



# Brown & Root Environmental

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December 8, 1995

Project Number 6884

Mr. Robert Krivinskas  
Remedial Project Manager  
Northern Division, Naval Facilities Engineering Command  
10 Industrial Highway, Mail Stop 82  
Lester, Pennsylvania 19113

Reference: CLEAN Contract No. N62472-90-D-1298, Contract Task Order No. 254

Subject: Vibracore Sample Collections, NETC Newport, Coddington Cove

Dear Mr. Krivinskas:

Brown and Root Environmental completed vibracore sample collections at the above-referenced site between November 18 and November 22, 1995. This coring effort was performed to support the ongoing studies off-shore of the former Derecktor Shipyard. This letter-report describes the work performed and the initial findings of the coring work.

Brown and Root compiled a list of locations on November 15, 1995, which was transmitted to the Navy. The Scope of Work stated that six of the vibracore samples would be taken as continuations of the one-meter core samples collected in October 1995. As described below, Stations 31 (V-2), 40 (V-6), and 29 (V-7) were planned in this manner. Rocky conditions at Station 26 precluded vibracore attempts. Stations 36 (V-1) and 35 (V-12) were relocated for vibracore because the one meter core samples taken from these stations show clean, sandy material with no obvious contamination. Other stations were selected based on findings of the geophysical survey data collected as a part of the ecorisk assessment, and bathymetry data developed prior to this study.

These locations are depicted on the attached sketch. They were selected as follows:

- V-1 Representation in the north portions of the study area. This location was combined from sediment stations 36 and 26. Station 26 was found to be too rocky for successful coring, and 36 is outside the area of interest.
- V-2 Sediment station 31, as described in the work plan. A surface grab sample and a one-meter core sample have been collected at this location, and are currently undergoing analysis.
- V-3 Sediment station 34, as described in the work plan. A surface grab sample has been collected at this location, and is currently undergoing analysis. Geophysical survey data shows a potential depositional area south of Pier 1.
- V-4 Sediment station 28, as described in the work plan. A surface grab sample has been collected at this location, and is currently undergoing analysis.
- V-5 Sediment station 30, as described in the work plan. A surface grab sample has been collected at this location, and is currently undergoing analysis. Geophysical survey data shows a potential depositional area south of Pier 1.

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- V-6 Sediment station 29, as described in the work plan. A surface grab sample and a one-meter core sample have been collected at this location, and are currently undergoing analysis. This is the former location of the "Greenport Ferry" used by Derecktor as work space.
- V-7 Sediment station 40, as described in the work plan. A surface grab sample and a one-meter core sample have been collected at this location, and are currently undergoing analysis. This is the location of the so-called "dead zone".
- V-8 Sediment station 41, as described in the work plan. A surface grab sample has been collected at this location, and is currently undergoing analysis. This is the location of the so-called "dead zone".
- V-9 Sediment station 27, as described in the work plan. A surface grab sample has been collected at this location, and is currently undergoing analysis.
- V-10, 11, 13, and 14:
  - Pier 1. Former location of a dry docks operated by Derecktor. Bathymetry data and Geophysical data indicate these are areas of deposition, and while URI has data from this area from 1993 and 1994, no deep cores (greater than 50 cm) were previously collected at these locations.
- V-12 South of Pier 1. Geophysical survey data shows a potential depositional area at this location.
- V-15 South of Building A18 (on pilings). Bathymetry data and Geophysical data indicate that this may be an area of deposition.

B&R Environmental contacted NETC representatives to acquire permission to dock at the Navy Piers on November 15, 1995. Access was granted for use of the EOD dock by the Navy contractor through Mr. Brad Wheeler and Ms. Stacey Snow, NETC public works.

The selected subcontractor was SAIC, of Narragansett Rhode Island, who hired labor and vessels from TG&B Marine Inc, of Falmouth Massachusetts. The subcontractor mobilized equipment for field work on November 18, 1995.

