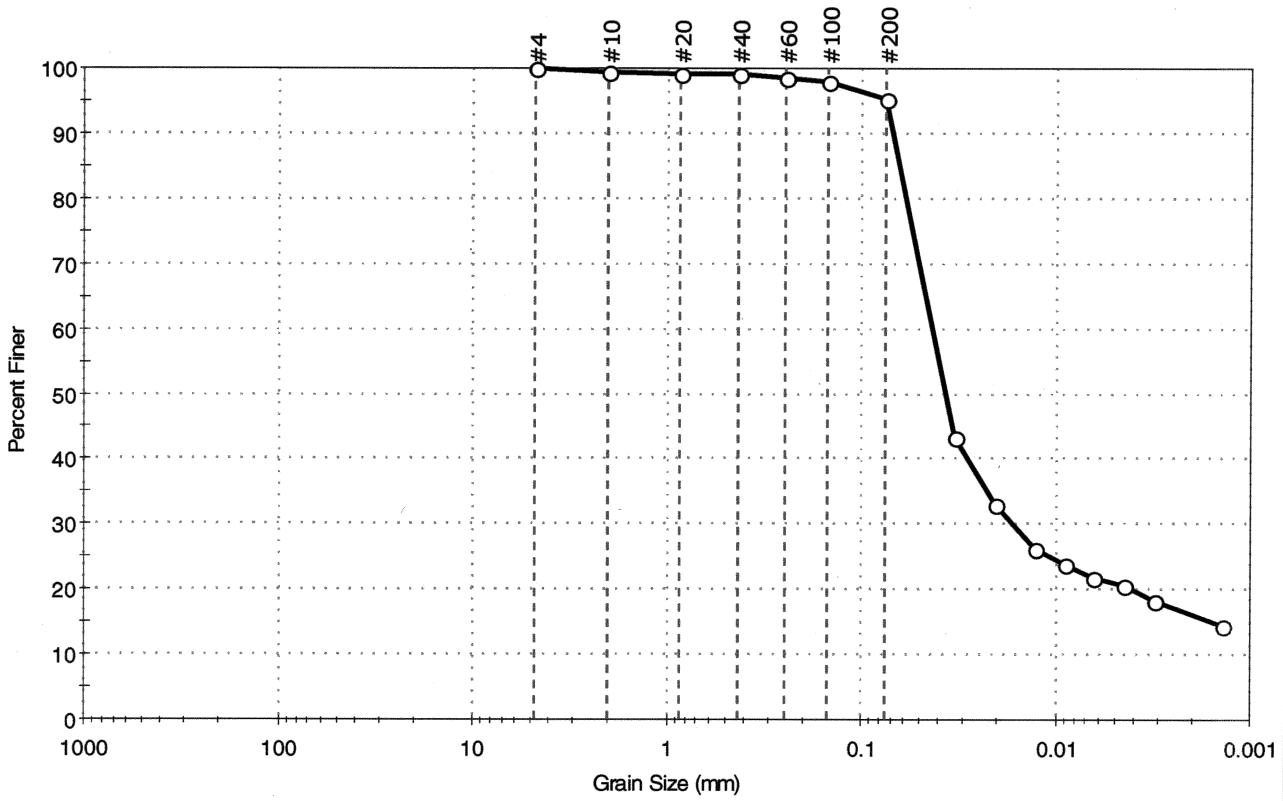
Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	MACTEC Engineering &Consulting				
Project:	1-295 Exit 7 Interchange				
Location:	Portland, ME			Project No:	GTX-8319
Boring ID:	SB808D	Sample Type:	jar	Tested By:	ap
Sample ID:	S-8B	Test Date:	07/02/08	Checked By:	jdt
Depth :	30ft	Test Id:	133644		TLC 10/2008
Test Comment:	---				
Sample Description:	Moist, dark greenish gray silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	4.7	95.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	99		
#20	0.85	99		
#40	0.42	99		
#60	0.25	99		
#100	0.15	98		
#200	0.075	95		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0334	43		
---	0.0206	33		
---	0.0127	26		
---	0.0090	24		
---	0.0064	22		
---	0.0045	21		
---	0.0032	18		
---	0.0014	14		

Coefficients

D_{85} = 0.0639 mm D_{30} = 0.0165 mm
D_{60} = 0.0433 mm D_{15} = 0.0016 mm
D_{50} = 0.0370 mm D_{10} = 0.0005 mm
C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

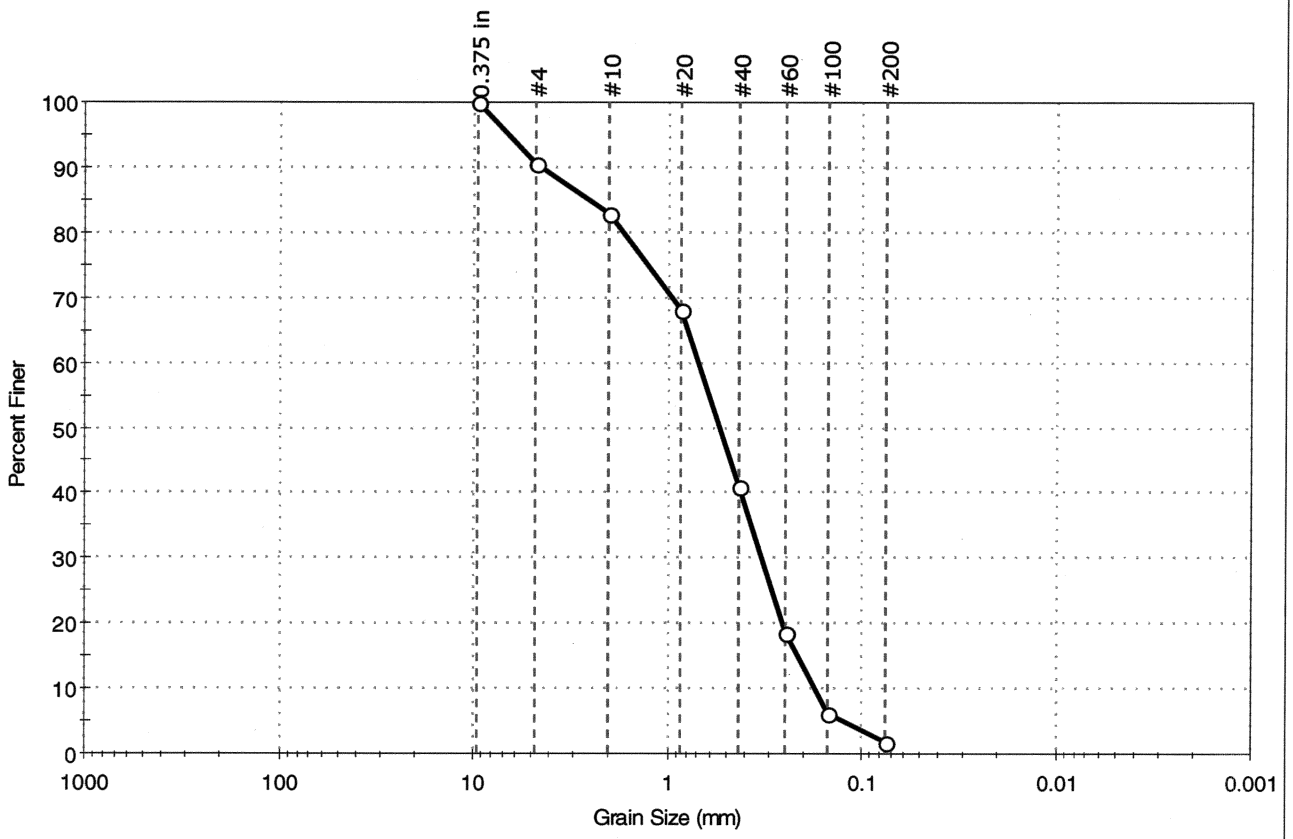
Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	MACTEC Engineering &Consulting				
Project:	1-295 Exit 7 Interchange				
Location:	Portland, ME			Project No:	GTX-8319
Boring ID:	SB809D	Sample Type:	jar	Tested By:	ap
Sample ID:	S-6	Test Date:	07/02/08	Checked By:	jdt
Depth :	20ft	Test Id:	133639		TCC 10/2008
Test Comment:	---				
Sample Description:	Moist, light yellowish brown sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	9.6	88.7	1.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	90		
#10	2.00	83		
#20	0.85	68		
#40	0.42	41		
#60	0.25	18		
#100	0.15	6		
#200	0.075	2		

Coefficients

D_{85} = 2.5456 mm	D_{30} = 0.3276 mm
D_{60} = 0.6916 mm	D_{15} = 0.2164 mm
D_{50} = 0.5345 mm	D_{10} = 0.1757 mm
C_u = 3.936	C_c = 0.883

Classification

ASTM — Poorly graded sand (SP)

AASHTO — Stone Fragments, Gravel and Sand (A-1-b (0))

Sample/Test Description

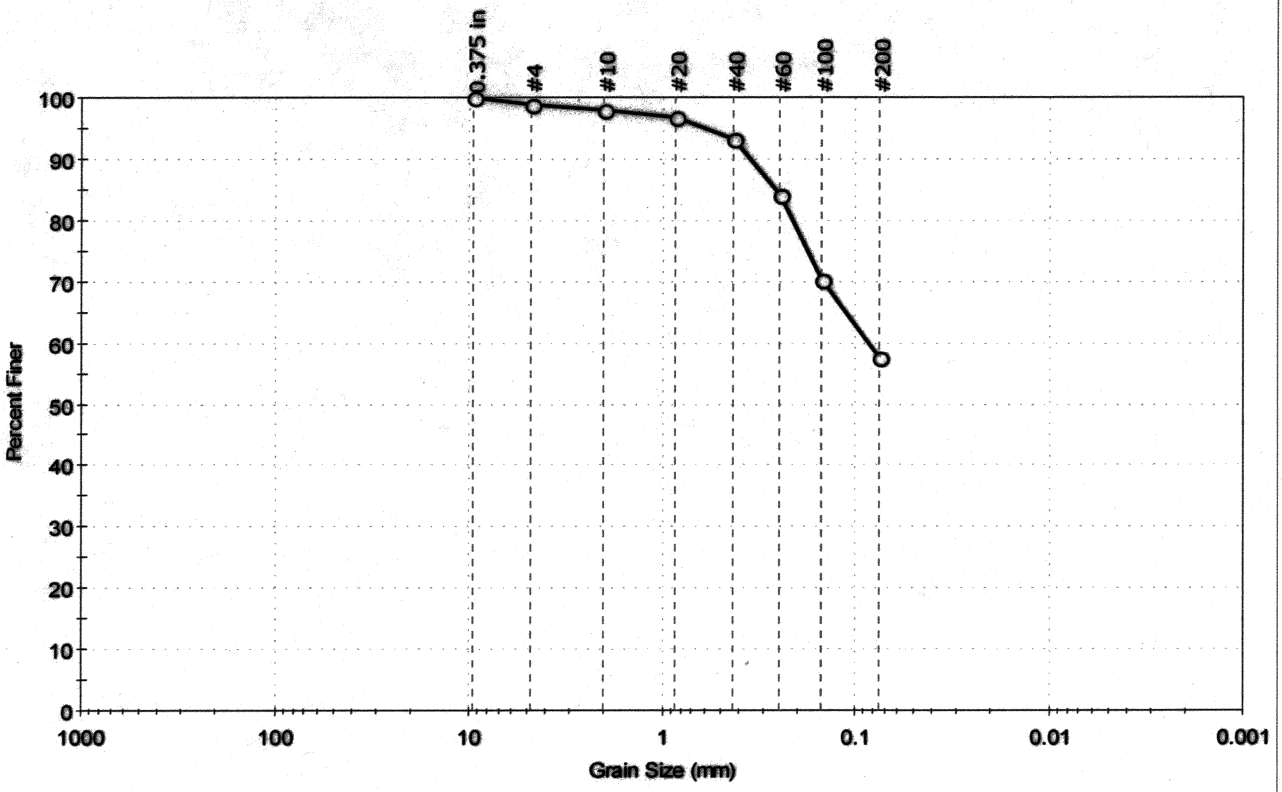
Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	MACTEC Engineering &Consulting				
Project:	I-295 Exit 7 Interchange				
Location:	Portland, ME			Project No:	GTX-8319
Boring ID:	SB810S	Sample Type:	jar	Tested By:	ap
Sample ID:	S-3	Test Date:	07/02/08	Checked By:	jdt
Depth :	5ft	Test Id:	133640		TCC 10/2008
Test Comment:	---				
Sample Description:	Moist, olive sandy silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	1.2	41.1	57.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	99		
#10	2.00	98		
#20	0.85	97		
#40	0.42	93		
#60	0.25	84		
#100	0.15	70		
#200	0.075	58		

Coefficients

D_{85} = 0.2651 mm D_{30} = N/A
D_{60} = 0.0855 mm D_{15} = N/A
D_{50} = N/A D_{10} = N/A
C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

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GeoTesting express
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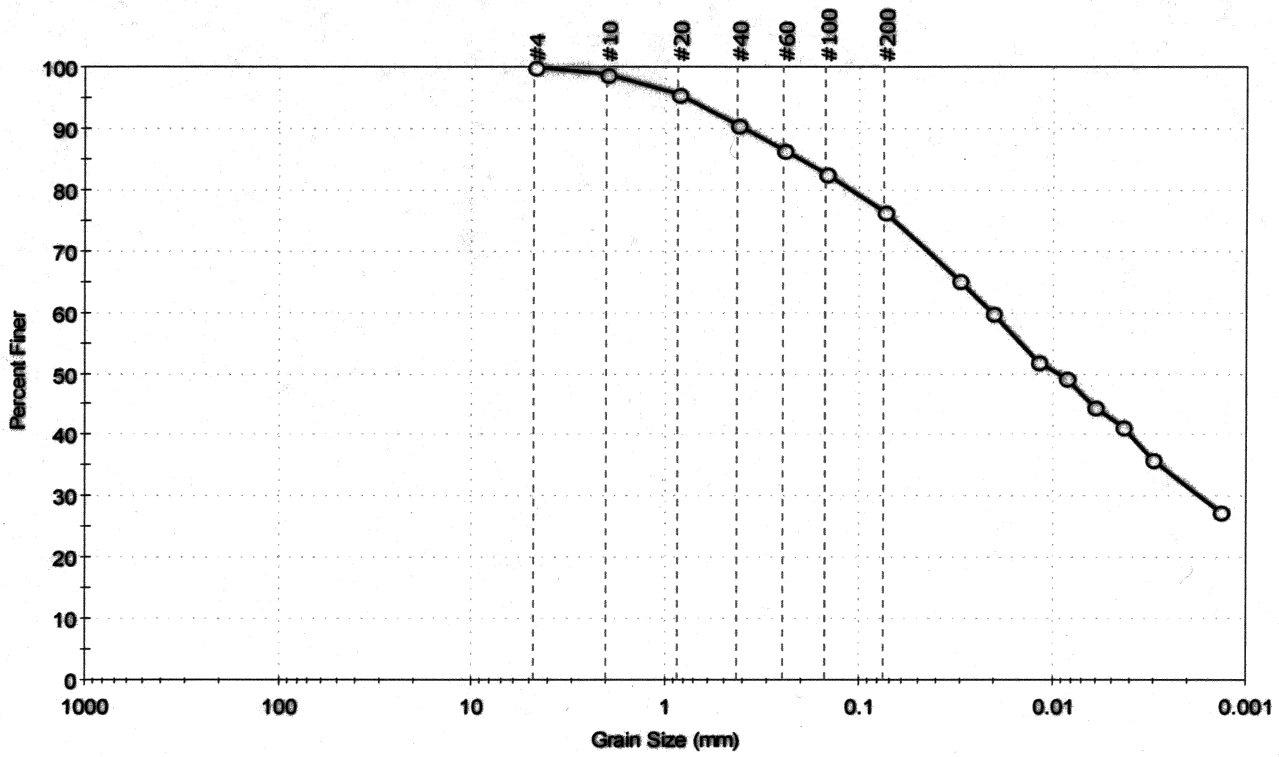
Client:	MACTEC Engineering &Consulting		
Project:	I-295 Exit 7 Interchange		
Location:	Portland, ME	Project No:	GTX-8319
Boring ID:	SB813S	Sample Type: jar	Tested By: ap
Sample ID:	S-2	Test Date: 07/02/08	Checked By: jdt
Depth :	2.5ft	Test Id: 133645	TC 10/2008
Test Comment:	---		
Sample Description:	Moist, olive brown silty clay with sand		
Sample Comment:	---		

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	0.0	23.7	76.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	99		
#20	0.85	95		
#40	0.42	91		
#60	0.25	86		
#100	0.15	83		
#200	0.075	76		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0309	65		
---	0.0207	60		
---	0.0121	52		
---	0.0085	49		
---	0.0061	45		
---	0.0043	41		
---	0.0031	36		
---	0.0014	27		

Coefficients

D_{85} =0.2050 mm D_{30} =0.0017 mm
D_{60} =0.0209 mm D_{15} =N/A
D_{50} =0.0094 mm D_{10} =N/A
C_u =N/A C_c =N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

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GeoTesting express
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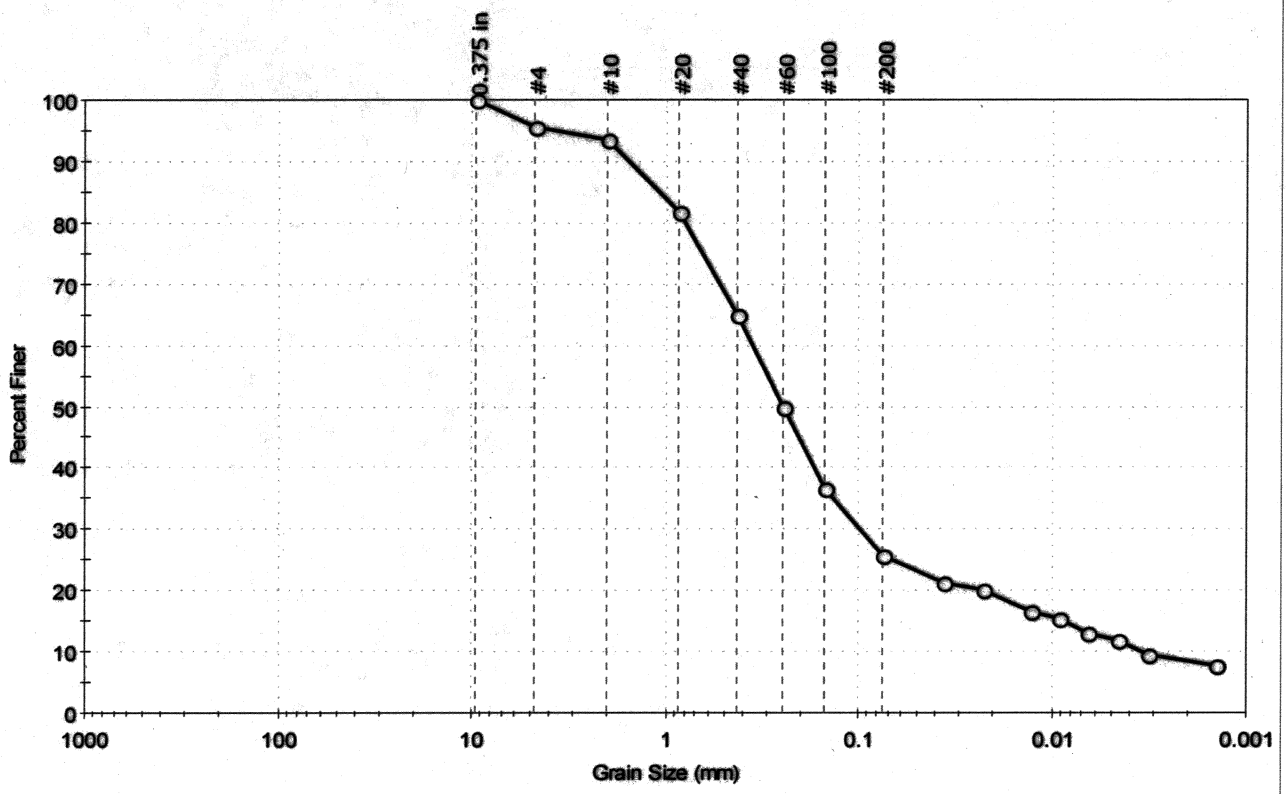
Client:	MACTEC Engineering &Consulting				
Project:	I-295 Exit 7 Interchange				
Location:	Portland, ME			Project No:	GTX-8319
Boring ID:	SB815S	Sample Type:	jar	Tested By:	ap
Sample ID:	S-3	Test Date:	07/02/08	Checked By:	jdt
Depth :	5ft	Test Id:	133646		TCC 10/2008
Test Comment:	---				
Sample Description:	Moist, olive silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	4.3	70.1	25.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	96		
#10	2.00	93		
#20	0.85	82		
#40	0.42	65		
#60	0.25	50		
#100	0.15	37		
#200	0.075	26		
---	Particle Size (mm)	Percent Finer	Spec. Percent	Complies
---	0.0365	21		
---	0.0227	20		
---	0.0128	17		
---	0.0093	15		
---	0.0066	13		
---	0.0046	12		
---	0.0032	9		
---	0.0014	8		

Coefficients

D_{85} = 1.0821 mm D_{30} = 0.0992 mm
D_{60} = 0.3575 mm D_{15} = 0.0088 mm
D_{50} = 0.2504 mm D_{10} = 0.0035 mm
C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

