ENGINEERING REPORT

for

CONTRACT NUMBER DACW 33-83-D-0006
WORK ORDER NUMBER 0018

SUBSURFACE INVESTIGATION

THOMASTON DAM
THOMASTON, CONNECTICUT

Prepared for:

U.S. Army Corps of Engineers
New England Division
424 Trapelo Road
Waltham, Massachusetts 02254

February 7, 1986
Project No. 50571

EGA

RECEIVED
FEB 10 1986
GEOTECHNICAL
ENGINEERING BRANCH

EGA
EASTERN GEOTECHNICAL ASSOCIATES • BRIGGS
164 Washington Street, Norwell, MA 02061 ▶ Telephone (617) 773-1744

February 7, 1986

U.S. ARMY CORPS OF ENGINEERS
New England Division
424 Trapelo Road
Waltham, Massachusetts

Attention: Jim Blair - 117 South

RE: Contract DACW-33-83-D-0006
Work Order No. 0018

Dear Mr. Blair:

In accordance with Work Order No. 0018, dated August 10, 1984, attached are two final copies of our Engineering Report for the subsurface investigation performed at Thomaston Dam in Thomaston, Connecticut for piezometer installations to determine the phreatic surface within the embankment and foundation for all pool elevations and to determine pore pressures and average permeabilities of the embankment and foundation soils.

If you have any questions or comments, please do not hesitate to call.

Very truly yours,

David S. Campbell, P.E.
President

DSC:cc

Attachments

TABLE OF CONTENTS

1.0 GENERAL

1.1 Authorization
1.2 Project Site
1.3 Purpose
1.4 Scope of the Investigation

2.0 QUALITY CONTROL

2.1 Equipment
2.2 Records
2.3 Precedures

3.0 QUALITY ASSURANCE CERTIFICATION

Table 1 - Summary of Activities

Figure 1 - Site Location Plan
Figure 2 - Test Boring Location Plan

Appendix A - Inspection & Exploration Instructions
Appendix B - Safety Reports
Appendix C - Chain of Custody Logs
Appendix D - Field Logs of Test Borings
Appendix E - Survey Field Notes

1.0 GENERAL

1.1 Authorization

The work reported herein was performed under Contract DACW33-83-D-0006, Delivery Order Number 0018, dated 10 August 1984.

1.2 Project Site

The project site was located between Connecticut Route 8 and Route 222, northeast of Thomaston, Connecticut. The site itself is the Thomaston Dam. The drilling program was situated both on and at the toe of the Dam.

1.3 Purpose

The purpose of this work order is to install piezometers to determine the phreatic surface within the embankment and foundation for all pool elevations, determine pore pressures and average permeabilities of the embankment and foundation soils.

1.4 Scope of investigation

Inspection and exploration instructions, which were provided by the Army Corps of Engineers, New England Division, are included in Appendix A. The subsurface investigation program employed standard split spoon penetration tests in accordance with ASTM D-1586 and rock coring. In addition a well drilling rig capable of penatrating 120 ft of rock fill with 6 inch diameter casing was utilized on two of the piezometer installations on the crest of the dam, FD-84-2; (PZ-3,3A) and FD-84-3; (PZ-1,2).

Work under this delivery order consisted of surveying in the locations of eight test borings and the staking of the ninth test boring by the Army Corps of Engineers. In addition to the test borings, casagrande piezometers were installed at each location and falling head permeability tests were run.

The drive sample borings were performed in accordance with paragraph "6A" under Part II, Specifications For Services And Equipment Necessary For Conducting Geotechnical Exploratory Work Various Locations In New England, Proposal No. DACW33-83-R-0005, dated Feb 18, 1983. A two foot split spoon sampler was driven two feet at a time to refusal or to the specified depth. When refusal was encountered prior to the specified depth a rock core was taken. The field logs for the test borings are included in Appendix D. Upon completion of the boreholes, casagrande piezometers were installed at the specified depths. Double piezometer installations were set at FD-84-2; (PZ-3, 3A) and FD-84-3; (PZ-1, 2) and single installations were set at two feet above bedrock at FD-84-1; (PZ-4), FD-84-4; (PZ-7), FD-84-5; (PZ-6), FD-84-6; (PZ-5), FD-85-1; (PZ-9), FD-85-2; (PZ-8), and FD-85-3; (PZ-10). After the installation of the piezometers, falling head permeability tests were performed on all the piezometers. At FD-85-1; (PZ-9) and FD-85-2; (PZ-8) 67 and 60 feet respectively of rock fill was cored with a 3 7/8" O.D. double tubed core barrel and an HW impregnated diamond shoe bit.

2.0 QUALITY CONTROL

2.1 Equipment

The following equipment and tools were used to perform the work:

a. Core Drill: The core drill used was a hydraulically driven rotary head unit manufactured by Mobile Drill Co., Inc. of Indianapolis, Indiana.

b. Well Drilling Rig: The well drilling rig used on FD-84-2 and FD-84-3 to penetrate the rock fill was a hydraulically driven rotary head unit manufactured by Drill Tech, Inc.

c. Drive Hammer: The drive hammer used to advance the two foot split spoon sampler weighed 140 lbs.

d. Casing and Rods: 6.0, 4.0, and 3.0 inch casing was used for advancing the bore-holes. N and AW sized rods were used to drill and to advance the split spoon sampler. The drive hammer used to advance the 3.0 inch casing weighed 300 lbs.

e. Drill Bits: An HX, 4" diamond casing shoe bit was used to spin and advance the HX, 4" casing. Appropriately sized roller bits were used to clean out the 6.0, 4.0, and 3.0 inch casing. HX, NX, BX, and 200 HI CORE double tubed core barrels were used to core boulders and bedrock.

f. Piezometer Equipment: The piezometers installed were casagrande porous tip piezometers with 3/4" schedule 80 PVC riser pipe. The piezometers were surrounded by clean ottawa sand.

2.2 Records

Records were kept of all activities and field procedures. Test boring logs included the following information:

(1) Name of the project.

(2) Site location designation.

(3) Ground elevation at location of exploration.

(4) Date exploration performed.

(5) Method of penetration.

(6) Depth of penetration.

(7) Density of materials encountered.

(8) Names of drillers and inspector.

(9) Blows per six inches of penetration.

(10) Hole number and designation.

(11) Make and manufacturer's model designation of equipment.

(12) Type of drilling and sampling operation by depth.

(13) Dates and time when drilling and sampling operations were performed.

(14) Depths at which samples or cores were recovered or attempts made to sample including top and bottom depths of each sampling interval. Classification or description including geologic and common usage designation such as till, fluvial deposits, etc., by depths of materials sampled or penetrated including a description of moisture conditions, color and conditions of compactness or stiffness of soils materials encountered. Record of penetration resistance such as drive hammer blows given in blows per six inches of penetration depth for driving sample spoons.

(15) Depth at which drill water is lost and regained.

(16) Depth to bottom of hole.

(17) Percentage of sample of core recovered per run.

(18) Installation of piezometers and falling head permeability test results.

(19) Other pertinent information.

2.3 Procedures

a. Borings FD-84-1 through FD-84-6, and FD-85-1 through FD-85-2 were surveyed using an electronic distance meter theodolite (TOPCON GTS-2). A baseline was established along the crest of the dam and tied into the existing baseline. Boring locations were established in the field using the station and offset provided in the delivery order. Ground elevations at the staked boring locations were established using slope distances and vertical angles. The survey notes are included in Appendix E. FD-85-3 was located in the field by the U.S. Army Corps of Engineers.

b. Bore holes were advanced in accordance with Paragraph "6a", Page C-10 of the specifications by sampling with a 1-3/8 inch ID by 2.0 foot split spoon sampler and by advancing appropriately sized casing. The sampler was advanced two feet at a time to the required depth or until refusal with a 140 lb. hammer falling 30 inches. Refusal was defined as 100 blows with no penetration or bouncing refusal. The sample spoon shoes were kept reasonably sharp at all times. Dull, bent or otherwise damaged samplers were not used. Following sampling, the casing was advanced and cleaned out using an appropriately sized roller bit. Six, four and three inch flush joint casing was used in conjunction with the sampling. In accordance with the delivery order,

sampling was not required while going through the rock fill. Diamond impregnated drill bits and roller bits were used to advance the casing through the rock fill encountered in the dam.

c. Upon encountering refusal the bore hole was advanced by coring operations. Coring was accomplished with a five foot NX, and BX sized core barrels. When breakthrough occured prior to the specified depth the bore hole was enlarged with a larger sized barrel or roller bit and cased to allow for the continuation of the hole. Core samples were taken as specified by the Army Corps of Engineers. The borings were completed upon attaining bedrock and the piezometers installed. Protective casing was left in place at all piezometers as indicated on the test boring logs.

d. Samples were classified in the field immediately following the taking of the sample. Classification was in accordance with ASTM D-2487 and D-2488. Representative samples were taken from each soil sampling run and placed in 16 oz. glass jars with hermetically sealed lids. Jars were labeled with sample number, sampling interval, boring number, date, location, and soil description. The rock core samples were also classified immediately following sampling and placed in wooden core boxes according to the specifications. All field classifications were verified in our laboratory. Chain of custody logs were maintained documenting custody between the field and transportation and delivery to the lab at NED. The chain of custody logs are included in Appendix C.

3.0 QUALITY CONTROL CERTIFICATION

I hereby certify that the abovementioned records, equipment, and procedures were used to perform the subsurface exploration description herein. I also certify that the work was performed in a professional manner and meets the requirements set forth in the delivery order.

Certified 7 February 1986

David S. Campbell
President

ATTACHMENTS

THOMASTON DAM — WORK ORDER 18

Date	Day	Activities
9/4/84	Tue	Mobilization to site and site reconnaissance
9/5/84	Wed	Set up on FD-84-1, PZ-4. Start boring.
9/6/84	Thu	Complete FD-84-1, PZ-4
9/7/84	Fri	Set up on FD-84-2, PZ-3, 3A. Start boring
9/10/84	Mon	Continue FD-84-2, PZ-3, 3A. Start FD-84-3, PZ-1,2 with second rig and crew.
9/11/84	Tue	Continue FD-84-2 & FD-84-3 with 2 rigs
9/12/84	Wed	Continue FD-84-2 & FD-84-3 with 2 rigs
9/13/84	Thu	Continue FD-84-2 & FD-84-3 with 2 rigs
9/14/84	Fri	Continue FD-84-2 & FD-84-3 with 2 rigs. Difficult drilling this week. Consultation between EGA and Corps stopped drilling temporarily on these borings.
9/17/84	Mon	Pulled off FD-84-2 & FD-84-3 and mobilized to plateau for PZ-5, 6, & 7. Cut trees and graded existing road by hand to get rig to the plateau.
9/18/84	Tue	Continued mobilization to FD-84-4, PZ-7. Finished pulling casing at FD-84-3. Started FD-84-7, PZ-7
9/19/84	Wed	Continued FD-84-4, PZ-7. Start arrangements for A&W well drillers to drill 120 ft on FD-84-2 & FD-84-3. Second crew left in p.m.
9/20/84	Thu	Completed FD-84-4, PZ-7. Mobilized to FD-84-5, PZ-6. Removed guard rail post for A&W.
9/21/84	Fri	Continued FD-84-5, PZ-6
9/24/84	Mon	Continued FD-84-5, PZ-6
9/25/84	Tue	Continued FD-84-5, PZ-6
9/26/84	Wed	Completed FD-84-5, PZ-6 and mobilized to FD-84-6, PZ-5. A&W arrived on site.

THOMASTON DAM — WORK ORDER 18

Date	Day	Activities
9/27/84	Thu	Continued FD-84-6, PZ-5. A&W set up on FD-84-3, PZ-1,2.
9/28/84	Fri	Continued FD-84-6, PZ-5. A&W started FD-84-3, PZ-1,2.
10/1/84	Mon	Continued FD-84-6, PZ-5. A&W completed installing 6" casing down to 121.5 ft. below existing grade at PZ-1,2.
10/2/84	Tue	Continued FD-84-6, PZ-5. A&W mobilized to FD-84-2, PZ-3, 3A and started boring.
10/3/84	Wed	Continued FD-84-6, PZ-5. A&W completed installing 6" casing down to 121.5 ft at PZ-3, 3A.
10/4/84	Thu	Completed FD-84-6, PZ-5, A&W left site.
10/5/84	Fri	Demobilized off plateau. Washed out 6" casing FD-84-2, PZ-3,3A.
10/9/84	Tue	Mobilized to FD-84-2, PZ-3, 3A and start boring from a depth of 121.5 ft.
10/10/84	Wed	Continued FD-84-2, PZ-3, 3A
10/11/84	Thu	Completed FD-84-2, PZ-3 (bottom piezometer) Mobilized to FD-84-3, PZ-1,2.
10/12/84	Fri	Started FD-84-3, PZ 1, 2 from 121.5 ft.
10/15/84	Mon	Continued FD-84-3, PZ-1,2.
10/16/84	Tue	Continued FD-84-3, PZ-1,2
10/17/84	Wed	Completed FD-84-3, PZ-1 (deep piezometer)
10/18/84	Thu	Flushed out 6" casing at FD-84-3 to install PZ-2. Flushed out 6" casing at FD-84-2 to install PZ-3.
10/19/84	Fri	Waited for A&W to show, left site in p.m. A&W delayed.
10/22/84	Mon	A&W arrived at site, set up on FD-84-2, PZ-3A. PZ-3A was installed and 6" casing was removed with 20.25' left in place. A&W set up on FD-84-3, PZ-2. Casing could not be pulled more than 8 ft. Threads were stripped on the 6" casing in an attempt to remove it.

THOMASTON DAM — WORK ORDER 18

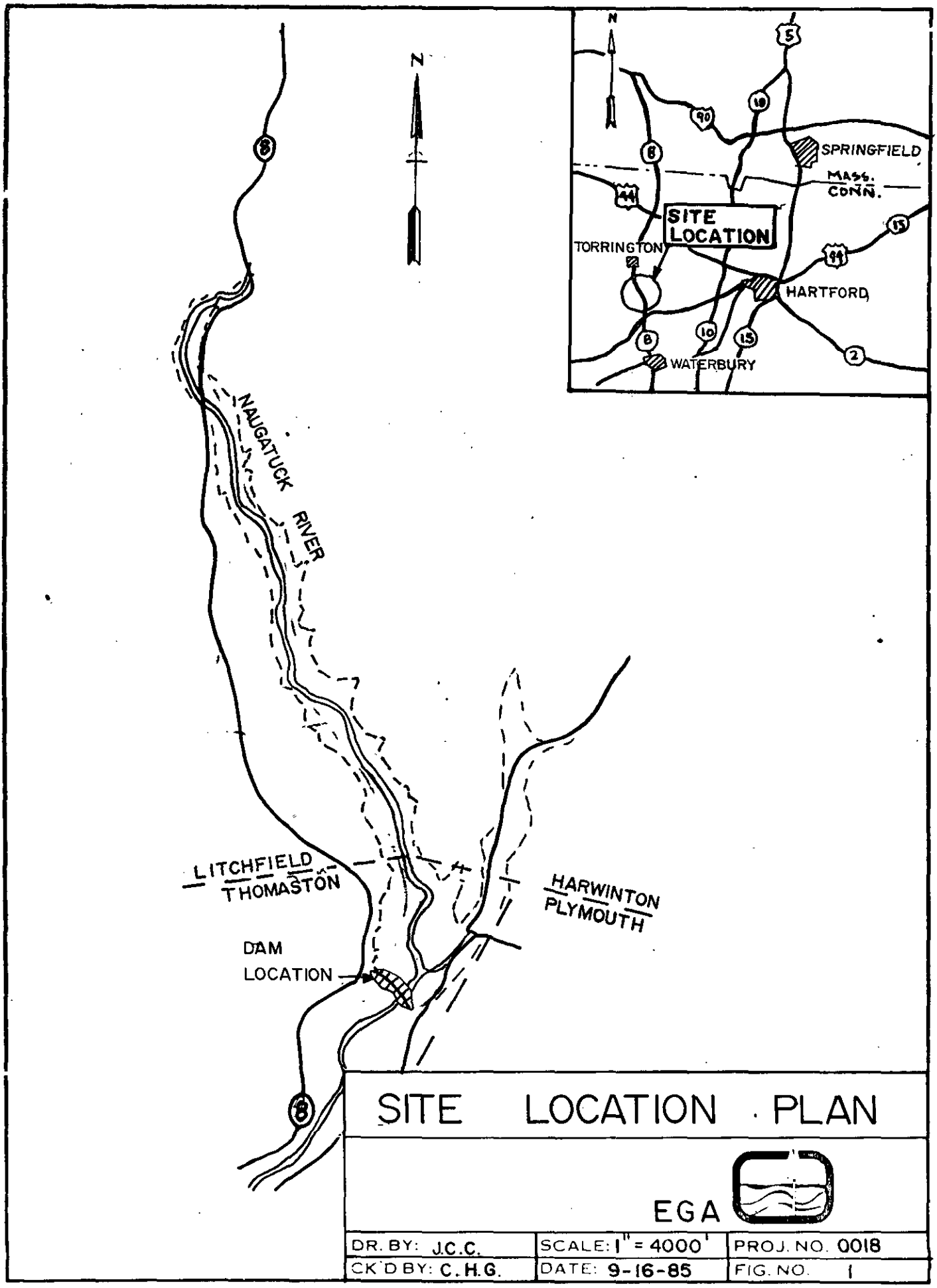
Date	Day	Activities
10/23/84	Tue	Consultation between EGA and Corps in a.m. determined casing to be left in ground with piezometer below casing and grout mix to the ground surface. Work proceeded as such. PZ-2 was installed. Tests on installed piezometer PZ-1 showed that it is clogged at 129 ft. Removal of piezometer cap over weekend (10/19/84 & 10/20/84) indicates tampering of PZ-1.
10/24/84	Wed	In an attempt to unclog PZ-1, 0.5" dia. actuating rods were pushed from 129 ft to 130.5 ft but could go no further. Demobilized from site.
10/29/84	Mon	A second attempt to unclog the well was made by inserting a 5/8" dia. hose down the well and washing and and flushing it out. This attempt did not succeed.
3/25/85	Mon	Remobilized to site from Rockland
3/26/85	Tue	Set up on PZ-1, 2 and redrilled out 6" casing to 50 ft.
3/27/85	Wed	Continued redrilling out 6" casing to 85 ft.
3/28/85	Thu	Continued redrilling out 6" casing and below to 120 ft.
3/29/85	Fri	Continued redrilling and cased to 165 ft. with 3" casing.
4/1/85	Mon	Set lower piezometer at 164.0 ft. from top of riser pipe.
4/2/85	Tue	Set upper piezometer at 122.3 ft. from top of riser, demobilized from site.
8/13/85	Tue	Remobilization: Drill crew rig and inspector arrive site with railroad inspector. Reviewed site conditions mobilized to railroad tracks and then on to location PZ-9. Train today p.m. Start time 0900 hrs, stop time 1700 hrs, 2 hrs travel.
8/14/85	Wed	Drilled PZ-9, FD-85-1 to 20 ft., rock fill Start time 0730 hrs, stop time 1600 hrs.
8/15/85	Thu	Drilled PZ-9, FD-85-1 to 35 ft., rock fill. Train today p.m. Start time 0800 hrs, stop time 1630 hrs.

THOMASTON DAM - - WORK ORDER 18

Date	Day	Activities
8/16/85	Fri	Drilled PZ-9, FD-85-1 to 55 ft, rock fill Start time 0800 hrs, stop time 1630 hrs, 2 hrs travel.
8/19/85	Mon	Drilled PZ-9, FD-85-1 to 70 ft., rock fill. Sampled at 70 ft. in natural material. Start time 0730 hrs, stop time 1600 hrs, 2 hrs travel.
8/20/85	Tue	Drilled PZ-9, FD-85-1 to 85 ft. Sampled in natural material. Train today p.m. Start time 0730 hrs, stop time 1600 hrs.
8/21/85	Wed	Drilled PZ-9, FD-85-1 to completion at 103 ft. Sampled and took rock core, started piezometer installation on PZ-9, FD-85-1 at 94.5 ft. Start time 0730 hrs, stop time 1600 hrs.
8/22/85	Thu	Completed piezometer installation on PZ-9, FD-85-1 and mobilized to PZ-8, FD-85-2. Started drilling PZ-8. Drilled to 10 ft. Rock fill. Train today p.m. Start time 0730 hrs, stop time 1600 hrs.
8/23/85	Fri	Drilled PZ-8, FD-85-2 to 40 ft. Rock fill Start time 0730 hrs, stop time 1600 hrs, 2 hrs travel.
8/26/85	Mon	Drilled PZ-8, FD-85-2 to 55 ft. Rock fill Start time 0730 hrs, stop time 1600 hrs, rain standby 1 hr.
8/27/85	Tue	Drilled PZ-8, FD-85-2 to 70 ft. Rock fill. Sampled in natural material at 65 ft. Train today p.m. Start time 0730 hrs, stop time 1600 hrs.
8/28/85	Wed	Ring gear broke on drill rig, no drilling progress. 4 hours on site (Safety Hours) Start time 0730 hrs, stop time 1130 hrs.
8/29/85	Thu	Drilled PZ-8, FD-85-2 TO 85 FT., Sampled in natural material, train today p.m. Start time 0730 hrs, stop time 1600 hrs.
8/30/85	Fri	Drilled PZ-8, FD-85-2 to 110 ft., sampled in natural material, demobed off the tracks for the weekend due to vandalism the previous weekend. Start time 0730 hrs, stop time 1600 hrs, 2 hrs travel.
9/3/85	Tue	Mobilized back on to PZ-8, drilled PZ-8, FD-85-2 to 120 ft. Sampled in natural material. 1 hour B&M inspector a.m. To train today Start time 0730 hrs, stop time 1600 hrs, 2 hours travel.

THOMASTON DAM - - WORK ORDER 18

Date	Day	Activities
9/4/85	Wed	Drilled PZ-8, FD-85-2 to 133 ft. Took rock core, 124.0 to 133, two runs. Begin installation of PZ-8 at 122.2 ft. Start time 0730 hrs, stop time 1600 hrs.
9/5/85	Thu	Finish installation of PZ-8 and mobilized to PZ-5 FD-84-6 Redrilled PZ-5, FD-84-6 to 45 ft. Final demobilization off railroad tracks a.m. Start time 0730 hrs, stop time 1600 hrs.
9/6/85	Fri	Redrilled PZ-5, FD-84-6 to 91 ft. Start time 0730 hrs, stop time 1600 hrs, 2 hrs travel.
9/9/85	Mon	Reinstalled PZ-5, FD-84-6 to 90.5 ft. as per instructions. Rain stand by 4 hours. Start time 0730 hrs, stop time 1600 hrs, 2 hrs travel.
9/10/85	Tue	Finished reinstalling PZ-5 and mobilized to PZ-10, FD-85-3. Drilled PZ-10 to 27 ft. and installed piezometer at 20.2 ft. All piezometers functioning properly. Demobilized from site. Start time 0730 hrs, stop time 1600 hrs, 2 hrs travel.
9/12/85	Thu	Drill crew returned to site to finish cementing PZ-10, FD-85-3.


N
SPRINGFIELD
MASS.
CONN.
SITE LOCATION
TORRINGTON
HARTFORD
WATERBURY
NAUGATUCK RIVER
LITCHFIELD
THOMASTON
HARWINTON
PLYMOUTH
DAM
LOCATION
SITE LOCATION PLAN
EGA
DR. BY: J.C.C.
SCALE: 1" = 4000'
PROJ. NO. 0018
CK'D BY: C.H.G.
DATE: 9-16-85
FIG. NO. 1

CORPS OF ENGINEERS — U.S. ARMY

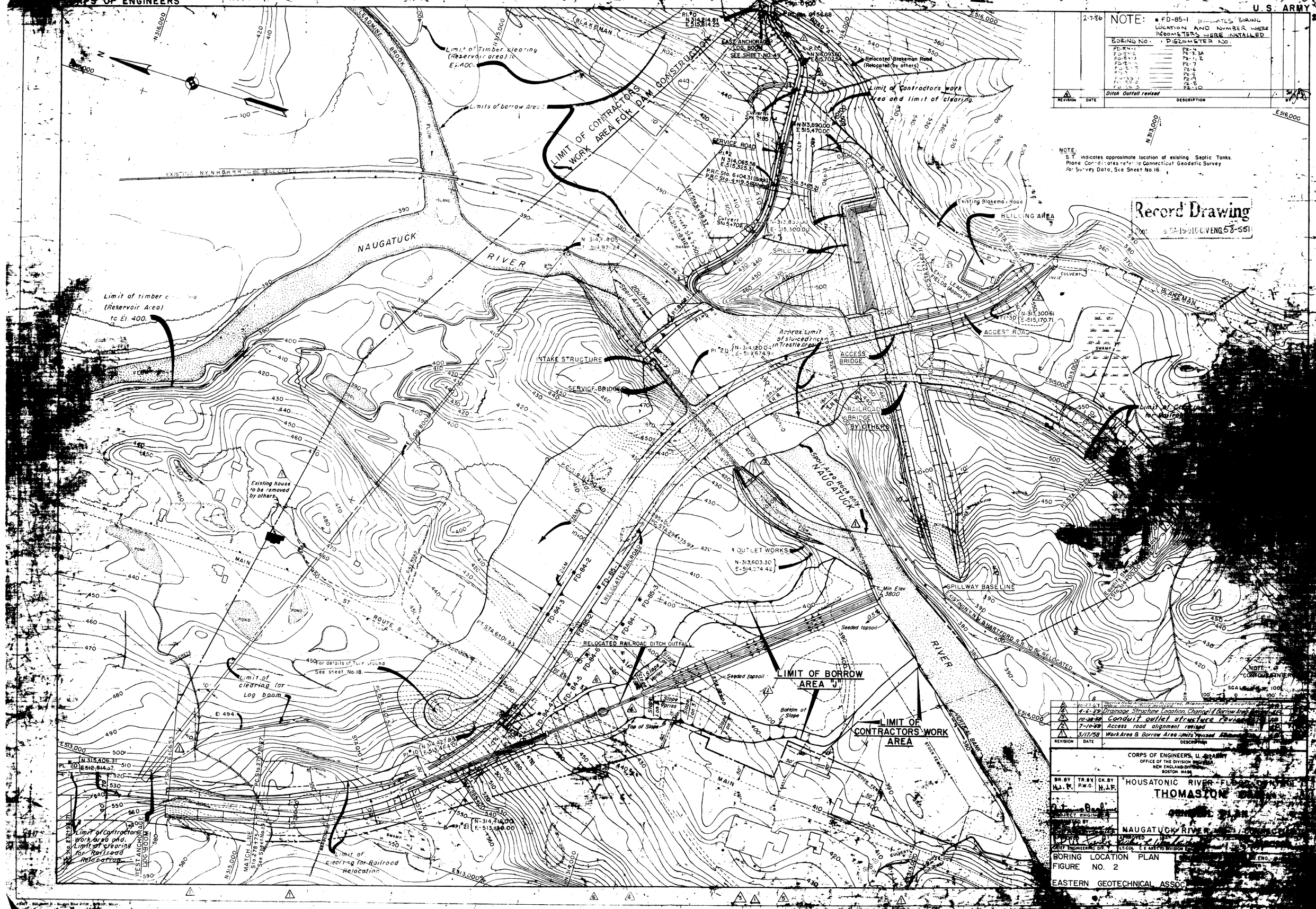
NOTE: ■ FD-85-1 INDICATES BORING LOCATION AND NUMBER WHERE PIEZOMETERS WERE INSTALLED

BORING NO.	PIEZOMETER NO.
FD-84-1	P2-4
FD-84-2	P2-3, 3A
FD-84-3	P2-1, 2
FD-84-4	P2-7
FD-84-5	P2-6
FD-85-1	P2-5
FD-85-2	P2-9
FD-85-3	P2-8
FD-85-5	P2-10

REVISION	DATE	DESCRIPTION	BY
4	2-7-86	Ditch Outfall revised	

NOTE: S.T. indicates approximate location of existing Septic Tanks. Plane Coordinates refer to Connecticut Geodetic Survey. For Survey Data, See Sheet No. 16.

Record Drawing



REVISION	DATE	DESCRIPTION
7	10-21-87	Blakeman Road (Relocated), Blakeman Road Location
6	4-6-89	Drainage Structure Location, Channel & Borrow Area
5	10-26-88	Conduit outlet structure revised
2	7-10-88	Access road alignment revised
1	3/17/88	Work Area & Borrow Area limits revised

CORPS OF ENGINEERS, U.S. ARMY
OFFICE OF THE DIVISION ENGINEER
NEW ENGLAND DIVISION
BOSTON, MASS.

DR. BY	TR. BY	CK. BY
H.J.F.	P.W.G.	H.J.F.

PROJECT ENGINEER
DESIGNED BY
CHIEF ENGINEERING DIV.

HOUSATONIC RIVER FLOOD CONTROL
THOMASTON DAM
GENERAL PLAN
NAUGATUCK RIVER
APPROVED
LT. COL. C.E. ASST. TO DIVISION ENG.

BORING LOCATION PLAN
FIGURE NO. 2

EASTERN GEOTECHNICAL ASSOC.

APPENDIX A

Inspection & Exploration Instructions

ATTACHMENT NO. 1

GEB REQUISITION NO. 84-78 - DACW 33-83-D-0006

DELIVERY ORDER NO. 0018

INSPECTION, EXPLORATION AND PIEZOMETER INSTALLATION INSTRUCTIONS

PROJECT: Piezometer Installation

SITE: Thomaston Dam, Thomaston, CT

PURPOSE: Installation of piezometers to determine the phreatic surface within the embankment and foundation for all pool elevations, determine pore pressures and average permeabilities of the embankment and foundation soils

1. SCOPE OF INVESTIGATION

a. Locate as shown on Attachment No. 2, eight (8) standard penetration test borings driven to the elevations as shown on Attachment Nos. 2 and 3. Locations of the borings will be by means of survey (EDM) and top elevations of casing left in place established by level. Bedrock elevations will be determined by available subsurface information (to be supplied by Corps) and drilling conditions as observed by field inspector.

b. The test borings shall be driven in accordance with paragraph 6a, page C-10 of the specifications. Sampling is not required while going through rock fill (PZ-(1,2), 3, 8, 9). The top ten (10) feet of casing will be left in place (each boring) and threaded cap provided.

c. Casagrande open-type piezometers shall be installed in accordance with paragraph 14, page C-17.

d. A geotechnical inspector shall act as field inspector while performing the borings and installing piezometers. The inspector shall provide telephone reports to Mr. Blair, Corps of Engineers, at 617-647-8396 at least every two working days and upon encountering refusal or completion of each boring (prior to piezometer installation).

e. All samples shall be delivered to the Corps of Engineers Headquarters in Waltham, Massachusetts by the field inspector. Sample delivery shall be coordinated with the Director, NED Materials and Water Quality Laboratory at 617-647-8367/8392.

2. SITE CONDITIONS

The site is Thomaston Dam, a Corps of Engineers dam in Thomaston, CT. The drilling operations will be performed along the crest of the dam along the downstream side of the cable guard rail, horizontally 15 feet downstream from the downstream edge of the railroad grade, and horizontally 5 feet downstream from the downstream toe (see Attachments 2 and 3).

3. RIGHTS OF ENTRY

The geotechnical inspector shall secure rights of entry by contacting the Project Manager at the dam at 617-987-2600 and also make any arrangements required by the railroad. Railroad tracks used approximately twice a week.

4. COORDINATION

Mr. James Blair, Corps of Engineers, 617-647-8396, shall be contacted five days prior to start of work and at least every two working days or on completion of each boring whichever is more frequent. The geotechnical inspector shall report on how work is progressing and what types of material are being encountered.

5. EXPLORATION

The drive sampling borings designed PZ located on Attachment 2 shall be numbered FD-84-1 through FD-84-8 in order of their completion. The new numbers shall be indicated on the exploration logs and shown on a plan of explorations.

6. COMPLETION SCHEDULE

Services under this delivery order shall start within 15 calendar days after receipt of delivery order. Duration of field work is estimated to be 15 work days. The geotechnical report shall be submitted in draft format for review by the Government no later than seven calendar days after completion of the field work. Review will take approximately ten calendar days from receipt of draft report. The final geotechnical report shall be submitted no later than seven calendar days after receipt of draft report including the action taken on possible comments.

7. QUALITY CONTROL

You will be held responsible for the quality of the maps submitted and for all damages caused the Government as a result of your negligence in the performance of any services furnished under the contract.

Although submissions required by your contract are technically reviewed by the Government, it is emphasized that your work must be prosecuted using proper internal controls and review procedures. The letter of transmittal for each submission which you make shall include a certification that the submission has been subjected to your own review and coordination procedures to insure (a) completeness for each discipline commensurate with the level effort required for that submission, (b) elimination of conflicts, errors and omissions, and (c) the overall professional and technical accuracy of the submission. Documents which are significantly deficient in any of these areas will be returned to you for correction and/or upgrading prior to our completing our review. Contract submission dates will not be extended if a resubmission of draft material is required for this reason.

PIEZOMETERS

Piez No.	Sta.	Dist. from & Dam (ft)	Tip El.	Location
1	7+50	12" (D/S)	397	EMB
2	7+50	12' (D/S)	2'above B/R	FDN
3	9+00	12' (D/S)	2'above B/R	FDN
3A	ADDED BY USAC.	Distance from D/S toe		EMB
4	8+50	5' (D/S)	"	FDN
5	7+00	5' (D/S)	"	FDN
6	6+00	5' (D/S)	"	FDN
7	5+00	5' (D/S)	"	FDN
		Distance from D/S edge of R/R grade		
8	7+50	15' (D/S)	"	FDN
9	9+00	15' (D/S)	"	FDN
10	ADDED BY U.S.A.C.		"	FDN

NOTE: D/S - downstream
B/R - bedrock
EMB - embankment
FDN - foundation

REVISION	DATE	DESCRIPTION	BY

CORPS OF ENGINEERS, U. S. ARMY
OFFICE OF THE DIVISION ENGINEER
NEW ENGLAND DIVISION
BOSTON, MASS.

DR. BY: H.J.F. TR. BY: CK. BY: PWG: H.J.F.

