US Army Corps of Engineers®

Public Notice

In replying refer to:
Public Notice No. Great Kills Harbor, NY
Published: 17 October 2023
Expires: 16 November 2023

New York District
26 Federal Plaza
New York, N.Y. 10278
ATTN: CENAN-OP-ST

GREAT KILLS HARBOR, STATEN ISLAND, NEW YORK
FEDERAL NAVIGATION CHANNEL
MAINTENANCE DREDGING

TO WHOM IT MAY CONCERN:

The New York District, U.S. Army Corps of Engineers, pursuant to Section 10 of the Rivers and Harbors Act of 1899 and Section 404 (33 U.S.C. 1344) of the Federal Water Pollution Control Act (amended in 1977 and commonly referred to as the Clean Water Act), and Section 103 (U.S.C. 1463, 86 Statute 1052) or Marine Protection, Research and Sanctuaries Act (MPRSA) of 1972 (commonly referred to as the Ocean Dumping Act), proposes to perform maintenance dredging of the Great Kills Harbor, New York, Federal Navigation Project (see Figure 1) with subsequent placement of the dredged material at the Historic Area Remediation Site (HARS, See Figures 2A and 2B).

ACTIVITY: Maintenance dredging of Great Kills Harbor, New York, Federal Navigation Project, with placement of approximately 200,000 cubic yards of the dredged material at the Historic Area Remediation Site for the purpose of remediation.

WATERWAY: Great Kills Harbor Federal Navigation Project

LOCATION: Lower New York Bay, Staten Island, New York

Great Kills Harbor Federal Navigation Project was adopted in 1927 and subsequently modified in 1938.

The existing navigation project provides for a navigation channel of a width which is approximately 150 feet wide; with authorized depth of 10 feet below Mean Lower Low Water, from deep water in Lower New York Bay to the entrance of the harbor in the vicinity of the present westerly end of Crooks Island, thence of same depth and width along the west side of the harbor. The total length of the project is approximately 1.9 miles.

The proposed work will involve dredging of the Great Kills Harbor Federal Navigation Project to remove critical shoals (Figure 1). A detailed description of the proposed

activities is enclosed to assist in your review. This activity is being evaluated to determine that the proposed placement of dredged material will not unreasonably degrade or endanger human health, welfare or amenities, or the marine environment, ecological systems or economic potentialities. On September 26, 2000, the United States Environmental Protection Agency (USEPA) and the U.S. Army Corps of Engineers – New York District (USACE-NYD) signed a Memorandum of Agreement (MOA) outlining the steps to be taken to ensure that remediation of the HARS continues in a manner appropriately protective of human health and the aquatic environment. In making the determination, the criteria established by the Environmental Protection Agency (EPA) will be applied, including the interim change to one matrix value for PCBs as described in the MOA. In addition, based upon an evaluation of the potential effect which the failure to utilize this ocean site will have on navigation, economic and industrial development, and foreign and domestic commerce of the United States, an independent determination will be made of the need to place the dredged material in ocean waters, other possible methods of disposal, and other appropriate locations.

The Corps of Engineers is soliciting comments from the public; federal, state and local agencies and officials; Indian tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Comments are used to assess impacts on navigation, water quality, endangered species, historic resources, wetlands, scenic and recreational values, and other public interest factors. Comments are used in the preparation of an Environmental Assessment (EA) and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act and to determine the need for a public hearing.

ALL COMMENTS REGARDING THIS ACTIVITY MUST BE PREPARED IN WRITING AND EMAILED TO ALEXANDER.F.GREGORY@USACE.ARMY.MIL BEFORE THE EXPIRATION DATE OF THIS NOTICE, otherwise, it will be presumed that there are no objections to the activity.

Any person who has an interest which may be affected by the dredging and/or placement of this dredged material may request a public hearing. The request must be submitted in writing to the District Engineer within the comment period of this notice and must clearly set forth the interest which may be affected and the manner in which the interest may be affected by the activity. It should be noted that information submitted by mail is considered just as carefully in the process and bears the same weight as that furnished at a public hearing.

Pursuant to Section 307 of the Coastal Zone Management Act of 1972 as amended [16 USC 1456(c)], for activities conducted or supported by a federal agency in a state which has a federally approved Coastal Zone Management (CZM) program, the Corps must submit a determination that the proposed project is consistent with the State CZM program to the maximum extent practicable. This activity is subject to review by the New York State Department of State for its consistency with the enforceable policies of the New York State Coastal Management Program. The New York District of the U.S. Army Corps of Engineers has determined that the proposed activities are consistent to the maximum extent practicable within the applicable policies of the New York State CZM program. A copy of

this determination will be provided to the New York State Department of State, Office of Coastal, Local Government and Community Sustainability. Additional information regarding the Corps of Engineers' consistency determination may be obtained by contacting the New York State Department of State, Office of Coastal, Local Government and Community Sustainability, Attn: Consistency Review, One Commerce Plaza, 99 Washington Avenue - Suite 1010, Albany, New York 12231.

The proposed project was reviewed based upon the "Biological Assessment for the Closure of the Mud Dump Site and Designation of the Historic Area Remediation Site (HARS) in the New York Bight and Apex", (USEPA, 1997). Based upon this review, and a review of the latest public listing of threatened and endangered species, it has been preliminarily determined that the proposed activity for which authorization is sought herein is not likely to adversely affect any federally threatened or endangered species (humpback whales, finback whales, right whales, loggerhead turtles, leatherback turtles, green turtles, and Kemp's Ridley turtles) or their critical habitat pursuant to Section 7 of the Endangered Species Act (16 USC 1531).

The proposed HARS placement will not result in Remediation Material being placed within 0.27 nautical miles of any identified wrecks, as indicated in the National Register of Historic Places. Other than wrecks, there are no known sites eligible for or included in the Register within the project area. No known archaeological, scientific, prehistorical or historical data are expected to be lost by work accomplished under the required dredging.

Reviews of the activity pursuant to Section 404 of the Clean Water Act will include application of the guidelines announced by the Administrator, U.S. Environmental Protection Agency, under authority of Section 404(b) of the Clean Water Act. The Corps will obtain a water quality certificate or waiver from the appropriate state agency in accordance with Section 401 of the Clean Water Act prior to commencement of any work.

In compliance with Section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act (1996 amendments), an Essential Fish Habitat Assessment will be prepared and submitted to the National Marine Fisheries Service for review and comment.

