



SUPPLEMENTAL PUBLIC NOTICE

US Army Corps of Engineers
New York District
Jacob K. Javits Federal Building
New York, N.Y. 10278-0090
ATTN: Regulatory Branch

In replying refer to:
Supplemental Public Notice Number:
NAN-2016-00908-A-EHA
Issue Date: 17 OCT 2019
Expiration Date: Monday 18 NOV 2019

To Whom It May Concern:

The purpose of this Supplemental Public Notice is to make available for public and agency review and comment the permit applicant's [Transcontinental Gas Pipe Line Company] the results of an analysis of the chemical, physical, and biological testing of the applicant's proposed dredged materials for ocean placement. This ocean placement request is made pursuant to Section 103 of the Marine Protection, Research & Sanctuaries Act of 1972, as amended (33 U.S.C. 1413).

This supplemental public notice supplements the New York District public notice published on March 27, 2018. The Northeast Supply Enhancement Project's public notice is available at:

<https://www.nan.usace.army.mil/Missions/Regulatory/Regulatory-Public-Notices/Article/1477417/nan-2016-00908-eha/>

APPLICANT: Transcontinental Gas Pipe Line Company, LLC
2800 Post Oak Boulevard, L-17
Houston, Texas 77056

ACTIVITY: Install by burial a 26-inch-diameter natural gas pipeline

WATERWAY: Raritan Bay, Lower New York Bay, Atlantic Ocean

LOCATION: Between, Old Bridge Township, Middlesex County, New Jersey and tied into an existing natural gas pipeline in the Atlantic Ocean off the Rockaways, Queens County, New York

A detailed description and application drawings of the permit applicant's proposed ocean disposal activity are enclosed to assist in your review.

The decision whether to issue a final permit will be based on an evaluation of the probable impact, including cumulative impacts, of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefits which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, consideration of property ownership and, in general the needs and welfare of the people. The decision of whether

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to issue a Department of the Army Permit for placement of the dredged material at the Historic Area Remediation Site (HARS) will also be based on whether the material meets the requirements of applicable implementing regulations. This activity is also being evaluated to determine that the proposed placement of dredged material will not unreasonably degrade or endanger human health, welfare or amenities, the marine environment, ecological systems or economic potentialities.

On September 26, 2000, the Environmental Protection Agency (EPA) Region 2 and the U.S. Army Corps of Engineers (USACE) New York District signed a joint 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 evaluating placement of dredged material, the criteria established by EPA Region 2 will be applied, including the interim change to one matrix value for polychlorinated biphenyls (PCB's) as described in the joint 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 U.S. Army Corps of Engineers neither favors nor opposes permit issuance for the applicant's proposed activity. The purpose of this public notice is to solicit 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. Any comments received will be considered by the U.S. Army Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

ALL COMMENTS REGARDING THE OCEAN DISPOSAL ELEMENT OF THE PERMIT APPLICATION MUST BE PREPARED IN WRITING AND MAILED TO REACH THIS OFFICE BEFORE THE EXPIRATION DATE OF THIS NOTICE, otherwise, it will be presumed that there are no objections to the activity.

Comments submitted in response to this notice will be fully considered during the public interest review for this permit application. Comments provided will become part of the public record for this permit application. All written comments, including contact information, will be made a part of the administrative record, available to the public under the Freedom of Information Act. The Administrative Record, or portions thereof, may also be posted on a Corps of Engineers internet web site. Due to resource limitations, this office will normally not acknowledge the receipt of comments or respond to individual letters of comment.

Any person may request, in writing, before this public notice expires, that a public hearing be held to collect information necessary to consider this application. Requests for public hearings shall state, with particularity, the reasons why a public hearing should be held. It should be noted that information submitted by mail is considered just as carefully in the permit decision process and bears the same weight as that furnished at a public hearing.

The New York District of the U.S. Army Corps of Engineers served as one of the cooperating agencies involved in the preparation of an Environmental Impact Statement by the Federal Energy Regulatory Commission (FERC). On January 25, 2019, FERC issued the Final Environmental Impact Statement (FEIS), which may be viewed on the FERC website (www.ferc.gov).

Information on project impacts to Endangered and Threatened Species, Essential Fish Habitat, and sites included in or eligible for inclusion in the National Register of Historic Places can be found in the FEIS.

Based upon a review of the latest published version of the National Register of Historic Places, the only known wrecks on or eligible for inclusion on the National Register at the HARS are located in Primary Remediation Area (PRA) Number 1. As noted in the designation of the HARS, Remediation Material would not be allowed to be placed within 0.27 nautical miles of the identified wrecks or other wrecks that have been located at the HARS, including unidentified shipwrecks in PRA 3 and PRA 9. Otherwise, there are no known sites eligible for, or included in, the National Register within the proposed HARS permit area.

Reviews of the activity pursuant to Section 404 of the Clean Water Act will include application of the guidelines announced by the Administrator, Environmental Protection Agency, under authority of Section 404(b) of the Clean Water Act. The applicant 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 any final permit decision.

Pursuant to Section 307 (c) of the Coastal Zone Management Act of 1972 as amended [16 U.S.C. 1456 (c)], for activities under consideration that are located within the coastal zone of a state which has a federally approved coastal zone management program, the applicant has certified in the permit application that the activity complies with, and will be conducted in a manner that is consistent with, the approved state coastal zone management program. By this public notice, we are requesting the state's concurrence with, objection to, or waiver of the applicant's certification. No permit decision will be made until one of these actions occur. For activities within the coastal zone of New York State, the applicant's certification and accompanying information is available from the Consistency Coordinator, New York State Department of State, Division of Coastal Resources and Waterfront Revitalization, Coastal Zone Management Program, One Commerce Plaza, 99 Washington Avenue, Albany, New York 12231, Telephone (518) 474-6000. For activities within the coastal zone of the State of New Jersey, the applicant's certification and accompanying information is available from the New Jersey Department of Environmental Protection, Bureau of Coastal Regulation, CN 401, 501 East State Street, Second Floor, Trenton, New Jersey 08625-0401, Telephone Number (609) 633-2289. Comments regarding the applicant's certification, and copies of any letters to this office commenting upon this proposal, should be so addressed.

In addition to any required water quality certificate and coastal zone management program concurrence, the applicant has obtained or requested the following governmental authorization for the activity under consideration:

- Federal Energy Regulatory Commission
- New York State Department of Environmental Conservation

- New Jersey Department of Environmental Protection

The proposed work is being coordinated with the following federal, state, and local agencies:

Environmental Protection Agency;
US Department of the Interior, Fish and Wildlife Service;
US Department of Commerce, National Marine Fisheries Service;
US Coast Guard;
New York State Department of Environmental Conservation;
New York State Department of State;
New Jersey Department of Environmental Protection;
Federal Energy Regulatory Commission (FERC)

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

If you have any questions concerning this application, you may contact this office at (917) 790-8523 and ask for Naomi Handell. Questions about the HARS can be addressed to Mr. Mark Reiss, EPA Region 2, Chief of the Dredging, Sediment and Oceans Section, at (212) 637-3799.

In order for us to better serve you, please complete our Customer Service Survey located at <http://www.nan.usace.army.mil/Missions/Regulatory/CustomerSurvey.aspx>.