HOUSATONIC RIVER FLOOD CONTROL
THOMASTON DAM
GENERAL PLAN
NAUGATUCK RIVER, CONNECTICUT

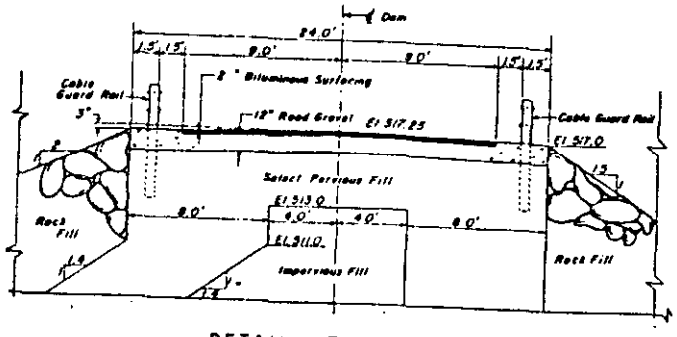
PROJECT ENGINEER

DATE FEB. 1958

SCALE AS SHOWN | SPEC NO CIV ENG - 19 - 016 - 58 - 46

DRAWING NUMBER
HC-1-1202

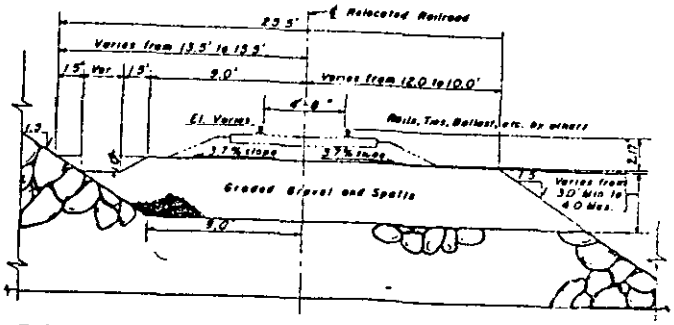
SHEET 15 OF 92



DETAIL — TOP OF DAM

SCALE IN FEET

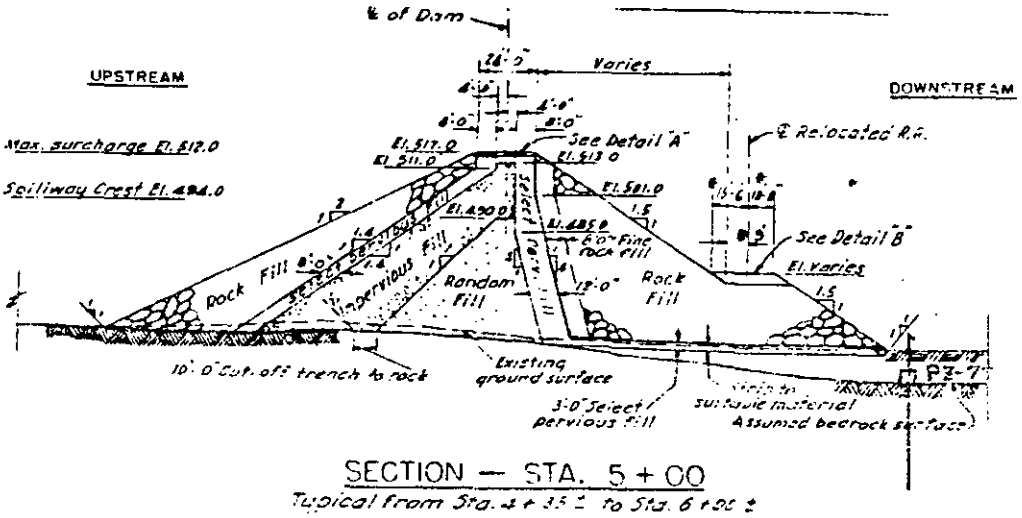
A



TYPICAL SECTION OF RELOCATED RAILROAD AT DAM EMBANKMENT

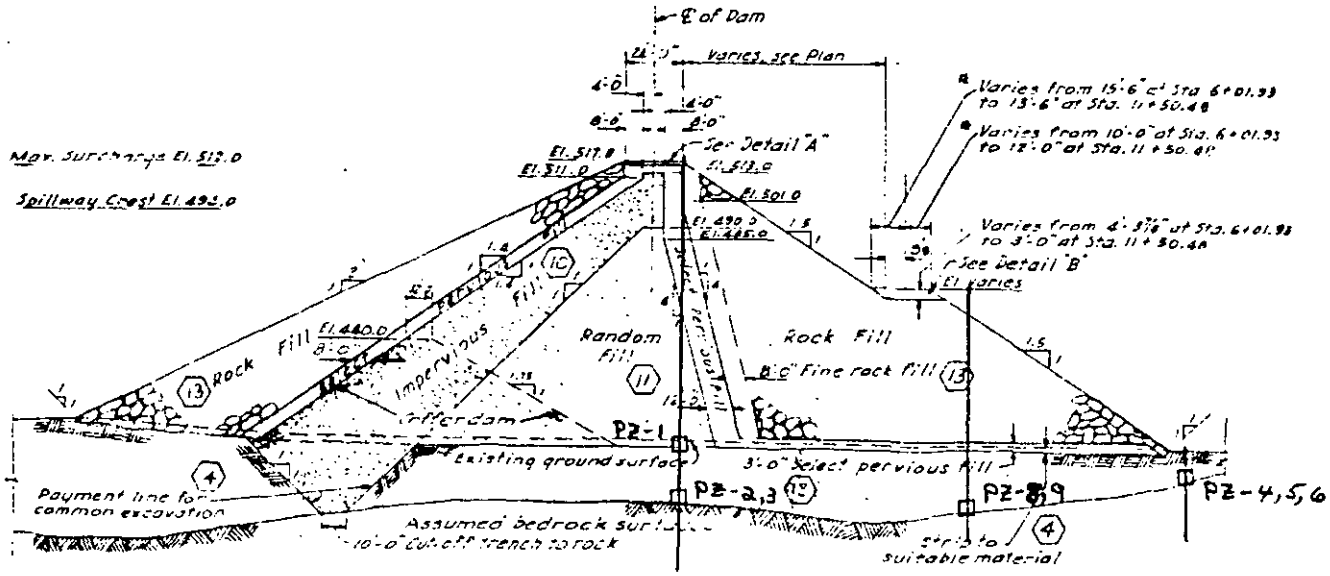
SCALE IN FEET

B



SECTION — STA. 5 + 00

Typical from Sta. 4 + 35 ± to Sta. 6 + 00 ±



SECTION — STA. 9 + 00

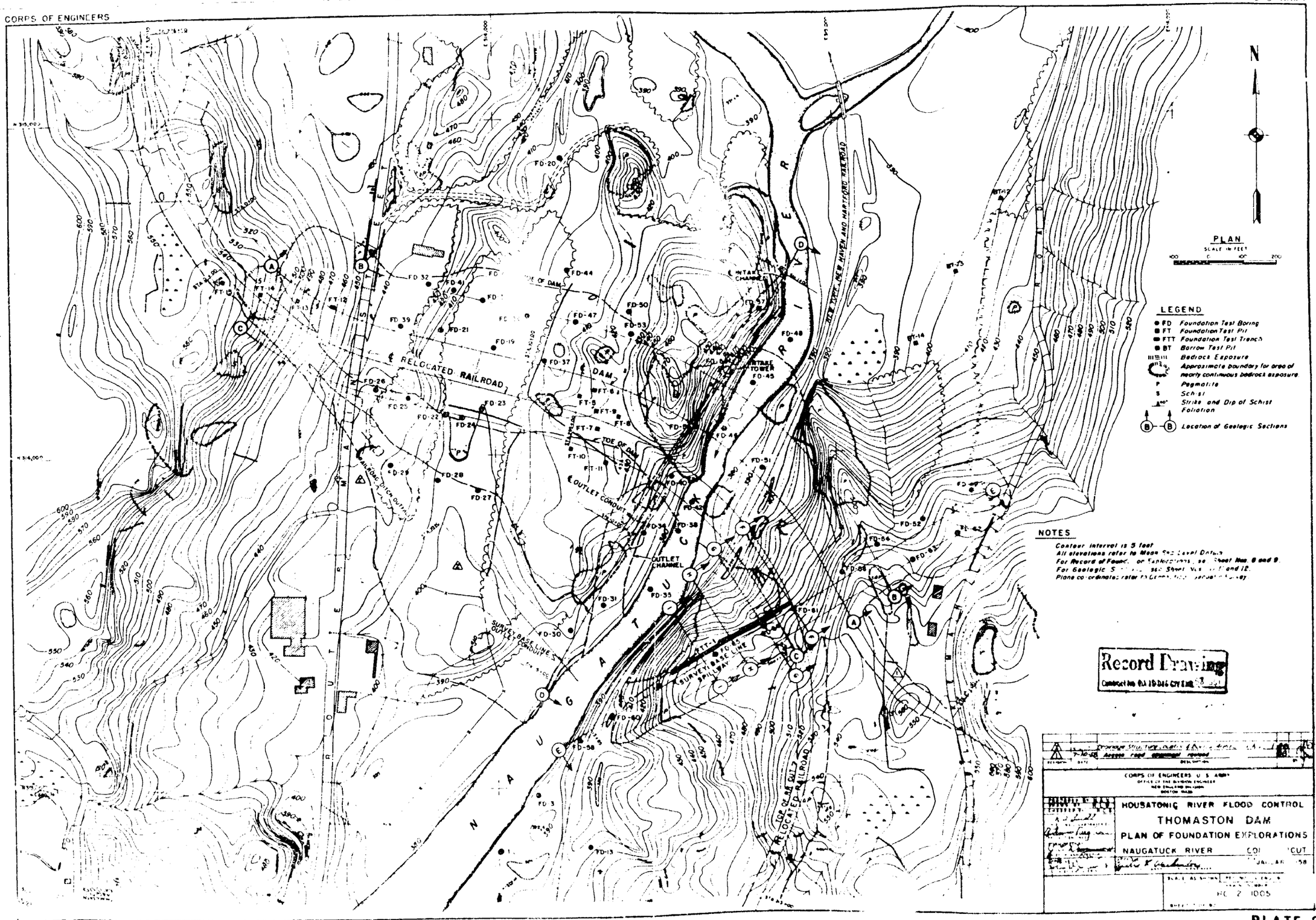
Typical from Sta 6 + 01 ± to Sta. 11 + 50 ±

EMBANKMENT SECTIONS

SCALE 1" = 40'

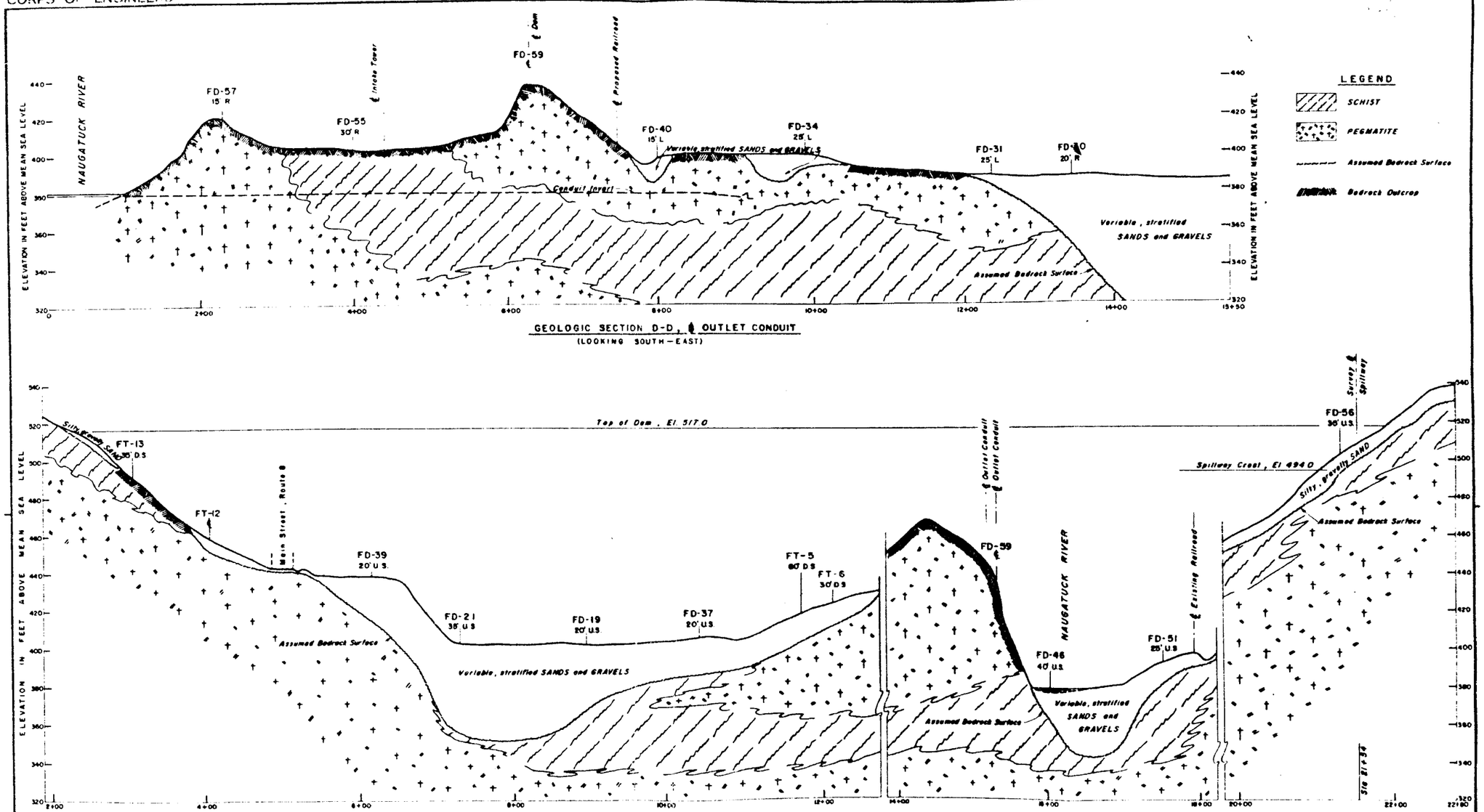
20' 0 40' 80'

ATTACHMENT NO. 2


N
PLAN
SCALE IN FEET
LEGEND
FD Foundation Test Boring
FT Foundation Test Pit
FTT Foundation Test Trench
BT Borrow Test Pit
Bedrock Exposure
Approximate boundary for area of nearly continuous bedrock exposure
P Pegmatite
S Schist
Strike and Dip of Schist Foliation
Location of Geologic Sections
NOTES
Contour interval is 5 feet
All elevations refer to Mean Sea Level Datum
RELOCATED RAILROAD
DAM
INTAKE TOWER
INTAKE CHANNEL
OUTLET CONDUIT
OUTLET CHANNEL
TOE OF DAM
SPILLWAY
SURVEY BASE LINE
NAUGATUCK RIVER
NEW YORK, NEW HAVEN AND HARTFORD RAILROAD
Record Drawing
CORPS OF ENGINEERS U S ARMY
HOUSATONIC RIVER FLOOD CONTROL
THOMASTON DAM
PLAN OF FOUNDATION EXPLORATIONS
NAUGATUCK RIVER CONNECTICUT
JANUARY 1958
HC 2 1005

CORPS OF ENGINEERS

U. S. ARMY



SHEET NOS 10, 11 AND 12 ARE FOR GENERAL INFORMATION ONLY AND ARE NOT PART OF THE OFFICIAL PLANS

NOTES

For Record of Foundation Explorations, see Sheet Nos 8 and 9

For location of Geologic Sections, see Sheet No. 7

Record Drawing

Contract No DA-19-016-CIVENG 53-551

REVISION	DATE	DESCRIPTION	BY

CORPS OF ENGINEERS U. S. ARMY
OFFICE OF THE DIVISION ENGINEER
NEW ENGLAND DIVISION
BOSTON, MASS.

HOUSATONIC RIVER FLOOD CONTROL

THOMASTON DAM

GEOLOGIC SECTIONS A-A AND D-D

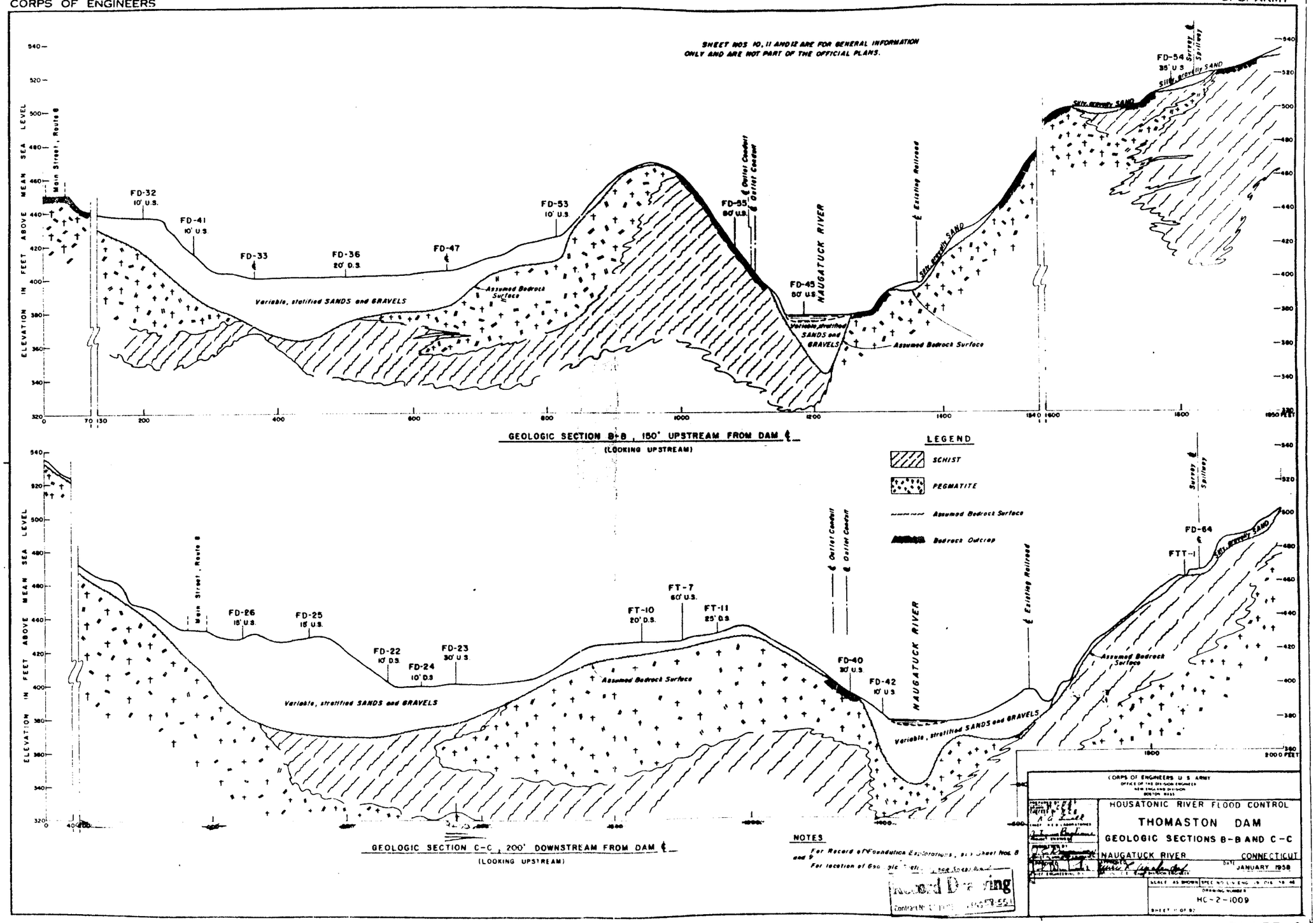
NAUGATUCK RIVER CONNECTICUT

JANUARY 1958

DRAWING NUMBER
HC-2-1008

PLATE 3

SHEET NOS 10, 11 AND 12 ARE FOR GENERAL INFORMATION ONLY AND ARE NOT PART OF THE OFFICIAL PLANS.



CORPS OF ENGINEERS U. S. ARMY
OFFICE OF THE DIVISION ENGINEER
NEW ENGLAND DIVISION
BOSTON, MASS.

HOUSATONIC RIVER FLOOD CONTROL

THOMASTON DAM

GEOLOGIC SECTIONS B-B AND C-C

NAUGATUCK RIVER CONNECTICUT

DATE JANUARY 1958

SCALE AS SHOWN

DRAWING NUMBER HC-2-1009

SHEET 11 OF 82

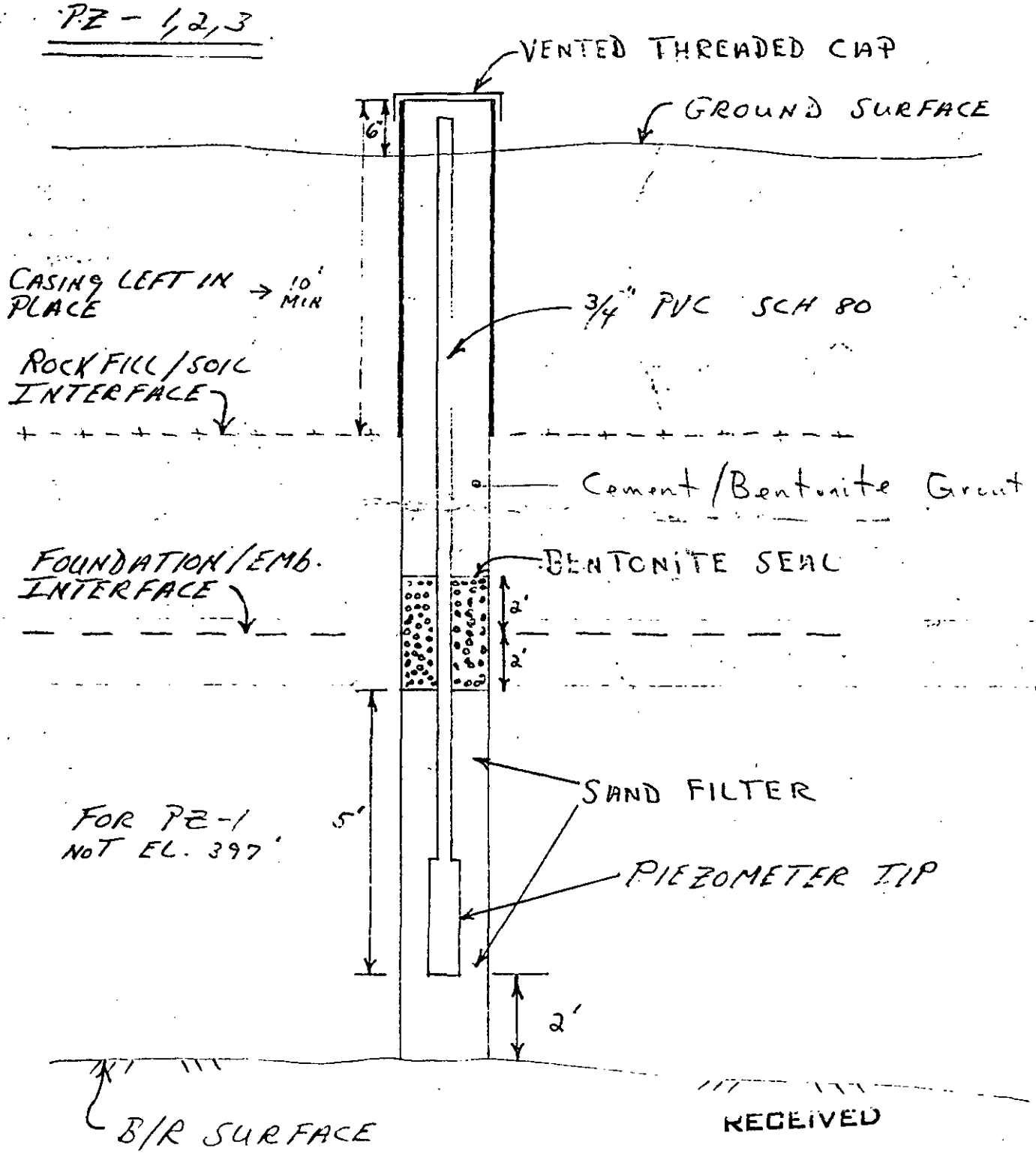
PLATE 4

NED FORM 2[illegible]
27 Sept [illegible]

NEW ENGLAND DIVISION
CORPS OF ENGINEERS, U.S. ARMY

PAGE _____

SUBJECT: THOMASTON DAM - PIEZOMETER INSTALLATION
COMPUTATION: TYPICAL CROSS-SECTION
COMPUTED BY: J.D. CHECKED BY: _____ DATE: 5 SEPT 84



RECEIVED
OCT 24 1984
BRIGGS ASSOC., INC.

NED FORM 223
27 Sept 49

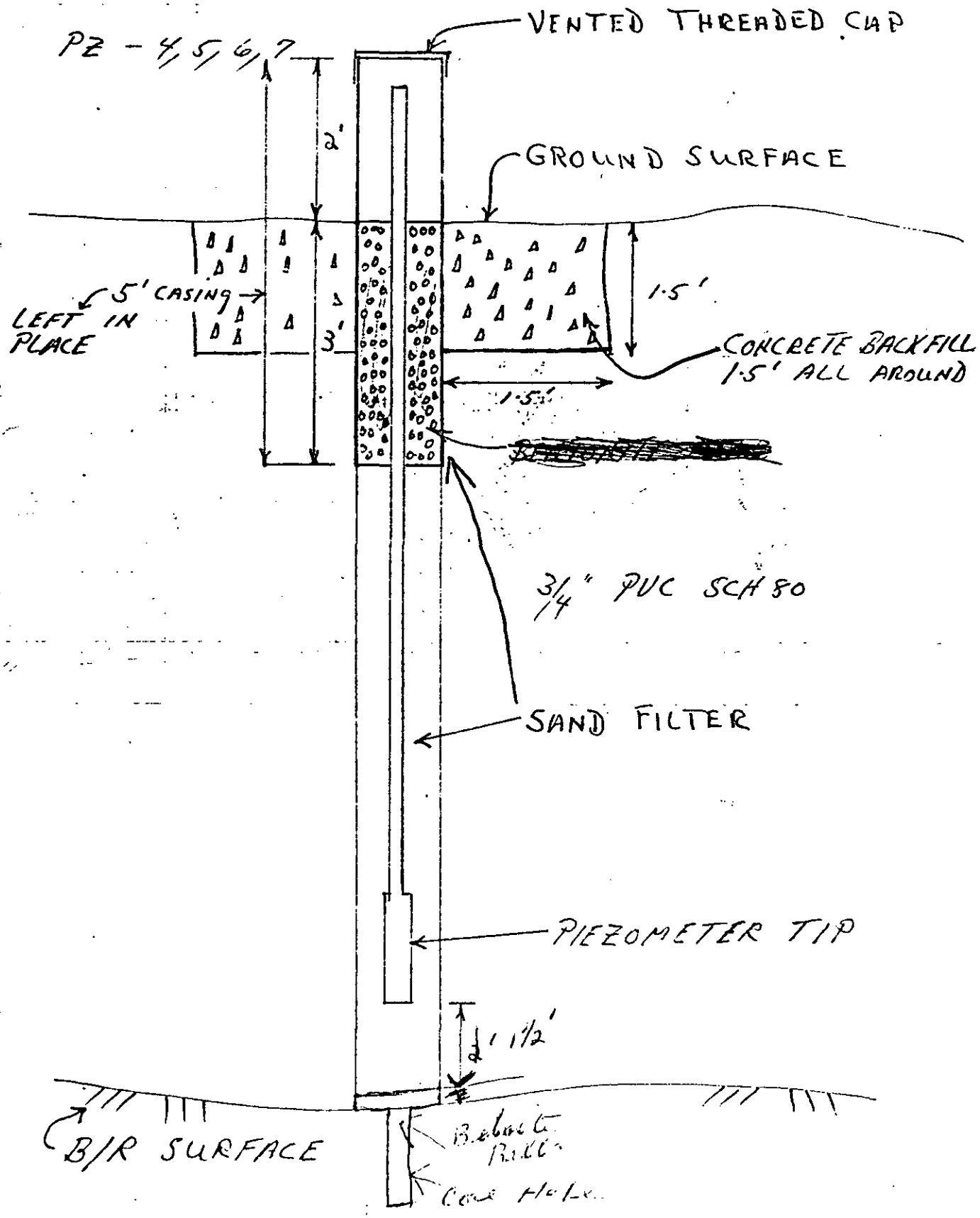
NEW ENGLAND DIVISION
CORPS OF ENGINEERS, U.S. ARMY

PAGE

SUBJECT THOMASTON DAM - PIEZOMETER INSTALLATION

COMPUTATION TYPICAL CROSS-SECTION

COMPUTED BY J.B. CHECKED BY DATE 5 SEPT 84

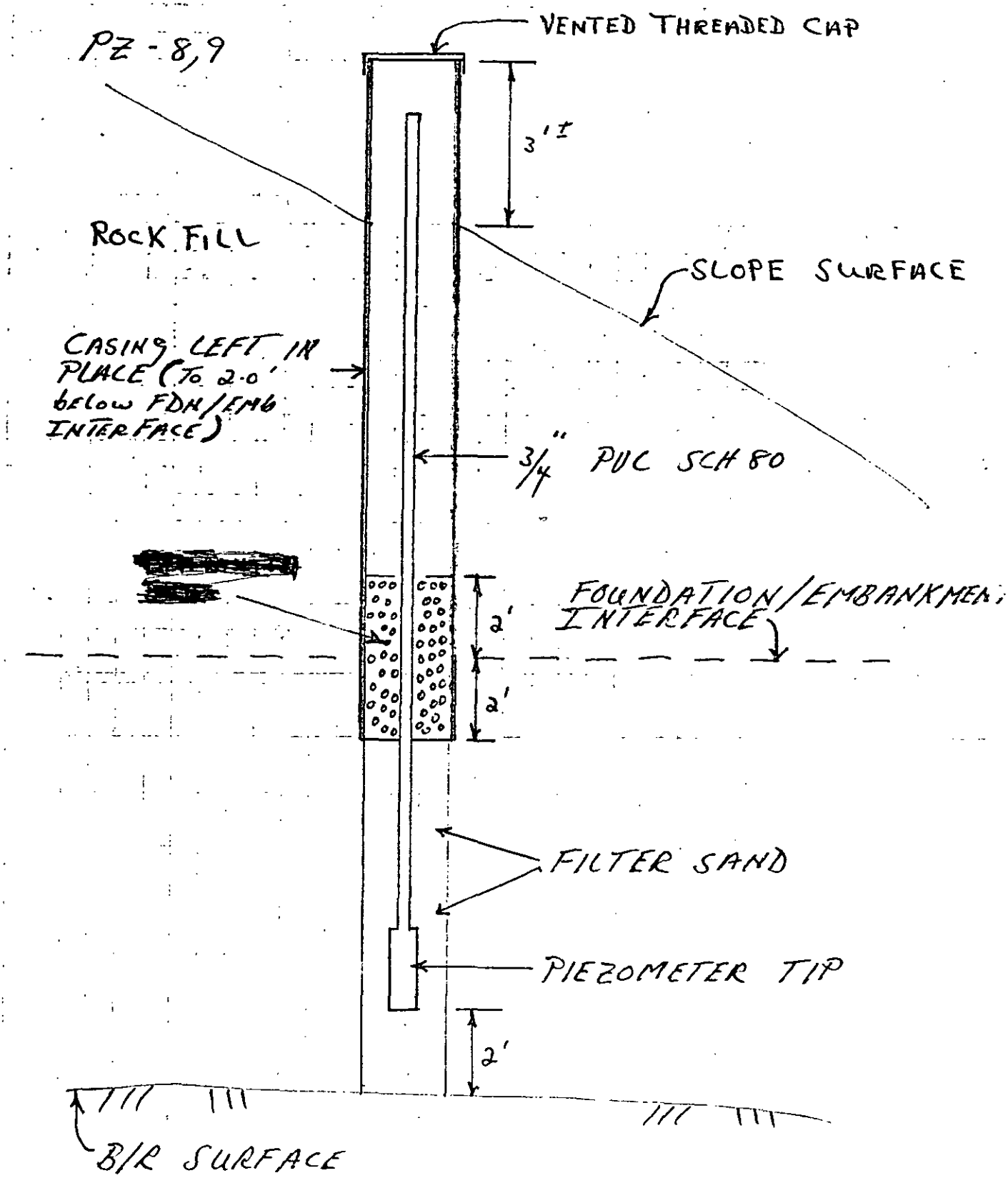


NED FORM 223
27 Sept 49

NEW ENGLAND DIVISION
CORPS OF ENGINEERS, U.S. ARMY

PAGE

SUBJECT THOMASTON DAM - PIEZOMETER INSTALLATION
COMPUTATION TYPICAL CROSS-SECTION
COMPUTED BY J.B. CHECKED BY DATE 5 SEPT 84



APPENDIX B

Safety Reports

EASTERN GEOTECHNICAL ASSOCIATES

WEEKLY SAFETY MEETING

TO: Safety Office, NED

FROM: Field Engineer
THRU: Project Engineer

Date held 9-10-85
Time 1530 hrs

Weekly safety meeting was held this date for the following personnel:
Contract No. DACW 33-83-D-0006, W. O. No. 18

Personnel present:
JOHN CROWTHER
JIM CARPENTER
CARL PINO

Conducted By: JOHN CROWTHER

1. Subjects discussed Note, delete, or add):

✓ Individual Protective Equipment - Ear protection, hard hats
✓ Prevention of Falls -
✓ Safe Lifting Techniques -
Emergency Communications -
Fire Prevention -
✓ Sanitation, First Aid -
✓ Tripping Hazards - trash, hose, nails in lumber -
✓ Staging, Ladders, Concrete Forms -
✓ Hand Tools -
Portable Power Tools -
✓ Woodworking Machinery -
✓ Equipment Maintenance Zero defects) -
✓ Hoisting Equipment -
✓ Ropes, Hooks, Chains and Slings -
Electrical Grounding, Temporary Wiring -
Lockouts for safe clearance procedures -
Electrical, pressure, moving parts -
✓ Welding -
✓ Excavations -
✓ Loose Rock and Steep Slopes -
Explosives -
Water Safety -
Other -

Prepared by: [signature]
Field Engineer

2. Exposure: CONTINUED FROM PREVIOUS SAFETY MEETING HOURS, 9-3, 3MEN 24 hrs., 9-4 3MEN 24 hrs, 9-5 3MEN 24 hrs, 9-6 3MEN 24 hrs., 9-9, 3MEN 24 hrs, 9-10 3MEN 24 hrs. TOTAL THIS WEEK = 144 hrs + 416 FROM PREVIOUS WEEK = 560 manhours NO WORK SAT. AND SUN 9-7 and 9-8. PROJECT IS COMPLETED

Signature: [signature]
Project Engineer

3. Forwarded: NED, Waltham, MA

EASTERN GEOTECHNICAL ASSOCIATES

WEEKLY SAFETY MEETING

TO: Safety Office, NED

FROM: Field Engineer
THRU: Project Engineer

Date held 9-3-85
Time 0730 hrs.

Weekly safety meeting was held this date for the following personnel:
Contract No. DACW 33-83-D-0006, W. O. No. 18

Personnel present:
JOHN CROWTHER
TIM CARPENTER
CARL PINO

Conducted By: JOHN CROWTHER

1. Subjects discussed Note, delete, or add):

- ✓ Individual Protective Equipment - Ear protection, hard hats
- ✓ Prevention of Falls -
- ✓ Safe Lifting Techniques -
- Emergency Communications -
- Fire Prevention -
- Sanitation, First Aid -
- ✓ Tripping Hazards - trash, hose, nails in lumber -
- ✓ Staging, Ladders, Concrete Forms -
- ✓ Hand Tools -
- Portable Power Tools -
- Woodworking Machinery -
- ✓ Equipment Maintenance Zero defects) -
- ✓ Hoisting Equipment -
- ✓ Ropes, Hooks, Chains and Slings -
- Electrical Grounding, Temporary Wiring -
- Lockouts for safe clearance procedures -
- Electrical, pressure, moving parts -
- Welding -
- ✓ Excavations -
- ✓ Loose Rock and Steep Slopes -
- Explosives -
- Water Safety -
- Other -

Prepared by: [signature]
Field Engineer

2. Exposure: CONTINUED FROM PREVIOUS SAFETY MEETING HOURS, 8-27, 3 MEN 24 hours, 8-28 3 MEN 12 hrs, 8-29, 3 MEN 24 hrs, 8-30, 3 MEN 24 hours TOTAL THIS WEEK = 84 hrs + 332 hrs. from previous reports = 416 man hours. NO WORK SAT. SUN. + MON 8-31, 9-1 and 9-2-85

Signature: [signature]
Project Engineer

3. Forwarded: NED, Waltham, MA

EASTERN GEOTECHNICAL ASSOCIATES

WEEKLY SAFETY MEETING

TO: Safety Office, NED

FROM: Field Engineer
THRU: Project Engineer

Date held 8-27-85
Time 0730 hrs

Weekly safety meeting was held this date for the following personnel:
Contract No. DACW 33-83-D-0006, W. O. No. 18

Personnel present:
JOHN CROUTHER
TIM CARPENTER
CARL PINO

Conducted By: JOHN CROUTHER

1. Subjects discussed Note, delete, or add):

- ✓ Individual Protective Equipment - Ear protection, hard hats
- ✓ Prevention of Falls -
- ✓ Safe Lifting Techniques -
- Emergency Communications -
- ✓ Fire Prevention -
- Sanitation, First Aid -
- ✓ Tripping Hazards - trash, hose, nails in lumber -
- ✓ Staging, Ladders, Concrete Forms -
- ✓ Hand Tools -
- Portable Power Tools -
- Woodworking Machinery -
- ✓ Equipment Maintenance Zero defects) -
- ✓ Hoisting Equipment -
- ✓ Ropes, Hooks, Chains and Slings -
- Electrical Grounding, Temporary Wiring -
- Lockouts for safe clearance procedures -
- Electrical, pressure, moving parts -
- Welding -
- ✓ Excavations -
- ✓ Loose Rock and Steep Slopes -
- Explosives -
- Water Safety -
- Other -

Prepared by: [signature]
Field Engineer

2. Exposure: CONTINUED FROM PREVIOUS SAFTET MEETING HOURS, 8-20-85, 4 men, 32 hrs. 8-21-85, 3 men, 24 hrs, 8-22-85 4 men, 32 hrs, 8-23-85 3 men, 24 hrs, 8-26-85 3 men 24 hrs. [9 man-standby] Total this week = 136 man hours + 296 from previous reports = 332 man hours NO WORK SAT + SUN 8-24 + 8-25

Signature: [signature]
Project Engineer

3. Forwarded: NED, Waltham, MA

EASTERN GEOTECHNICAL ASSOCIATES

WEEKLY SAFETY MEETING

TO: Safety Office, NED

FROM: Field Engineer
THRU: Project Engineer

Date held 8-20-85
Time 0800

Weekly safety meeting was held this date for the following personnel:
Contract No. DACW 33-83-D-0006, W. O. No. 18

Personnel present:
John Crowther
Tim Carpenter
Carl Pino

Conducted By: John Crowther

1. Subjects discussed Note, delete, or add):

- ✓ Individual Protective Equipment - Ear protection, hard hats
- ✓ Prevention of Falls -
- ✓ Safe Lifting Techniques -
- Emergency Communications -
- Fire Prevention -
- Sanitation, First Aid -
- ✓ Tripping Hazards - trash, hose, nails in lumber -
- ✓ Staging, Ladders, Concrete Forms -
- ✓ Hand Tools -
- ✓ Portable Power Tools -
- ✓ Woodworking Machinery -
- ✓ Equipment Maintenance Zero defects) -
- ✓ Hoisting Equipment -
- ✓ Ropes, Hooks, Chains and Slings -
- Electrical Grounding, Temporary Wiring -
- Lockouts for safe clearance procedures -
- ✓ Electrical, pressure, moving parts -
- Welding -
- ✓ Excavations -
- ✓ Loose Rock and Steep Slopes -
- Explosives -
- Water Safety -
- Other -

Prepared by: John Crowther
Field Engineer

2. Exposure: CONTINUED FROM PREVIOUS SAFETY MEETING HOURS
8-13-85 4 men, 25 hrs, 8-14-85 3 men, 24 hrs. 8-15-85 4 men, 32 hrs. 8-16-85 3 men, 24 hrs. 8-19-85 3 men, 24 hrs.
Total this week = 129 hrs + 167 hrs. from previous report = 296 man hours.
No work SAT + SUN 8-17 + 8-18

Signature: John Crowther
Project Engineer

3. Forwarded: NED, Waltham, MA

EASTERN GEOTECHNICAL ASSOCIATES

WEEKLY SAFETY MEETING

TO: Safety Office, NED

FROM: Field Engineer
THRU: Project Engineer

Date held 8-13-85
Time 1000 hrs

Weekly safety meeting was held this date for the following personnel:
Contract No. DACW 33-83-D-0006, W. O. No. 18

Personnel present:
JOHN CROWTHER
TIM CARPENTER
CARL PINO
PETE KAMINSKI (BOM)

Conducted By: JOHN CROWTHER

1. Subjects discussed Note, delete, or add):

- ✓ Individual Protective Equipment - Ear protection, hard hats
- ✓ Prevention of Falls -
- ✓ Safe Lifting Techniques -
- Emergency Communications -
- Fire Prevention -
- ✓ Sanitation, First Aid -
- ✓ Tripping Hazards - trash, hose, nails in lumber -
- ✓ Staging, Ladders, Concrete Forms -
- ✓ Hand Tools -
- ✓ Portable Power Tools -
- Woodworking Machinery -
- ✓ Equipment Maintenance Zero defects) -
- ✓ Hoisting Equipment -
- ✓ Ropes, Hooks, Chains and Slings -
- Electrical Grounding, Temporary Wiring -
- Lockouts for safe clearance procedures -
- Electrical, pressure, moving parts -
- Welding -
- ✓ Excavations -
- ✓ Loose Rock and Steep Slopes -
- Explosives -
- Water Safety -
- Other -

Prepared by: [signature]
Field Engineer

2. Exposure: Previous exposure hrs, on 3-26-85; 36 hrs for 3 man, on 3-27-85; 33 hrs for 3 man, on 3-28-85; 36 hrs for 3 man, on 3-29-85; 15 hrs for 3 man, on 4-1-85; 24 hrs for 2 man, on 4-2-85; 20 hrs for 2 men. On 8-13 3 hrs for 3 man Total = 167 hrs. for 1985 to date. [MAN HOURS] NO WORK 4-3 through 8-12-85

Signature: [signature]
Project Engineer

3. Forwarded: NED, Waltham, MA

EASTERN GEOTECHNICAL ASSOCIATES

WEEKLY SAFETY MEETING

TO: Safety Orfice, NED

FROM: Field Engineer — Date held Oct. 18, 1984

THRU: Project Engineer — Time 0800 Hours

Weekly safety meeting was held this date for the following personnel:
Contract No. DACW 33-83-D-0006, W. O. No. 18

Personnel present:
John Crowther
Charles Reil
Chris Coolen

Conducted By: Eugene Peck

1. Subjects discussed (Note, delete, or add):

xIndividual Protective Equipment - Ear protection, hard hats
xPrevention or Falls -
xSafe Lifting Techniques -
Emergency Communications -
Fire Prevention -
xSanitation, First Aid -
xTripping Hazards - trash, hose, nails in lumber -
Staging, Ladders, Concrete Forms -
xHand Tools -
xPortable Power Tools -
Woodworking Machinery -
xEquipment Maintenance (Zero defects) -
xHoisting Equipment -
xRopes, Hooks, Chains and Slings -
Electrical Grounding, Temporary Wiring -
Lockouts for safe clearance procedures -
xElectrical, pressure, moving parts -
xWelding -
Excavations -
xLoose Rock and Steep Slopes -
Explosives -
Water Safety -
Other -

Prepared by: John Crowther
Field Engineer

2. Exposure:

Day 31, Period covers previous safety meeting hours plus: October 11, 12, (No work weekend October 13 & 14,) 15, 16, 17, 1984. On site job hours, Total: 1005, October 11, 12, and 15, 3 men, October 16 & 17, 4 men.