The proposed work is being coordinated with the following Federal, State and local agencies:

- U.S. Environmental Protection Agency
- U.S. Department of Commerce, National Marine Fisheries Service
- U.S. Department of Interior, Fish and Wildlife Service
- U.S. Coast Guard, First District
- New York State Department of Environmental Conservation
- New York State Department of State
- New York City Department of Planning

If you have any questions concerning this notice, please contact Mr. Alexander Gregory, Project Manager, at (917) 790-8427 or email at Alexander.F.Gregory@usace.army.mil. Questions about the HARS can be addressed to Mr. Mark Reiss, Chief, Dredging, Sediments and Oceans Section, US Environmental Protection Agency, Region 2, at (212) 637-3799, or email at Reiss.Mark@epa.gov.

DESCRIPTION OF PLANNED FEDERAL ACTION:

The U.S. Army Corps of Engineers, New York District proposes to perform maintenance dredging of Great Kills Harbor, New York, Federal Navigation Project. Great Kills Harbor was last dredged in 2014 with the removal of approximately 237,285 cubic yards of dredged material with placement at the Historical Area Remediation Site (HARS).

The proposed maintenance dredging would involve the removal of approximately 200,000 cubic yards of material to depths of 10 feet below mean lower low water (MLLW) plus 2 feet of allowable over depth. The material has been tested and meets the criteria for remediation material at the HARS. The dredged material would be used as such by placing it over degraded sediments within the HARS. Maintenance dredging is generally accomplished using a mechanical dredge with a clamshell bucket. An environmental bucket may be required. The proposed dredged material would be transported by bottom dumping vessels to the placement site. The entire channel will generally not require maintenance dredging, only areas where shoaling has reduced the depth of the channel will require dredging.

The purpose of the proposed dredging is to maintain the authorized project dimensions, thereby assuring safe and economical use of the Great Kills Harbor, New York, by shipping interests. The proposed dredging for this cycle is anticipated to occur in the summer/fall of 2024.

ENVIRONMENTAL IMPACT STATEMENT:

The material to be placed at the HARS is dredged material that will be removed from Great Kills Harbor, New York, Federal Navigation Project. The material has been evaluated and found to meet the regulatory testing criteria of 40 CFR Sections 227.6 and 227.27, and the requirements of the rule establishing the HARS in Section 228.15(d)(6). It has been determined that maintenance dredging of the project area within Great Kills Harbor, New York, with placement of the dredged material at the HARS, is not likely to have significant adverse environmental impact on water quality, marine resources, fish, wildlife, endangered species, recreation, aesthetics, or flood protection of the area. An update of the EA and a Section 404(b) evaluation, as required by the Clean Water Act 40 CFR 230, will be prepared prior to implementation of the proposed work.

PLACEMENT SITE:

The dredged material from this project is proposed to be placed at the HARS (see next section: Introduction to the HARS) using bottom dumping barges. As noted in the

designation of the HARS, Remediation Material would not be allowed to be placed within 0.27 nautical miles of any identified wrecks in the National Register of Historical Places, or other wrecks that might be found.

USACE sampling and testing of the sediment of Great Kills Harbor determined that the dredged material is suitable for placement at the HARS as remediation material. In a letter dated June 22, 2022, the EPA issued a concurrence that a portion of the sandy material to be dredged meets the exclusionary criteria of 40 CFR 227.13(b)(1) and is suitable for placement at the HARS without further testing (see Figure 3). The dredged material will be transported by barge or similar dredge and deposited at the designated site, as shown on the attached map (Figures 2A and 2B).

INTRODUCTION TO THE HARS:

In 1972, the Congress of the United States enacted the Marine Protection Research and Sanctuaries Act (MPRSA) to address and control the dumping of materials into the ocean waters. Title I of the Act authorizes the US Environmental Protection Agency (USEPA) and the US Army Corps of Engineers (USACE) to regulate dumping in ocean waters. USEPA and USACE share responsibility for MPRSA permitting and ocean disposal site management. USEPA regulations implementing MPRSA can be found in 40 CFR Sections 220 through 229. With few exceptions, MPRSA prohibits the transportation of material from the United States for the purpose of ocean dumping except as may be authorized by a permit issued under MPRSA. The MPRSA divides permitting responsibility between USEPS and USACE. Under Section 102 of the MPRSA, USEPA has responsibility for issuing permits for all materials other than dredged material. Under Section 103 of MPRSA, the Secretary of the Army has the responsibility for issuing permits for dredged material. Determination to issue MPRSA permits for dredged material are subject to USEPA concurrence.

In the fall of 1997, the USEPA de-designated and terminated the use of the New York Bight Dredged Material Disposal Site (commonly known as the Mud Dump Site or MDS). The MDS had been designated in 1984 for the disposal of up to 100 million cubic yards of dredged material from navigation channels and other port facilities within the Port of New York and New Jersey. Simultaneous with the closure of the MDS, the site and surrounding areas that had been used historically as disposal sites for dredged material were redesigned as the HARS in 40 CFR Sections 228.15(d)(6), (see 62 Fed. Reg. 46142 (August 29, 1997); 62 Fed. Reg. 26267 (May 13, 1997)). The HARS will be managed to reduce impacts of historical disposal activities at the site to acceptable levels in accordance with 40 CFR Sections 228.11(c). The need to remediate the HARS is supported by the presence of toxic effects, dioxin bioaccumulation exceeding Category 1 levels (a definition of which appears in an evaluation memorandum reviewing the results of the testing) in worm tissue, as well as TCDD/PCB contamination in area lobster stocks. Individual elements of those data do not establish sediments within the study area as imminent hazards to the New York Bight Apex Ecosystem, living resources, or human health; however, the collective evidence presents cause for concern, and justifies the need to remediation. Further information on the condition in the study area and surveys

performed may be found in the Supplemental Environmental Impact Assessment (SEIS) [USEPA, 1997].

The designation of the HARS identifies an area in and around the former Mud Dump Site (MDS) that has exhibited the potential for adverse ecological impacts (see Figure No. 2A: HARS Location Map 1 and 2B: HARS Location Map 2). The HARS will be remediated with dredge material that meets current Category 1 Standards and will not cause significant undesirable effects including through bioaccumulation or acceptable toxicity, in accordance with 40 CFR 227.6. This dredge material is referred to as "Material for Remediation" or "Remediation Material."