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GeoTesting express
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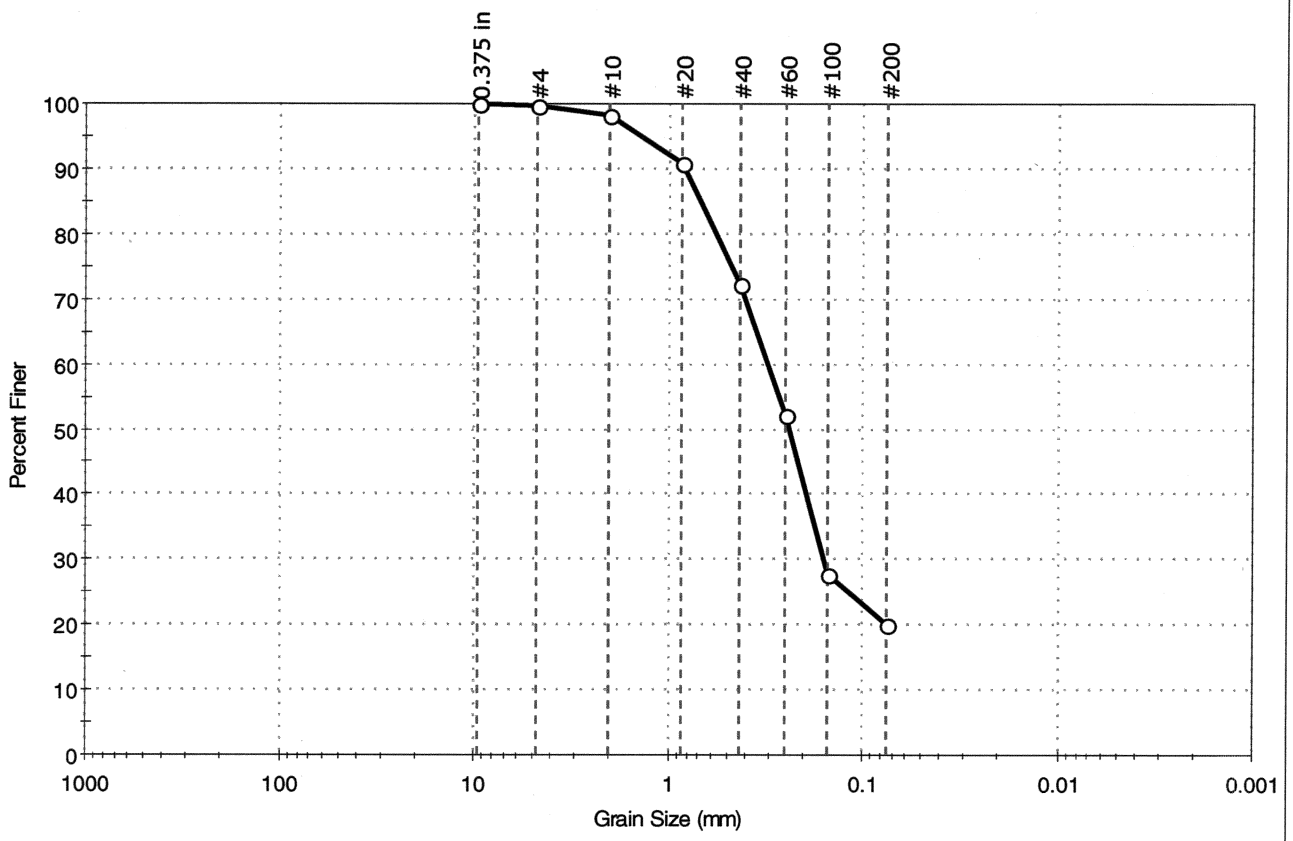
Client:	MACTEC Engineering &Consulting				
Project:	1-295 Exit 7 Interchange				
Location:	Portland, ME			Project No:	GTX-8319
Boring ID:	SB816S	Sample Type:	jar	Tested By:	ap
Sample ID:	S-2	Test Date:	07/02/08	Checked By:	jdt
Depth :	2.5ft	Test Id:	133641		TCC 10/2008
Test Comment:	---				
Sample Description:	Moist, olive silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



%Cobble	%Gravel	%Sand	%Silt & Clay Size
—	0.3	79.6	20.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	100		
#10	2.00	98		
#20	0.85	91		
#40	0.42	72		
#60	0.25	52		
#100	0.15	28		
#200	0.075	20		

Coefficients

D_{85} = 0.6844 mm D_{30} = 0.1569 mm
D_{60} = 0.3080 mm D_{15} = N/A
D_{50} = 0.2392 mm D_{10} = N/A
C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

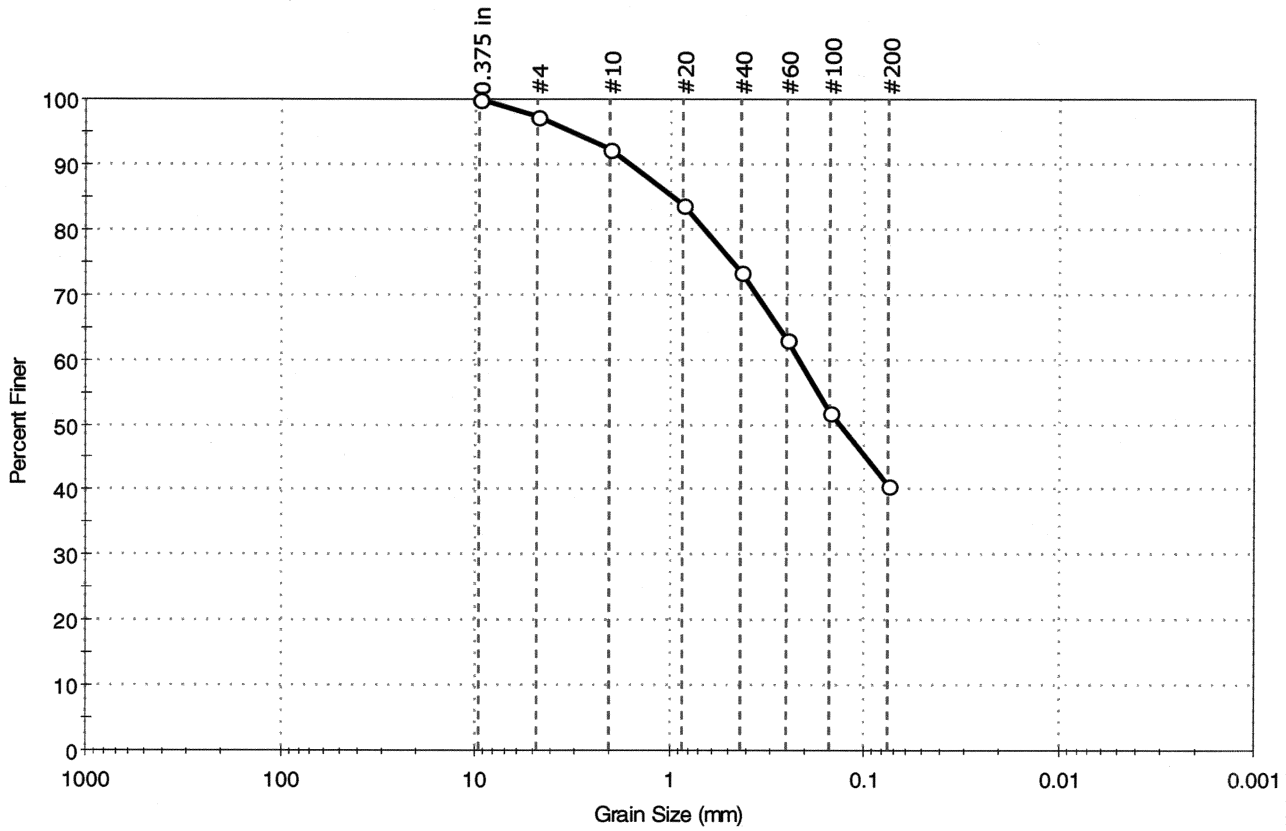
Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	MACTEC Engineering &Consulting				
Project:	1-295 Exit 7 Interchange				
Location:	Portland, ME			Project No:	GTX-8319
Boring ID:	SB816S	Sample Type:	jar	Tested By:	ap
Sample ID:	S-3	Test Date:	07/02/08	Checked By:	jdt
Depth :	5ft	Test Id:	133642		TCC 10/2008
Test Comment:	---				
Sample Description:	Moist, olive brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D 422-63 (reapproved 2002)



% Cobble	% Gravel	% Sand	% Silt & Clay Size
--	2.6	56.7	40.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	97		
#10	2.00	92		
#20	0.85	84		
#40	0.42	73		
#60	0.25	63		
#100	0.15	52		
#200	0.075	41		

Coefficients

D_{85} = 0.9504 mm	D_{30} = N/A
D_{60} = 0.2166 mm	D_{15} = N/A
D_{50} = 0.1328 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

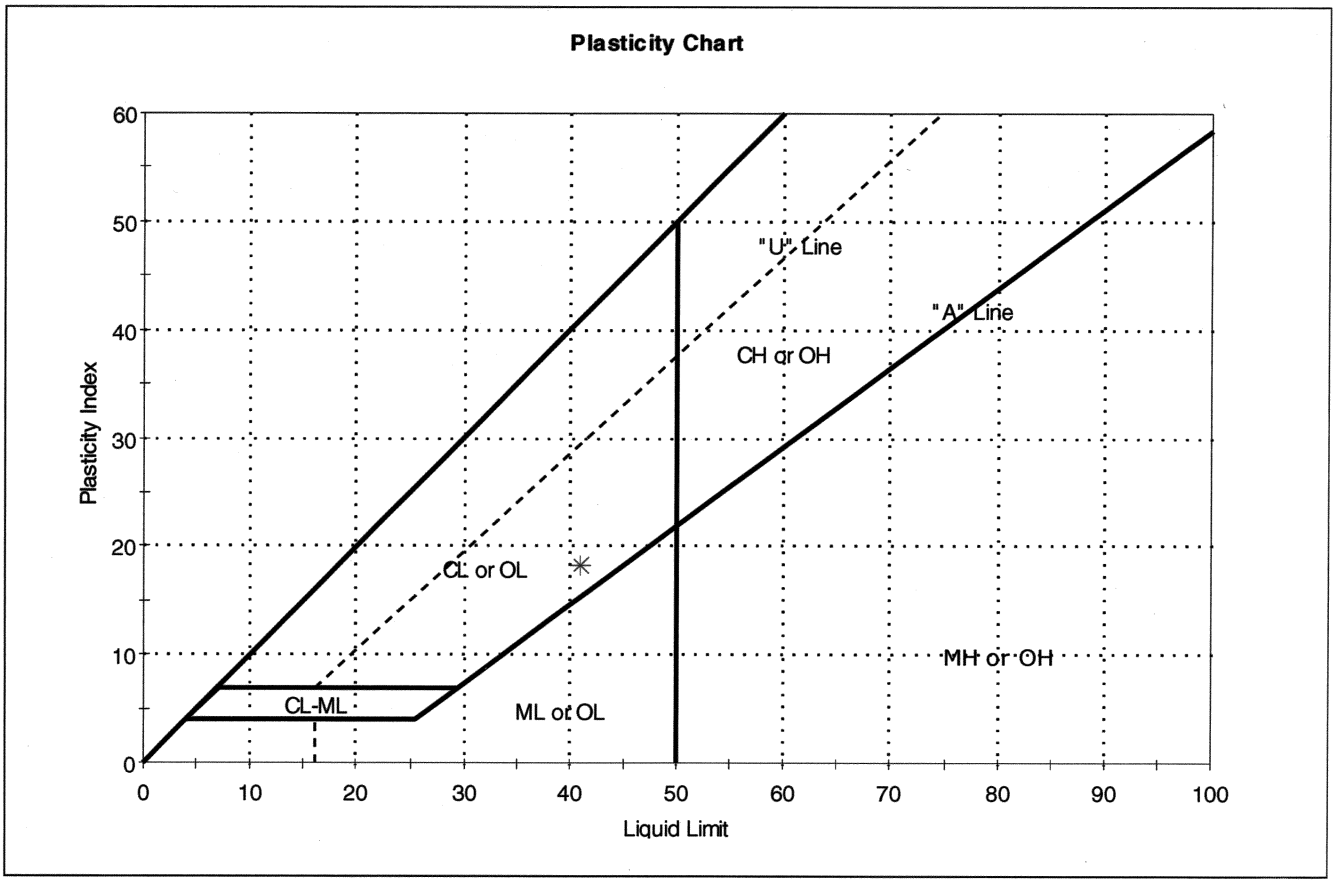
Sand/Gravel Particle Shape : ROUNDED

Sand/Gravel Hardness : HARD

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	MACTEC Engineering &Consulting				
Project:	1-295 Exit 7 Interchange				
Location:	Portland, ME			Project No:	GTX-8319
Boring ID:	SB806D	Sample Type:	jar	Tested By:	ap
Sample ID:	S-9	Test Date:	07/02/08	Checked By:	jdt
Depth :	37ft	Test Id:	133623		TCC 10/2008
Test Comment:	---				
Sample Description:	Moist, dark greenish gray and bluish gray clay				
Sample Comment:	---				

Atterberg Limits - ASTM D 4318-05



Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
*	S-9	SB806D	37ft	35	41	23	18	1	

Sample Prepared using the WET method

Dry Strength: VERY HIGH

Dilentancy: SLOW

Toughness: LOW

GeoTesting express
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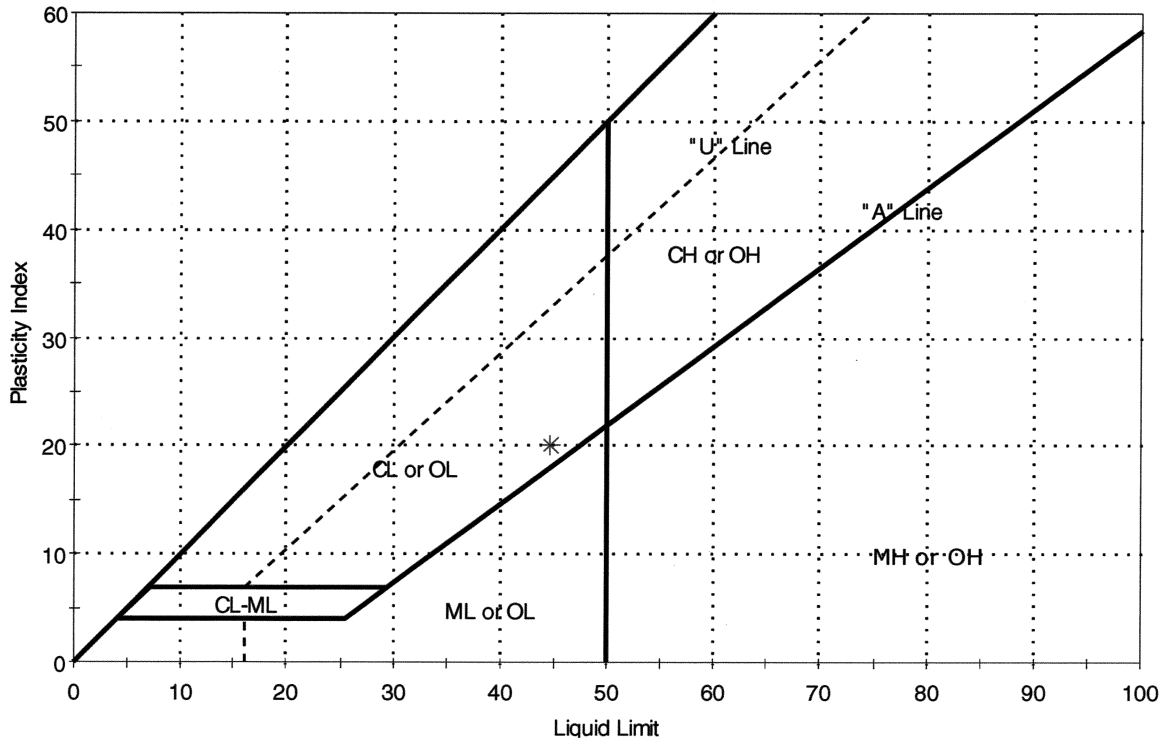
Client:	MACTEC Engineering &Consulting				
Project:	I-295 Exit 7 Interchange				
Location:	Portland, ME			Project No:	GTX-8319
Boring ID:	SB806D	Sample Type:	tube	Tested By:	ap
Sample ID:	ST-11	Test Date:	08/21/08	Checked By:	jdt
Depth :	42ft	Test Id:	136946		TLC 10/2008
Test Comment:	---				
Sample Description:	Moist, gray clay				
Sample Comment:	---				

Atterberg Limits - ASTM D 4318-05

Plasticity Chart



Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
✳	ST-11	SB806D	42ft	39	45	24	21	1	

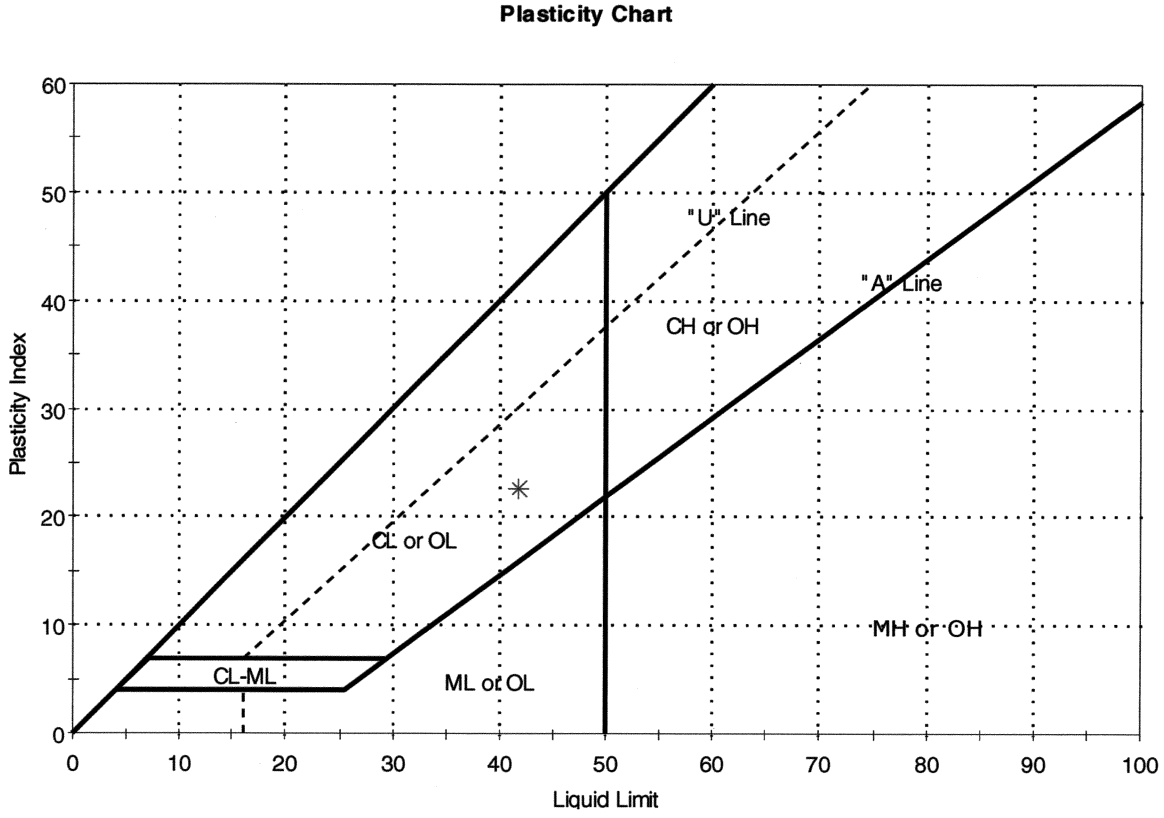
Sample Prepared using the WET method

Dry Strength: VERY HIGH
Dilentancy: SLOW
Toughness: LOW

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	MACTEC Engineering &Consulting				
Project:	1-295 Exit 7 Interchange				
Location:	Portland, ME			Project No:	GTX-8319
Boring ID:	SB807D	Sample Type:	jar	Tested By:	ap
Sample ID:	S-9A	Test Date:	07/02/08	Checked By:	jdt
Depth :	32ft	Test Id:	133624		TLL 10/2008
Test Comment:	---				
Sample Description:	Moist, dark gray silty clay				
Sample Comment:	---				

Atterberg Limits - ASTM D 4318-05



Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
*	S-9A	SB807D	32ft	29	42	19	23	0	