Signature: Charles A. Thor
Project Engineer

3. Forwarded: NED, Waltham, MA

EASTERN GEOTECHNICAL ASSOCIATES

WEEKLY SAFETY MEETING

TO: Safety Office, NED

FROM: Field Engineer

Date held Oct. 11, 1984

THRU: Project Engineer

Time 0800 Hours

Weekly safety meeting was held this date for the following personnel:
Contract No. DACW 33-83-D-0006, W. O. No. 18

Personnel present:
Eugene Peck
Charles Reil
Chris Coolen

Conducted By: Eugene Peck

1. Subjects discussed (Note, delete, or add):

xIndividual Protective Equipment - Ear protection, hard hats
xPrevention of Falls -
xSafe Lifting Techniques -
Emergency Communications -
Fire Prevention -
xSanitation, First Aid -
xTripping Hazards - trash, hose, nails in lumber -
Staging, Ladders, Concrete Forms -
xHand Tools -
xPortable Power Tools -
Woodworking Machinery -
xEquipment Maintenance (Zero defects) -
xHoisting Equipment -
xRopes, Hooks, Chains and Slings -
Electrical Grounding, Temporary Wiring -
Lockouts for safe clearance procedures -
xElectrical, pressure, moving parts -
xWelding -
Excavations -
xLoose Rock and Steep Slopes -
Explosives -
Water Safety -
Other -

Prepared by: Eugene Peck
Field Engineer

2. Exposure:

Day 26, Period covers previous safety meeting hours plus: October 4, 5, (No work October 6 & 7 and Holiday, Columbus Day, October 8,) October 9 & 10, 1984. On site job hours, Total: 839.25, October 4 through October 10, 3 men.

Signature: Charles D. Thros
Project Engineer

3. Forwarded: NED, Waltham, MA

EASTERN GEOTECHNICAL ASSOCIATES

WEEKLY SAFETY MEETING

TO: Safety Office, NED

FROM: Field Engineer — Date held Oct. 4, 1984

THRU: Project Engineer — Time 0730 Hours

Weekly safety meeting was held this date for the following personnel:
Contract No. DACW 33-83-D-0006, W. O. No. 18

Personnel present:
Eugene Peck
Charles Reil
Chris Coolen

Conducted By: Eugene Peck

1. Subjects discussed (Note, delete, or add):

xIndividual Protective Equipment - Ear protection, hard hats
xPrevention of Falls -
xSafe Lifting Techniques -
Emergency Communications -
Fire Prevention -
xSanitation, First Aid -
xTripping Hazards - trash, hose, nails in lumber -
Staging, Ladders, Concrete Forms -
xHand Tools -
xPortable Power Tools -
Woodworking Machinery -
xEquipment Maintenance (Zero defects) -
xHoisting Equipment -
xRopes, Hooks, Chains and Slings -
Electrical Grounding, Temporary Wiring -
Lockouts for safe clearance procedures -
xElectrical, pressure, moving parts -
xWelding -
Excavations -
xLoose Rock and Steep Slopes -
Explosives -
Water Safety -
Other -

Prepared by: Eugene Peck
Field Engineer

2. Exposure:

Day 22, Period covers previous safety meeting hours plus: September 27, 28 (No work September 29 and 30,) October 1, 2, and 3, 1984. On the job hours, Total: 750 man hours, September 27, 3 men; September 28 - October 3, 5 men.

Signature: Charles H. Thron
Project Engineer

3. Forwarded: NED, Waltham, MA

EASTERN GEOTECHNICAL ASSOCIATES

WEEKLY SAFETY MEETING

TO: Safety Orfice, NED

FROM: Field Engineer — Date held Sept. 27,1984

THRU: Project Engineer — Time 0730 Hours

Weekly safety meeting was held this date for the following personnel:
Contract No. DACW 33-83-D-0006, W. O. No. 18

Conducted By: Eugene Peck

Personnel present:
Eugene Peck
Charles Reil
Chris Coolen

1. Subjects discussed (Note, delete, or add):

xIndividual Protective Equipment - Ear protection, hard hats
xPrevention of Falls -
xSafe Lifting Techniques -
Emergency Communications -
Fire Prevention -
xSanitation, First Aid -
xTripping Hazards - trash, hose, nails in lumber -
Staging, Ladders, Concrete Forms -
xHand Tools -
xPortable Power Tools -
Woodworking Machinery -
xEquipment Maintenance (Zero defects) -
xHoisting Equipment -
xRopes, Hooks, Chains and Slings -
Electrical Grounding, Temporary Wiring -
Lockouts for safe clearance procedures -
xElectrical, pressure, moving parts -
xWelding -
Excavations -
xLoose Rock and Steep Slopes -
Explosives -
Water Safety -
Other -

Prepared by: Eugene Peck
Field Engineer

2. Exposure:

Day 17, Period covers previous safety meeting hours plus: September 21, (No work weekend September 22-23) September 24, 25, 26, 1984. On site job hours, Total: 575.25 man hours, September 21-27, 1984, 3 men.

Signature: Charles H. Ross
Project Engineer

3. Forwarded: NED, Waltham, MA

EASTERN GEOTECHNICAL ASSOCIATES

WEEKLY SAFETY MEETING

TO: Safety Office, NED

FROM: Field Engineer — Date held Sept. 20 1984

THRU: Project Engineer — Time 1630 Hours

Weekly safety meeting was held this date for the following personnel:
Contract No. DACW 33-83-D-0006, W. O. No. 18

Conducted By: Eugene Peck

Personnel present:
Eugene Peck
Charles Reil
Chris Coolen

1. Subjects discussed (Note, delete, or add):

xIndividual Protective Equipment - Ear protection, hard hats
xPrevention or Falls -
xSafe Lifting Techniques -
Emergency Communications -
Fire Prevention -
Sanitation, First Aid -
xTripping Hazards - trash, hose, nails in lumber -
Staging, Ladders, Concrete Forms -
xHand Tools -
Portable Power Tools -
Woodworking Machinery -
xEquipment Maintenance (Zero defects) -
Hoisting Equipment -
xRopes, Hooks, Chains and Slings -
Electrical Grounding, Temporary Wiring -
Lockouts for safe clearance procedures -
xElectrical, pressure, moving parts -
xWelding -
Excavations -
xLoose Rock and Steep Slopes -
Explosives -
Water Safety -
Other -

Prepared by: Eugene Peck
Field Engineer

2. Exposure:

Day 12, Period covers previous safety meeting hours plus: September 13, 1984 from 0930 hours, September 14, (No work weekend September 15-16), September 17, 18, 19, and 20, 1984. On site job hours, Total: 479.5 man hours, September 14-19, 1984, 5 men, September 20, 1984, 3 men.

Signature: Charles R. [illegible]
Project Engineer

3. Forwarded: NED, Waltham, MA

EASTERN GEOTECHNICAL ASSOCIATES

WEEKLY SAFETY MEETING

TO: Safety Office, NED

FROM: Field Engineer — Date held Sept. 13 1984

THRU: Project Engineer — Time 0830 Hours

Weekly safety meeting was held this date for the following personnel:
Contract No. DACW 33-83-D-0006, W. O. No. 18

Conducted By: Eugene Peck

Personnel present:
Eugene Peck
Charles Reil
Chris Coolen
Reggie Moore
Ed Breshnahan

1. Subjects discussed (Note, delete, or add):

xIndividual Protective Equipment - Ear protection, hard hats
xPrevention or Falls -
xSafe Lifting Techniques -
Emergency Communications -
Fire Prevention -
Sanitation, First Aid -
xTripping Hazards - trash, hose, nails in lumber -
Staging, Ladders, Concrete Forms -
xHand Tools -
Portable Power Tools -
Woodworking Machinery -
xEquipment Maintenance (Zero defects) -
Hoisting Equipment -
xRopes, Hooks, Chains and Slings -
Electrical Grounding, Temporary Wiring -
Lockouts for safe clearance procedures -
xElectrical, pressure, moving parts -
xWelding -
Excavations -
xLoose Rock and Steep Slopes -
Explosives -
Water Safety -
Other -

Prepared by: Eugene Peck
Field Engineer

2. Exposure:

Day 7, period covers previous safety meeting hours plus: September 5,6 ,7 (No work weekend September 8-9, 1984), September 10, 11,12,and 13, 1984 to 0930 hours. On site job hours, Total: 241 man hours, September 5-7: 4 men, September 10-11: 5 men, September 12: 6 men, September 13: 5 men.

Signature: Charles H. Johnson
Project Engineer

3. Forwarded: NED, Waltham, MA

APPENDIX C

Chain of Custody Logs

EASTERN GEOTECHNICAL ASSOCIATES

CHAIN OF CUSTODY LOG

Project: THOMASTON DAM THOMASTON CONN.

Contract DACW-33-83-D-0006, W.O. # 18

Items: Jar Samples 7 Boxes 76 JARS

Bottles

Core Boxes 1 BOX

Sampling Logs 2-COPIES

	Date & Time Received	Date & Time Transfered	Comments	Condition
1.	As Sampled			
2.		11-8-84 (0815)		
3.	received	11-8-84		
4.				
5.				

EASTERN GEOTECHNICAL ASSOCIATES

CHAIN OF CUSTODY LOG

Project: THOMASTON DAM THOMASTON CONN

Contract DACW-33-83-D-0006, W.O. # 18

Items: Jar Samples (2) 12 JAR BOXES

Bottles

Core Boxes (2) NX & BX SIZE

Sampling Logs

Bag Samples

Date & Time Received	Date & Time Transfered	Comments	Custodian
1. AS SAMPLED	9-16-85		[illegible]
2.	9-16-85		RD Berger
3.			
4.			
5.			

APPENDIX D

Field Logs of Test Borings

CORPS OF ENGINEERS, U. S. ARMY
NEW ENGLAND DIVISION
FOUNDATION AND MATERIALS BRANCH

FIELD LOG OF TEST BORING

PROJECT NO. W.O. #18

Site Thomaston Dam Conn. — Page 1 of 8 Pages

Hole No. FD-84-1 Diam. (Casing) 3" I.D. — Boring Started 9-5-84

Co-ordinates: N _____ E _____ — Boring Completed 9-6-84

Drilled by EASTERN GEOTECH. ASSOC. — Report Submitted _____

Purpose of Exploration Piezometer Installation

Elevation Top of Hole 400.26 M.S.L.
Total Overburden Drilled 20 Feet
Elevation Top of Rock 380.26 M.S.L.
Elevation Bottom of Hole 375.26 M.S.L.
Total Rock Drilled 5 Feet
Total Depth of Hole 25 Feet
Core Recovered 81.7 %
Core Recovered 4 Ft.; 1" Diam. 1 3/8 in.
Soil Samples 1 3/8 in. Diam. 4 No.
Soil Samples _____ in. Diam. _____ No.

Casing Left in Place 5' of 3" CASING Feet

Water Table Depth 12.5'

Depth From	Depth To	Method of Drilling and Type of Bit Used
0	20	SPT-SAMPLING 5' INTERVALS
		ADVANCED THROUGH BOULDERS
		WITH ROLLER-ROCK BIT, AD-
		VANCED 4" and 3" CASING WITH
		300 lb HAMMER.
20	25	CORED BEDROCK WITH 1 3/8" x 5'
		BW CORE BARREL

INDEX

Ground Water _____ Page 7
Boring Location Sketch _____ Page 7
Overburden Record _____ Page 2
Rock Drilling _____ Page 6
_____ Page ____
_____ Page ____
_____ Page ____

Prepared by _____ Field Data — Lab. Data

Submitted by _____

IED FORM DEC 63 121 — REPLACES EDITION OF JUN 51 WHICH MAY BE USED UNTIL EXHAUSTED

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST BORING

Site Thomaston Dam — Page 2 of 8 Pages

Boring No. ED-84-1 Desig. PZ-4 Diam. (Casing) 3" ID (AND 4")

Co-ordinates: N _____ E _____

Elevation Top of Boring 400.26 M.S.L.
Total Overburden Drilled 20 Feet
Elevation Top of Rock 380.26 M.S.L.
Total Rock Drilled 5 Feet
Elevation Bottom of Boring 375.26 M.S.L.
Total Depth of Boring 25 Feet
Core Recovered 81.7 % No. Boxes 1
Core Recovered 4 Ft : 1" Diam. 1 3/8 In.
Soil Samples 1 3/8 In. Diam. 4 No.
Soil Samples _____ In. Diam. ____ No.

Hammer Wt. 140 lbs Boring Started 9-5-84
Hammer Drop 30 inches
Casing Left 5 ft. Boring Completed 9-6-84
Subsurface Water Data _____ Page 7
Obs. Well PEIZOMETER
Drilled By EASTERN GEOTECHNICAL ASSOC.
Mfg. Des. Drill ACKER
Inspected By: J. CROWTHER
Classification By: J. CROWTHER
Classification By: _____

DEPTH: Casing Blows	DEPTH: 1" = 1.0'	CORE/SAMPLE: NO.	CORE/SAMPLE: SIZE	CORE/SAMPLE: DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
300 lb 18"						Dug out 1.0 ft. of TOPSOIL	TOPSOIL silty sand, coarse to fine, mostly fine, 20-25% non plastic fines, organics dark brown SM
	1.0			1.0			
53		1	1 3/8"		35	SAMPLED WITH 2 FT., 1 3/8" ID SPLIT SPOON FROM 1.0 to 3.0 FT. WITH 140 lb HAMMER	15
					45		SAND coarse to fine, 10-15% subrounded to subangular gravel and cobbles, 5-10% n.p. fines, light brown (SW-SM)
	2.0				23		
115					20		
	3.0			3.0	19" Rec		
96							
	4.0					DROVE 4" I.D. CASING FROM 1.0 TO 3.0 FT. WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
50							
	5.0						

GENERAL REMARKS:

Site: Thomaston Dam	Boring No. FD-84-1	Page 2 of 8

DEPTH	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
5.0			5.0	20	SAMPLED WITH 2.0' x 1 3/8" ID SPLIT SPOON FROM 5.0 TO 7.0 FT WITH 140 lb HAMMER.	SAND coarse to fine, 10-15% subrounded to sub angular gravel + cobbles, 5-10% n.p. fines, light brown (SW-SM)
35				17		
6.0	2	1 3/8		25	NOTE: LARGE GRAVEL IN TIP	
75				35		
7.0			7.0	2" Rec		
132						
8.0						
170						
9.0					DROVE 4" ID CASING FROM 5.0 TO 9.5 FT. WITH 300 lb HAMMER + WASHED OUT WITH ROLLER ROCK BIT TO 12.0 FT. THROUGH COBBLES AND SMALL BOULDER	
140						
10.0						
11.0						
14						
12.0			12.0	35	SAMPLED WITH 2.0' x 1 3/8" ID SPLIT SPOON FROM 12.0 TO 14.0 FT. WITH 140 lb HAMMER	SAND coarse to fine, 10-15% subrounded to subangular gravel + cobbles, 5-10% n.p. fines, light brown (SW-SM)
40	3	1 3/8		75		
13.0				40		

Site: Thomaston Dam	Boring No. FD-84-1	Page 4 of 8

DEPTH		CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
130					53	DROVE 3" ID CASING FROM 11.0 TO 15.0 FT. WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
	14.0			14	12" Rec		
110							
	15.0			15.0			
47					93	SAMPLED WITH 20" x 1 3/8" I.D. SPLIT SPOON FROM 15.0 TO 17.0 FT with 140 lb HAMMER.	SAND coarse to fine, 10-15% subrounded to sub-angular gravel cobbles, 5-10% n.p. fines, light brown, (SW-SM)
		4	1 3/8		78		
	16.0						
70					83		PROBABLE GLACIAL TILL
					43	DROVE 3" ID CASING FROM 15.0' to 18.3' WITH 300 lb HAMMER & WASHED OUT WITH ROLLER ROCK BIT	NOTE: ROTTEN SHCIST IN TIP
	17.0			17.0	12" Rec		
180							
	18.0						18.0
200/4"						CORED 1 FT. ± BOULDER 18.0 TO 19.0 FT. - BW 1 3/8" x 5.0 barrel ROLLER BIT USED TO 20.0 FT.	BOULDER - SCHIST
	19.0						19.0
							SAND coarse to fine, 10-15% gravel and cobbles, 5-10% n.p. fines brown (SW-SM)
	20.0						20.0
					100 Blows	NO PENETRATION AT 20 FT.	SCHIST BEDROCK
						18 min / 3 ft. cored on 9/5/84 BW-1 3/8" x 5.0' core barrel used, No water loss	
	21.0						
						12 min / 2 ft cored on 9/6/84	
	22.0					49" Recovery	

Site: Thomaston Dam	Boring No. FD-84-1	Page 5 of 8

DEPTH	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATER ALS
1" = 1.0'					CORED 5 FT. OF BEDROCK WITH BW, 1 5/8" X 5.0' CORE BARREL FROM 20.0 TO 25.0 FT.	SCHIST biotite, mica, dark gray moderate weathering
23.0					DRILL TIME / RECOVERY / RQD: 30 MIN / 49" = 81.7% / 8.3	
24.0					NO WATER LOSS DURING DRILLING OPERATIONS	
25.0					END OF BORING AT 25.0 FT.	

FORM 58A(Test) REV 7/

Boring No. FD-84-1

FIELD LOG OF TEST BORING IN ROCK

SITE Thomaston Dam Conn. HOLE NO. FD-84-1 PAGE 6 of 8

DATE	DEPTH PT. FROM	DEPTH PT. TO	RUN PT.	RUN REC'V'Y PT.	REC'V'Y %	DRILLING BEHAVIOR: FEED	DRILLING BEHAVIOR: WATER	DRILLING BEHAVIOR: REASON FOR PULL	ACTUAL DRILLING TIME	BIT NO. SIZE AND TYPE	ADDITIONAL REMARKS
9-6-84	20.0	23.0	3 Ft.	5 TOTAL	81.7 %	CONT.	NO LOSS	TIME	18 min	1 1/8 ID BW	
9-7-84	23.0	25.0	2 ft.			CONT.	NO LOSS	FINISHED	12 min	"	

TOTAL BED ROCK DRILLED 50 FEET

TOTAL BED ROCK RECOVERED 41 FEET

BED ROCK RECOVERY 81.7 PERCENT

DRILLER Charlie Reil

INSPECTOR J. Crowther

NED FORM DEC 63 130

REPLACES EDITION OF APR 49 WHICH MAY BE USED UNTIL EXHAUSTED

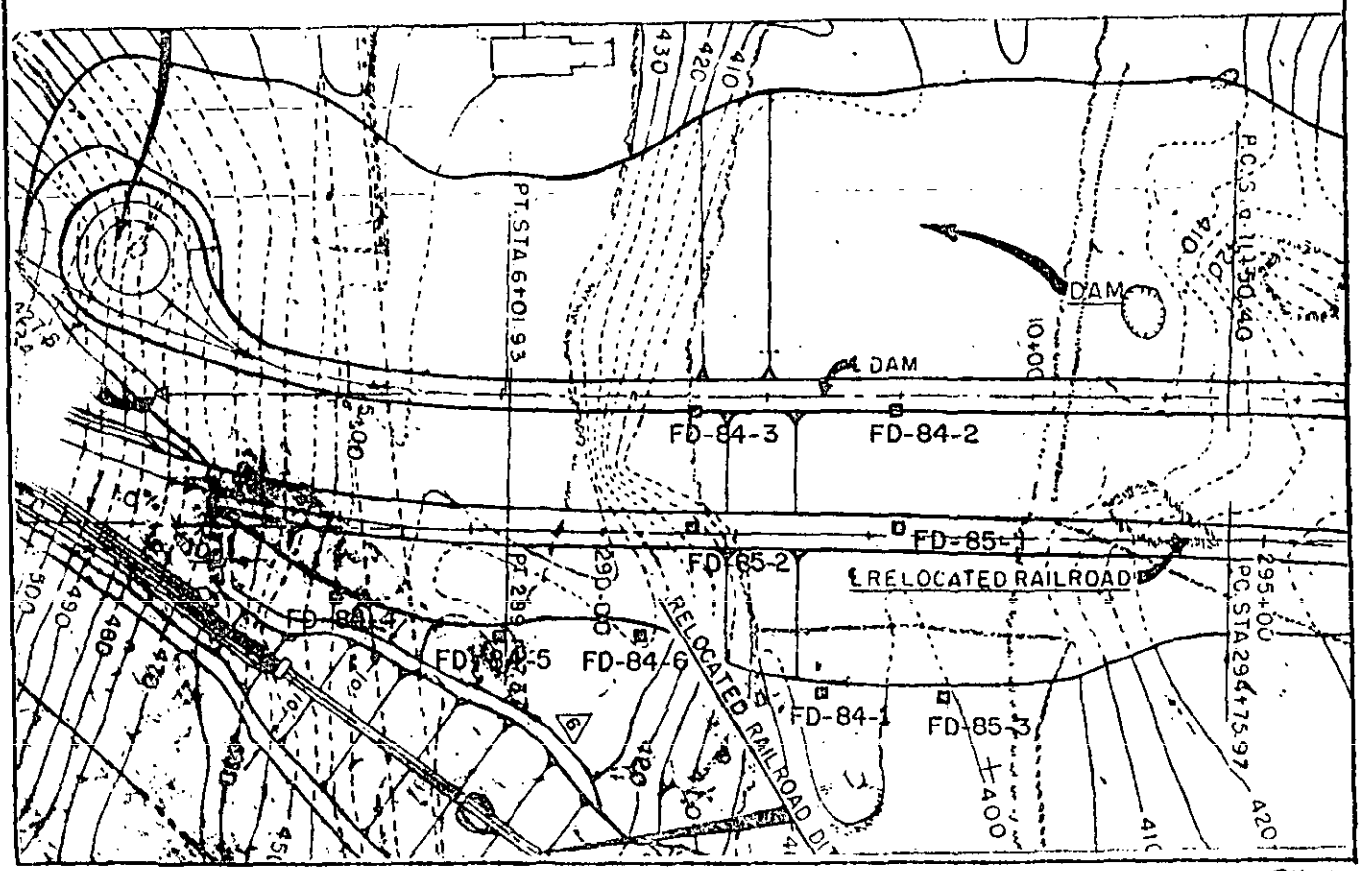
Site: THOMASTON DAM
Boring No: FD-84-1

SUBSURFACE WATER OBSERVATIONS

DATE	TIME	DEPTH-BOT. OF CASING	DEPTH-BOT. OF BORING	DEPTH TO WATER	ELEVATION WATER	REMARKS
9-6-84	1030 hrs.	18 ft.	25 ft.	9.5 ft.	390.76	WATER ARTIFICIALLY
						HIGH FROM DRILLING
9-7-84	1600 hrs	3 ft.	25 ft.	12.5 ft.	387.5	STABALIZED READING
						29.5 HRS. AFTER
						COMPLETION

Note: Depths are in feet below original ground.

BORING LOCATION SKETCH



FORM 59 (Test)

Boring No. FD 84-1

PIEZOMETER INSTALLATION REPORT

PROJECT: THOMASTON CONN. DAMSITE | DATE: 9-6-84

LOCATION (STA): 8+50 | OFFSET FROM CENTER LINE: — | PIEZ NO.: PZ-4

PIEZ TYPE: CASAGRANDE 1½" OD 1" ID 24" long | DEPTH OF PIEZ: 18.0 | RISER PIPE DIAM: 3/4" PVC

PIEZ TIP SET IN (SOIL TYPE): OTTOWA SAND — SAND | SOIL SAMPLE NO.: 4 | BORING DIAM: 3"

METHOD OF INSTALLATION: Set piezometer in ottowa-sand

TYPE OF PROTECTION FOR PIEZ: 3" ID NW CASING AND 1.5 DEEP x 1.5 RADIUS | VENT: 1/8" hole in CAP

GROUND ELEV.: 400.26 | ELEV. TOP OF RISER: 401.93 | ELEV PIEZ TIP: 382.26

FILTER: OTTOWA SAND | FROM ELEV: 380.76 ± | TO ELEV: 401.26

SEAL: NONE ABOVE PIEZ | FROM ELEV: | TO ELEV:

INSTALLED BY: EASTERN GEOTECHNICAL | CONTRACT NO.: DACW33-83-D-0006 D.O. 0018 | FOREMAN: C. Reil

DATE OF INSTALLATION: 9-6-84 | DATE OF OBSERVATIONS: 10-4-84

METHOD OF TESTING PIEZ.: PIEZOMETRIC LEVEL RAISED - - FALLING DURING TEST

TIME	ELAPSED TIME MINUTES	DEPTH TO WATER FEET	TIME	ELAPSED TIME MINUTES	DEPTH TO WATER FEET	TIME	ELAPSED TIME MINUTES	DEPTH TO WATER FEET
13:47	0	14.4						
13:48	1	14.1						
13:52	5	14.4						
13:57	10	14.4						
14:27	30	14.4						

REMARKS: Cored 5 ft. from elev. 380.26 to 375.26 to ascertain bedrock. Sealed bedrock with bentonite from elevation 375.26 to elev. 380.26

DEPTH TO WATER MEASURED FROM TOP OF RISER PIPE EL. 401.93

John Coutts
INSPECTOR

CORPS OF ENGINEERS, U. S. ARMY
NEW ENGLAND DIVISION
FOUNDATION AND MATERIALS BRANCH

FIELD LOG OF TEST BORING

PROJECT NO. W.O. #18

Site THOMASTON DAM THOM — Page 1 of 21 Pages

Hole No. FD-84-2 Diam. (Casing) 3" I.D & 6" I.D. — Boring Started 9-7-84

Co-ordinates: N _____ E _____ — Boring Completed 10-11-84

Drilled by EASTERN GEOTECHNICAL ASSOC. — Report Submitted _____

Purpose of Exploration PIEZOMETER INSTALLATION

Elevation Top of Hole 517.44 M.S.L.
Total Overburden Drilled 147 Feet
Elevation Top of Rock 370.44 M.S.L.
Elevation Bottom of Hole 365.44 M.S.L.
Total Rock Drilled 5 Feet
Total Depth of Hole 152 Feet
Core Recovered 70 %
Core Recovered 3.5 Ft.; 1 3/8" Diam. ____ in.
Soil Samples 1 3/8 in. Diam. 18 No.
Soil Samples _____ in. Diam. ____ No.

Casing Left in Place 20' of 6" CASING Feet

Water Table Depth 130 Ft.

Depth From	Depth To	Method of Drilling and Type of Bit Used
0	147	SPT-SAMPLING 5' INTERVALS ADVANCED
		THROUGH BOULDERS WITH ROLLER ROCK BIT
		AND CASING SHOE BIT ADVANCED 4"
DISCONT.		AND 3" CASING WITH 300 lb HAMMER
0	120	6" CASING SET BY A-W CO. DRILLED
		WITH ROLLER ROCK AND BENTONITE MUD
147	152	CORED BEDROCK WITH 5' x 1 3/8" I.D.
		BW BARREL

INDEX

Ground Water — Page 19
Boring Location Sketch — Page 19
Overburden Record — Page 2
Rock Drilling — Page 18
_____ Page ____
_____ Page ____
_____ Page ____

Prepared by E. PECK — Field Data — Lab. Data

Submitted by [signature]

FORM IED DEC 63 121

REPLACES EDITION OF JUN 51 WHICH MAY BE USED UNTIL EXHAUSTED

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST BORING

Site Thomaston CT Damsite Page 2 of 21 Pages

Boring No. FD84-2 Desig. PZ-3,3A Diam. (Casing) 3" ID

Co-ordinates: N _____ E _____

Elevation Top of Boring 517.44 M.S.L.
Total Overburden Drilled 147 Feet
Elevation Top of Rock 370.44 M.S.L.
Total Rock Drilled 5 Feet
Elevation Bottom of Boring 365.44 M.S.L.
Total Depth of Boring 152 Feet
Core Recovered ____ % No. Boxes 1
Core Recovered 3.5 Ft : ____ Diam. 1 3/8" In.
Soil Samples 18 In. Diam. 1 3/8" No.
Soil Samples ____ In. Diam. ____ No.

Hammer Wt. 140 lbs Boring Started 9-7-84
Hammer Drop 30 inches
Casing Left 20 ft. Boring Completed 10-11-84
Subsurface Water Data ____ Page 19
Obs. Well PIEZOMETER
Drilled By EASTERN GEOTECHNICAL ASSOC.
Mfg. Des. Drill ACKER - DRILL TECH
Inspected By: E. PECK
Classification By: E. PECK
Classification By: ____

DEPTH: Casing Blows	DEPTH: 1" = 1.0'	CORE/SAMPLE: NO.	SIZE	DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
	1.0, 2.0					Dug out 2 1/2' of boulders, cobbles, gravel and sand	BOULDERS, COBBLES, GRAVEL SAND. AT SURFACE
11, 33, 36	3.0, 4.0, 5.0					DROVE 4" ID CASING FROM 2.5' TO 5.0' WITH 300 lb. HAMMER AND WASHED OUT WITH ROLLER ROCK BIT.	SAND coarse to fine a few small boulders 5 to 10% subrounded to subangular gravel and cobbles, 5 to 10% N.P. fines, brown. (SW-SM)

GENERAL REMARKS:

Site: Thomaston Dam, Thomaston, CT

Boring No. FD-84-2 AT PZ-3

DEPTH: CASING BLOWS	DEPTH: 1" = 1.0'	CORE/SAMPLE: NO.	CORE/SAMPLE: SIZE	CORE/SAMPLE: DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
52	6.0	1	1 3/8	5.0	15	SAMPLED WITH 2' x 1 3/8" SPLIT SPOON FROM 5.0' to 7.0' WITH 140 lb HAMMER	SAND coarse to fine, 5 to 10% subrounded to subangular gravel and cobbles 5-10% N.P. fines brown (SW-SM)
					20		
					19		
25	7.0			7.0	19		
					1" REC		
31	8.0						
47	9.0						
130						DROVE 4" ID x 5.0' CASING WITH 300 lb HAMMER FROM 5.0' to 10.0' AND WASHED OUT WITH ROLLER ROCK BIT.	
	10.0			10.0			
		2	1 3/8		56	SAMPLED WITH 2.0' x 1 3/8" SPLIT SPOON FROM 10' to 12' WITH 140 lb. HAMMER	
10	11.0				48		SAND medium to fine, mostly fine; <5% coarse sand subangular to subrounded gravel 5 to 10% N.P. fines light brown (SP-SM)
		3			33		<5%
55	12.0			12.0	41		
					8" Rec		
62	13.0						

Site: Thomaston Dam, Thomaston, CT.