Coring work began on November 20, 1995, at 7:00 AM. At each location, the coring vessel was secured by a minimum of two anchor points. At some locations a third anchor point was required to further stabilize the vessel. Weather was favorable throughout the operation, and no delays were encountered.

At each location, a core barrel fitted with a clear acetate core liner was lowered by sections of aluminum rods to the top of the sediment, and allowed to penetrate the sediment, with assistance from the agitation of the coring mechanism.

Each core was run to a target depth of 10 feet below the top of sediment. If a minimum of 8 feet of penetration was not achieved, the vessel was moved between 5 and 10 feet and another attempt was made. Up to three attempts were made in this manner, and the core with the best penetration and recovery was retained.



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Upon retrieval, the core was extracted from the core barrel, and recovery was measured. The core was logged to the best of the geologists ability without opening the clear acetate liner. The core tubes were transported at the end of each day to the University of Rhode Island Laboratory for storage and possible analysis. Core tubes were not opened pending a determination of which intervals to perform chemistry analysis.

Draft core logs are attached to this letter. These logs will be finalized after the acetate liners are opened and a more careful inspection can be made of the contents.

As these logs indicate, at all locations, the penetration of the core is a greater distance than the length of the recovered material. This can be due to two factors: compaction or blockage. Compaction occurs from the resistance of the core barrel against the subsurface materials. Sample compaction occurs during the use of any core device used in unconsolidated materials. This can be compensated for by shortening the core penetration, thus increasing the representativeness of the sample. Blockage occurs when a large piece of material is caught by the cutting head of the core barrel and driven ahead of the barrel by the force of the drilling operation, without causing a "refusal". Blockage in sediment material is usually caused by surface debris, leaving almost nothing in the core barrel. The nature of the recovered sediments indicate that the measured difference between core penetration and recovery is most likely due to compaction.

The original plan included the analysis of three samples from each of these cores for grain size distribution, and a selection of four samples from the entire core set for analysis of chemical parameters consistent with the ecological risk assessment study. We will make recommendations on these samples after analysis of the one-meter core samples, collected in October, are completed.

After the intervals for chemistry analysis are selected, these cores can be opened, properly logged, and sample aliquots can be extracted for grain size distribution.

If you have any questions regarding this material, please do not hesitate to contact me.

Very truly yours,

Stephen S. Parker  
Project Manager

SSP/gmd

#### Attachments

- c: B. Wheeler, NETC Newport w/attach.  
T. Bober, NORTHDIV w/attach.  
H. Laguerre, B&R Environmental w/attach.  
J. Trepanowski/M. Turco, B&R Environmental w/attach.  
File 6884-3.2 w/o attach./File 6884-2.1 w/attach.

# VIBRACORE LOG

HNUS CORPORATION

PROJECT: 6884 LOCATION: Decklet & Shored DRILLED BY: T G E B CORE NO.: V2  
 DATE STARTED: 11/20/95 INCLINATION: Vert. LOGGED BY: J Holder WATER DEPTH 37'  
 BONE COMPLETED: 11/20/95 BEARING: N/A CHECKED BY: \_\_\_\_\_ CORE RUN: 0-9 (ft)

ELEV. feet	DEPTH feet	SAMPLE	REMARKS ON ADVANCE OF BORING	GRAPHIC LOG	SOIL AND ROCK DESCRIPTIONS
	0				Black silty SAND, mostly fine SAND, black-gray
	1				
	2				
	3				Gray silt
	4				
	5				
	6				
	7				

Penetration = 9 ft  
 Recovery = 5.9 ft

NOTES: Contact locations are approximate based on visual observations.