As of the end of June 2023, dredged materials from one hundred forty-five (145) different completed and ongoing Department of the Army (DA) permitted and federal dredging projects in the Port of New York and New Jersey have been dredged and placed as Remediation Material in the ocean at the Historic Area Remediation Site (HARS) since the closure of the Mud Dump Site and designation of the HARS in September 1997. This represents approximately 83,610,000 cubic yards of Remediation Material.

The HARS, which includes the 2.2 square nautical mile area of the MDS, is approximately 15.7 nautical square mile area located approximately 3.5 nautical miles east of Highlands, New Jersey and 7.7 nautical miles south of Rockaway, New York. The MDS is located approximately 5.3 nautical miles east of Highlands, New Jersey and 9.6 nautical miles south of Rockaway, New York. When determined by bathymetry that capping is complete, the USEPA will take any necessary rulemaking to de-designate the HARS. The HARS includes the following three areas:

Priority Remediation Area (PRA): A 9.0 square nautical mile area to be remediated with at least 1 meter of Remediation Material. Then PRA encompasses the area of degraded sediments as described in greater detail in the SEIS.

Buffer Zone: An approximately 5.7 square nautical mile area (0.27 nautical mile wide band around the PRA) in which no placement of the Material for Remediation will be allowed, but which may receive Material for Remediation that incidentally spreads out of the PRA.

No Discharge Zone: An approximately 1.0 square nautical mile area in which no placement or incidental spread of Material for Remediation is allowed.

To improve management and monitoring of placement activities at the HARS, electronic monitoring equipment will be onboard any barges carrying Remediation Material to the HARS. This equipment records vessel positions throughout the duration of each trip to the HARS and during remediation operations. To improve communication reliability between tugs and scows, a prescribed formal communication procedure has been put in place (copies of the procedure are available upon request).

Additional information concerning the HARS can be obtained from Mr. Mark Reiss, Chief, Dredging, Sediments and Oceans Section, US Environmental Protection Agency, Region 2, at (212) 637-3799.

HARS SUITABILITY TESTING

A testing evaluation process was developed, which established a basic framework for assessing results of tissue analysis from bioaccumulation testing of dredged material proposed for ocean placement. The framework defines a standard approach for assessing each analyte (an item to be analyzed for as part of the testing), in relation to regulatory standards and human health and environmental factors, to facilitate decisions in accordance with Marine Protection, Research, and Sanctuaries Act of 1972. USEPA and USACE utilize this testing evaluation process for identifying Category 1 dredged material in determining suitability of dredged sediments as remediation material at the HARS. The Testing Evaluation Memorandum for this project may be obtained by contacting Mr. Mark Reiss, Chief, Dredging, Sediments and Oceans Section, US Environmental Protection Agency, Region 2, at (212) 637-3799.

"Exclusionary Material" - Sediment Grain Size Analysis

On June 1, 2022, the U.S. Army Corps of Engineers, New York District provided grain size data from 4 sediment cores taken in 2021, and ocean current information for the project area, to support its request for USEPA's concurrence with its determination that dredged materials from the red hatched area (Figure 3) meet the exclusionary criteria of 40 CFR 227.13(b)(1) and are therefore suitable for placement at the HARS without further testing.

Sediment cores taken in 2021 at GK-4 (96.1% sand/gravel), GK-5 (95.5% sand/gravel), GK-6 (96.9% sand/gravel) and GK-10 (97% sand/gravel) demonstrated sediments from the red hatched area to be made up of less than 12% silt or clay. Based on the grain size analysis and the current and wave energy conditions in the project area, USEPA concurs with the USACE-NYD determination that the material to be dredged from the red hatched area of Great Kills Harbor (Figure 3) meets the exclusionary requirements of 40 CFR 227.13(b)(1) and is suitable for placement at the HARS without further testing.

HARS Testing

The proposed maintenance dredging area has been characterized by nine (9) sediment core samples taken down to -10 feet plus 2 feet allowable overdepth (green hatched area in Figure 3). The 9 samples were then combined into one composite sample, which was subjected to chemical and biological testing. Based on the analysis of sediment samples from the Great Kills Harbor project area, the grain size characteristics of the proposed dredged material are:

0.8% GRAVEL, 56.1% SAND, 30.9% SILT, 12.2% CLAY

Results of the chemical and biological testing of the Great Kills Harbor, New York, Federal Navigation Project sediment samples are summarized below.

Evaluation of the Liquid Phase: Chemistry

Under the requirements of 40 CFR Sections 227.6(c)(1) and 227.27(a), chemical analyses were conducted on project area site water and elutriate. Results of this evaluation are summarized in Table 1. Please note in reading Table 1 that detection limits have been listed for only those constituents which the laboratory reported as not-detected (ND) (this reporting convention was similarly applied in reporting the results of bioaccumulation potential testing discussed below). If the constituents were detected above the detection limit, the measured value would appear.

Expected concentrations of chemical constituents in the water column following ocean placement, after allowing for initial mixing, were calculated using the Automated Dredging and Disposal Alternatives Management System (ADDAMS). ADDAMS is a mixing model developed by the Corps Waterways Experiment Station (WES) and described in the joint USEPA/Corps implementation manual entitled "Ecological Evaluation of Proposed Discharge of Dredged Material Into Ocean Water" (commonly referred to as the National "Green Book"). The material can be considered suitable for ocean disposal only if the concentration of the Suspended Particulate Phase (SPP) of the dredged material, after allowance for initial mixing, will not exceed the Limiting Permissible Concentration (LPC) beyond the boundaries of the disposal site within the first four hours following dumping or at any point in the marine environment after the first four hours. The ADDAMS Model predicted that applicable marine water quality criteria for listed constituents were not exceeded after allowance for initial mixing (40 CFR 227.29(a)). Results of the analyses indicate that the LPC will be met for the proposed dredged material from the project area.

BIOASSAYS

In accordance with 40 CFR Part 227 of the Ocean Dumping Regulations, bioassays were performed to assess the toxicities of the solid phase, liquid phase, and suspended particulate phase of the proposed dredged material from the project area.