Boring No. FD-84-2 AT PZ-3

DEPTH: CASING BLOWS	DEPTH: Ft.	CORE/SAMPLE: NO.	CORE/SAMPLE: SIZE	CORE/SAMPLE: DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
84							
	14						
151						DROVE 3"x 5' CASING WITH 300 lb HAMMER FROM 10' TO 15' AND WASHED OUT WITH ROLLER ROCK BIT	
	15			15			
48		4	1 3/8		120	SAMPLED WITH 2' x 1 3/8" SPLIT SPOON FROM 15'-17' WITH 140 lb HAMMER	SAND well graded, coarse to fine <5% subrounded gravel 5-10% N.P. fines grey to brown (SW-SM)
						BOUNCING REFUSAL	
				15.75	150	NO PENETRATION	BOULDER No sample recovered. Granitic debris
	16.0				4" Rec	CORED WITH 3" CASING SHOE BIT THROUGH BOULDER FROM 15.75' to 16.75' NO SAMPLE RECOVERED	
97							
	17						
125							
	18						
95							
	19						
135						DROVE 3"x5' CASING WITH 300lb HAMMER FROM 15' TO 20' AND WASHED OUT WITH ROLLER ROCK BIT	
	20			20			
72		5	1 3/8"		130	SAMPLED WITH 2' x 1 3/8" SPLIT SPOON FROM 20' TO 21' WITH 140 lb HAMMER	SAND gap graded coarse to fine, mostly fine 5-10% rounded to subrounded gravel and cobbles 15-20% plastic and nonplastic fines brown (SP-SM)
					134		
	21			21	12" Rec	BOUNCING REFUSAL NO FURTHER PENETRATION	
54						ADVANCED HOLE FROM 20' TO 25' WITH ROLLER ROCK PRIOR TO DRIVING CASING	
	22'						

Site: Thomaston DAM Thomaston, CT	Boring No. FD-84-2	Page 5 of 21

DEPTH (Casing Blow)	DEPTH (Ft.)	CORE/SAMPLE NO.	CORE/SAMPLE SIZE	CORE/SAMPLE DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
81							
	23						
79							
	24						
130						DROVE 3"x5' CASING FROM 20' TO 25' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
	25			25'			
75		6	1 3/8		86	SAMPLED WITH 2' x 1 3/8" SPLIT SPOON FROM 25' to 27' WITH 140 lb HAMMER	SAND well graded coarse to fine 10-15% subrounded to subangular gravel and cobbles 20 to 25% non plastic to plastic fines, dense, brown (SW-SM)
					170	ADVANCED HOLE FROM 25' to 30' WITH ROLLER ROCK PRIOR TO DRIVING CASING	
	26						
48					121		
					110		
				27'			
	27				18" rec		
44							
	28						
53							
	29						
68						DROVE 3"x5' CASING FROM 25' TO 30' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT.	
	30						
					32		

Site: Thomaston Dam, Thomaston, CT	Boring No. FD-84-2 AT PZ-3	Page 6 of 21

DEPTH Casing Blows	DEPTH Feet	CORE/SAMPLE NO.	CORE/SAMPLE SIZE	CORE/SAMPLE DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
27				30'	26	SAMPLED WITH 2'x1 3/8" SPLIT SPOON FROM 30' TO 32' WITH 140 lb HAMMER	SAND Gap graded coarse to fine mostly fine 10-15% subrounded to subangular gravel 20-25% plastic and non plastic fines brown (SP-SM)
	31	7	1 3/8		27		
62				32'	58		
	32				4" rec		
150							
	33						
260						DROVE 5'x3" CASING FROM 30'-34' WITH 300 lb HAMMER WASHED OUT WITH ROLLER ROCK BIT. BOUNCING REFUSAL NO PENETRATION AT 34'	
	34						
30						ADVANCED WITH ROLLER ROCK THROUGH COBBLES TO 35'	
	35		1 3/8	35'	180	SAMPLED WITH 2'x1 3/8" SPLIT SPOON FROM 35'-37' WITH 140 lb HAMMER REFUSAL AT 35.2' NO SAMPLE TAKEN	SAMPLE NO RECOVERY
42					0" rec		
	36						
106							
	37		NS	37'			
180							
	38						
125						ADVANCED ROLLER ROCK BIT (13 3/8") FROM 37-39' PRIOR TO DRIVING CASING	SILTY SAND WITH COBBLES OBSERVED IN WASH
	39						

Site: Thomaston Dam, Thomaston, CT	Boring No. FD-84-2 AT PZ-3	Page 7 of 21

DEPTH: Casing Blows	DEPTH: No. 1'	CORE/SAMPLE: No.	CORE/SAMPLE: Size	CORE/SAMPLE: Depth Ranges	Blows per 6" / Core Rec'vy	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
200			NS			DROVE 5' x 3" CASING FROM 34' TO 40' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
	40			40'			
31		5 / 8 / 11	1 3/8"		58	SAMPLED WITH 2' x 1 3/8" SPLIT SPOON FROM 40' TO 41' WITH 140 lb HAMMER	SILTY SAND coarse to fine, mostly fine 5-10% subrounded to subangular gravel 10-20% non-plastic and slightly plastic fines 5% clay dark brown (SP-SM)
					130	REFUSAL AT 41'	
	41			41'	10" Rec		
39						ADVANCED HOLE 40' TO 45' WITH ROLLER ROCK AND WASHED OUT PRIOR TO DRIVING CASING	
	42						
98							
	43		NS				
120							
	44						
155						DROVE 5' x 3" CASING FROM 40' TO 45' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
	45			45			
40			1 3/8"	45.5	100	SAMPLED WITH 2' x 1 3/4" SPLIT SPOON FROM 45' TO 47' WITH 140 lb HAMMER NO PENETRATION PAST 45' NO SAMPLE	NO SAMPLE RECOVERED
					0" Rec	CORED FROM 45' TO 47' WITH ROLLER ROCK AND WASHED OUT	
	46					DROVE 2' x 3" CASING FROM 45' TO 47.5' NO FURTHER PENETRATION	
115			NS				
	47						

Site: Thomaston Dam, Thomaston, CT	Boring No. FD-84-2 AT PZ-3	Page 8 of 21

DEPTH: CASING BLOWS	DEPTH: 1" = 1'	CORE/SAMPLE: NO.	CORE/SAMPLE: SIZE	CORE/SAMPLE: DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
112	48					CORED THROUGH BOULDER WITH 2 7/8" O.D. CASING SHOE OPENED HOLE TO 3" WITH ROLLER ROCK BIT FROM 47.5 TO 48.5.	QUARTZ(?) BOULDER NO SAMPLE RECOVERED
175	49					ADVANCED HOLE FROM 48.5' TO 50' WITH ROLLER ROCK BIT PRIOR TO DRIVING CASING	
180	50			50		DROVE 3' X 3" CASING FROM 47' TO 50' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	—
71	135/9"		NB 1 3/4		35	SAMPLED WITH 2' X 1 3/8" SPLIT SPOON FROM 50' TO 52' WITH 140 lb HAMMER. REFUSAL AT 50.7' NO FURTHER PENETRATION.	NO RECOVERY
	51			51	100		
62	52				0" REC	ADVANCED HOLE FROM 50' TO 54.3" WITH ROLLER ROCK BIT AND WASHED OUT PRIOR TO DRIVING CASING	
53							
113	53					DROVE 5' X 3" CASING FROM 50' TO 54.3' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT.	
155	54					USED 440 lb HAMMER TO DRIVE 5' X 3" CASING FROM 54' TO 54.3 (155 BLOWS) AND WASHED OUT WITH ROLLER ROCK BIT. SPLIT TOP CASING. CORED FROM 54.3 TO 56 WITH 2 1/2" CASING SHOE BIT.	NO RECOVERY
150	55					DROVE 5' X 3" CASING FROM 54.3 TO 55' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT (150 BLOWS)	Boulders quartz
128	56					NO SAMPLING ATTEMPTED AT 55' PER ORDER OF JIM BLAIR ACE.	

Site: THOMASTON DAM THOMASTON, CT	Boring No. FD-84-2 AT PZ-3	Page 9 of 21

DEPTH CASING BLOW	DEPTH Ft.	CORE/SAMPLE NO.	CORE/SAMPLE SIZE	CORE/SAMPLE DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
81	57					CORED WITH 2½" CASING SHOE FROM 56' TO 60'	
85						DROVE 5' x 3" CASING FROM 55' TO 60' WITH 300 lb HAMMER	
235	58		NS			OPENED HOLE FROM 55' to 60' WITH ROLLER ROCK BIT AND WASHED OUT	
303	59						
55	60	9 (2 of 2)	2½	60	N/A	CORED WITH 2½" CASING SHOE FROM 60' to 65' NO SPLIT SPOON SAMPLE ATTEMPTED	RECOVERED FRAGMENTS OF PEGMATITE, SCHIST, QUARTZITE
155	61						
179	62						
183	63					DROVE 5' x 3" CASING FROM 60' TO 65' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
237	64						

7" Rec

Site: THOMASTON DAM THOMASTON, CT	Boring No. FD-84-2 AT PZ-3	Page 10 of 21

DEPTH: CASING BLOWS	DEPTH: 1" = 1'	CORE/SAMPLE: NO.	CORE/SAMPLE: SIZE	CORE/SAMPLE: DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
	65			65			
72		SP-SM 10	1 3/8		30	SAMPLED WITH 2' x 1 3/8" SPLIT SPOON FROM 65'-66', WITH 140 lb HAMMER NO FURTHER PENETRATION	SAND coarse to fine, mostly fine, 10-15% sub angular to subrounded gravel 10-15% non-plastic fines light brown (SP-SM)
					100		
	66			66	10" Rec		
169						ADVANCED HOLE FROM 65' TO 70' WITH ROLLER ROCK AND WASHED OUT PRIOR TO DRIVING CASING	
	67						SILTY WASH
313 400			NS				
	68						
140							
	69						
240							
	70			70			
140					45	SAMPLED WITH 2" x 1 3/8" SPLIT SPOON FROM 70'-72' WITH 140 lb HAMMER (5' TO 7' BELOW CASING)	NO RECOVERY (Quartz cobble jammed in nose of spoon) Drilling wash suggests silty sand.
	71	11	NR 1 3/8		70	DROVE 5' x 3" CASING FROM 65'-70' WITH 300 lb HAMMER	
145					41		
					57	ADVANCED HOLE FROM 70' TO 75' WITH ROLLER ROCK BIT AND WASHED OUT	
	72			72	0" Rec		
255							
	73						
300	9"						

Site: THOMASTON DAM THOMASTON, CT	Boring No. FD-84-2 AT PZ-3	Page 11 of 21

DEPTH CASING BLOW	DEPTH 1" = 1'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
323						DROVE 5'x3" CASING FROM 70' TO 73.9" WITH 300 lb HAMMER. NO FURTHER PENETRATION (300 BLOWS) WASHED OUT WITH ROLLER ROCK	SANDY, SILTY WASH
351	74					ADVANCED HOLE FROM 73.9" TO 75' WITH 2½" CASING SHOE AND WASHED OUT	
	75		1⅜	75 / 75.5	100 / 0" REC	SAMPLED WITH 2'x1⅜" SPLIT SPOON FROM 75'-77' WITH 140 lb HAMMER, NO PENETRATION	NO RECOVERY
	76					ADVANCED HOLE FROM 75' TO 77' WITH 2½" CASING SHOE AND WASHED OUT	
	77			77	65	SAMPLED WITH 2'x1⅜" SPLIT SPOON FROM 77' TO 78.5' WITH 140 lb HAMMER	SANDY SILT 20-25% medium to fine sand 5-10% friable gravel and cobbles primarily of weathered mica schist <5% clay light brown (ML)
	78	12	1⅜		71	ADVANCED HOLE FROM 77' TO 81.5' WITH ROLLER ROCK BIT AND WASHED OUT	
				78.5	66 / 10" REC		
	79						
	80					NO SAMPLE ATTEMPTED	
	81						

Site: THOMASTON DAM THOMASTON, CT	Boring No. FD-84-2 AT PZ-3	Page 12 of 21

DEPTH CASING BLOWS	DEPTH 1" = 1'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
	82						
	83						
	84						
							SILT AND SCHIST IN WASH
	85					ADVANCED HOLE FROM 81.5' TO 86.5' WITH 2 7/8 CASING SHOE BIT.	
	86						
				86.5			
			1 3/8			SAMPLED WITH 2' x 1 3/8" SPLIT SPOON FROM 86.5 TO 88.5 WITH 140 lb HAMMER REFUSAL AT 86' 11". NO FURTHER PENETRATION	NO RECOVERY
	87			87	100 / 0" REC		
							SCHIST IN WASH
	88					LOST 100% WATER TO HOLE	
	89						
	90						

Site: THOMASTON DAM THOMASTON, CT	Boring No. FD-84-2 AT PZ-3	Page 13 of 21

DEPTH CASING BLOWS	DEPTH 1" = 1'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATER ALS
	91						
	92					ADVANCED HOLE FROM 86.5' TO 92' WITH ROLLER ROCK BIT	SCHIST IN WASH
	93					NO FURTHER PROGRESS CASING PULLED AND DRILLING DISCONTINUED 9/17	
	94					HOLE DRILLED TO 120' AND 6" CASING SET TO 120' BY A.W. 10-2 TO 10-3. CONTINUED WITH 3" CASING TO BEDROCK BY B.G.A. 10-9 TO 10-11.	
	95						
	96						
	97						
	98						

Site: THOMASTON DAM
THOMASTON, CT

Boring No. FD-84-2
AT PZ-3,3A

DEPTH: CASING BLOWS	DEPTH: Feet	CORE/SAMPLE: NO.	CORE/SAMPLE: SIZE	CORE/SAMPLE: DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
15	120	13	1 3/8	120	15	SAMPLED WITH 2' x 1 3/8" SPLIT SPOON FROM 120' TO 122' WITH 140 lb HAMMER	SILTY SAND gap graded coarse to fine, mostly fine <5% angular schist gravel and cobbles 25-30% non plastic to slightly plastic fines including 3-7% clay dark greenish brown (SM)
					40		
60	121				65		
				122	121 / 9" REC		
213	122						
315	123					DROVE 5' x 3" CASING FROM 120' TO 123.5' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
63	124						
	125					ADVANCED HOLE FROM 123.5' TO 125.5' WITH ROLLER ROCK AND WASHED OUT	
70		14	1 3/8	125.5	86	SAMPLED WITH 2' x 1 3/8" SPLIT SPOON FROM 125.5' TO 127.5' WITH 140 lb HAMMER	SILTY SANDY GRAVEL composed of subrounded to rounded granite and schist with cobbles 30-35% well graded coarse to fine sand 15-20% non plastic to moderately plastic fines including 3-7% clay dull medium grey (GM)
	126				76	DROVE 5' x 3" CASING FROM 125.5' TO 125.5' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT LOSS OF DRILL WATER AT 125'	
125 166					87		
	127				95		
69				127.5	4" REC		
	128						
86							

Site: THOMASTON DAM THOMASTON, CT	Boring No. FD-84-2 AT PZ-3,3A	Page 15 of 21

DEPTH: CASING BLOWS	DEPTH: 1" = 1'	CORE/SAMPLE: NO.	CORE/SAMPLE: SIZE	CORE/SAMPLE: DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
	129						
103							
	130					ADVANCED HOLE FROM 127.5' TO 130.5 WITH ROLLER ROCK BIT AND WASHED OUT	
154				130.5	43	SAMPLED WITH 2' x 1 3/8" SPLIT SPOON FROM 130.5' TO 132.5' WITH 140 lb HAMMER	SANDY GRAVEL well graded rounded to subround with cobbles 35-40% well graded coarse to fine sand 3-7% non plastic fines with trace of clay bright light brown (GW-GM)
	131				36		
267		15	1 3/8		32		
	132				39		
247				132.5	15" REC		
	133					DROVE 5' x 5" CASING FROM 125.5' TO 133.5' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
283							
	134						
134						ADVANCED HOLE FROM 133.5' TO 135.5' WITH ROLLER ROCK BIT AND WASHED OUT	
	135						
110				135.5	53	SAMPLED WITH 2' x 1 3/8" SPLIT SPOON FROM 135.5' TO 137.5' WITH 140 lb HAMMER	SILTY SAND WITH GRAVEL AND COBBLES NOTE: COBBLE JAMMED IN NOSE OF SPOON
	136						
		16	1 3/8		140		
123							
	137				82		

Site: THOMASTON DAM THOMASTON, CT	Boring No. FD-84-2 AT PZ-3,3A	Page 16 of 21

DEPTH CASING BLOWS	DEPTH 1" = 1'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
					41		
215				137.5	1" REC		
	138						
231							
	139						
253						DROVE 5'X3" CASING FROM 133.5' TO 140' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
	140						
87				140.5			
					20	SAMPLED WITH 2'X1 3/8" SPLIT SPOON FROM 140.5' TO 142.5' WITH 140 lb HAMMER	GRAVELLY SAND gap graded coarse to fine, mostly fine 70-25% subrounded to subangular gravel and cobbles of rotten granite and schist <5% non plastic fines medium reddish brown (SP) WATER TABLE ?
	141	17	1 3/8				
					20		
86							
					19		
	142						
					15		
86				142.5			
	143						
130							
	144						
271						DROVE 5'X3" CASING FROM 140' TO 144.5 WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT 100% DRILL WATER LOSS AT 144.5'	
	5						
147							

Site: THOMASTON DAM THOMASTON, CT	Boring No. FD-84-2 AT PZ-3,3A	Page 17 of 21

DEPTH CASING BLOWS	DEPTH 1" = 1'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
181	146	16	1 3/8"	145.5	52 / 171	SAMPLED WITH 2' X 1 3/8" SPLIT SPOON FROM 145.5' TO 146.5' WITH 140 lb HAMMER. NO PENETRATION PAST 146.5'	SANDY GRAVEL with cobbles rounded to subangular and composed of granite and schist. Larger clasts severely weathered 30-35% well-graded coarse to fine subangular sand. 5-10% non plastic fines with trace of clay dark reddish brown (GM-SM)
				146.5	6" REC	DROVE 2' x 3" CASING FROM 144.5' TO 147' WITH 300 lb HAMMER AND WASHED OUT	
CORING TIME 10:30	147					NO FURTHER LOSS OF DRILLING WATER	147. BEDROCK: PEGMATITIC MUSCOVITE GRANITE
14:00	148						
14:30	149						
16:00	150						
17:00	151					CORED BEDROCK FROM 147' TO 152' WITH 5' x 1 3/8" BW BARREL	
	152					END OF BORING AT 152'	152.
	153					DRILL TIME: 72 min; RECOVERY: 3.5' = 70%; RQD:	
	154						

FIELD LOG OF TEST BORING IN ROCK

SITE THOMASTON DAM THOMASTON, CT HOLE NO. FD-84-2 PAGE 18 of 21

DATE	DEPTH PT. FROM	DEPTH PT. TO	RUN PT.	RUN REC'V'Y PT.	REC'V'Y %	DRILLING BEHAVIOR: FEED	DRILLING BEHAVIOR: WATER	DRILLING BEHAVIOR: REASON FOR PULL	ACTUAL DRILLING TIME	BIT NO. SIZE AND TYPE	ADDITIONAL REMARKS
10-11-84	147'	152'	5	3.5	70	CONT.	NO LOSS DURING DRILLING	TO ASCERTAIN BEDROCK	72 min	5'X1⅜" BW BARREL	

TOTAL BED ROCK DRILLED 5 FEET

TOTAL BED ROCK RECOVERED 3.5 FEET

BED ROCK RECOVERY 70 PERCENT

DRILLER C. REIL

INSPECTOR E. DECK

HED FORM DEC 63 130

REPLACES EDITION OF APR 49 WHICH MAY BE USED UNTIL EXHAUSTED

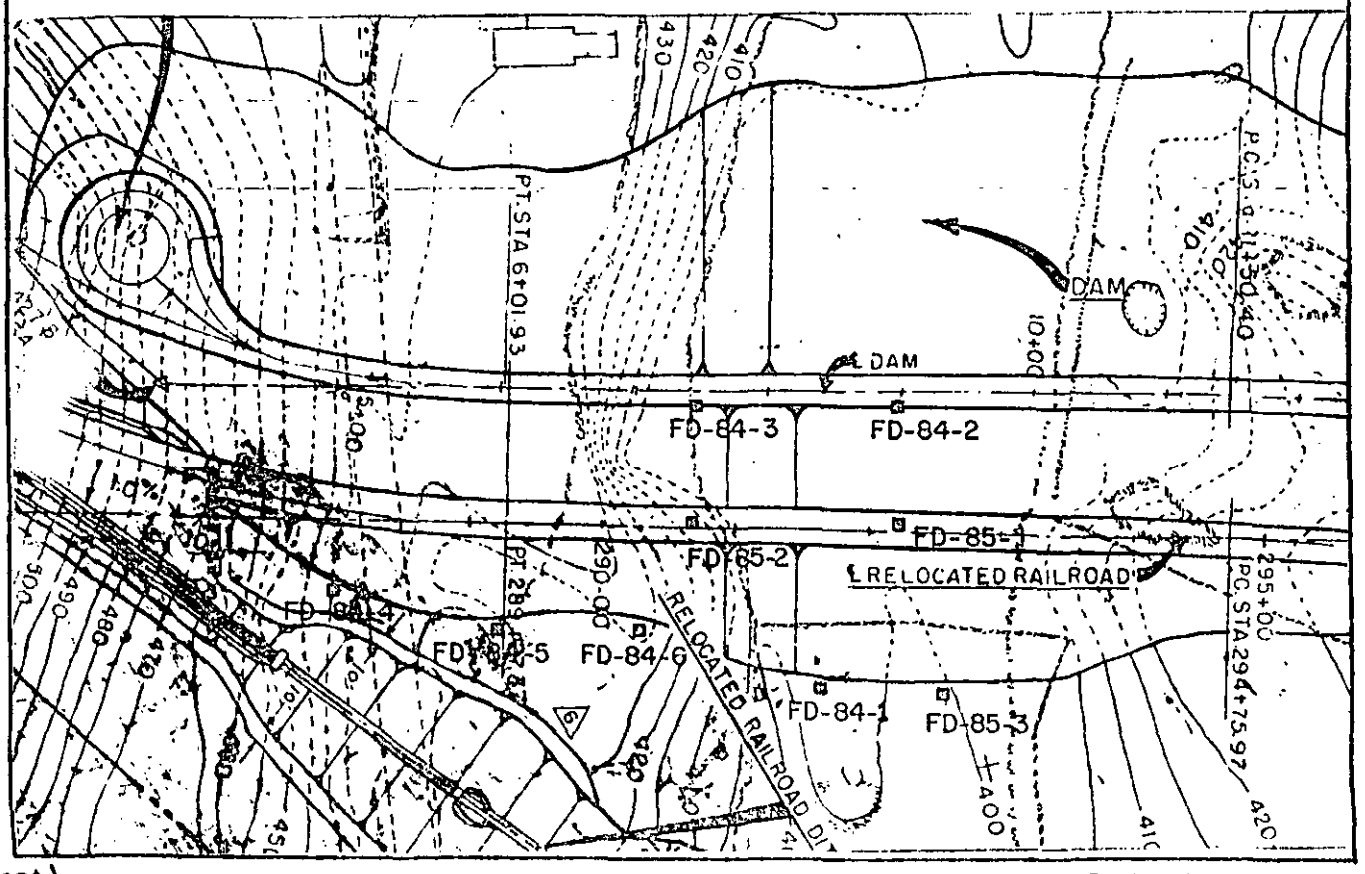
Site: THOMASTON DAM
Boring No: FD-84-2 PZ-3, 3A

SUBSURFACE WATER OBSERVATIONS

DATE	TIME	DEPTH-BOT. OF CASING	DEPTH-BOT. OF BORING	DEPTH TO WATER	ELEVATION WATER	REMARKS
10-12-84	0851 hrs.	120 ft.	152 ft.	130 ft.	387.44	PZ-3 set at 145 ft.
10-12-84		120 ft.	157 ft.	NONE AT PZ-3A		PZ-3A set at 121.5 ft.

Note: Depths are in feet below original ground

BORING LOCATION SKETCH



FORM 59 (Test)

Boring No. _____

PIEZOMETER INSTALLATION REPORT

PROJECT: THOMASTON DAM THOMASTON, CT | DATE: 10-11-84

LOCATION (STA): 8+97.5 | OFFSET FROM CENTER LINE: — | PIEZ NO.: PZ-3

PIEZ TYPE: CASAGRANDE 1½" O.D X 1" I.D. X 27" LONG | DEPTH OF PIEZ: 145' | RISER PIPE DIAM: ¾" PVC SCH 80

PIEZ TIP SET IN (SOIL TYPE): SANDY GRAVEL | SOIL SAMPLE NO.: 18 | BORING DIAM: 3" I.D.

METHOD OF INSTALLATION: SET PIEZOMETER IN OTTOWA SAND

TYPE OF PROTECTION FOR PIEZ: 20' x 6" STEEL CASING | VENT: ⅛" HOLE IN CAP

GROUND ELEV.: 517.44 | ELEV. TOP OF RISER: 517.94 | ELEV PIEZ TIP: 372.44±

FILTER: OTTOWA SAND | FROM ELEV: 370.44± | TO ELEV: 377.44±

SEAL: BENTONITE | FROM ELEV: 377.44± | TO ELEV: 381.44±

INSTALLED BY: EASTERN GEOTECHNICAL ASSOC. | CONTRACT NO.: DACW33-83-D-0006 D.O. 0019 | FOREMAN: C. REIL

DATE OF INSTALLATION: 10-11-84 | DATE OF OBSERVATIONS: 10/23/84

METHOD OF TESTING PIEZ.: PIEZOMETRIC LEVEL RAISED -- FALLING DURING TEST

TIME	ELAPSED TIME MINUTES	DEPTH TO WATER FEET	TIME	ELAPSED TIME MINUTES	DEPTH TO WATER FEET	TIME	ELAPSED TIME MINUTES	DEPTH TO WATER FEET
3:37	0	-						
3:38	1	1.8						
3:42	5	5.6						
3:57	10	10.6						
4:07	30	27.2						

REMARKS: CORED 5 FEET FROM ELEVATION 370.44 TO 365.44 TO ASCERTAIN BEDROCK. SEALED BEDROCK WITH BENTONITE FROM ELEVATION 365.46 TO 370.46±

E.E. Peele
INSPECTOR

PIEZOMETER INSTALLATION REPORT

PROJECT: THOMASTON DAM THOMASTON, CONN | DATE: 10/22/84

LOCATION (STA): 8+97.5 | OFFSET FROM CENTER LINE: — | PIEZ NO.: PZ-3A

PIEZ TYPE: CASAGRANDE 1½" OD x 1" ID x 27" long | DEPTH OF PIEZ: 121.5 | RISER PIPE DIAM: 3/4" PVC SCH 80

PIEZ TIP SET IN (SOIL TYPE): GRAVELLY SAND | SOIL SAMPLE NO.: · | BORING DIAM: 3" ID

METHOD OF INSTALLATION: PIEZOMETER SET IN OTTOWA SAND

TYPE OF PROTECTION FOR PIEZ: 20' x 6" STEEL CASING | VENT: 1/8" HOLE IN PVC CAP.

GROUND ELEV.: 517.34 | ELEV. TOP OF RISER: 517.94 | ELEV PIEZ TIP: 395.94

FILTER: OTTOWA SAND | FROM ELEV: 394.94 | TO ELEV: 400.94

SEAL: BENTONITE | FROM ELEV: 400.94 | TO ELEV: 404.94

INSTALLED BY: EASTERN GEOTECH. ASSOC. | CONTRACT NO.: DACW33-83-D0006 | FOREMAN: C. REIL

DATE OF INSTALLATION: 10/22/84 | DATE OF OBSERVATIONS: 10/23/84

METHOD OF TESTING PIEZ.: FALLING HEAD TEST | PIEZOMETRIC LEVEL RAISED FALLING DURING TEST

TIME	ELAPSED TIME MINUTES	DEPTH TO WATER FEET	TIME	ELAPSED TIME MINUTES	DEPTH TO WATER FEET	TIME	ELAPSED TIME MINUTES	DEPTH TO WATER FEET
3:31	0	—						
3:32	1	.2						
3:36	5	.5						
3:41	10	1.0						
4:01	30	1.6						

REMARKS:

Martin H. Owens
INSPECTOR

CORPS OF ENGINEERS, U. S. ARMY
NEW ENGLAND DIVISION
FOUNDATION AND MATERIALS BRANCH

FIELD LOG OF TEST BORING

PROJECT NO. W.O. #18

Site THOMASTON DAM THOMASTON, CONN. Page 1 of 19 Pages

Hole No. FD-64-3 Diam. (Casing) 3" ID Boring Started 9/10/64

Co-ordinates: N _____ E _____ Boring Completed 10/17/64

Drilled by EASTERN GEOTECH ASSOC. Report Submitted _____

Purpose of Exploration PIEZOMETER INSTALLATION

Elevation Top of Hole 517.46' M.S.L.
Total Overburden Drilled 165.5' Feet
Elevation Top of Rock 351.96' M.S.L.
Elevation Bottom of Hole 350.96' M.S.L.
Total Rock Drilled 1.0' Feet
Total Depth of Hole 166.5' Feet
Core Recovered — %
Core Recovered — Ft.; — Diam. ____ In.
Soil Samples 1 3/8" In. Diam. 18 No.
Soil Samples _____ In. Diam. ____ No.

Casing Left in Place 113.5' OF 6" CASING Feet

Water Table Depth 130 ft ±

Depth From	Depth To	Method of Drilling and Type of Bit Used
0	68'	SPT SAMPLING 5' INTERVALS
		ADVANCED WITH ROLLER ROCK BIT
		AND 4 & 3" CASING WITH 300 lb
DISCONT		HAMMER
0	120	6" CASING SET BY A&W CO. DRILLED WITH
		ROTARY ROLLER BIT AND DESERT MUD
120	165.5	SPT SAMPLING WITH 3" CASING AND 300 lb HAMMER
165.5	166.5	ROLLER BIT THROUGH SCHIST BEDROCK

INDEX

Ground Water _____ Page 17
Boring Location Sketch _____ Page 17
Overburden Record _____ Page 2
Rock Drilling _____ Page 16
_____ Page ____
_____ Page ____
_____ Page ____

Prepared by MARKOWENS / E. PECK
Field Data Lab. Data

Submitted by [signature]

ED FORM DEC 63 121

REPLACES EDITION OF JUN 51 WHICH MAY BE USED UNTIL EXHAUSTED

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST BORING

Site Thomaston Dam Thomaston CT Page 2 of 19 Pages

Boring No. FD84-3 Desig. PZ-1,2 Diam. (Casing) 3"

Co-ordinates. N _____ E _____

Elevation Top of Boring 517.46' M.S.L.
Total Overburden Drilled 165.5' Feet
Elevation Top of Rock 351.96 M.S.L.
Total Rock Drilled 1.0 Feet
Elevation Bottom of Boring 350.96 M.S.L.
Total Depth of Boring 165.5' Feet
Core Recovered – % No. Boxes _____
Core Recovered – Ft: _____ Diam. _____ In.
Soil Samples 1 3/8 In. Diam. 18 No.
Soil Samples _____ In. Diam. _____ No.

Hammer Wt. 300 Boring Started 9-10-84
Hammer Drop 18"
Casing Left 113.5 Boring Completed 10/17/84
Subsurface Water Data _____ Page 17
Obs. Well PIEZOMETER
Drilled By EASTERN GEOTECHNICAL ASSOC
Mfg. Des. Drill Mobile Drill · Drill Tech
Inspected By: Gene Peck - Mark Owens
Classification By: _____
Classification By: _____

DEPTH Casing Blow	DEPTH 1" = 1'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
				0		SAMPLED WITH 2' X 1 3/8" SPLIT SPOON FROM 0'-2' WITH 140 lb HAMMER	GRAVELLY SAND gap graded coarse to fine, mostly fine 10-15% Subrounded to subangular gravel and cobbles. 10-15% N.P. fines brown (SP-SM)
10					13		
		1	1 3/8"		13		
	1				15		
16					17		
	2			2'	14" REC		
53							
	3						
63							
	4					DROVE 4" I.D. CASING FROM 0-5' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
53							
	5.0						

GENERAL REMARKS:

Site: Thomaston Dam, Thomaston, CT	Boring No. FD-84-3 AT PZ-1,2	Page 3 of 19

DEPTH		CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
	1'						
29				5'	2	SAMPLED WITH 2' x 1 3/8" SPLIT SPOON FROM 5' to 7' WITH 140 lb HAMMER	GRAVELLY SAND gap graded coarse to fine mostly fine 10-15% subrounded to subangular gravel and cobbles 10-15% N.P. fines brown (SP-SM)
					12		
	6	2	1 3/8		27		
33					53		
	7			7'	4" Rec		
78							
	8						
52							
	9						
69						Drove 4" x 5' CASING WITH 300 lb HAMMER FROM 5' to 10' AND WASHED OUT WITH ROLLER ROCK BIT	
	10			10'	27	SAMPLED WITH 2' x 1 3/8" SPLIT SPOON FROM 5' to 7' WITH 140 lb HAMMER	GRAVELLY SAND coarse to fine mostly fine 10-15% subangular to subrounded gravel and cobbles 15 to 20% N.P. fines brown dense, (SP-SM)
122							
	11	3	1 3/8		53		
57					69		
	12			12'	81		
52					6" Rec		
	13						
72							
210							

Site: Thomaston Dam, Thomaston, CT	Boring No. FD-84-3 AT PZ-1	Page 4 of 19

DEPTH: Casing Blows	DEPTH: Ft.	CORE/SAMPLE: No.	CORE/SAMPLE: Size	CORE/SAMPLE: Depth Range	Blows per 6" / Core Rec'vy	Sampling and Coring Operations	Classification of Materials
	14						
210						DROVE 5'x3" CASING FROM 10' TO 15' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
	15			15			
58		4	1 3/8"		35	SAMPLED WITH 2'x1 3/8" SPLIT SPOON FROM 15'-17' WITH 140 lb HAMMER	SAND gap graded coarse to fine mostly fine 5-10% subrounded to subangular gravel 20-25% plastic and non plastic fines brown grey dense (SP-SM)
					76		
	16						
75					110		
					114		
	17			17	5" Rec		
90							
	18						
168							
	19						
259						DROVE 5'x3" CASING FROM 15' to 20' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
	20			20			
67		5	1 3/8"		62	ADVANCED HOLE FROM 20' TO 23' WITH ROLLER ROCK BIT PRIOR TO DRIVING CASING	GRAVELLY SAND gap graded coarse to fine mostly fine 15-20% subangular to subrounded gravel 15-20% non plastic to plastic fines brown (SP-SM)
					73		
	21						
62				21.5	89	SAMPLED WITH 2'x1 3/8" SPLIT SPOON FROM 20'-22' WITH 140 lb HAMMER	
					110		
	22				8" Rec		

Site: Thomaston Dam
Thomaston, CT

Boring No. FD-84-3
AT PZ-1

DEPTH Casing Blow	DEPTH 1' to 1'	CORE/SAMPLE NO.	CORE/SAMPLE SIZE	CORE/SAMPLE DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
300						DROVE 5' x 3" CASING FROM 20-23' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT REFUSAL AT 23' NO FURTHER PENETRATION	23.0
	23					CORED THROUGH BOULDER WITH ROLLER ROCK BIT	BOULDER 23.5
123							
	24						
225						DROVE 5' x 3" CASING FROM 23' TO 25' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
	25			25'			
63					53	SAMPLED WITH 2' x 1 3/8" SPLITSPOON FROM 25' to 27' WITH 140 lb HAMMER	SILTY SAND gap graded coarse to fine, mostly fine 5-10% subrounded to subangular gravel and cobbles 30 to 35% non plastic fines 10% slightly plastic silty clay dark brown (SP-SM)
		6	1 3/8		67		
	26						
					91		
34							
					62		
	27			27'			
					11" rec	ADVANCED HOLE WITH ROLLER ROCK BIT FROM 25' to 30' PRIOR TO DRIVING CASING	
42							
	28						
57							
	29						
65						DROVE 5' x 3" CASING FROM 25' TO 30' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
	30			30			
149					49		

Site: Thomaston Dam, Thomaston, CT	Boring No. FD-84-3 AT PZ-1	Page 6 of 79

DEPTH: Casing Blow	DEPTH: 1'	CORE/SAMPLE: NO.	CORE/SAMPLE: SIZE	CORE/SAMPLE: DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
					57	SAMPLED WITH 2'x1 3/8" SPLIT SPOON FROM 30' to 32 WITH 140 lb HAMMER	SILTY SAND gap graded coarse to fine, mostly fine 5-10% subrounded to subangular gravel and cobbles 20-25% non plastic fines <5% slightly plastic silty clay dark brown (SP-SM)
	31	7			73		
105							
				32	81		
	32				12" rec		
122						ADVANCED HOLE FROM 30 TO 35' WITH ROLLER ROCK BIT AND WASHED OUT PRIOR TO DRIVING CASING	
	33					DROVE 5'x3" CASING FROM 30' TO 33 1/2' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT NO PENETRATION PAST 33.5'	
216							
	34					CORED WITH ROLLER ROCK FROM 33.5' to 35'	SAND, SILT, COBBLES in wash
118						DROVE 5'x3" CASING FROM 33.5' to 35' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
	35			35			
			1 3/8		100	SAMPLED WITH 2'x1 3/8" SPLIT SPOON FROM 35'-37' WITH 140 lb HAMMER. NO PENETRATION PAST 35' NO SAMPLE	NO SAMPLE RECOVERED
100				35.5			
	36					DROVE 5'x3" CASING FROM 35' to 36.7' WITH 300 lb HAMMER WASHED OUT WITH ROLLER ROCK BIT	
227							
	37					ADVANCED HOLE FROM 36.7' to 40' WITH ROLLER ROCK AND WASHED OUT PRIOR TO DRIVING CASING	
131							
	38					DROVE 5'x3" CASING FROM 36.7' TO 39' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT. NO PENETRATION PAST 39.0'	
300							
	39						

Site: Thomaston Dam, Thomaston, CT	Boring No. FD-84-3 AT PZ-1	Page 7 of 19

DEPTH: Casing Blows	DEPTH: 1" = 1'	CORE/SAMPLE: No.	CORE/SAMPLE: Size	CORE/SAMPLE: Depth Range	Blows per 6" / Core Rec'vy	Sampling and Coring Operations	Classification of Materials
50						CORED BOULDER WITH ROLLER ROCK BIT AND WASHED OUT DROVE 5'X8" CASING FROM 39' TO 40' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	BOULDER Quartz(?) 40.0
	40				100	SAMPLED WITH 2'X1 3/8" SPLIT SPOON FROM 40' to 42' WITH 140 lb HAMMER REFUSAL NO PENETRATION PAST 40'	NO SAMPLE RECOVERED
59					0" Rec		
	41						
91							
	42						
84							
	43					DROVE 3"X5' CASING FROM 40' TO 44.5' WITH 300 lb HAMMER WASHED OUT WITH ROLLER ROCK BIT	
139							
	44						
159				44.5		CORED FROM 44.5' to 46 WITH CASING SHOE BIT 1 3/4" ID.	44.5
	45	8	1 3/4		N/A	DROVE 5'X3" CASING FROM 44.5' TO 45' WITH 300 lb HAMMER	BOULDER, Quartzite
193					2" rec		46.0
	46			46			
164							
	47						

Site: Thomaston Dam Thomaston CT	Boring No. FD-84-3 AT PZ-1	Page 8 of 19

DEPTH CASING BLOWS	DEPTH 1' 1'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER 6" CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATER ALS
146						ADVANCED HOLE FROM 45'-50' WITH ROLLER ROCK BIT AND WASHED OUT PRIOR TO DRIVING CASING	
	46						
167							
	49						
195						DROVE 5' x 3" CASING FROM 45-50' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
	50						
57						NO SAMPLE ATTEMPTED AT 50' ADVANCED HOLE FROM 50' TO 55' WITH ROLLER ROCK AND WASHED OUT PRIOR TO DRIVING CASING	
	51						
59						DROVE 5' x 3" CASING FROM 50' TO 53.5' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
	52						
100						PENETRATED OBSTRUCTION WITH ROLLER ROCK BIT	
	53						
200							
	54						
150						DROVE 5' x 3" CASING FROM 53.5' TO 55' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
	55					NO SAMPLE ATTEMPTED AT 55'	
51						ADVANCED HOLE FROM 55' TO 60' WITH ROLLER ROCK BIT	
	56						

Site: Thomaston Dam Thomaston CT	Boring No. FD-84-3 AT PZ-1	Page 9 of 19

DEPTH		CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
48	57						
300	58			58		DROVE 5' x 3" CASING FROM 55' TO 58' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT, NO FURTHER PENETRATION.	
91		9 2 of 2	1 3/8			CORED FROM 58' TO 60' WITH 1 3/8" CASING SHOE. OPENED HOLE WITH ROLLER ROCK BIT AND WASHED OUT	BOULDER, granitoid
62	59				N/A	DROVE 5' x 3" CASING FROM 58' TO 60' WITH 300 lb HAMMER AND WASHED OUT	
90	60		—	60	7" Rec	NO SAMPLE ATTEMPTED	? ? ? ?
56	61					ADVANCED HOLE FROM 60' TO 65' WITH ROLLER ROCK BIT AND WASHED OUT	SANDY WASH
93	62					DROVE 5' x 3" CASING FROM 60' TO 63.5' WITH 300 lb HAMMER AND WASHED OUT TO 65' WITH ROLLER ROCK BIT.	
180	63						
	64						

Site: Thomaston Dam, Thomaston, CT	Boring No. FD-84-3 AT PZ-1	Page 10 of 19

DEPTH: CASING BLOW	DEPTH: 1" = 1'	CORE/SAMPLE: NO.	CORE/SAMPLE: SIZE	CORE/SAMPLE: DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
72	65					DROVE 5' X 3" CASING FROM 63.5' TO 65' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT SPLIT TOP CASING	65.0
75						BORED THROUGH BOULDER FROM 65' TO 66' WITH ROLLER ROCK BIT AND WASHED OUT	BOULDER, Schist
		10	1 3/8		21		66.0
81	66			66	8	SAMPLED WITH 2' X 1 3/8" SPLIT SPOON FROM 66' TO 68' WITH 140 lb HAMMER	SILTY SAND coarse to fine 15-20% gravel, 10-15% n.p. fines brown (SM)
	67			67	21		
135					22		
	68			68	18	ADVANCED HOLE FROM 68' TO 70' WITH ROLLER ROCK BIT AND WASHED OUT	
120					5" REC		
	69						
89						DROVE 5' X 3" CASING FROM 65' TO 70' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
	70						
						DRILLING DISCONTINUED AND CASING PULLED 9/17	
	71					HOLE DRILLED TO 120' AND 6" CASING SET TO 120' BY A-W. 9-28 to 10-1 CONTINUED BY E.G.A. WITH 3" CASING 10-12 to 10-17	
	72						

Site: THOMASTON DAM
THOMASTON, CONN.