LOCATION: Between Pier 2 and North Breakwall

DATE: 11/20/95 PROJECT NO.: 6884  
 PAGE: 1 OF 1 CORE NO.: V2

# VIBRACORE LOG

HNUS CORPORATION

PROJECT: 6884 LOCATION: Derecktor Shipyard DRILLED BY: TG EB CORE NO.: V2  
 DATE STARTED: 11/21/95 INCLINATION: Vert. LOGGED BY: J Holder WATER DEPTH 37  
 DATE COMPLETED: 11/21/95 BEARING: N/A CHECKED BY: \_\_\_\_\_ CORE RUN: 0-8.5 (ft)

ELEV. feet	DEPTH feet	SAMPLE	REMARKS ON ADVANCE OF BORING	GRAPHIC LOG	SOIL AND ROCK DESCRIPTIONS
	0				silty SAND, black-brown; mostly fine SAND, poss. SAND blast Grit.
	0.7				gray silt, mostly gray silt, trace fine gray SAND
	1				
	2				
	3				
	4				
	5				
	6				
	7				

Penetration = 8.5 ft  
 Recovery = 6.1 ft

NOTES: Contact locations are approximate based on visual observations.  
 air pocket in bottom of core

Location: Between Piers 1 and 2

DATE: 11/21/95 PROJECT NO.: 6884  
 PAGE: 1 OF 1 CORE NO.: \_\_\_\_\_

# VIBRACORE LOG

HNUS CORPORATION

PROJECT: 6884 LOCATION: Derecktor Shpud DRILLED BY: TG EB & RE NO.: V3  
 DATE STARTED: 11/20/95 INCLINATION: Vert. LOGGED BY: J Holder WATER DEPTH 38  
 DATE COMPLETED: 11/20/95 BEARING: N/A CHECKED BY: \_\_\_\_\_ CORE RUN: 0-10 (ft)

ELEV. feet	DEPTH feet	SAMPLE	REMARKS ON ADVANCE OF BORING	GRAPHIC LOG	SOIL AND ROCK DESCRIPTIONS
	0				silty SAND, Black sandy black color is smeared along length of core
	1				
	1.8				gray silt
	2				
	3				
	4				
	5				
	6				
	7				

Penetration = 10 ft  
 Recovery = 6.3 ft  
3rd Attempt

NOTES: Contact locations are approximate based on visual observations.  
 wash broke during retrieval.  
 Shear on surface of water  
 LOCATION: WEST of Pie-1,  
Outermost mole point

DATE: 11/20/95 PROJECT NO: 6884  
 PAGE: 1 OF 1 CORE NO: V3

# VIBRACORE LOG

HNUS CORPORATION

PROJECT: 6884 LOCATION: Derecktor Shpud DRILLED BY: T G E B CORE NO.: V4  
 DATE STARTED: 11/21/95 INCLINATION: Vert. LOGGED BY: J Holder WATER DEPTH 39  
 DATE COMPLETED: 11/21/95 BEARING: N/A CHECKED BY: \_\_\_\_\_ CORE RUN: 0-7 (ft)

ELEV. feet	DEPTH feet	SAMPLE	REMARKS ON ADVANCE OF BORING	GRAPHIC LOG	SOIL AND ROCK DESCRIPTIONS
	0				Silty SAND, black fine SAND, some silt, poss sand blast grit.
	0.9				SAND, black fine SAND, trace med SAND, trace shell fragments, some layering of med./fine SAND
	1.9				Silty SAND, black silty f. SAND
	3				
	4				gray silt.
	5				
	6				
	7				

Penetration =  $\frac{7}{5.73}$  ft  
 Recovery =  $\frac{5.73}{7}$  ft  
 3 Attempts @  
 This Location

NOTES: Contact locations are approximate based on visual observations.  
 "hard Refusal"  
 LOCATION: Between "Dead Zone" and Pier 1.  
 Sample Sta. 28

# VIBRACORE LOG

HNUS CORPORATION

PROJECT: 6884 LOCATION: Deer cktor Shp DRILLED BY: TG EB CORE NO.: U5  
 DATE STARTED: 11/21/95 INCLINATION: Vert. LOGGED BY: J Holder WATER DEPTH 26  
 BORE COMPLETED: 11/21/95 BEARING: N/A CHECKED BY: \_\_\_\_\_ CORE RUN: 0-11 (ft)