Evaluation of the Liquid Phase

Liquid phase bioassays, run as part of the suspended particulate phase on three appropriate sensitive marine organisms: a crustacean (mysid shrimp, *Americamysis bahia*), a finfish (*Menidia beryllina*), and the planktonic larvae of a bivalve (the Mediterranean mussel, *Mytilus galloprovincialis*), show that after initial mixing (as determined under 40 CFR Sections 227.29(a)(2)) the liquid phase of the material would not exceed a toxicity threshold of 0.01 of a concentration shown to be acutely toxic to appropriate sensitive marine organisms. Accordingly, it is concluded that the liquid phase of the material would be in compliance with 40 CFR Sections 227.6(c)(1) and 227.27(a). The specific test results and technical analysis of the data underlying this conclusion are

described and evaluated in a joint USACE New York District / U.S. Environmental Protection Agency Region 2 memorandum (copies available upon request).

Evaluation of the Suspended Particulate Phase

The suspended particulate phase of the material was evaluated for compliance with 40 CFR Sections 227.6(c)(2) and 227.27(b). Bioassay testing of the suspended particulate phase of the material has been conducted using three appropriate sensitive marine organisms: mysid shrimp (*Americamysis bahia*), inland silversides (*Menidia beryllina*), and the planktonic larvae of a bivalve (the Mediterranean mussel, *Mytilus galloprovincialis*). Median lethal concentrations (LC_{50}), which are concentrations of suspended particulate phase resulting in 50% mortality, were determined for all three test species. In addition, the median effective concentration (EC_{50}), based on normal larval development to the D-cell stage, was determined for the bivalve larvae. The Limiting Permissible Concentration (LPC) was then calculated as 0.01 of the LC_{50} or EC_{50} of the most sensitive organism. The LPC was calculated as 0.224 based on the EC_{50} of *Mytilus galloprovincialis*.

The information shows that when placed at the HARS and after initial mixing (as determined under 40 CFR Sections 227.29(a)(2)), the suspended particulate phase of this material would not exceed a toxicity threshold of 0.01 of a concentration shown to be acutely toxic in the laboratory bioassays and, thus, would not result in significant mortality. Moreover, the fact that after placement, the suspended particulate phase would only exist in the environment for a short time, which indicates the suspended particulate phase of the project material would not cause significant undesirable effects, including the possibility of danger associated with bioaccumulation, since these impacts require long duration exposures (see USEPA, 1994). Accordingly, it is concluded that the suspended phase of the material from Great Kills Harbor, New York would be in compliance with 40 CFR Sections 227.6(c)(2) and 227.27(b). The results of bioassay tests conducted on proposed dredged sediments from the project area are presented in Table 2 of this public notice.

Evaluation of the Solid Phase

The solid phase tests the whole test sediment before it has undergone processing that might alter its chemical or toxicological properties. The solid phase was evaluated for compliance with 40 CFR Sections 227.6(c)(3) and 227.27(b). This evaluation was made using the results of two specific types of evaluations on the solid phase of the material – one focusing on the acute (10-day) toxicity of the material, and the other focusing on the potential for the material to cause significant adverse effects due to bioaccumulation. Both types of tests used appropriate sensitive benthic marine organisms according to procedures approved by USEPA and the USACE. The following sections address the results of those tests and further analyze compliance with the regulatory criteria of 40 CFR Sections 227.6(c)(3) and 227.27(b) and 228.15 and with USEPA Region 2/USACE New York District guidance.

1. Toxicity:

Ten-day toxicity tests were conducted on proposed project dredged material using a filler feeding mysid shrimp (*Americamysis bahia*) and a deposit feeding, burrowing amphipod (*Ampelisca abdita*), which are appropriate sensitive benthic marine organisms. The results from the proposed project material are then compared to results for the same organisms that are exposed to reference sediments. The reference sediment represents existing background conditions in the vicinity of the HARS, removed from the influence of any placement operations. These organisms are good predators of adverse effects to benthic marine communities (see USEPA, 1996). The toxicity of project sediments was not statistically greater than reference sediments for either mysids or for amphipods, and the difference between percent survivals in test and reference sediments was less than 10% for mysid shrimp and less than 20% for amphipods.

These results show that the solid phase of the material would not cause significant mortality and meets the solid phase toxicity criteria of Sections 227.6 and 227.27. The results of the 10-day toxicity test are summarized in Table 2.

2. Bioaccumulation:

Bioaccumulation tests for sediments from the project area were conducted on the solid phase of the project material for contaminants of concern using two appropriate sensitive benthic marine organisms: a burrowing, deposit-feeding polychaete *Alitta (Nereis) virens* and a filter-feeding bivalve *Macoma nasuta.* These species are considered to be good representatives of the phylogenetically diverse base of the marine food chain. Contaminants of concern were identified for the regional testing manual from the NY/NJ Harbor Estuary Program Toxics Characterization report (Squibb, *et al.* 1991).

Table 3 of this notice addresses the bioaccumulation of contaminants of concern. Additional information on more rigorous evaluations conducted on individual contaminants may be found in the Testing Evaluation Memo for this project. Table 3 indicates that some contaminants bioaccumulated above reference in the clam and/or worm. All constituents identified in worm and clam tissue were compared to existing Food and Drug Administration (FDA) actions levels for poisonous or deleterious substance in fish and shellfish for human food, regional disposal criteria, background concentrations and risk-based criteria provided by USEPA Region 2. The testing memo further evaluates these contaminants and concludes that any contaminant that exceeded reference did not exceed any existing regional matrix or dioxin value. Several contaminants which did not have matrix values did exceed background levels, but in no case did any contaminant accumulate to toxicologically important concentrations even when very conservative assumptions were used in the analysis. Any contaminants that exhibited bioaccumulation test results above referenced were all below the acceptable human health risk range and acceptable aquatic effects range, again using conservative approaches and analyses. A discussion of this determination is available in the Testing Evaluation Memo for this project. The determination is that the combined results of the toxicity and bioaccumulation tests indicate that the material meets the criteria of 40 CFR Sections 227.6(c)(3) and

227.27(b) and 228.15(d)(6)(v)(A) of the Regulations, and that the material is suitable for placement at the HARS.

Conclusion

Based upon the results of testing of the sediments proposed for dredging from Great Kills Harbor, New York, Federal Navigation Channel, USACE and USEPA have determined that the material is Category 1, meeting the criteria for ocean placement as described in 40 CFR parts 227.6, 227.27, and 228.15, and is Remediation Material as defined under the USEPA Region 2/USACE, New York District guidance. The specific test results and technical analysis of the data underlying this conclusion are described in the joint USACE, New York District/USEPA, Region 2 memorandum as previously mentioned.