Boring No. FD-84-3
PZ 1 + 2

DEPTH: CASING BLOWS	DEPTH: 1" = 1'	CORE/SAMPLE: NO.	CORE/SAMPLE: SIZE	CORE/SAMPLE: DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
18	120			120	45	SAMPLED WITH 2'X1 3/8" SPLIT SPOON FROM 120' TO 122' WITH 140 lb HAMMER	NO RECOVERY; GRAVEL JAMMED IN NOSE OF SPOON
			1 3/8		87		
	121				81		
30					98		
	122			122	0" Rec		
110							
	123						
112							
	124			124	145	SAMPLED WITH 2'X 1 3/8" SPLIT SPOON FROM 124'-126' WITH 140 lb HAMMER	SAND uniform fine <5% non plastic fines very dense light yellowish brown (SP)
279		11	1 3/8		83		SILT uniform 0-5% clay, very dense dull brick red
	125				92		SAND uniform, fine 3-7% non plastic fines with trace of clay very dense light yellowish brown (SP-SM)
45					103		
	126			126	15" REC	DROVE 3" CASING FROM 125.0' TO 128.5' WITH 300LB HAMMER. ROTER REACHED DOWN TO 125.0' AND WASHED OUT BEFORE DRIVING 3" CASING TO 130.0'.	
	127						
	128						

Site THOMASTON DAM THOMASTON, CONN.	Boring No. FD-84-3 PZ 1+2	Page 12 of 19

DEPTH		CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
226							
	129						
60					P		
	130			130		SAMPLED WITH 2' x 1 3/8" SPLIT SPOON FROM 130.0' TO 132.0', WITH 140 LB HAMMER.	GRAVELLY SAND COARSE TO FINE; MOSTLY MEDIUM TO FINE 20-30% SUB ANGULAR TO SUB ROUNDED GRAVEL. 5-10% NON PLASTIC FINES BROWN, MOIST (SP-SM)
					30		
182		12	1 3/8"		40		
	131						
					58		
350							
					183		
	132			132	20" REC.	DROVE 3" CASING FROM 130.0' TO 133.5' WITH 300 LB. HAMMER. ROTER ROLLED DOWN TO 125.0' AND WASHED OUT BEFORE DRIVING 3" CASING TO 135.0'	
271							
	133						
403							
	134						
462							
	135			135		SAMPLED WITH 2' x 1 3/8" SPLIT SPOON FROM 135.0' - 137.0' WITH 140 LB HAMMER.	
					78		
49		13	1 3/8"		60		
	136						
					132		
283							
	137			137			

Site THOMASTON DAM THOMASTON, CONN.	Boring No. FO-84-3 PZ 1+2	Page 13 of 19

DEPTH		CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
417						DROVE 3" CASING FROM 135.0' TO 140.0' WITH 300LB HAMMER (5.0' LENGTH)	
	138						
289							
	139						
283							
	140			140		SAMPLED WITH 2'x 1 3/8" SPLIT SPOON FROM 140.0' TO 142.0' WITH 140LB HAMMER	GRAVELLY SAND COARSE TO FINE; MOSTLY MEDIUM. 30-35% SUB ANGULAR TO SUB ROUNDED GRAVEL. 3-8% NON PLASTIC FINES BROWN, MOIST (SP-SM)
91					63		
	141	14	1 3/8"		90		
173					113		
					218		
	142			142	6" REC.		
250						DROVE 3" CASING FROM 140.0' - 145.0' WITH 300LB HAMMER. (5.0' LENGTH)	
	143						
444							
	144						
343							
	145			145		SAMPLED FROM 145.0' TO 147.0' WITH 2'x 1 3/8" SPLIT SPOON DRIVEN BY 140LB HAMMER.	GRAVELLY SAND COARSE TO FINE, MOSTLY MEDIUM 30-40% SUB ANGULAR TO SUB ROUNDED GRAVEL. 5-10% NON PLASTIC FINES, BROWN, MOIST (SP-SM)
75		1			25		

Site THOMASTON DAM, THOMASTON, CONN.	Boring No. FD-84-3 PZ 1+2	Page 14 of 19

DEPTH		CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
75					35		
	146						
		15	1 3/8"		23		
61							
					30		
	147			147	15" REC.	DROVE 3" CASING FROM 145.0' TO 150.0' WITH 300LB HAMMER (5.0' LENGTH)	
96							
	148						
124							
	149						
111							
	150			150		SAMPLED WITH 2' x 1 3/8" SPLIT SPOON FROM 150.0' TO 152.0' WITH 140 LB HAMMER.	SAND. MED. TO FINE GRAINED 10-15% SUB ANGULAR TO SUB ROUNDED GRAVEL. 7-12% NON PLASTIC FINES. BROWN, MOIST (SP-SM)
					25		
54							
					40		
	151	16	1 3/8"				
					48		
74							
					93		
	152			152	23" REC.		
87						DROVE 3" CASING FROM 150.0' TO 155.0' WITH 300LB HAMMER. (5.0 LENGTH)	
	153						
287							

Site THOMASTON DAM — THOMASTON, CONN.

Boring No. ED-84-3 — PZ 1+2

DEPTH (Ft.)	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
393						
155			155		SAMPLED WITH 2' x 1 3/8" SPLIT SPOON FROM 155.0' TO 157.0 WITH 140 LB HAMMER.	NO RECOVERY
60				43		
				65		
156	17	1 3/8"				
				58		
69						
				80		
157			157	0" REC	DROVE 3" CASING FROM 155.0' TO 160.0' WITH 300 LB HAMMER (5.0' LENGTH)	
263						
155						
775						
159						
545						
160			160		SAMPLED WITH 2' x 1 3/8" SPLIT SPOON FROM 160.0' TO 162.0' WITH 140 LB HAMMER.	SILTY SAND. MEDIUM TO FINE GRAINED MOSTLY FINE. 25-30% NON PLASTIC FINES. 5-10% SUB ANGULAR TO SUB ROUNDED GRAVEL. GRAYISH BROWN, MOIST (SM)
				20		
140						
				43		
161	18	1 3/8"				
				83		
400						
				78		
162			162			
115				9" REC		

Site: THOMASTON DAM THOMASTON CONN	Boring No. FD 84-3 PZ 1&2	Page 16 of 19

DEPTH		CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
75	1"=1.0'					DRIVE 3" CASING FROM 160.0' to 165.5' WITH 300lb. HAMMER. AT 165.5 ENCOUNTERED VERY HIGH RESISTENCE ROLLER ROCKED FROM 165.5 TO 166.5 THROUGH SCHIST BEDROCK AT 165.5 FT.	
125	163						
470	164						
101	165						165.5
	166					ROLLER ROCKED FROM 165.5 to 166.5 FT.	SCHIST BEDROCK
							166.5
						END OF BORING AT 166.5 ft.	

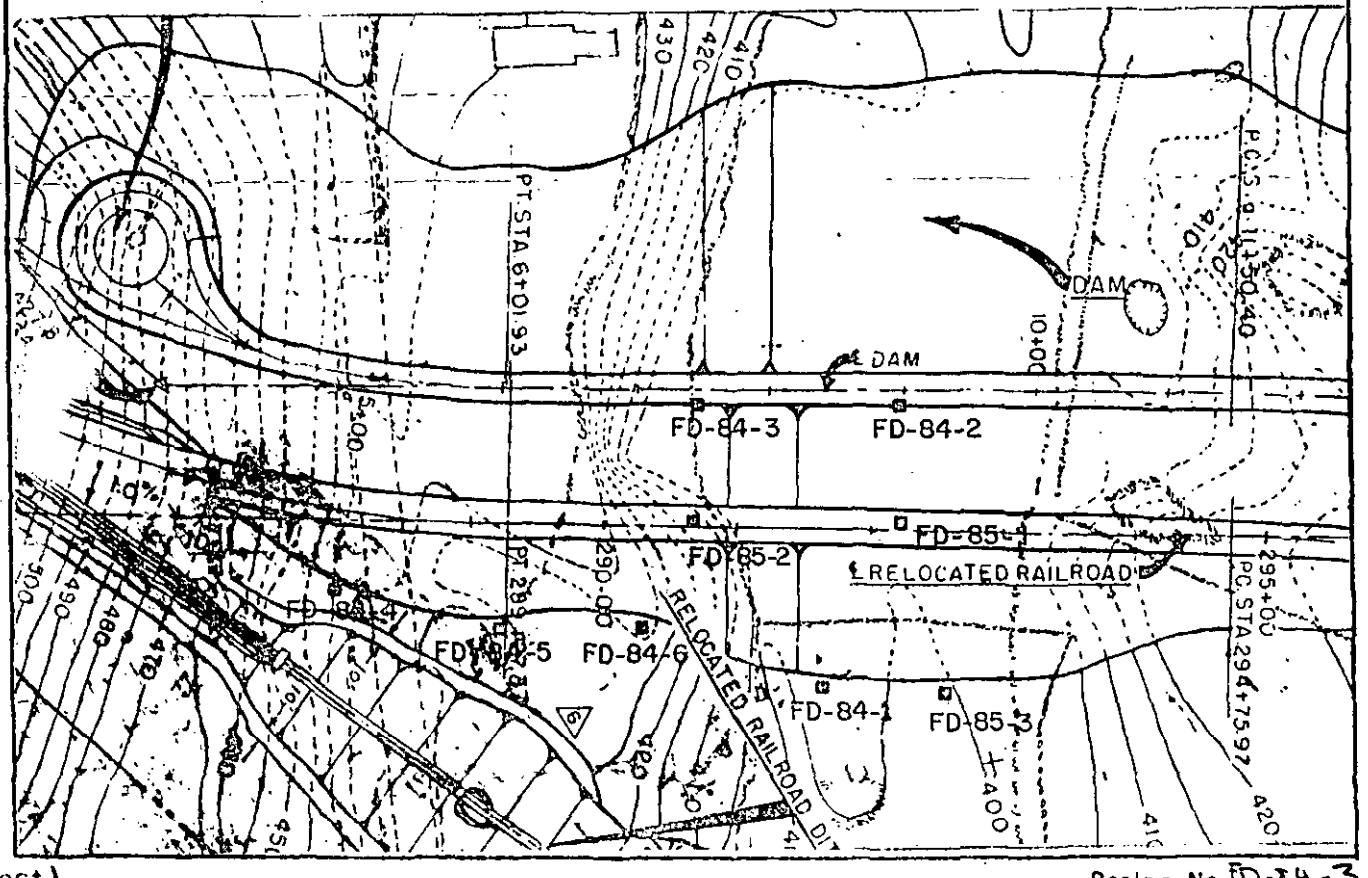
Site: THOMASTON DAM
Boring No: FD-84-3 PZ-1 and PZ-2

SUBSURFACE WATER OBSERVATIONS

DATE	TIME	DEPTH-BOT. OF CASING	DEPTH-BOT. OF BORING	DEPTH TO WATER	ELEVATION WATER	REMARKS
10-23-84	1200 hrs	113.5 ft.	166.5 ft.	NONE AT PZ-2	NONE	PZ-2 installed to 121.5 ft.
10-23-84	1215 hrs.	113.5 ft	166.5	NONE TO 131 ft	PZ-1	PZ-1 clogged at 131 ft.
10-24-84	0800 hrs	113.5 ft.	166.5 ft.	130-131 ft.	386.5 to 387.5	Actuating rod was wet at 130 ft. in an attempt to clear riser pipe
9-5-85	1350 hrs	113.5	166.5	NONE AT PZ-2	NONE	PZ-2 reinstalled to 122.3 ft.
9-5-85	1410 hrs.	113.5	166.5	131.53	385.93	THIS IS AN ACTUAL READING, AFTER PZ-1 was RE-INSTALLED

Note: Depths are in feet below original ground.

BORING LOCATION SKETCH



FORM 59 (Test)

Boring No. FD-84-3

PIEZOMETER INSTALLATION REPORT

PROJECT: THOMASTON DAM THOMASTON, CONN. DATE: 10/17/84

LOCATION (STA): 7+51.5 OFFSET FROM CENTER LINE: — PIEZ NO.: PZ-1

PIEZ TYPE: CASAGRANDE 1½" OD. X 1" ID X 27" IN. LG. DEPTH OF PIEZ: 163.5' RISER PIPE DIAM: ¾" SCH 80 PVC

PIEZ TIP SET IN (SOIL TYPE): GRAVELLY SAND SOIL SAMPLE NO.: BORING DIAM: 3" ID

METHOD OF INSTALLATION: PIEZOMETER SET IN OTTOWA SAND

TYPE OF PROTECTION FOR PIEZ: 113.5' x 6" STEEL CASING VENT: 1/8" HOLE IN CAP

GROUND ELEV.: 517.46 ELEV. TOP OF RISER: 517.96' ELEV PIEZ TIP: 353.96

FILTER: OTTOWA SAND FROM ELEV: 351.96' TO ELEV: 359.21'

SEAL: BENTONITE FROM ELEV: 359.21 TO ELEV: 363.21'

INSTALLED BY: EASTERN GEOTECH. ASSOC. CONTRACT NO.: DACW 33-83-D-0006 FOREMAN: C. REIL

DATE OF INSTALLATION: 10/17/84 DATE OF OBSERVATIONS: 10/23/84

METHOD OF TESTING PIEZ.: FALLING HEAD TEST

TIME	ELAPSED TIME MINUTES	DEPTH TO WATER FEET	TIME	ELAPSED TIME MINUTES	DEPTH TO WATER FEET	TIME	ELAPSED TIME MINUTES	DEPTH TO WATER FEET
2:00	0	0						
2:01	1	.5						
2:05	5	2.4						
2:10	10	5.0						
2:30	30	7.9						

REMARKS: THERE IS A CLOT IN THE PVC AT ELEV. 388.5', CAUSING THE TEST WATER TO DESCEND AT A VERY SLOW RATE. 10-23-84

RETESTED ON 9-5-85 AFTER REINSTALLATION : PIEZO TIP AT 164 ft. COULD NOT FILL RISER PIPE, WATER RAN OUT OF THE PIEZOMETER TIP AT TO FAST A RATE (50 Gallons in 3 min

Mark H. Cross
INSPECTOR

PIEZOMETER INSTALLATION REPORT

PROJECT: THOMASTON DAM THOMASTON, CONN. DATE: 10/22/84

LOCATION (STA): 7+51.5 OFFSET FROM CENTER LINE: — PIEZ NO.: PZ-2

PIEZ TYPE: 1½" OD x 1" ID x 27" LENGTH CASAGRANDE DEPTH OF PIEZ: 121.5' RISER PIPE DIAM: 3/4" PVC SCH 80

PIEZ TIP SET IN (SOIL TYPE): GRAVELLY SAND SOIL SAMPLE NO.: BORING DIAM: 3" ID

METHOD OF INSTALLATION: PIEZOMETER SET IN OTTOWA SAND

TYPE OF PROTECTION FOR PIEZ: 113.5' x 6" STEEL CASING VENT: 1/8" HOLE IN PVC CAP

GROUND ELEV.: 517.46 ELEV. TOP OF RISER: 517.96' ELEV PIEZ TIP: 395.96

FILTER: OTTOWA SAND FROM ELEV: 394.96 TO ELEV: 400.96

SEAL: BENTONITE FROM ELEV: 400.96 TO ELEV: 404.96

INSTALLED BY: EASTERN GEOTECH. ASSOC. CONTRACT NO.: DACW 33-83-D-0006 FOREMAN: C. REID

DATE OF INSTALLATION: 10/22/84 DATE OF OBSERVATIONS: 10/23/84

METHOD OF TESTING PIEZ.: FALLING HEAD TESTS PIEZOMETRIC LEVEL RAISED - FALLING DURING TEST

TIME	ELAPSED TIME MINUTES	DEPTH TO WATER FEET	TIME	ELAPSED TIME MINUTES	DEPTH TO WATER FEET	TIME	ELAPSED TIME MINUTES	DEPTH TO WATER FEET
3:09	0	—						
3:10	1	27.1						
3:14	5	71.9						
3:19	10	90.9						
3:39	30	103.0						

REMARKS:

RETESTED ON 9-5-85 AFTER RE INSTALLATION: PIEZO TIP AT 122.3 ft. COULD NOT FILL RISER PIPE, WATER RAN OUT OF THE PIEZOMETER TIP AT TO FAST A RATE, (50 Gallons in 3 minutes)

Mark A. Owens
INSPECTOR

CORPS OF ENGINEERS, U. S. ARMY
NEW ENGLAND DIVISION
FOUNDATION AND MATERIALS BRANCH

FIELD LOG OF TEST BORING

PROJECT NO. W.O. # 18

Site Thomaston Dam Thomaston, CT — Page 1 of 8 Pages

Hole No. FD-84-4 Diam. (Casing) 3" I.D. — Boring Started 9-18-84

Co-ordinates: N _____ E _____ — Boring Completed 9-19-84

Drilled by EASTERN GEOTECHNICAL ASSOC. — Report Submitted _____

Purpose of Exploration PIEZOMETER INSTALLATION (P2-7)

Elevation Top of Hole 439.90 M.S.L.
Total Overburden Drilled 19.5 Feet
Elevation Top of Rock 420.4 M.S.L.
Elevation Bottom of Hole 415.4 M.S.L.
Total Rock Drilled 5 Feet
Total Depth of Hole 24.5 Feet
Core Recovered 86 %
Core Recovered 4 Ft.; 3" Diam. 1 3/8 in.
Soil Samples 1 3/8 in. Diam. 4 No.
Soil Samples _____ in. Diam. _____ No.

Casing Left in Place 5' of 3" CASING Feet

Water Table Depth NONE - DRY TO BOTTOM 19.5 FT.

Depth From	Depth To	Method of Drilling and Type of Bit Used
0	19.5	SPT SAMPLING 5' INTERVALS. ADVANCED
		WITH ROLLER ROCK BIT AND/OR 3" I.D. CASING
		SHOE BIT. ADVANCED 4" AND 3" CASING WITH
		300 lb HAMMER
19.5	24.5	CORED BEDROCK WITH 1 3/8" x 5' BW CORE
		BARREL

INDEX

Ground Water	Page 7
Boring Location Sketch	Page 7
Overburden Record	Page 2
Rock Drilling	Page 6
	Page
	Page
	Page

Prepared by E. PECK — Field Data — Lab. Data

Submitted by John Cronin

IED FORM DEC 63 121 — REPLACES EDITION OF JUN 51 WHICH MAY BE USED UNTIL EXHAUSTED

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST BORING

Site Damsite Thomaston, CT Page 2 of 8 Pages

Boring No. FD-84-4 Desig. PZ-7 Diam. (Casing) 3"&4" I.D.

Co-ordinates: N _____ E _____

Elevation Top of Boring 439.90 M.S.L.
Total Overburden Drilled 19.5 Feet
Elevation Top of Rock 420.4 M.S.L.
Total Rock Drilled 5 Feet
Elevation Bottom of Boring 415.4 M.S.L.
Total Depth of Boring 24.5 Feet
Core Recovered 86 % No. Boxes 1
Core Recovered 4 Ft : 3" Diam. 1 3/8 In.
Soil Samples 1 3/8 In. Diam. 4 No.
Soil Samples _____ In. Diam. ____ No.

Hammer Wt. 140 lb Boring Started 9-18-84
Hammer Drop 30"
Casing Left 5' of 3" CASING Boring Completed 9-19-84
Subsurface Water Data _____ Page 7
Obs. Well PIEZOMETER
Drilled By Eastern Geotechnical Assoc.
Mfg. Des. Drill Acker
Inspected By: E PECK
Classification By: E PECK
Classification By: _____

DEPTH: CASING BLOW	DEPTH: 1" = 1'	CORE/SAMPLE: NO.	SIZE	DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
				0	6	SAMPLED WITH 2'x1 3/8 I.D. SPLIT SPOON FROM 0-2' WITH 140 lb HAMMER	SANDY TOPSOIL 15-20% sand coarse to fine, mostly fine 10 to 15% gravel of flat angular schist and subangular to subrounded pegmatitic dull light brown
	1	1	1 3/8		14		
				1.5	20	REFUSAL AT 1.5' NO FURTHER PENETRATION	1.5
					100		BOULDER: SCHIST
93	2	2			4" Rec	DUG OUT 1' DIAMETER BOULDER WITH SHOVEL	2.5
						DROVE 5' x 4" CASING FROM 0-5 WITH 300 lb HAMMER	
127	3						
170	4						

GENERAL REMARKS:

Site: Thomaston Dam, Thomaston, CT	Boring No. FD-84-4 AT PZ-7	Page 5 of 8

DEPTH: Casing Blows	DEPTH: 1" = 1'	CORE/SAMPLE: No.	CORE/SAMPLE: Size	CORE/SAMPLE: Depth Range	Blows per 6" / Core Rec'vy	Sampling and Coring Operations	Classification of Materials
				5	25	SAMPLED WITH 2' x 1 3/8" SPLIT SPOON FROM 5' TO 7' WITH 140 lb HAMMER	SILTY SAND coarse to fine, mostly fine <5% subrounded gravel 15-20% nonplastic fines dark brown (SM)
62					34		
	6	3	1 3/8				
					41		
160					46	DROVE 5' x 4" CASING FROM 5' TO 7.3' WITH 300 lb HAMMER	
	7			7			
155					9" Rec		
	8					ADVANCED HOLE FROM 7.3' TO 10' WITH 4" ROLLER ROCK BIT AND WASHED OUT	— ? — ? — ? — ? — ? — ? — ? —
	9					DROVE 5' x 4" I.D. CASING FROM 7.3 TO 10' HOLE OPENED BY ROLLER ROCK; NO BLOW COUNT TAKEN.	
	10			10			
26					16	SAMPLED WITH 2' x 1 3/8" I.D. SPLIT SPOON FROM 10' TO 12' WITH 140 lb HAMMER	SAND gap graded coarse to fine mostly fine <5% rounded gravel <5% non plastic fines buff (SP)
	11	4	1 3/8		19		
					32		
60					51		
	12			12			
					7"		
210							
	13						

Site: Thomaston Dam, Thomaston, CT	Boring No. FD-84-4 AT PZ-7	Page 4 of 8

DEPTH: CASING BLOWS	DEPTH: 1" = 1'	CORE/SAMPLE: NO.	CORE/SAMPLE: SIZE	CORE/SAMPLE: DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
130	14						
142						DROVE 5' x 3" I.D. CASING FROM 10'-15' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK	
	15			15		SAMPLED WITH 2' x 1 3/8" SPLIT SPOON FROM 15' TO 17' WITH 300 lb HAMMER	
10					28		GRAVELLY SAND well graded coarse to fine 15-20% subangular to subrounded gravel 10 to 15% non-plastic to slightly plastic fines including <5% clay dull light brown (SW-SM) Probable glacial till.
	16	5	1 3/8		25		
48					44		
					87		
	17			17	10" REC		
212							
	18						
170							
	19					DROVE 5' x 3" I.D CASING FROM 15' TO 19' WITH 300 lb HAMMER NO FURTHER PENETRATION	
151						ADVANCED HOLE FROM 19' to 19.3' WITH 3" CARBIDE ROLLER ROCK BIT LOST 75% DRILLING WATER	19.5
CORE TIME 7½ MIN.	20					DROVE 5' x 3" I.D. CASING FROM 19.3' to 19.5' WITH 300 lb HAMMER STOPPED WATER LOSS	PEGMATITIC BIOTITE MUSCOVITE GRANITE BEDROCK
9 MIN	21						
	22						

Site: Thomaston Dam
Thomaston, CT.

Boring No. FD-84-4 AT PZ-7

DEPTH: CORING TIME	DEPTH: 1" = 1'	CORE/SAMPLE: NO.	CORE/SAMPLE: SIZE	CORE/SAMPLE: DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATER ALS
10 MIN.							PEGMATITE, SAME
9 MIN.	23						
10 MIN	24					CORED BEDROCK FROM 19.5' TO 24.5' WITH BW 5' x 1 3/8" CORE BARREL NO WATER LOSS DURING DRILLING OPERATIONS	24.5
	25					END OF BORING AT 24.5' DRILL TIME: 45 1/2 MIN RECOVERY: 51" = 86% RQD:	
	26						

FIELD LOG OF TEST BORING IN ROCK

SITE Thomaston Dam Thomaston, CT HOLE NO. FD-84-4 PAGE 6 of 8

DATE	DEPTH FT. FROM	DEPTH FT. TO	RUN PT.	RUN REC'V'Y PT.	REC'V'Y %	DRILLING BEHAVIOR: FEED	DRILLING BEHAVIOR: WATER	DRILLING BEHAVIOR: REASON FOR PULL	ACTUAL DRILLING TIME	BIT NO. SIZE AND TYPE	ADDITIONAL REMARKS
9-19-84	19.5	24.5	5	4.3	86	CONT.	NO LOSS	SURETY OF BEDROCK	55½ min	1⅜" I.D. B.W.	

TOTAL BED ROCK DRILLED 5 FEET

TOTAL BED ROCK RECOVERED 4.3 FEET

BED ROCK RECOVERY 86 PERCENT

DRILLER C Reil

INSPECTOR E Peck

NED FORM DEC 63 130

REPLACES EDITION OF APR 49 WHICH MAY BE USED UNTIL EXHAUSTED

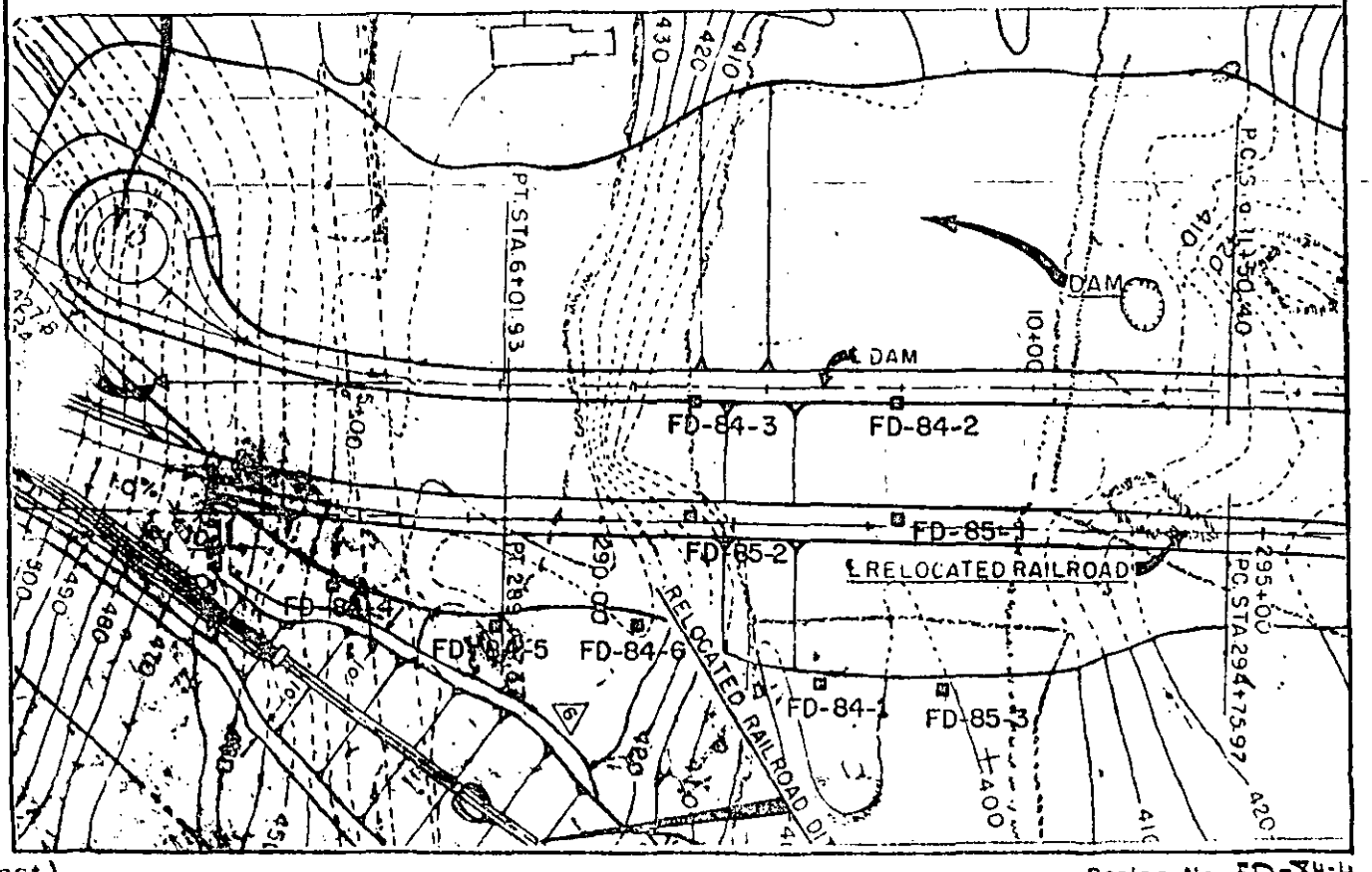
Site: THOMASTON DAM
Boring No: FD-84-4 PZ-7

SUBSURFACE WATER OBSERVATIONS

DATE	TIME	DEPTH-BOT. OF CASING	DEPTH-BOT. OF BORING	DEPTH TO WATER	ELEVATION WATER	REMARKS
9-20-84	1330hrs	3 ft.	19.5 ft.	NONE	NONE	PZ-7 SET AT 17.5 ft.
9-25-84	1200hrs	3 ft.	19.5 ft.	NONE	NONE	

Note: Depths are in feet below original ground

BORING LOCATION SKETCH



PIEZOMETER INSTALLATION REPORT

PROJECT: Thomaston Dam Thomaston, CT | DATE: 9-25-84

LOCATION (STA): 5+00 | OFFSET FROM CENTER LINE: — | PIEZ NO.: PZ - 7

PIEZ TYPE: CASAGRANDE 1½" O.D. 1" I.D. 24" LONG | DEPTH OF PIEZ: 17.5 FT. | RISER PIPE DIAM: 3/4" PVC Sch. 80

PIEZ TIP SET IN (SOIL TYPE): OTTOWA SAND | SOIL SAMPLE NO.: 5 | BORING DIAM: 3"

METHOD OF INSTALLATION: SET PIEZOMETER IN OTTOWA SAND IN DRY HOLE

TYPE OF PROTECTION FOR PIEZ: 3" I.D. NW CASING AND CONCRETE 1.5' RADIUS x 1.5' DEEP | VENT: 1/8" Hole in 3" PIPE CAP

GROUND ELEV.: 439.90 | ELEV. TOP OF RISER: 441.6 | ELEV PIEZ TIP: 422.4

FILTER: OTTOWA SAND | FROM ELEV: 420.4 | TO ELEV: 440.9

SEAL: NONE ABOVE PIEZ. | FROM ELEV: — | TO ELEV: —

INSTALLED BY: EASTERN GEOTECHNICAL ASSOC. | CONTRACT NO.: D.O. 0018 DACW53-83-D-0006 | FOREMAN: C. Reil

DATE OF INSTALLATION: 9-19 to 9-20, 1984 | DATE OF OBSERVATIONS: 9-25-84

METHOD OF TESTING PIEZ.: PIEZOMETRIC LEVEL RAISED - FALLING DURING TEST

TIME	ELAPSED TIME MINUTES	DEPTH TO WATER FEET	TIME	ELAPSED TIME MINUTES	DEPTH TO WATER FEET	TIME	ELAPSED TIME MINUTES	DEPTH TO WATER FEET
12:00	0	DRY						

REMARKS: DUE TO STEEP SLOPE OF UNDERLYING BEDROCK, WATER RAN OUT OF THE PIEZOMETER TOO QUICKLY FOR RISER PIPE TO BE FILLED

CORED 5 FT FROM ELEVATION 420.4 TO 415.4 TO ASCERTAIN BEDROCK, SEALED BEDROCK WITH BENTONITE FROM 415.4 TO 420.4

E PECK
INSPECTOR

CORPS OF ENGINEERS, U. S. ARMY
NEW ENGLAND DIVISION
FOUNDATION AND MATERIALS BRANCH

FIELD LOG OF TEST BORING

PROJECT NO. WO # 18

Site Thomaston Dam, Thomaston, CT — Page 1 of 11 Pages

Hole No. FD-84-5 Diam. (Casing) 3" I.D. — Boring Started 9-20-84

Co-ordinates: N _____ E _____ — Boring Completed 9-25-84

Drilled by EASTERN GEOTECHNICAL ASSOC. — Report Submitted _____

Purpose of Exploration PIEZOMETER INSTALLATION

Elevation Top of Hole 440.02' M.S.L.
Total Overburden Drilled 54.5 Feet
Elevation Top of Rock 385.52 M.S.L.
Elevation Bottom of Hole 384.02 M.S.L.
Total Rock Drilled 1.5 Feet
Total Depth of Hole 56 Feet
Core Recovered 72 %
Core Recovered 1 Ft.; 6" Diam. 1 3/8 in.
Soil Samples 10 in. Diam. 1 3/8" No.
Soil Samples _____ in. Diam. _____ No.

Casing Left in Place 5' of 3" I.D. Feet

Water Table Depth DRY

Depth From	Depth To	Method of Drilling and Type of Bit Used
0	54.5	SPT SAMPLING 5' INTERVALS. ADVANCED
		WITH ROLLER ROCK BIT AND/OR 3" I.D.
		CASING SHOE BIT. ADVANCED 4" AND 3" I.D.
		CASING WITH 300 lb HAMMER
54.5	56	CORED BEDROCK WITH 1 3/8" X 5' BW CORE
		BARREL

INDEX

Ground Water _____ Page 10
Boring Location Sketch _____ Page 10
Overburden Record _____ Page 2
Rock Drilling _____ Page 9
_____ Page ____
_____ Page ____
_____ Page ____

Prepared by E PECK
Field Data — Lab. Data

Submitted by [signature]

FORM IED DEC 63 121

REPLACES EDITION OF JUN 51 WHICH MAY BE USED UNTIL EXHAUSTED

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST BORING

Site Thomaston Dam, Thomaston, CT — Page 2 of 11 Pages

Boring No. F0-84-5 Desig. P2-6 Diam. (Casing) 3" I.D.

Co-ordinates: N _____ E _____

Elevation Top of Boring 440.02 M.S.L.
Total Overburden Drilled 54.5 Feet
Elevation Top of Rock 385.52 M.S.L.
Total Rock Drilled 1.5 Feet
Elevation Bottom of Boring 384.02 M.S.L.
Total Depth of Boring 56 Feet
Core Recovered 72 % No. Boxes 1
Core Recovered 1.1 Ft: 6" Diam. 1 3/8 In.
Soil Samples 10 In. Diam. 1 3/8 No.
Soil Samples _____ In. Diam. ____ No.