ELEV. feet	DEPTH feet	SAMPLE	REMARKS ON ADVANCE OF BORING	GRAPHIC LOG	SOIL AND ROCK DESCRIPTIONS
0					silty SAND, mostly fine SAND, Black, pass. sand @ last pit
1					
2					light gray silt
2.2					
3					
4					
5					
6					
7					

Penetration =  $\frac{11}{7.1}$  ft  
 Recovery =  $\frac{7.1}{11}$  ft

NOTES: Contact locations are approximate based on visual observations.

LOCATION: Off-shore of "Dead Zone"  
 Sample Sta. 30

DATE: 11/21/95 PROJECT NO.: 6884  
 PAGE: 1 OF 1 CORE NO.: V5

# VIBRACORE LOG

HNUS CORPORATION

PROJECT: 6884 LOCATION: Derector Shpud DRILLED BY: T G E B CORE NO.: V6  
 DATE STARTED: 11/21/95 INCLINATION: Vert. LOGGED BY: J Holder WATER DEPTH 14'  
 DATE COMPLETED: 11/21/95 BEARING: N/A CHECKED BY: \_\_\_\_\_ CORE RUN: 0-3 (ft)

ELEV. feet	DEPTH feet	SAMPLE	REMARKS ON ADVANCE OF BORING	GRAPHIC LOG	SOIL AND ROCK DESCRIPTIONS
0	0				Black silt
	0.1				Silty SAND, mostly fine SAND, Some silt, Black, poss. SAND Blast Grit.
	0.8				SAND, gray-black, fine SAND
	1				
	1.5				
	2				
	2.5				
	3				

Penetration =  $\frac{3}{2.5}$  ft  
 Recovery =  $\frac{2.5}{2.5}$  ft

NOTES: Contact locations are approximate based on visual observations.

LOCATION: Off-shore of Building 234  
 Sample Sta 29

3 attempts made @ this

DATE: 11/21/95 PROJECT NO.: 6884  
 PAGE: 1 OF 1 CORE NO.: V6

# VIBRACORE LOG

HNUS CORPORATION

PROJECT: 6884 LOCATION: Detector Shpnd DRILLED BY: T G E B CORE NO.: U7  
 DATE STARTED: 11/22/95 INCLINATION: Vert. LOGGED BY: J Holder WATER DEPTH 16'  
 DATE COMPLETED: 11/20/95 BEARING: N/A CHECKED BY: \_\_\_\_\_ CORE RUN: 0-8 (ft)

ELEV. feet	DEPTH feet	SAMPLE	REMARKS ON ADVANCE OF BORING	GRAPHIC LOG	SOIL AND ROCK DESCRIPTIONS
	0				Silty SAND, mostly fine SAND, Some silt, black, poss. sand Blat Grit
	1.3				Silty SAND, mostly fine SAND, trace med. SAND (angular), some silt, light gray - black
	2.4				SAND, poorly graded, fine SAND, light gray.
	3				
	4				
	5				

Penetration = 8 ft  
 Recovery = 4.20 ft

NOTES: Contact locations are approximate based on visual observations.  
 LOCATION: N. End of "Dead Zone"  
 Sample Sta. 40.

# VIBRACORE LOG

HNUS CORPORATION

PROJECT: 6884 LOCATION: Dereaktor Shpud DRILLED BY: T G E B CORE NO.: V8  
 DATE STARTED: 11/22/95 INCLINATION: Vert. LOGGED BY: J Holder WATER DEPTH 16'  
 DATE COMPLETED: 11/22/95 BEARING: N/A CHECKED BY: \_\_\_\_\_ CORE RUN: 0-6 (ft)

ELEV. feet	DEPTH feet	SAMPLE	REMARKS ON ADVANCE OF BORING	GRAPHIC LOG	SOIL AND ROCK DESCRIPTIONS
	0				Silty SAND, mostly fine SAND, Some silt, trace med. SAND, angular, block, poss. SAND Blat Gnt.
	1				
	2.4				SAND, fine SAND, poorly graded, Black - Gray
	3				
	4				
	5				

Penetration =  $\frac{6}{4.05}$  ft  
 Recovery =  $\frac{4.05}{6}$  ft  
 3 attempts @  
 this loc.