Placement of this material at the HARS will serve to reduce impacts at the HARS to acceptable levels and improve benthic conditions. Sediments in the HARS have been found to be acutely toxic to sensitive benthic marine organisms in laboratory tests, whereas project sediments used in laboratory acute toxicity tests with the same species were determined not to be toxic. Placement of project material over existing toxic sediments would serve to remediate those areas for toxicity. In addition, by covering the existing sediments in the site with this project material, surface dwelling organisms will be exposed to sediments exhibiting Category 1 qualities, whereas the existing sediments exceed these levels.

ALTERNATIVES TO HARS PLACEMENT

Regarding ocean placement of dredged material, the Ocean Dumping Regulations [Title 40 CFR Sections 227.16 (b)] states that "…alternative methods of disposal are practicable when they are available at a reasonable incremental cost and energy expenditures which need not to be competitive with the costs of ocean dumping, taking into account the environmental impacts associated with the use of alternatives to ocean dumping…". The Corps has investigated the use of alternative placement sites for the dredged material that include beach placement, upland placement, and open water placement. Beneficial uses such as beach nourishment were found not to be practicable, as the dredged material is silty, fine-grained material mixed with sandy material within the same shoal that is not suitable for beach nourishment. Processing the dredged material for use in brownfields restoration projects has been considered, but the costs for handling and amending the material would be excessive. The Corps has also investigated the use of upland placement of the dredged material. However, based on historical bid prices of similar projects in the area, there is a significant increase in cost for upland placement as compared to placement at the HARS, thereby making upland placement not a practicable alternative. Other options are not available at reasonable incremental costs, which leave the HARS placement as the preferred alternative.

For more information on the New York District Corps of Engineers programs, visit our website at http://www.nan.usace.army.mil

It is requested that you communicate the foregoing information concerning the proposed work to any persons known by you to be interested and who did not receive a copy of this notice.

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Date: 2023.10.15 14:43:07 -04'00'