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



Stephan A. Ryba
Chief, Regulatory Branch

Enclosures

OCEAN PLACEMENT WORK DESCRIPTION

The permit applicant, Transcontinental Gas Pipe Line Company, LLC (Transco), has requested Department of the Army authorization for the ocean disposal of approximately 735,000 cubic yards of dredged material from the excavation / dredging of the trench for their proposed new 26-inch-diameter natural gas transmission pipeline, including its subsea manifold tie-in and cathodic protection elements for the Northeast Supply Enhancement (NESE) project.

The subject new approximately 24-mile-long natural gas pipeline would be buried below Raritan Bay and Lower New York Bay between New Jersey and New York. The vast majority of the pipeline (15 miles) would be buried with 4 feet of cover with a jet plow trencher. Four (4) feet of cover is the maximum depth that a jet plow trencher can provide. Two (2) miles of the pipeline would be buried deepest by Horizontal Directional Drilling under the existing 53-foot and 45-foot deep draft navigation channels with at least 15 feet of cover underneath the channels. The remaining 7 miles must be buried by dredging/excavating the trench so that there is 15 feet of cover over the pipeline within navigation channels and seven (7) feet of cover within the vessel anchorage area west of Chapel Hill navigation channel. The 15-foot and 7-foot cover requirements in areas in the vicinity of all mapped navigation channels and vessel operating anchorage areas are required to prevent pipeline and vessel damage from vessel anchor strikes.

The dredging/excavating of the trench will generate approximately 822,000 cubic yards of dredged material. All of this dredged material was sampled and tested. Eighty-seven thousand (87,000) cubic yards was found to be not be appropriate for open water placement. Of the balance, the permit applicant has requested permission to transport and place approximately 735,000 cubic yards of the dredged material as Remediation Material at the Atlantic Ocean's Historic Area Remediation Site (HARS).

The bay bottom material moved by the jet plow trencher, as it imbeds the pipeline, will automatically cover the pipeline. Clean construction grade sand dredged from nearby navigation channels will be used to back fill the pipeline and provide the 15 feet of cover.

The Federal Energy Regulatory Commission (FERC) is the lead Federal Agency and has regulatory jurisdiction over the entire Northeast Supply Enhancement (NESE) project pursuant to Sections 7(b) and 7(c) of the Natural Gas Act and Part 157 of the FERC Commission's regulations.

On January 25, 2019, FERC issued the Final Federal Environmental Impact Statement (FEIS), which may be viewed on the FERC website (www.ferc.gov).

On May 3, 2019, FERC issued a Certificate of Public Convenience and Necessity to construct, install, own, operate, and maintain the Northeast Supply Enhancement (NESE) project, which may be viewed on the FERC website (www.ferc.gov).

INTRODUCTION TO THE HISTORIC AREA REMEDIATION SITE (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 ocean waters. Title I of the Act authorized the Environmental Protection Agency (EPA) and the US Army Corps of Engineers (USACE) to regulate dumping in ocean waters. The EPA and USACE share responsibility for MPRSA permitting and ocean disposal site management. Regulations implementing MPRSA can be found at 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 the MPRSA. The MPRSA divides permitting responsibility between EPA and USACE. Under Section 102 of the MPRSA, EPA 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. Determinations to issue MPRSA permits for dredged material are subject to EPA concurrence.

In the fall of 1997, EPA Region 2 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 materials were redesignated as the HARS under authority of Section 102(c) of MPRSA at 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 historic disposal activities at the site to acceptable levels in accordance with 40 CFR Section 228.11(c). The need to remediate the HARS is supported by the presence of toxic effects, dioxin bioaccumulation exceeding Category 1 levels in worm tissue (a definition of which appears in a memorandum reviewing the results of the applicant's testing), as well as TCDD/PCB contamination in area lobster stocks. Individual elements of those data do not establish that sediments within the Study Area are 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 for remediation. Further information on the conditions in the Study Area and the surveys performed may be found in the Supplemental Environmental Impact Statement (EPA, 1997).

The designation of the HARS identifies an area (See Figures 2 and 3) in and around the former Mud Dump Site (MDS) that has exhibited the potential for adverse ecological impacts. The HARS will be remediated with dredged material that meets current Category 1 standards and will not cause significant undesirable effects including through bioaccumulation or unacceptable toxicity, in accordance with 40 CFR 227.6. This dredged material is referred to as "Material for Historic Area Remediation Site (HARS)" or "HARS Remediation Material."

As of the end of September 2019, dredged materials from one hundred twenty-seven (127) 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 HARS since the closure of the MDS and designation of the HARS in September 1997. This represents approximately 76.51 million

cubic yards of Remediation Material.

The HARS, which includes the 2.2 square nautical mile area of the MDS, is an approximately 15.7 square nautical 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 (a map depicting the relative depths of water in a particular area) that capping is complete, EPA Region 2 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 one meter of Remediation Material. The 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 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 on-board any barges carrying Remediation Material to the HARS. This equipment records vessel positions and scow drafts 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 this procedure are available upon request).

Additional information concerning the HARS can be obtained from Mr. Mark Reiss, EPA Region 2, Chief of the Dredging, Sediment and Oceans Section, at (212) 637-3799.

HARS SUITABILITY TESTING:

Over the past year, the EPA Region 2 and USACE New York District have been refining the approach to the technical review and scientific and regulatory analysis of dredging projects proposed for the HARS. 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 risk factors, to facilitate decisions in accordance with the Marine Protection, Research, and Sanctuaries Act of 1972. EPA Region 2 and USACE New York District utilize this testing evaluation process for identifying Category 1 dredged material in determining suitability of dredged materials as material for remediation at the HARS. The Testing Evaluation Memo for this project may be obtained by contacting Mr. Mark Reiss, EPA Region 2, Chief of the Dredging, Sediment and Oceans Section at (212) 637-3799.

Sediment Grain Size Analysis:

As depicted on the attached drawing (Figure 1), the proposed dredging area has been characterized by 31 sediment core samples within the 10 test areas: four were within Prism A1, three within Prism A2aU, three within Prism A2aL, five within Prism C, three within Prism D, three within Prism E1a, three within Prism E2a, five within Prism Fa, two within Prism G and three within Prism A3. Cores were taken down to design depth plus one foot allowable overdepth. The applicant plans to bury the pipeline to a certain depth (referred to as “the design depth”) which will change along the proposed pipeline route, as shown on Figure 4, due to differing burial depth requirements for certain use areas such as anchorage areas, side slopes and navigation channels. Each composite (excluding A3) were subjected to chemical and biological testing. Based upon an analysis of sediment samples from the project area submitted by the applicant and their contract laboratory, the grain size characteristics of the proposed dredged material are:

Composites	%sand	%silt	%clay
Prism A1	78.0	2.4	19.6
Prism A2aU	86.7	2.7	10.6
Prism A2aL	87.3	1.6	11.1
Prism C	27.3	6.7	66.0
Prism D	21.3	6.4	72.3
Prism E1a	3.13	5.67	91.2
Prism E2a	4.8	9.7	85.5
Prism Fa	83.7	3.3	13.0
Prism G	89.3	2.2	8.5
Prism A3	5.4% gravel	91.2% sand	3.4% silt/clay

For Prism A3, EPA Region 2 and USACE New York District evaluated bathymetric surveys, bottom sediment core logs and ocean current data from Prism A-3 to determine whether the proposed dredged material meets the criteria for ocean placement without additional testing as described in the Ocean Dumping Regulations at 40 CFR 227.13(b)(1). As specified in the regulations, the proposed dredged material satisfies these criteria if it is composed predominantly of sand, gravel, rock or any other naturally occurring bottom material with particle sizes larger than silt, and the material is found in areas of high current or wave energy such as streams with large bed loads or coastal areas with shifting bars and channels. The EPA Region 2 and USACE New York District’s evaluation concluded that sand to be dredged from Prism A-3 meets the requirements of 40 CFR 227.13(b)(1) and is suitable for placement in the ocean at the Historic Area Remediation Site (HARS) as Remediation Material without additional evaluation.

