ENGINEERING REPORT

for

Contract DACW-33-81-C-0030
Work Order Number 5

and

Contract DACW-33-80-C-0083
Work Order Number 1

Subsurface Investigation at Pigeon Cove,
Old Harbor, and Inner Harbor

Rockport, Massachusetts

BRIGGS

GEOTECHNICAL ENGINEERING
BRANCH

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1.1 AUTHORIZATION

The work reported herein was performed under contract DACW 33-81-C-0030, Work Order No. 5 dated 8 April 1981 and contract DACW 33-80-C-0083, Work Order No. 1 dated 30 April 1981.

1.2 PURPOSE

The purpose of the subsurface investigation was to determine the subsurface conditions in Rockport Inner Harbor, Old Harbor, and Pigeon Cove, all located in Rockport, MA.

1.3 SCOPE OF THE INVESTIGATION

Thirteen test borings and fifty-five probings were drilled at the locations shown on Figure 1, Figure 2 and Figure 3. Work was conducted between 11 May and 2 June 1981 by Briggs Engineering and Testing Company. The inspectors shift reports are included in Appendix A and the the field boring and probing logs for Pigeon Cove, Old Harbor, and Rockport Inner Harbor are included in Appendices B, C, and D, respectively.

1.4 SUBSURFACE MATERIALS

Our knowledge of the subsurface conditions at the three locations is based on the results of the field investigations described in Section 1.3.

1.4.1 Pigeon Cove

The following subsurface strata were encountered at this site.

a. Silty Sand and Sandy Silt with some slightly plastic fines and some fine gravel. Strata thickness ranges from five to seven feet.

b. Silty Clay of low plasticity, saturated and gray underlies the silty sand layer.

1.4.2 Old Harbor

The following subsurface strata were encountered at this site.

a. Silty Sand with 15-25% non plastic fines, some shells, with up to 5% fine gravel. The material has a slight odor, is gray in color and ranges in depth from 2.5 to 3 feet.

b. Silty Clay of low plasticity, saturated with some interbedded fine sand underlies the silty sand. The strata extends from 3 feet to the bottom of the explorations at an approximate depth of 15 feet.

1.4.3 Inner Harbor

The following subsurface strata were encountered at this site.

a. Organic Silt up to four feet thick of low plasticity with 10% fine sand. The silt has a strong odor and is black in color.

b. Silty Clay underlies the organic silt strata. The material has low plasticity with some fine interbedded sand.

1.5 QUALITY ASSURANCE

We hereby certify that the following equipment and procedures were used to perform the subsurface investigation described in this report.

1.5.1 General

All work was conducted in accordance with the procedures outlined in ASTM D-1586 except as noted below.

1.5.2 Records

NED Forms 58 and 58A, dated March 1971 entitled "Field Log of Test Boring" were used to record pertinent data for borings. Separate forms titled "Field Log of Test Probe" were used to record the probe data. All boring and probe logs include the following:

a. Hole number and location.

b. Make and model designation of equipment.

c. Type of drilling and sampling operation by depth.

d. Dates and time by depth when drilling and sampling operations were performed.

e. Depths at which samples or probes were recovered or attempts were made to sample. Classification of the soil in accordance with ASTM D-2487 and D-2488. Indication of penetration resistance such as drive hammer blows given in blows per penetration depth for driving sample spoons or rod.

f. Length of sample recovered per run.

g. Depth to bottom of hole.

1.5.3 Equipment

The equipment and type of tools used are described below.

a. Core Drills: The drills used were either modern, hydraulically driven rotary head units manufactured by Acker Drill Co. or portable tripod rigs with a cathead driven by a 9 HP Briggs & Stratton engine.

b. Samplers: The equipment employed to obtain soil samples was the solid barrel sampler type with a ball check head in sizes 2-1/2 and 1-1/2 inch ID x 5 ft with spring type retainers.

c. Drive Hammers: Drive hammers for advancing the solid barrel sampler and AW drill rod probes weighed approximately 300 lbs.

d. Casing and Rods: Either HW or BW flush joint casing was used to keep the boreholes open. AW drill rods were used in both borings and for probing.

1.5.4 Procedures

a. Boreholes were advanced by continuous sampling in which either a 2-1/2 inch or a 1-1/2 inch ID x five foot solid sample spoon was advanced below the bottom casing into undisturbed soil by the impact of a hammer weighing approximately 300 pounds falling 18 inches. Refusal was defined as 50 blows for one foot of penetration.

b. The sample spoon shoes were kept reasonably sharp at all times. Dull, bent, or otherwise damaged samplers were not used. Sampling was accomplished to a depth of not more than five feet below the bottom of the casing, after which the casing was advanced to the previously sampled depth and cleaned out using appropriately sized roller bits and side discharging chopping bits.

c. 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 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, penetration resistance and soil description. A chain of custody log was maintained documenting custody of the samples between the field and transportation and delivery to the laboratory.

d. Probings were advanced using AW rods driven with a hammer weighing approximately 300 lbs falling 18 inches. Probings were advanced to the elevations required or to refusal. Refusal was defined as 50 blows for one foot of penetration.

COMMONWEALTH OF MASSACHUSETTS
DAVID STETSON CAMPBELL
No. 29145
REGISTERED PROFESSIONAL ENGINEER

Certified 22 June 1981

David S. Campbell, P.E.
Massachusetts No. 29145

BRIGGS ENGINEERING CORPORATION

Chain of Custody Log

Project: Subsurface Investigation - Rockport Harbor

Items: Tubes None

Bottles None

Jar Samples 40

Other None

Sampling Logs Pigeon Cove-Borings A, B, C, & D

Sampling Logs Old Harbor-Borings A, B, & C

Sampling Logs Inner Harbor-Borings A, B, C, D, E & F

Date & Time Received	Date & Time Transfered	Comments	Custodian
as sampled	5/21/1981 - 1700 hrs		David F. Babski
5/21/1981-1700 hrs	6/3/1981 - 0800 hrs		Jeffrey B. Shelley
6/3/1981-0800 hrs	6/9/1981 - 1445 hrs		
6/9/1981-1445 hrs			J P Ranzoni

BRIGGS ENGINEERING CORPORATION

WEEKLY SAFETY MEETING

TO: Safety Office, NED

FROM: Field Engineer — Date held 18 May 1981

THRU: Project Engineer — Time 0815hrs

Weekly safety meeting was held this date for the following personnel:
Contract No. DACW 33-81-C-0030 Personnel present: R. Bukoski (Briggs)
Work Order No. 5 — A. Shiner (Briggs)
Conducted By: Ronald F. Bukoski — F. Shiner (Briggs)
B. Knox (Briggs)
D. McCoy (Briggs)
J. Shelkey (Briggs)

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

x Individual Protective Equipment -
x Prevention of Falls -
x Safe Lifting Techniques -
Emergency Communications -
Fire Prevention -
Sanitation, First Aid -
x Tripping Hazards - trash, hose, nails in lumber -
Staging, Ladders, Concrete Forms -
Hand Tools -
Portable Power Tools -
Woodworking Machinery -
Equipment Maintenance (Zero defects) -
x Hoisting Equipment -
x 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 -
x Water Safety -
Other -

Prepared by: Ronald F. Bukoski
Field Engineer

2. Exposure:
18 May 1981 thru 22 May 1981-4 men x 4 days x 8 hrs = 160 hrs.

Signature:
Project Engineer

3. Forwarded: NED, Waltham, MA

BRIGGS ENGINEERING CORPORATION

WEEKLY SAFETY MEETING

TO: Safety Office, NED

FROM: Field Engineer — Date held 26 May 1981

THRU: Project Engineer — Time 0730hrs

Weekly safety meeting was held this date for the following personnel:
Contract No. DACW 33-81-C-0030 Personnel present: J. Shelkey(Briggs)
Work Order No. 5 — A. Shiner(Briggs)
Conducted By: J. Shelkey — F. Shiner(Briggs)

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

x Individual Protective Equipment -
. Prevention of Falls -
x 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) -
x Hoisting Equipment -
x Ropes, Hooks, Chains and Slings -
. Electrical Grounding, Temporary Wiring -
Lockouts for safe clearance procedures -
. Electrical, pressure, moving parts -
Welding -
Excavations -
x Loose Rock and Steep Slopes -
. Explosives -
Water Safety -
Other -

Prepared by: Jeffrey B. Shelkey
Field Engineer

2. Exposure:
For period of 26 May 1981 through 29 May 1981.
3 men x 4 days x 8 hrs per day = 96 man hours.

Signature:
Project Engineer

3. Forwarded: NED, Waltham, MA

BRIGGS ENGINEERING CORPORATION

WEEKLY SAFETY MEETING

TO: Safety Office, NED

FROM: Field Engineer — Date held 2 June 1981

THRU: Project Engineer — Time 1600hrs

Weekly safety meeting was held this date for the following personnel:
Contract No. DACW 33-81-C-0030 Personnel present: J. Shelkey (Briggs)
Work Order No. 5 C. Reil (Briggs)
Conducted By: J. Shelkey

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

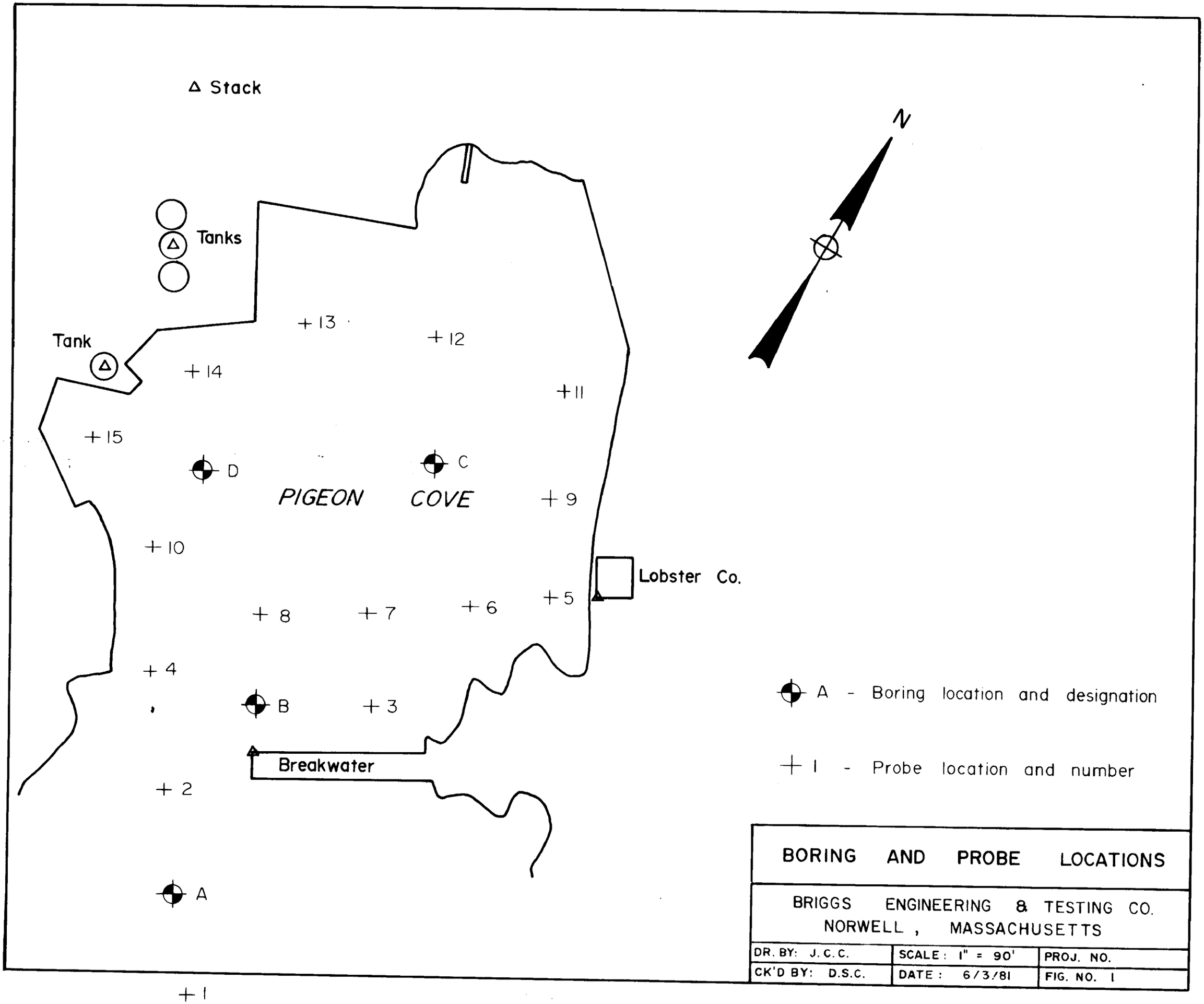
x Individual Protective Equipment -
. Prevention of Falls -
x Safe Lifting Techniques -
. Emergency Communications -
Fire Prevention -
Sanitation, First Aid -
. Tripping Hazards - trash, hose, nails in lumber -
Staging, Ladders, Concrete Forms -
Hand Tools -
Portable Power Tools -
Woodworking Machinery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

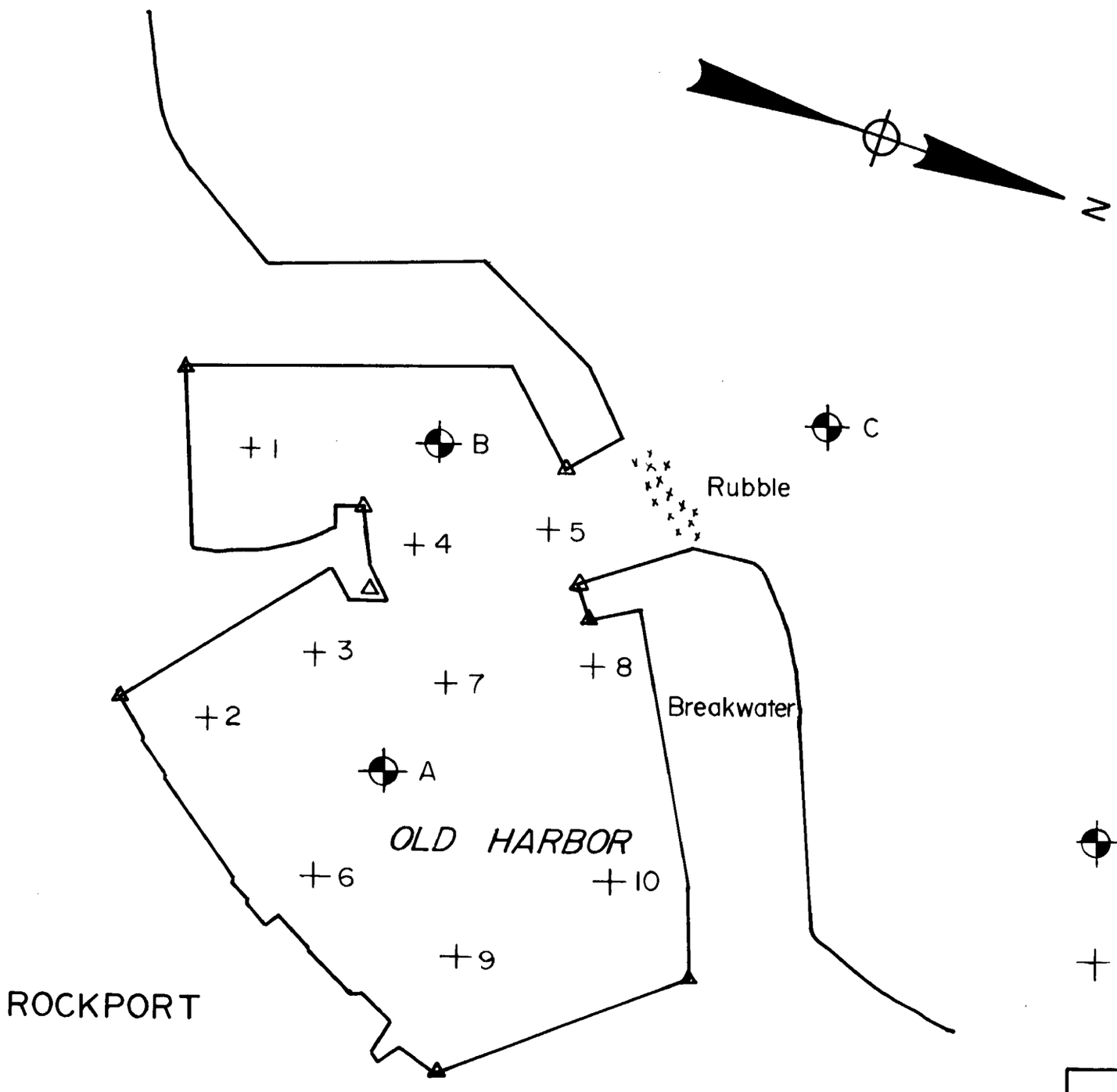
Prepared by: Jeffrey B. Shelkey
Field Engineer

2. Exposure:
For period of 2 June 1981.
4 hrs x 2 men = 8 man hours total.

Signature:
Project Engineer

3. Forwarded: NED, Waltham, MA


Stack
Tanks
Tank
N
+13
+12
+14
+11
+15
D
C
PIGEON COVE
+9
+10
Lobster Co.
+5
+8
+7
+6
+4
B
+3
Breakwater
+2
A
+1
A - Boring location and designation
+1 - Probe location and number
BORING AND PROBE LOCATIONS
BRIGGS ENGINEERING & TESTING CO.
NORWELL, MASSACHUSETTS
DR. BY: J.C.C.
SCALE: 1" = 90'
PROJ. NO.
CK'D BY: D.S.C.
DATE: 6/3/81
FIG. NO. 1