Sample Prepared using the WET method

Dry Strength: VERY HIGH

Dilentancy: SLOW

Toughness: LOW

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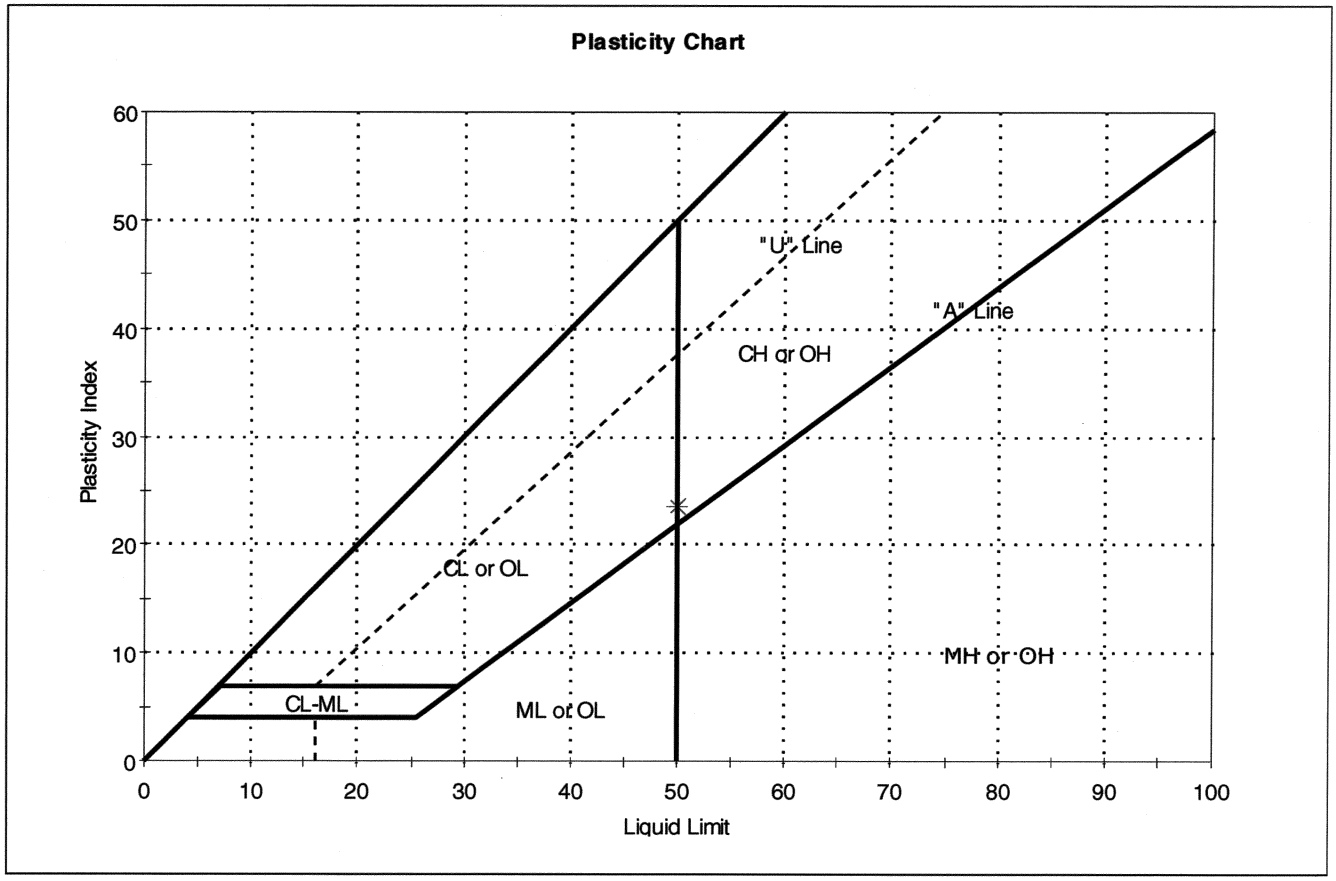
GeoTesting express
a subsidiary of Geocomp Corporation

Client:	MACTEC Engineering &Consulting				
Project:	I-295 Exit 7 Interchange				
Location:	Portland, ME			Project No:	GTX-8319
Boring ID:	SB807D	Sample Type:	tube	Tested By:	ap
Sample ID:	ST-14	Test Date:	08/22/08	Checked By:	jdt
Depth :	50ft	Test Id:	136947		TLC 10/2008
Test Comment:	---				
Sample Description:	Moist, gray clay				
Sample Comment:	---				

Atterberg Limits - ASTM D 4318-05



Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
*	ST-14	SB807D	50ft	43	50	26	24	1	

Sample Prepared using the WET method

Dry Strength: VERY HIGH

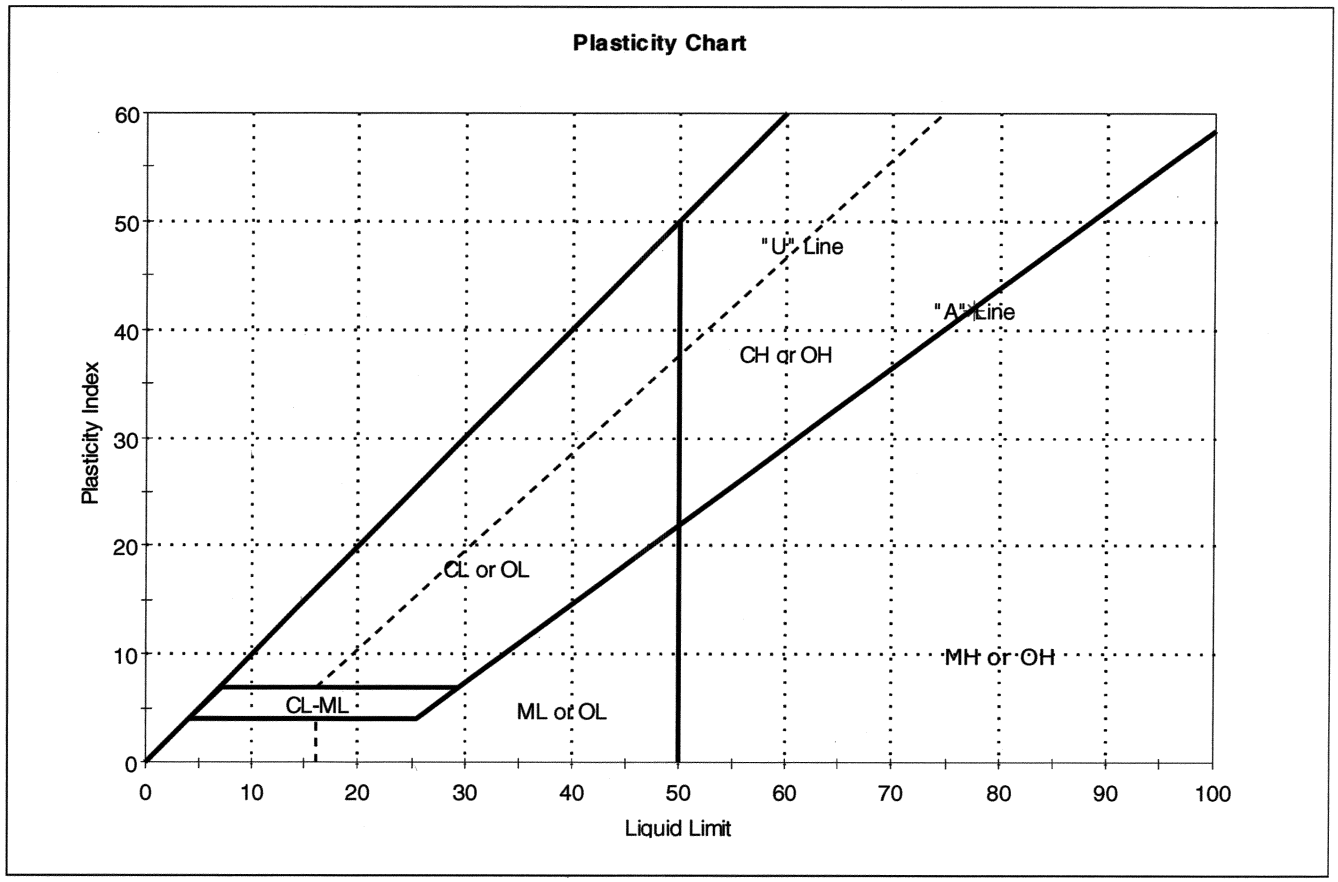
Dilentancy: SLOW

Toughness: LOW

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	MACTEC Engineering &Consulting				
Project:	I-295 Exit 7 Interchange				
Location:	Portland, ME			Project No:	GTX-8319
Boring ID:	SB808D	Sample Type:	jar	Tested By:	ap
Sample ID:	SS-08A	Test Date:	09/05/08	Checked By:	jdt
Depth :	30-32 ft	Test Id:	137730		Tcc 10/2008
Test Comment:	---				
Sample Description:	Moist, very dark gray organic silt				
Sample Comment:	---				

Atterberg Limits - ASTM D 4318-05



Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
*	SS-08A	SB808D	30-32 ft	54	78	36	42	0	

Sample Prepared using the WET method

Dry Strength: VERY HIGH

Dilentancy: SLOW

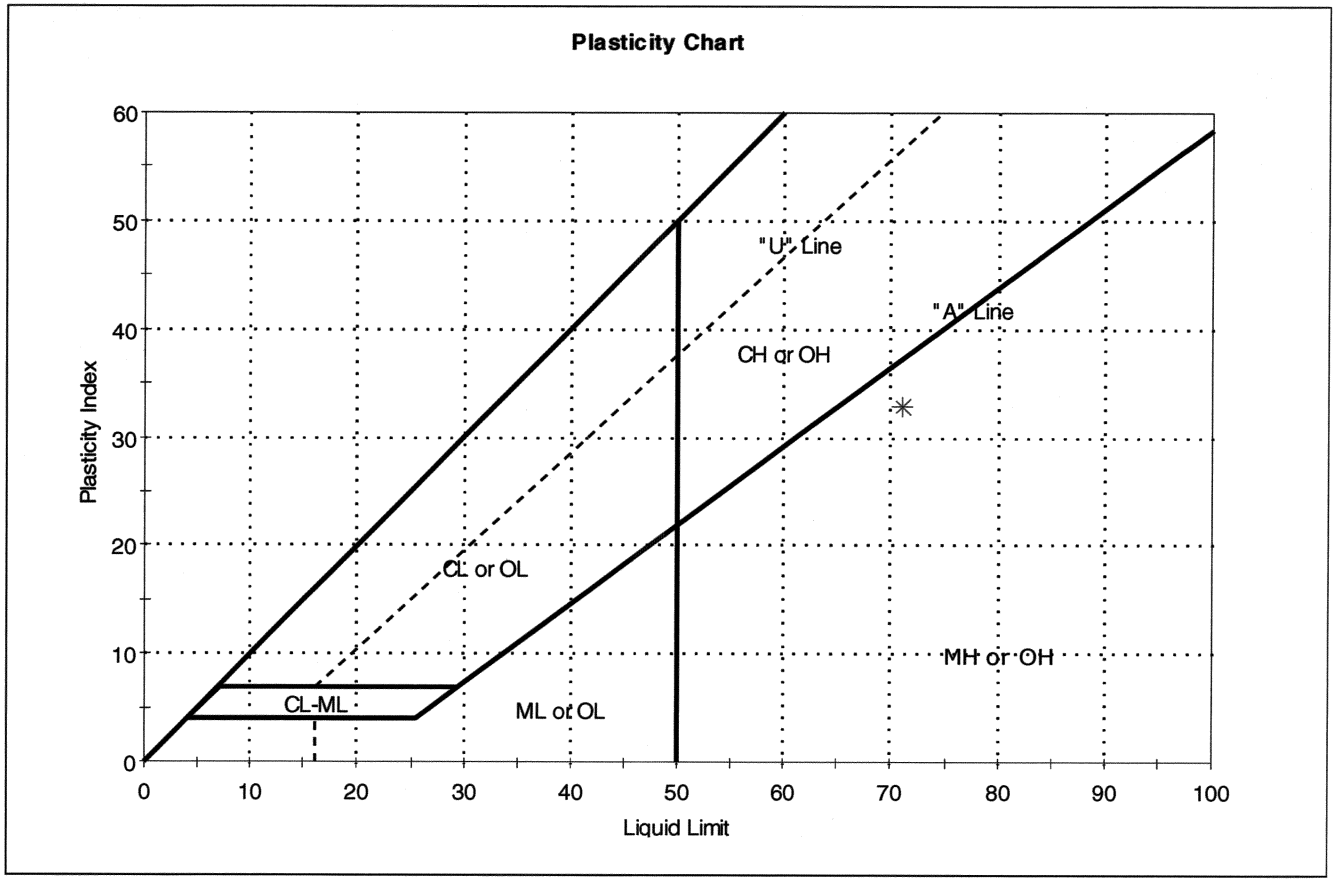
Toughness: LOW

Due to a high organic content an Oven Dried Liquid Limit was peformed.
The Oven Dried Liquid Limit was 52

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	MACTEC Engineering &Consulting				
Project:	I-295 Exit 7 Interchange				
Location:	Portland, ME			Project No:	GTX-8319
Boring ID:	SB808D	Sample Type:	jar	Tested By:	ap
Sample ID:	SS-10A	Test Date:	09/05/08	Checked By:	jdt
Depth :	34-36 ft	Test Id:	137731		TLC 10/2008
Test Comment:	---				
Sample Description:	Moist, black organic silt				
Sample Comment:	---				

Atterberg Limits - ASTM D 4318-05



Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
*	SS-10A	SB808D	34-36 ft	53	71	38	33	0	

Sample Prepared using the WET method

Dry Strength: VERY HIGH

Dilentancy: SLOW

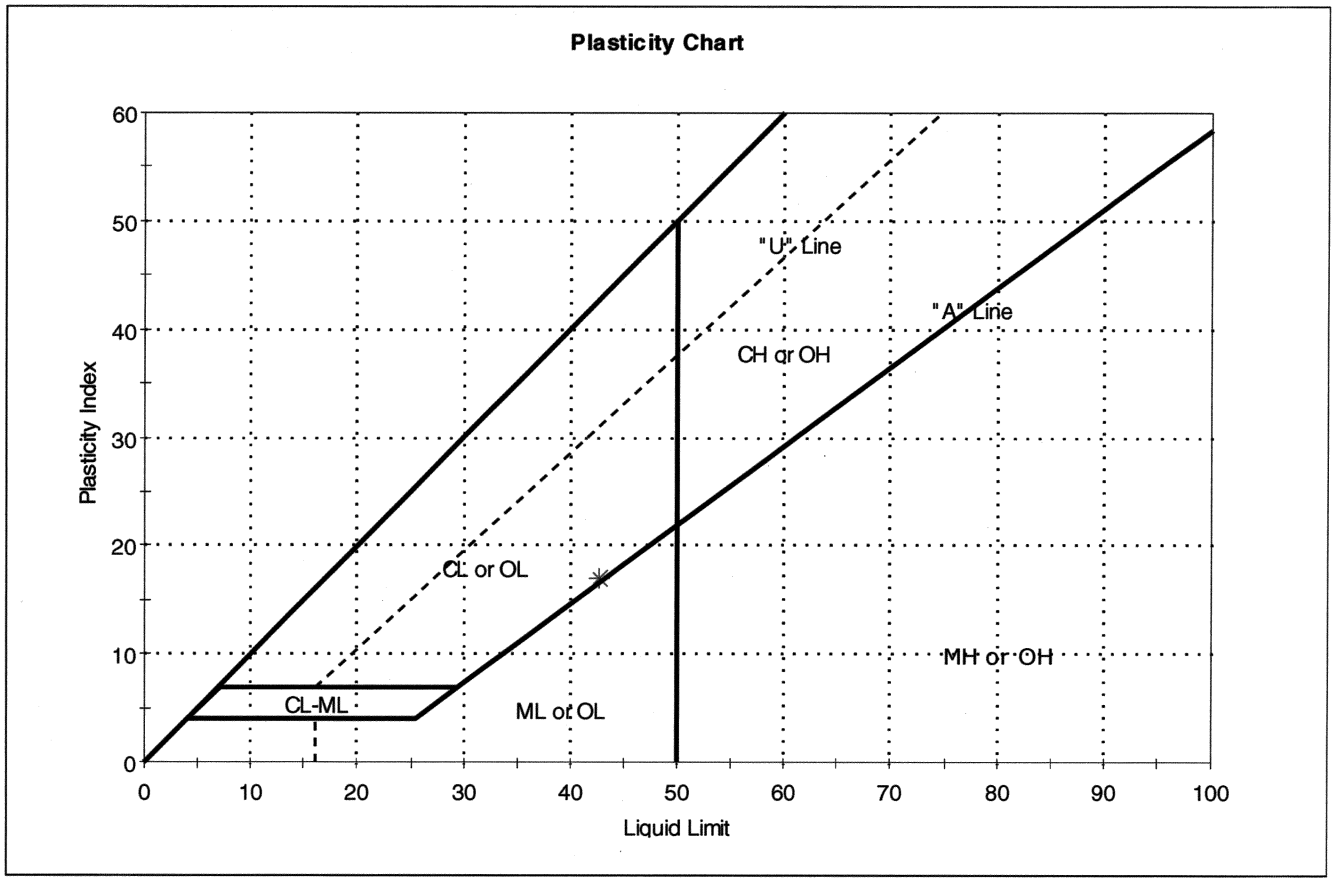
Toughness: LOW

Due to a high organic content an Oven Dried Liquid Limit was peformed.
The Oven Dried Liquid Limit was 44

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	MACTEC Engineering &Consulting				
Project:	1-295 Exit 7 Interchange				
Location:	Portland, ME			Project No:	GTX-8319
Boring ID:	SB808D	Sample Type:	jar	Tested By:	ap
Sample ID:	S-12A	Test Date:	07/02/08	Checked By:	jdt
Depth :	38ft	Test Id:	133625		TLC 10/2008
Test Comment:	---				
Sample Description:	Moist, olive clay				
Sample Comment:	---				

Atterberg Limits - ASTM D 4318-05



Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
✳	S-12A	SB808D	38ft	33	43	26	17	0	

Sample Prepared using the WET method

Dry Strength: VERY HIGH

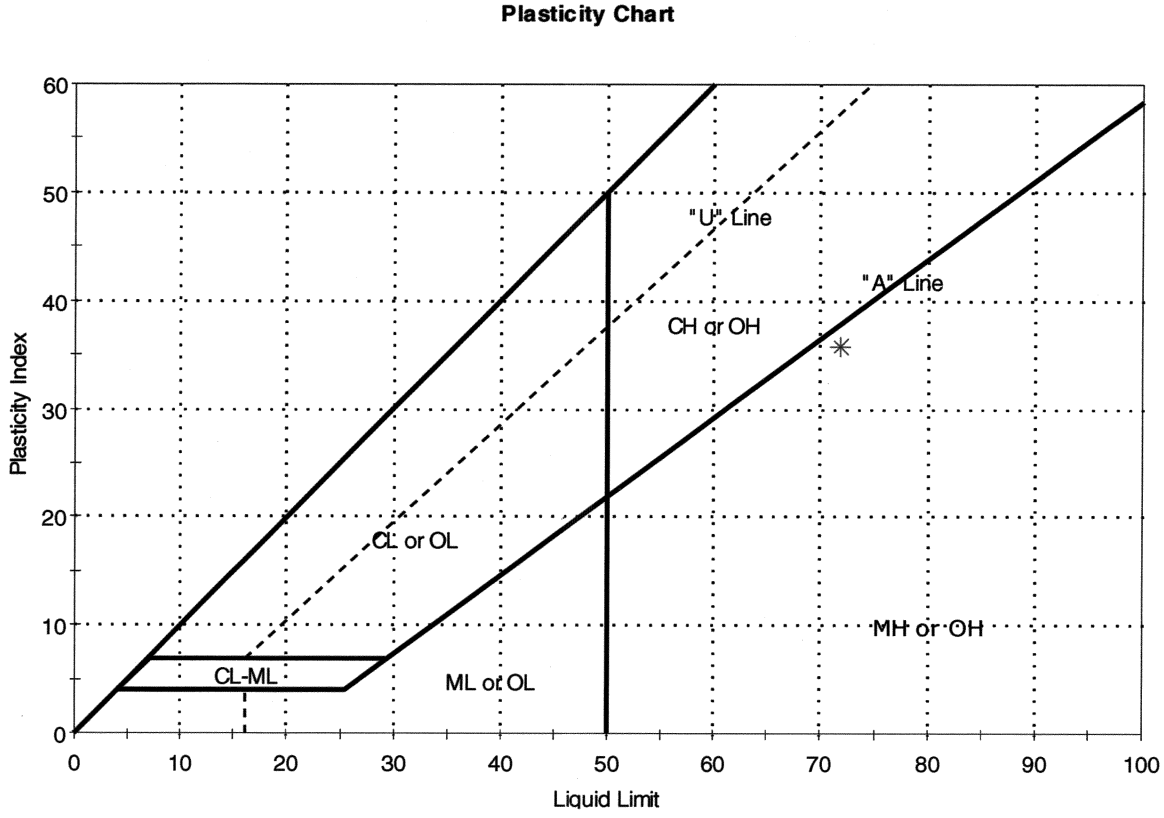
Dilentancy: SLOW

Toughness: LOW

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	MACTEC Engineering &Consulting				
Project:	I-295 Exit 7 Interchange				
Location:	Portland, ME			Project No:	GTX-8319
Boring ID:	SB809D	Sample Type:	jar	Tested By:	ap
Sample ID:	SS-09	Test Date:	09/04/08	Checked By:	jdt
Depth :	35-37 ft	Test Id:	137732		TLC 10/2008
Test Comment:	---				
Sample Description:	Moist, black organic silt				
Sample Comment:	---				

Atterberg Limits - ASTM D 4318-05



Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
*	SS-09	SB809D	35-37 ft	44	72	36	36	0	