Hammer Wt. 140 lbs Boring Started 9-20-84
Hammer Drop 30"
Casing Left 5' of 4" casing Boring Completed 9-25-84
Subsurface Water Data _____ Page 10
Obs. Well PEIZOMETER
Drilled By EASTERN GEOTECHNICAL ASSOC
Mfg. Des. Drill ACKER
Inspected By: E. PECK
Classification By: E. PECK
Classification By: _____

DEPTH: CASING BLOW	DEPTH: 1"= 1'	CORE/SAMPLE: NO.	SIZE	DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
						DUG OUT 6" TOPSOIL	
26				0.5			
					6		GRAVELLY SILT 5-10% coarse to fine sand, mostly fine 10-15% gravel, mostly flat schist with subrounded pegmatitic granite silvery dark brown (ML)
	1	1	1 3/8				
38					12		
					12		
	2						
					15		
17				2.5	14" Rec		
	3						
38							
	4						
34						DROVE 5' x 4" CASING FROM 0' to 5' WITH 300 lb HAMMER	
	5						

GENERAL REMARKS:

Site: Thomaston DAM
Thomaston, CT

Boring No. FD-84-5
AT PZ-6

DEPTH CASING BLOW	DEPTH 1" = 1'	CORE/SAMPLE NO.	CORE/SAMPLE SIZE	CORE/SAMPLE DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
				5'	8	SAMPLED WITH 2'x 1 3/8" SPLIT SPOON FROM 5' to 7' WITH 140 lb HAMMER	SANDY SILT 15-20% Sand coarse to fine, mostly fine 5% subangular to subrounded gravel mostly flat schist fragments silvery dark brown (ML)
25					10		
	6	2	1 3/8"				
					19	DROVE 2'x 4" CASING FROM 5' to 7' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
36					12		
	7			7'	8" rec		
8							
	8						
24							
	9						
29						DROVE 5'x 3" CASING FROM 7' TO 10' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
	10			10			
					8	SAMPLED WITH 2'x 1 3/8" SPLIT SPOON FROM 10' to 12' WITH 140 lb HAMMER	SILTY SAND coarse to fine 5-10% subrounded to subangular gravel 15-20% non plastic fines including <5% slightly plastic clay dark brown (SM)
13		3	1 3/8				
		2 of 2			8		
	11						SAND uniform fine <5% medium to coarse and rounded gravel <5% non plastic fines light yellowish brown (SP)
					14		
35							
					49		
	12			12	10" REC		
102							
	13						

Site: Thomaston Dam
Thomaston, CT

Boring No. FD-84-5
AT PZ-C

DEPTH: Casing Blows	DEPTH: 1" = 1'	CORE/SAMPLE: No.	CORE/SAMPLE: Size	CORE/SAMPLE: Depth Range	Blows per 6" / Core Rec'vy	Sampling and Coring Operations	Classification of Materials
145							
	14						
183						DRIVE 3"x5' CASING FROM 10' TO 14.9' WITH 300 lb HAMMER AND WASHED OUT WITH CARBIDE ROLLER ROCK	14.9
	15					ADVANCED HOLE FROM 14.9' TO 15.6' WITH CARBIDE ROLLER ROCK AND WASHED OUT	BOULDER
510		4	1 3/8			CORED FROM 15.6' TO 16.5' WITH 5'x 1 3/8" BARREL	
	16	2 of 2					
49				16.5	9" Rec	LOSS OF DRILL WATER	15.6
	17			17			
106					17	SAMPLED WITH 2'x 1 3/8" SPLIT SPOON FROM 17' TO 19' WITH 140 lb HAMMER (SAMPLED AFTER BOULDER CORED)	GRAVELLY SAND well graded coarse to fine 15-20% subrounded to subangular gravel and cobbles < 5% non plastic fines light reddish and greyish brown (SW)
	18	5	1 3/8		68	ADVANCED HOLE FROM 18.5' TO 20' WITH CARBIDE ROLLER ROCK AND WASHED OUT	
200					112		
46					162		
	19			19			
331					14" Rec	DROVE 5'x 3" CASING FROM 14.9 to 20' WITH 300 lb HAMMER AND WASHED OUT WITH CARBIDE ROLLER ROCK BIT	
	20			20			
180			1 3/8	20.5	100	SAMPLED WITH 2'x 1 3/8" SPLIT SPOON FROM 20 TO 20.5' WITH 140 lb HAMMER NO PENETRATION PAST 20.5'	NO RECOVERY
					0" REC	ADVANCED HOLE FROM 20' TO 21' WITH 2 1/2 O.D. CASING SHOE BIT AND WASHED OUT	
	21			21			
205		6	1 3/8		50	SAMPLED WITH 2'x 1 3/8" SPLIT SPOON FROM 21' TO 22' WITH 140 lb HAMMER. NO FURTHER PENETRATION BEYOND 22'	GRAVELLY SAND gap graded coarse to fine 15-20% subangular to subrounded gravel and cobbles < 5% non plastic fines light grey brown (SP)
	22			22	100		
165	6"				5" REC		

Site: Thomaston Dam
Thomaston, CT

Boring No. FD-84-5
At PZ-6

DEPTH		CORE/SAMPLE			BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
CASING BLOWS	1" = 1'	NO.	SIZE	DEPTH RANGE			
164						DROVE 2' X 3" CASING FROM 20' TO 22.5 WITH 300 lb HAMMER AND WASHED OUT WITH CARBIDE ROLLER ROCK CONTINUED LOSS OF DRILLING WATER	
	23					ADVANCED HOLE FROM 22.5' TO 25' WITH CARBIDE ROLLER ROCK AND WASHED OUT	
112							
	24						
73							
	25			25	31	SAMPLED WITH 2' X 1 3/8" SPLIT SPOON FROM 25' TO 27' WITH 140 lb HAMMER	GRAVELLY SAND well graded coarse to fine 15-20% subangular to subrounded gravel <5% non plastic fines including <3% clay light greyish brown (SW)
86					21		
	26	7	1 3/8				
140					24	DROVE 5' X 3" CASING FROM 22.5' TO 27.5' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
					72		
	27			27	5" REC		
110						DROVE 2' X 3" CASING FROM 27.5 TO 29.5' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
	28						
138							
	29						
150							
40							
50							
50							
	30			30		DROVE 1' X 3" CASING FROM 29.5' TO 30.5' WITH 300 lb HAMMER	
105					81		
145							

Site: Thomaston Dam, Thomaston, CT	Boring No. FD-84-5 AT PZ-6	Page 6 of 11

DEPTH: Casing Blows	DEPTH: 1" = 1'	CORE/SAMPLE: No.	CORE/SAMPLE: Size	CORE/SAMPLE: Depth Range	Blows per 6" / Core Rec'vy	Sampling and Coring Operations	Classification of Materials
					97	SAMPLED WITH 2'X1 3/8" SPLIT SPOON FROM 30' TO 32' WITH 140 lb HAMMER	SANDY GRAVEL subangular to subround gravel mostly schist and granitic 40-45% sand coarse to fine mostly fine <5% NON plastic fines buff to light brown with rusty mottling (GP)
	31						
145		8	1 3/8		105		
					98		
	32			32	8" REC	DROVE 5'X 3" CASING FROM 29.5' TO 32.5' WITH 300 lb HAMMER AND WASHED OUT WITH CARBIDE ROLLER ROCK	
145							
	33					DROVE 1'X 3" CASING FROM 33.5' TO 34.5' WITH 300 lb HAMMER	
125							
	34						
131							
	35		1 3/8"	35	100	SAMPLED WITH 2'X1 3/8" SPLIT SPOON NO PENETRATION AT 35'	NO RECOVERY
65				36.5	0" REC		
	36					ADVANCED HOLE FROM 35' TO 37' WITH CARBIDE ROLLER ROCK AND WASHED OUT	
130						DROVE 5'X 3" CASING 32.5' TO 37.5' WITH 300 lb HAMMER	
	37						
48				37.5	24	SAMPLED WITH 2'X 1 3/8" SPLIT SPOON FROM 37.5 TO 39.5 WITH 140 lb HAMMER	GRAVELLY SAND well graded coarse to fine 5-10% sub rounded to subangular friable gravel 5-7% non plastic fines including <3% slightly plastic clay light brown (SW-SM)
	38	9	1 3/8"				
115					27		
	39				48		

Site: Thomaston DAM Thomaston, CT	Boring No. FD-84-5 AT PZ-6	Page 7 of 11

DEPTH CASING BLOWS	DEPTH 1" = 1'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
140				39.5	39 / 14" REC	DROVE 5'x3" CASING FROM 37.5 to 40.5' WITH 300 lb HAMMER AND WASHED OUT WITH CARBIDE ROLLER ROCK BIT.	
148	40						
115	41					ADVANCED HOLE FROM 40.5' TO 42.5' WITH CARBIDE ROLLER ROCK BIT DROVE 2'x3" CASING FROM 40.5' TO 42.5' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
131	42					CONTINUED LOSS OF DRILLING WATER	
127	43						
125	44					DROVE 5'x 3" CASING FROM 42.5' TO 45' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT WATER LOSS STOPPED AT APPROX. 44.5'	
123	45	10	1 3/8	45	80 98	SAMPLED WITH 2'x 1 3/8" SPLIT SPOON FROM 45' TO 46.5' WITH 140 lb HAMMER NO FURTHER PENETR	GRAVELLY SAND coarse to fine mostly fine 20 to 25% subrounded to rounded friable gravel and cobbles 10-15% non plastic fines including 2-3% clay light to dark brown. (SW)
133	46				123		
	47			46.5	8" REC	DROVE 2'x 3" CASING FROM 45' to 47' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	

Site: Thomaston DAM
Thomaston, CT

Boring No. FD-84-5
AT PZ-6

DEPTH: Casing Blows	DEPTH: 1" = 1'	CORE/SAMPLE: No.	CORE/SAMPLE: Size	CORE/SAMPLE: Depth Range	Blows per 6" / Core Rec'vy	Sampling and Coring Operations	Classification of Materials
105	48						
117	49						
217						DROVE 5'x3" CASING FROM 47' TO 50' WITH 300 lb HAMMER	
197	50					ADVANCED HOLE FROM 47' TO 51' WITH CARBIDE ROLLER ROCK AND WASHED OUT PRIOR TO DRIVING CASING	
115	51			51	10	LOST DRILLING WATER AT 51'	
		11	1 3/4		71	SAMPLED WITH 2' x 1 3/8" SPLIT SPOON FROM 51' TO 53' WITH 140 lb HAMMER	GRAVELLY SAND gap graded coarse to fine mostly fine 15-20 subrounded gravel and cobbles, of granite and gneiss 10-15% non plastic fines light orange-brown (SP-SM)
115	52	2 of 2			70		
					51		
105	53			53	12" rec		
151	54					DROVE 5' x 3" CASING FROM 50.5' TO 54.5' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT. CASING REFUSAL AT 54.5'	54.5
CORING TIME 20 MIN	55					CORED BEDROCK WITH BW 5' x 1 3/8" BARREL FROM 54.5' TO 56' NO WATER LOSS DURING DRILLING	BEDROCK PEGMATITIC BIOTITE MUSCOVITE GRANITE
						DRILL TIME: 20 min; RECOVERY: 13" = 72%; R.Q.D.:	
	56				13" REC	END OF BORING AT 56'	56.0

FIELD LOG OF TEST BORING IN ROCK

SITE Thomaston Dam Thomaston, CT HOLE NO. FD-84-5 PAGE 9 of 11

DATE	DEPTH FT. FROM	DEPTH FT. TO	RUN FT.	RUN REC'V'Y FT.	REC'V'Y %	DRILLING BEHAVIOR: FEED	DRILLING BEHAVIOR: WATER	DRILLING BEHAVIOR: REASON FOR PULL	ACTUAL DRILLING TIME	BIT NO. SIZE AND TYPE	ADDITIONAL REMARKS
9-26-84	54.5	56.0	1.5	13"	72	CONT.	NO LOSS	SURITY OF BEDROCK	20 min	1 3/8" I.D. BW	

TOTAL BED ROCK DRILLED 1.5 FEET

TOTAL BED ROCK RECOVERED 13" FEET

BED ROCK RECOVERY 72 PERCENT

DRILLER C. Reil

INSPECTOR E. Peck

NED FORM DEC 63 130

REPLACES EDITION OF APR 69 WHICH MAY BE USED UNTIL EXHAUSTED

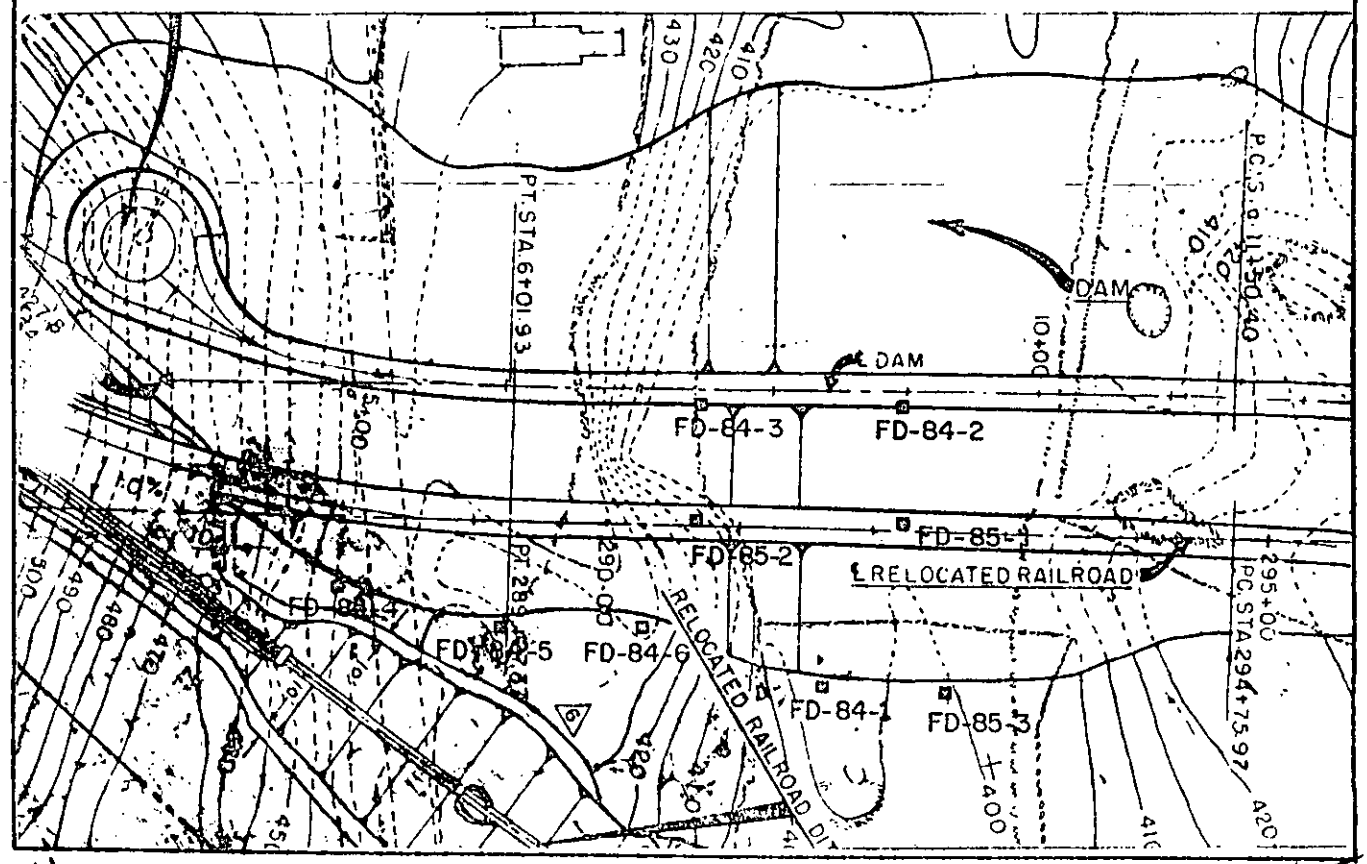
Site: THOMASTON CONN
Boring No: FD-84-5

SUBSURFACE WATER OBSERVATIONS

DATE	TIME	DEPTH-BOT. OF CASING	DEPTH-BOT. OF BORING	DEPTH TO WATER	ELEVATION WATER	REMARKS
9-25-84	1445hr	3 ft.	56 ft.	NONE	NONE	AT COMPLETION OF INSTALATION PZ-5 SET AT 52.5 ft.

Note: Depths are in feet below original ground

BORING LOCATION SKETCH



Boring No. FD-84-5

PIEZOMETER INSTALLATION REPORT

PROJECT: Thomaston Dam, Thomaston, CT | DATE: 9-25-84

LOCATION (STA): 6+00 | OFFSET FROM CENTER LINE: — | PIEZ NO.: PZ-6

PIEZ TYPE: CASAGRANDE 1½" O.D. 1" I.D. 24" LONG | DEPTH OF PIEZ: 52.5 | RISER PIPE DIAM: ¾" PVC Sch 80

PIEZ TIP SET IN (SOIL TYPE): OTTOWA SAND | SOIL SAMPLE NO.: 11 | BORING DIAM: 3"

METHOD OF INSTALLATION: SET PIEZOMETER IN OTTOWA SAND IN DRY HOLE

TYPE OF PROTECTION FOR PIEZ: 3" I.D. NW CASING AND CONCRETE 1.5' RADIUS x 1.5' DEEP VENT: ⅛" HOLE IN 3" PIPE CAP

GROUND ELEV.: 440.02 | ELEV. TOP OF RISER: 441.7 ± | ELEV PIEZ TIP: 387.52

FILTER: OTTOWA SAND | FROM ELEV: 385.52 | TO ELEV: 441.6

SEAL: NONE ABOVE PIEZOMETER | FROM ELEV: — | TO ELEV: —

INSTALLED BY: EASTERN GEOTECHNICAL ASSOC. | CONTRACT NO.: D.O. 0018 DACW33-83-D-0006 | FOREMAN: C. REIL

DATE OF INSTALLATION: 9-25-84 | DATE OF OBSERVATIONS: 10-4-84

METHOD OF TESTING PIEZ.: PIEZOMETRIC LEVEL RAISED - FALLING DURING TEST

TIME	ELAPSED TIME MINUTES	DEPTH TO WATER FEET	TIME	ELAPSED TIME MINUTES	DEPTH TO WATER FEET	TIME	ELAPSED TIME MINUTES	DEPTH TO WATER FEET
12:30	0	DRY						

REMARKS: CORED 1.5 FEET FROM ELEVATION 385.52 TO 384.02 TO ASCERTAIN BEDROCK. SEALED BEDROCK WITH BENTONITE FROM ELEVATION 384.02 TO 385.52. DUE TO STEEP SLOPE OF UNDERLYING BEDROCK WATER RAN TOO QUICKLY OUT OF THE PIEZOMETER FOR RISER PIPE TO BE FILLED

E PECK
INSPECTOR

CORPS OF ENGINEERS, U. S. ARMY
NEW ENGLAND DIVISION
FOUNDATION AND MATERIALS BRANCH

FIELD LOG OF TEST BORING

PROJECT NO. W.O. #18

Site THOMASTON DAM THOMASTON, CT — Page 1 of 16 Pages

Hole No. FD84-6 Diam. (Casing) 3" I.D. — Boring Started 9-25-84

Co-ordinates: N _____ E _____ — Boring Completed 10-3-84

Drilled by EASTERN GEOTECHNICAL ASSOC. — Report Submitted _____

Purpose of Exploration PIEZOMETER INSTALLATION

Elevation Top of Hole 439.05 M.S.L. — Casing Left in Place 5' of 3" Feet

Total Overburden Drilled 92.5 Feet

Elevation Top of Rock 346.55 M.S.L.

Elevation Bottom of Hole 344.35 M.S.L.

Total Rock Drilled 2.2 Feet

Total Depth of Hole 94.7 Feet

Core Recovered 41 %

Core Recovered _____ Ft.; 10.5" Diam. 1 3/8 in.

Soil Samples 1 3/8 in. Diam. 17 No.

Soil Samples _____ in. Diam. ____ No. — Water Table Depth 54.33

Depth From	Depth To	Method of Drilling and Type of Bit Used
0	92.5	SPT SAMPLING 5' INTERVALS ADVANCED
		THROUGH BOULDERS WITH ROLLER ROCK BIT
		AND CASING SHOE BIT. ADVANCED 3" AND 4"
		CASING WITH 300 lb HAMMER
92.5	94.7	CORED BEDROCK WITH 1 3/8" X 5' RW BARREL

INDEX

Ground Water _____ Page 15
Boring Location Sketch _____ Page 15
Overburden Record _____ Page 2-13
Rock Drilling _____ Page 13
_____ Page ____
_____ Page ____
_____ Page ____

Prepared by E S Park — Field Data — Lab. Data

Submitted by John Ciavarella

NED FORM DEC 63 121

REPLACES EDITION OF JUN 51 WHICH MAY BE USED UNTIL EXHAUSTED

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST BORING

Site THOMASTON DAM THOMASTON, CT Page 2 of 16 Pages

Boring No. FD-84-6 Desig. P2-5 Diam. (Casing) 3" I.D. AND 4" I.D.

Co-ordinates: N _____ E _____

Elevation Top of Boring 439.05 M.S.L.
Total Overburden Drilled 92.5 Feet
Elevation Top of Rock 346.55 M.S.L.
Total Rock Drilled 2.2 Feet
Elevation Bottom of Boring 344.35 M.S.L.
Total Depth of Boring 94.7 Feet
Core Recovered 41 % No. Boxes 1
Core Recovered 10.5" Diam. 1 3/8 in.
Soil Samples 1 3/8 in. Diam. 17 No.
Soil Samples _____ in. Diam. _____ No.

Hammer Wt. 140 lbs Boring Started 9-25-84
Hammer Drop 30"
Casing Left 5' of 3" Boring Completed 10-3-84
Subsurface Water Data _____ Page 15
Obs. Well PEIZOMETER
Drilled By EASTERN GEOTECHNICAL ASSOC.
Mfg. Des. Drill Acker
Inspected By: E. PECK
Classification By: E. PECK
Classification By: _____

DEPTH		CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
7 7	1'=			0	5	SAMPLED WITH 2' X 1 3/8" SPLIT SPOON FROM 0-2' WITH 140 lb HAMMER	SANDY TOPSOIL WITH 10-15% COBBLES 0.4
	1	1	1 3/4		6		GRAVELLY SAND coarse to fine mostly fine 15-20% flat friable gravel, mostly schist, and cobbles 20-25% non-plastic fines silvery light brown (SM)
8 6					11		
	2			2	14		
14					12" rec		
8	3					DUG OUT FROM 0-5' TO REMOVE OBSTRUCTING BOULDER AND TO RECOVER LOOSENED CASING SHOE	NOTE: OBSERVED MANY COBBLES AND BOULDERS UP TO 20" DIAMETER COMPOSED OF GRANITE AND SCHIST IN DIGGINGS
22	4					DROVE 4" x 5' CASING FROM 0-5' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER BOCK	
	5						

GENERAL REMARKS:

Site: THOMASTON DAM THOMASTON, CT	Boring No. FD-84-C AT PZ-5	Page 3 of 16

DEPTH CASING BLOWS	DEPTH 1" = 1'	CORE/SAMPLE NO.	CORE/SAMPLE SIZE	CORE/SAMPLE DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATER ALS
	5			5			
108		2	1 3/8		15	SAMPLED W/ 4TH 2'x1 3/8" SPLIT SPOON FROM 5' TO 7' WITH 140 lb HAMMER	SAND coarse to fine, mostly fine, 5-10% subangular to sub-rounded gravel, 5-10% non-plastic fines, light grey brown (SP-SM)
					17		
	6						?—?—?—?—?—?—?—?
230					50		
					48		
	7			7	17" REC		
170							
	8						
135							
	9						
91						DROVE 5'x4" CASING FROM 5' TO 9.5' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
	10			10			
24					32	SAMPLED WITH 2'x1 3/8" SPLIT SPOON FROM 10' TO 12' WITH 140 lb HAMMER. REFUSAL AT 11.7'	GRAVELLY SAND well graded coarse to fine 10-15% subangular to sub rounded gravel and cobbles 5-10% non plastic fines (SW-SM)
		3	1 3/8		30		
	11				61	DROVE 5'x3" CASING FROM 9.5' TO 11.7' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
245					100		11.8
	12			12	14" REC	ADVANCED HOLE FROM 11.7' TO 12' WITH ROLLER ROCK BIT AND WASHED OUT PRIOR TO DRIVING CASING	BOULDER
95						CORED THROUGH BOULDER FROM 12'-13' WITH 5'x1 3/8" BW BARREL	12.6
	13						
120							

Site: THOMASTON DAM THOMASTON, CT	Boring No. FD-84-6. AT PZ-5	Page 4 of 16

DEPTH CASING BLOWS	DEPTH 1" = 1'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
	14						
135						DROVE 5' x 3" CASING FROM 11.7' TO 15' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT.	
	15			15			
48					85	SAMPLED WITH 2' X 1 3/8" SPLIT SPOON FROM 15' TO 17' WITH 140 lb HAMMER	GRAVELLY SAND well graded coarse to fine 35-40% subangular to rounded gravel and cobbles 5-7% non plastic fines light reddish brown (SW-SM)
		4	1 3/8		83		
	16						
154					21		
					23		
	17			17			
98							
	18						
200						DROVE 5' X 3" CASING FROM 15' TO 19.6' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
	19					ADVANCED HOLE FROM 19.6' to 20.5' WITH 5' x 1 3/8" BW CORE BARREL AND DROVE 5' X 3" CASING FROM 19.6' TO 20' AND WASHED OUT WITH ROLLER ROCK BIT.	19.6
529							BOULDER GRANITE
	20					LOST DRILL WATER AT 20.5'	20.0'
72				20.5		SAMPLED WITH 2' x 1 3/8" SPLIT SPOON FROM 20.5' TO 22.5' WITH 140 lb HAMMER	GRAVELLY SAND well graded coarse to fine 10-15% subangular to subrounded gravel and cobbles 4-7% non plastic fines including <3% clay reddish brown (SW-SM)
					45		
	21						
80		5	1 3/8		41	DROVE 5' X 3" CASING FROM 20' TO 22.5' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
	22				44		

Site: THOMASTON DAM THOMASTON, CT	Boring No. FD-84-6 AT PZ-5	Page 5 of 16

DEPTH: CASING BLOWS	DEPTH: 1° = 1'	CORE/SAMPLE: NO.	CORE/SAMPLE: SIZE	CORE/SAMPLE: DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
					53		
182				22.5	7" REC		
	23						
142							
	24						
42						DROVE 5' X 3" CASING FROM 22.5' TO 25' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
	25			25	10	SAMPLED WITH 2' x 1 3/8" SPLIT SPOON FROM 25' TO 27' WITH 140 lb HAMMER	SAND gap graded coarse to fine <5% sub rounded gravel <5% non plastic fines light brown (SP)
19							
	26	6	1 3/8		12		
					17		
37							
					25		
	27			27	4" REC		
70							
	28						
62							
	29						
70						DROVE 5' X 3" CASING FROM 25' TO 30' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
	30			30			
19					15		

Site: THOMASTON DAM THOMASTON, CT	Boring No. FD-84-C AT PZ-5	Page 6 of 16

DEPTH CASING BLOWS	DEPTH 1" = 1'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
					15	SAMPLED WITH 2' x 1 3/8" SPLIT SPOON FROM 30' TO 32' WITH 140 lb HAMMER	SAND well graded coarse to fine <5% subrounded gravel some rotten. 3-7% non plastic fines including <3%, grey clay bright orange brown (SW)
29	31	7	1 3/8		21		
					23		
	32			32	9" REC		
57							gravelly as observed from wash
	33						
105							
	34						
138						DROVE 5' x 3" CASING FROM 30' TO 35' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
	35			35			
21		8	1 3/8		15	SAMPLED WITH 2' x 1 3/8" SPLIT SPOON FROM 35' TO 36.3' WITH 140 lb HAMMER. BOUNCING REFUSAL AT 36.3'. NO FURTHER PENETRATION.	SAND uniform medium to fine <2% subrounded gravel <5% non plastic fines including clay appears to be bedded with .1" layers in bottom 5" of CORE (SP)
					17		
	36						
34				36.3	110		
					9" rec		
	37						
170							
	38						
184							
	39						

Site: THOMASTON DAM THOMASTON, CT	Boring No. FD-84-C AT PZ-5	Page 7 of 16

DEPTH CASING BLOW	DEPTH 1" = 1'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
						DROVE 5' X 3" CASING FROM 35' TO 39.5' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
165						ADVANCED HOLE FROM 39.5' TO 40' WITH ROLLER ROCK BIT	
	40			40	31	SAMPLED WITH 2' X 1 3/8" SPLIT SPOON FROM 40' TO 42' WITH 140 lb HAMMER	SILTY SANDY GRAVEL 50-55% rounded to subrounded granitic and gneissic gravel, 40-45% well graded coarse to fine sand 5-10% non plastic fines including <5% slightly plastic grey clay light reddish brown (GW-GM) SM?
85		9	1 3/8"		77		
	41				100		
155					81	DROVE 2' X 3" CASING FROM 39.5' TO 42' WITH 300 lb HAMMER AND WASHED OUT WITH CARBIDE ROLLER ROCK BIT.	
	42			42	9" REC		
38							
	43					ADVANCED HOLE FROM 42' TO 45' WITH CARBIDE ROLLER ROCK BIT PRIOR TO DRIVING CASING AND SAMPLING AT 45-47'.	
34							
	44						
120						DROVE 5' X 3" CASING FROM 42' TO 45' WITH 300 lb HAMMER AND WASHED OUT WITH CARBIDE ROLLER ROCK BIT	
	45			45	84	SAMPLED WITH 2' X 1 3/8" SPLIT SPOON FROM 45-46' WITH 140 lb HAMMER, NO FURTHER PENETRATION	GRAVELLY SAND coarse to fine mostly fine 10-15% subrounded to subangular gravel 3-7% non plastic fines bright reddish grey (SP-SM)
50		10	1 3/8		122		
	46			46	5" REC	ADVANCED HOLE FROM 45' TO 47' WITH CARBIDE ROLLER ROCK BIT	
100						DRILLWATER LOST AT 47'	
	47					DROVE 2' X 3" CASING FROM 47' TO 47' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
142							

Site: THOMASTON DAM THOMASTON, CT	Boring No. FD-84-6 AT PZ-5	Page 8 of 16

DEPTH		CORE/SAMPLE				SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
CASING BLOWS	1" 1'	NO.	SIZE	DEPTH RANGE	BLOWS PER 6" / CORE REC'VY		
	48						
271						ADVANCED HOLE FROM 45' TO 50' WITH CARBIDE ROLLER ROCK BIT AND WASHED OUT PRIOR TO DRIVING CASING	
	49						
341							
	50			50		DROVE 5'x3" CASING FROM 45' TO 47' WITH 300 lb HAMMER AND WASHED OUT WITH ROCKER ROCK BIT	
58					39		SAND uniform medium to fine <5% subangular gravel <5% non-plastic fines buff (SP)
					37		
	51	11	1 3/8				
85					31		
					31		
	52			52	10" REC		
115							
	53						
99							
	54						
128						DROVE 5'x3" CASING FROM 50' TO 55' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
	55			55			
55		12	1 3/8		25	[illegible] WITH 2'x1 3/8" SPLIT SPOON FROM 55' TO 57' WITH [illegible]	Gravelly SAND coarse to fine 15-20% rounded to subrounded gravel and cobbles 5-10% non plastic fines light greyish brown (SW-SM)
	56				41		

Site: THOMASTON DAM THOMASTON, CT	Boring No. FD-84-C AT PZ-5	Page 9 of 16

DEPTH CASING BLOWS	DEPTH 1" = 1'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATER ALS
78					29		
					23		
	57			57	9" REC		
100							
	58						
130							
	59						
143						DROVE 5'x3" CASING FROM 55' TO 60' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
	60			60			
103					71	SAMPLED WITH 2'x1 3/8" SPLIT SPOON FROM 60' TO 62' WITH 140 lb HAMMER	SILTY GRAVELLY SAND coarse to fine 15-20% subrounded to rounded gravel and cobbles 15-20% non plastic to slightly plastic fines including <5% clay light greyish brown (SW-SM)
					71	NOTE: COBBLE JAMMED IN NOSE OF SPOON	
	61	13	1 3/8				
					69		
140							
					73		
	62			62	5" REC		
150							
	63					DROVE 5'x3" CASING FROM 60' TO 63.5' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
180						ADVANCED HOLE FROM 63.5 TO 64.5 WITH CARBIDE ROLLER ROCK BIT (NOTE: BEARING SHOT ON BIT)	
	64					DROVE 5'x3" CASING FROM 63.5' TO 64.5' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK	
225	65						

Site: THOMASTON DAM, THOMASTON, CT	Boring No. FD-84-6 AT PZ-5	Page 10 of 16

DEPTH: CASING BLOWS	DEPTH: 1" = 1'	CORE/SAMPLE: NO.	CORE/SAMPLE: SIZE	CORE/SAMPLE: DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
241 (6")							
	65			65			
			1 3/8		100	SAMPLED FROM WITH 2' X 1 3/8" SPLIT SPOON FROM 65' TO 65.5' WITH 140 lb HAMMER NO PENETRATION	NO RECOVERY
381				65.5			
	66					ADVANCED HOLE THROUGH COBBLES(?) FROM 64.5' TO 66.9' WITH ROLLER ROCK BIT AND WASHED OUT	
311						CORED WITH 5' X 1 3/8" BW BARREL FROM 66.9 TO 68' CORE TIME 20 min	NOTE RECOVERED gravel and cobbles of schist, gneiss & pegmatite well rounded to sub-rounded
	67						
135							
	68						
153							
	69			69			
					29	SAMPLED WITH 2' X 1 3/8" SPLIT SPOON FROM 69 TO 71' WITH 140 lb HAMMER	SILTY SAND coarse to fine, mostly fine 5-10% subrounded gravel 10-15% nonplastic to slightly plastic fines including <5% clay reddish grey (SP-SM)
180							
		14	1 3/8		37	DROVE 5' X 3" CASING FROM 64.5' TO 70' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
	70						
					37		
174							
					32		
	71			71	5" REC		
97							
						ADVANCED HOLE FROM 70' TO 74' WITH ROLLER ROCK BIT AND WASHED OUT	
	72						
98							
	73						

Site: THOMASTON DAM THOMASTON, CT	Boring No. FD-84-6 AT P2-5	Page 11 of 16

DEPTH CASING BLOWS	DEPTH 1" = 1'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER 6" / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
108							
	74					DROVE 5'x3" CASING FROM 70' TO 74' AND WASHED OUT WITH ROLLER ROCK BIT	
88				74.5			74.5
					68	SAMPLED WITH 2'x 1 3/8" SPLIT SPOON FROM 74.5' TO 76' WITH 140 lb HAMMER	GRAVELLY SAND gap graded coarse to fine, mostly fine 10-15% rounded to subrounded gravel including rotten schist 5-10% non plastic fines WITH trace of clay, dank reddish-brown (SP)
	75	15	1 3/8		117		
190					124		
	76			76	6" REC		
178							
	77						
200							
	78					DROVE 5'x3" CASING FROM 74' TO 79' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
229							
	79						
88						ADVANCED HOLE FROM 79' TO 80' WITH ROLLER ROCK BIT AND WASHED OUT	
	80			80			
					123	SAMPLED WITH 2'x1 3/8" SPLIT SPOON FROM 80' TO 82' WITH 140 lb HAMMER	SILTY GRAVELLY SAND well graded coarse to fine 15-20% subangular + rounded gravel and cobbles 10-15% non plastic fines including <3% clay reddish grayish brown (SW-SM)
134		16	1 3/8		89		
	81						
					81		

Site: THOMASTON DAM THOMASTON, CT	Boring No. FD-84-6 AT PZ-5	Page 12 of 16

DEPTH: CASING BLOWS	DEPTH: 1" = 1'	CORE/SAMPLE: NO.	CORE/SAMPLE: SIZE	CORE/SAMPLE: DEPTH RANGE	BLOWS PER 6" / CORE REC'VT	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
129					103		
	82			82	13" REC		
138							
	83						
166						DROVE 5'X 3" CASING FROM 79' TO 84' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
	84					ADVANCED HOLE FROM 84' TO 85.3' WITH ROLLER ROCK BIT AND WASHED OUT	
47							
	85						
				85.3			
122					69	SAMPLED WITH 2'X 1 3/8" SPLIT SPOON FROM 85.3' TO 87.3' WITH 140 lb HAMMER	SAND gap graded coarse to fine, mostly fine 5-10% rounded to subangular gravel and cobbles 5-10% non plastic fines, including <3% clay dark reddish brown (SP-SM)
	86	17	1 3/8		141		
143					101	DROVE 5'X 3" CASING FROM 84' TO 87' WITH 300 lb HAMMER	
	87				129		
190				87.3	18" REC		
	88						
203						DROVE 5'X 3" CASING FROM 87' TO 89' WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER ROCK BIT	
	89						
	90						