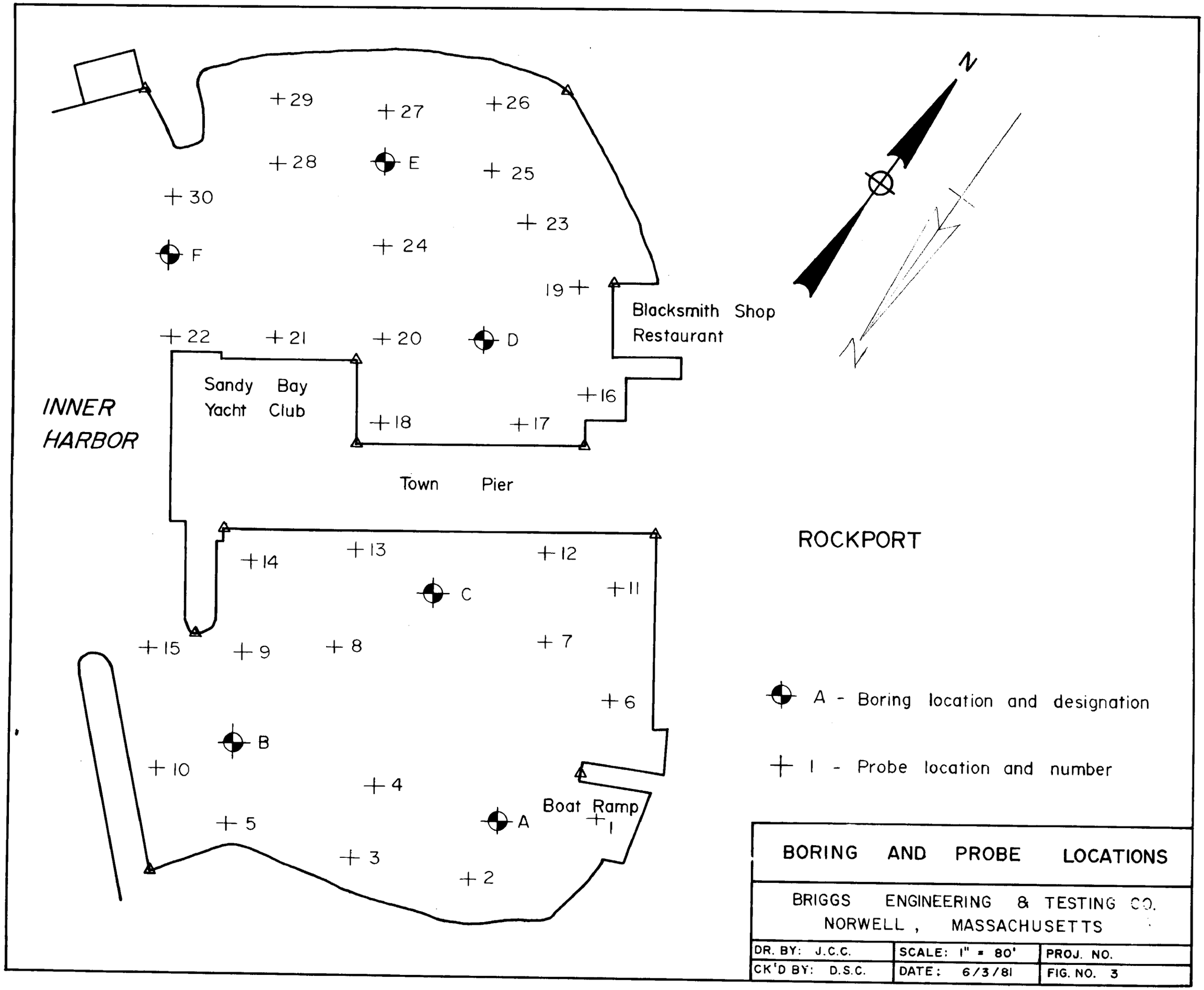
A - Boring location and designation

+ 1 - Probe location and number

BORING AND PROBE LOCATIONS

BRIGGS ENGINEERING & TESTING CO.
NORWELL, MASSACHUSETTS

DR. BY: J.C.C.	SCALE: 1" = 80'	PROJ. NO.
CK'D BY: D.S.C.	DATE: 6/3/81	FIG. NO. 2



BORING AND PROBE LOCATIONS

BRIGGS ENGINEERING & TESTING CO.
NORWELL, MASSACHUSETTS

DR. BY: J.C.C.	SCALE: 1" = 80'	PROJ. NO.
CK'D BY: D.S.C.	DATE: 6/3/81	FIG. NO. 3

APPENDIX A

Shift Reports

Briggs Engineering Co.

Shift Report

DATE: 5-11-81
SHIFT NO: [1]
PROJECT: Old Harbor - Rockport, MA
INSPECTOR: Ronald F. Bukoski

TIME: 1000 - 1630 hrs. COMMENTS

This report summarizes the work performed at Old Harbor, Rockport, MA on May 11, 1981. Test probings of the harbor sediments were performed by driving AW rods using a 300 lb hammer falling 18 in. The resistance to penetration was recorded for each foot of penetration to refusal. Refusal was defined as 50 blows/foot.

Upon arrival at the site we met with the Harbor Master, Shorty Leach, and were assured of our clearance into Old Harbor. Four probings were conducted. The following table lists the probing number, set-up time, and driving time.

Mobilization, 15 min. reconnaisance & locating Probing 1

Probing/ Boring	Moving Time (min.)	Driving Time (min.)	Footage (ft.)	
1	75	35	11.0	Refusal
3*	52	28	9.75	Refusal
7**	30	20	6.0	Refusal
2	39	29	14.0	Refusal
Demobilization	37			

* The relocation from Probing 1 to 3 was accomplished by a route crossing over the center pier because of high water.

** The incoming tide forced retreat from Probing 7 to avoid damage to the drilling motor. The AW rods were left in the ground.

Summary: Moving Time: 233 min.
Overburden drilling: 40.75 feet

Departed site at 1600 hrs.

Briggs Engineering Co.

Shift Report

DATE: 5-12-81
SHIFT NO: [1]
PROJECT: Old Harbor - Rockport, MA
INSPECTOR: Ronald F. Bukoski

TIME: 1000-1630 hrs. COMMENTS

Today's work was a continuation of the subsurface soil investigation in Old Harbor, Rockport, MA. This report summarizes the work performed and the results.

Two probings were performed, Numbers 6 and 10. Boring A was started and samples taken to 10.0' below the existing grade. A check will be made to determine if this depth is adequate. The intermittent rain showers of today forced a halt to the work on several occasions, the longest being approximately 20 minutes.

The following table summarizes the results for today.

Probing/ Boring	Moving Time (min.)	Driving Time (min.)	Footage (ft.)
6 *	85	37	15.0
10**	83	33	11.0-Refusal
A ***	37	55	10.0
Demobilization	60		

* 20 min. rain delay included in set-up time.
** 45 min. required to remove AW rods from Probe number 6, clay in tip of bottom AW Rod.
*** Incoming tide forced a halt to boring at a depth of 10.0' below existing grade.

Summary:

Moving Time:	265 min.
Overburden drilling:	26.0 feet
Drive Sampling:	10.0 feet

Briggs Engineering Co.

Shift Report

DATE: 5-13-81
SHIFT NO: [1]
PROJECT: Old Harbor - Rockport, MA
INSPECTOR: Ronald F. Bukoski

TIME: 1045-1645 hrs. COMMENTS

This report summarizes the third day of exploratory probing and borings in Old Harbor, Rockport, MA.

The probings accessible during low tide were completed today. Probing 9 was started and finished. The rods which were left at Probing 7 were removed in knee deep water at low tide using the monkey-on-a-stick portable drilling rig. Boring A was continued from a depth of 10.0' to 15.0'.

The following table summarizes the work times:

Probing/ Boring	Moving Time (min.)	Driving Time (min.)	Footage (ft.)
9	70	39	13.0-Refusal
7 *	90	10	3.5
A **	30	30	5.0

* 1 hr. wait for tide to go out so probing location could be reached to pull rods which were left because of high water.

** Boring continued form previous day.

Summary: Moving Time: 190 min.
Overburden Drilling: 16.5 feet
Drive Sampling: 5.0 feet

Briggs Engineering Co.

Shift Report

DATE: 5-18-81
SHIFT NO: [1]
PROJECT: Pigeon Cove, Rockport, MA
INSPECTOR: Ronald F. Bukoski

TIME: 0730-1600 hrs. COMMENTS

This report summarizes the subsurface harbor investigation in Pigeon Cove, Rockport, MA for May 18, 1981. Six probings were performed.

The following table summarizes today's activities:

Arrival 0730 hrs., loaded and moved raft-mounted drilling rig from granite pier to Pigeon Cove.

Probing/ Boring	Moving Time (min.)	Driving Time (min.)	Footage (ft)
9	195	17	10.0
5	44	8	3.0
6	30	10	7.0
7	61	8	3.5
8	27	10	4.5
10	45	10	6.0

Demobilization 15

Summary: Moving Time: 417 min.
Overburden Drilling: 34.0 feet

Briggs Engineering Co.

Shift Report

DATE: 5-19-81
SHIFT NO: [1]
PROJECT: Pigeon Cove - Rockport, MA
INSPECTOR: Ronald F. Bukoski

TIME: 0700-1430 hrs. COMMENTS

This report summarizes the subsurface harbor investigation in Pigeon Cove, Rockport, MA for May 19, 1981. Five probings and two borings were accomplished today from the raft mounted Acker drilling rig.

The following table summarizes today's activities:

Arrival time 0700 hrs.

Probing/ Boring	Moving Time (min.)	Driving Time (min.)	Footage (ft)
D	60	10	7.0
15	36	10	11.0
14	57	6	14.0
13	25	8	9.0
12	27	3	6.0
11	41	4	11.0
C	46	6	7.0

Summary: Moving Time: 292 min.
Overburden Drilling: 51.0 feet
Drive Sampling: 14.0 feet

Briggs Engineering Co.

Shift Report

DATE: 5-20-81
SHIFT NO: [1]
PROJECT: Pigeon Cove - Rockport, MA
INSPECTOR: Ronald F. Bukoski

TIME: 0700-1415 hrs. COMMENTS

Arrived at Pigeon Cove, Rockport at 0700 to continue the subsurface harbor investigation. We are using a raft mounted Acker drilling rig and 300 lb hammer with an 18" drop. The drillers arrived on site at 0721.

Probe/ Boring	Moving Time (min.)	Driving Time (min.)	Footage (ft)
1	59	9	5.0
A	26	5	5.0
2	35	5	5.0
3	88	20	1.5 + 5.5= 7.0
B	24	11	1.5 + 5.0= 6.5
4	27	7	7.0

Complications Probe 3 hit refusal after 2 feet. Moved the rig 20 feet farther out, perpendicular to the wall. Drove to 5 1/2 feet at new location.

Boring B hit refusal at 1.5' moved 15' farther from wall, perpendicular to wall. Drove to 5 feet below harbor bottom.

All scheduled borings and probings for Pigeon Cove were completed today.

Summary: Moving Time: 259 min.
Overburden Drilling: 24.0 feet
Drive Sampling: 11.5 feet

Briggs Engineering Co.

Shift Report

DATE: 5-21-81
SHIFT NO: [1]
PROJECT: Rockport Harbor
INSPECTOR: Ronald F. Bukoski

TIME: 0700-1530 COMMENTS

Arrived at Pigeon Cove at 0700. The drillers arrived at 0749. Moved barge and skiff to Rockport Inner Harbor. Decided to try to complete all borings in Inner Harbor. Ed Swift-COE/NED arrived at 1000 to watch the sampling operation. Completed all six borings in Inner Harbor by 1545 and tied barge up at the yacht club dock. Borings are summarized below.

Probing/ Boring	Moving Time (min)	Drilling Time (min)	Footage (ft)
B	172	4	5.0
A	33	4	5.0
C	59	4	5.0
F	31	11	6.0
D	27	7	6.0
E	53	40	7.0
Demob	35		

Summary: Moving Time: 410 min.
Drive Sampling: 34.0 feet

Briggs Engineering Co.

Shift Report

DATE: 5-22-81
SHIFT NO: [1]
PROJECT: Rockport Harbor - Rockport, MA
INSPECTOR: Jeffrey B. Shelkey

TIME: 0700 - 1549 COMMENTS

Arrived at the job site at 0700. Drillers arrived at the same time. Loaded the raft and got underway. First boring was at 0825. Probings for the day are summarized below.

Probe/ Boring	Moving Time (min)	Driving Time (min)	Footage (ft)
20	85	12	8.0
21	24	5	5.0
22	7	3	5.0
30	11	3	5.0
28	5	6	5.0
25	9	5	7.0
23	30	8	8.0
24	25	4	7.0
19	13	6	9.0
16	30	30	15.0
17	15	20	14.0
Unloaded all gear and secured raft	124		

Due to long weekend, all portable gear and tools were removed from raft, including drill rod and casing, anchors and line.

Summary: Moving Time: 378 min.
Overburden Drilling: 88.0 feet

Briggs Engineering Co.

Shift Report

DATE: 5-26-81
SHIFT NO: [1]
PROJECT: Rockport Harbor-Rockport, MA
INSPECTOR: Jeffrey B. Shelkey

TIME: 0700-1316 COMMENTS

Arrived at the job site at 0700. Drillers arrived at 0715. We loaded gear onto raft and proceeded to first station. Today we completed right side of Inner Harbor and moved over to the left side. Summary of probings follow.

Probing/ Borings	Moving Time (min.)	Driving Time (min)	Footage (ft)
18	57	25	14.0
27	18	19	14.0
29	15	21	9.0
9	24	10	9.0
14	11		0.0

Rig repair between 0951 and 1051 and 1206 and 1316
2 hrs 10 min

Total of 5 1/2 hrs on site.

Summary: Moving Time: 125 min.
Overburden Drilling: 46.0 feet

Briggs Engineering Co.

Shift Report

DATE: 5-27-81
SHIFT NO: [1]
PROJECT: Rockport Harbor-Rockport, MA
INSPECTOR: Jeffrey B. Shelkey

TIME: 0700-1545 COMMENTS

Arrived at job site at 0700. Drillers arrived at 1030 and worked on drill rig until 1115. Loaded gear and moved to probe #14. We worked until the hammer rope broke on probe #2. We pulled the rods and left the raft there. We will repeat this probe tomorrow. Today's probings are summarized below.

Probing/ Boring	Moving Time (min.)	Driving Time (min.)	Footage (ft.)
14	20	10	10.0
13	22	8	7.0
8	20	4	7.0
7	15	4	6.0
12	11	5	7.0
11	9	11	14.0
6	5	17	14.0
1	13	27	16.0
2	33	13	5.0

Summary Moving Time: 148 min.
Overburden Drilling: 86.0 feet

Briggs Engineering Co.

Shift Report

DATE: 5-28-81
SHIFT NO: [1]
PROJECT: Rockport Harbor-Rockport, MA
NSPECTOR: Jeffrey B. Shelkey

TIME: 0700-1506 COMMENTS

Arrived at the job site at 0700. Drillers arrived at 0715. Had trouble starting engine on drill rig today. Changed coil and needed a jump start from the spare battery. Had quite a bit of trouble with borings today. Started with Probe #2. Bent first 5' section of drill rod on boulder or rock ledge. Possibly this side was filled in for footing for pier with large boulders. Bent the drive head on a boulder or ledge while probing at #3. Drill rod is slipping between cracks in boulders or being deflected as it will not remain vertical. Moved the raft 3 times before we could get a satisfactory probe. Had difficulty with #5 probe-same as above. Rod is being deflected by large boulders and will not remain vertical. Summary of probings is as follows:

Probing/ Boring	Moving Time (min.)	Driving Time (min.)	Footage (ft.)
2	21	22	7.5
3	28	55	5.2
5	37	23	4.0
4	42	38	6.5
10	45	5	5.1
15	10	8	4.0
Secured raft	28		

Left site at 1506
Checked tide height at 1944 - 8.8' on tide mark set up by C.O.E.

Summary Moving Time: 211 min.
Overburden Drilling: 32.3 feet

Briggs Engineering Co.

Shift Report

DATE: 5/29/81
SHIFT NO: [1]
PROJECT: Old Harbor-Rockport, MA
INSPECTOR: Jeffrey B. Shelkey

TIME: 0700-1200 COMMENTS

Arrived at Rockport Inner Harbor at 0700. Moved the raft and drill rig to Old Harbor. Made 2 attempts at Boring C. On our first attempt we hit rock immediately. On second drive split spoon sampler appears to be between 2 boulders and landed on top of one. This area is filled with boulders and rock from pre-existing jetty. Moved the raft at this time into Old Harbor to complete the probes and borings in this area. Results are summarized below.

Probing/ Boring	Moving Time (min.)	Driving Time	Footage (ft.)
C	88	3 min.	4.2
5	33	7 min.	7.0
8	17	12 min.	10.0
4	26	10 min.	9.0
B	22	43 min.	8.0

Left the raft at 1200 - Drillers worked until 1500 securing and unloading gear.

Summary
Moving Time: 186 min.
Overburden Drilling: 26.0 feet
Drive Sampling: 12.2 feet

Briggs Engineering Co.

Shift Report

DATE: 6-2-81
SHIFT NO: [1]
PROJECT: Rockport Harbor - Rockport, MA
INSPECTOR: Jeffrey B. Shelkey

TIME: 1600 - 1955 COMMENTS

Arrived at Rockport Harbor at 1600 today. Set up started at 1630 for Probe #26. This area was exposed at low tide and we used the Wisconsin Rig on wheels. Started the probe at 1805. Rig breakdown was completed at 1955.

Probe/ Boring	Moving Time (min.)	Driving Time (min.)	Footage (ft.)
26	96	35	15.0

Summary: Moving Time: 96 min.
Overburden Drilling: 15.0 feet

APPENDIX B

Field Boring and Probing Logs

Pigeon Cove

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST BORING

Site PIGEON COVE, ROCKPORT, MA Page 1 of 1 Pages

Boring No. A Desig. B-A Diam. (Casing) 2 1/2"

Co-ordinates: N _____ E _____

Elevation Top of Boring -17.0 M.L.W.
Total Overburden Drilled 5.0 Feet
Elevation Top of Rock NONE ENCOUNTERED M.L.W.
Total Rock Drilled NONE Feet
Elevation Bottom of Boring -22.0 M.L.W.
Total Depth of Boring 5.0' Feet
Core Recovered ____ % No. Boxes ____
Core Recovered ____ Ft. ____ Diam. ____ In.
Soil Samples 1 1/2 In. Diam. 3 No.
Soil Samples ____ In. Diam. ____ No.

Hammer Wt. 300 lb Boring Started 5-20-81
Hammer Drop 18 in. Boring Completed 5-20-81
Casing Left NONE
Subsurface Water Data ____ Page ____
Obs. Well NONE
Drilled By Briggs Engineering & Testing Co.
Mfg. Des. Drill RAFT MOUNTED MICKER
Inspected By: RONALD F. BUKOSKI
Classification By: ____
Classification By: ____

DEPTH	1" = 2'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE RECV'Y	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
	1	S-1 1 JAR	1 1/2"	0.0 TO 3.0'	2	DRIVE 1 1/2" BY 5.0' FROM HARDER BOTTOM TO 5.0'. RECOVERED 2.5'	SANDY SILT, LOW PLASTICITY, 10-20% MEDIUM TO FINE SAND, PREDOMINATELY FINE, SATURATED, GRAY, ML
	2				4		
					4		
3.0	3	S-2 1 JAR	1 1/2"	3.0 TO 4.0	5		SILTY SAND, C-F SAND, 25-35% SLIGHTLY PLASTIC FINES, SATURATED, BLUISH GRAY, SM.
4.0	4	S-3 1 JAR	1 1/2"	4.0 TO 5.0	7	BOTTOM OF BORING	SILTY SAND, FINE SAND, 25-35% SLIGHTLY PLASTIC FINES, SATURATED, GRAY, SM-SP.
	5						

GENERAL REMARKS: BORING DEPTHS ARE REFERENCED TO THE HARDER BOTTOM.