Michael J. Oseback
Chief, Operations Support Branch

Enclosures
as stated

Figure 1: Proposed Dredging Area in Great Kills Harbor, New York

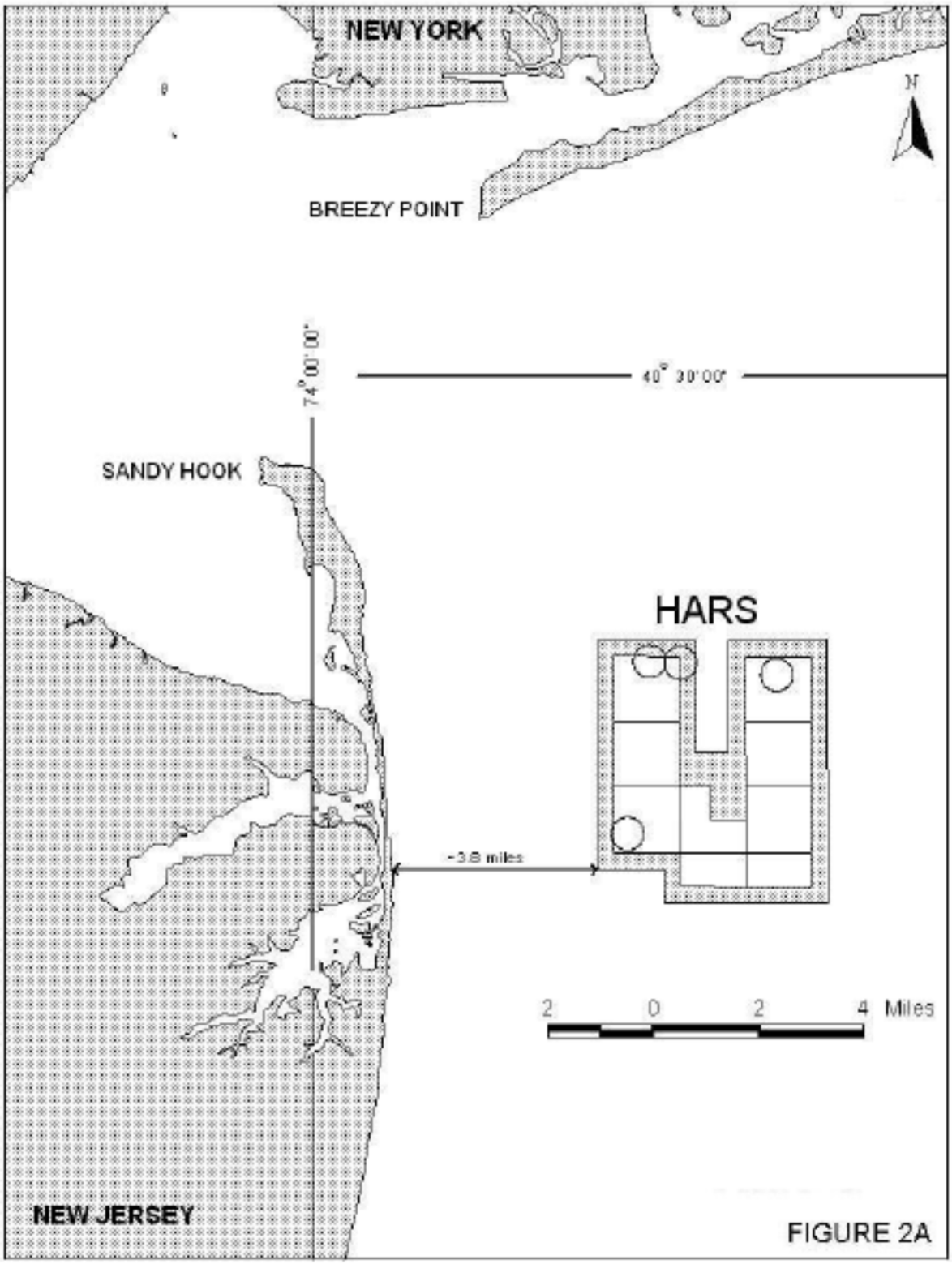

Figure 2A: HARS Location Map 1

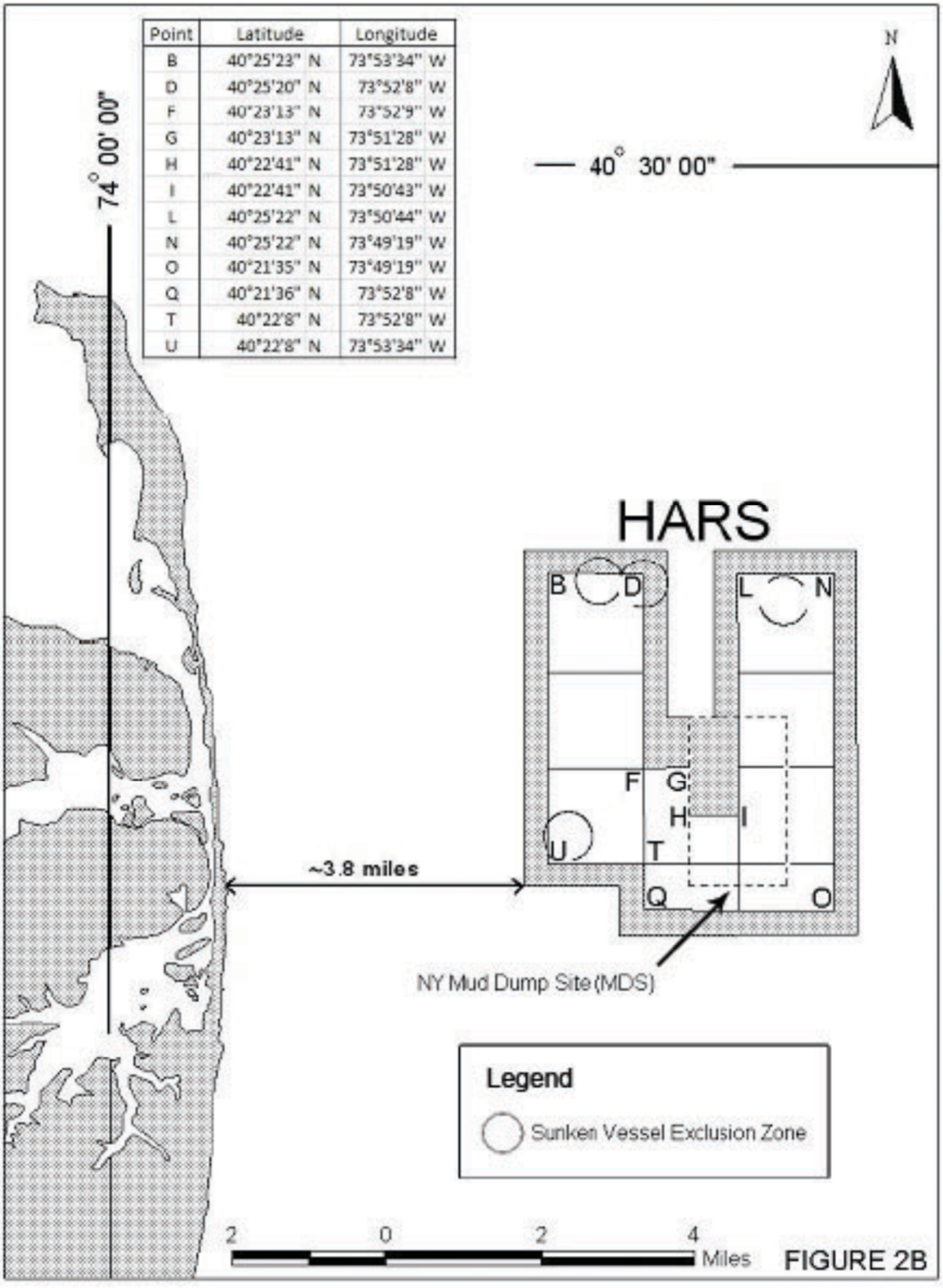

Figure 2B: HARS Location Map 2

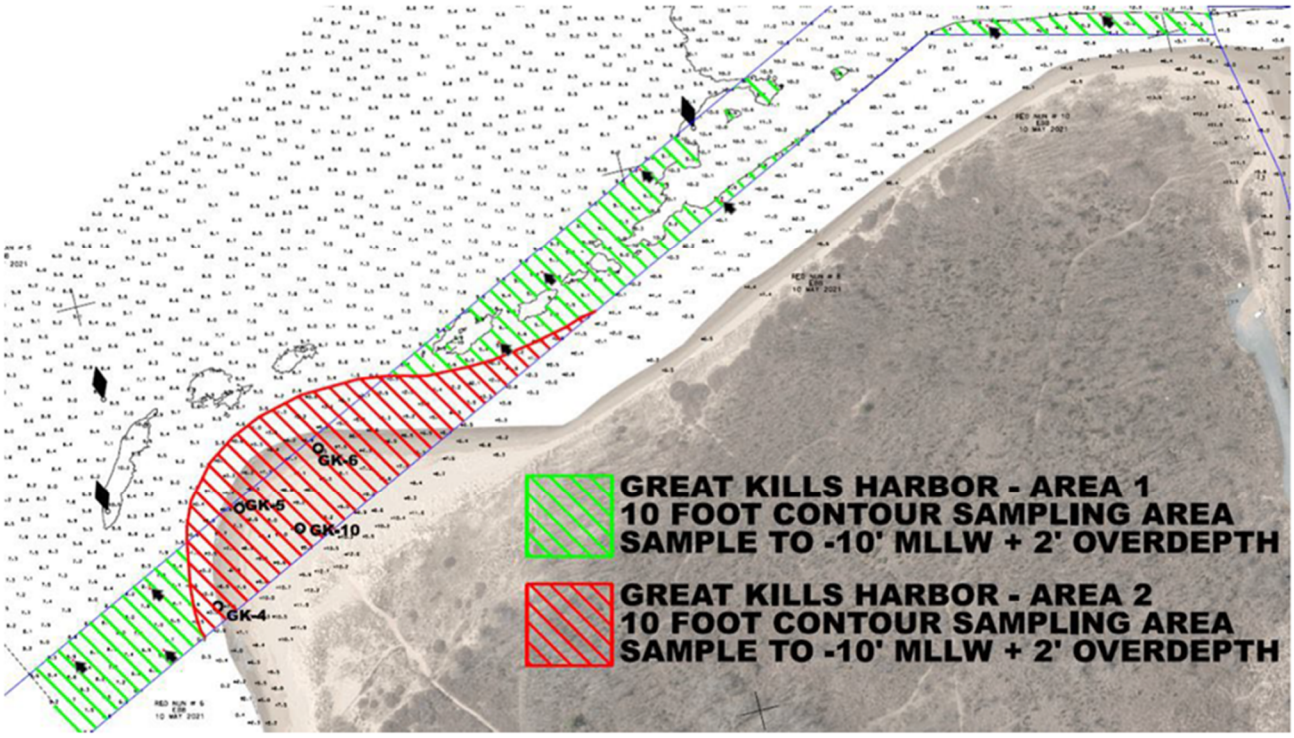

Figure 3: Great Kills Harbor FNP Shoaling. Sand in red hatched area meets exclusionary criteria of 40 CFR 227.13(b)(1). Sediment in green hatched areas was sampled and tested for placement at the HARS.