Site: THOMASTON DAM THOMASTON, CT	Boring No. FD-84-6 AT PZ-5	Page 13 of 16

DEPTH: Casing Blows	DEPTH: 1" = 1'	CORE/SAMPLE: No.	CORE/SAMPLE: Size	CORE/SAMPLE: Depth Range	Blows per 6" / Core Rec'vy	Sampling and Coring Operations	Classification of Materials
						ADVANCE HOLE FROM 89' TO 91' WITH ROLLER ROCK BIT AND WASHED OUT	91.0'
	91					CORED WITH 2' x 1 3/8" BW BARREL FROM 91' TO 91.9' 4" OF ROCK RECOVERED	BOULDERS
CORING TIME (min) 10							
	92						92.4
9							WEATHERED PEBBLES OF SCHIST
							BEDROCK SCHIST 92.5
	93						
14						CORED WITH 2' x 1 3/8" BW BARREL FROM 91.9 TO 93.2' RECOVERED 5" SCHIST INCLUDING 1" BEDROCK	
	94						
6						CORED WITH 2' x 1 3/8" BW BARREL FROM 93.2' TO 94.7' RECOVERED 9 1/2" SCHIST BEDROCK	94.7
						END OF BORING 94.7'	

DRILL TIME	RECOVERY	RQD
39 min	10.5" = 58%	

FIELD LOG OF TEST BORING IN ROCK

SITE THOMASTON DAM THOMASTON, CT HOLE NO. FD-84-C AT PZ-5 PAGE 14 of 16

DATE	DEPTH FT. FROM	DEPTH FT. TO	RUN FT.	RUN REC'V'Y FT.	REC'V'Y %	DRILLING BEHAVIOR FEED	DRILLING BEHAVIOR WATER	DRILLING BEHAVIOR REASON FOR PULL	ACTUAL DRILLING TIME	BIT NO. SIZE AND TYPE	ADDITIONAL REMARKS
10-3	92.5	93.2	0.7	0.1	14	CONT	20% Loss	TO DETERMINE NATURE OF ROCK	6 min	5' x 1 3/8"	
10-3	93.2	94.7	1.5	0.8	53	CONT	20% Loss	"	17 min	BW BARREL	

TOTAL BED ROCK DRILLED 2.2 FEET

TOTAL BED ROCK RECOVERED 10.5" FEET

BED ROCK RECOVERY 41 PERCENT

DRILLER C. REIL

INSPECTOR E. PECK

NED FORM DEC 63 130

REPLACES EDITION OF APR 49 WHICH MAY BE USED UNTIL EXHAUSTED

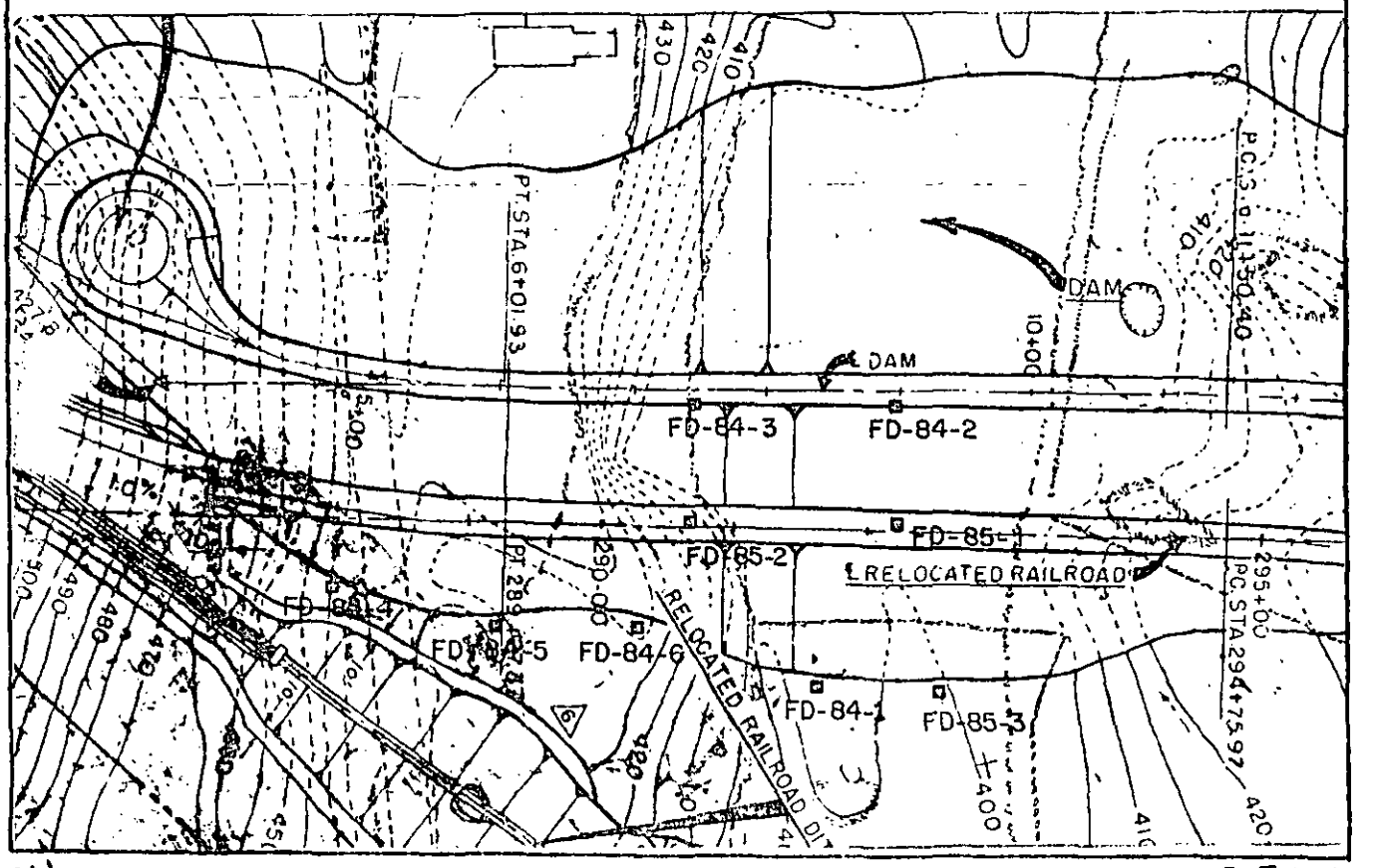
Site: THOMASTON DAM
Boring No: FD-84-6 PZ-5

SUBSURFACE WATER OBSERVATIONS

DATE	TIME	DEPTH-BOT. OF CASING	DEPTH-BOT. OF BORING	DEPTH TO WATER	ELEVATION WATER	REMARKS
10-4-85	1500hrs	3 ft.	92.5 ft.	54.33 ft.	384.72 ft	PZ-5 SET AT 90.5 ft.
10-17-85	1030hrs	3 ft.	92.5 ft.	54.49 ft.	384.56 ft	
9-9-85	1115hrs.	3 ft.	92.5 ft.	51.3 ft	387.75	PZ-5 WAS RE-
9-10	PM	3 ft.	92.5 ft.	51.3 ft.	387.76	INSTALLED 9-9-85

Note: Depths are in feet below original ground

BORING LOCATION SKETCH



PIEZOMETER INSTALLATION REPORT

PROJECT: THOMASTON DAM THOMASTON, CT | DATE: 10-4-84

LOCATION (STA): 7+00 | OFFSET FROM CENTER LINE: — | PIEZ NO.: PZ-5

PIEZ TYPE: CASAGRANDE 1.6" O.D 1" I.D. 24" LONG | DEPTH OF PIEZ: 90.5 ± | RISER PIPE DIAM: 3/4" Sch 80 PVC

PIEZ TIP SET IN (SOIL TYPE): OTTOWA SAND - SAND | SOIL SAMPLE NO.: 17 | BORING DIAM: 3"

METHOD OF INSTALLATION: SET PIEZOMETER IN OTTOWA SAND

TYPE OF PROTECTION FOR PIEZ: 3" I.D. N.W. CASING AND 1.5' RADIUS x 1.5' DEEP CONCRETE | VENT: 1/8" HOLE IN CAP

GROUND ELEV.: 439.05 | ELEV. TOP OF RISER: 440.6 ± | ELEV PIEZ TIP: 348.55

FILTER: OTTOWA SAND | FROM ELEV: 346.55 ± | TO ELEV: 440.6

SEAL: NONE ABOVE PIEZOMETER | FROM ELEV: — | TO ELEV: —

INSTALLED BY: EASTERN GEOTECHNICAL ASSOC. | CONTRACT NO.: D.O. 0018 DACW 33-93 D0006 | FOREMAN: C. REIL

DATE OF INSTALLATION: 10-4-84 | DATE OF OBSERVATIONS: 10-4-84

METHOD OF TESTING PIEZ.: PIEZOMETRIC LEVEL RAISED -- FALLING DURING TEST

TIME	ELAPSED TIME MINUTES	DEPTH TO WATER FEET	TIME	ELAPSED TIME MINUTES	DEPTH TO WATER FEET	TIME	ELAPSED TIME MINUTES	DEPTH TO WATER FEET
1300	20 min	Remained at 54.55 ft						
		*						

REMARKS: CORED 2.2' FROM ELEVATION 346.55 TO 344.35 TO ASCERTAIN BEDROCK. SEALED BEDROCK WITH BENTONITE FROM ELEVATION 344.35 TO 346.55

* Could not fill riser pipe, water ran out at to fast a rate.

RETESTED ON 9-10-85 AFTER REINSTALLATION: COULD NOT FILL RISER PIPE, WATE RAN OUT OF THE PEZOMETER TIP AT TO FAST A RATE (50 gallons in 3 minutes)

E Peck
INSPECTOR

CORPS OF ENGINEERS, U. S. ARMY
NEW ENGLAND DIVISION
FOUNDATION AND MATERIALS BRANCH

FIELD LOG OF TEST BORING

PROJECT NO. 0018

Site THOMASTON DAM, THOMASTON, CONN. — Page 1 of 17 Pages

Hole No. FD-DS-1 Diam. (Casing) 4" and 3" — Boring Started 8-13-85

Co-ordinates: N _____ E _____ — Boring Completed 8-22-85

Drilled by ECA - NER.C — Report Submitted _____

Purpose of Exploration Installation of piezometer.

Elevation Top of Hole 463.5 ± M.S.L. — Casing Left in Place 75 Feet

Total Overburden Drilled 96 Feet

Elevation Top of Rock 367.5 M.S.L.

Elevation Bottom of Hole 360.5 M.S.L.

Total Rock Drilled 6 Feet

Total Depth of Hole 103 Feet

Core Recovered 99 %

Core Recovered 4.95 Ft.: NX Diam. 2.06 In.

Soil Samples 1 3/8 In. Diam. 6 No.

Soil Samples _____ In. Diam. _____ No. — Water Table Depth 78 ft.

Depth From	Depth To	Method of Drilling and Type of Bit Used
0.0	72.0	DRILLED WITH 3 7/8" OD CORE
		BARREL AND HW CASING
		SHOE BIT
72.0	95.0	DROVE NW CASING FROM 72.0
		TO 95.0 WITH 300 lb HAMMER, SAMPL
		ED WITH SPLITSPOON AND 140 lb
		HAMMER 5 FT. INTERVALS
96.0	103.0	CORED BEDROCK [RR 96T098] NX

INDEX

Ground Water	Back of Page 16
Boring Location Sketch	Back of Page 16
Overburden Record	Page 2-13
Rock Drilling	Page 13-14
	Page ____
	Page ____
	Page ____

Prepared by JOHN CROWTHER
Field Data — Lab. Data

Submitted by _____

NED FORM DEC 63 121

REPLACES EDITION OF JUN 51 WHICH MAY BE USED UNTIL EXHAUSTED

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST BORING

Site THOMASTON DAM CONN — Page 2 of 17 Pages

Boring No. FD-85-1 Desig. PZ-9 Diam. (Casing) 4" + 3"

Co-ordinates. N _____ E _____

Elevation Top of Boring 463.5 ± M.S.L.
Total Overburden Drilled 96 Feet
Elevation Top of Rock 367.5 M.S.L.
Total Rock Drilled 7.0 Feet
Elevation Bottom of Boring 360.5 M.S.L.
Total Depth of Boring 103 Feet
Core Recovered 99 % No. Boxes 1
Core Recovered 4.95 Ft NX Diam. 2.06 In.
Soil Samples 13/8 In. Diam. 6 No.
Soil Samples _____ In. Diam. ____ No.

Hammer Wt. 140 lbs Boring Started 8-13-85
Hammer Drop 30"
Casing Left 74 FT Boring Completed 8-22-85
Subsurface Water Data _____ Page 16
Obs. Well PIEZOMETER
Drilled By EGA - NERC
Mfg. Des. Drill MOBILE DRILL
Inspected By: JOHN CROWTHER
Classification By: JOHN CROWTHER
Classification By: _____

DEPTH 1"=1.0	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
			0.0		PRE AUGERED BORE HOLE WITH 3 1/2" SOLIDSTEM AUGERS TO 5.0 FT.	SAND + BOULDER FILL
1.0		NX			DRILLED WITH 3 7/8" OD DOUBLE TUBE CORE BARREL FROM 0.0 TO 5.0 FT.	BOULDERS, COBBLES GRAVEL, SAND + SILT. OBSERVED IN WASH WATER AND ROCK CORES
2.0					DRILLED WITH HW CASING SHOE BIT FROM 0.0 TO 5.0 FT.	
3.0						
4.0						
5.0			5.0			1 Ft.± BOULDER AT 5.0 FT.

GENERAL REMARKS: CASING LEFT IN PLACE TO 71 FT
NOTE: ELEVATIONS ESTIMATED FROM STAKE ACROSS RAILROAD BED AT 464.79

Site THOMASTON DAM	Boring No. FD-85-1 PZ-9	Page 3 of 17

DEPTH	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
6.0					DRILLED WITH 3 7/8" O.D. DOUBLE TUBE CORE BARREL FROM 5.0 TO 10.0 FT.	SAND + BOULDER FILL (SAME)
7.0					DRILLED WITH HW CASING SHOE BIT FROM 5.0 TO 10.0 FT	
8.0						1 ft± BOULDER AT 8.0 ft.
9.0						
10.0						3 ft.± BOULDER AT 10.0 ft
11.0					DRILLED WITH 3 7/8" O.D. DOUBLE TUBE CORE BARREL FROM 10.0 TO 15.0 FT.	
12.0					DRILLED WITH HW CASING SHOE BIT FROM 10.0 TO 15.0 FT	
13.0						3 ft.± BOULDER AT 13.0 ft.

Site THOMASTON DAM	Boring No. FD-85-1 PZ-9	Page 4 of 17

DEPTH 1" = 1.0	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
4.0						SAND AND BOULDER FILL (SAME)
15.0					DRILLED WITH 3 7/8" DOUBLE TUBED CORE BARREL FROM 15.0 TO 20.0 FT	
16.0						
17.0					DRILLED WITH HW CASING SHOE BIT FROM 15.0 TO 20.0 FT.	
18.0						1 FT.± BOULDER AT 18.0 FT.
19.0						
20.0						
21.0					DRILLED WITH 3 7/8" DOUBLE TUBED CORE BARREL FROM 20.0 TO 25.0 FT.	3 FT.± BOULDER AT 20.0 FT.
22.0						

Site THOMASTON DAM	Boring No. FD-85-1 PZ-9	Page 5 of 17

DEPTH 1" = 1.0	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
					DRILLED WITH HW CASING SHOE BIT FROM 20.0 TO 25.0 FT.	SAND AND BOULDER FILL (SAME)
23.0						3ft.± BOULDER AT 23.0 ft.
24.0						
25.0					DRILLED WITH 3 7/8" DOUBLE TUBED CORE BARREL FROM 25.0 TO 30.0 FT.	
26.0						
27.0						2ft.± BOULDER AT 27.0 ft.
28.0					DRILLED WITH HW CASING SHOE BIT FROM 25.0 TO 30.0 FT.	
29.0						
30.0						

Site THOMASSON DAM	Boring No. FD-85-1 PZ-9	Page 6 of 17

DEPTH 1" = 1'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
31.0					DRILLED WITH 3 7/8" O.D. DOUBLE TUBED CORE BARREL FROM 30.0 TO 35.0 FT.	SAND AND BOULDER FILL (SAME)
32.0						
33.0						
34.0					DRILLED WITH HW CASING SHOE BIT FROM 30.0 TO 35.0 FT.	
35.0						MOSTLY COBBLES 34 TO 39 FT, 20% SMALL BOULDERS LESS THAN 1 FT. IN SIZE
36.0					DRILLED WITH 3 7/8" O.D. DOUBLE TUBED CORE BARREL FROM 35.0 TO 40.0 FT.	
37.0						
38.0					DRILLED WITH HW CASING SHOE BIT FROM 35.0 TO 40.0 FT.	
39.0						

Site THOMASTON DAM	Boring No. FD-85-1 PZ-9	Page 7 of 17

DEPTH (FT.)	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
40.0					DRILLED WITH 3 7/8" OD DOUBLE TUBED CORE BARREL FROM 40.0 FT. TO 45.0 FT.	SAND AND BOULDER FILL (SAME)
41.0						MOSTLY COBBLES 39.0 TO 48.0 FT.
42.0						
43.0						
44.0					DRILLED WITH HW CASING SHOE BIT FROM 40.0 TO 45.0 FT.	
45.0					DRILLED WITH 3 7/8" O.D. DOUBLE TUBED CORE BARREL FROM 45.0 TO 50.0 FT.	
46.0						
47.0						

Site THOMASTON DAM	Boring No. FD-85-1 PZ-9	Page 8 of 17

DEPTH 1" = 1'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
48.0					DRILLED WITH HW CASING SHOE BIT FROM 45.0 TO 50.0 FT.	SAND AND BOULDER FILL (SAME)
49.0						1 ft.± BOULDER AT 48.0 AND 50.0 ft.
50.0					DRILLED WITH 3 7/8" OD. DOUBLE TUBED CORE BARREL FROM 50.0 TO 55.0 FT.	
51.0						
52.0						
53.0					DRILLED WITH HW CASING SHOE BIT FROM 50.0 TO 55.0 FT.	
54.0						
55.0						
56.0						BOULDERS AT 56.0 FT.

Site THOMASTON CONN.	Boring No. FD-85-1 PZ-9	Page 9 of 17

DEPTH (ft)	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
56.0					DRILLED WITH 3 7/8" O.D. DOUBLE TUBED CORE BARREL FROM 55.0 TO 60.0 FT.	SAND AND BOULDER FILL (SAME)
57.0						
58.0						
59.0					DRILLED WITH HW CASING SHOE BIT FROM 55.0 TO 60.0 FT.	
60.0						SMALL BOULDER AT 60.0 AND 63.0 FT
61.0					DRILLED WITH 3 7/8" O.D. DOUBLE TUBED CORE BARREL FROM 60.0 TO 65.0 FT.	
62.0						
63.0					DRILLED WITH HW CASING SHOE BIT FROM 60.0 TO 65.0 FT.	
64.0						

Site THOMASTON DAM	Boring No. FD-85-1 PZ-9	Page 10 of 17

DEPTH (Ft.)	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
65.0					DRILLED WITH 3 7/8" O.D. DOUBLE TUBED CORE BARREL FROM 65.0 TO 70.0 FT.	SAND AND BOULDER FILL (SAME)
66.0						
67.0					DRILLED WITH HW CASING SHOE BIT FROM 65.0 TO 70.0 FT.	67.0 BOTTOM OF ROCK FILL 67.0 FT.
68.0						SELECT PERVIOUS FILL SANDS OBSERVED IN WASH WATER
69.0						
70.0			70.0			70.0 BOTTOM OF SELECT PERVIOUS FILL 70.0 FT.
				20	SAMPLED FROM 70.0 TO 72.0 FT. WITH SPLIT SPOON SAMPLER WITH A 140 lb HAMMER	SAND coarse to fine, mostly fine, 5-10% gravel, 5-8% non plastic fines, dry brown (SP-SM)
71.0	1	1 3/8"	TO	25		
				30		
72.0			72.0	44	DROVE 3" NW CASING FROM 70.0 TO 75.0 FT. WITH 300 lb HAMMER	
				3" REC		[COBBLES 72.0 TO 73.5 FT]
73.0						

Site THOMASTON DAM	Boring No. FD-85-1 PZ-9	Page 11 of 17

DEPTH (ft)	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
74.0					WASHED OUT NW CASING WITH ROLLER BIT	
75.0			75.0	18	SAMPLED FROM 75.0 TO 77.0 FT. WITH SPLIT SPOON SAMPLER WITH A 140 lb HAMMER	GRAVELLY SAND coarse to fine 15-20% gravel, 5-8% non plastic fines (SW SM)
76.0	2	1 3/8"	TO	17		
				19		
77.0			77.0	48 / 3" REC	DROVE 3" NW CASING FROM 75.0 TO 80.0 FT. WITH 300 lb HAMMER	[COBBLES 77.0 TO 78.0 FT]
78.0						
79.0					WASHED OUT NW CASING WITH ROLLER BIT	
80.0			80.0	19	SAMPLED FROM 80.0 TO 82.0 FT. WITH SPLIT SPOON SAMPLER WITH A 140 lb HAMMER	GRAVELLY SAND coarse to fine, 15-20% gravel, 5-8% non plastic fines (SW-SM)
81.0	3	1 3/8		19		
			TO	23		

Site THOMASTON DAM

Boring No. FD-85-1 PZ-9

DEPTH (ft)	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
82.0			82.0	44	DROVE 3" NW CASING FROM 80.0 TO 85.0 FT WITH 300 lb. HAMMER	[COBBLES 82.0 TO 85.0]
83.0					WASHED OUT CASING WITH ROLLER BIT	
84.0						
85.0			85.0	50	SAMPLED FROM 85.0 TO 87.0 FT WITH SPLIT SPOON SAMPLER WITH 140 lb HAMMER	GRAVELLY SAND coarse to fine, 15-20% gravel, 5-8% non plastic fines (SW-SM)
86.0	4	1 3/8		47		
			TO	45		
				53	DROVE 3" NW CASING FROM 85.0 TO 90.0 FT. WITH 300 lb. HAMMER	
87.0			87.0			
88.0					WASHED OUT CASING WITH ROLLER BIT	
89.0						
90.0						

Site THOMASTON DAM	Boring No. FD-85-1 PZ-9	Page 13 of 17

DEPTH (ft)	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
			90.0	60	SAMPLED FROM 90.0 TO 92.0 FT WITH SPLIT SPOON SAMPLER WITH 140 lb. HAMMER	GRAVELLY SAND coarse to fine, 15-20% gravel, 5-8% nonplastic fines (SW-SM)
91.0	5	1 3/4"	TO	40		
				48	DROVE 3" NW CASING FROM 90.0 TO 95.0 FT. WITH 300 lb HAMMER	
92.0			92.0	49		
93.0						
94.0					WASHED OUT CASING WITH ROLLER BIT	
95.0			95.0			
	6	1 3/8"	TO	78	SAMPLED FROM 95.0 TO 95.8 ft WITH SPLIT SPOON	
				140		
96.0			96.0			96.0
				NO REC.	DRILLED WITH ROLLER BIT FROM 96.0 TO 98.0 FT. SWITCHED TO NX CORE BARREL AT 98.0 FT. TO ASCERTAIN BEDROCK	96.0 TOP OF BEDROCK SCHIST LIGHT GREY, MEDIUM MICACEOUS
97.0						
98.0					CORED BEDROCK FROM 98.0 FT TO 103 FT.	

Site THOMASTON DAM	Boring No. FD-85-1 PZ-9	Page 14 of 17

DEPTH (ft)	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
99.0					WITH NX CORE BARREL RUN I RECOVERY: 4.95 ft. RQD = 68.8	CORE SAMPLE BREAKS ALONG MICA 2 SEAMS OBSERVED AT 1.5 AND 14.5 FT. INTO THE RUN
100.0						
101.0						
102.0						
103.0						103.0 FT
					END OF TEST BORING AT 103 FT.	

FIELD LOG OF TEST BORING IN ROCK

SITE THOMASTON DAM, THOMASTON CONN HOLE NO. FD-85-1 P2.9 PAGE 15 OF 17

DATE	DEPTH PT. FROM	DEPTH PT. TO	RUN PT.	RUN REC'V'Y PT.	REC'V'Y %	DRILLING BEHAVIOR: FEED	DRILLING BEHAVIOR: WATER	DRILLING BEHAVIOR: REASON FOR PULL	ACTUAL DRILLING TIME	BIT NO. SIZE AND TYPE	ADDITIONAL REMARKS
8-21-85	98	103	5	4.95	99	CONTINUOUS	NO LOSS	END OF RUN	13 min 45 SEC	NWX	3 SEAMS AT 96 FT TO 98 FT. (1") OR LESS (DRILLED WITH ROLLER BIT 96 TO 98) SEAMS IN CORE BARREL RUN AT 1.5 inches and 1 ft 7.5 inches RQD = 68.8

TOTAL BED ROCK DRILLED 5.0 FEET

TOTAL BED ROCK RECOVERED 4.95 FEET

BED ROCK RECOVERY 99 PERCENT

DRILLER TIM CARPENTER

INSPECTOR JOHN CROWTHER

NED FORM 130

PREVIOUS EDITION OF ACE 40 WHICH MAY BE USED UNTIL EXHAUSTED

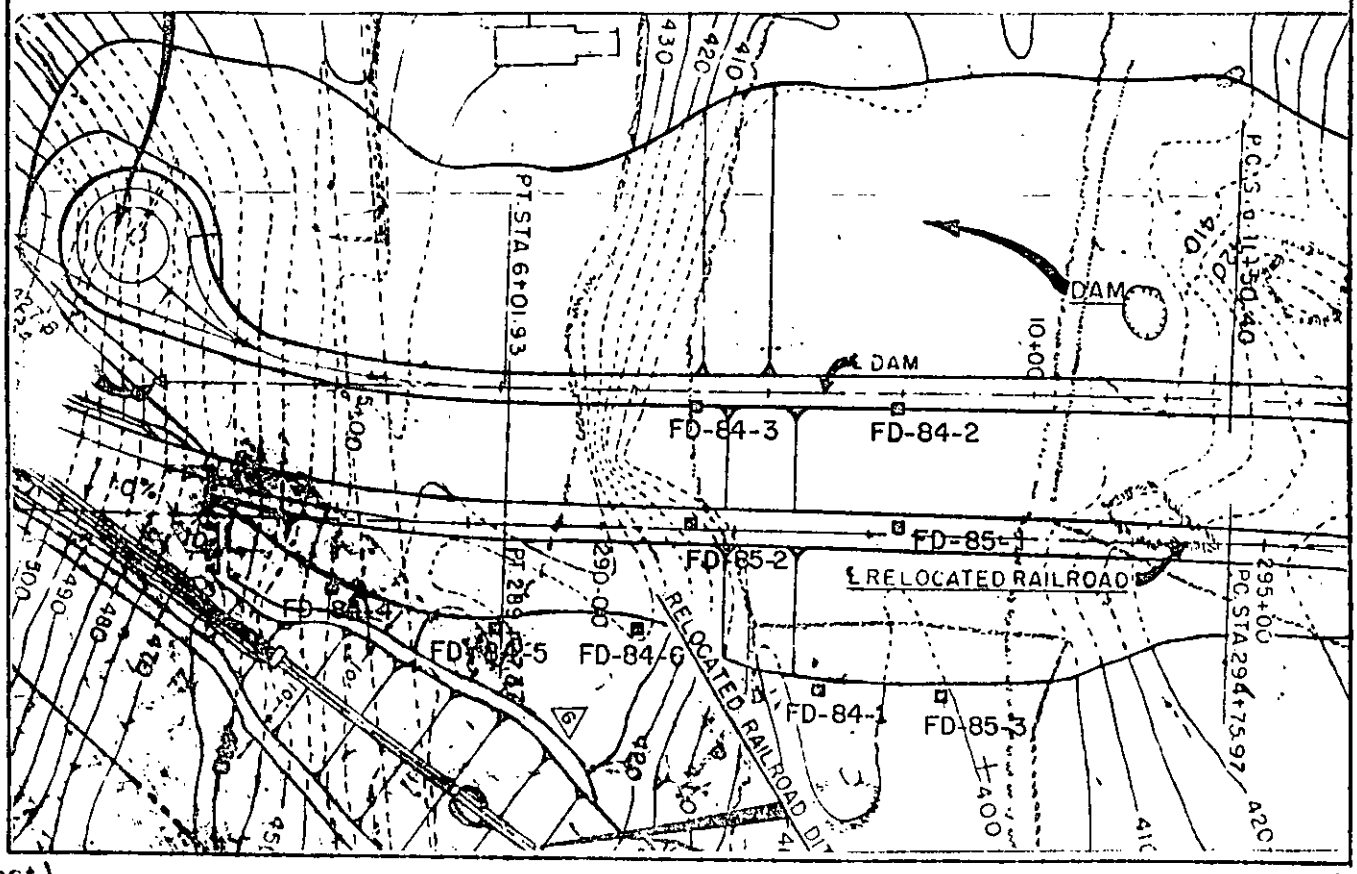
Site: THOMASTON DAM
Boring No: FD-85-1 PZ-9

SUBSURFACE WATER OBSERVATIONS

DATE	TIME	DEPTH-BOT. OF CASING	DEPTH-BOT. OF BORING	DEPTH TO WATER	ELEVATION WATER	REMARKS
8-21-85	800hrs	95 ft.	103 ft.	75 ft.	385.5 ft	READING 1 HOUR
						AFTER COMPLETION
						OF BORING.
						PZ-9 SET AT
						94.5 ft.
9-10-85	1145hrs	71 ft.	103 ft.	75.1	388.4	AFTER COMPLETION
						OF PIEZOMETER

Note: Depths are in feet below original ground

BORING LOCATION SKETCH



Boring No. FD-85-1

PIEZOMETER INSTALLATION REPORT

PROJECT: THOMASTON DAM, THOMASTON CONN. DATE: 8-22-85

LOCATION (STA): 8+96 OFFSET FROM CENTER LINE: PIEZ NO.: P2-9

PIEZ TYPE: CASAGRANDE DEPTH OF PIEZ: 94.5 RISER PIPE DIAM: 3/4"

PIEZ TIP SET IN (SOIL TYPE): GRAVELLY SAND SOIL SAMPLE NO.: 6 BORING DIAM: 3" ID

METHOD OF INSTALLATION: PIEZOMETER TO ELEVATION AND SURROUNDED BY OTTOWA SAND

TYPE OF PROTECTION FOR PIEZ: OTTOWA SAND AND 75 ft. of 4" CASING VENT: INSIDE OF CAP

GROUND ELEV.: 463.5 ± ELEV. TOP OF RISER: 465.87 ± ELEV PIEZ TIP: 369 ±

FILTER: OTTOWA SAND FROM ELEV: 360.5 TO ELEV: 385.5

SEAL: BENTONITE FROM ELEV: 385.5 TO ELEV: 389.5

INSTALLED BY: EGA NEBC. CONTRACT NO.: DACW33-83-D0006 FOREMAN: TIM CARPENTER

DATE OF INSTALLATION: 8-22-85 DATE OF OBSERVATIONS: 8-22-85

METHOD OF TESTING PIEZ.: FALLING HEAD TEST

TIME	ELAPSED TIME MINUTES	DEPTH TO WATER FEET	TIME	ELAPSED TIME MINUTES	DEPTH TO WATER FEET	TIME	ELAPSED TIME MINUTES	DEPTH TO WATER FEET

REMARKS: COULD NOT FILL RISER PIPE, WATER WENT OUT PIEZOMETER TIP AT TO FAST A RATE 50 Gallons in 3 minuts ±

John Cowther
INSPECTOR

CORPS OF ENGINEERS, U. S. ARMY
NEW ENGLAND DIVISION
FOUNDATION AND MATERIALS BRANCH

FIELD LOG OF TEST BORING

PROJECT NO. 0018

Site THOMASTON DAM, THOMASTON CONN. Page 1 of 21 Pages

Hole No. FD-85-2 Diam. (Casing) 4" and 3" I.D. Boring Started 8-22-85

Co-ordinates: N _____ E _____ Boring Completed 9-5-85

Drilled by E.G.A - NERC Report Submitted _____

Purpose of Exploration Installation of piezometer

Elevation Top of Hole 464.5 M.S.L. Casing Left in Place 68 HW Feet

Total Overburden Drilled 124 Feet

Elevation Top of Rock 340.5 M.S.L.

Elevation Bottom of Hole 331.5 M.S.L.

Total Rock Drilled 9 Feet

Total Depth of Hole 133 Feet

Core Recovered 50 %

Core Recovered 4.5 Ft.; BX Diam. 1 3/8" in.

Soil Samples 1 3/8" in. Diam. 11 No.

Soil Samples _____ in. Diam. _____ No. Water Table Depth 79.4 ft.

Depth From	Depth To	Method of Drilling and Type of Bit Used
0.0	65.0	DRILLED WITH 3 7/8" OD CORE BARREL AND
		HW CASING SHOE BIT
65.0	124.0	DROVE NW CASING FROM 65.0 TO
		124.0 WITH 300 lb. HAMMER,
		SAMPLED WITH SPLIT SPOON AND
		140 lb. HAMMER 5 FT. INTERVALS
124.0	133.0	CORED BEDROCK WITH BX
		CORE BARREL 2 RUNS

INDEX

Ground Water	Back of Page	20
Boring Location Sketch	Back of Page	20
Overburden Record 2 thru 18	Page	
Rock Drilling	Page	19
	Page	
	Page	
	Page	

Prepared by JOHN CROWTHER
Field Data Lab. Data

Submitted by JOHN CROWTHER

NED FORM DEC 63 121

REPLACES EDITION OF JUN 51 WHICH MAY BE USED UNTIL EXHAUSTED

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST BORING

Site THOMASTON DAM CONN. Page 2 of 21 Pages

Boring No. ED-55-2 Desig. P2-8 Diam. (Casing) 4" + 3"

Co-ordinates. N _____ E _____

Elevation Top of Boring 464.5 M.S.L.
Total Overburden Drilled 124 Feet
Elevation Top of Rock 340.5 M.S.L.
Total Rock Drilled 9 Feet
Elevation Bottom of Boring 331.5 M.S.L.
Total Depth of Boring 133 Feet
Core Recovered 50 % No. Boxes 1
Core Recovered 4.5 Ft: BX Diam. 1 3/8 In.
Soil Samples 1 3/8 In. Diam. 11 No.
Soil Samples _____ In. Diam. ____ No.

Hammer Wt. 140 lbs Boring Started 8-22-85
Hammer Drop 30"
Casing Left 68 ft. Boring Completed 9-5-85
Subsurface Water Data _____ Page 20
Obs. Well PIEZO
Drilled By EGA - NEBC
Mfg. Des. Drill MOBILE DRILL
Inspected By: JOHN CROWTHER
Classification By: JOHN CROWTHER
Classification By: _____

DEPTH 1"=10'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
					PREAUGERED BORE HOLE WITH 3 1/2" SOLID STEM AUGERS TO 10.0 FT.	SAND AND BOULDER FILL
1.0					DRILLED WITH 3 7/8" O.D. DOUBLE TUBED CORE BARREL FROM 0.0 TO 10.0 FT.	BOULDERS, COBBLES, GRAVEL, SAND AND SILT OBSERVED IN WASH WATER AND ROCK CORES
2.0					DRILLED WITH HW CASING SHOE BIT FROM 0.0 TO 10.0 FT.	
3.0						
4.0						1 Ft.± BOULDER AT 4.0 FT.
5.0						

GENERAL REMARKS: CASING LEFT IN PLACE TO 65 FT.