Sample Prepared using the WET method

Dry Strength: VERY HIGH

Dilentancy: SLOW

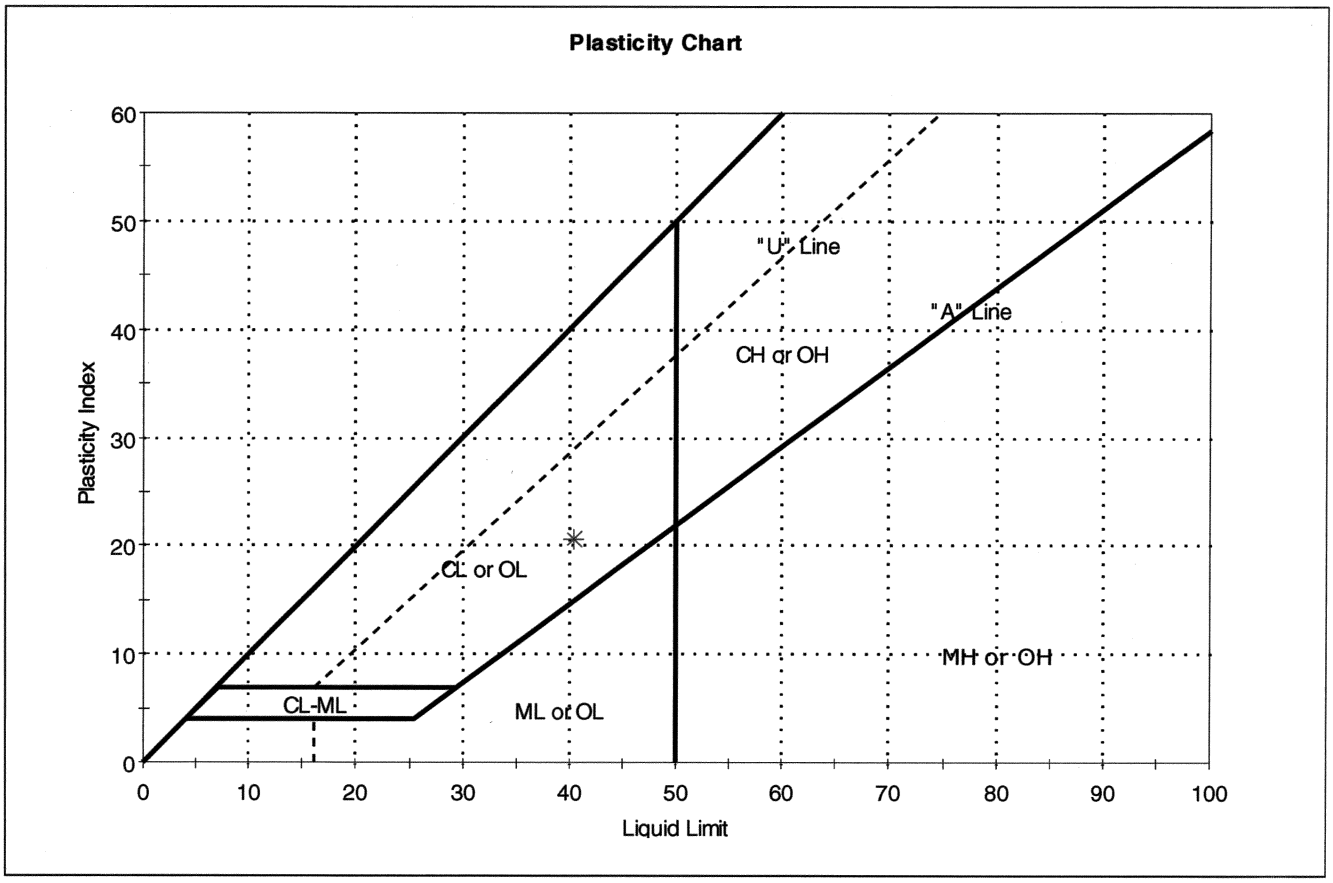
Toughness: LOW

Due to a high organic content an Oven Dried Liquid Limit was peformed.
The Oven Dried Liquid Limit was 50

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	MACTEC Engineering &Consulting				
Project:	1-295 Exit 7 Interchange				
Location:	Portland, ME			Project No:	GTX-8319
Boring ID:	SB809D	Sample Type:	jar	Tested By:	ap
Sample ID:	S-10	Test Date:	07/02/08	Checked By:	jdt
Depth :	40ft	Test Id:	133626		TCC 10/2008
Test Comment:	---				
Sample Description:	Moist, dark greenish gray clay				
Sample Comment:	---				

Atterberg Limits - ASTM D 4318-05



Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
*	S-10	SB809D	40ft	27	40	20	20	0	

Sample Prepared using the WET method

Dry Strength: VERY HIGH

Dilentancy: SLOW

Toughness: LOW

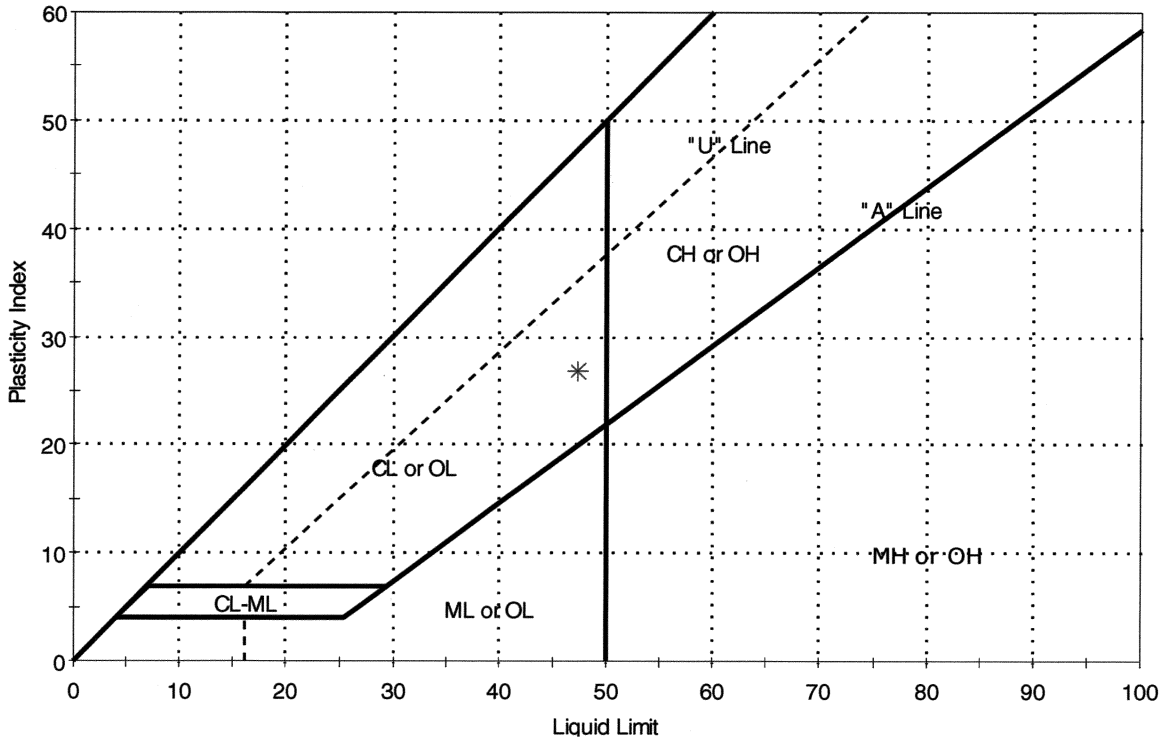
Due to a high organic content an Oven Dried Liquid Limit was peformed.
The Oven Dried Liquid Limit was 32

GeoTesting express
a subsidiary of Geocomp Corporation

Client:	MACTEC Engineering &Consulting				
Project:	I-295 Exit 7 Interchange				
Location:	Portland, ME			Project No:	GTX-8319
Boring ID:	SB809D	Sample Type:	tube	Tested By:	ap
Sample ID:	ST-12	Test Date:	08/26/08	Checked By:	jdt
Depth :	44ft	Test Id:	136948		TCC 10/2008
Test Comment:	---				
Sample Description:	Moist. dark greenish gray clay				
Sample Comment:	---				

Atterberg Limits - ASTM D 4318-05

Plasticity Chart



Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
✳	ST-12	SB809D	44ft	42	47	21	26	1	

Sample Prepared using the WET method

Dry Strength: n/a
Dilentancy: SLOW
Toughness: LOW

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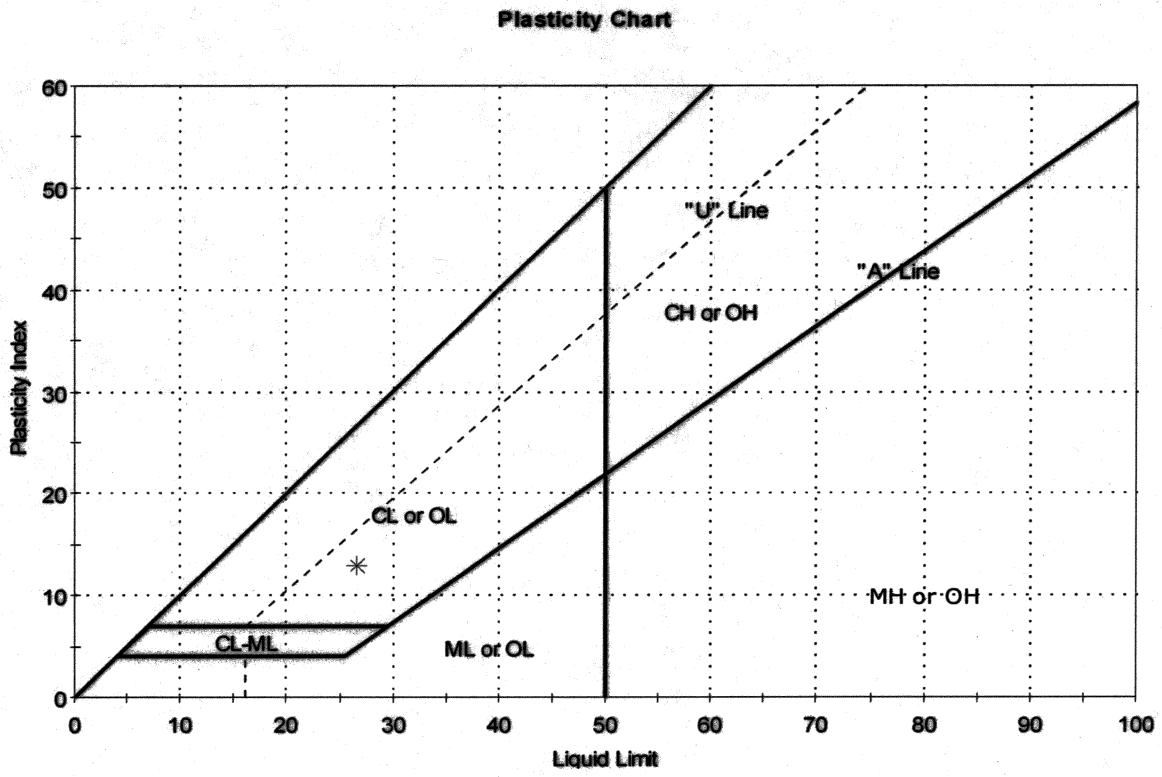
a subsidiary of Geocomp Corporation

Client:	MACTEC Engineering &Consulting				
Project:	I-295 Exit 7 Interchange				
Location:	Portland, ME			Project No:	GTX-8319
Boring ID:	SB812S	Sample Type:	jar	Tested By:	ap
Sample ID:	S-2	Test Date:	07/01/08	Checked By:	jdt
Depth :	2.5ft	Test Id:	133627		TCC 10/2008
Test Comment:	---				
Sample Description:	Moist, olive clay				
Sample Comment:	---				

Atterberg Limits - ASTM D 4318-05



Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
*	S-2	SB812S	2.5ft	9	27	14	13	0	

Sample Prepared using the WET method

Dry Strength: VERY HIGH
Dilentancy: SLOW
Toughness: LOW

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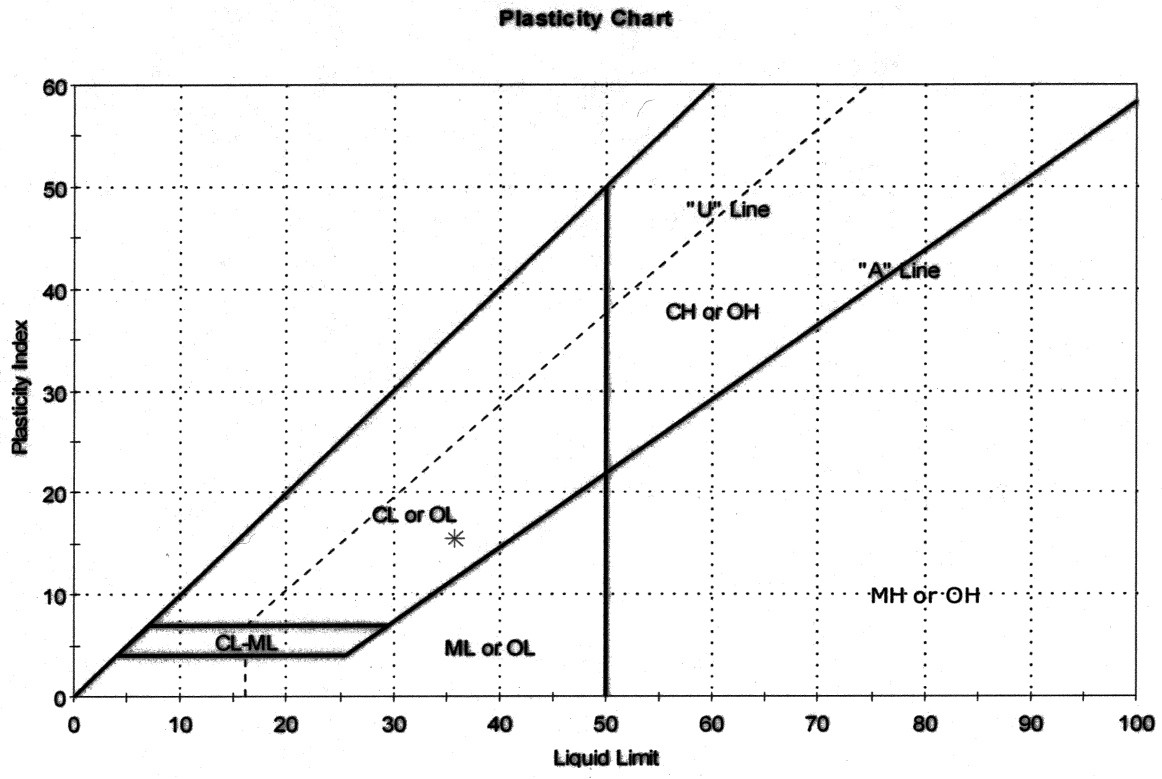
GeoTesting express
a subsidiary of Geocomp Corporation

Client:	MACTEC Engineering &Consulting				
Project:	I-295 Exit 7 Interchange				
Location:	Portland, ME			Project No:	GTX-8319
Boring ID:	SB815S	Sample Type:	jar	Tested By:	ap
Sample ID:	S-2	Test Date:	07/03/08	Checked By:	jdt
Depth :	2.5ft	Test Id:	133628		TCC 10/2008
Test Comment:	---				
Sample Description:	Moist, olive clay				
Sample Comment:	---				

Atterberg Limits - ASTM D 4318-05



Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
*	S-2	SB815S	2.5ft	19	36	20	16	0	

Sample Prepared using the WET method

Dry Strength: VERY HIGH
Dilentancy: SLOW
Toughness: LOW

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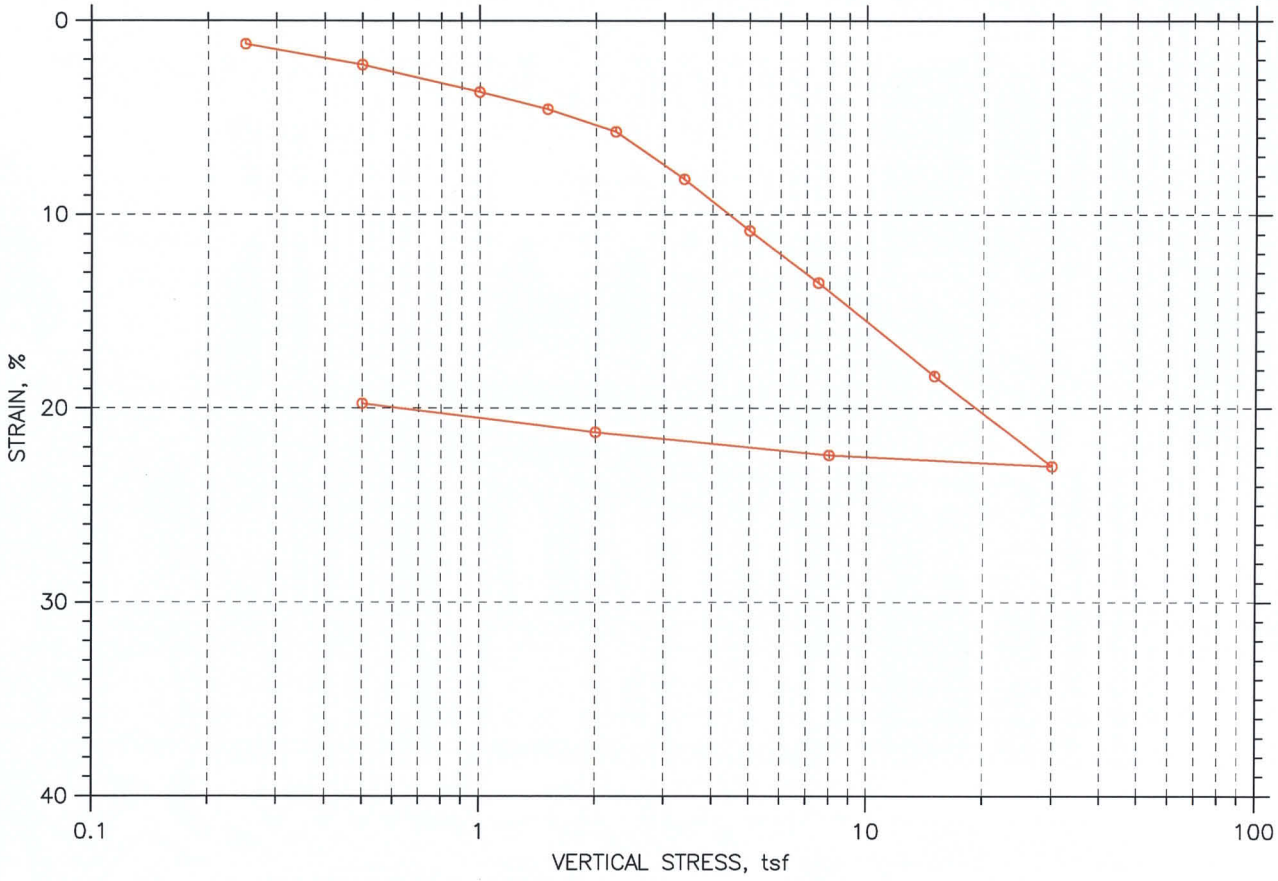
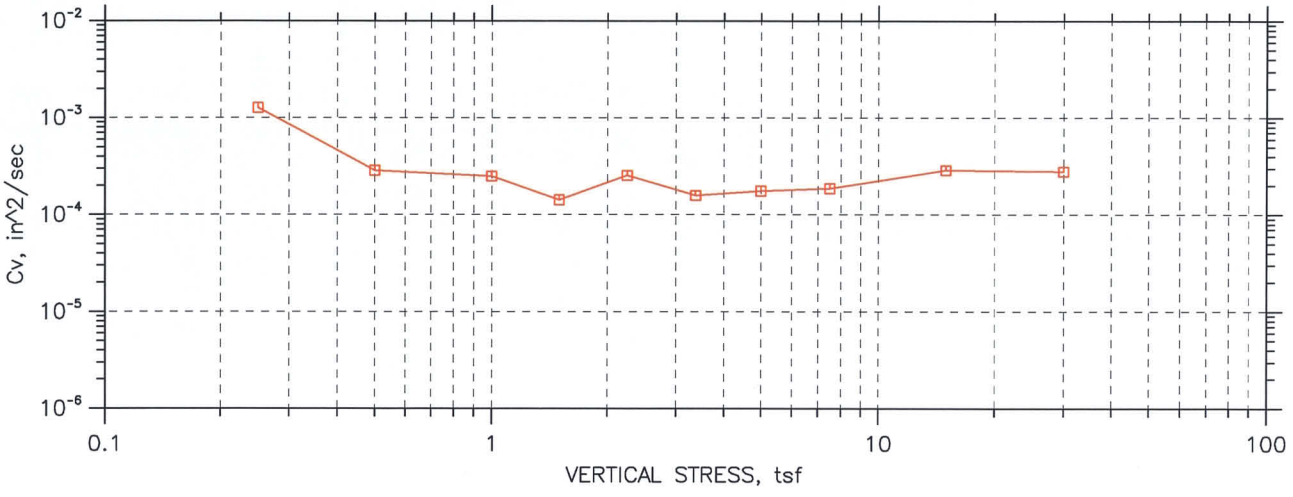
CONSOLIDATION TEST DATA