Results of the chemical and biological testing for the rest of the prisms are summarized below.

Evaluation of the liquid phase: Chemistry

Under the requirements of 40 CFR 227.6(c)(1) and 227.27(a), chemical analysis was 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 non-detected (ND) in the concentration column (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), a mixing model developed by the U.S. Army Corps of Engineers Waterways Experiment Station (WES) and described in the joint EPA/USACE implementation manual entitled "Evaluation of Dredged Material Proposed for Ocean Disposal" (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 the 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 this analysis 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 suspended particulate, liquid, and solid phases of the proposed dredged material from the proposed 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 (a mysid shrimp, *Americamysis bahia*), a finfish (*Menidia beryllina*), and the planktonic larvae of a bivalve (the 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 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/EPA 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: the mysid shrimp, *Americamysis bahia*; a finfish, *Menidia beryllina*; and the planktonic larvae of a mussel, *Mytilus galloprovincialis*. Median lethal concentrations (LC50), those concentrations of suspended particulate phase resulting in 50% mortality, were determined for all three test species. In addition, the median effective concentration (EC50) based on normal larval development to the D-cell stage, was determined for bivalve larvae. The Limiting Permissible Concentration (LPC) was then calculated as 0.01 of the LC50 or EC50 of the most sensitive organism. In this case, the LPC was calculated at >1.0% for Prism A1, 0.96% for Prism A2aU, >1.0% for Prism A2aL, 0.65% for Prism C, 0.67% for Prism D, 0.17%

for Prism E1a, 0.18% for Prism E2a, >1.0% for Prism Fa, and 0.5% for Prism G based on the EC50 of *M. galloprovincialis*. This information shows that when placed in 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, means the suspended particulate phase of each prism would not cause significant undesirable effects, including the possibility of danger associated with bioaccumulation, since these impacts require long exposure durations (see EPA, 1994). Accordingly, it is concluded that the suspended phase of the material 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 are presented in Table 2 of this public notice.

Evaluation of the solid phase:

The solid phase tests the whole dredged material 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 EPA and 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), 227.27(b), and 228.15 and with EPA Region 2/USACE New York District guidance.

1. Toxicity:

Ten-day toxicity tests were conducted on proposed project dredged material using a filter 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 sediments represent existing background conditions in the vicinity of the HARS, removed from the influence of any placement operations. These organisms are good predictors of adverse effects to benthic marine communities (see EPA, 1996). The mortality in project sediments did not exceed mortality in the reference by 10% for mysid shrimp or 20% for amphipods and was not statistically greater than reference for either mysids or 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 ten-day toxicity test are summarized in Table 2.

2. Bioaccumulation:

Bioaccumulation tests for the sediment 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, *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 Public Notice addresses the bioaccumulation of contaminants of concern. Additional information on more rigorous evaluations conducted on individual contaminant values may be found in the Testing Evaluation Memos for this project. Table 3 indicates that several 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) action levels for poisonous or deleterious substances in fish and shellfish for human food, regional disposal criteria, background concentrations, and risk-based criteria provided by USEPA. The testing memo further evaluates these contaminants, and concludes that any contaminant that exceeded reference did not exceed any existing regional matrix or dioxin values. 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 reference 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 Memos for this permit applicant's dredging and disposal project. The bioaccumulation test results were used in evaluating the potential impacts of the material. 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.

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 reasonable incremental cost and energy expenditures which need not be competitive with the costs of ocean dumping, taking into account the environmental benefits derived from such activity including the relative adverse environmental impacts associated with use of alternatives to ocean dumping . . ." The permit applicant has investigated the use of alternative placement sites for the dredged material that include upland placement and open water placement. Beneficial use such as beach nourishment is not considered to be practicable, as the dredged material is too fine grained for beach nourishment; only one prism contained more than 90% sand. The applicant investigated the use of upland placement of the dredged material. However, upland disposal locations in the metropolitan area are extremely limited and there is virtually no commercial use for this type of material. In consideration of the extreme cost of upland placement, it was not considered a practicable alternative. Therefore, alternative sites for the placement of the dredged material are either not available or not available at reasonable incremental costs, thus leaving HARS placement as the applicant's preferred alternative.

NAVIGATION:

If the determination is made to issue a permit, the permittee will contact the U.S. Coast Guard with the details of the authorized work.

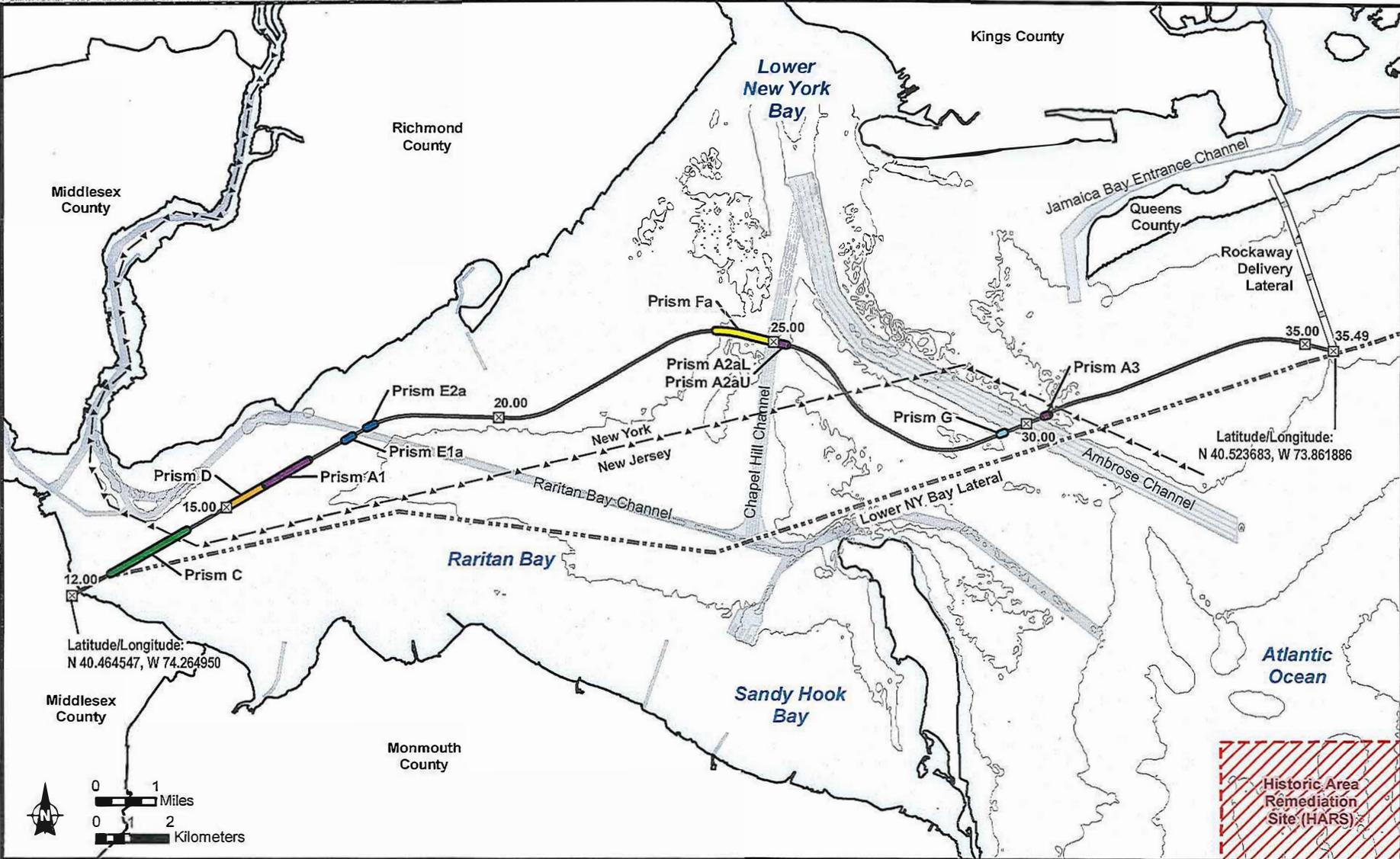
CONCLUSIONS:

Based upon the results of testing of the sediments proposed for dredging in the permit applicant's facility and ocean placement, USACE New York District and EPA Region 2 have determined that the material is Category 1 meeting the criteria for ocean placement as described in 40 CFR Sections 227.6, 227.27, and 228.15, and is a Remediation Material as defined under the EPA 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 /EPA Region 2 memoranda mentioned previously.

Placement of this material at the HARS will serve to reduce impacts 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.

COMMUNICATIONS:

For additional information on dredged material placement at the HARS, contact Ms. Naomi Handell at (917) 790-8523 or Mr. Mark Reiss, EPA Region 2, Chief, Dredging, Sediment and Oceans Section, at (212) 637-3798.



- ☒ Milepost for Proposed Pipeline
- Proposed Raritan Bay Loop
- ▲—▲ NY/NJ Boundary
- - - Lower NY Bay Lateral
- ▭ Rockaway Delivery Lateral
- ▭ Maintained Navigation Channel
- ▨ Historic Area Remediation Site (HARS)
- Prism A
- Prism C
- Prism D
- Prism E
- Prism F
- Prism G

NOTES

Latitude/Longitude Coordinates - GCS North American Datum 1983
Bathymetric elevation contours are at 20-foot intervals



FIGURE 4
TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC
OVERVIEW OF DREDGE PRISMS FOR HARS EVALUATION
NORTHEAST SUPPLY ENHANCEMENT PROJECT
NEW JERSEY, NEW YORK



Revision Date: 11/5/2018

Sources: ESRI 2015; E&E 2003 Williams 2015; NJDEP Digital Data Series Bathymetric Data 2008

Location: Williams_NJ_RE/Map/AUS/Prism_Review/2018_11/01_HARS_AE_topo/04-Channel_CrossSection/Prism_71211111