NED. FORM 58 (Test)

Boring No. A

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST BORING

Site PIGEON COVE, ROCKPORT, MA Page 1 of 1 Pages

Boring No. B Desig. B-B Diam. (Casing) 2 1/2"

Co-ordinates: N _____ E _____

Elevation Top of Boring -10.6 M.LW.
Total Overburden Drilled 5.0 Feet
Elevation Top of Rock NONE ENCOUNTERED M.LW.
Total Rock Drilled NONE Feet
Elevation Bottom of Boring -15.6 M.LW.
Total Depth of Boring 5.0 Feet
Core Recovered ____ % No. Boxes ____
Core Recovered ____ Ft. ____ Diam. ____ In.
Soil Samples 1 1/2 In. Diam. 2 No.
Soil Samples ____ In. Diam. ____ No.

Hammer Wt. 300 lb Boring Started 5-20-81
Hammer Drop 18 in. Boring Completed 5-20-81
Casing Left none
Subsurface Water Data ____ Page ____
Obs. Well none
Drilled By Briggs Engineering & Testing Co.
Mfg. Des. Drill RAFT MOUNTED ACKER
Inspected By: RONALD F. BUKOSKI
Classification By: ____
Classification By: ____

DEPTH 1" = 2'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE RECV'Y	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1	S-1 1 JAR	1 1/2"	0.0 TO 2.0'	2 1 / 55 7	REFUSAL AT 1.5' ON FIRST ATTEMPT. HOLE RELOCATED AND REDRIVE 1 1/2" x 5.0' SOLID SPOON SAMPLER FROM HARBOR BOTTOM TO 5.0'	SILTY SAND, COARSE TO FINE SAND, PREDOMINATELY COARSE, 15 TO 25% NONPLASTIC FINES, < 10% FINE GRAVEL, SATURATED, BLACK, SM.
2						
3	S-2 1 JAR	1 1/2"	2.0 TO 5.0	40 / 33 / 13	RECOVERED 2.0'	SILTY SAND, COARSE TO FINE, PREDOMINATELY COARSE, 25 TO 35% SLIGHTLY PLASTIC FINES, 8 TO 12% FINE GRAVEL, SATURATED, GRAY, SM-SP.
4						
5					BOTTOM OF BORING	

GENERAL REMARKS: BORING DEPTHS ARE REFERENCED TO HARBOR BOTTOM.

NED FORM 58 (Test)

Boring No. B

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST BORING

Site PIGEON COVE, ROCKPORT, MA — Page 1 of 1 Pages

Boring No. C — Desig. C — Diam. (Casing) 2 1/2

Co-ordinates: N _____ E _____

Elevation Top of Boring -12.9 M.LW
Total Overburden Drilled 7.0 Feet
Elevation Top of Rock NONE ENCOUNTERED M.LW
Total Rock Drilled NONE Feet
Elevation Bottom of Boring 19.9 M.LW
Total Depth of Boring 7.0 Feet
Core Recovered ____ % No. Boxes ____
Core Recovered ____ Ft. ____ Diam. ____ In.
Soil Samples 1 1/2 In. Diam. 3 No.
Soil Samples ____ In. Diam. ____ No.

Hammer Wt. 300 lb
Hammer Drop 18 in.
Casing Left NONE
Subsurface Water Data ____ Page ____
Obs. Well NONE
Drilled By Briggs Engineering & Testing Co.
Mfg. Des. Drill RAFT MOUNTED ACKER
Inspected By: RAFAEL F. BUKOSKI
Classification By: ____
Classification By: ____

Boring Started 5-19-81
Boring Completed 5-19-81

DEPTH 1" = 2'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE RECV'Y	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1245						
1333 hrs						
WATER: 21'-2"						
DE 8.3'						
1	S-1 2 JARS	1 1/2"	0.0 TO 6.0'	WEIGHT OF RODS	DROVE 1 1/2 in x 5.0 Ft SOLID SPOON SAMPLER FROM HARBOR BOTTOM TO 7.0'. OVER DRIVEN TO INSURE RECOVERY OF BOTTOM MUCK	SANDY SILT, ORGANIC SILT 15-25% Fine Sand, BLACK, ODOROUS, SATURATED, OL.
2				3		
3				3		
4				2		
5				3		S-1, 2/2, TRANSITION ZONE, CLAYEY SILT LOW PLASTICITY < 5% Fine Sand, SATURATED BLACKISH GRAY, ML
6						
1339	S-2 1 JAR	1 1/2"	6.0 TO 7.0	33		SILTY CLAY, LOW PLASTICITY SATURATED, GRAY, CL
7						
8						
9						

GENERAL REMARKS: BORING DEPTH REFERENCED TO HARBOR BOTTOM

NED FORM 58 (Test) Boring No. C

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST BORING

Site PIGEON COVE, ROCKPORT, MA Page 1 of 1 Pages

Boring No. D Desig. D Diam. (Casing) 2 1/2"

Co-ordinates: N _____ E _____

Elevation Top of Boring -15.25 M.LW
Total Overburden Drilled 7.0 Feet
Elevation Top of Rock NONE ENCOUNTERED M.LW
Total Rock Drilled NONE Feet
Elevation Bottom of Boring -22.25' MLW
Total Depth of Boring 7.0 Feet
Core Recovered _____ % No. Boxes _____
Core Recovered _____ Ft. _____ Diam. _____ In.
Soil Samples 1 1/2 In. Diam. 1 No.
Soil Samples _____ In. Diam. _____ No.

Hammer Wt. 300 lb Boring Started 5-19-81
Hammer Drop 18 in. Boring Completed 5-19-81
Casing Left NONE
Subsurface Water Data _____ Page _____
Obs. Well NONE
Drilled By Briggs Engineering & Testing Co.
Mfg. Des. Drill RAFT MOUNTED ACKER
Inspected By: RONALD F. BUSCOSKI
Classification By: _____
Classification By: _____

DEPTH	1" = 2'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE RECVY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
0800 WATER LEVEL 15.75' TIDE +0.5'	1	S-1 1 JAR	1 1/2"	0.0 TO 7.0'	WEIGHT OF RODS	DROVE 1 1/2" x 5' SOLID SPOON SAMPER FROM SURFACE TO 7.0' USING 300 lb HAMMER FALLING 18 in. OVER DRIVEN TO INSURE RECOVERY.	SILTY SAND, Fine Sand 15-25% NONPLASTIC FINES, SATURATED, BLACKISH GRAY, SP-SM.
	2				WEIGHT OF RODS		
					1	RECOVERED APPROXIMATELY 2'	
	3				6		
	4				11		
	5				5		
0810	6				53	BOTTOM OF BORING	
	7						
	8						
	9						

GENERAL REMARKS: DEPTHS ARE REFERENCED TO HARBOR BOTTOM.

NED FORM 58(Test) Boring No. D

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site PIGEON COVE, ROCKPORT, MA Page 1 of 1 Pages

Probe 2 Desig. 2 Diam. (Casing) _____

Co-ordinates: N _____ E _____

Elevation Top -16.5 M.L.W.
Total Overburden Drilled 5.0 Feet
Elevation Top of Rock NONE ENCOUNTERED M.L.W
Total Rock Drilled N/A Feet
Elevation Bottom -21.5 M.L.W.
Total Depth 5.0 Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft: ____ Diam. ____ In.
Soil Samples N/A In. Diam. ____ No.
Soil Samples N/A In. Diam. ____ No.

Hammer Wt. 300 lb
Hammer Drop 18 in.
Casing Left NONE
Subsurface Water Data _____ Page _____
Obs. Well NONE
Drilled By Briggs Engineering & Testing Co.
Mfg. Des. Drill RAFT MOUNTED ACKER
Inspected By: RONALD E. BURKACKI
Classification By: _____
Classification By: _____

Started 5-20-81
Completed 5-20-81

Start 0935
Finish 0940

DEPTH 1" = 2'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1				2	DROVE 25' OF "AW" RODS USING 300 lb HAMMER DROPPED FROM 18 in.	
2				5	DROVE FROM SURFACE TO 5.0'.	
3				7		
4				9		
5				20	BOTTOM OF PROBE	

GENERAL REMARKS: PROBE DEPTHS ARE REFERENCED TO THE HARBOR BOTTOM

Probe No. 2

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site PIGEON COVE, ROCKPORT, MA Page 1 of 1 Pages

Probe 3 Desig. 3 Diam. (Casing) _____

Co-ordinates: N _____ E _____

Elevation Top HARBOR Bottom -8.6 M.L.W
Total Overburden Drilled 5.5 Feet
Elevation Top of Rock -14.0 M.L.W
Total Rock Drilled N/A Feet
Elevation Bottom -14.1 M.L.W
Total Depth 5.5 Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft: _____ Diam. _____ In.
Soil Samples N/A In. Diam. _____ No.
Soil Samples N/A In. Diam. _____ No.

Hammer Wt. 300 lb
Hammer Drop 18 in.
Casing Left NONE
Subsurface Water Data _____ Page _____
Obs. Well NONE
Drilled By Briggs Engineering & Testing Co.
Mfg. Des. Drill RAFT MOUNTED ACKER
Inspected By: RONALD F. BUKOCKI
Classification By: _____
Classification By: _____

Started 5-20-81
Completed 5-20-81

WATER 15'
TIDE 6.4
MLL 8.6

PROBE 1
START 1105
STOP 1112

PROBE 2
START 1115
STOP 1128

DEPTH	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1" = 2						
1				10 5	FIRST PROBING: REFUSAL AT 1.5' RELOCATED 20' PERPENDICULAR TO WALL, FROM PLANNED LOCATION AND REPROBED.	
2				67 6	DRIVE 15.0' OF AW ROD FROM HARBOR BOTTOM TO 5.5'.	
				8		
3				18		
4				40		
5				68	BOTTOM OF PROBING	

GENERAL REMARKS: PROBING DEPTHS ARE REFERENCED TO HARBOR BOTTOM.

Probe No. 3

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site PIGEON COVE ROCKPORT, MA Page 1 of 1 Pages

Probe 4 Desig. 4 Diam. (Casing) _____

Co-ordinates: N _____ E _____

Elevation Top HARBOR BOTTOM -13.6 M.LW
Total Overburden Drilled 7.0 Feet
Elevation Top of Rock NONE ENCOUNTERED M.LW
Total Rock Drilled N/A Feet
Elevation Bottom 20.6 M.LW.
Total Depth 7.0 Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft. _____ Diam. _____ In.
Soil Samples N/A In. Diam. _____ No.
Soil Samples N/A In. Diam. _____ No.

Hammer Wt. 300 lb
Hammer Drop 18 in.
Casing Left NONE
Subsurface Water Data _____ Page _____
Obs. Well NONE
Drilled By Briggs Engineering & Testing Co.
Mfg. Des. Drill RAFT MOUNTED ACKER
Inspected By: RONALD F. BUKOSKI
Classification By: _____
Classification By: _____

Started 5-20-81
Completed 5-20-81

DEPTH	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE RECVY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1" = 2'						
1				WEIGHT OF RODS	DROVE 20.0' OF "AW" RODS FROM HARBOR BOTTOM TO 7.0' USING 300 lb HAMMER DROPPED FROM 18 in.	
2				2		
3				2		
4				12		
5				11		
6				10		
7					BOTTOM OF PROBE	

GENERAL REMARKS: PROBING DEPTHS ARE REFERENCED TO THE HARBOR BOTTOM.

Probe No. 4

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site PIGEON COVE, ROCKPORT Page 1 of 1 Pages

Probe 5 Desig. 5 Diam. (Casing) _____

Co-ordinates: N _____ E _____

Elevation Top HARBOR BOTTOM -1.4 M.L.W
Total Overburden Drilled 3.0 Feet
Elevation Top of Rock _____ M.L.W
Total Rock Drilled N/A Feet
Elevation Bottom -4.40 M.L.W
Total Depth 3.0 Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft: ____ Diam. ____ In.
Soil Samples N/A In. Diam. ____ No.
Soil Samples N/A In. Diam. ____ No.

Hammer Wt. 300 lb
Hammer Drop 18 in.
Casing Left NONE
Subsurface Water Data _____ Page _____
Obs. Well NONE
Drilled By Briggs Engineering & Testing Co.
Mfg. Des. Drill RAFT MOUNTED ACKER
Inspected By: RONALD F. BUKOSKI
Classification By: _____
Classification By: _____

Started 5-18-81
Completed 5-18-81

DEPTH	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1" = 2'						
				ROD WEIGHT	PROBING: DROVE AW ROD USING 300 lb HAMMER, DROPPED FROM 18 in.	
1				3	15.4' OF AW ROD DRIVEN FROM HARBOR BOTTOM.	
2				14		
3					REFUSAL AT 3.0'	
4						
5						
6						
7						
8						
9						

1146 hrs

DEPTH OF WATER: 9'-9"

TIDE 8.4'

1157 hrs

GENERAL REMARKS: REFUSAL: 50 BLOWS & 1' PENETRATION
DEPTHS ARE REFERENCED TO HARBOR BOTTOM

Probe No. 5

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site PIGEON COVE ROCKPORT, MA — Page 1 of 1 Pages

Probe 6 Desig. 6 Diam. (Casing) _____

Co-ordinates: N _____ E _____

Elevation Top HARBOR BOTTOM -4.5 M.L.W
Total Overburden Drilled 6.9' Feet
Elevation Top of Rock _____ M.L.W
Total Rock Drilled N/A Feet
Elevation Bottom -11.4 M.L.W
Total Depth 6.9' Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft. _____ Diam. _____ in.
Soil Samples N/A in. Diam. _____ No.
Soil Samples N/A in. Diam. _____ No.

Hammer Wt. 300 lb
Hammer Drop 18 in.
Casing Left NONE
Subsurface Water Data _____ Page _____
Obs. Well NONE
Drilled By Briggs Engineering & Testing Co.
Mfg. Des. Drill RAFT MOUNTED ACKER
Inspected By: RONALD E. BURCZEKI
Classification By: _____
Classification By: _____

Started 5-18-81
Completed 5-18-81

1224 hrs.
DEPTH OF WATER 13.0'
TIDE: 8.5'

DEPTH 1" = 2'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE RECV'Y	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
				6	DROVE "AW" RODS USING 300 lb HAMMER, DROP HEIGHT 18 in.	
1				44		
2				23		
3				5		
4				18		
5				36		
6				26,11"		
7					REFUSAL 6.9'	
8						
9						

1234 hrs.

GENERAL REMARKS: DEPTHS ARE REFERENCED TO HARBOR BOTTOM
REMARKS: 50 BLOWS < 1' PENETRATION

Probe No. 6

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site PIGEON COVE ROCKPORT, MA Page 1 of 1 Pages

Probe 7 Desig. 7 Diam. (Casing) _____

Co-ordinates: N _____ E _____

Elevation Top HARBOR BOTTOM -10.7 M.LW
Total Overburden Drilled 3.5' Feet
Elevation Top of Rock _____ M.LW
Total Rock Drilled N/A Feet
Elevation Bottom 14.2' M.LW
Total Depth 3.5 Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft: ____ Diam. ____ In.
Soil Samples N/A In. Diam. ____ No.
Soil Samples N/A In. Diam. ____ No.

Hammer Wt. 300 lb
Hammer Drop 18 in.
Casing Left NONE
Subsurface Water Data _____ Page _____
Obs. Well NONE
Drilled By Briggs Engineering & Testing Co
Mfg. Des. Drill RAFT MOUNTED ACKER
Inspected By: Donald E. Bukowski
Classification By: _____
Classification By: _____

Started 5-18-81
Completed 5-18-81

1335 hrs.
TIDE 7.8'
DEPTH OF WATER 18'-6"
1343 hrs.

DEPTH	1" = 2'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
	1				WEIGHT OF RODS	25.0' OF "AW" RODS WERE DRIVEN FROM THE HARBOR BOTTOM TO 3'-6".	
					WEIGHT OF RODS		
	2				3.5		
	3				75/0.5'	REFUSAL 3.6' "	
	4						
	5						
	6						
	7						
	8						
	9						

GENERAL REMARKS: DEPTHS ARE REFERENCED TO HARBOR BOTTOM. REFUSAL. SO BLOWS < 1' PENETRATION

Probe No. 7

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site PIGEON COVE, ROCKPORT, MA. Page 1 of 1 Pages

Probe 8 Desig. 8 Diam. (Casing) _____

Co-ordinates: N _____ E _____

Elevation Top HARBOR BOTTOM -10.5 MLW
Total Overburden Drilled 4.5' Feet
Elevation Top of Rock _____ MLW
Total Rock Drilled N/A Feet
Elevation Bottom -15.0 MLW
Total Depth 4.5' Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft: ____ Diam. ____ In.
Soil Samples N/A In. Diam. ____ No.
Soil Samples N/A In. Diam. ____ No.

Hammer Wt. 300 lb
Hammer Drop 18 in.
Casing Left NONE
Subsurface Water Data _____ Page _____
Obs. Well NONE
Drilled By Briggs Engineering & Testing Co.
Mfg. Des. Drill RAFT MOUNTED ACKER
Inspected By: RONALD F. BURKOSKI
Classification By: _____
Classification By: _____

Started 5-18-81
Completed 5-18-81

DEPTH	1" = 2'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1410 hrs DEPTH OF WATER 17.0' TIDE 6.5'					WEIGHT OF RODS	DROVE 25.0' OF AW RODS FROM HARBOR BOTTOM TO 4'-6" USING 300 lb HAMMER DROPPED FROM 18.0".	
	1				11		
	2				21		
1420 hrs	3				29		
	4				32/0.5'	REFUSAL 4.5'	
	5						
	6						
	7						
	8						
	9						

GENERAL REMARKS: DEPTHS REFERENCED TO HARBOR BOTTOM
REFUSAL 50 BLOWS <1" PENETRATION

Probe No. 8

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site PIGEON COVE Page 1 of 1 Pages

Probe 9 Desig. 9 Diam. (Casing) _____

Co-ordinates: N _____ E _____

Elevation Top HARBOR BOTTOM -11.0 M.L.W.
Total Overburden Drilled 10.0 Feet
Elevation Top of Rock _____ M.L.W.
Total Rock Drilled N/A Feet
Elevation Bottom -21.0 M.L.W
Total Depth 10.0 Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft. _____ Diam. _____ in.
Soil Samples N/A in. Diam. _____ No.
Soil Samples N/A in. Diam. _____ No.

Hammer Wt. 300 lb
Hammer Drop 18 in.
Casing Left NONE
Subsurface Water Data _____ Page _____
Obs. Well NONE
Drilled By Briggs Engineering & Testing Co
Mfg. Des. Drill RAFT MOUNTED ACKER
Inspected By: Richard F. Burnell
Classification By: _____
Classification By: _____

Started 5-18-81
Completed 5-18-81

DEPTH 1" = 2'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1045 18'-2" WATER TIDE 7'-2" DROP LOW				WEIGHT OF RODS		
1				1		
2				1		
3				1		
4				1		
5				12		
6				11		
7				12		
8				25		
9				46		
1102 hrs					BOTTOM OF PROBING 10.0'	

GENERAL REMARKS: DEPTHS ARE REFERENCED TO HARBOR BOTTOM

Probe No. 9

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site Pigeon Cove Rockport Page 1 of 1 Pages

Probe 10 Desig. 10 Diam. (Casing) _____

Co-ordinates: N _____ E _____

Elevation Top HARBOR BOTTOM -13.25 MLW
Total Overburden Drilled 6.0 Feet
Elevation Top of Rock _____ MLW
Total Rock Drilled N/A Feet
Elevation Bottom -19.25 MLW
Total Depth 6.0 Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft: ____ Diam. ____ In.
Soil Samples N/A In. Diam. ____ No.
Soil Samples N/A In. Diam. ____ No.