SUMMARY REPORT

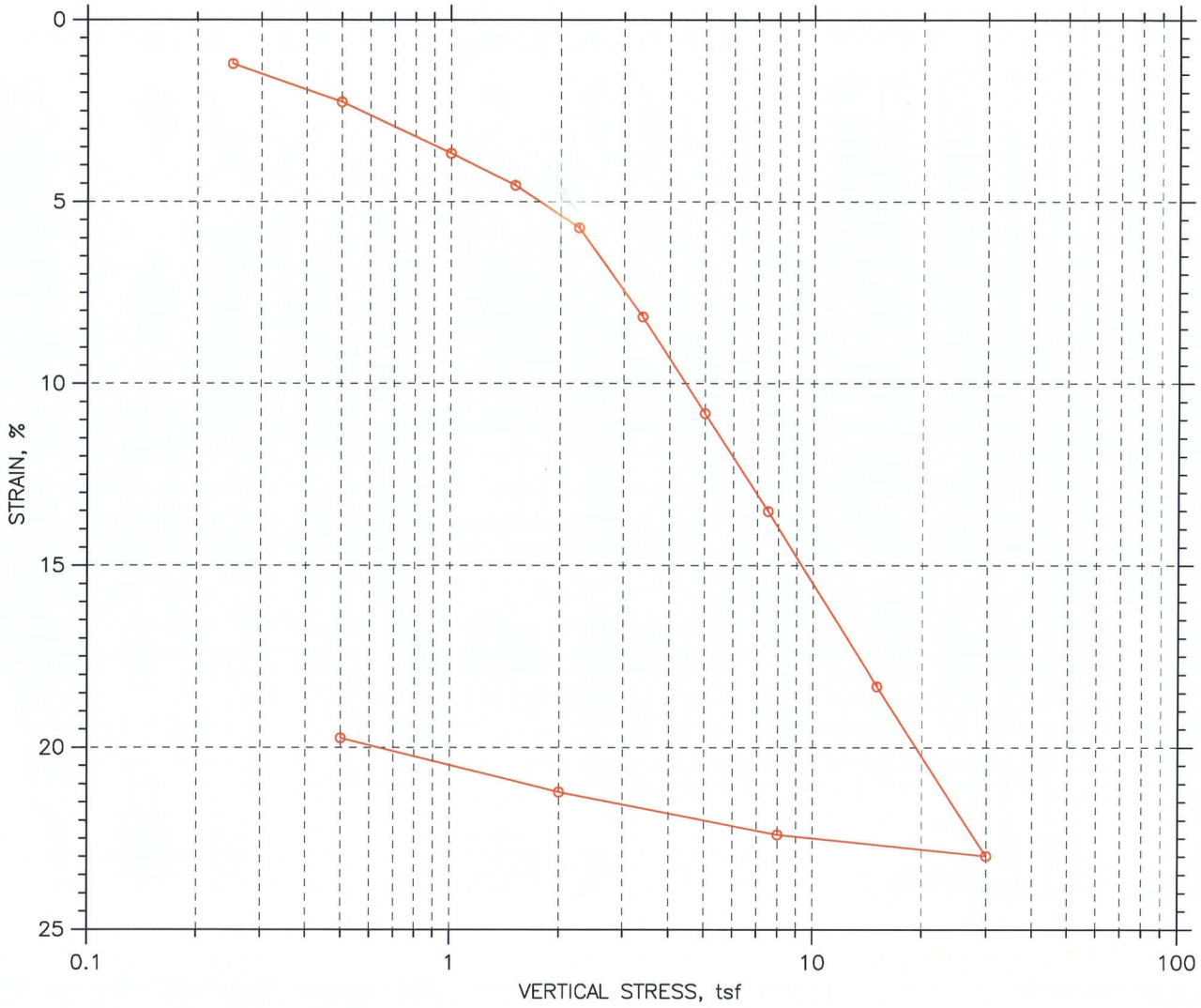




GeoTesting express a subsidiary of Geocomp Corporation	Project: I-295 Exit 7	Location: Portland, ME	Project No.: GTX-8319
	Boring No.: SB-807D	Tested By: njh	Checked By: jdt
	Sample No.: ST-14	Test Date: 08/22/08	Depth: 50 ft
	Test No.: C-2	Sample Type: tube	Elevation: ---
	Description: Moist, gray clay		TK 10/2008
	Remarks: System C		

CONSOLIDATION TEST DATA

SUMMARY REPORT



				Before Test	After Test
Overburden Pressure: ---				Water Content, %	38.26	23.44
Preconsolidation Pressure: ---				Dry Unit Weight, pcf	82.67	103.
Compression Index: ---				Saturation, %	99.78	100.00
Diameter: 2.5 in		Height: 1 in		Void Ratio	1.03	0.63
LL: 50	PL: 26	PI: 24	GS: 2.69			

GeoTesting express a subsidiary of Geocomp Corporation	Project: I-295 Exit 7	Location: Portland, ME	Project No.: GTX-8319
	Boring No.: SB-807D	Tested By: njh	Checked By: jdt
	Sample No.: ST-14	Test Date: 08/22/08	Depth: 50 ft
	Test No.: C-2	Sample Type: tube	Elevation: ---
	Description: Moist, gray clay		
	Remarks: System C		

CONSOLIDATION TEST DATA

Project: I-295 Exit 7
Boring No.: SB-807D
Sample No.: ST-14
Test No.: C-2

Location: Portland, ME
Tested By: njh
Test Date: 08/22/08
Sample Type: tube

Project No.: GTX-8319
Checked By: jdt
Depth: 50 ft
Elevation: ---

Soil Description: Moist, gray clay
Remarks: System C

Measured Specific Gravity: 2.69
Initial Void Ratio: 1.03
Final Void Ratio: 0.63

Liquid Limit: 50
Plastic Limit: 26
Plasticity Index: 24

Initial Height: 1.00 in
Specimen Diameter: 2.50 in

	Before Consolidation		After Consolidation	
	Trimmings	Specimen+Ring	Specimen+Ring	Trimmings
Container ID	snuggles	RING		1977
Wt. Container + Wet Soil, gm	255.93	362.85	347.06	137.5
Wt. Container + Dry Soil, gm	183.11	322.1	322.1	112.92
Wt. Container, gm	8.04	215.58	215.58	8.04
Wt. Dry Soil, gm	175.07	106.52	106.52	104.88
Water Content, %	41.59	38.26	23.44	23.44
Void Ratio	---	1.03	0.63	---
Degree of Saturation, %	---	99.78	100.00	---
Dry Unit Weight, pcf	---	82.666	103	---

CONSOLIDATION TEST DATA

Project: I-295 Exit 7
Boring No.: SB-807D
Sample No.: ST-14
Test No.: C-2

Location: Portland, ME
Tested By: njh
Test Date: 08/22/08
Sample Type: tube

Project No.: GTX-8319
Checked By: jdt
Depth: 50 ft
Elevation: ---

Soil Description: Moist, gray clay
Remarks: System C

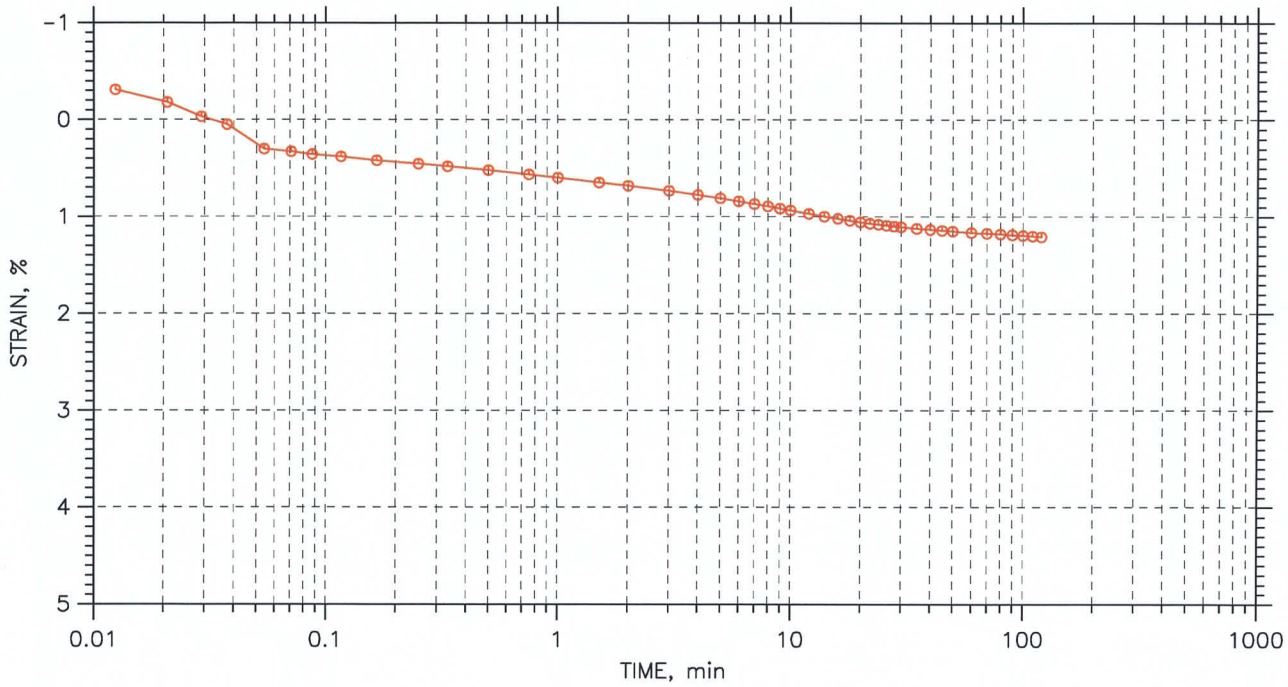
	Applied Stress tsf	Final Displacement in	Void Ratio	Strain at End %	T50 Fitting Sq.Rt. min	T50 Fitting Log min	Coefficient of Consolidation Sq.Rt. in^2/sec	Coefficient of Consolidation Log in^2/sec	Coefficient of Consolidation Ave. in^2/sec
1	0.25	0.01207	1.007	1.21	0.6	0.0	1.27e-003	0.00e+000	1.27e-003
2	0.5	0.02259	0.986	2.26	2.3	3.3	3.51e-004	2.42e-004	2.87e-004
3	1	0.0367	0.957	3.67	2.7	3.5	2.91e-004	2.19e-004	2.50e-004
4	1.5	0.04551	0.939	4.55	5.0	5.6	1.51e-004	1.34e-004	1.42e-004
5	2.25	0.05709	0.915	5.71	3.2	2.6	2.32e-004	2.83e-004	2.55e-004
6	3.38	0.08164	0.866	8.16	5.1	3.9	1.39e-004	1.84e-004	1.59e-004
7	5	0.1082	0.812	10.82	3.7	4.0	1.83e-004	1.70e-004	1.76e-004
8	7.5	0.1351	0.757	13.51	3.2	3.6	1.97e-004	1.78e-004	1.87e-004
9	15	0.1833	0.659	18.33	1.6	2.4	3.57e-004	2.42e-004	2.88e-004
10	30	0.2298	0.565	22.98	1.7	2.0	2.97e-004	2.64e-004	2.79e-004
11	8	0.224	0.576	22.40	0.1	0.0	4.12e-003	0.00e+000	4.12e-003
12	2	0.2122	0.600	21.22	1.0	0.0	5.23e-004	0.00e+000	5.23e-004
13	0.5	0.1974	0.630	19.74	4.2	4.9	1.24e-004	1.05e-004	1.14e-004

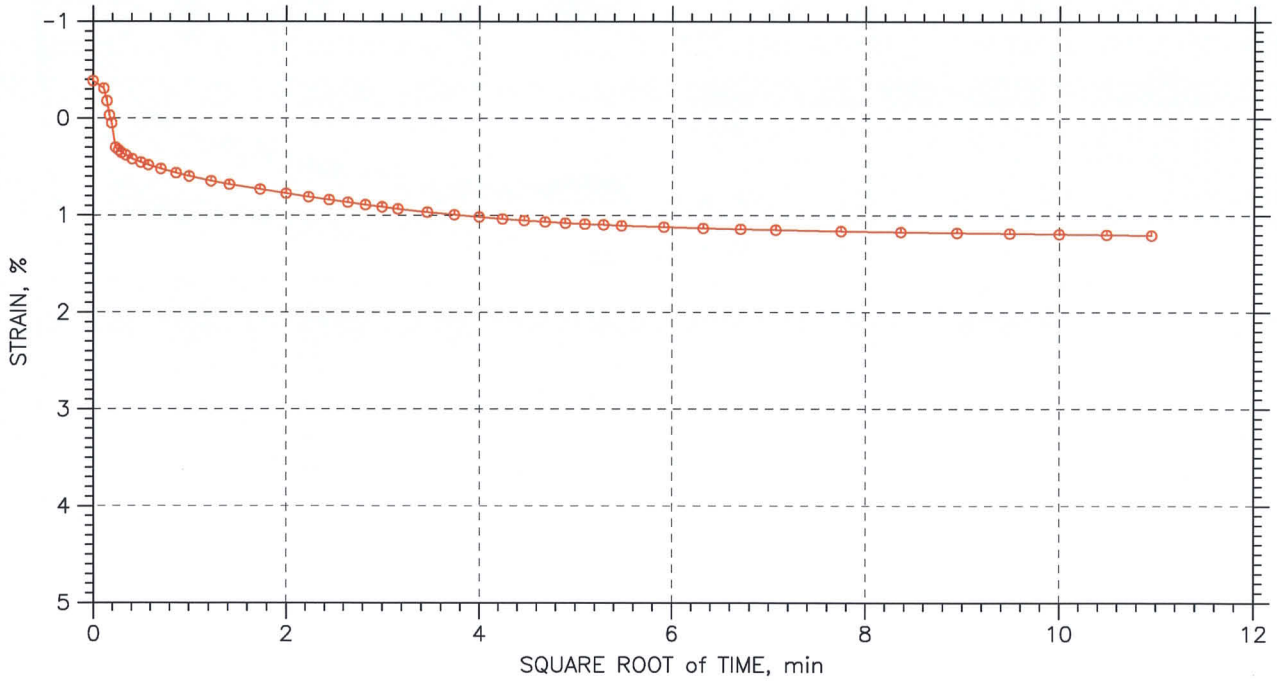
CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 1 of 13

Stress: 0.25 tsf





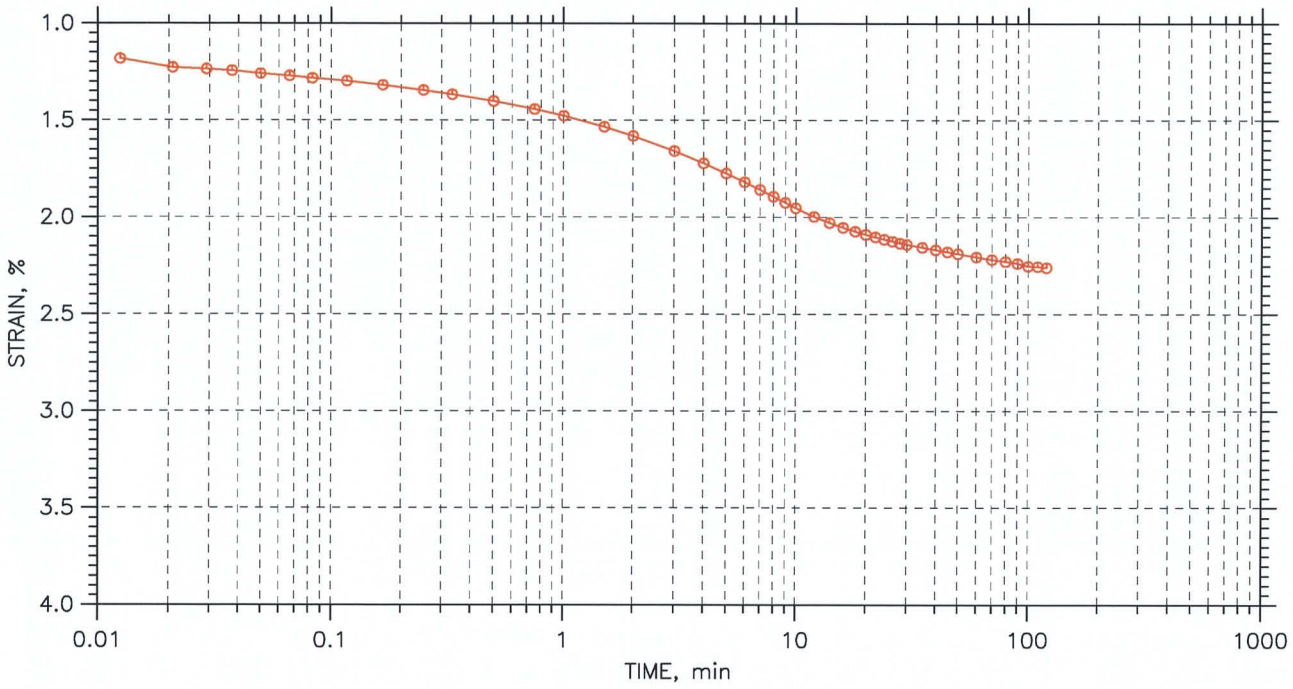
GeoTesting express a subsidiary of Geocomp Corporation	Project: I-295 Exit 7	Location: Portland, ME	Project No.: GTX-8319
	Boring No.: SB-807D	Tested By: njh	Checked By: jdt
	Sample No.: ST-14	Test Date: 08/22/08	Depth: 50 ft
	Test No.: C-2	Sample Type: tube	Elevation: ---
	Description: Moist, gray clay		
	Remarks: System C		

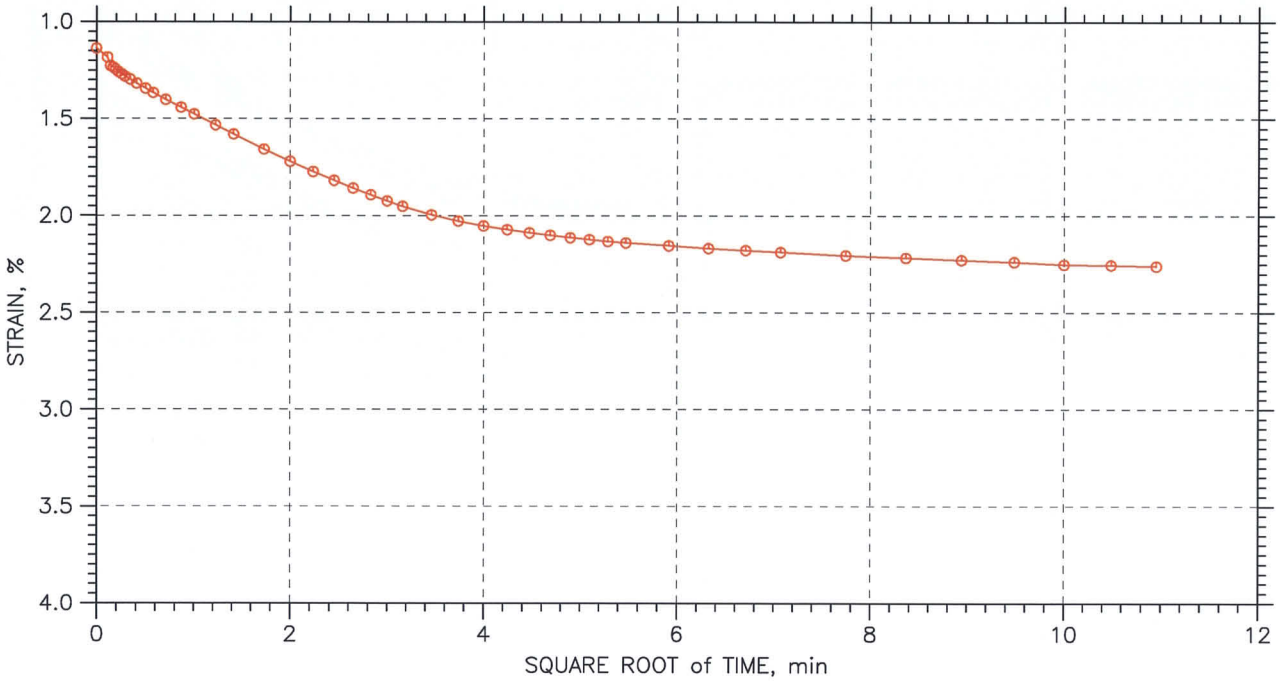
CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 2 of 13

Stress: 0.5 tsf





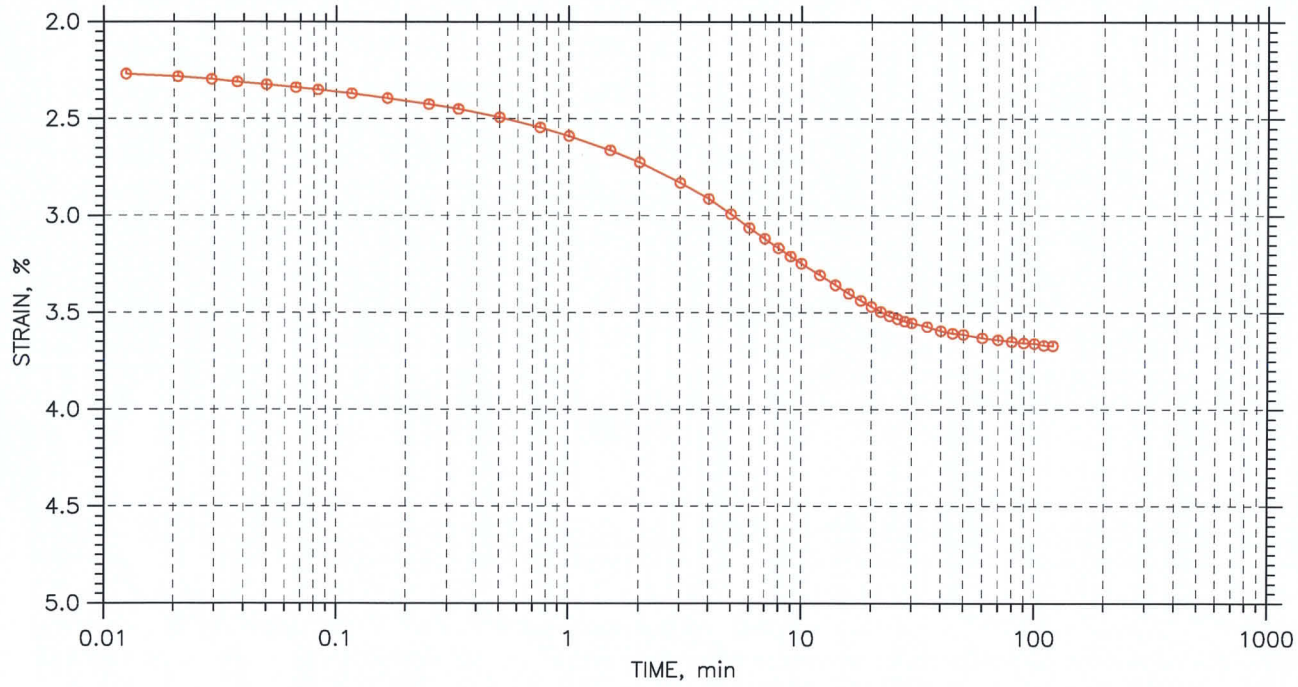
GeoTesting express a subsidiary of Geocomp Corporation	Project: I-295 Exit 7	Location: Portland, ME	Project No.: GTX-8319
	Boring No.: SB-807D	Tested By: njh	Checked By: jdt
	Sample No.: ST-14	Test Date: 08/22/08	Depth: 50 ft
	Test No.: C-2	Sample Type: tube	Elevation: ---
	Description: Moist, gray clay		
	Remarks: System C		