TABLE 1. RESULTS OF CHEMICAL ANALYSIS OF SITE WATER AND ELUTRIATE

Great Kills Harbor

	SITE WATER		ELUTRIATE	
CONSTITUENTS	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION
Metals	**ppb (ug/L)**	**ppb (ug/L)**	**ppb (ug/L)**	**ppb (ug/L)**
Ag	0.600	ND	0.600	ND
Cd	0.100	ND	0.100	ND
Cr	4.00	ND		5.70
Cu	3.00	ND		5.57
Hg	0.200	ND	0.200	ND
Ni	10.0	ND	10.0	ND
Pb	10.0	ND	10.0	ND
Zn	25.0	ND	25.0	ND
Pesticides	**pptr (ng/L)**	**pptr (ng/L)**	**pptr (ng/L)**	**pptr (ng/L)**
Aldrin	0.531	ND	0.531	ND
a-Chlordane	0.442	ND	0.442	ND
trans Nonachlor	0.436	ND	0.436	ND
Dieldrin	0.544	ND	0.544	ND
4,4'-DDT	0.633	ND		0.778
2,4'-DDT	0.795	ND	0.795	ND
4,4'-DDD	0.531	ND		0.586
2,4'-DDD	0.582	ND		0.382
4,4'-DDE	0.445	ND		0.593
2,4'-DDE	0.557	ND	0.557	ND
Total DDT		**ND**		**3.02**
Endosulfan I	0.531	ND	0.531	ND
Endosulfan II	0.525	ND	0.525	ND
Endosulfan sulfate	0.439	ND	0.439	ND
Heptachlor	0.534	ND	0.534	ND
Heptachlor epoxide	0.442	ND	0.442	ND
Industrial Chemicals	**pptr (ng/L)**	**pptr (ng/L)**	**pptr (ng/L)**	**pptr (ng/L)**
PCB 8	0.572	ND		90.5
PCB 18	0.366	ND	0.366	ND
PCB 28	0.423	ND		2.81
PCB 44	0.534	ND		1.56
PCB 49	0.391	ND	0.391	ND
PCB 52	0.499	ND		37.8
PCB 66	0.601	ND		1.96
PCB 87	0.461	ND		2.96
PCB 101	0.388	ND		1.08
PCB 105	0.598	ND		0.417
PCB 118	0.576	ND		0.502
PCB 128	0.417	ND		0.330
PCB 138	0.493	ND		1.43
PCB 153	0.493	ND		0.411
PCB 170	0.452	ND		1.33
PCB 180	0.458	ND		0.212
PCB 183	0.410	ND	0.410	ND
PCB 184	0.576	ND	0.576	ND
PCB 187	0.423	ND	0.423	ND
PCB 195	0.429	ND	0.429	ND
PCB 206	0.464	ND		0.144
PCB 209	0.445	ND		0.466
Total PCB		**ND**		**290**

ND = Not detected

For values reported as ND, one-half of the detection limit is used in the calculation of Total DDT and Total PCB

Total DDT = sum of 2,4'- and 4,4'-DDD, DDE, and DDT

(If all DDT metabolites are ND, the total is reported as ND)

Total PCB = sum of congeners reported x 2

(If all PCB congeners are ND, the total is reported as ND)

ppb = parts per billion

ug/L = micrograms per liter

pptr = parts per trillion

ng/L = nanograms per liter

Great Kills Harbor

TABLE 2 TOXICITY TEST RESULTS

Suspended Particulate Phase

Test Species	Test Duration	LC_{50}/EC_{50}		LPC (a)
Menidia beryllina	96 hours	**(b)**	82.1%	0.821
Americamysis bahia	96 hours	**(b)**	>100%	>1.00
Mytilus galloprovincialis **(larval survival)**	48 hours	**(b)**	>100%	>1.00
Mytilus galloprovincialis **(larval normal develop.)**	48 hours	**(c)**	22.4%	0.224

(a) Limiting Permissible Concentration (LPC) is the LC_{50} or EC_{50} multiplied by 0.01

(b) Median Lethal Concentration (LC_{50}) resulting in 50% mortatlity at test termination

(c) Median Effective Concentration (EC_{50}) based on normal development to the D-cell, prodissoconch 1 stage

Whole Sediment (10 days)

Test Species	% Survival Reference	% Survival Test	% Difference Reference - Test	Is difference statistically significant? (a=0.05)
Ampelisca abdita	97%	98%	-1%	No
Americamysis bahia	98%	97%	1%	No

TABLE 3. 28 DAY BIOACCUMULATION TEST RESULTS: CHEMICAL ANALYSIS OF TISSUE
Wet weight concentrations
Great Kills Harbor