NOTE: ELEVATIONS ESTIMATED FROM STAKE ACROSS RAILROAD BED AT 465.56

Site THOMASTON DAM	Boring No. FD-55-2 PZ-8	Page 3 of 21

DEPTH 1" = 1.0'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
						SAND AND BOULDER FILL (SAME)
6.0						1 FT. BOULDER AT 6.0 FT.
7.0						
8.0						
9.0						
10.0						
					DRILLED WITH 3 7/8" O.D. DOUBLE TUBED CORE FROM 10.0 TO 15.0 FT.	1 FT. BOULDER AT 10.0 FT BOULDERS AND COBBLES 10.0 TO 15.0 FT.
11.0						
					DRILLED WITH HW CASING SHOE BIT FROM 10.0 TO 15.0 FT.	
12.0						
13.0						

Site THOMASTON DAM	Boring No. FD-85-2 PZ-8	Page 4 of 21

DEPTH 1" = 1.0'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
14.0						SAND AND BOULDER FILL (SAME)
15.0					DRILLED WITH 3 7/8" OD. DOUBLE TUBED CORE BARREL FROM 15.0 TO 20.0 FT.	
16.0						
17.0					DRILLED WITH HW CASING SHOE BIT FROM 15.0 TO 20.0 FT.	
18.0						
19.0						
20.0						20 TO 40 FT.: OCCASIONAL BOULDERS AND NUMEROUS COBBLES [LESS THAN PZ-9]
21.0					DRILLED WITH 3 7/8" OD. DOUBLE TUBED CORE BARREL FROM 20.0 TO 25.0 FT.	
22.0						

Site THOMASTON DAM	Boring No. FD-85-2 PZ-8	Page 5 of 21

DEPTH 1" = 1.0'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
23.0					DRILLED WITH HW CASING SHOE BIT FROM 20.0 TO 25.0 FT	SAND AND BOULDER FILL (SAME)
24.0						
25.0						
26.0					DRILLED WITH 3 7/8" OD. DOUBLE TUBED CORE BARREL FROM 25.0 TO 30.0 FT.	
27.0					DRILLED WITH HW CASING SHOE BIT FROM 25.0 TO 30.0 FT.	
28.0						
29.0						
30.0						

Site THOMASTON DAM	Boring No. FD-85-2 PZ-8	Page 6 of 21

DEPTH 1" = 1.0'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
31.0					DRILLED WITH 3 7/8" O.D. DOUBLE TUBED CORE BARREL FROM 30.0 TO 35.0 ft.	SAND AND BOULDER FILL (SAME)
32.0					DRILLED WITH HW CASING SHOE BIT FROM 30.0 TO 35.0 ft.	
33.0						
34.0						
35.0					DRILLED WITH 3 7/8" O.D. DOUBLE TUBED CORE BARREL FROM 35.0 TO 40.0 FT.	
36.0						
37.0					DRILLED WITH HW CASING SHOE BIT FROM 35.0 ft TO 40.0 ft.	
38.0						
39.0						

Site THOMASTON DAM	Boring No. FD-85-2 PZ-8	Page 7 of 21

DEPTH 1" = 1.0'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
40.0					DRILLED WITH 3 7/8" OD. DOUBLE TUBED CORE BARREL FROM 40.0 TO 45.0 Ft.	SAND AND BOULDERFILL (SAME) 8" BOULDERS AND COBBLES 40.0 TO 45.0 FT.
41.0						
42.0					DRILLED WITH HW CASING SHOE BIT FROM 40.0 TO 45.0 Ft.	
43.0						
44.0						
45.0					DRILLED WITH 3 7/8" OD. DOUBLE TUBED CORE BARREL FROM 45.0 TO 50.0 Ft.	1 Ft. BOULDER AT 45.0 AND 47.0 Ft.
46.0						
47.0						

Site THOMASTON DAM	Boring No. FD-85-2 PZ-8	Page 8 of 21

DEPTH 1" = 1.0'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
45.0					DRILLED WITH HW CASING SHOE BIT FROM 45.0 TO 50.0 Ft.	SAND AND BOULDER FILL
						SAME
49.0						
50.0					DRILLED WITH 3 7/8" O.D DOUBLE TUBED CORE BARREL FROM 50.0 TO 55.0 Ft.	
51.0						8" BOULDER AT 51 Ft
52.0					DRILLED WITH HW CASING SHOE BIT FROM 50.0 TO 55.0 Ft.	6" COBBLE AT 53 Ft
53.0						
54.0						1 ft. BOULDER AT 54.0 Ft
55.0						
56.0						

Site THOMASTON DAM	Boring No. FD-85-2 PZ-8	Page 9 of 21

DEPTH (1" = 1.0')	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
					DRILLED WITH 3 7/8" O.D. DOUBLE TUBED CORE BARREL FROM 55.0 TO 60.0 FT	SAND AND BOULDER FILL
57.0						SAME
					DRILLED WITH HW CASING SHOE BIT FROM 55.0 TO 60.0 ft	
58.0						BOULDER AT 58.0 FT.
59.0						
60.0						60.0 BOTTOM OF ROCK FILL
					DRILLED WITH 3 7/8" O.D. DOUBLE TUBED CORE BARREL FROM 60.0 TO 65.0 FT.	"SELECT PERVIOUS FILL" SAND AND SILTY SAND IN WASH, SOME SMALL COBBLES
61.0						
62.0						
					DRILLED WITH HW CASING SHOE BIT FROM 60.0 TO 65.0 FT.	
63.0						63.0
						SAND, SOME COBBLES 63.0 TO 65.0 FT.
64.0						

Site THOMASTON DAM	Boring No. FD-85-2 PZ-8	Page 10 of 21

DEPTH 1" = 1.0'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
65.0			65.0 TO 66.0	83, 17, 19	SAMPLED FROM 65.0 TO 67.0 FT WITH SPLIT SPOON SAMPLER WITH 140 lb. HAMMER.	SAND coarse to fine, 5-10% gravel, 5-10% non plastic fines, brown (SW-SM) some stratification
66.0	1	1 3/8"				
67.0			67.0	20, 4" REC	DROVE 3" NW CASING FROM 65.0 TO 70.0 FT. WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER BIT	
68.0						
69.0						
70.0			70.0 TO 71.0	22, 19, 35	SAMPLED FROM 70.0 TO 72.0 FT WITH SPLIT SPOON SAMPLER WITH 140 lb. HAMMER	SAND medium to fine, mostly fine, 5-10% non plastic fines; brown (SP-SM) some stratification
71.0	2	1 3/8"				
72.0			72.0	150, 6" REC.		9" BOULDER AT 72.0 FT. COBBLES TO 75.0 FT.
73.0						

Site THOMASTON DAM	Boring No. FD-85-2 PZ-8	Page 11 of 21

DEPTH 1" = 1.0'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
74.0					DROVE 3" NW CASING FROM 70.0 FT TO 75.0 FT. WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER BIT	
75.0			75.0	34	SAMPLED FROM 75.0 TO 77.0 FT. WITH SPLIT SPOON SAMPLER WITH 140 lb. HAMMER	GRAVELLY SAND coarse to fine sand, 10-20% gravel, 5-10% non plastic fines, brown (SW-SM)
76.0	3	1 3/8"	TO	45		
				53		
				66		
77.0			77.0	8" REC		
						some stratification.
78.0					DROVE 3" NW CASING FROM 75.0 TO 80.0 FT. WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER BIT.	COBBLES 77.0 TO 80 FT.
79.0						
80.0			80.0	44	SAMPLED FROM 80.0 TO 82.0 FT. WITH SPLIT SPOON SAMPLER WITH 140 lb. HAMMER	GRAVELLY SAND coarse to fine sand, 10-15% gravel, 5-10% non plastic fines brown-gray (SP-SM)
				42		
81.0	4	1 3/8"	TO	39		

Site THOMASTON DAM	Boring No. FD-85-2 P2-8	Page 12 of 21

DEPTH 1"=1.0'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
82.0			82.0	55 / 8" REC		
83.0					DROVE 3" NW CASING FROM 80.0 TO 85.0 FT. WITH 300lb HAMMER AND WASHED OUT WITH ROLLER BIT.	
84.0						
85.0			85.0	34	SAMPLED FROM 85.0 TO 87.0 FT. WITH SPLIT SPOON SAMPLER WITH 140 lb. HAMMER	GRAVELLY SAND, coarse to fine sand, 10-20% gravel, 5-8% non plastic fines, brown (SW-SM)
86.0	5	1 3/8"		33		
				44		
87.0			87.0	23 / 10" REC		
88.0					DROVE 3" NW CASING FROM 85.0 TO 90.0 FT. WITH 300 lb. HAMMER AND WASHED OUT WITH ROLLER BIT	Some stratification COBBLES 88.0 TO 90.0 FT.
89.0						
90.0						

Site THOMASTON DAM	Boring No. FD-85-2 PZ-5	Page 13 of 21

DEPTH 1" = 1.0	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
90.0			90.0	33	SAMPLED FROM 90.0 TO 92.0 FT WITH SPLIT SPOON SAMPLER WITH 140 lb HAMMER	SAND medium to fine, mostly fine, 5-8% non plastic fines, brown (SP-SM)
				46		
91.0	6	1 3/8"	TO	70		
				160		
92.0			92.0	12" REC.		
					DROVE 3" NW CASING FROM 90.0 TO 95.0 FT. WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER BIT	Some stratification
93.0						
94.0						COBBLES 92.0 TO 95.0
95.0			95.0	120	SAMPLED FROM 95.0 TO 96.0 FT. WITH SPLIT SPOON SAMPLER WITH 140 lb. HAMMER.	SAND coarse to fine, 5-8% non plastic fines brown (SW-SM)
	7	1 3/8"		180		
96.0			96.0	3" REC	CORED BOULDERS WITH NX CORE BARREL FROM 96.0 TO 100.0 FT. 15" RECOVERY ±	BOULDERS AND COBBLES AT 96.0 TO 100 FT.
97.0						Some stratification
98.0						

Site THOMASTON DAM	Boring No. FD-85-2 PZ-8	Page 14 of 21

DEPTH 1" = 1.0	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
99.0					DROVE 3" NW CASING FROM 95.0 TO 100.0 FT. WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER BIT	
					VERY HARD DRIVING 60 BLOWS PER INCH ±	
100.0			100.0			
				20	SAMPLED FROM 100.0 TO 102.0 FT. WITH SPLIT SPOON SAMPLER WITH 140 lb. HAMMER	SAND coarse to fine, 5-8% non plastic fines brown (SP-SM)
	8	1 3/8"	TO	38		
101.0						
				50		
				128		
102.0			102.0			
				6" REC		COBBLE AT 102.0 Ft
						Some stratification
103.0					DROVE 3" NW CASING FROM 100.0 TO 105.0 FT. WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER BIT	
104.0						
105.0			105.0			
				62	SAMPLED FROM 105.0 TO 106.0 FT. WITH SPLIT SPOON SAMPLER WITH 140 lb HAMMER	
	9	1 3/8"	TO	150		
106.0			106.0			
				NO REC		
107.0						

Site THOMASTON DAM	Boring No. FD-85-2 P2-8	Page 15 of 21

DEPTH 1" = 1.0'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
					DROVE 3" NW CASING FROM 105.0 TO 110.0 FT. WITH 300lb HAMMER AND WASHED OUT WITH ROLLERBIT	
105.0						COBBLES 106.0 TO 110.0 FT
110.0			110.0			
				25	SAMPLED FROM 110.0 TO 112.0 FT. WITH SPLIT SPOON SAMPLER WITH 140 lb. HAMMER	SAND coarse to fine, 5-10% gravel, 5-8% nonplastic fines, brown (SW-SM)
111.0	1D	1 3/8"	TU	39		
				45		110.0 TO 115.0 FT. STRATIFIED SILTIER AND GRAVELLY LAYERS
				52		
112.0			112.0	5" REC		
					DROVE 3" NW CASING FROM 110.0 TO 115.0 FT. WITH 300lb HAMMER AND WASHED OUT WITH ROLLER BIT	
113.0						
114.0						
115.0			115.0			
				22		

Site THOMASTON DAM	Boring No. FD-85-2 PZ-8	Page 16 of 21.

DEPTH	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1"=1.0						
116.0	11	3/8" 1	TO	32	SAMPLED FROM 115.0 TO 117.0 FT. WITH SPLIT SPOON SAMPLER WITH 140 lb. HAMMER	SAND coarse to fine, 5-10% gravel, 5-8% non plastic fines, brown (SW-SM)
				38		
				56		
117.0			117.0	4" REC		
118.0						
119.0					DROVE NW CASING FROM 115.0 TO 120.0 FT WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER BIT TO 120.5	
120.0						120.0
					CORED WITH BX CORE BARREL TO 124.0	BOULDER AT 120.0 TO 121.0 FT
121.0					CORED WITH BX CORE BARREL FROM 120.5 TO 124.0 FT.	121.0 SAND Same as above SOME COBBLES + GRAVEL
122.0						
123.0						
124.0						TOP OF BEDROCK 124.0

Site THOMASTON DAM	Boring No. FD-85-2 PZ-8	Page 17 of 21

DEPTH 1" = 1.0'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT / CORE REC'VT	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
124.0				124.0	CORED BEDROCK FROM 124.0 TO 129.0 WITH BX DOUBLE TUBED BARREL	TOP OF BEDROCK AT 124.0 FT.
125.0	1	1 3/8			RUN I : 6" REC RQD = 0	SCHIST
					ROCK CORE DISINTEGRATED A SECOND RUN WAS DRILLED TO ASCERTAIN BEDROCK	WEATHERED FROM 124.0 TO 128.5 FT.
126.0				TO		THE CORE SAMPLE DISINTEGRATED DURING DRILLING OPERATIONS
127.0						
128.0						
						128.5
						SCHIST
129.0				129.0		
				129.0	CORED BEDROCK FROM 129.0 TO 133.0 FT. WITH BX DOUBLE TUBED BARREL	LIGHT GREY, MEDIUM SOFT VERY MICACEOUS
130.0					RUN II : 48" REC. RQD : 20.8	THE CORE SAMPLE BREAKS EASILY ALONG THE MICA BUT DOES NOT SHOW EXTENSIVE WEATHERING AND THERE WERE NO SEAMS NOTICED
131.0	2	1 3/8		TO		
132.0						

Site THOMASTON DAM	Boring No. FD-85-2 P2-8	Page 18 of 22

DEPTH	CORE/SAMPLE			BLOWS PER FT / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
Ft.	NO.	SIZE	DEPTH RANGE			
133.0				133	END OF TEST BORING AT 133.0 FT.	

FIELD LOG OF TEST BORING IN ROCK

SITE THOMASTON DAM HOLE NO. FD-85-2 PZ-5 PAGE 19 of 21

DATE	DEPTH PT. FROM	DEPTH PT. TO	RUN PT.	RUN REC'V'Y PT.	REC'V'Y %	DRILLING BEHAVIOR: FEED	DRILLING BEHAVIOR: WATER	DRILLING BEHAVIOR: REASON FOR PULL	ACTUAL DRILLING TIME	BIT NO. SIZE AND TYPE	ADDITIONAL REMARKS
9-4-85	124.0	129.0	5	0.5	10%	CONTINUOUS	NO LOSS	END OF RUN	6 MIN	BX DIAMOND	ROCK WAS IN A WEATHERED STATE TO 128.5 DRILLING WAS STEADY
9-4-85	129.0	133.0	4	4.0	100%	CONTINUOUS	NO LOSS	END OF RUN			ROCK WAS LESS WEATHERED BUT FAIRLY soft and fractrable along mica planes SCHIST LIGHT GREY, MEDIUM SOFT.

TOTAL BED ROCK DRILLED 9.0 FEET

TOTAL BED ROCK RECOVERED 4.5 FEET

BED ROCK RECOVERY 50 PERCENT

DRILLER TIM CARPENTER

INSPECTOR JOHN LIBONTHER

NED FORM DEC 83 130

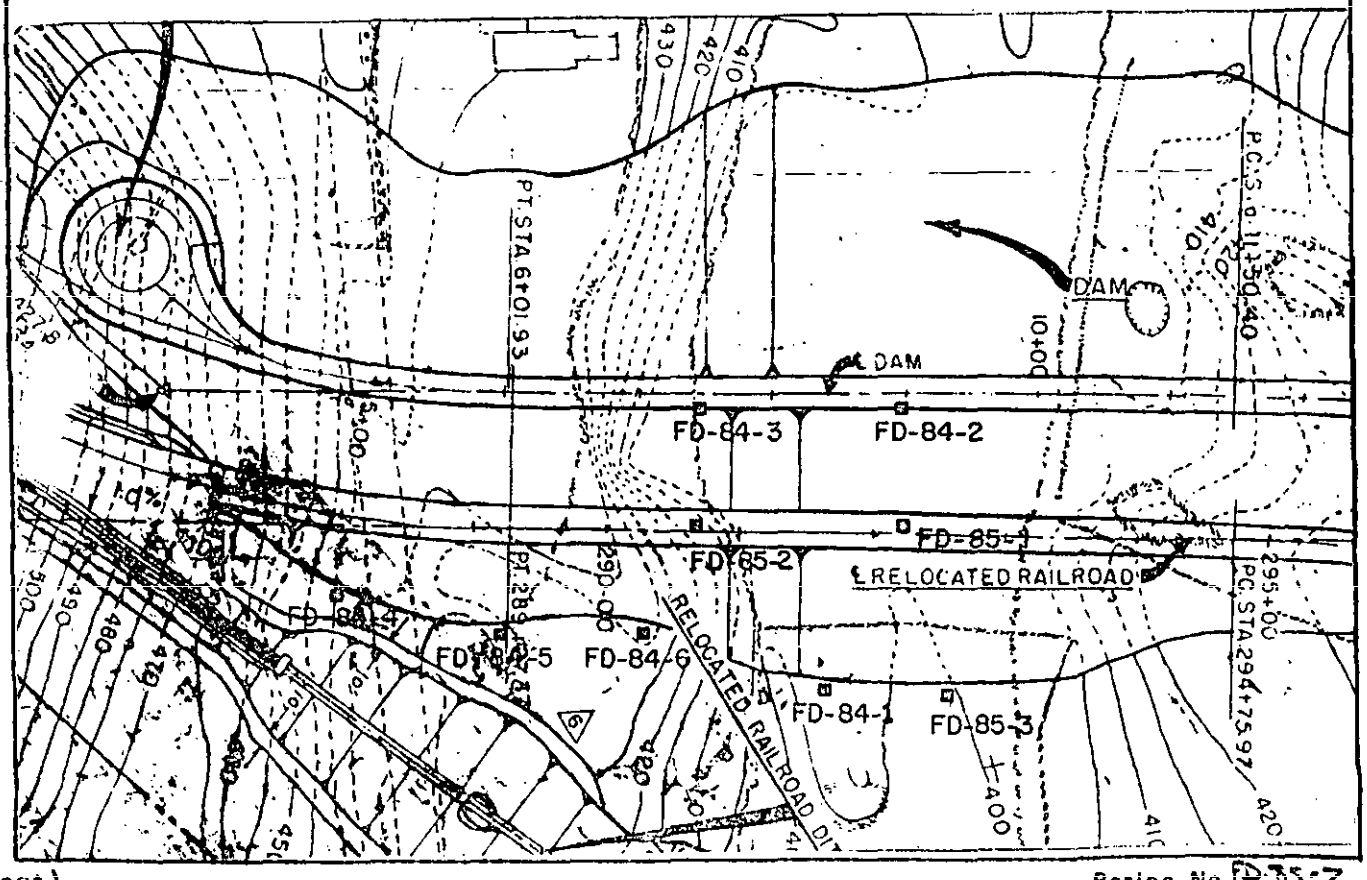
Site: THOMASTON DAM
Boring No: FD-85-2 Pz-8

SUBSURFACE WATER OBSERVATIONS

DATE	TIME	DEPTH-BOT. OF CASING	DEPTH-BOT. OF BORING	DEPTH TO WATER	ELEVATION WATER	REMARKS
9-4-85	1300	120.0 ft.	133.0 ft.	79.4 ft.	385.1 ft.	AT COMPLETION OF BORING
9-9-85	1150hrs	65 ft	133.0 ft.	79 ft	385.5 ft.	Pz-8 SET AT 122.2 ft.

Note: Depths are in feet below original ground.

BORING LOCATION SKETCH



Boring No. FD-85-2

PIEZOMETER INSTALLATION REPORT

PROJECT: THOMASTON DAM CONN. | DATE: 9-5-85

LOCATION (STA): 7+50 | OFFSET FROM CENTER LINE: | PIEZ NO.: PZ-8

PIEZ TYPE: CASAGRANDE | DEPTH OF PIEZ: 122.2 | RISER PIPE DIAM: 3/4"

PIEZ TIP SET IN (SOIL TYPE): GRAVELLY SAND | SOIL SAMPLE NO.: 11 | BORING DIAM: 3" ID

METHOD OF INSTALLATION: SET PIEZO AT ELEVATION AND SURROUNDED WITH SAND

TYPE OF PROTECTION FOR PIEZ: OTTOWA SAND AND 68 Ft of 4" CASING | VENT: hole in side of cap

GROUND ELEV.: 464.5 ± | ELEV. TOP OF RISER: 467.7 ± | ELEV PIEZ TIP: 342.3

FILTER: OTTOWA SAND | FROM ELEV: 331.5 | TO ELEV: 393.5

SEAL: BENTONITE | FROM ELEV: 393.5 | TO ELEV: 397.5

INSTALLED BY: E.G.A.-N.E.B.C. | CONTRACT NO.: DACW33-83-D-0006 | FOREMAN: TIM CARPENTER

DATE OF INSTALLATION: 9-5-85 | DATE OF OBSERVATIONS: 9-5-85

METHOD OF TESTING PIEZ.: FALLING HEAD TEST

TIME	ELAPSED TIME MINUTES	DEPTH TO WATER FEET	TIME	ELAPSED TIME MINUTES	DEPTH TO WATER FEET	TIME	ELAPSED TIME MINUTES	DEPTH TO WATER FEET

REMARKS: COULD NOT FILL RISER PIPE, WATER WENT OUT THE PIEZO TIP AT TO FAST A RATE 50 Gallons in three minuits ±

INSPECTOR

CORPS OF ENGINEERS, U. S. ARMY
NEW ENGLAND DIVISION
FOUNDATION AND MATERIALS BRANCH

FIELD LOG OF TEST BORING

PROJECT NO. 0018

Site THOMASTON DAM THOMASTON CONN. **Page** 1 **of** 7 **Pages**

Hole No. FD-853 **Diam. (Casing)** P2-10 **Boring Started** 9-10-85

Co-ordinates: N _____ **E** _____ **Boring Completed** 9-10-85

Drilled by EGA - NERC. **Report Submitted** _____

Purpose of Exploration Installation of piezometer

Elevation Top of Hole 399 ± **M.S.L.** **Casing Left in Place** 5 **Feet**

Total Overburden Drilled 22 **Feet**

Elevation Top of Rock 377 **M.S.L.**

Elevation Bottom of Hole 372 **M.S.L.**

Total Rock Drilled 5 **Feet**

Total Depth of Hole 27 **Feet**

Core Recovered 88 **%**

Core Recovered 4.4 **Ft.;** NX **Diam.** 2.06 **in.**

Soil Samples 1 3/8 **in. Diam.** 5 **No.**

Soil Samples _____ **in. Diam.** _____ **No.** **Water Table Depth** 11.1

Depth From	Depth To	Method of Drilling and Type of Bit Used
0.0	22.0	SAMPLED WITH SPLIT SPOON SAMPLER
		FROM 0.0 TO 22.0 FT WITH
		140 lb HAMMER @ 5 FT. INTERVALS.
		DROVE CASING WITH 300 lb HAMMER
		AND WASHED
22.0	27.0	DRILLED ROCK CORE NX

INDEX

Ground Water	Back of Page	6
Boring Location Sketch	Back of Page	6
Overburden Record	Page	2 - 4
Rock Drilling	Page	5
	Page	
	Page	
	Page	

Prepared by JOHN CROUTHER
Field Data **Lab. Data**

Submitted by John Crouther

NED FORM DEC 63 121

REPLACES EDITION OF JUN 51 WHICH MAY BE USED UNTIL EXHAUSTED

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST BORING

Site THOMPSON DAM — Page 2 of 7 Pages

Boring No. FD-85-3 Desig. PZ-10 Diam. (Casing) _____

Co-ordinates. N _____ E _____

Elevation Top of Boring 399 ± M.S.L.
Total Overburden Drilled 22 Feet
Elevation Top of Rock 377 M.S.L.
Total Rock Drilled 5 Feet
Elevation Bottom of Boring 372 M.S.L.
Total Depth of Boring 27 Feet
Core Recovered 85 % No. Boxes 1
Core Recovered 4.4 Ft : NX Diam. 2.06 In.
Soil Samples 1 3/8 In. Diam. 5 No.
Soil Samples _____ In. Diam. ____ No.

Hammer Wt. 140 lbs
Hammer Drop 30"
Casing Left 5 ft.
Subsurface Water Data _____ Page 6
Obs. Well PIEZOMETER
Drilled By ECA NEBC
Mfg. Des. Drill MOBILE DRILL
Inspected By: JOHN CROWTHER
Classification By: JOHN CROWTHER
Classification By: _____

Boring Started 9-10-85
Boring Completed 9-10-85

DEPTH (Ft.)	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
			0.0	16	SAMPLED FROM 0.0 TO 2.0 FT. WITH SPLITSPOON SAMPLER WITH 140 lb HAMMER	TOPSOIL loamy, silty sand. 0.25
				35		
1.0	1	1 3/8		53		GRAVELLY SAND coarse to fine sand, mostly fine, 15-20% gravel and cobbles, 5-10% non plastic fines brown
				57	DRIVE 3" CASING FROM 0.0 TO 5.0 FT. WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER BIT	
2.0			2.0			Some stratification
3.0						
4.0						
5.0						

GENERAL REMARKS: ELEVATION FOR TOP OF BORING HAS NOT BEEN SURVEYED IN, ESTIMATED FROM NEARBY PZ-1

Site THOMASTON DAM	Boring No. FD-85-3 PZ-10	Page 3 of 7

DEPTH (ft)	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
			5.0	28	SAMPLED FROM 5.0 TO 7.0 FT. WITH SPLIT SPOON SAMPLER WITH 140 lb. HAMMER	SAND coarse to fine, mostly fine, 5-10% gravel 5-10% nonplastic fines brown (SP-SM)
				19		
6.0	2	1 3/8"		24		Some stratification
				25		
7.0			7.0	6" REC	DROVE 3" CASING FROM 5.0 TO 10.0 FT. WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER BIT.	
8.0						
9.0						
10.0			10.0	38	SAMPLED FROM 10.0 TO 12.0 FT. WITH SPLIT SPOON SAMPLER WITH 140 lb HAMMER	GRAVELLY SAND coarse to fine, 10-20% gravel, 5-10% non plastic fines grey brown (SW-SM)
				41		
11.0			TO			
	3	1 3/8"		27		Some stratification
				26		
12.0			12.0	6" Rec.	DROVE 3" CASING FROM 10.0 TO 15.0 FT. WITH 300 lb HAMMER AND WASHED OUT WITH ROLLER BIT	
13.0						

Site THOMASTON DAM	Boring No. FD-85-3 P2-10	Page 4 of 7

DEPTH ft.	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
14.0						
15.0			15.0	42	SAMPLED FROM 15.0 TO 17.0 WITH SPLIT SPOON SAMPLER WITH 140 lb HAMMER	GRAVELLY SAND coarse to fine, 15-20% gravel, 5-10% non plastic fines, grey brown (SW-SM)
16.0	4	1 3/8"	TO	40		
				26		some stratification
17.0			17.0	24		
				10" REC		
18.0					DROVE 3" CASING FROM 15.0 FT TO 20.0 FT. AND WASHED OUT WITH ROLLER BIT	
19.0						
20.0			20.0	18	SAMPLED FROM 20.0 TO 22.0 WITH SPLIT SPOON SAMPLER WITH 140 lb HAMMER	GRAVELLY SAND coarse to fine, 15-20% gravel, 5-10% non plastic fines brown (SW-SM)
21.0	5	1 3/8"	TO	15		
				9	DROVE 3" CASING FROM 20.0 TO 22.0 FT AND WASHED OUT WITH ROLLER BIT.	
22.0			21.75	6 0/5"	2" REC	

Site	Boring No.	Page
THOMASTON DAM	FD-85-3 PZ 10	5 of 7

DEPTH (FT)	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
22.0					CORED BEDROCK FROM 22.0 TO 27.0 FT. WITH NX DOUBLE TUBED CORE BARREL RUN I : 4.4' REC. RQD = 80	TOP OF BEDROCK AT 22.0 FT. PEGMATITE very hard and very coarse grained, QUARTZ, FELDSPAR AND MUSCOVITE SEAM AT 1 FT & INTO RUN AND AT 3 FT = INTO RUN ROCK BREAKS ALONG MICA PLANES
23.0						
24.0						
25.0						
26.0						
27.0					END OF TEST BORING AT 27.0 FT.	

FIELD LOG OF TEST BORING IN ROCK

SITE THOMASTON DAM THOMASTON CONN. HOLE NO. FD-85-3 PZ-10 PAGE 5 of 7

DATE	DEPTH PT. FROM	DEPTH PT. TO	RUN PT.	RUN REC'V'Y PT.	REC'V'Y %	DRILLING BEHAVIOR: FEED	DRILLING BEHAVIOR: WATER	DRILLING BEHAVIOR: REASON FOR PULL	ACTUAL DRILLING TIME	BIT NO. SIZE AND TYPE	ADDITIONAL REMARKS
9-10-85	22.0	27.0	5.0	4.4	88	CONTINUOS	NO LOSS	END OF RUN	28 MIN	NX DIAMOND	VERY HARD, COARSE QUARTZ + FELDSPAR PEGMATITE, SOME MICA

TOTAL BED ROCK DRILLED 5.0 FEET

TOTAL BED ROCK RECOVERED 4.4 FEET

BED ROCK RECOVERY 88 PERCENT

DRILLER JIM CARPENTER

INSPECTOR JOHN CROWTHER

WED FORM 130

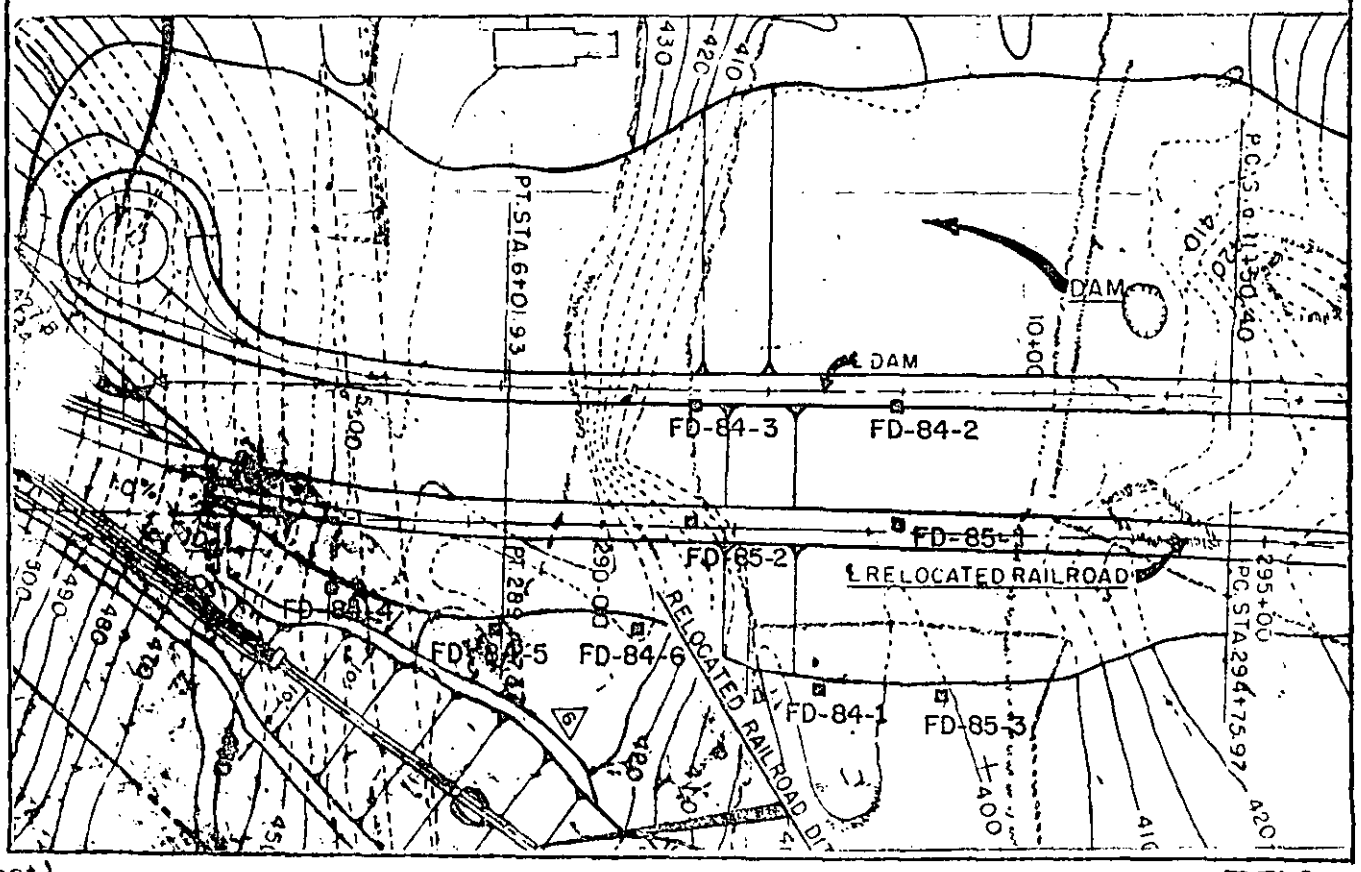
Site: THOMASTON DAM
Boring No: FD-85-3 PZ-10

SUBSURFACE WATER OBSERVATIONS

DATE	TIME	DEPTH-BOT. OF CASING	DEPTH-BOT. OF BORING	DEPTH TO WATER	ELEVATION WATER	REMARKS
9-10-85	1520 hrs	22.0 ft.	27.0	11.1	387.9	AT COMPLETION OF BORING PZ-10 SET AT 20.2 ft.

Note: Depths are in feet below original ground

BORING LOCATION SKETCH



PIEZOMETER INSTALLATION REPORT

PROJECT: THOMASTON DAM THOMASTON CONN | DATE: 9-10-85

LOCATION (STA): 9+30 ± | OFFSET FROM CENTER LINE: | PIEZ NO.: PZ-10

PIEZ TYPE: CASAGRANDE | DEPTH OF PIEZ: 20.2 FT. | RISER PIPE DIAM: 3/4"

PIEZ TIP SET IN (SOIL TYPE): GRAVELLY SAND | SOIL SAMPLE NO.: 5 | BORING DIAM: 3" ID

METHOD OF INSTALLATION: PIEZOMETER TO ELEVATION SURROUNDE WITH OTTOWA SAND

TYPE OF PROTECTION FOR PIEZ: OTTOWA SAND AND 5 FT. OF 3" CASING | VENT: ON SIDE OF CAP

GROUND ELEV.: 399 ± | ELEV. TOP OF RISER: 400.97 | ELEV PIEZ TIP: 376.9

FILTER: OTTOWA SAND | FROM ELEV: 372 | TO ELEV: 399

SEAL: NONE | FROM ELEV: — | TO ELEV: —

INSTALLED BY: E.G.A. NEBC | CONTRACT NO.: DACW33-85-D-0006 | FOREMAN: TIM CARPENTER

DATE OF INSTALLATION: 9-10-85 | DATE OF OBSERVATIONS: 9-10-85

METHOD OF TESTING PIEZ.: FALLING HEAD TEST

TIME	ELAPSED TIME MINUTES	DEPTH TO WATER FEET	TIME	ELAPSED TIME MINUTES	DEPTH TO WATER FEET	TIME	ELAPSED TIME MINUTES	DEPTH TO WATER FEET
0	0	0						
	15 Seconds	9.5						
	30 seconds	11.1						

REMARKS:

INSPECTOR

APPENDIX E

Survey Field Notes

THOMPSTON, CONN DAMS

8-30-89

	⊼ @ STA 9+00	BS.	STA. 6+00
A-E-1	270-00-00	118.66	118-55-30
	⊼ @ STA. 8+50	B.S	STA 6+00
A-D-2	270-00-00	116.92	119-05-27
	⊼ @ STA 7+50	B.S.	STA 9+00
E-C-3	270-00-00	114.11	118-13-27
	⊼ @ STA 7+00	B.S.	STA 9+00
E-B-4	270-00-00	178.82	117-45-57
	⊼ @ STA 6+00	BS	STA 8+50
E-A-5	270-00-00	174.80	118-06-26
E-A-F	184-07.38	100.00	92-41-00

Def ∡ = 180.00.00
184 07.38
4° 07' 38" @assumed STA 5+00

NOTE: STA 6+00 = A
STA 7+00 = B
STA 7+50 = C
STA 8+50 = D
STA 9+00 = E
STA 5+00± = F

SET STK @ R.R. Bed Edge 464.79
(MU = 4.75) PZ-9, ELEV. ↑

SET STK. @ R.R. Bed Edge 465.53
(MU = 4.91) ~~464.62~~

SET STK. @ R.R. Bed Edge 465.56
(MU = 4.93) PZ-8, ELEV. ↑

SET STK @ TOE OF SLOPE 439.05 ✓
(MU = 4.92) PZ-5, ELEV. ↑

(MU = 4.93)
SET STK @ TOE OF SLOPE 440.02
SET STK @ STA 5+00 ± PZ-6, ELEV. ↑

	Π @ STA 5+00	B.S. 6+00		
A-F-6	94-07-38	180.38	117-24-07	SET STK @ TOE OF SLOPE (MU = 5.26 .84) PZ-7
	Π @ STK #3	B.S.	STA 7+50	PZ-7, ELEV. ↑ 439.90
	180-00-00	20.22	229-35-25	Flop (M.U. 4.72)
B-2-7	Π @ STK #2	BS.	STA 8+50	
	180-00-00	140.40	119-51-20	(M.U. 4.93) 1.07
A-1-8	Π @ STK #1	BS	STA 9+00	PZ-4, ELEV. ↑ 400.26 (M.U. 4.92)
	180-00-00	15.82	137-00-00	

	ELEVATIONS		LEVEL RUN		
POINT	BS	HI	FS	ELEV	
	4.88	522.27	—	517.39	STA. 7+85.43 DISC
			4.83	517.44	PZ-3,3A 〃 9+00 STK SET
			4.80	517.47	〃 8+50 〃 〃
			4.81	517.46	PZ-1,2 〃 7+50 〃 〃
			4.76	517.51	〃 7+00 〃 〃

				4.89	517.38	STA	6+00	set	STC	
				4.61	517.66	"	5+00	"	"	