Figure 1

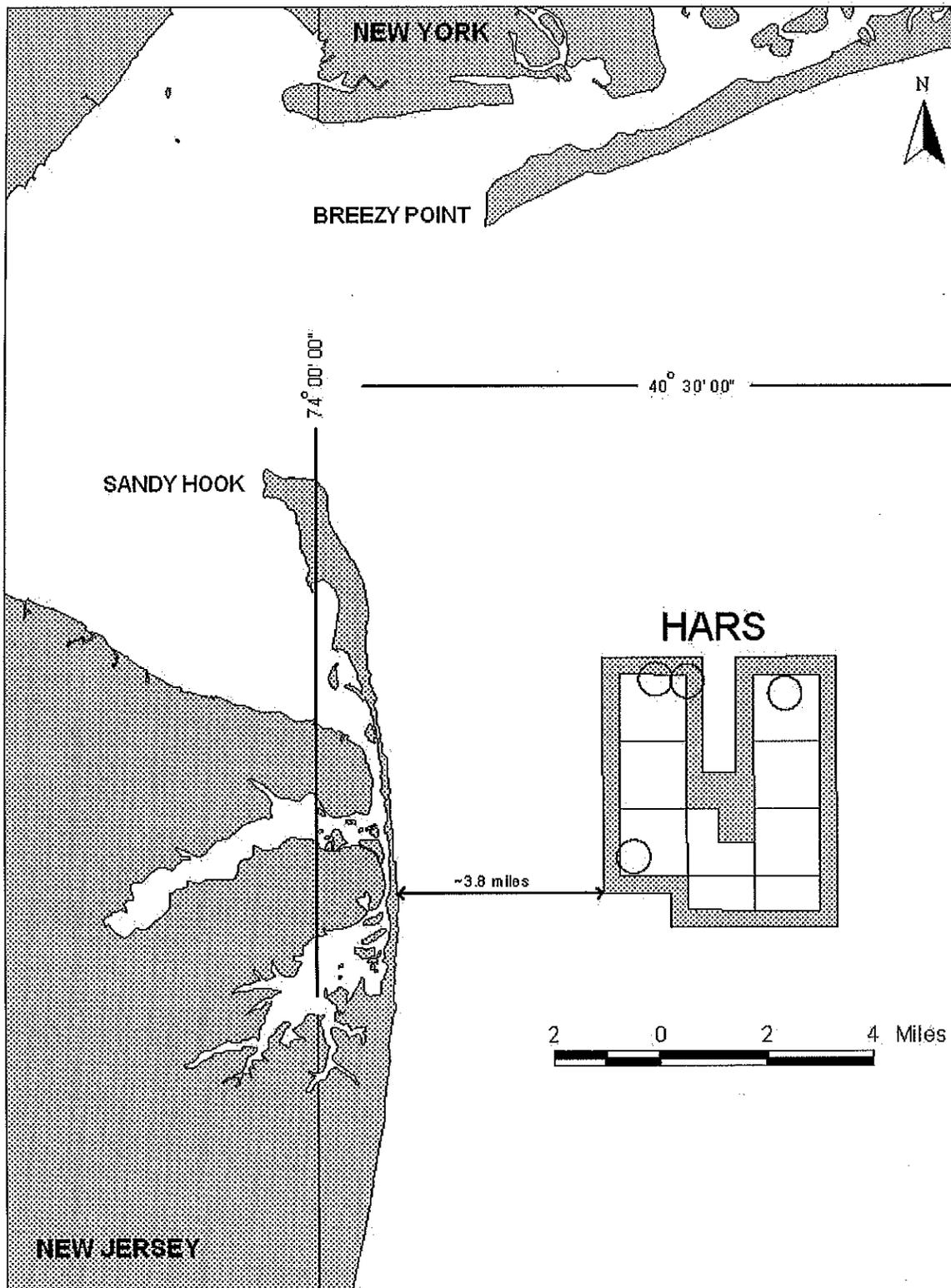


Figure 2

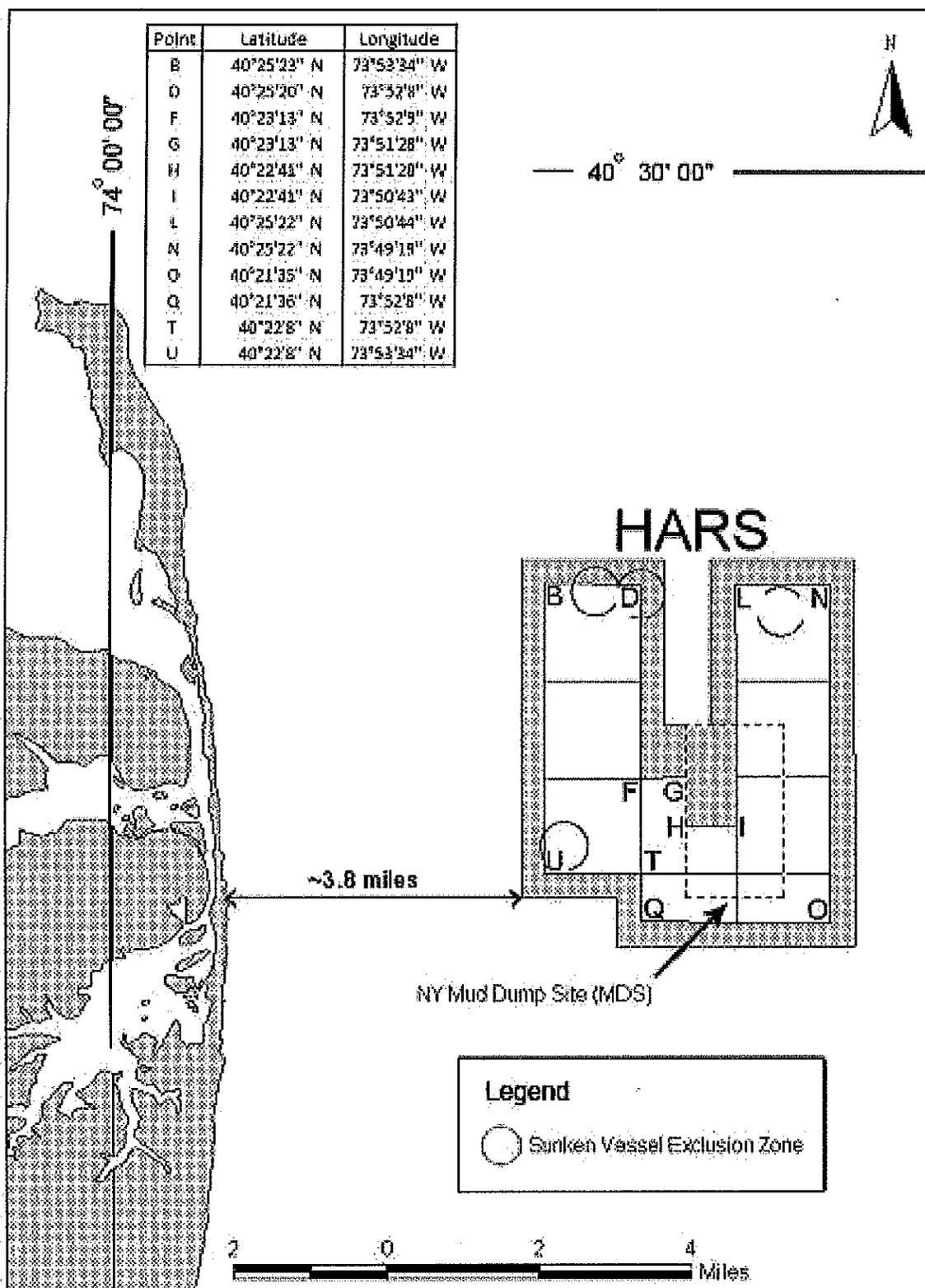
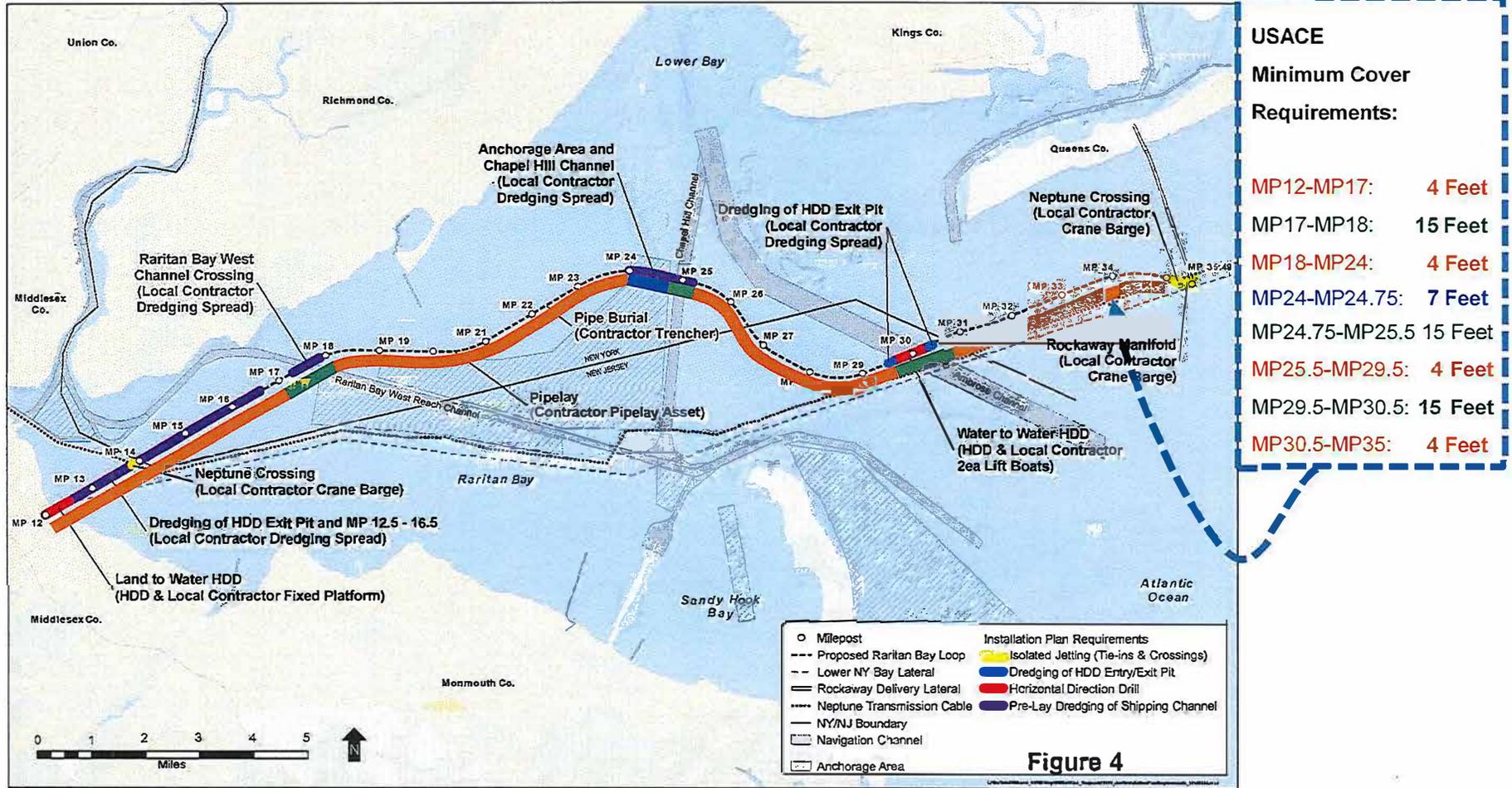