Hammer Wt. 300
Hammer Drop 18 in
Casing Left None
Subsurface Water Data _____ Page _____
Obs. Well None
Drilled By Briggs Engineering & Testing Co.
Mfg. Des. Drill Raft mtd. Acker
Inspected By: Ronald F. Bukocki
Classification By: _____
Classification By: _____

Started 5-18-81
Completed 5-18-81

DEPTH 1" = 2'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
				ROD WEIGHT	Drove with "N W" Rod using 300 lb. hammer with 18" drop	
1				ROD WEIGHT		
2				2		
3				4		
4				20		
5				23		
6					BOTTOM OF PROBING	
7						
8						
9						

GENERAL REMARKS: DEPTHS ARE REFERENCED TO HARBOR BOTTOM.

water depth 17.25'
de height 4.0' above
1505
1515

Probe No. 10

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site PIGEON HARBOR ROCKPORT, MA Page 1 of 2 Pages

Probe 11 Desig. 11 Diam. (Casing) _____

Co-ordinates: N _____ E _____

Elevation Top HARBOR BOTTOM -3.9' MLW
Total Overburden Drilled 11.0 Feet
Elevation Top of Rock NONE ENCOUNTERED MLW
Total Rock Drilled N/A Feet
Elevation Bottom -14.9 MLW
Total Depth 11.0 Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft: ____ Diam. ____ In.
Soil Samples N/A In. Diam. ____ No.
Soil Samples N/A In. Diam. ____ No.

Hammer Wt. 300 lb
Hammer Drop 18 in.
Casing Left NONE
Subsurface Water Data _____ Page _____
Obs. Well NONE
Drilled By Briggs Engineering & Testing Co.
Mfg. Des. Drill RAFT MOUNTED ACKER
Inspected By: RONALD F. BUKOPKI
Classification By: _____
Classification By: _____

Started 5-19-81
Completed 5-19-81

1193

WATER 12'-6"

TIDE 8.6'

DEPTH	1"	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
					WEIGHT OF RODS	DROVE 25' SECTION OF "AW" ROD FROM HARBOR BOTTOM TO 11.0'	
	1						
	2				1		
	3				1		
	4						
					1		
	5						
					1		
	6				2		
	7						
					1		
	8						
					1		
	9						
					13		

GENERAL REMARKS: PROBING DEPTHS ARE REFERENCED TO HARBOR BOTTOM.

Probe No. 11

Site: PIGEON COVE, ROCKPORT

Probe No. 11

DEPTH		CORE/SAMPLE			BLOWS PER FT. / CORE RECVY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
	FT. 2	NO	SIZE	DEPTH RANGE			
					37		
1117	11					BOTTOM OF PROBING	

Probe No. 11

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site PIGEON COVE ROCKPORT, MA Page 1 of ___ Pages

Probe 12 Desig. 12 Diam. (Casing) _____

Co-ordinates: N _____ E _____

Elevation Top HARBOR BOTTOM -11.6' MLW
Total Overburden Drilled 6.0 Feet
Elevation Top of Rock _____ MLW
Total Rock Drilled N/A Feet
Elevation Bottom -17.6 MLW
Total Depth 6.0 Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft. _____ Diam. _____ In.
Soil Samples N/A In. Diam. _____ No.
Soil Samples N/A In. Diam. _____ No.

Hammer Wt. 300 lb
Hammer Drop 18 in.
Casing Left NONE
Subsurface Water Data _____ Page _____
Obs. Well NONE
Drilled By Briggs Engineering & Testing Co.
Mfg. Des. Drill RAFT MOUNTED ACKER
Inspected By: DONALD F. BUKOSKI
Classification By: _____
Classification By: _____

Started 5-19-81
Completed 5-19-81

1059 hrs
WATER 19'-2"
TIDE 7.6'
1102 hrs

DEPTH	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1" = 2'				WEIGHT OF RODS	25.0' OF AW RODS DRIVEN FROM HARBOR BOTTOM TO 6.0'	
1				2		
2				3		
3				1		
4				1		
5				6	REFUSAL AT 6'	
6						
7						
8						
9						

GENERAL REMARKS: PROBING DEPTHS REFERENCED TO HARBOR BOTTOM

Probe No. 12

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site PIGEON COVE ROCKPORT, MA Page 1 of ___ Pages

Probe 13 Desig. 13 Diam. (Casing) ___

Co-ordinates: N ___ E ___

Elevation Top HARBOR BOTTOM -12.5' M.L.W.
Total Overburden Drilled 9.0 Feet
Elevation Top of Rock NONE ENCOUNTERED M.L.W.
Total Rock Drilled N/A Feet
Elevation Bottom -21.5' M.L.W.
Total Depth 9.0' Feet
Core Recovered N/A % No. Boxes ___
Core Recovered N/A Ft. ___ Diam. ___ In.
Soil Samples N/A In. Diam. ___ No.
Soil Samples N/A In. Diam. ___ No.

Hammer Wt. 300 lb
Hammer Drop 18 in.
Casing Left NONE
Subsurface Water Data ___ Page ___
Obs. Well NONE
Drilled By Briggs Engineering & Testing Co.
Mfg. Des. Drill RAFT MOUNTED ACKER
Inspected By: RAYMO F. BURKOSKI
Classification By: ___
Classification By: ___

Started 5-19-81
Completed 5-19-81

DEPTH	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE RECV'Y	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1024 WATER 18'-8" TIDE 6.2'					30.0' OF "AW" RODS WERE DRIVEN FROM HARBOR BOTTOM.	
1				WEIGHT OF RODS		
2						
3						
4						
5						
6						
7				29		
8				5		
1032 9					BOTTOM OF PROBING	

GENERAL REMARKS: PROBING DEPTHS ARE REFERENCED TO HARBOR BOTTOM.

Probe No. 13

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site PIGEON COVE, ROCKPORT, MA Page 1 of 2 Pages

Probe 14 Desig. 14 Diam. (Casing) _____

Co-ordinates: N _____ E _____

Elevation Top HARBOR BOTTOM -5.7' M.L.W
Total Overburden Drilled 19.0 Feet
Elevation Top of Rock NONE ENCOUNTERED M.L.W
Total Rock Drilled N/A Feet
Elevation Bottom -19.7 M.L.W
Total Depth 19.0 Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft _____ Diam. _____ In.
Soil Samples N/A In. Diam. _____ No.
Soil Samples N/A In. Diam. _____ No.

Hammer Wt. 300 lb
Hammer Drop 18 in.
Casing Left NONE
Subsurface Water Data _____ Page _____
Obs. Well NONE
Drilled By Briggs Engineering & Testing Co.
Mfg. Des. Drill RAFT MOUNTED ACKER
Inspected By: RONALD F. BUKOFSKI
Classification By: _____
Classification By: _____

Started 5-19-81
Completed 5-19-81

0953 hrs

DEPTH OF WATER 9'-8"

TIDE: 4.0'

DEPTH (1" = 2')	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE RECV'Y	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1				WEIGHT OF RODS	15.0' OF "AW" RODS DRIVEN FROM HARBOR BOTTOM TO 4.0'	
2				1		
3						
4					5.0' FT SECTION OF "AW" ROD ATTACHED AND DRIVEN FROM 4.0 TO 9.0'	
5				1		
6				1		
7				2		
8				11		
9				4	ATTACHED 5.0' SECTION OF "AW" ROD AND DRIVE FROM 9.0' TO 14.0'	

GENERAL REMARKS: PROBING DEPTHS ARE REFERENCED TO HARBOR BOTTOM

Probe No. 14

Site: PIGEON COVE, ROCKPORT, MA	Probe No. 14	Page 2 of 2

DEPTH	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1'=2'						
				2		
11						
				2		
12						
				1		
13						
				10		
0959 14					BOTTOM OF PROBING	

Probe No. 14

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site Pigeon Cove Rockport Page 1 of ___ Pages

Probe 15 Desig. 15 Diam. (Casing) ___

Co-ordinates. N ___ E ___

Water depth 5'
1' MSL 4'
Time start 0816
Time finish 0856

Elevation Top Harbor bottom -4' M.LW
Total Overburden Drilled 11' Feet
Elevation Top of Rock ___ M.LW
Total Rock Drilled N/A Feet
Elevation Bottom -15' M.LW
Total Depth 11.0' Feet
Core Recovered N/A % No. Boxes ___
Core Recovered N/A Ft: ___ Diam. ___ In.
Soil Samples N/A In. Diam. ___ No.
Soil Samples N/A In. Diam. ___ No.

Hammer Wt. 300 Lb
Hammer Drop 18 in.
Casing Left No
Subsurface Water Data ___ Page ___
Obs. Well None
Drilled By Briggs Engineering & Testing Co.
Mfg. Des. Drill Raft mounted Acker
Inspected By: Ronald F. Bukoski
Classification By: ___
Classification By: ___

Started 19 May 81
Completed 19 May 81

DEPTH 1" = 2'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
				7	started with 10' section of "AW" rod drove to 2' below bottom	
1				6		
2				14	Added 5' section "AW" rod. drove to 7'	
3				14		
4				7		
5				4		
6				7		
7				14	ADDED 5' SECTION OF "AW" ROD AND DROVE TO FROM 7' TO 11.0'	
8				34		
9				44		
10						

GENERAL REMARKS: PRESENT DEPTHS ARE REFERENCED TO HARBOR BOTTOM.

Probe No. 15

Site: Pigeon Cove Rockport	Probe No. 15	Page 2 of 2

DEPTH	CORE/SAMPLE NO	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE RECV'Y	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1'-2'					Finished driving at	
				40	15' below MSL	
11'						

Probe No. 15

APPENDIX C

Field Boring and Probing Logs

Old Harbor

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST BORING

Site OLD HARBOR, ROCKPORT, MA Page 1 of ___ Pages

Boring No. A Desig. A Diam. (Casing) 4.0"

Co-ordinates: N ___ E ___

Elevation Top of Boring +0.90 M.L.W. Hammer Wt. 300 lb Boring Started 5-12-81

Total Overburden Drilled 15.0' Feet Hammer Drop 18 in. Boring Completed 5-13-81

Elevation Top of Rock NONE ENCOUNTERED M.L.W. Casing Left NONE

Total Rock Drilled NONE Feet Subsurface Water Data ___ Page ___

Elevation Bottom of Boring -14.1 M.L.W. Obs. Well NONE

Total Depth of Boring 15.0' Feet Drilled By BRIGGS ENGINEERING & TESTING CO.

Core Recovered ___ % No. Boxes ___ Mfg. Des. Drill PORTABLE, BRIGGS & STRATTON 9 H.P.

Core Recovered ___ Ft. ___ Diam. ___ In. Inspected By: RONALD F. BUKOSKI

Soil Samples 2½ In. Diam. 12 No. Classification By: ___

Soil Samples ___ In. Diam. ___ No. Classification By: ___

CASING BLOWS PER FT (WEIGHT ONLY)	DEPTH	DEPTH 1"=2'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
4		1	S-1 2 JARS 1A 1B	2½"	0.0 TO 2.5'	1 / .4	DROVE 2½" ID x 5' SOLID SPOON SAMPLER FROM 0.0 TO 5.0' AND TOOK SAMPLE. RECOVERED 4.0'	SILTY SAND, COARSE TO FINE SAND, PREDOMINATELY MEDIUM TO FINE, 15-25% NONPLASTIC FINES, <10% SHELL FRAGMENTS, <5% FINE GRAVEL, SATURATED, BLACK, MODERATE ODOR, SP-SM
18	2.5	2				15		
	3.0		S-2 1 JAR	2½"	2.5-3.0'		DROVE 4.0" CASING TO 5.0'; PUSHED CASING HOLE REMAINED OPEN. REDROVE CASING TO 5.0'.	TRANSITION ZONE: SILTY CLAY, LOW PLASTICITY, SATURATED, BROWNISH GRAY CM-CL.
38		4	S-3 2 JARS 3A 3B	2½"	3.0 TO 5.0'	20 / 28		SILTY CLAY, LOW PLASTICITY, SATURATED, GRAY, CL.
43		5						
		6	S-4 2 JARS 4A 4B	2½"	5.0 TO 7.0'	12 / 15	DROVE 2½ ID x 5.0' SOLID SPOON SAMPLER FROM 5.0 TO 10.0', AND TOOK SAMPLE. RECOVERED 4.0'	
		7						
		8	S-5 1 JAR 5A	2½"	7.0 TO 8.0'	12		CLAYEY SILT, LOW PLASTICITY <10% FINE SAND, SATURATED GRAY, MC-ML.
		9	S-6 1 JAR 6A	2½"	8.0 TO 15.0'	18 / 21	INCOMING TIDE FORCE A STOP TO DRILLING. 4.0' CASING REMOVED	SILTY CLAY, LOW PLASTICITY SATURATED, GRAY, CL.

GENERAL REMARKS: SAMPLING FROM 5.0 TO 10.0 FT, RECOVERED 9.0 FT OF CLAY, REMOVAL FROM SOLID SPOON SAMPLER WAS VERY DIFFICULT. IN SEVERAL HAND-SHOVEL TEST PITS DUG TO 2.0', COBBLES TO 10" WERE ENCOUNTERED.

Site: OLD HARBOR
ROCKPORT, MA

Boring No. A

	DEPTH (1" = 2')	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE RECVY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
5-13-81		S-7			3	5-13-81 SET-UP ON BORING LOCATION TO CONTINUE DRILLING FROM 10.0 TO 15.0' BELOW EXISTING GRADE	SILTY CLAY, LOW PLASTICITY SATURATED, GRAY, CM-CL.
	11	3 JARS	2½"			DROVE 4.0" CASING FROM SURFACE	THIN SEAMS OF FINE
		7A			8	AND WASHED OUT HOLE TO 10.0'	SAND FROM 13.0 TO 14.0'
		7B				USING SIDE DISCHARGING CHOPPING	
	12	7C				BIT.	
					9	DROVE 2½" ID x 5.0' SOLID	
	13					SPOON SAMPLER FROM	
					8	10.0 TO 15.0'	
	14					RECOVERED 2.5'	
1530					10		
	15					BOTTOM OF BORING 15.0'	

U.S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST BORING

Site Rockport Old Harbor Page 1 of 1 Pages

Boring No. B Desig. B Diam. (Casing) 2½ I.D.

Co-ordinates: N _____ E _____

Elevation Top of Boring -1 msl M.L.W.
Total Overburden Drilled 8 Feet
Elevation Top of Rock — M.L.W.
Total Rock Drilled — Feet
Elevation Bottom of Boring -9 M.L.W.
Total Depth of Boring 8 Feet
Core Recovered ____ % No. Boxes ____
Core Recovered ____ Ft. ____ Diam. ____ In.
Soil Samples 1½ In. Diam. 3 No.
Soil Samples ____ In. Diam. ____ No.

Hammer Wt. 300 lb
Hammer Drop 18"
Casing Left No
Subsurface Water Data ____ Page ____
Obs. Well No
Drilled By Briggs Engineering & Testing Co.
Mfg. Des. Drill raft mounted Acker
Inspected By: Jeffrey B. Shelkey
Classification By: Jeffrey B. Shelkey
Classification By: ____

Boring Started 29 may 81
Boring Completed 29 may 81

DEPTH 1" = 2'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE RECV'Y	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1, 2, 3	S-1 1 Jar	1½" ID	0.0 to 3.0'	1, 10, 20	started boring with 5' solid spoon sampler and 5' of "AW" drill rod used 2½" ID casing. Drove spoon 3'. Pulled out to collect sample.	Silty sand. mostly medium to fine sand, low plasticity, shell fragments saturated, grey. SM.
4, 5	S-2 1 Jar	1½"	3.0 to 5.0'	17, 18	Drove spoon in same hole from 3.0 to 5.0'	Silty sand. mostly medium to fine sands. 15-25% Non plastic fines some shell fragments saturated, grey, SM
6, 7, 8	S-3 1 Jar	1½"	5.0 to 8.0'	26, 27, 34	Bottom of Boring 8.0'	Silty clay. Low plasticity very stiff, saturated, brown, CL.

GENERAL REMARKS: elevations referenced to harbor bottom.

NED FORM 58 (Test)

Boring No. B

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST BORING

Site Rockport Old Harbor Page 1 of 1 Pages

Boring No. C Desig. C Diam. (Casing) 2 1/2"

Co-ordinates: N _____ E _____

Elevation Top of Boring -3.4' M.L.W.
Total Overburden Drilled 4 Feet
Elevation Top of Rock 7.4 M.L.W.
Total Rock Drilled _____ Feet
Elevation Bottom of Boring -7.4' M.L.W.
Total Depth of Boring 4.2' Feet
Core Recovered _____ % No. Boxes _____
Core Recovered 0 Ft. _____ Diam. _____ In.
Soil Samples 1 1/2 In. Diam. 0 No.
Soil Samples _____ In. Diam. _____ No.

Hammer Wt. 300 Boring Started 29 may 81
Hammer Drop 18" Boring Completed 29 may 81
Casing Left No
Subsurface Water Data _____ Page _____
Obs. Well No
Drilled By Boggs Engineering & Testing Co.
Mfg. Des. Drill raft mounted Acker
Inspected By: Jeffrey B. Shelkey
Classification By: _____
Classification By: _____

DEPTH	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1' 2'	NO SAMPLES RECOVERED			1	started with 5' solid spoon 2-5' sections, 1-2' section and rod - no sample recovered. Tried 2 separate borings at this location.	No sample recovered at this location large boulders and cobbles visible from surface
1'		1		3		
2'				1		
3'				2		
4' 4.2				25	on boulder	

GENERAL REMARKS: elevations referenced to Harbor bottom

NED FORM 58 (Test) Boring No. C

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site OLD HARBOR, ROCKPORT, MA Page 1 of 2 Pages

Probe 1 Desig. 1 Diam. (Casing) _____

Co-ordinates. N _____ E _____

Elevation Top +3.75 M.L.W.
Total Overburden Drilled 11.0 Feet
Elevation Top of Rock _____ M.L.W.
Total Rock Drilled N/A Feet
Elevation Bottom -7.25 M.L.W.
Total Depth 11.0 Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft: ____ Diam. ____ In.
Soil Samples N/A In. Diam. ____ No.
Soil Samples N/A In. Diam. ____ No.