NOTES: Contact locations are approximate based on visual observations.  
 FINE SAND in CORE Catcher  
 LOCATION: S. End of "Dead Zone"  
 Sample Sta. 41  
 DATE: 11/22/95 PROJECT NO: 6884  
 PAGE: 1 OF 1 CORE NO: V8



# VIBRACORE LOG

HNUS CORPORATION

PROJECT: 6884 LOCATION: Derector Shp DRILLED BY: TGEB CORE NO.: V10  
 DATE STARTED: 11/20/95 INCLINATION: Vert. LOGGED BY: J Holder WATER DEPTH 32'  
 DATE COMPLETED: 11/20/95 BEARING: N/A CHECKED BY: \_\_\_\_\_ CORE RUN: 0-10 (ft)

ELEV. feet	DEPTH feet	SAMPLE	REMARKS ON ADVANCE OF BORING	GRAPHIC LOG	SOIL AND ROCK DESCRIPTIONS
0					silty SAND, mostly fine SAND, Block, poss. SAND Blast grit Some shells in top 0.5'
-1					
-2					
-3					
-3.7			contact @ 4.1'		gray silt
-4					
-4.1					
-5					
-6					

Penetration = 10 ft  
 Recovery = 5.35 ft

NOTES: Contact locations are approximate based on visual observations.  
 LOCATION: Pier 1, South Center

# VIBRACORE LOG

HNUS CORPORATION

PROJECT: 6884 LOCATION: Derector Shp DRILLED BY: TG EB CORE NO.: VII  
 DATE STARTED: 11/20/95 INCLINATION: Vert. LOGGED BY: J Hold n WATER DEPTH 33  
 DNE COMPLETED: 11/20/95 BEARING: N/A CHECKED BY: \_\_\_\_\_ CORE RUN: 0-11 (ft)

ELEV. feet	DEPTH feet	SAMPLE	REMARKS ON ADVANCE OF BORING	GRAPHIC LOG	SOIL AND ROCK DESCRIPTIONS
0					Black silty SAND, mostly fine SAND, some silt. in TOP 0.1' POSS. SAND blast grit.
-1					
-2					
-3					
-3.8					GRAY silt
-4					
-5					
-6					
-7					
-8					
-9					

Penetration =  $\frac{11}{8.1}$  ft  
 Recovery =  $\frac{8.1}{11}$  ft  
 2nd of 2 attempts

NOTES: Contact locations are approximate based on visual observations.  
 Location: Pier 1: South West

DATE: 11/20/95 PROJECT NO.: 6884  
 PAGE: 1 OF 1 CORE NO.: VII

# VIBRACORE LOG

HNUS CORPORATION

PROJECT: 6884 LOCATION: Deraket & Shpord DRILLED BY: TG EB CORE NO.: V12  
 DATE STARTED: 11/21/95 INCLINATION: Vert. LOGGED BY: J Holden WATER DEPTH 28  
 DATE COMPLETED: 11/21/95 BEARING: N/A CHECKED BY: \_\_\_\_\_ CORE RUN: 0-10 (ft)

ELEV. feet	DEPTH feet	SAMPLE	REMARKS ON ADVANCE OF BORING	GRAPHIC LOG	SOIL AND ROCK DESCRIPTIONS
	0				silty SAND, mostly fine SAND, Some silt, poss. some black silt, light gray to black.
	1				
	2				GRAY silt, homogeneous, light gray  Some black staining dropped down from top of core
	2.4				
	3				
	4				
	5				
	6				