Figure 3

Buried Pipeline - Minimum Cover Over Pipe



NORTHEAST SUPPLY ENHANCEMENT PROJECT

SUPPLEMENTAL PUBLIC NOTICE NAN-2016-00908-A-EHA

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

Northeast Supply Enhancement Project – Raritan Bay Loop

CONSTITUENTS	PRISM C SITE WATER		PRISM C ELUTRIATE	
	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION
Metals	ppb (ug/L)	ppb (ug/L)	ppb (ug/L)	ppb (ug/L)
Ag	0.4	ND	0.4	ND
Cd	0.2	ND	0.2	ND
Cr		1.02		0.4
Cu		2.96	1	ND
Hg	0.05	ND	0.05	ND
Ni		1.26	0.8	ND
Pb		1.39	0.4	ND
Zn		10.4	4	ND
Pesticides	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)
Aldrin	2.0	ND	2.0	ND
a-Chlordane	2.0	ND	2.0	ND
trans Nonachlor	2.0	ND	2.0	ND
Diendrin	4.0	ND	4.0	ND
4,4'-DDT		6.4	4.0	ND
2,4'-DDT	2.0	ND	2.0	ND
4,4'-DDD		4.8	4.0	ND
2,4'-DDD	2.0	ND	2.0	ND
4,4'-DDE		29	4.0	ND
2,4'-DDE		3.3	2.0	ND
Total DDT		44		ND
Endosulfan I	2.0	ND	2.0	ND
Endosulfan II	4.0	ND	4.0	ND
Endosulfan sulfate	4.0	ND	4.0	ND
Heptachlor	2.0	ND	2.0	ND
Heptachlor epoxide		3.6		3.6
Industrial Chemicals	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)
PCB 8	0.80	ND	0.80	ND
PCB 18	0.80	ND	0.80	ND
PCB 28	0.80	ND	0.80	ND
PCB 44	0.80	ND	0.80	ND
PCB 49	0.80	ND	0.80	ND
PCB 52	0.80	ND	0.80	ND
PCB 66	0.80	ND	0.80	ND
PCB 87	0.80	ND	0.80	ND
PCB 101	0.80	ND	0.80	ND
PCB 105	0.80	ND	0.80	ND
PCB 118	0.80	ND	0.80	ND
PCB 128	0.80	ND	0.80	ND
PCB 138	0.80	ND	0.80	ND
PCB 153	0.80	ND	0.80	ND
PCB 170	0.80	ND	0.80	ND
PCB 180	0.80	ND	0.80	ND
PCB 183	0.80	ND	0.80	ND
PCB 184	0.80	ND	0.80	ND
PCB 187	0.80	ND	0.80	ND
PCB 195	0.80	ND	0.80	ND
PCB 206	0.80	ND	0.80	ND
PCB 209	0.80	ND	0.80	ND
Total PCB		ND		ND

ND = Not detected

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

Total PCB = sum of congeners x 2

SUPPLEMENTAL PUBLIC NOTICE NAN-2016-00908-A-EHA

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

Northeast Supply Enhancement Project – Raritan Bay Loop

CONSTITUENTS	PRISM D SITE WATER		PRISM D ELUTRIATE	
	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION
Metals	ppb (ug/L)	ppb (ug/L)	ppb (ug/L)	ppb (ug/L)
Ag	0.4	ND	0.4	ND
Cd	0.2	ND	0.2	ND
Cr		0.76		0.32
Cu		2.41	1	ND
Hg	0.05	ND	0.05	ND
Ni		1.28	0.8	ND
Pb		0.9	0.4	ND
Zn		9.04	4	ND
Pesticides	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)
Aldrin		2.1	2.0	ND
a-Chlordane	2.0	ND	2.0	ND
trans Nonachlor	2.0	ND	2.0	ND
Diendrin	4.0	ND	4.0	ND
4,4'-DDT	4.0	ND	4.0	ND
2,4'-DDT	2.0	ND	2.0	ND
4,4'-DDD	4.0	ND	4.0	ND
2,4'-DDD	2.0	ND	2.0	ND
4,4'-DDE		53	4.0	ND
2,4'-DDE	2.0	ND	2.0	ND
Total DDT		53		ND
Endosulfan I	2.0	ND	2.0	ND
Endosulfan II	4.0	ND	4.0	ND
Endosulfan sulfate	4.0	ND	4.0	ND
Heptachlor	2.0	ND	2.0	ND
Heptachlor epoxide	2.0	ND		3.9
Industrial Chemicals	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)
PCB 8	0.80	ND	0.80	ND
PCB 18	0.80	ND	0.80	ND
PCB 28	0.80	ND	0.80	ND
PCB 44	0.80	ND	0.80	ND
PCB 49	0.80	ND	0.80	ND
PCB 52	0.80	ND	0.80	ND
PCB 66	0.80	ND	0.80	ND
PCB 87	0.80	ND	0.80	ND
PCB 101	0.80	ND	0.80	ND
PCB 105	0.80	ND	0.80	ND
PCB 118	0.80	ND	0.80	ND
PCB 128	0.80	ND	0.80	ND
PCB 138	0.80	ND	0.80	ND
PCB 153	0.80	ND	0.80	ND
PCB 170	0.80	ND	0.80	ND
PCB 180	0.80	ND	0.80	ND
PCB 183	0.80	ND	0.80	ND
PCB 184	0.80	ND	0.80	ND
PCB 187	0.80	ND	0.80	ND
PCB 195	0.80	ND	0.80	ND
PCB 206	0.80	ND	0.80	ND
PCB 209	0.80	ND	0.80	ND
Total PCB		ND		ND