Hammer Wt. 300 lb
Hammer Drop 18 in.
Casing Left NONE
Subsurface Water Data _____ Page _____
Obs. Well NONE
Drilled By BRIGGS ENGINEERING & TESTING CO.
Mfg. Des. Drill PORTABLE - BRIGGS & STRATTON 9 HP MOTOR
Inspected By: RONALD F. BUKOSKI
Classification By: _____
Classification By: _____

Started 5-11-81
Completed 5-11-81

DEPTH 1" = 2'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1130 AM.		AW		2	PROBING: DROVE OPEN-END "AW" ROD USING 300 lb HAMMER. DROP HEIGHT 18 in.	SURFACE: SAND, MEDIUM TO FINE SAND, BROWN, SP.
1				1	DROVE FROM SURFACE TO 3.0'.	
2				1		
3				22	ADDED 2.0' SECTION OF "AW" ROD AND DROVE TO 5.0'	
4				40		
5				33	RODS BECAME TILTED, REMOVED AND REDRIVE. ADDED 5.0' SECTION OF "AW" ROD AND DROVE TO 10.0'.	
6				33		
7				33		
8				30		
9				40		

GENERAL REMARKS: REFUSAL: 50 BLOWS < 1' PENETRATION

Probe No. 1

Site: OLD HARBOR ROCKPORT, MASSACHUSETTS	Probe No. 1	Page 2 of 2

DEPTH		CORE/SAMPLE NO	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
	1'=2'				63	ADDED 5.0' SECTION OF 4½" ROD AND DROVE.	
1200	11					REFUSAL AT 11.0' BELOW THE EXISTING GRADE	
						BOTTOM OF PROBING 11.0'	

Probe No. 1

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site OLD HARBOR, ROCKPORT, MA Page 1 of 2 Pages

Probe 2 Desig. 2 Diam. (Casing) _____

Co-ordinates: N _____ E _____

Elevation Top + 3.9 M.L.W.
Total Overburden Drilled 14.0 Feet
Elevation Top of Rock _____ M.L.W.
Total Rock Drilled N/A Feet
Elevation Bottom -10.1 M.L.W.
Total Depth 14.0 Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft: _____ Diam. _____ In.
Soil Samples N/A In. Diam. _____ No.
Soil Samples N/A In. Diam. _____ No.

Hammer Wt. 300 lb
Hammer Drop 18 in.
Casing Left NONE
Subsurface Water Data _____ Page _____
Obs. Well NONE
Drilled By BRIGGS ENGINEERING & TESTING CO.
Mfg. Des. Drill PORTABLE - BRIGGS & STRATTON 9HP
Inspected By: RONALD F. BUKOSKI
Classification By: _____
Classification By: _____

Started 5-11-81
Completed 5-11-81

DEPTH 1" = 2'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1		AW Rod		1	PROBING: DROVE - OPEN-END "AW" ROD USING 300 lb HAMMER DROPPED FROM 18 in.	SURFACE: 10% COBBLES 15-25% MEDIUM TO FINE GRAVEL REMAINDER OF SURFACE: SAND, MEDIUM TO FINE SAND 1" BELOW SURFACE: SILTY SAND, MEDIUM TO FINE SAND, 15-25% ORGANIC SILT, 5-10% SHELLS, BLACK, SP-SM.
2				3	DROVE RODS FROM SURFACE TO 2.0'	
				5		
3				5	ADDED 2.0' SECTION "AW" ROD AND DROVE TO 5.0'	
4				6		
5				14	ADDED 5.0' SECTION OF "AW" ROD AND DROVE TO 10.0'	
6				15		
7				12		
8				11		
9				17		

GENERAL REMARKS: REFUSAL 50 BLOWS < 1' PENETRATION

Probe No. 2

Site: OLD HARBOR ROCKPORT, MA	Probe No. 2	Page 2 of 2

DEPTH	CORE/SAMPLE			BLOWS PER FT. / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1" = 2'	NO	SIZE	DEPTH RANGE			
				12	ADDED 5.0' "AW" ROD SECTION AND DROVE.	
11						
				19		
12						
				22		
13						
				35	REFUSAL AT 14.0'	
14						

Probe No. 2

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site OLD HARBOR, ROCKPORT, MA Page 1 of 1 Pages

Probe 3 Desig. 3 Diam. (Casing) _____

Co-ordinates. N _____ E _____

Elevation Top +0.90 M.L.W.
Total Overburden Drilled 9.75 Feet
Elevation Top of Rock _____ M.L.W.
Total Rock Drilled N/A Feet
Elevation Bottom -8.85 M.L.W.
Total Depth 9.75 Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft: ____ Diam. ____ In.
Soil Samples N/A In. Diam. ____ No.
Soil Samples N/A In. Diam. ____ No.

Hammer Wt. 300 lb
Hammer Drop 18 in.
Casing Left NONE
Subsurface Water Data _____ Page _____
Obs. Well NONE
Drilled By BRIGGS ENGINEERING & TESTING CO.
Mfg. Des. Drill PORTABLE - BRIGGS & STRATTON 9 HP
Inspected By: RONALD F. BURKOSKI
Classification By: _____
Classification By: _____

Started 5-11-81
Completed 5-11-81

DEPTH 1" = 2'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1		AW		2	PROBING: DROVE OPEN-END "AW" ROD USING 300 lb HAMMER DROPPED FROM 18 in.	SURFACE: SAND COARSE TO FINE SAND, < 5% FINE GRAVEL & SHELLS ON SURFACE FIRM, BROWN, SW.
2				1	DROVE FROM SURFACE TO 2.0'	1" BELOW SURFACE: SILTY SAND, MEDIUM TO FINE SAND, 20-30% ORGANIC SILT, BLACK, SP-SM.
3				4		
4				5	ADDED 2.0' "AW" SECTION AND DROVE TO 5.0'	
5				6		
6				16	ADDED 5.0' SECTION OF "AW" ROD AND DROVE.	
7				74	6'-3" OBSTRUCTION ENCOUNTERED, BROKE THROUGH OR PUSHED ASIDE	
8				20		
9				44		
				32/9"	REFUSAL 9'-9"	

GENERAL REMARKS: REFUSAL 50 BLOWS < 1' PENETRATION

Probe No. 3

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site Rockport Old Harbor Page 1 of 1 Pages

Probe 4 Desig. 4 Diam. (Casing) _____

Co-ordinates: N _____ E _____

Elevation Top +0.7 M.L.W.
Total Overburden Drilled 9 Feet
Elevation Top of Rock _____ M.L.W.
Total Rock Drilled N/A Feet
Elevation Bottom -8.3 M.L.W.
Total Depth 9 Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft. _____ Diam. _____ In.
Soil Samples N/A In. Diam. _____ No.
Soil Samples N/A In. Diam. _____ No.

Hammer Wt. 300
Hammer Drop 18"
Casing Left NO
Subsurface Water Data _____ Page _____
Obs. Well NO
Drilled By Boyce Engineering & Testing Co.
Mfg. Des. Drill raft mounted Acker
Inspected By: Jeffrey B. Shelkey
Classification By: _____
Classification By: _____

Started 29 may 81
Completed 29 may 81

DEPTH	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE RECV'Y	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
		AW		2	Started Probe with 2-5' sections of "AW" Drill rod. Added 1-5' section as needed Drove with 300 Lb hammer at 18" drop	
1				5		
2				9		
3				10		
4				10		
5				12		
6				16		
7				23		
8				38		
9					End of Probe	Silty clay on end of probe

GENERAL REMARKS: elevations referenced to harbor bottom.

Probe No. 4

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site Rockport Old Harbor Page 1 of 1 Pages

Probe 5 Desig. 5 Diam. (Casing) _____

Co-ordinates: N _____ E _____

Elevation Top -1 M.L.W.
Total Overburden Drilled 7 Feet
Elevation Top of Rock _____ M.L.W.
Total Rock Drilled N/A Feet
Elevation Bottom -8 M.L.W.
Total Depth 7 Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft. _____ Diam. _____ In.
Soil Samples N/A In. Diam. _____ No.
Soil Samples N/A In. Diam. _____ No.

Hammer Wt. 300 Lb
Hammer Drop 18"
Casing Left No
Subsurface Water Data _____ Page _____
Obs. Well No
Drilled By Briggs Engineering & Testing Co.
Mfg. Des. Drill raft mounted Acker
Inspected By: Jeffrey B. Shelkey
Classification By: _____
Classification By: _____

Started 29 may 81
Completed 29 may 81

DEPTH		CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
	1" = 2'						
			AW		7	Started probe with 1-5' and 1-10' section of "AW" Drill rod. Added 1-5' section as needed. Drove with 300 Lb hammer at 18" drop.	
	1				-6'		
	2				13		
	3				15		
	4				19		
	5				24		
	6				24		
	7						
	8						

GENERAL REMARKS: elevations referenced to harbor bottom

Probe No. 5

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site OLD HARBOR, ROCKPORT, MA — Page 1 of 2 Pages

Probe 6 Desig. 6 Diam. (Casing) _____

Co-ordinates: N _____ E _____

Elevation Top + 3.9 M.L.W.
Total Overburden Drilled 15.0 Feet
Elevation Top of Rock NONE ENCOUNTERED M.L.W.
Total Rock Drilled N/A Feet
Elevation Bottom -11.1 M.L.W.
Total Depth 15.0 Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft: ____ Diam. ____ In.
Soil Samples N/A In. Diam. ____ No.
Soil Samples N/A In. Diam. ____ No.

Hammer Wt. 300 lb
Hammer Drop 18 in.
Casing Left NONE
Subsurface Water Data _____ Page _____
Obs. Well NONE
Drilled By BRIGGS ENGINEERING & TESTING CO.
Mfg. Des. Drill PORTABLE - BRIGGS + STRATTON 9 HP
Inspected By: RONALD F. BUKOSKI
Classification By: _____
Classification By: _____

Started 5-12-81
Completed 5-12-81

DEPTH	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1" = 2						
		AW		8	DROVE "AW" ROD USING 300 lb HAMMER DROPPED FROM 18.0" DROVE 5.0' SECTION FROM SURFACE TO 5.0'	SURFACE: SAND, COARSE TO FINE SAND, <10% FINE GRAVEL, BROWN, SP, VARYING AMOUNTS OF SHELLS APPROXIMATELY 10-25%.
1				17		
2				35		1" BELOW SURFACE SILTY SAND, COARSE TO FINE, PREDOMINATELY MEDIUM TO FINE, 10-20% NONPLASTIC FINES, BLACK, SP. VARYING AMOUNTS OF SHELLS APPROXIMATELY 10-25%.
3				30		
4				31		
5				46	ATTACHED 4.0' SECTION OF "AW" ROD AND DROVE FROM 5.0 TO 9.0'	
6				46		
7				53		
8				53		
9				59	ATTACHED 2.0' SECTION OF "AW" ROD AND DROVE	

GENERAL REMARKS: EXTRACTION OF "AW" RODS WAS EXTREMELY DIFFICULT FOLLOWING DRIVING. SMALL PIECE OF CLAY RECOVERED IN TIP OF "AW" ROD.

Probe No. 6

Site: OLD HARBOR, ROCKPORT, MA	Probe No. 6	Page 2 of 2

DEPTH	CORE/SAMPLE NO	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1 • 2'				43	ATTATCHED 2.0' SECTION OF "AW" ROD AND DROVE FROM 11.0' TO 13.0'.	
11				48		
12				31		
13				40	ATTATCHED 2.0' SECTION OF "AW" ROD AND DRIVE,	
14				29		
15					BOTTOM OF BORING 15.0'	

Probe No. 6

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site OLD HARBOR, ROCKPORT, MA Page 1 of 1 Pages

Probe 7 Desig: 7 Diam. (Casing) _____

Co-ordinates: N _____ E _____

Elevation Top 0 M.L.W.
Total Overburden Drilled 9.5 Feet
Elevation Top of Rock _____ M.L.W.
Total Rock Drilled N/A Feet
Elevation Bottom -9.5' M.L.W.
Total Depth 9.5 Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft: ____ Diam. ____ In.
Soil Samples N/A In. Diam. ____ No.
Soil Samples N/A In. Diam. ____ No.

Hammer Wt. 300 lb
Hammer Drop 18 in.
Casing Left NONE
Subsurface Water Data _____ Page _____
Obs. Well NONE
Drilled By BRIGGS ENGINEERING & TESTING CO.
Mfg. Dos. Drill PORTABLE - BRIGGS & STRATTON 9 HP
Inspected By: RONALD F. BUKOCKI
Classification By: _____
Classification By: _____

Started 5-11-81
Completed 5-11-81

DEPTH 1" = 2'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
		AW		1	PROBING: DROVE OPEN-END "AW" ROD USING 300 lb HAMMER DROPPED FROM 18 in.	SURFACE: SAND & SILT, SOFT, BLACK
1				4	DROVE FROM SURFACE TO 3.0'	
2				4		
3				12	ADDED 2.0' SECTION OF "AW" ROD AND DROVE TO 5.0'	
4				9		
5				12	ADDED 5.0' "AW" ROD SECTION AND DROVE	
6				11		
7				10		
8				14		
9				5/6"	REFUSAL AT 9'-6"	

GENERAL REMARKS: REFUSAL 50 BLOWS < 1' PENETRATION

Probe No. 7

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site Rockport Old Harbor Page 1 of 1 Pages

Probe 8 Desig. 8 Diam. (Casing) ____

Co-ordinates: N ____ E ____

Elevation Top +1.6 M.L.W.
Total Overburden Drilled 10 Feet
Elevation Top of Rock ____ M.L.W.
Total Rock Drilled N/A Feet
Elevation Bottom -8.4 M.L.W.
Total Depth 10 Feet
Core Recovered N/A % No. Boxes ____
Core Recovered N/A Ft. ____ Diam. ____ In.
Soil Samples N/A In. Diam. ____ No.
Soil Samples N/A In. Diam. ____ No.

Hammer Wt. 300
Hammer Drop 18"
Casing Left No
Subsurface Water Data ____ Page ____
Obs. Well NO
Drilled By Boyle Engineering & Testing Co.
Mfg. Des. Drill raft mounted Acker
Inspected By: Jeffrey B. Shelkey
Classification By: ____
Classification By: ____

Started 29 May 81
Completed 29 May 81

DEPTH 1" = 2'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
		AW		3	Started probe with 2-5' sections of "AW" Drill rod. Added 1-10' section as needed Drove with 300 Lb hammer at 18" drop	
1				5		
2				6		
3				4		
4				6		
5				6		
6				24		
7				17		
8				24		
9				19		
10					END of Probe	silty clay on end of Probe

GENERAL REMARKS: elevations referenced to harbor bottom.

Probe No. 8

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site OLD HARBOR, ROCKPORT, MA Page 1 of 2 Pages

Probe 9 Desig. 9 Diam. (Casing) _____

Co-ordinates. N _____ E _____

Elevation Top +3.9 M.L.W.
Total Overburden Drilled 13.0 Feet
Elevation Top of Rock _____ M.L.W.
Total Rock Drilled N/A Feet
Elevation Bottom -9.1 M.L.W.
Total Depth 13.0 Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft: _____ Diam. _____ In.
Soil Samples N/A In. Diam. _____ No.
Soil Samples N/A In. Diam. _____ No.

Hammer Wt. 300 lb
Hammer Drop 18 in.
Casing Left NONE
Subsurface Water Data _____ Page _____
Obs. Well NONE
Drilled By BRIGGS ENGINEERING & TESTING CO.
Mfg. Des. Drill PORTABLE - BRIGGS & STRATTON 9 H.P.
Inspected By: RENALD F. BAKOSKI
Classification By: _____
Classification By: _____

Started 5-13-81
Completed 5-13-81

DEPTH 1" = 2'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
		AW		1	DROVE "AW" ROD USING 300 lb HAMMER DROPPED FROM 18.0"	SURFACE: SILTY SAND, COARSE TO FINE SAND, 15-25% NONPLASTIC FINES, SATURATED, BROWN, SP-SM.
1				7	DROVE 5.0' SECTION FROM SURFACE TO 9.0'.	
2				7		
3				13		
4				15	ATTACHED 2.0' "AW" SECTION AND DROVE FROM 4.0 TO 7.0'	
5				18		
6				16		
7				39	ATTACHED 2.0' "AW" SECTION AND DROVE FROM 7.0 TO 9.0'	
8				41		
9				33	ATTACHED 2.0' "AW" SECTION AND DROVE FROM 9.0 TO 11.0'	

GENERAL REMARKS: REFUSAL: 50 BLOWS < 1' PENETRATION.

Probe No. 9

Site: OLD HARBOR, ROCKPORT, MA	Probe No. 9	Page 2 of 2

DEPTH		CORE/SAMPLE			BLOWS PER FT. / CORE RECVY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
	1" = 2'	NO	SIZE	DEPTH RANGE			
					35		
	11				83	ATTACHED 2.0' "AW" SECTION AND DRIVE FROM 11.0 TO 13.0'	
	12				76	ATTACHED 2.0' "AW" SECTION AND DRIVE - REFUSAL AT 13'	
	13						

Probe No. 9

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site OLD HARBOR, ROCKPORT, MA — Page 1 of 2 Pages

Probe 10 Desig. 10 Diam. (Casing) _____

Co-ordinates: N _____ E _____

Elevation Top +3.75 M.L.W.
Total Overburden Drilled 11.0 Feet
Elevation Top of Rock _____ M.L.W.
Total Rock Drilled N/A Feet
Elevation Bottom -7.25 M.L.W.
Total Depth 11.0 Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft: ____ Diam. ____ In.
Soil Samples N/A In. Diam. ____ No.
Soil Samples N/A In. Diam. ____ No.

Hammer Wt. 300 lb
Hammer Drop 18 in.
Casing Left NONE
Subsurface Water Data _____ Page _____
Obs. Well NONE
Drilled By BRIGGS ENGINEERING & TESTING CO.
Mfg. Des. Drill PORTABLE - BRIGGS & STRATTON 9 H.P.
Inspected By: RONALD F. BUKOSKI
Classification By: _____
Classification By: _____

Started 5-12-81
Completed 5-12-81

DEPTH 1" = 2'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1		AW		1	DROVE "AW" RODS USING 300 lb HAMMER DROPPED FROM 18.0"	SURFACE: SILTY SAND, MEDIUM TO FINE SAND, 20-30 % SLIGHTLY PLASTIC FINES, MUDDY, BROWN, SP-SM,
2				1	DROVE 5.0' SECTION OF "AW" ROD FROM SURFACE TO 5.0'	
3				1		
4				2		
5				2		
6				11	ATTATCHED 5.0' SECTION OF "AW" ROD AND DROVE FROM 5.0' TO 10.0'	
7				14		
8				36		
9				28		
				47		

GENERAL REMARKS: PROBING LOCATION MOVED 6.0' IN THE DIRECTION OF PROBING 9 FROM THE PLANNED LOCATION BECAUSE OF VERY SOFT AND MUDDY GROUND CONDITIONS. REFUSAL 50 BLOWS < 1' PENETRATION

Probe No. 10

Site: OLD HARBOR, ROCKPORT, MA	Probe No. 10	Page 2 of 2

DEPTH	CORE/SAMPLE NO	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1'-2'				28/6"		
11				100/12"	REFUSAL AT 11.0'	ROCK FRAGMENTS IN "AW" ROD TIP.
12						

Probe No. 10

APPENDIX D

Field Boring and Probing Logs

Rockport Inner Harbor

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST BORING

Site ROCKPORT HARBOR, ROCKPORT, MA Page 1 of 1 Pages

Boring No. A Desig. B-A Diam. (Casing) 2 1/2

Co-ordinates: N _____ E _____

Elevation Top of Boring -7.5 M.L.W

Total Overburden Drilled 5.0 Feet

Elevation Top of Rock NONE ENCOUNTERED M.L.W.