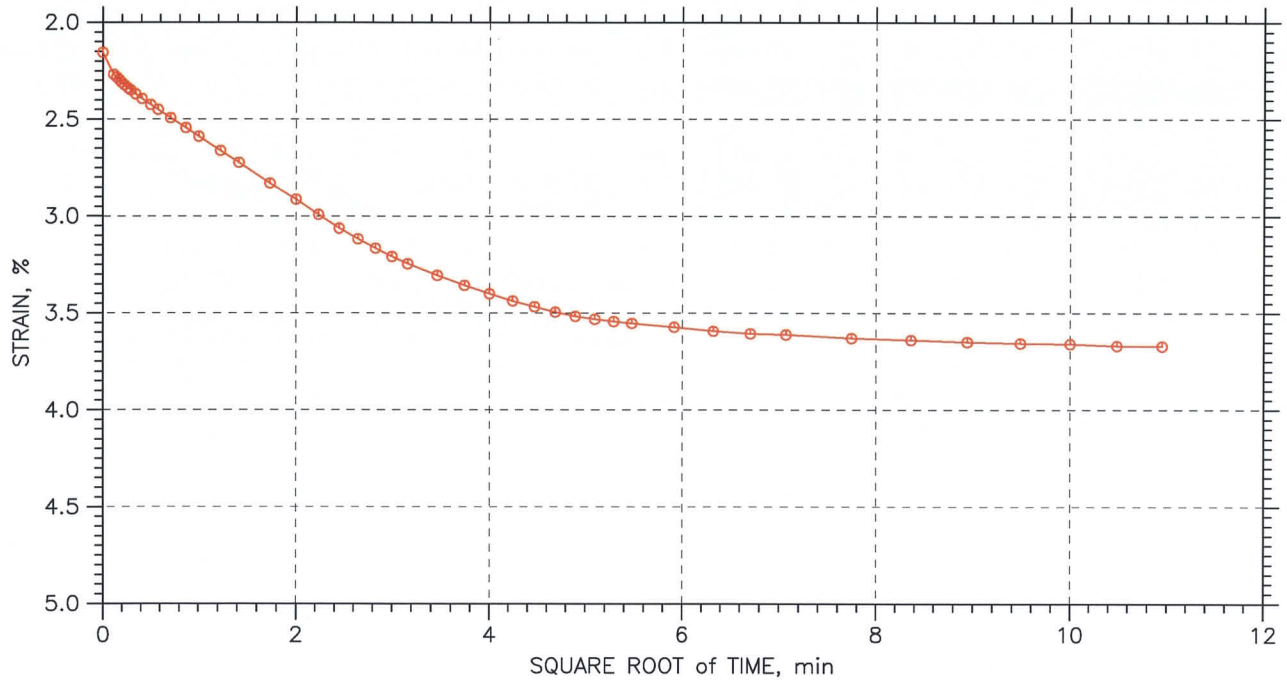
CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 3 of 13

Stress: 1. tsf





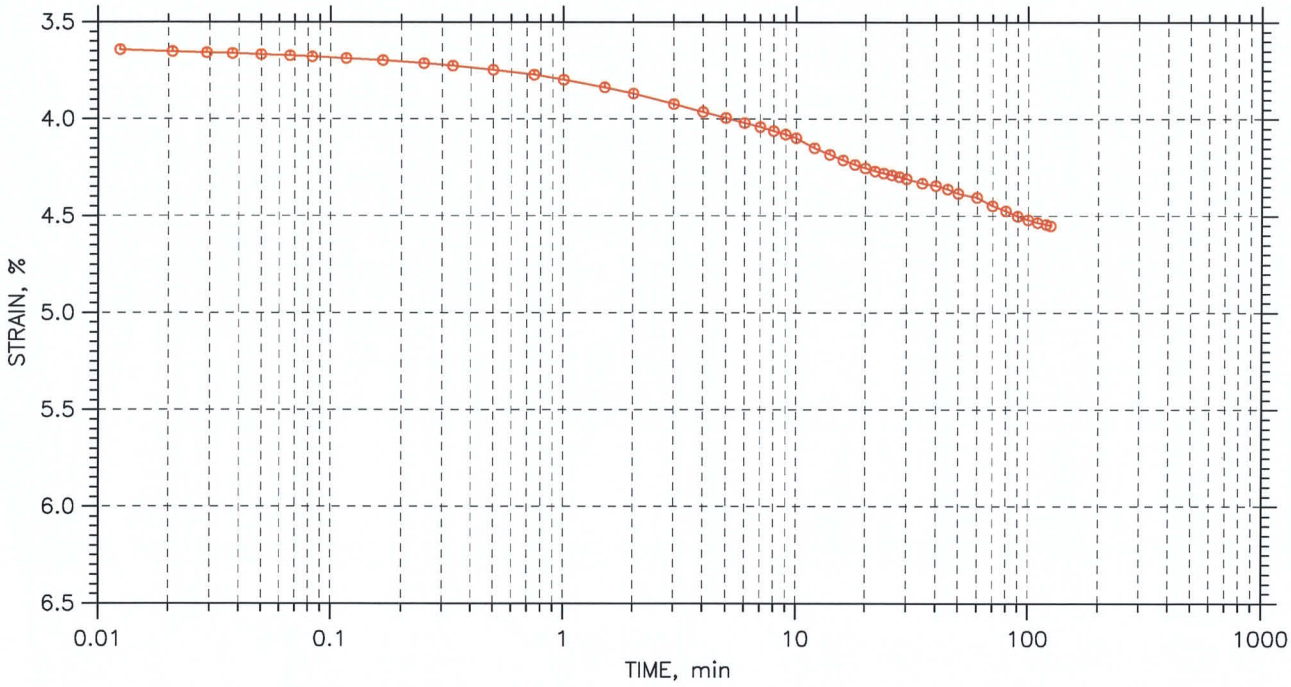
GeoTesting express a subsidiary of Geocomp Corporation	Project: I-295 Exit 7	Location: Portland, ME	Project No.: GTX-8319
	Boring No.: SB-807D	Tested By: njh	Checked By: jdt
	Sample No.: ST-14	Test Date: 08/22/08	Depth: 50 ft
	Test No.: C-2	Sample Type: tube	Elevation: ---
	Description: Moist, gray clay		
	Remarks: System C		

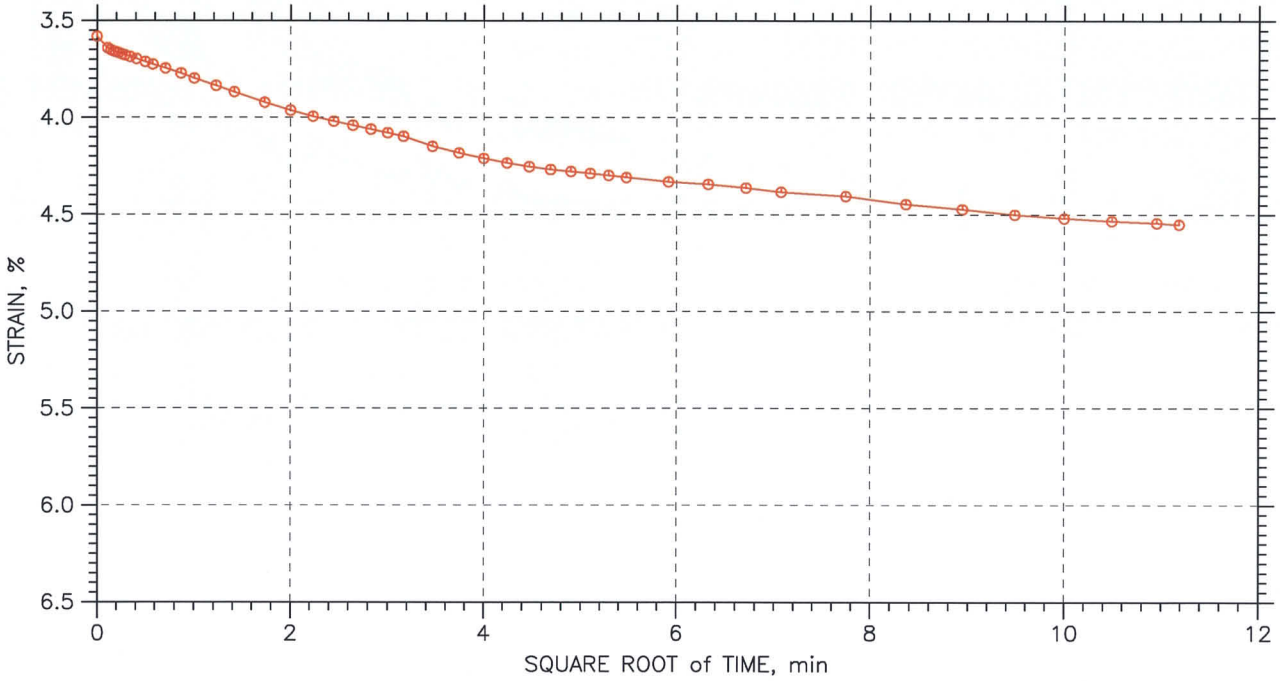
CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 4 of 13

Stress: 1.5 tsf





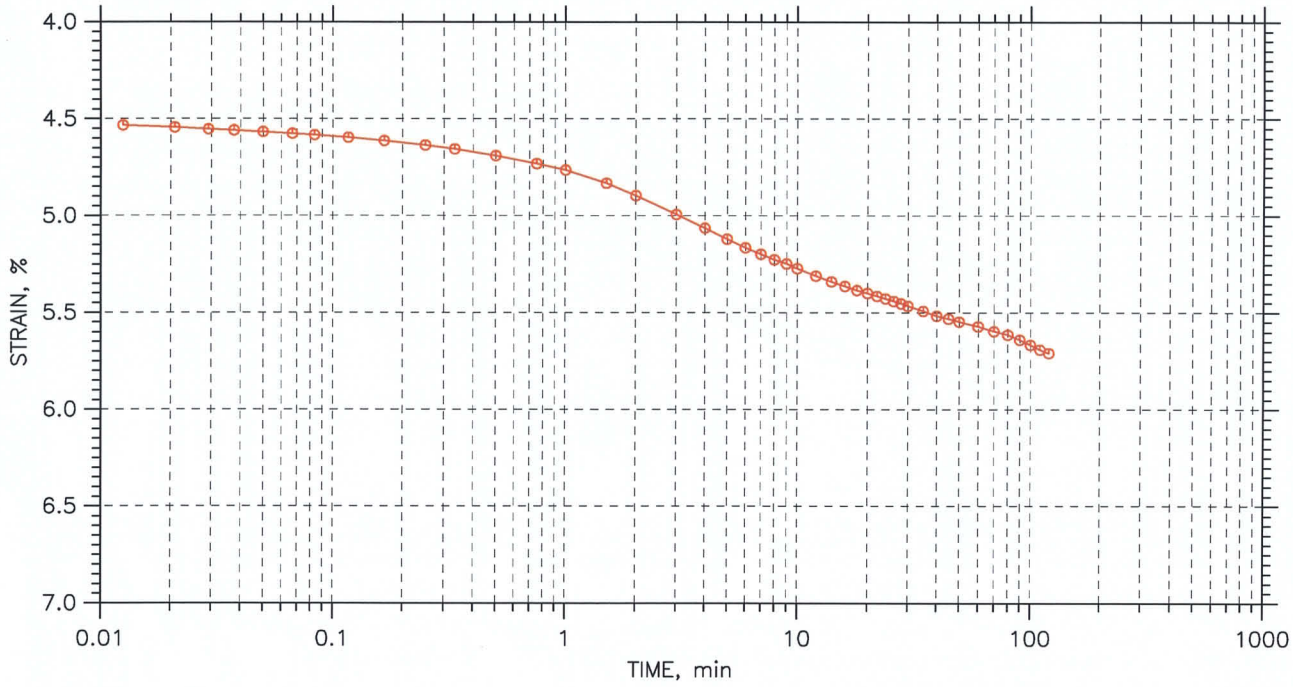
GeoTesting express a subsidiary of Geocomp Corporation	Project: I-295 Exit 7	Location: Portland, ME	Project No.: GTX-8319
	Boring No.: SB-807D	Tested By: njh	Checked By: jdt
	Sample No.: ST-14	Test Date: 08/22/08	Depth: 50 ft
	Test No.: C-2	Sample Type: tube	Elevation: ---
	Description: Moist, gray clay		
	Remarks: System C		

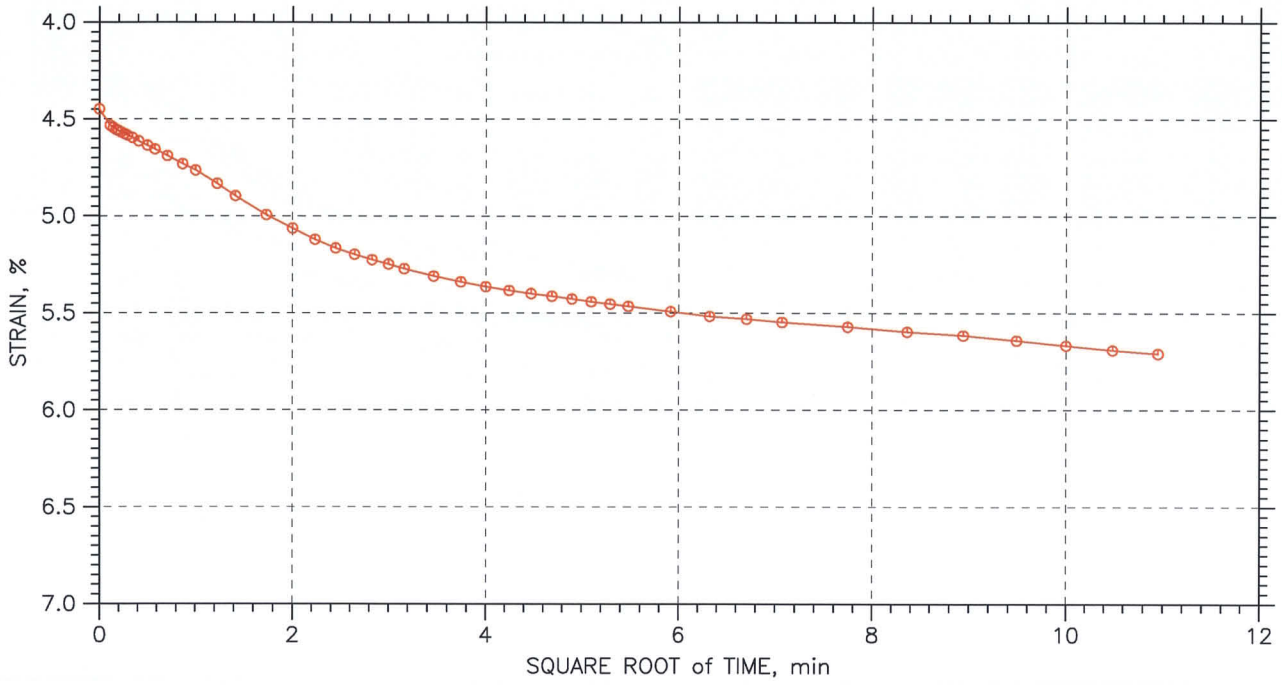
CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 5 of 13

Stress: 2.25 tsf





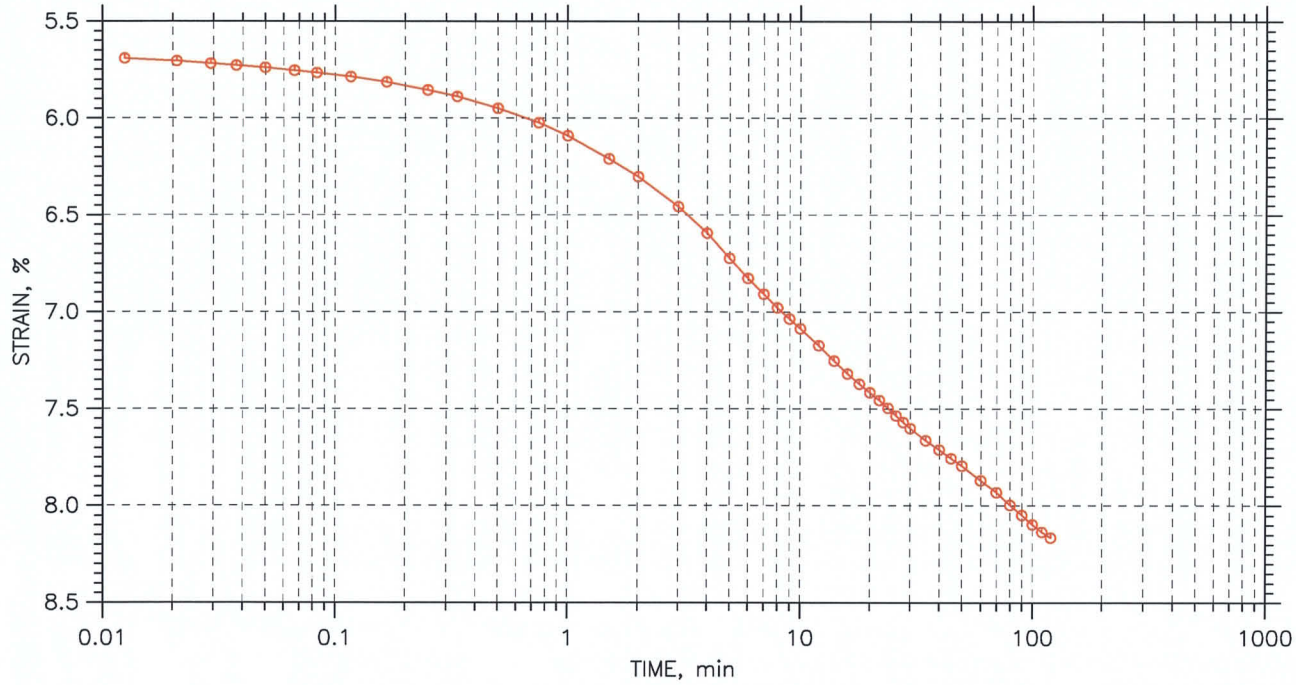
GeoTesting express a subsidiary of Geocomp Corporation	Project: I-295 Exit 7	Location: Portland, ME	Project No.: GTX-8319
	Boring No.: SB-807D	Tested By: njh	Checked By: jdt
	Sample No.: ST-14	Test Date: 08/22/08	Depth: 50 ft
	Test No.: C-2	Sample Type: tube	Elevation: ---
	Description: Moist, gray clay		
	Remarks: System C		

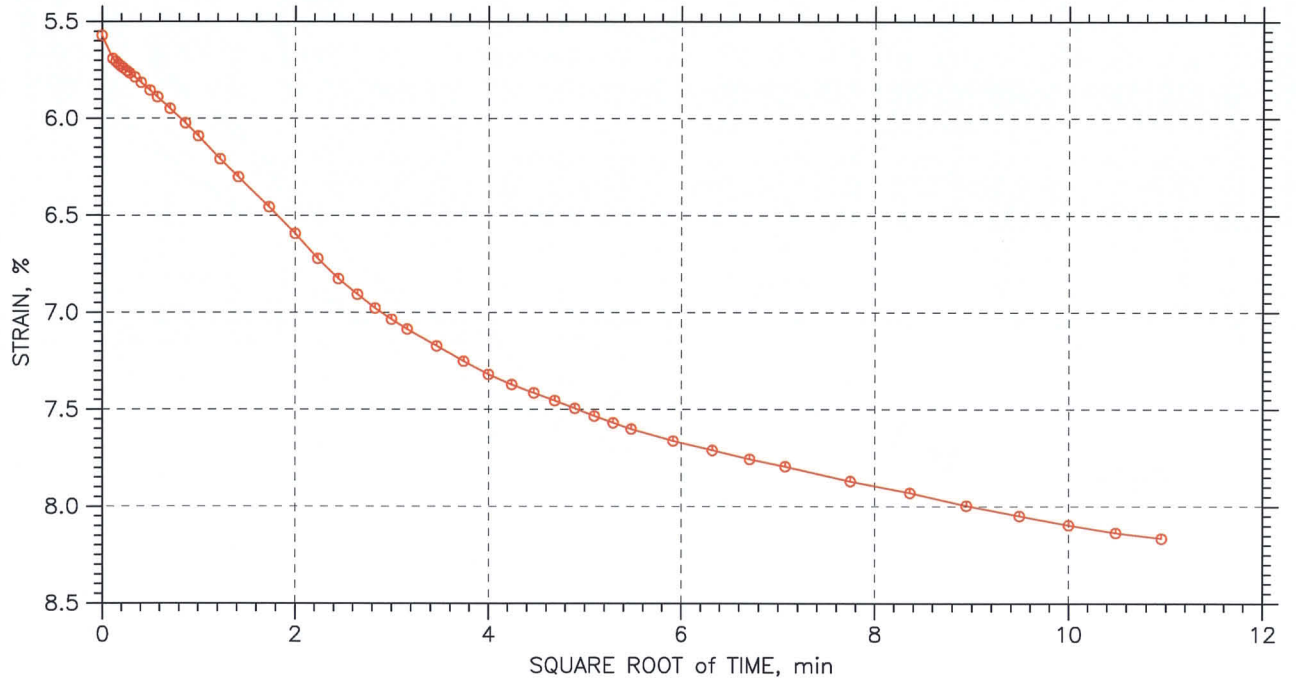
CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 6 of 13