	Macoma nasuta				*Alitta (nereis) virens*			
	REFERENCE		TEST		REFERENCE		TEST	
CONSTITUENTS	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION
Metals	ppm (mg/kg)	ppm (mg/kg)	ppm (mg/kg)	ppm (mg/kg)	ppm (mg/kg)	ppm (mg/kg)	ppm (mg/kg)	ppm (mg/kg)
Ag		0.024		0.025		0.035		0.014
As		3.35		3.42		2.71		2.08
Cd	0.122	ND	0.123	ND	0.123	ND	0.124	ND
Cr		0.288		1.80		0.334	0.124	ND
Cu		1.30		1.60		1.10		0.886
Hg	0.049	ND	0.049	ND	0.050	ND	0.050	ND
Ni		0.346		* 1.54		0.242	0.124	ND
Pb		0.169		* 0.440	0.123	ND	0.124	ND
Zn		23.2		20.5		46.7		22.3
Pesticides	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)
Aldrin	0.013	ND		* 0.317	0.013	ND	0.013	ND
a-Chlordane		0.069		* 0.141		0.023		* 0.096
trans Nonachlor	0.013	ND		0.019		0.151		* 0.182
Dieldrin	0.009	ND	0.009	ND		0.064		* 0.133
4,4'-DDT	0.012	ND	0.012	ND	0.012	ND	0.012	ND
2,4'-DDT	0.016	ND	0.016	ND		0.021		0.026
4,4'-DDD		0.159		* 0.267		0.070		* 0.156
2,4'-DDD	0.016	ND		0.045		0.078		* 0.147
4,4'-DDE		0.236		* 0.770		0.058		* 0.267
2,4'-DDE	0.009	ND		0.016	0.009	ND	0.009	ND
Total DDT		**0.448**		* **1.13**		**0.248**		* **0.617**
Endosulfan I	0.015	ND		0.019	0.015	ND	0.015	ND
Endosulfan II	0.016	ND		* 0.170		0.052		* 0.096
Endosulfan sulfate		0.032		0.040		0.038		0.069
Heptachlor		0.024	0.010	ND	0.010	ND	0.011	ND
Heptachlor epoxide	0.016	ND	0.016	ND		0.016	0.016	ND
Industrial Chemicals	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)
PCB 8		0.056	0.029	ND	0.029	ND	0.029	ND
PCB 18	0.013	ND		* 0.084	0.013	ND		* 0.214
PCB 28		0.168		* 0.620		0.101		* 0.416
PCB 44		0.179		0.231		0.079		* 0.192
PCB 49	0.011	ND		* 0.342		0.091		* 0.391
PCB 52		0.211		* 0.567		0.151		* 0.593
PCB 66		0.334		* 0.654		0.241		* 0.649
PCB 87	0.013	ND		* 1.81	0.013	ND		* 0.079
PCB 101		0.233		* 0.521		0.342		* 0.626
PCB 105		0.053		* 0.120		0.071		0.084
PCB 118		0.142		0.226		0.139		* 0.325
PCB 128	0.015	ND		0.054		0.115		* 0.155
PCB 138		0.377		* 0.663		0.845		* 1.05
PCB 153		0.309		* 0.514		1.44		1.68
PCB 170	0.013	ND		* 0.090		0.222		0.257
PCB 180		0.055		* 0.121		0.477		0.544
PCB 183		0.017		0.040		0.232		0.253
PCB 184	0.024	ND	0.024	ND	0.024	ND	0.024	ND
PCB 187		0.104		* 0.171		0.595		0.652
PCB 195	0.009	ND	0.009	ND		0.135		* 0.165
PCB 206	0.009	ND	0.009	ND		0.221		0.249
PCB 209	0.016	ND	0.016	ND		0.244		* 0.286
Total PCB		**4.72**		* **13.8**		**11.6**		* **17.8**
1,4-Dichlorobenzene		0.460		* 0.552		0.351		0.426

TABLE 3. (Continued)

	Macoma nasuta				*Alitta (nereis) virens*			
	REFERENCE		TEST		REFERENCE		TEST	
CONSTITUENTS	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION
PAH's	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)	ppb (ug/kg)
Naphthalene		0.539		0.592		0.284		0.318
Acenaphthylene		0.170		* 0.218		0.088		* 0.146
Acenaphthene		0.474		* 0.665		0.325		* 0.512
Fluorene		0.490		* 0.814		0.151		* 0.264
Phenanthrene		3.91		* 5.37		0.710		1.45
Anthracene		0.306		* 0.964		0.071		* 0.123
Fluoranthene		3.02		* 11.2		0.624		* 3.68
Pyrene		2.34		* 10.3		0.710		* 3.57
Benzo(a)anthracene		0.442		* 2.13		0.062		* 0.183
Chrysene		0.962		* 3.56		0.177		* 1.26
Benzo(b)fluoranthene		1.05		* 2.94	0.057	ND		* 0.370
Benzo(k)fluoranthene		1.13		* 2.85	0.047	ND		* 0.489
Benzo(a)pyrene		0.901		* 2.23	0.113	ND		* 0.225
Indeno(1,2,3-cd)pyrene		0.583		* 1.48		0.055		* 0.257
Dibenzo(a,h)antracene		0.124		* 0.331	0.046	ND		* 0.158
Benzo(g,h,i)perylene		0.827		* 1.77		0.088		* 0.360
Total PAH's		**17.3**		* **47.5**		**3.61**		* **13.4**
Dioxins	pptr(ng/kg)	pptr(ng/kg)	pptr(ng/kg)	pptr(ng/kg)	pptr(ng/kg)	pptr(ng/kg)	pptr(ng/kg)	pptr(ng/kg)
2378 TCDD	0.109	ND	0.096	ND	0.063	ND		0.092
12378 PeCDD	0.099	ND	0.113	ND	0.082	ND	0.085	ND
123478 HxCDD	0.128	ND	0.113	ND	0.093	ND	0.091	ND
123678 HxCDD	0.128	ND	0.109	ND	0.089	ND	0.089	ND
123789 HxCDD	0.126	ND	0.110	ND	0.091	ND	0.091	ND
1234678 HpCDD		0.274		* 0.711		0.457		0.536
1234789 OCDD		2.41		* 9.06		2.99		3.53
2378 TCDF		0.240		0.309		0.749		0.752
12378 PeCDF	0.087	ND	0.092	ND		0.076	0.084	ND
23478 PeCDF	0.077	ND	0.081	ND		0.113		0.093
123478 HxCDF	0.073	ND	0.062	ND	0.059	ND	0.054	ND
123678 HxCDF	0.072	ND	0.060	ND	0.060	ND	0.057	ND
234678 HxCDF	0.073	ND	0.062	ND	0.060	ND	0.057	ND
123789 HxCDF	0.105	ND	0.090	ND	0.094	ND	0.084	ND
1234678 HpCDF		0.124		* 0.232		0.187		0.152
1234789 HpCDF	0.122	ND	0.098	ND	0.070	ND	0.072	ND
12346789 OCDF	0.230	ND	0.256	ND	0.197	ND	0.167	ND

ND = Not detected
Concentrations shown are the mean of 5 replicate analyses in wet weight.
For values reported as ND (not detected), one-half of the detection limit is used in the calculation of the mean concentration.
* = Statistically significant at the 95% confidence level.

Total PAH = Sum of all PAH's.
(If all PAHs are ND, the total is reported as ND)

Total DDT = sum of 2,4'- and 4,4'-DDD, DDE, and DDT
(If all DDT metabolites are ND, the total is reported as ND)

Total PCB = 2(x), where x = sum of PCB congeners
(If all PCB congeners are ND, the total is reported as ND)