Total Rock Drilled NONE Feet

Elevation Bottom of Boring -12.5 M.L.W.

Total Depth of Boring 5.0 Feet

Core Recovered _____ % No. Boxes _____

Core Recovered _____ Ft. _____ Diam. _____ In.

Soil Samples 1 1/2 In. Diam. 3 No.

Soil Samples _____ In. Diam. _____ No.

Hammer Wt. 300 lb Boring Started 5-21-81

Hammer Drop 18 in. Boring Completed 5-21-81

Casing Left NONE

Subsurface Water Data _____ Page _____

Obs. Well NONE

Drilled By Bruce Engineering & Testing Co

Mfg. Des. Drill RAFT MOUNTED ACKER

Inspected By: RONALD F. BURKOCKI

Classification By: _____

Classification By: _____

1118 hrs

WATER 13.0'

TIDE 5.5'

= M.S.L. 7.5

1122 hrs.

DEPTH		CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE RECVY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
	1" = 2'						
	1	S-1 1 JAR	1 1/2"	0.0 TO 3.0	WEIGHT OF RODS	DRIVE 1 1/2 BY 5.0' SOLID SPOON SAMPLER FROM HARBOR BOTTOM TO 5.0 RECOVERED 2.0'	ORGANIC SILT, LOW PLASTICITY <5% FINE SAND, SATURATED, ODOROUS, BLACK, OL.
	2				1		
3.0	3	S-2 2 JARS	1 1/2"	3.0 TO 5.0	2		SILTY CLAY, LOW PLASTICITY SATURATED, GRAY, CL
	4				2		
	5					BOTTOM OF BORING	

GENERAL REMARKS: BORING DEPTHS ARE REFERENCED TO HARBOR BOTTOM.

NED FORM 58 (Test)

Boring No. A

U.S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST BORING

Site ROCKPORT HARBOR, ROCKPORT, MA Page 1 of 1 Pages

Boring No. B Desig. B-B Diam. (Casing) 2 1/2

Co-ordinates: N _____ E _____

Elevation Top of Boring -7.2 M.L.W.
Total Overburden Drilled 5.0 Feet
Elevation Top of Rock NONE ENCOUNTERED M.L.W
Total Rock Drilled NONE Feet
Elevation Bottom of Boring -12.2 M.L.W
Total Depth of Boring 5.0 Feet
Core Recovered ____ % No. Boxes ____
Core Recovered ____ Ft ____ Diam. ____ In.
Soil Samples 1 1/2 In. Diam. 3 No.
Soil Samples ____ In. Diam. ____ No.

Hammer Wt. 300 lb
Hammer Drop 18 in.
Casing Left NONE
Subsurface Water Data ____ Page ____
Obs. Well NONE
Drilled By Briggs Engineering & Testing Co.
Mfg. Des. Drill RAFT MOUNTED ACKER
Inspected By: RONALD F. BUKOSKI
Classification By: ____
Classification By: ____

Boring Started 5-21-81
Boring Completed 5-21-81

1041 hrs
WATER 11.0'
TIDE 3.8
MSL 7.2
1045

DEPTH		CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE RECV'Y	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
	1	S-1 2 JARS	1 1/2	0.0 TO 4.0	1	DROVE 1 1/2" x 5.0' SOLID SPOON SAMPLER FROM HARBOR BOTTOM TO 5.0' AND SAMPLED.	SANDY SILT, ORGANIC SILT, 25-35 % COARSE TO FINE SAND, < 5% FINE GRAVEL, SATURATED BLACK, ODOROUS, ML.
	1				1	RECOVERED 4.0'	
	2				1		
	3				1		
4.0'	4	S-2 1 JAR	1 1/2	4.0 TO 5.0	1	BOTTOM OF BORING	SILTY CLAY, LOW PLASTICITY SATURATED, GRAY CL.
	5						

GENERAL REMARKS: BORING DEPTH REFERENCED TO HARBOR BOTTOM

NED. FORM 58 (Test)

Boring No. B

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST BORING

Site Rockport Harbor — Page 1 of 1 Pages

Boring No. C — Desig. B-C — Diam. (Casing) 2 1/2

Co-ordinates: N _____ E _____

15.0 water
8.0 tide

Elevation Top of Boring -7.0 M.L.W
Total Overburden Drilled 5.0 Feet
Elevation Top of Rock NONE ENCOUNTERED M.L.W
Total Rock Drilled NONE Feet
Elevation Bottom of Boring -12.0 M.L.W
Total Depth of Boring 5.0 Feet
Core Recovered ____ % No. Boxes ____
Core Recovered ____ Ft ____ Diam. ____ In.
Soil Samples 1 1/2 In. Diam. 2 No.
Soil Samples ____ In. Diam. ____ No.

Hammer Wt. 300 lb — Boring Started 21 may 81
Hammer Drop 18" — Boring Completed 21 may 81
Casing Left NO
Subsurface Water Data NO — Page ____
Obs. Well NO
Drilled By Briggs Engineering & Testing Co.
Mfg. Des. Drill Raft mounted acker
Inspected By: Ronald F. Rutowski
Classification By: ____
Classification By: ____

start 1251
finish 1256

DEPTH 1' 2'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE RECVY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1	S-1 1 JAR	1 1/2 I.D.	0.0 TO 3.5'	settled under weight of Rods	Started boring with 5' solid spoon, 1-10' and 1-5' section of "AW" Rod	Organic silt - Low plasticity, < 10% fine sand, odorous, black, OL.
2						
3				3		
				2		
4	S-2 1 JAR	1 1/2	3.5 TO 5.0	2		Silty clay - Low plasticity saturated, grey -CL
				2		
5					Bottom of Boring	
6						
7						
8						

GENERAL REMARKS: BORING DEPTHS ARE REFERENCED TO HARBOR BOTTOM.

NED FORM 58 (Test)

Boring No. C

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST BORING

Site Rockport Inner Harbor Page 1 of 1 Pages

Boring No. D Desig. B-D Diam. (Casing) 2 1/2"

Co-ordinates: N _____ E _____

Elevation Top of Boring -7.3 M.L.W
Total Overburden Drilled 6.0 Feet
Elevation Top of Rock none encountered M.L.W
Total Rock Drilled None Feet
Elevation Bottom of Boring -13.3 M.L.W
Total Depth of Boring 6.0 Feet
Core Recovered ____ % No. Boxes ____
Core Recovered ____ Ft. ____ Diam. ____ In.
Soil Samples 1 1/2 In. Diam. 2 No.
Soil Samples ____ In. Diam. ____ No.

Hammer Wt. 300 Lb. Boring Started 21 May 81
Hammer Drop 18"
Boring Completed 21 May 81
Casing Left None
Subsurface Water Data No Page ____
Obs. Well No
Drilled By Bressi Engineering & Testing Co.
Mfg. Des. Drill Rath Mounted Acker
Inspected By: Ronald F. Bukoski
Classification By: ____
Classification By: ____

	DEPTH 1" = 2'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
start 1405	1'	S-1 1 Jar	1 1/2	0.0 to 4.0	SETTLED UNDER OWN WEIGHT 2	Started boring in 16' of water with 5' solid spoon sampler and 15' of "two" rod	ORGANIC Silt. Low Plasticity. <10% Fine sand, odorous, black, OL.
	2'				2	Drove sampler from harbor bottom to 6.0'	
	3'				2	Recovered 2.5'	
	4'	S-2 1 JAR	1 1/2	4.0 TO 6.0	5		Silty clay. Low Plasticity saturated CL
	5'				5	End of boring at -13.3' MLW	
finish 1412	6'						

GENERAL REMARKS: All Boring Depths are referenced to harbor bottom.

NED FORM 58 (Test) Boring No. D

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST BORING

Site ROCKPORT HARBOR, ROCKPORT, MA Page 1 of 1 Pages

Boring No. E Desig. B-E Diam. (Casing) 2 1/2

Co-ordinates: N _____ E _____

Elevation Top of Boring -0.6 M.L.W
Total Overburden Drilled 7.0 Feet
Elevation Top of Rock NONE ENCOUNTERED M.L.W
Total Rock Drilled NONE Feet
Elevation Bottom of Boring -7.6 M.L.W
Total Depth of Boring 7.0 Feet
Core Recovered ____ % No. Boxes ____
Core Recovered ____ Ft. ____ Diam. ____ In.
Soil Samples 1 1/2 In. Diam. 4 No.
Soil Samples ____ In. Diam. ____ No.

Hammer Wt. 300 lb
Hammer Drop 18 in.
Casing Left NONE
Subsurface Water Data ____ Page ____
Obs. Well NONE
Drilled By Briggs Engineering & Testing Co.
Mfg. Des. Drill RAFT MOUNTED ACKER
Inspected By: RONALD F. BUKOSKI
Classification By: ____
Classification By: ____

Boring Started 5-21-81
Boring Completed 5-21-81

1505 hrs
WATER 9.0'
FLOW -8.4'
MSL 0.6'

DEPTH 1" = 2'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1	S-1 2 JARS	1 1/2"	0.0 TO 4.0'	3	USED 12' OF 3" I.D. CASING AS A SAMPLER GUIDE TO THE HARBOR BOTTOM.	SILTY CLAY, LOW PLASTICITY < 5% FINE GRAVEL, SATURATED, GRAY, CL.
2				3	DROVE 1 1/2" BY 5.0' SOLID SPOON SAMPLER FROM HARBOR BOTTOM TO 5.0'.	
				4	RECOVERED 2.5'	S-1, 2/2, SILTY CLAY, LOW PLASTICITY, SATURATED, GRAY, CL.
3				4		
4	S-2 1 JAR	1 1/2"	4.0 TO 6.5'	6	HOLE REMAINDED OPEN. DROVE 1 1/2 BY 5.0' SOLID SPOON SAMPLER FROM 5.0' TO REFUSAL AT 7.0'	SILTY CLAY, LOW PLASTICITY, SATURATED GRAY, CL.
5				8		
6				26/6"		
6.5' 7	S-3 1 JAR	1 1/2"	6.5 7.0	60/6"	BOTTOM OF BORING	SILTY SAND, COARSE TO FINE SAND, 25-35% NONPLASTIC FINES, < 10% MEDIUM TO FINE GRAVEL, SATURATED, BROWN, SM.
8						
9						

1545

GENERAL REMARKS: BORING DEPTHS ARE REFERENCED TO HARBOR BOTTOM. REFUSAL 50 BLOWS < 1" PENETRATION

NED. FORM 58 (Test)

Boring No. E

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST BORING

Site Rockport Inner Harbor Page 1 of 1 Pages

Boring No. F Desig. B-F Diam. (Casing) 2 1/2

Co-ordinates: N _____ E _____

17' of water

8.6 msl

Elevation Top of Boring -8.6 M.L.W.
Total Overburden Drilled 6 Feet
Elevation Top of Rock None Encountered M.L.W.
Total Rock Drilled None Feet
Elevation Bottom of Boring -14.6 M.L.W.
Total Depth of Boring 6 Feet
Core Recovered _____ % No. Boxes _____
Core Recovered _____ Ft: _____ Diam. _____ In.
Soil Samples 1 1/2 In. Diam. 2 No.
Soil Samples _____ In. Diam. _____ No.

Hammer Wt. 300 Lb Boring Started 21 May 81
Hammer Drop 18"
Boring Completed 21 May 81
Casing Left No
Subsurface Water Data _____ Page _____
Obs. Well No
Drilled By Briggs Engineering & Testing Co.
Mfg. Des. Drill Raft mounted Acker
Inspected By: Ronald F. Bukosk.
Classification By: _____
Classification By: _____

Start 1327

DEPTH 1" = 2'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1, 2, 3	S-1 1 JAR	1 1/2 I-D	0.0 TO 4.0'	settled under weight of rods; 4	started driving with 5' solid spoon sampler and 2-10' sections of "AW" Drilling Rod. Drive from surface to 6.0'	Organic silt low plasticity 10-15% Fine sands, <5% Fine gravel, oderous blackish grey, OL.
4, 5	S-2 1 JAR	1 1/2"	4.0 TO 5.0'	5; 14		Silty Clay. Low plasticity saturated, CL
6					Probably pushed small cobble bottom of boring	

Top 1338

GENERAL REMARKS: Boring Depths are Referenced to Harbor Bottom

NED FORM 58 (Test)

Boring No. F

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site Rockport Harbor Page 1 of 2 Pages

Probe 1 Design -1 Diam: (Casing) ____

Co-ordinates: N ____ E ____

Elevation Top +.5' M.L.W
Total Overburden Drilled 16 Feet
Elevation Top of Rock ____ M.L.W
Total Rock Drilled N/A Feet
Elevation Bottom -15.5 M.L.W
Total Depth 16 Feet
Core Recovered N/A % No. Boxes ____
Core Recovered N/A Ft: ____ Diam. ____ In.
Soil Samples N/A In. Diam. ____ No.
Soil Samples N/A In. Diam. ____ No.

Hammer Wt. 300 Lb
Hammer Drop 18"
Casing Left No
Subsurface Water Data ____ Page ____
Obs. Well No
Drilled By Briggs Engineering & Testing Co.
Mfg. Des. Drill Raft mounted Acker
Inspected By: Jeffrey B. Shelkey
Classification By: ____
Classification By: ____

Started 27May81
Completed 27May81

DEPTH 1" = 2'	CORE/SAMPLE NO	SIZE	DEPTH RANGE	BLOWS PER FT CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1				3	started with 2-5' sections of "AW" ROD. added 1-5' section, added 1-5' section. Drove rods using 300Lb hammer and 18" drop.	
2				4		
3				6		
4				9		
5				10		
6				12		
7				13		
8				11		
9				14		
10				14		

GENERAL REMARKS: Depths referenced to harbor bottom.

Probe No. 1

Site: Rockport Inner Harbor	Probe No. 1	Page 2 of 2

DEPTH	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE RECV'Y	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
				18		
11				20		
12				15		
13				19		
14				17		
15				25		
16					End of Probe	silty clay on end of probe

Probe No. 1

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site Rockport Inner Harbor Page 1 of 2 Pages

Probe 2 Desig. 2 Diam (Casing) _____

Co-ordinates: N _____ E _____

Elevation Top	+ 2 M.L.W	Hammer Wt. 300 Lb	Started 28 may 81
Total Overburden Drilled	1[illegible]' Feet	Hammer Drop 18"	Completed 28 may 81
Elevation Top of Rock	_____ M.L.W	Casing Left no	
Total Rock Drilled	N/A Feet	Subsurface Water Data	_____ Page _____
Elevation Bottom	-10.5' M.L.W.	Obs. Well no	
Total Depth	12.5 Feet	Drilled By Briggs Engineering & Testing Co	
Core Recovered N/A %	No. Boxes _____	Mfg. Des. Drill raft mounted Acker	
Core Recovered N/A Ft: ____ Diam ____ In.		Inspected By: Jeffrey B. Shelkey	
Soil Samples N/A In. Diam. ____ No.		Classification By: _____	
Soil Samples N/A In. Diam. ____ No		Classification By: _____	

DEPTH 1" = 2'	CORE/SAMPLE NO	SIZE	DEPTH RANGE	BLOWS PER FT CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1				11	[illegible] probe with 2.5' sections of "AW" Drill rod - Added 1-10' section - Drove with 300 Lb hammer at 18" drop.	
2				5		
3				8		
4				9		
5				11		
6				10		
7				[illegible]		
8				36		
9				38		
10				48		

GENERAL REMARKS. Depths referenced to harbor bottom.

Probe No. 2

Site: Rockport Inner Harbor	Probe No. 2	Page 2 of 2

DEPTH	CORE/SAMPLE			BLOWS PER FT. / CORE RECV'Y	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
ft.	NO.	SIZE	DEPTH RANGE			
				30		
11				36		
12				60	Refusal at 12.5' Bent Drill rod on large boulder or rock ledge.	

Probe No. 2

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site Rockport Inner Harbor Page 1 of 1 Pages

Probe ____ Design 3 Diam (Casing) ____

Co-ordinates: N ____ E ____

Elevation Top +1.3 M.L.W. Hammer Wt. 300 lb. Started 28 may 81

Total Overburden Drilled 5.2' Feet Hammer Drop 18" Completed 28 may 81

Elevation Top of Rock ____ M.L.W. Casing Left ____

Total Rock Drilled N/A Feet Subsurface Water Data ____ Page ____

Elevation Bottom -3.9 M.L.W. Obs. Well NO

Total Depth 5.2' Feet Drilled By Briggs Engineering & Testing Co.

Core Recovered N/A % No. Boxes ____ Mfg. Des. Drill raft mounted Acker

Core Recovered N/A Ft: ____ Diam ____ In. Inspected By: Jeffrey B. Shelkey

Soil Samples N/A In. Diam. ____ No. Classification By: ____

Soil Samples N/A In. Diam ____ No. Classification By: ____

DEPTH	CORE/SAMPLE NO	SIZE	DEPTH RANGE	BLOWS PER FT / CORE RECVY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1				18	[illegible] with [illegible] and 1-10' sections of "AW" [illegible] Bent drive head on boulder moved raft 3 times due to Boulders	
2				15		
3				14		
4				[illegible]		
5				28	Refusal at 5.2' no penetration after resistance encountered	
				36	End of Probe	

GENERAL REMARKS: Depths referenced to harbor bottom

Probe No. 3

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site Rockport Inner Harbor Page 1 of 1 Pages

Probe 4 Desig. 4 Diam. (Casing)

Co-ordinates. N E

Elevation Top -7 M.L.W.
Total Overburden Drilled 6.5 Feet
Elevation Top of Rock N/A M.L.W
Total Rock Drilled N/A Feet
Elevation Bottom -13.5 M.L.W
Total Depth 6.5 Feet
Core Recovered N/A % No. Boxes
Core Recovered N/A Ft. Diam. In.
Soil Samples N/A In. Diam. No.
Soil Samples N/A In. Diam. No.