Stress: 3.375 tsf





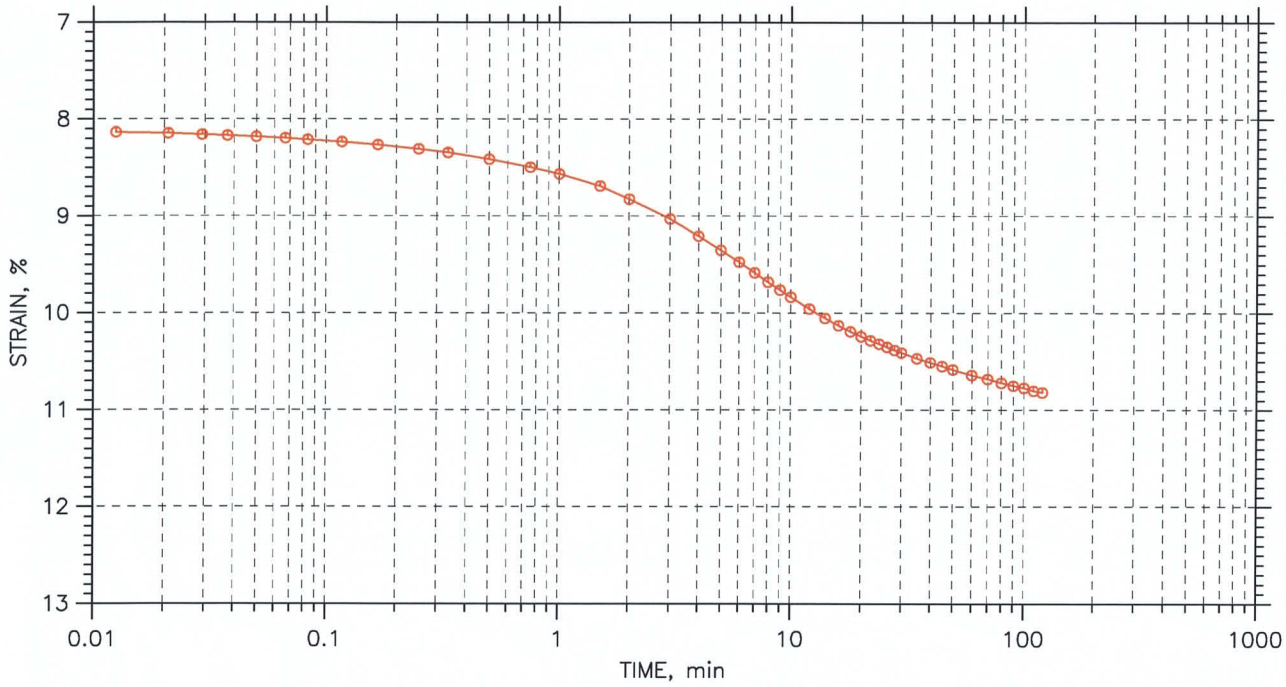
GeoTesting express a subsidiary of Geocomp Corporation	Project: I-295 Exit 7	Location: Portland, ME	Project No.: GTX-8319
	Boring No.: SB-807D	Tested By: njh	Checked By: jdt
	Sample No.: ST-14	Test Date: 08/22/08	Depth: 50 ft
	Test No.: C-2	Sample Type: tube	Elevation: ---
	Description: Moist, gray clay		
	Remarks: System C		

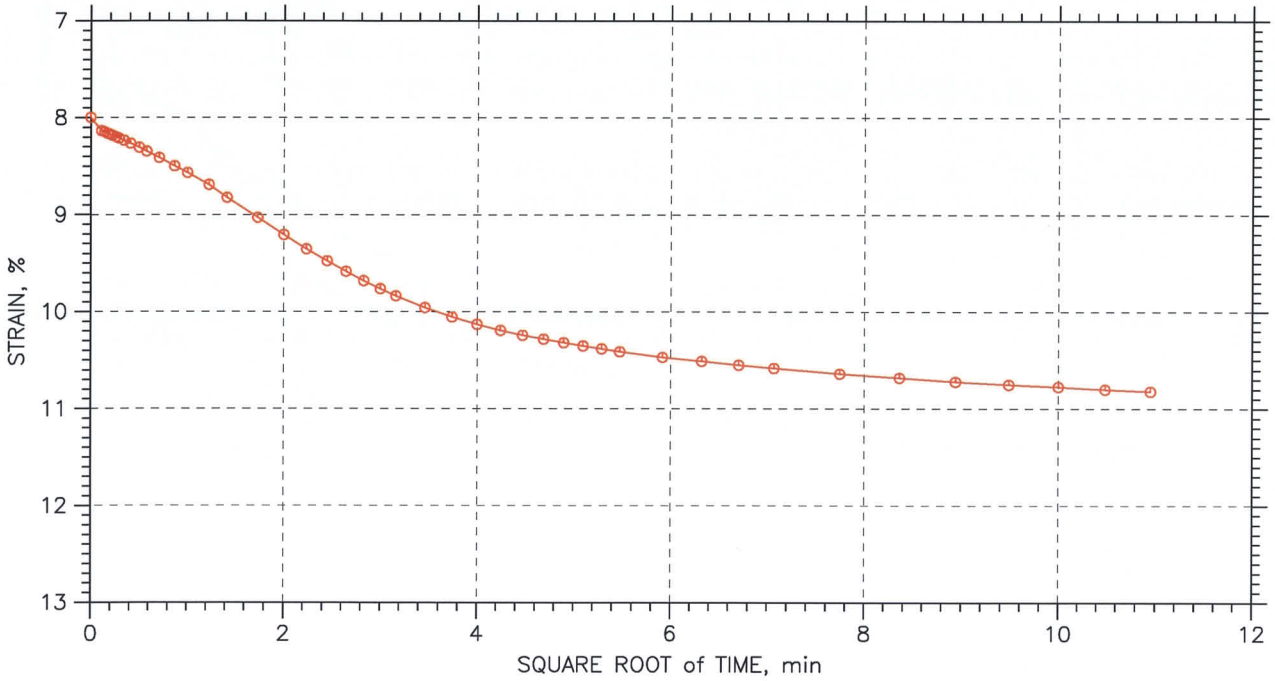
CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 7 of 13

Stress: 5. tsf





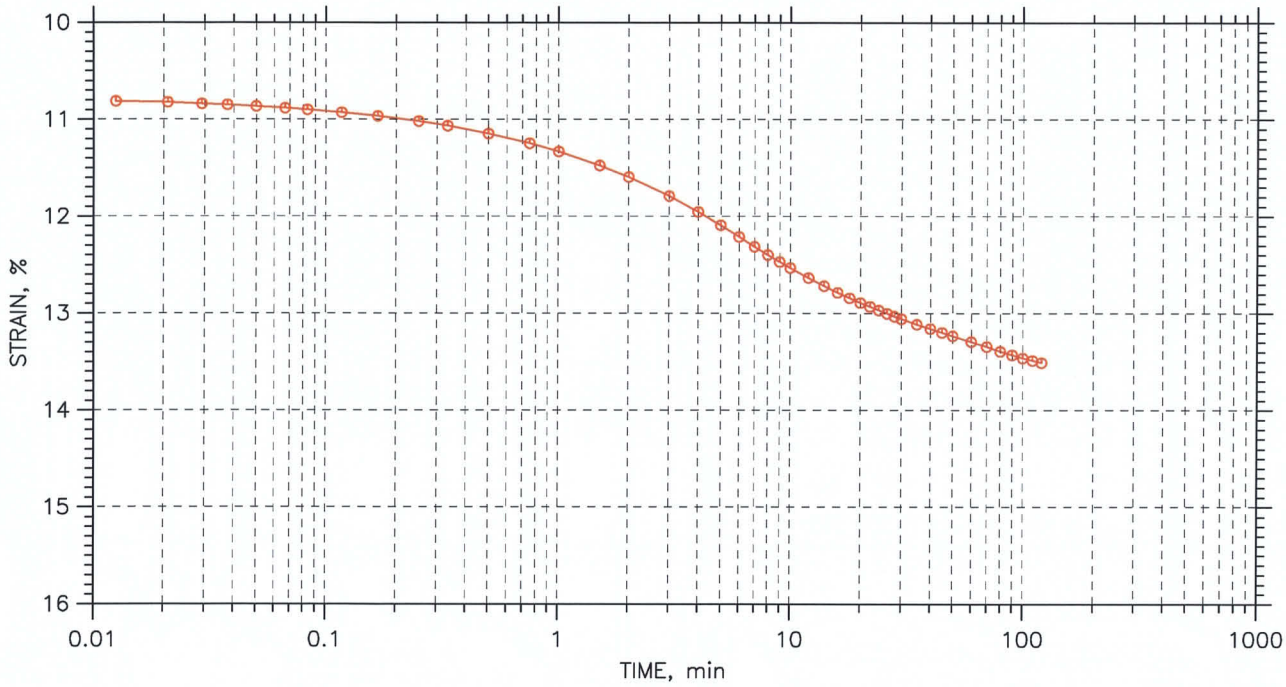
GeoTesting express a subsidiary of Geocomp Corporation	Project: I-295 Exit 7	Location: Portland, ME	Project No.: GTX-8319
	Boring No.: SB-807D	Tested By: njh	Checked By: jdt
	Sample No.: ST-14	Test Date: 08/22/08	Depth: 50 ft
	Test No.: C-2	Sample Type: tube	Elevation: ---
	Description: Moist, gray clay		
	Remarks: System C		

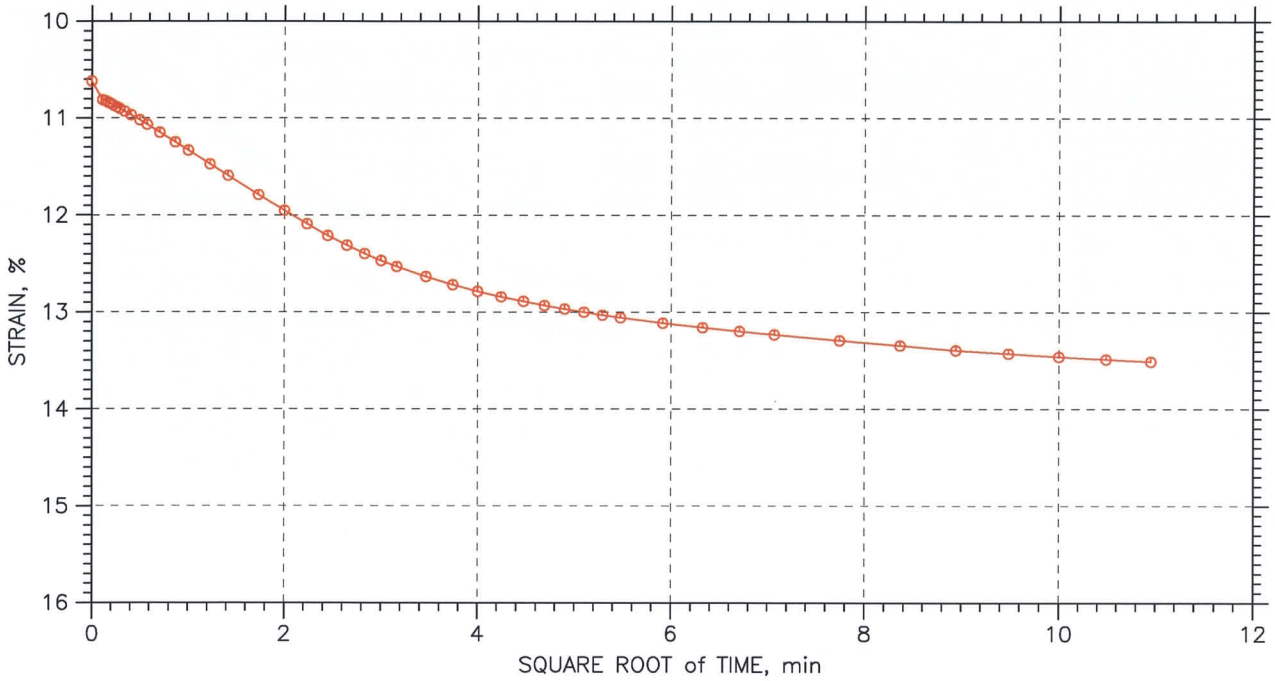
CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 8 of 13

Stress: 7.5 tsf





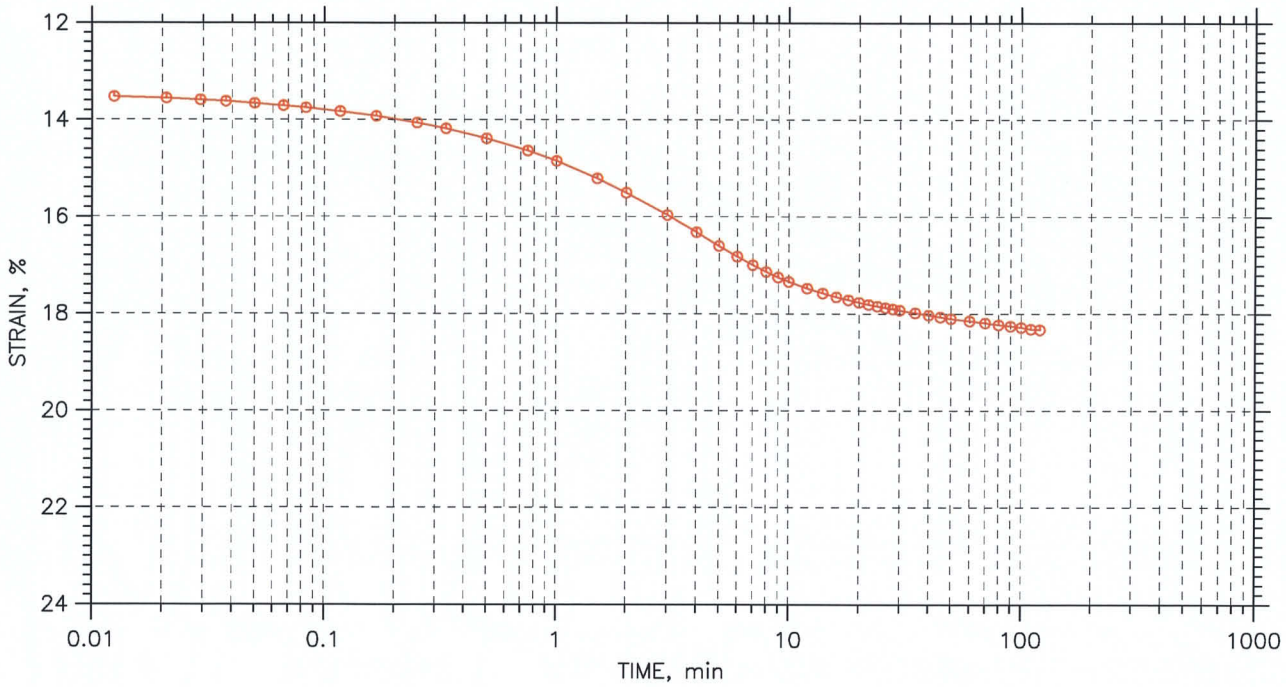
GeoTesting express a subsidiary of Geocomp Corporation	Project: I-295 Exit 7	Location: Portland, ME	Project No.: GTX-8319
	Boring No.: SB-807D	Tested By: njh	Checked By: jdt
	Sample No.: ST-14	Test Date: 08/22/08	Depth: 50 ft
	Test No.: C-2	Sample Type: tube	Elevation: ---
	Description: Moist, gray clay		
	Remarks: System C		

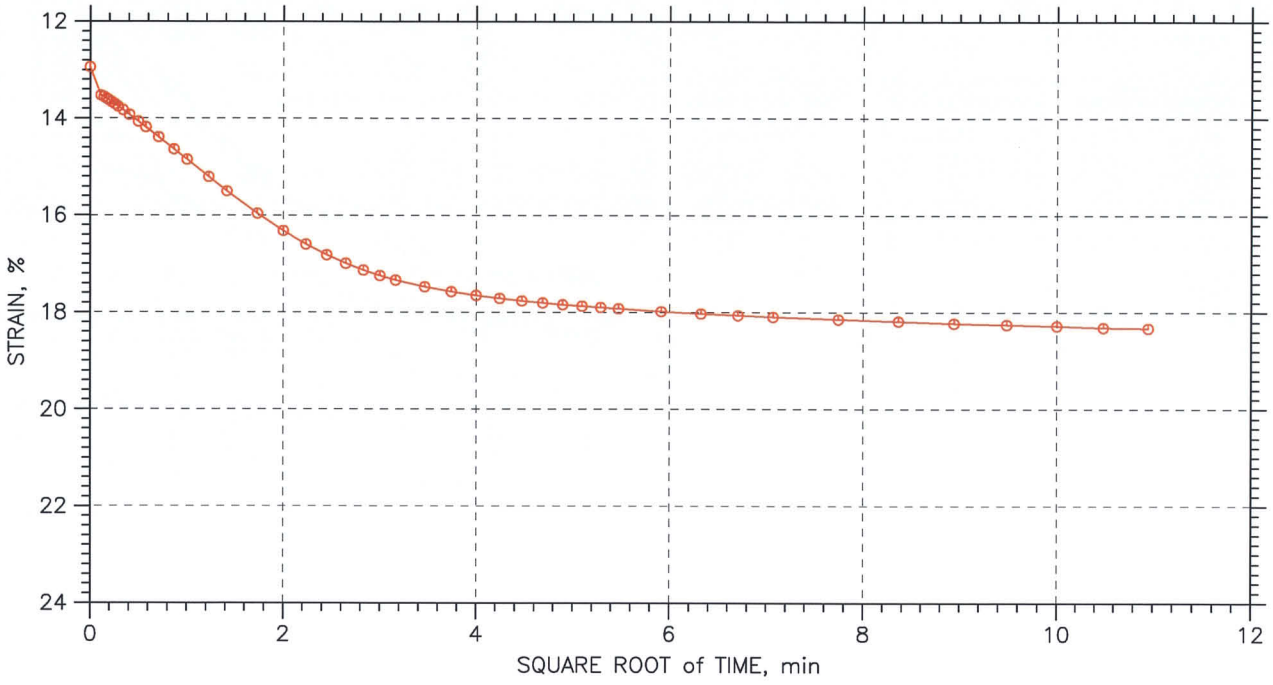
CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 9 of 13

Stress: 15. tsf





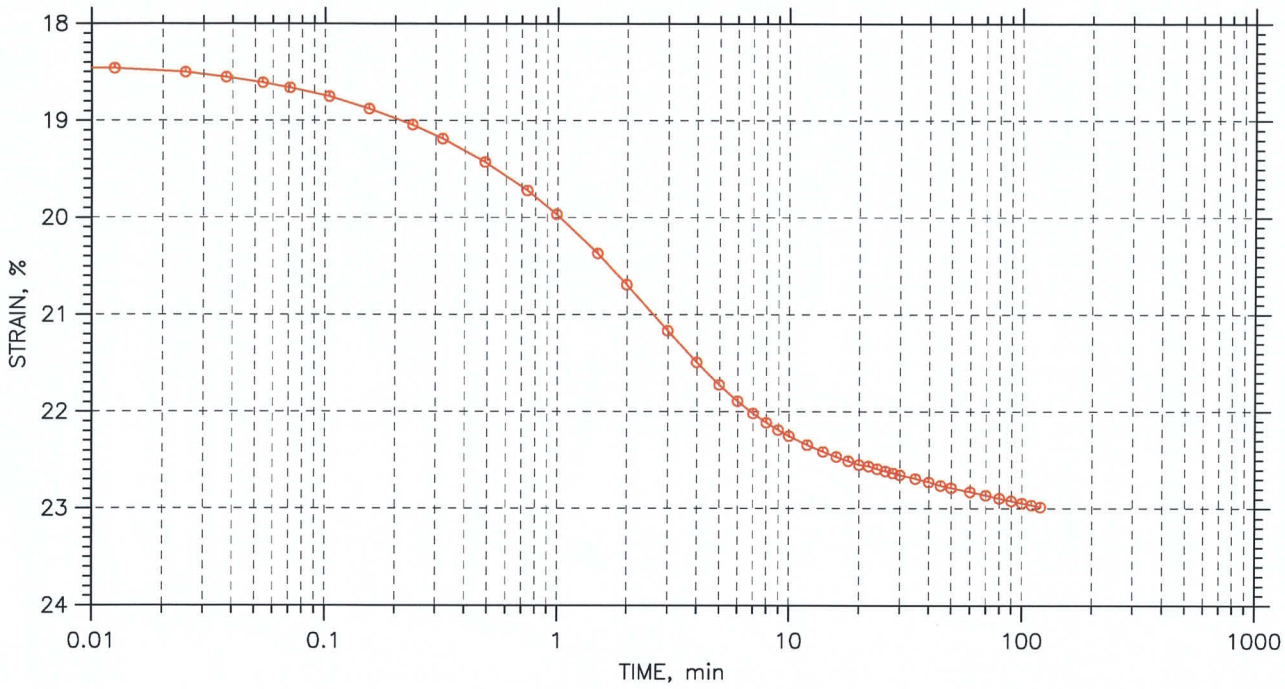
GeoTesting express a subsidiary of Geocomp Corporation	Project: I-295 Exit 7	Location: Portland, ME	Project No.: GTX-8319
	Boring No.: SB-807D	Tested By: njh	Checked By: jdt
	Sample No.: ST-14	Test Date: 08/22/08	Depth: 50 ft
	Test No.: C-2	Sample Type: tube	Elevation: ---
	Description: Moist, gray clay		
	Remarks: System C		