Penetration = 10 ft  
 Recovery = 5.9 ft

NOTES: Contact locations are approximate based on visual observations.  
 air pocket (~0.4') at base of core  
 LOCATION: Off-Shore of "Dead Zone"

# VIBRACORE LOG

HNUS CORPORATION

PROJECT: 6884 LOCATION: Derecktor Shipyard DRILLED BY: TGEB CORE NO.: V13  
 DATE STARTED: 11/20/95 INCLINATION: Vert. LOGGED BY: J Holder WATER DEPTH 31'  
 CORE COMPLETED: 11/20/95 BEARING: N/A CHECKED BY: \_\_\_\_\_ CORE RUN: 0-10 (ft)

ELEV. feet	DEPTH feet	SAMPLE	REMARKS ON ADVANCE OF BORING	GRAPHIC LOG	SOIL AND ROCK DESCRIPTIONS	
	0				Black silty SAND, mostly fine SAND poss. SAND blast grit.	
	1					
	2					
	3					
	4					
4.5	4.5					
	5					light gray silt
	6					
	7					

Penetration =  $\frac{10}{6.7}$  ft  
 Recovery =  $\frac{6.7}{10}$  ft

NOTES: Contact locations are approximate based on visual observations.  
 LOCATION: Pier 1, North Center

# VIBRACORE LOG

HNUS CORPORATION

PROJECT: 6884 LOCATION: Derelect & Shyrod DRILLED BY: TG EB CORE NO.: V14  
 DATE STARTED: 11/20/95 INCLINATION: Vert. LOGGED BY: J Holden WATER DEPTH 34'  
 DATE COMPLETED: 11/20/95 BEARING: N/A CHECKED BY: \_\_\_\_\_ CORE RUN #: 0-12 (ft)

ELEV. feet	DEPTH feet	SAMPLE	REMARKS ON ADVANCE OF BORING	GRAPHIC LOG	SOIL AND ROCK DESCRIPTIONS	
0					Black silty SAND, mostly F SAND, pass. SAND blast grit	
1						
2						
3						
3.85						
4						light gray silt
5						
6						
7						
8						
9						

Penetration = 12 ft  
 Recovery = 8.55 ft  
 2nd Attempt  
 of 2

NOTES: Contact locations are approximate based on visual observations.  
 Smells of sulfur, No PID detections  
 LOCATION: Pier-1: North West Corner  
 DATE: 11/20/95 PROJECT NO.: 6884  
 PAGE: 1 OF 1 CORE NO.: V14

# VIBRACORE LOG

HNUS CORPORATION

PROJECT: 6884 LOCATION: Detector Ship DRILLED BY: T G EB CORE NO.: U15  
 DATE STARTED: 11/21/95 INCLINATION: Vert. LOGGED BY: J Holder WATER DEPTH 16'  
 DATE COMPLETED: 11/21/95 BEARING: N/A CHECKED BY: \_\_\_\_\_ CORE RUN: 0-6 (ft)

ELEV. feet	DEPTH feet	SAMPLE	REMARKS ON ADVANCE OF BORING	GRAPHIC LOG	SOIL AND ROCK DESCRIPTIONS
	0				Black silt
	0.25				
	0.5				Silty SAND, mostly fine SAND, some silt, poss. SAND bit ent
	1				
	2				
	2.4				fine SAND, light gray-black, large to med 11/21/95
	3				
	4				

Penetration =  $\frac{6}{3.15}$  ft  
 Recovery =  $\frac{3.15}{6}$  ft

NOTES: Contact locations are approximate based on visual observations.  
 Large (0.5') air pocket in base of core  
 LOCATION: Off-Shore of Building 234

3rd Attempt  
 @ this loc.

DATE: 11/21/95 PROJECT NO.: 6884  
 PAGE: 1 OF 1 CORE NO.: U15