Hammer Wt. 300 Lb
Hammer Drop 18"
Casing Left NO
Subsurface Water Data Page
Obs. Well NO
Drilled By Briggs Engineering & Testing Co.
Mfg. Dos. Drill raft mounted Acker
Inspected By: Jeffrey B Shelkey
Classification By:
Classification By:

Started 28 may 81
Completed 28 may 81

DEPTH 1" = 2'	CORE/SAMPLE NO	SIZE	DEPTH RANGE	BLOWS PER FT CORE RECVY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1					Start with 1-10' and 1-5' section of "AW" drill rod Drove with 300 Lb. hammer and 18" drop	
2						
3						
5				17		Encountered Large boulders in this area Rod is Driving between Boulders and getting hedged and deflected
6					End of Probe	
7						
8						

GENERAL REMARKS: Depths referenced to harbor bottom

Probe No. 4

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site Rockport Inner Harbor Page 1 of 1 Pages

Probe 5 Desig. 5 Diam. (Casing) _____

Co-ordinates N _____ E _____

Elevation Top	-15 M.L.W.	Hammer Wt. 300 lb	Started 28 may 91
Total Overburden Drilled	4 Feet	Hammer Drop 18"	Completed 28 may 91
Elevation Top of Rock	_____ M.L.W.	Casing Left No	
Total Rock Drilled	N/A Feet	Subsurface Water Data	_____ Page _____
Elevation Bottom	-5.5 M.L.W.	Obs. Well No	
Total Depth	4 Feet	Drilled By Briggs Engineering & Testing Co.	
Core Recovered	N/A % No. Boxes _____	Mfg. Des. Drill	rafts mounted Acker
Core Recovered	N/A Ft: ____ Diam. ____ In.	Inspected By:	Jeffrey B. Shelkey
Soil Samples	N/A In. Diam. ____ No.	Classification By:	
Soil Samples	N/A In. Diam. ____ No.	Classification By:	

DEPTH	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1				[illegible]	[illegible]	
2				[illegible]	[illegible]	
3				34	[illegible]	
4				60	boulders. Refusal on third attempt was at -5.5' msl	End of probe
5						
6						
7						
8						
9						

GENERAL REMARKS: Depths referenced to harbor bottom

Probe No. 5

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site Rockport Inner Harbor Page 1 of 2 Pages

Probe 6 Desig. 6 Diam. (Casing) _____

Co-ordinates. N _____ E _____

Elevation Top	0.4 M.L.W.	Hammer Wt. 300 Lb	Started 27 May 81
Total Overburden Drilled	14 Feet	Hammer Drop 18"	Completed 27 May 81
Elevation Top of Rock	_____ M.L.W	Casing Left NO	
Total Rock Drilled	N/A Feet	Subsurface Water Data	_____ Page _____
Elevation Bottom	-13.6 M.L.W	Obs. Well NO	
Total Depth	14 Feet	Drilled By Briggs Engineering & Testing Co.	
Core Recovered N/A %	No. Boxes _____	Mfg. Des. Drill Raft Mounted Acker	
Core Recovered N/A Ft: ____ Diam. ____ In.		Inspected By: Jeffrey B. Shelkey	
Soil Samples N/A In. Diam. ____ No.		Classification By: _____	
Soil Samples N/A In. Diam. ____ No.		Classification By: _____	

DEPTH 1"=2'	CORE/SAMPLE NO	SIZE	DEPTH RANGE	BLOWS PER FT CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
				[illegible]	Started with 1-5' section of Aw Rod. Added 1-0' section, added 1-5' section. Drove using 300 Lb hammer with 18" drop.	
1				7		
2				7		
3				15		
4				15		
5				20		
6				24		
7				25		
8				24		
9				25		
10						

GENERAL REMARKS: [illegible] referenced to [illegible] bottom

Probe No. 6

Site: Rockport Inner Harbor	Probe No. 6	Page 2 of 2

DEPTH (1'=2')	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE RECVY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
				33		
11				34		
12				36		
13				33		silty clay found inside tip of probe
14					End of Probe	
15						

Probe No. 6

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site Rockport Inner Harbor Page 1 of 1 Pages

Probe 7 Desig. 7 Diam. (Casing) ∅

Co-ordinates: N _____ E _____

Elevation Top -8.9 M.LW
Total Overburden Drilled 6 Feet
Elevation Top of Rock _____ M.LW
Total Rock Drilled N/A Feet
Elevation Bottom -14.9 M.LW
Total Depth 6 Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft: _____ Diam. _____ in.
Soil Samples N/A in. Diam. _____ No.
Soil Samples N/A in. Diam. _____ No.

Hammer Wt. 300
Hammer Drop 18"
Casing Left NO
Subsurface Water Data _____ Page _____
Obs. Well NO
Drilled By Briggs Engineering & Testing Co.
Mfg. Des. Drill Raft mounted Acker
Inspected By: Jeffrey B. Shelkey
Classification By: _____
Classification By: _____

Started 27 May 81
Completed 27 May 81

DEPTH 1" = 2'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE RECVY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1				Down weight	1-5', 1-10', 1-2' section "AW" Drill Rod used for this probe, Driven with 300 Lb hammer and 18" drop.	
2				2		
3				3		
4				3		
5				4		
6				4	End of Probe	silty clay found on end of probe

GENERAL REMARKS:

Probe No. 7

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site: Rockport Harbor — Page 1 of 1 Pages

Probe: 8 — Desig.: 8 — Diam. (Casing): _____

Co-ordinates: N _____ E _____

Elevation Top: -7.0 M.LW
Total Overburden Drilled: 7 Feet
Elevation Top of Rock: _____ M.LW
Total Rock Drilled: N/A Feet
Elevation Bottom: -14.0 M.LW
Total Depth: 7 Feet
Core Recovered: N/A % No. Boxes: _____
Core Recovered: N/A Ft: ____ Diam. ____ In.
Soil Samples: N/A In. Diam. ____ No.
Soil Samples: N/A In. Diam. ____ No.

Hammer Wt.: 300 Lb
Hammer Drop: 18"
Casing Left: No
Subsurface Water Data: _____ Page _____
Obs. Well: No
Drilled By: Briggs Engineering & Testing Co.
Mfg. Des. Drill: Raft mounted Acker
Inspected By: Jeffrey B. Shelkey
Classification By: _____
Classification By: _____

Started: 27 may 81
Completed: 27 may 81

DEPTH 1" = 2'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1				Dum weight	started with 1-5' and 1-10' section of "AW" drill rod. Drove rod with 300 Lb hammer and 18" drop	
2				Dum weight		
3				1		
4				2		
5				3		
6				3		
7				4	End of Probe	silty clay found in tip of probe
8						
9						

GENERAL REMARKS: Depths referenced to harbor bottom

Probe No. 8

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site Rockport Inner Harbor Page 1 of 1 Pages

Probe 9 Desig. 9 Diam. (Casing) _____

Co-ordinates. N _____ E _____

Elevation Top -7.7 M.LW
Total Overburden Drilled 9 Feet
Elevation Top of Rock — M.LW
Total Rock Drilled N/A Feet
Elevation Bottom - 16.7' M.LW
Total Depth 9 Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft: ____ Diam. ____ In.
Soil Samples N/A In. Diam. ____ No.
Soil Samples N/A In. Diam. ____ No.

Hammer Wt. 300 lb
Hammer Drop 18"
Casing Left No
Subsurface Water Data _____ Page _____
Obs. Well No
Drilled By Boyle Engineering & Testing Co.
Mfg. Des. Drill Raft Mounted Acker
Inspected By: Jeffrey B. Shelkey
Classification By: _____
Classification By: _____

Started 26 May 81
Completed 26 May 81

DEPTH	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1" = 2'						
				auw weight	Started with 1-5', 1-10' section of "AW" drill rod. ADDED 1-5' section	
1				2		
2				4		
3				5		
4				5		
5				7		
6				12		
7				10		
8				13		
9					END OF PROBE. Silty Clay on end of probe from lowest depth.	

GENERAL REMARKS: Depths of Probing Referenced to harbor bottom

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site Rockport Inner Harbor Page 1 of 1 Pages

Probe 10 Desig. 10 Diam. (Casing)

Co-ordinates N E

Elevation Top -5' M.LW
Total Overburden Drilled 5.1 Feet
Elevation Top of Rock M.LW
Total Rock Drilled N/A Feet
Elevation Bottom -10.1 M.LW
Total Depth 5.1 Feet
Core Recovered N/A % No. Boxes
Core Recovered N/A Ft : Diam. In.
Soil Samples N/A In. Diam. No.
Soil Samples N/A In. Diam. No.

Hammer Wt. 300 Lb
Hammer Drop 18"
Casing Left NO
Subsurface Water Data Page
Obs. Well NO
Drilled By Briggs Engineering & Testing Co.
Mfg. Des. Drill raft mounted Acker
Inspected By: Jeffrey B Shelley
Classification By:
Classification By:

Started 28 may 81
Completed 28 may 81

DEPTH 1" = 2'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1				10	started with 3-5' sections of 4" Drill rod. Drove them with 300 Lb hammer at 18" drop	
2				19		
3				8		
4				6		
5				19		
6				40	Refusal at 5.1'	silty clay on bottom of probe
7						
8						

GENERAL REMARKS: Depths referenced to harbor bottom

Probe No. 10

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site Rockport Inner Harbor Page 1 of 2 Pages

Probe 11 Desig. 11 Diam. (Casing) _____

Co-ordinates. N _____ E _____

Elevation Top -1.0 M.L.W.
Total Overburden Drilled 14 Feet
Elevation Top of Rock _____ M.L.W.
Total Rock Drilled N/A Feet
Elevation Bottom -15.0 M.L.W.
Total Depth 14 Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft: _____ Diam. _____ In.
Soil Samples N/A In. Diam. _____ No.
Soil Samples N/A In. Diam. _____ No.

Hammer Wt. 300 lb
Hammer Drop 18"
Casing Left NO
Subsurface Water Data _____ Page _____
Obs. Well NO
Drilled By Briggs Engineering & Testing Co.
Mfg. Des. Drill raft mounted rocker
Inspected By: Jeffrey B. Shelley
Classification By: _____
Classification By: _____

Started 27 May 81
Completed 27 May 81

DEPTH 1"=2'	CORE/SAMPLE NO	SIZE	DEPTH RANGE	BLOWS PER FT. CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
				weight of Rods	started with 2-5' sections "New" Rod. added 1-5' section, then 1-2' section	
1				2	drove with 300 lb hammer and 18" drop	
2				4		
3				6		
4				9		
5				10		
6				11		
7				14		
8				16		
9				17		
10						

GENERAL REMARKS: Depths referenced to harbor bottom.

Probe No. 11

Site: Rockport Inner Harbor	Probe No. 11	Page 2 of 2

DEPTH	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. CORE RECVY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
				20		
11						
				21		
12						
				27		
13						
				23		
14					End of Probe	Silty clay found in tip of probe

Probe No. 11

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site Rockport Inner Harbor Page 1 of 1 Pages

Probe 12 Desig. 12 Diam. (Casing) _____

Co-ordinates: N _____ E _____

Elevation Top -6.8 M.LW
Total Overburden Drilled 7 Feet
Elevation Top of Rock _____ M.LW
Total Rock Drilled N/A Feet
Elevation Bottom -13.8 M.LW
Total Depth 7 Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft: ____ Diam. ____ In.
Soil Samples N/A In. Diam. ____ No.
Soil Samples N/A In. Diam. ____ No.

Hammer Wt. 300 Lb
Hammer Drop 18"
Casing Left NO
Subsurface Water Data _____ Page _____
Obs. Well NO
Drilled By Briggs Engineering & Testing Co.
Mfg. Des. Drill raft mounted Acker
Inspected By: Jeffrey B. Shalkey
Classification By: _____
Classification By: _____

Started 27 may 81
Completed 27 may 81

DEPTH	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1				own weight	start with 1-5', 1-10' section of AW Rod	
2				own weight		
3				2		
4				3		
5				4		
6				6		
7'				6	End of Probe	silty clay found in tip of probe

GENERAL REMARKS: Depths referenced to harbor bottom.

Probe No. 12

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site Rockport Harbor (Inner) Page 1 of 1 Pages

Probe 13 Desig. 13 Diam. (Casing) _____

Co-ordinates: N _____ E _____

Elevation Top -6.3 M.LW
Total Overburden Drilled 7 Feet
Elevation Top of Rock — M.LW
Total Rock Drilled N/A Feet
Elevation Bottom -13.8 M.LW
Total Depth 7 Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft: ____ Diam. ____ In.
Soil Samples N/A In. Diam. ____ No.
Soil Samples N/A In. Diam. ____ No.

Hammer Wt. 300
Hammer Drop 18"
Casing Left NO
Subsurface Water Data _____ Page _____
Obs. Well NO
Drilled By Brown Engineering & Testing Co.
Mfg. Des. Drill Raft Mounted Acker
Inspected By: Jeffrey D. Shelkey
Classification By: _____
Classification By: _____

Started 27 may 81
Completed 27 may 81

DEPTH 1"=2'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
					started with 1-5' and 1-10' section of "Aw" Drill rod Drove rod with 300 Lb hammer and 18" drop	
1				own weight		
				own weight		
2						
				own weight		
3						
				7		
4						
				10		
5						
				13		
6						
				10		
7	—		—		End of Probe	silty clay found in tip of Probe
8						
9						
10						

GENERAL REMARKS: Depths referenced to harbor bottom.

Probe No. 13

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site Rockport Inner Harbor Page 1 of ___ Pages

Probe 14 Desig. 14 Diam. (Casing) _____

Co-ordinates: N _____ E _____

Elevation Top -3.1' M.L.W.
Total Overburden Drilled 10' Feet
Elevation Top of Rock _____ M.L.W.
Total Rock Drilled N/A Feet
Elevation Bottom -13.1' M.L.W.
Total Depth 10 Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft. _____ Diam. ____ In.
Soil Samples N/A In. Diam. ____ No.
Soil Samples N/A In. Diam. ____ No.

Hammer Wt. 300
Hammer Drop 18"
Casing Left 10
Subsurface Water Data _____ Page _____
Obs. Well NO
Drilled By Boyce Engineering & Testing Co
Mfg. Des. Drill Raft mounted Acker
Inspected By: Jeffrey B Shelkey
Classification By: _____
Classification By: _____

Started 27 May 81
Completed 27 May 81

DEPTH	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE RECV'Y	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1				5	started with 1-5' and 1-10' section of two" Drill Rod. Drove rod with 300 Lb hammer and 18" Drop	
				2		
2				6		
3				6		
4				6		
5				12		
6				11		
7				10		
8				12		
9				12		
10					end of Probe	silty clay found on top of probe

GENERAL REMARKS: Depths referenced to harbor bottom

Probe No. 14

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site Rockport Inner Harbor Page 1 of ___ Pages

Probe 15 Desig. 15 Diam. (Casing) _____

Co-ordinates. N _____ E _____

Elevation Top -8.5 M.LW
Total Overburden Drilled 4.0 Feet
Elevation Top of Rock _____ M.LW
Total Rock Drilled N/A Feet
Elevation Bottom -12.5 M.LW
Total Depth 4.0 Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft: ____ Diam. ____ In.
Soil Samples N/A In. Diam. ____ No.
Soil Samples N/A In. Diam. ____ No.

Hammer Wt. 300
Hammer Drop 18"
Casing Left No
Subsurface Water Data _____ Page _____
Obs. Well NO
Drilled By Briggs Engineering & Testing Co.
Mfg. Des. Drill raft mounted Acker
Inspected By: Jeffrey B. Shelkey
Classification By: _____
Classification By: _____

Started 28 May 81
Completed 28 May 81

DEPTH		CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
	1" = 2'						
						started with 2.5' and 1.0' sections	
	1				own weight		
	2				own weight		
	3				1		
	4				2	END of Probe	
							silty clay found on end of probe

GENERAL REMARKS:

Probe No. _____

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site Rockport Inner Harbor Page 1 of 2 Pages

Probe 16 Desig. 16 Diam. (Casing) _____

Co-ordinates: N _____ E _____

Elevation Top + 4.8 MLW
Total Overburden Drilled 15 Feet
Elevation Top of Rock _____ MLW
Total Rock Drilled N/A Feet
Elevation Bottom -12.2 MLW
Total Depth 15 Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft: _____ Diam. _____ In.
Soil Samples N/A In. Diam. _____ No.
Soil Samples N/A In. Diam. _____ No.

Hammer Wt. 300 Lb
Hammer Drop 18"
Casing Left No
Subsurface Water Data _____ Page _____
Obs. Well NO
Drilled By Briggs Engineering & Testing Co
Mfg. Des. Drill raft mounted Acker
Inspected By: Jeffrey B Shelkey
Classification By: _____
Classification By: _____

Started 22 may 81
Completed 22 may 81

DEPTH 1"=2'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE RECV'Y	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1				9	started with 2-5' sections "AW" Drill rod. ADD 2-5' sections when need to reach elevation. Drove rod with 300 Lb hammer at 18" Drop.	
2				8		
3				17		
4				20		
5				29		
6				34		
7				41		
8				40		
9				41		
10				39		

GENERAL REMARKS: Elevations referenced to harbor bottom

Probe No. 16

Site: Rockport Inner Harbor	Probe No. 16	Page 2 of 2

DEPTH	CORE/SAMPLE NO	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
10'				46		
11'				55		
12'				49		
13'				53		
14'				49		
15'					end of probe silty clay on end of drill rod.	

Probe No. 16

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site Rockport Harbor Page 1 of 2 Pages

Probe 17 Desig. 17 Diam. (Casing) _____

Co-ordinates: N _____ E _____

Elevation Top +1.4' M.L.W
Total Overburden Drilled 14 Feet
Elevation Top of Rock _____ M.L.W
Total Rock Drilled N/A Feet
Elevation Bottom -12.6' M.L.W
Total Depth 14 Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft. _____ Diam. _____ in.
Soil Samples N/A in. Diam. _____ No.
Soil Samples N/A in. Diam. _____ No.

Hammer Wt. 300 Lb
Hammer Drop 18"
Casing Left NO
Subsurface Water Data _____ Page _____
Obs. Well NO
Drilled By Briggs Engineering & Testing Co
Mfg. Des. Drill raft mounted Acker
Inspected By: Jeffrey B. Shelkey
Classification By: _____
Classification By: _____

Started 22 May 81
Completed 22 May 81

DEPTH	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE RECV'Y	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1				3	started with 2-5' sections of "AW" Drill Rod - added 2-5' and 1-2' section as needed Drove with 300 Lb hammer and 18" drop.	
				3		
2				4		
3				6		
4				8		
5				11		
6				14		
7				18		
8				20		
9				14		
10						

GENERAL REMARKS: elevations referenced to harbour bottom.

Probe No. 17

Site: Rockport inner Harbor	Probe No. 17	Page 2 of 2

DEPTH	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. CORE RECVY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
				18		
11				18		
12				20		
13				20		
14					end of probe	
					silty clay with <10% coarse sand found on tip of probe	

Probe No. 17

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site Rockport Inner Harbor Page 1 of 2 Pages

Probe 18 Desig. 18 Diam. (Casing) _____

Co-ordinates: N _____ E _____

Elevation Top -2 M.L.W
Total Overburden Drilled 14 Feet
Elevation Top of Rock _____ M.L.W
Total Rock Drilled N/A Feet
Elevation Bottom -12 M.L.W
Total Depth 14 Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft: ____ Diam. ____ In.
Soil Samples N/A In. Diam. ____ No.
Soil Samples N/A In. Diam. ____ No.