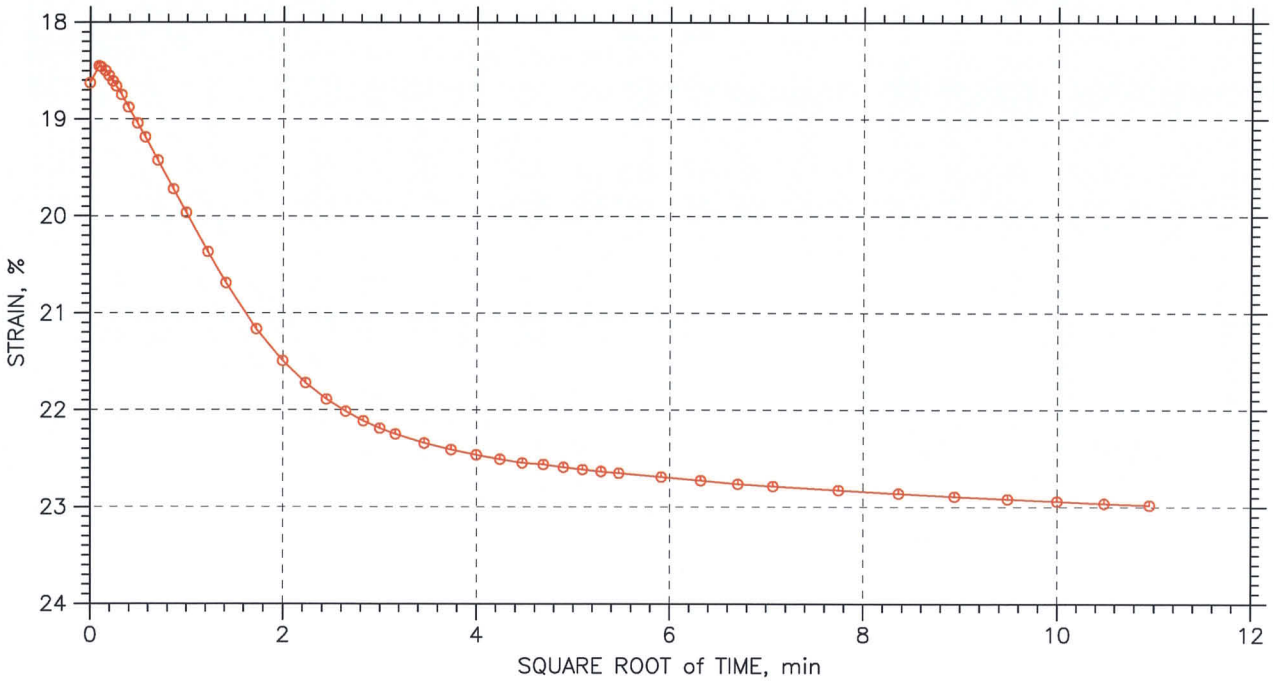
CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 10 of 13

Stress: 30. tsf





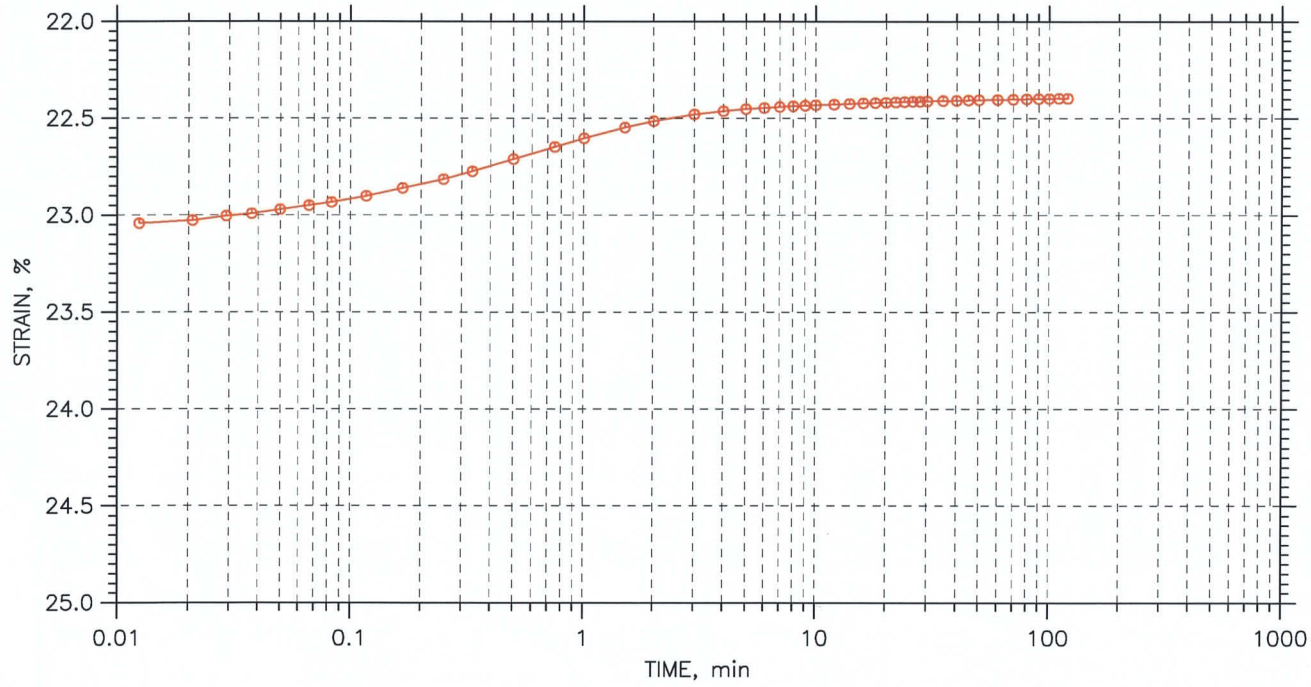
GeoTesting express a subsidiary of Geocomp Corporation	Project: I-295 Exit 7	Location: Portland, ME	Project No.: GTX-8319
	Boring No.: SB-807D	Tested By: njh	Checked By: jdt
	Sample No.: ST-14	Test Date: 08/22/08	Depth: 50 ft
	Test No.: C-2	Sample Type: tube	Elevation: ---
	Description: Moist, gray clay		
	Remarks: System C		

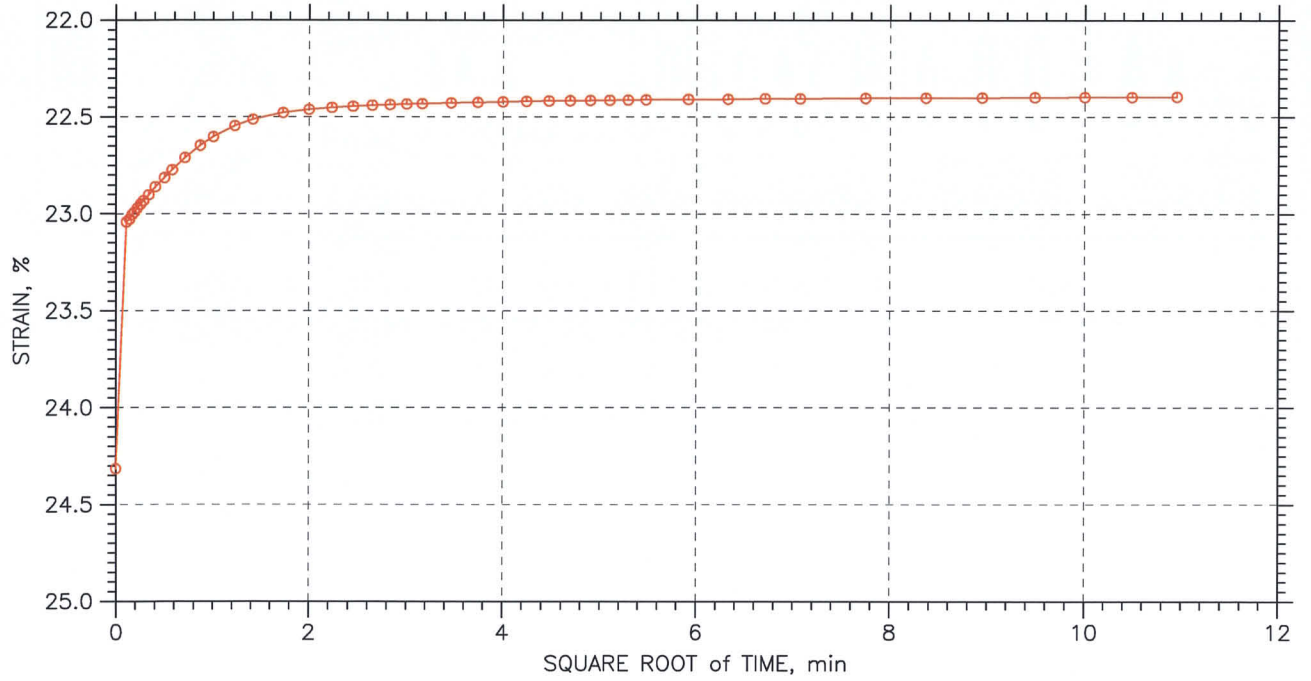
CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 11 of 13

Stress: 8. tsf





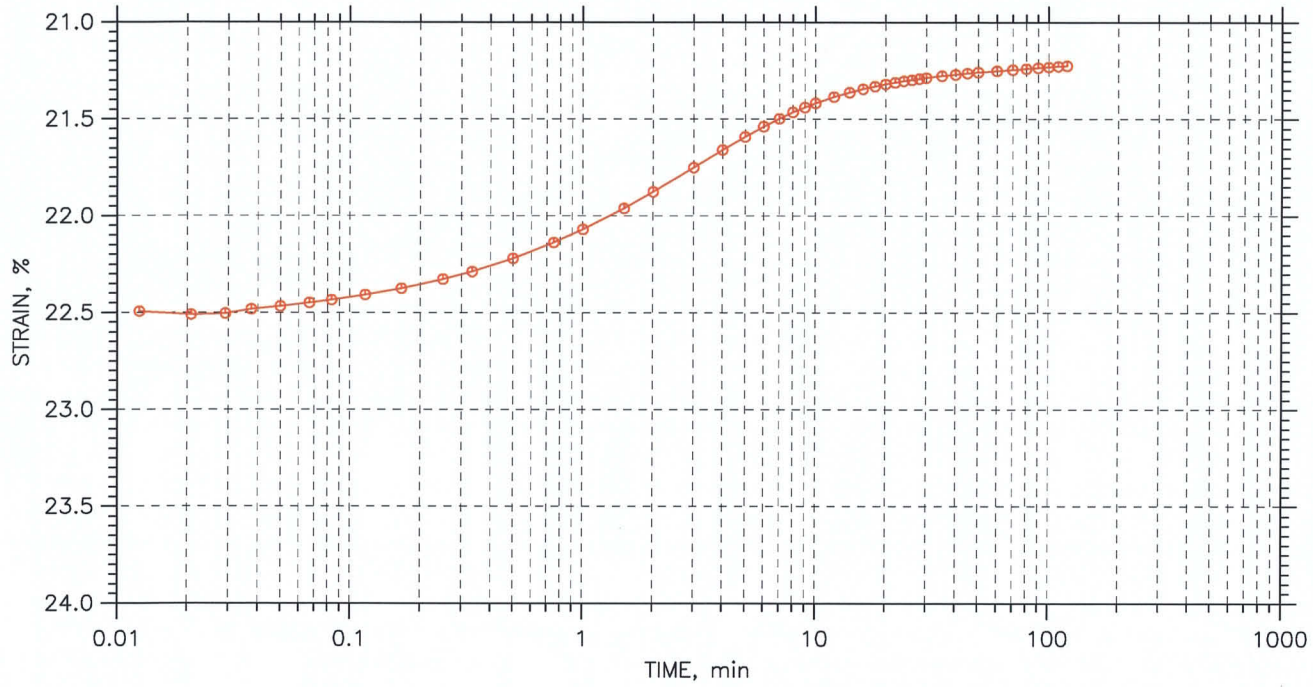
GeoTesting express a subsidiary of Geocomp Corporation	Project: I-295 Exit 7	Location: Portland, ME	Project No.: GTX-8319
	Boring No.: SB-807D	Tested By: njh	Checked By: jdt
	Sample No.: ST-14	Test Date: 08/22/08	Depth: 50 ft
	Test No.: C-2	Sample Type: tube	Elevation: ---
	Description: Moist, gray clay		
	Remarks: System C		

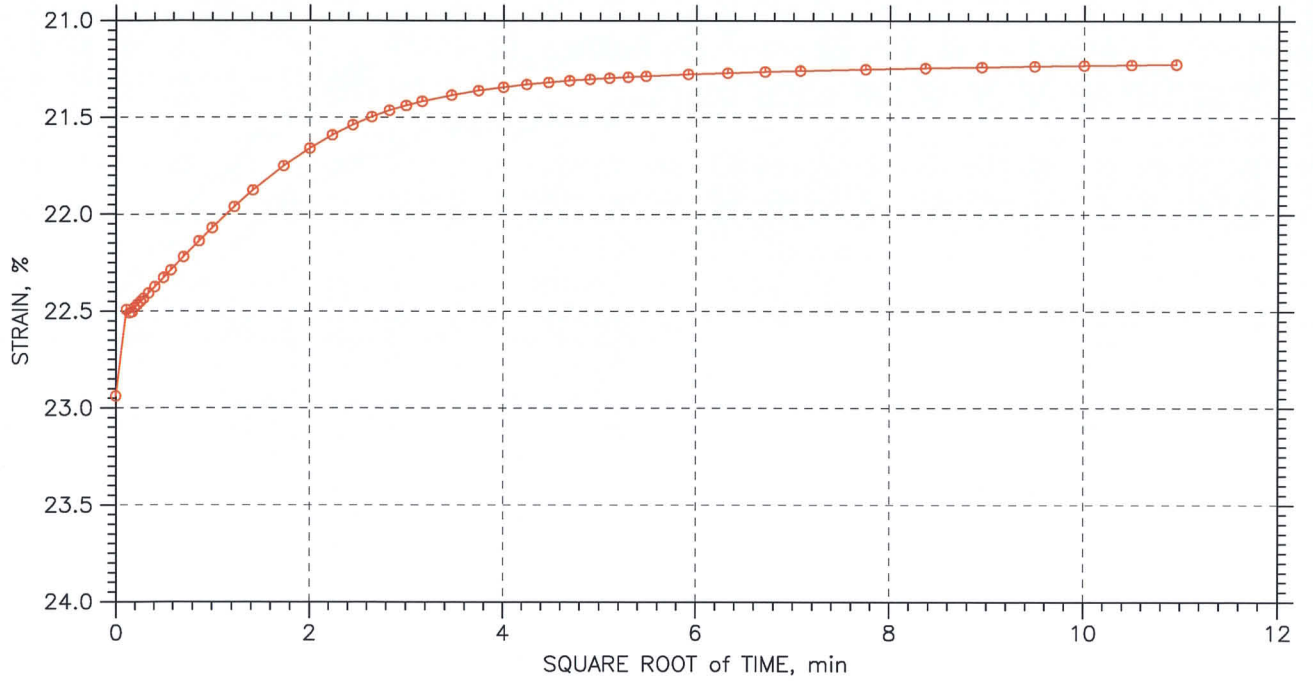
CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 12 of 13

Stress: 2. tsf





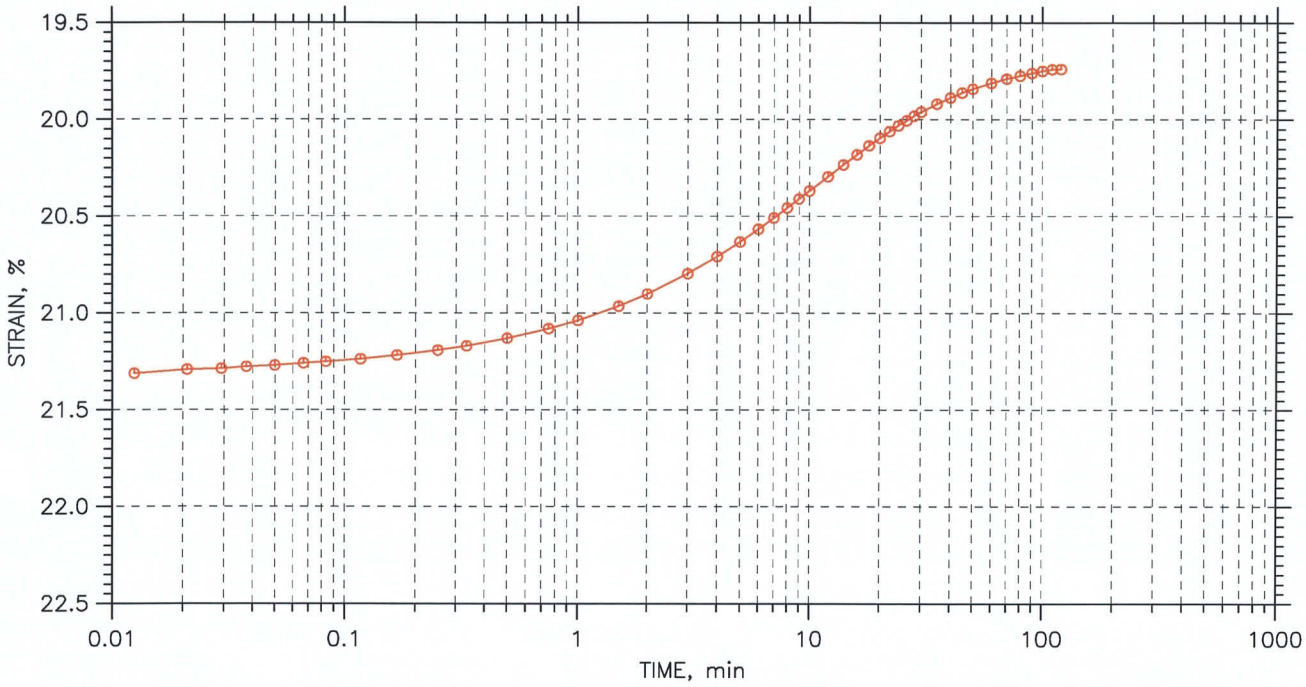
GeoTesting express a subsidiary of Geocomp Corporation	Project: I-295 Exit 7	Location: Portland, ME	Project No.: GTX-8319
	Boring No.: SB-807D	Tested By: njh	Checked By: jdt
	Sample No.: ST-14	Test Date: 08/22/08	Depth: 50 ft
	Test No.: C-2	Sample Type: tube	Elevation: ---
	Description: Moist, gray clay		
	Remarks: System C		

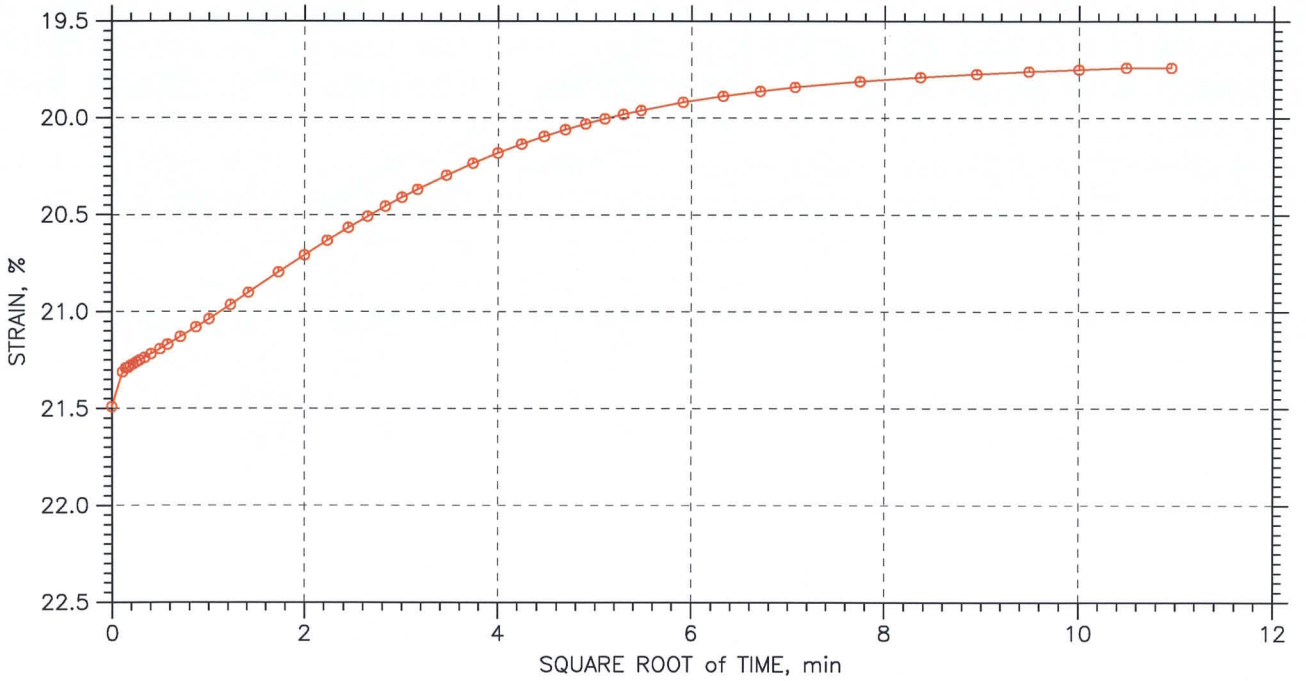
CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 13 of 13

Stress: 0.5 tsf





GeoTesting express a subsidiary of Geocomp Corporation	Project: I-295 Exit 7	Location: Portland, ME	Project No.: GTX-8319
	Boring No.: SB-807D	Tested By: njh	Checked By: jdt
	Sample No.: ST-14	Test Date: 08/22/08	Depth: 50 ft
	Test No.: C-2	Sample Type: tube	Elevation: ---
	Description: Moist, gray clay		
	Remarks: System C		