ND = Not detected

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

Total PCB = sum of congeners x 2

SUPPLEMENTAL PUBLIC NOTICE NAN-2016-00908-A-EHA

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

Northeast Supply Enhancement Project – Raritan Bay Loop

CONSTITUENTS	PRISM A1 SITE WATER		PRISM A1 ELUTRIATE	
	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION
Metals	ppb (ug/L)	ppb (ug/L)	ppb (ug/L)	ppb (ug/L)
Ag	0.4	ND	0.4	ND
Cd	0.2	ND	0.2	ND
Cr	0.32	ND	0.32	ND
Cu		1.32	1	ND
Hg	0.05	ND	0.05	ND
Ni	0.8	ND	0.8	ND
Pb	0.4	ND	0.4	ND
Zn	4	ND	4	ND
Pesticides	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)
Aldrin		2.3	2.0	ND
a-Chlordane	2.0	ND	2.0	ND
trans Nonachlor		5.7	2.0	ND
Diendrin	4.0	ND	4.0	ND
4,4'-DDT	4.0	ND	4.0	ND
2,4'-DDT	2.0	ND	2.0	ND
4,4'-DDD	4.0	ND	4.0	ND
2,4'-DDD	2.0	ND	2.0	ND
4,4'-DDE	4.0	ND		4.5
2,4'-DDE		4.6	2.0	ND
Total DDT		4.6		4.5
Endosulfan I	2.0	ND	2.0	ND
Endosulfan II	4.0	ND	4.0	ND
Endosulfan sulfate	4.0	ND	4.0	ND
Heptachlor	2.0	ND	2.0	ND
Heptachlor epoxide	2.0	ND		8.4
Industrial Chemicals	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)
PCB 8	0.80	ND	0.80	ND
PCB 18	0.80	ND	0.80	ND
PCB 28	0.80	ND	0.80	ND
PCB 44	0.80	ND	0.80	ND
PCB 49	0.80	ND	0.80	ND
PCB 52	0.80	ND	0.80	ND
PCB 66	0.80	ND	0.80	ND
PCB 87	0.80	ND	0.80	ND
PCB 101	0.80	ND	0.80	ND
PCB 105	0.80	ND	0.80	ND
PCB 118	0.80	ND	0.80	ND
PCB 128	0.80	ND	0.80	ND
PCB 138	0.80	ND	0.80	ND
PCB 153	0.80	ND	0.80	ND
PCB 170	0.80	ND	0.80	ND
PCB 180	0.80	ND	0.80	ND
PCB 183	0.80	ND	0.80	ND
PCB 184	0.80	ND	0.80	ND
PCB 187	0.80	ND	0.80	ND
PCB 195	0.80	ND	0.80	ND
PCB 206	0.80	ND	0.80	ND
PCB 209	0.80	ND	0.80	ND
Total PCB		ND		ND

ND = Not detected

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

Total PCB = sum of congeners x 2

SUPPLEMENTAL PUBLIC NOTICE NAN-2016-00908-A-EHA

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

Northeast Supply Enhancement Project – Raritan Bay Loop

CONSTITUENTS	PRISM G SITE WATER		PRISM G ELUTRIATE	
	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION
Metals	ppb (ug/L)	ppb (ug/L)	ppb (ug/L)	ppb (ug/L)
Ag	0.4	ND	0.4	ND
Cd	0.2	ND	0.2	ND
Cr	0.32	ND	0.32	ND
Cu	1	ND	1	ND
Hg	0.05	ND	0.05	ND
Ni	0.8	ND		0.9
Pb	0.4	ND	0.4	ND
Zn	4	ND	4	ND
Pesticides	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)
Aldrin	2.0	ND	2.0	ND
a-Chlordane	2.0	ND	2.0	ND
trans Nonachlor	2.0	ND	2.0	ND
Diendrin	4.0	ND	4.0	ND
4,4'-DDT	4.0	ND	4.0	ND
2,4'-DDT	2.0	ND	2.0	ND
4,4'-DDD	4.0	ND	4.0	ND
2,4'-DDD		7.2		2.3
4,4'-DDE	4.0	ND	4.0	ND
2,4'-DDE	2.0	ND	2.0	ND
Total DDT		7.2		2.3
Endosulfan I	2.0	ND	2.0	ND
Endosulfan II	4.0	ND	4.0	ND
Endosulfan sulfate	4.0	ND	4.0	ND
Heptachlor	2.0	ND	2.0	ND
Heptachlor epoxide		2.6		3.0
Industrial Chemicals	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)
PCB 8	0.80	ND	0.80	ND
PCB 18	0.80	ND	0.80	ND
PCB 28	0.80	ND	0.80	ND
PCB 44	0.80	ND	0.80	ND
PCB 49	0.80	ND	0.80	ND
PCB 52	0.80	ND	0.80	ND
PCB 66	0.80	ND	0.80	ND
PCB 87	0.80	ND	0.80	ND
PCB 101	0.80	ND	0.80	ND
PCB 105	0.80	ND	0.80	ND
PCB 118	0.80	ND	0.80	ND
PCB 128	0.80	ND	0.80	ND
PCB 138	0.80	ND	0.80	ND
PCB 153	0.80	ND	0.80	ND
PCB 170	0.80	ND	0.80	ND
PCB 180	0.80	ND	0.80	ND
PCB 183	0.80	ND	0.80	ND
PCB 184	0.80	ND	0.80	ND
PCB 187	0.80	ND	0.80	ND
PCB 195	0.80	ND		9.0
PCB 206	0.80	ND	0.80	ND
PCB 209	0.80	ND	0.80	ND
Total PCB		ND		18

ND = Not detected

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

Total PCB = sum of congeners x 2

SUPPLEMENTAL PUBLIC NOTICE NAN-2016-00908-A-EHA

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

Northeast Supply Enhancement Project – Raritan Bay Loop

CONSTITUENTS	PRISM Fa SITE WATER		PRISM Fa ELUTRIATE	
	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION
Metals	ppb (ug/L)	ppb (ug/L)	ppb (ug/L)	ppb (ug/L)
Ag	0.4	ND	0.4	ND
Cd	0.2	ND	0.2	ND
Cr		0.37	0.32	ND
Cu		1.24	1	ND
Hg	0.05	ND	0.05	ND
Ni	0.8	ND		1.33
Pb	0.4	ND	0.4	ND
Zn	4	ND	4	ND
Pesticides	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)
Aldrin	2.0	ND	2.0	ND
α-Chlordane	2.0	ND	2.0	ND
trans Nonachlor	2.0	ND	2.0	ND
Diendrin	4.0	ND	4.0	ND
4,4'-DDT	4.0	ND	4.0	ND
2,4'-DDT	2.0	ND	2.0	ND
4,4'-DDD	4.0	ND	4.0	ND
2,4'-DDD	2.0	ND	2.0	ND
4,4'-DDE	4.0	ND	4.0	ND
2,4'-DDE	2.0	ND	2.0	ND
Total DDT		ND		ND
Endosulfan I	2.0	ND	2.0	ND
Endosulfan II	4.0	ND	4.0	ND
Endosulfan sulfate	4.0	ND	4.0	ND
Heptachlor	2.0	ND	2.0	ND
Heptachlor epoxide		6.0		12
Industrial Chemicals	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)
PCB 8	0.80	ND	0.80	ND
PCB 18	0.80	ND	0.80	ND
PCB 28	0.80	ND	0.80	ND
PCB 44	0.80	ND	0.80	ND
PCB 49	0.80	ND	0.80	ND
PCB 52	0.80	ND	0.80	ND
PCB 66	0.80	ND	0.80	ND
PCB 87	0.80	ND	0.80	ND
PCB 101	0.80	ND	0.80	ND
PCB 105	0.80	ND	0.80	ND
PCB 118	0.80	ND	0.80	ND
PCB 128	0.80	ND	0.80	ND
PCB 138	0.80	ND	0.80	ND
PCB 153	0.80	ND	0.80	ND
PCB 170	0.80	ND	0.80	ND
PCB 180	0.80	ND	0.80	ND
PCB 183	0.80	ND	0.80	ND
PCB 184	0.80	ND	0.80	ND
PCB 187	0.80	ND	0.80	ND
PCB 195	0.80	ND		9.5
PCB 206	0.80	ND	0.80	ND
PCB 209	0.80	ND	0.80	ND
Total PCB		ND		19