Hammer Wt. 300
Hammer Drop 18"
Casing Left NO
Subsurface Water Data _____ Page _____
Obs. Well NO
Drilled By Briggs Engineering & Testing Co.
Mfg. Des. Drill Raft Mounted Acker
Inspected By: Jeffrey B. Shelkey
Classification By: _____
Classification By: _____

Started 26 May 81
Completed 26 May 81

DEPTH 1" = 2'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE RECV'Y	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
				settled under weight of rods	Started with 1-5', 1-2' section of 4" rod ADDED 1-5', 1-10' section	
1				2		
2				4		
3				11		
4				11		
5				20		
6				19		
7				19		
8				17		
9				16		
10						

GENERAL REMARKS: Depths Referenced to harbor bottom

Probe No. 18

Site: Rockport Inner Harbor	Probe No. 18	Page 2 of 2

DEPTH	CORE/SAMPLE			BLOWS PER FT.	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1" = 2'	NO.	SIZE	DEPTH RANGE	CORE RECV'Y		
				27		
11						
				24		
12						
				28		
13						
				27	silty clay on tip of probe	
14					END OF PROBE	

Probe No. 18

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site Rockport Inner Harbor Page 1 of 1 Pages

Probe 19 Desig. 19 Diam. (Casing) _____

Co-ordinates: N _____ E _____

Elevation Top -4.8' M.S.W
Total Overburden Drilled 9' Feet
Elevation Top of Rock _____ M.L.W
Total Rock Drilled N/A Feet
Elevation Bottom -13.8' MLW
Total Depth 9' Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft. _____ Diam. _____ In.
Soil Samples N/A In. Diam. _____ No.
Soil Samples N/A In. Diam. _____ No.

Hammer Wt. 300 Lb
Hammer Drop 18"
Casing Left NO
Subsurface Water Data _____ Page _____
Obs. Well NO
Drilled By Briggs Engineering & Testing Co
Mfg. Des. Drill Raft Mounted Acker
Inspected By: Jeffrey B. Shelkey
Classification By: _____
Classification By: _____

Started 22 may 81
Completed 22 may 81

DEPTH 1" = 2'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE RECV'Y	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
				weight of rods	1-5', 1-10', 1-5' sections of "AW" Rod used. Driven with 300 Lb hammer and 18" Drop	
1				weight of rods		
2						
3				2		
4				2		
5				2		
6				3		
7				4		
8				5		
9				5	END OF PROBE	silty clay on top of probe

GENERAL REMARKS: Elevations referenced to harbor bottom

Probe No. 19

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site Rockport Inner Harbor Page 1 of 1 Pages

Probe 20 Desig. 20 Diam. (Casing) 1"

Co-ordinates: N _____ E _____

Elevation Top -7.0 M.L.W.
Total Overburden Drilled 8 Feet
Elevation Top of Rock _____ M.L.W.
Total Rock Drilled N/A Feet
Elevation Bottom -15' M.L.W.
Total Depth 8 Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft: ____ Diam. ____ In.
Soil Samples N/A In. Diam. ____ No.
Soil Samples N/A In. Diam. ____ No.

Hammer Wt. 300 Lb
Hammer Drop 18"
Casing Left NO
Subsurface Water Data _____ Page _____
Obs. Well NO
Drilled By Briggs Engineering & Testing Co.
Mfg. Des. Drill Raft mounted acker
Inspected By: Jeffrey B. Shelkey
Classification By: _____
Classification By: _____

Started 22 May 81
Completed 22 May 81

DEPTH	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1" = 2'						
1				under over weight	Started with 1-5' and 1-10' section "AW" Drill Rod. Added 1-5' section Drove rod with 300 Lb. hammer at 18" Drop	
2				2		
				4		
3				4		
4				5		
5				7		
6				6		
7				6		
8					End of Probe	Silty clay in tip of probe
9						

GENERAL REMARKS: Depths referenced from harbor bottom.

Probe No. 20

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site Rockport Inner Harbor Page 1 of 1 Pages

Probe 21 Desig. 21 Diam. (Casing) _____

Co-ordinates. N _____ E _____

Elevation Top	-4.8 M.LW	Hammer Wt. 300	Started 22 may 81
Total Overburden Drilled	5 Feet	Hammer Drop 18"	Completed 22 may 81
Elevation Top of Rock	_____ M.LW	Casing Left NO	
Total Rock Drilled	N/A Feet	Subsurface Water Data	_____ Page _____
Elevation Bottom	-12.8 M.LW.	Obs. Well NO	
Total Depth	5 Feet	Drilled By Briggs Engineering & Testing Co.	
Core Recovered	N/A % No. Boxes _____	Mfg. Des. Drill Raft Mounted Acker	
Core Recovered	N/A Ft: ____ Diam. ____ In.	Inspected By: Jeffrey B. Shelkey	
Soil Samples	N/A In. Diam. ____ No.	Classification By: _____	
Soil Samples	N/A In. Diam. ____ No.	Classification By: _____	

DEPTH 1" = 2'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1				own weight	Started with 2-5' sections of "AW" Drill rod. Added 1-5' section As needed Drove with 300 Lb hammer at 18" Drop	
2				3		
3				2		
4				3		
5				2	END of Probe	silty clay in tip of probe

GENERAL REMARKS: Depths referenced to harbor bottom.

Probe No. 21

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site Rockport Inner Harbor Page 1 of 1 Pages

Probe 22 Desig. 22 Diam. (Casing) _____

Co-ordinates: N _____ E _____

Elevation Top -9.6 MLW
Total Overburden Drilled 5 Feet
Elevation Top of Rock _____ M.LW
Total Rock Drilled N/A Feet
Elevation Bottom -13.6 MLW
Total Depth 5 Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft. _____ Diam. _____ in.
Soil Samples N/A in. Diam. _____ No.
Soil Samples N/A in. Diam. _____ No.

Hammer Wt. 300
Hammer Drop 18"
Casing Left No
Subsurface Water Data _____ Page _____
Obs. Well No
Drilled By Briggs Engineering & Testing Co.
Mfg. Des. Drill Raft mounted Acker
Inspected By: Jeffrey B. Shelkey
Classification By: _____
Classification By: _____

Started 22 may 81
Completed 22 may 81

DEPTH 1" = 2'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1				under own weight	started with 1-5' and 1-10' section of "AW" Drill Rod - Added 1-2' section as needed	
2				2		
3				2		
4				3		
5				4	End of Probe	silty clay in tip of probe
6						
7						
8						

GENERAL REMARKS: Depths referenced to harbor bottom

Probe No. 22

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site Rockport Inner Harbor Page 1 of 1 Pages

Probe 23 Desig. 23 Diam. (Casing) _____

Co-ordinates: N _____ E _____

Elevation Top 8.6' MLW
Total Overburden Drilled 8' Feet
Elevation Top of Rock _____ MLW
Total Rock Drilled N/A Feet
Elevation Bottom -16.6' MLW
Total Depth 7' Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft. _____ Diam. _____ in.
Soil Samples N/A in. Diam. _____ No.
Soil Samples N/A in. Diam. _____ No.

Hammer Wt. 300
Hammer Drop 18"
Casing Left NO
Subsurface Water Data _____ Page _____
Obs. Well NO
Drilled By Briggs Engineering & Testing Co.
Mfg. Des. Drill raft mounted Acker
Inspected By: Jeffrey D. Shelkey
Classification By: _____
Classification By: _____

Started 22 may 81
Completed 22 may 81

DEPTH 1" = 2'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1				settled under weight of rods	1-5', 1-2', 1-10', 1-5' section "AW" rod used for this probe. Rod was driven with 300 lb hammer at 18" drop	
2				2		
3				2		
4				4		
5				3		
6				4		
7				5		
8					end of probe	silty clay on tip of probe

GENERAL REMARKS: Depths referenced to harbor bottom

Probe No. 23

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site Rockport Inner Harbor Page 1 of 1 Pages

Probe 24 Desig. 24 Diam. (Casing) _____

Co-ordinates: N _____ E _____

Elevation Top -8.3' MLW
Total Overburden Drilled 7' Feet
Elevation Top of Rock _____ MLW
Total Rock Drilled N/A Feet
Elevation Bottom -15.3' MLW
Total Depth 7' Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft. _____ Diam. _____ In.
Soil Samples N/A In. Diam. _____ No.
Soil Samples N/A In. Diam. _____ No.

Hammer Wt. 300
Hammer Drop 18"
Casing Left NO
Subsurface Water Data _____ Page _____
Obs. Well NO
Drilled By Briggs Engineering & Testing Co.
Mfg. Des. Drill Raft mounted Acker
Inspected By: Jeffrey B. Shelkey
Classification By: _____
Classification By: _____

Started 22 may 81
Completed 22 may 81

DEPTH 1" = 2'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1					1-5', 1-10', 1-5' "AW" Rod used for this probe - driven with 300 lb hammer at 18" drop.	
2				1		
3				2		
4				2		
5				2		
6				4		
7					end of probe	silty clay on tip of probe
8						

GENERAL REMARKS: elevations referenced to harbor bottom

Probe No. 24

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site Rockport Inner Harbor Page 1 of 1 Pages

Probe 25 Desig. 25 Diam. (Casing) _____

Co-ordinates: N _____ E _____

Elevation Top -7.0 M.LW
Total Overburden Drilled 7 Feet
Elevation Top of Rock _____ M.LW
Total Rock Drilled N/A Feet
Elevation Bottom -14.0 M.LW
Total Depth 7 Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft: ____ Diam. ____ In.
Soil Samples N/A In. Diam. ____ No.
Soil Samples N/A In. Diam. ____ No.

Hammer Wt. 300 Lb
Hammer Drop 18"
Casing Left NO
Subsurface Water Data _____ Page _____
Obs. Well NO
Drilled By Briggs Engineering & Testing Co.
Mfg. Des. Drill raft mounted Acker
Inspected By: Jeffrey B. Shelkey
Classification By: _____
Classification By: _____

Started 22 may 81
Completed 22 may 81

DEPTH 1" = 2'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
				own weight	start with 17" "AW" POD Drove with a 300 Lb hammer and 18" Drop	
1				own weight		
2				2		
3				2		
4				2		
5				4		
6				5		
7					End of Probe	silty clay on end of probe

GENERAL REMARKS: Depths referenced to harbor bottom ✓

Probe No. 25

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site Rockport Inner Harbor Page 1 of 2 Pages

Probe 26 Desig. 26 Diam. (Casing) _____

Co-ordinates: N _____ E _____

Elevation Top +2.8' M.LW
Total Overburden Drilled 15' Feet
Elevation Top of Rock _____ M.LW
Total Rock Drilled N/A Feet
Elevation Bottom -12.2 M.LW.
Total Depth 15' Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft: ____ Diam. ____ In.
Soil Samples N/A In. Diam. ____ No.
Soil Samples N/A In. Diam. ____ No.

Hammer Wt. 300 Lb
Hammer Drop 18"
Casing Left NO
Subsurface Water Data _____ Page _____
Obs. Well NO
Drilled By Briggs Engineering
Mfg. Des. Drill Portable Wisconsin
Inspected By: Jeffrey B. Shelley
Classification By: _____
Classification By: _____

Started 25 June 81
Completed 25 June 81

DEPTH 1" = 2'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
				1	Started drilling with 1-5' Auger Bod ADDed 1-5' and 3-2' sections as needed.	
1				1		
2				2		
3				2		
4				4		
5				4		
6				4		
7				5		
8				6		
9				7		

GENERAL REMARKS: Depths referenced to harbor bottom. this area is exposed at low tide

Probe No. 26

Site: Rockport Inner Harbor	Probe No. 26	Page 2 of 2

DEPTH (Ft. 2')	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
				15		
11				22		
12				23		
13				32		
14				31		
15					End of Probe	silty clay found on top of probe

Probe No. 26

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site Rockport Harbor (Inner) Page 1 of 2 Pages

Probe 27 Desig. 27 Diam. (Casing) _____

Co-ordinates: N _____ E _____

Elevation Top +1.0' M.L.W.
Total Overburden Drilled 14 Feet
Elevation Top of Rock _____ M.L.W.
Total Rock Drilled N/A Feet
Elevation Bottom -13' M.L.W.
Total Depth 14' Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft: _____ Diam. _____ In.
Soil Samples N/A In. Diam. _____ No.
Soil Samples N/A In. Diam. _____ No.

Hammer Wt. 300
Hammer Drop 18"
Casing Left No
Subsurface Water Data _____ Page _____
Obs. Well NO
Drilled By Briggs Engineering & Testing Co.
Mfg. Des. Drill Raft Mounted Acker
Inspected By: Jeffrey B. Shelkey
Classification By: _____
Classification By: _____

Started 26 may 81
Completed 26 may 81

DEPTH	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1" = 2'						
				under weight of Rods	Started probe with 2-5' sections of "NW" Drill Rod. Added 1-10' section. Drove, using 300 Lb hammer with 18" Drop	
1				1		
2				2		
3				3		
4				3		
5				4		
6				5		
7				7		
8				59		
9				38		

GENERAL REMARKS: Depths Referenced to Harbor Bottom.

Probe No. 27

Site: Rockport Inner Harbor	Probe No. 27	Page 2 of 2

DEPTH		CORE/SAMPLE			BLOWS PER FT. / CORE RECVY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
	Ft.	NO.	SIZE	DEPTH RANGE			
					52		
	11				47		
	12				60		
	13				43		
	14					END OF PROBE	

Probe No. 27

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site Rockport Inner Harbor Page 1 of 1 Pages

Probe 28 Desig. 28 Diam. (Casing) :

Co-ordinates: N E

Elevation Top -9.1 M.L.W.
Total Overburden Drilled 5 Feet
Elevation Top of Rock M.L.W.
Total Rock Drilled N/A Feet
Elevation Bottom -14.1 M.L.W.
Total Depth 5 Feet
Core Recovered N/A % No. Boxes
Core Recovered N/A Ft. Diam. In.
Soil Samples N/A In. Diam. No.
Soil Samples N/A In. Diam. No.

Hammer Wt. 300 Lb
Hammer Drop 18"
Casing Left No
Subsurface Water Data Page
Obs. Well 110
Drilled By Briggs Engineering & Testing Co.
Mfg. Des. Drill raft mounted Acker
Inspected By: Jeffrey B. Shalkey
Classification By:
Classification By:

Started 22 may 81
Completed 22 may 81

DEPTH	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE RECVY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1" = 2'						
1				own weight	started probe with 1-5', 1-10' section of "AW" Drill rod. added 1-2' section. used 300 Lb hammer and 18" drop to drive rod.	
2				own weight		
				6		
3				14		
4				22		
5						silty clay on top of probe

GENERAL REMARKS: Depths referenced to harbor bottom

Probe No. 28

U S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site Rockport Inner Harbor Page 1 of 1 Pages

Probe 29 Desig. 29 Diam. (Casing) _____

Co-ordinates. N _____ E _____

Elevation Top -5.9' M.LW
Total Overburden Drilled 9 Feet
Elevation Top of Rock _____ M.LW.
Total Rock Drilled N/A Feet
Elevation Bottom -14.9 M.LW.
Total Depth 9 Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft: ____ Diam. ____ In.
Soil Samples N/A In. Diam. ____ No.
Soil Samples N/A In. Diam. ____ No.

Hammer Wt. 300 lb
Hammer Drop 15"
Casing Left NO
Subsurface Water Data _____ Page _____
Obs. Well No
Drilled By Briggs Engineering & Testing Co. Inc
Mfg. Des. Drill Raft mounted Acker
Inspected By: Jeffrey B. Shelkey
Classification By: _____
Classification By: _____

Started 26 may 81
Completed 26 may 81

DEPTH 1" = 2'	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE REC'VY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
				Iron weight	Started probe with 1-10' and 1-5' section of AW ROD added 1-5' section.	
1					1st try hit boulder at 1' below surface pulled Rod and started again	
				10		
2						
				16		
3						
				13		
4						
				20		
5						
				21		
6						
				24		
7						
				20		
8						
				28		
9					End of Probe - silty clay found on tip	
10						

GENERAL REMARKS: Depths referenced to harbor bottom

Probe No. 29

U. S. ARMY
CORPS OF ENGINEERS
NEW ENGLAND DIVISION

FIELD LOG OF TEST PROBE

Site Rockport Inner Harbor Page 1 of 1 Pages

Probe 30 Desig. 30 Diam. (Casing) -

Co-ordinates: N _____ E _____

Elevation Top -10.1' MLW
Total Overburden Drilled 4 Feet
Elevation Top of Rock _____ MLW
Total Rock Drilled N/A Feet
Elevation Bottom -14.1 MLW
Total Depth 4 Feet
Core Recovered N/A % No. Boxes _____
Core Recovered N/A Ft. _____ Diam. _____ In.
Soil Samples N/A In. Diam. _____ No.
Soil Samples N/A In. Diam. _____ No.

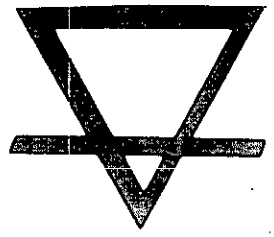
Hammer Wt. 300
Hammer Drop 18"
Casing Left NO
Subsurface Water Data _____ Page _____
Obs. Well NO
Drilled By Briggs Engineering & Testing Co.
Mfg. Des. Drill Raft Mounted Acker
Inspected By: Jeffrey B. Shelkey
Classification By: _____
Classification By: _____

Started 22 may 81
Completed 22 may 81

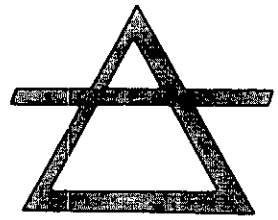
DEPTH	CORE/SAMPLE NO.	SIZE	DEPTH RANGE	BLOWS PER FT. / CORE RECVY	SAMPLING AND CORING OPERATIONS	CLASSIFICATION OF MATERIALS
1" = 2'						
1				own weight	started with 1-5' and 1-10' section of "AW" Drill Rod, added 1-2' section	
2				own weight		
3				11		
4				23	End of Probe	silty clay on top of probe

GENERAL REMARKS: Depths referenced to harbor bottom

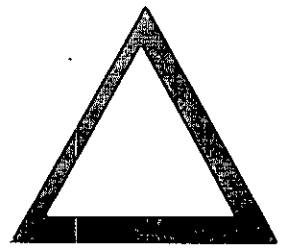
Probe No. 30



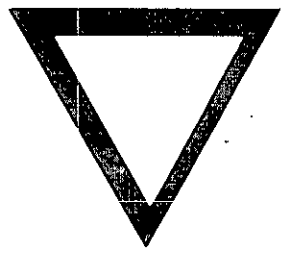
EARTH



AIR



FIRE



WATER

In ancient times
Greek and Hindu philosophers
believed that there were
four elements in the material universe
— EARTH, AIR, FIRE and WATER.
Over the years
man's knowledge has expanded
and the world of materials
is now known to be extremely complex.
The unravelling of these complexities
is the continuing goal of
Briggs Engineering & Testing Company.

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