ND = Not detected

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

Total PCB = sum of congeners x 2

SUPPLEMENTAL PUBLIC NOTICE NAN-2016-00908-A-EHA

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

Northeast Supply Enhancement Project – Raritan Bay Loop

CONSTITUENTS	PRISM A2aU SITE WATER		PRISM A2aU ELUTRIATE	
	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION
Metals	ppb (ug/L)	ppb (ug/L)	ppb (ug/L)	ppb (ug/L)
Ag	0.4	ND	0.4	ND
Cd	0.2	ND	0.2	ND
Cr	0.32	ND	0.32	ND
Cu		1.07	1	ND
Hg	0.05	ND	0.05	ND
Ni	0.8	ND	0.8	ND
Pb	0.4	ND	0.4	ND
Zn	4	ND	4	ND
Pesticides	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)
Aldrin		2.4	2.0	ND
α-Chlordane	2.0	ND	2.0	ND
trans Nonachlor	2.0	ND	2.0	ND
Diendrin	4.0	ND	4.0	ND
4,4'-DDT	4.0	ND	4.0	ND
2,4'-DDT	2.0	ND	2.0	ND
4,4'-DDD	4.0	ND	4.0	ND
2,4'-DDD	2.0	ND	2.0	ND
4,4'-DDE		24	4.0	ND
2,4'-DDE	2.0	ND	2.0	ND
Total DDT		24		ND
Endosulfan I	2.0	ND	2.0	ND
Endosulfan II	4.0	ND	4.0	ND
Endosulfan sulfate	4.0	ND	4.0	ND
Heptachlor	2.0	ND	2.0	ND
Heptachlor epoxide	2.0	ND	2.0	ND
Industrial Chemicals	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)
PCB 8	0.80	ND	0.80	ND
PCB 18	0.80	ND	0.80	ND
PCB 28	0.80	ND	0.80	ND
PCB 44	0.80	ND	0.80	ND
PCB 49	0.80	ND	0.80	ND
PCB 52	0.80	ND		2.4
PCB 66	0.80	ND	0.80	ND
PCB 87	0.80	ND	0.80	ND
PCB 101	0.80	ND		2.2
PCB 105	0.80	ND	0.80	ND
PCB 118	0.80	ND	0.80	ND
PCB 128	0.80	ND	0.80	ND
PCB 138	0.80	ND	0.80	ND
PCB 153	0.80	ND	0.80	ND
PCB 170	0.80	ND	0.80	ND
PCB 180	0.80	ND	0.80	ND
PCB 183	0.80	ND	0.80	ND
PCB 184	0.80	ND	0.80	ND
PCB 187	0.80	ND	0.80	ND
PCB 195	0.80	ND	0.80	ND
PCB 206	0.80	ND	0.80	ND
PCB 209	0.80	ND	0.80	ND
Total PCB		ND		9.2

ND = Not detected

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

Total PCB = sum of congeners x 2

SUPPLEMENTAL PUBLIC NOTICE NAN-2016-00908-A-EHA

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

Northeast Supply Enhancement Project – Raritan Bay Loop

PRISM E1a SITE WATER				
PRISM E1a SITE WATER		PRISM E1a ELUTRIATE		
CONSTITUENTS	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION
Metals	ppb (ug/L)	ppb (ug/L)	ppb (ug/L)	ppb (ug/L)
Ag	0.4	ND	0.4	ND
Cd	0.2	ND	0.2	ND
Cr	0.32	ND		0.5
Cu		1.19	1	ND
Hg	0.05	ND	0.05	ND
Ni	0.8	ND	0.8	ND
Pb	0.4	ND	0.4	ND
Zn	4	ND		15.9
Pesticides	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)
Aldrin	2.0	ND		4.6
a-Chlordane	2.0	ND	2.0	ND
trans Nonachlor	2.0	ND	2.0	ND
Diendrin	4.0	ND	4.0	ND
4,4'-DDT	4.0	ND	4.0	ND
2,4'-DDT	2.0	ND	2.0	ND
4,4'-DDD	4.0	ND	4.0	ND
2,4'-DDD	2.0	ND	2.0	ND
4,4'-DDE	4.0	ND	4.0	ND
2,4'-DDE	2.0	ND	2.0	ND
Total DDT		ND		ND
Endosulfan I	2.0	ND	2.0	ND
Endosulfan II	4.0	ND	4.0	ND
Endosulfan sulfate	4.0	ND	4.0	ND
Heptachlor	2.0	ND	2.0	ND
Heptachlor epoxide	2.0	ND	2.0	ND
Industrial Chemicals	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)
PCB 8	0.80	ND	0.80	ND
PCB 18	0.80	ND	0.80	ND
PCB 28	0.80	ND	0.80	ND
PCB 44	0.80	ND	0.80	ND
PCB 49	0.80	ND	0.80	ND
PCB 52	0.80	NO	0.80	ND
PCB 66	0.80	ND	0.80	ND
PCB 87	0.80	ND	0.80	ND
PCB 101	0.80	ND	0.80	ND
PCB 105	0.80	ND	0.80	ND
PCB 118	0.80	ND	0.80	ND
PCB 128	0.80	ND	0.80	ND
PCB 138	0.80	ND	0.80	ND
PCB 153	0.80	ND	0.80	ND
PCB 170	0.80	ND	0.80	ND
PCB 180	0.80	ND	0.80	ND
PCB 183	0.80	ND	0.80	ND
PCB 184	0.80	ND	0.80	ND
PCB 187	0.80	ND	0.80	ND
PCB 195	0.80	ND	0.80	ND
PCB 206	0.80	ND	0.80	ND
PCB 209	0.80	ND	0.80	ND
Total PCB		ND		ND

ND = Not detected

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

Total PCB = sum of congeners x 2

SUPPLEMENTAL PUBLIC NOTICE NAN-2016-00908-A-EHA

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

Northeast Supply Enhancement Project -- Raritan Bay Loop

CONSTITUENTS	PRISM E2a SITE WATER		PRISM E2a ELUTRIATE	
	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION
Metals	ppb (ug/L)	ppb (ug/L)	ppb (ug/L)	ppb (ug/L)
Ag	0.4	ND	0.4	ND
Cd	0.2	ND	0.2	ND
Cr	0.32	ND		0.53
Cu		1.3	1	ND
Hg	0.05	ND	0.05	ND
Ni	0.8	ND	0.8	ND
Pb	0.4	ND	0.4	ND
Zn	4	ND		8.54
Pesticides	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)
Aldrin	2.0	ND	2.0	ND
α-Chlordane	2.0	ND	2.0	ND
trans Nonachlor	2.0	ND	2.0	ND
Diendrin	4.0	ND	4.0	ND
4,4'-DDT	4.0	ND	4.0	ND
2,4'-DDT	2.0	ND	2.0	ND
4,4'-DDD	4.0	ND	4.0	ND
2,4'-DDD	2.0	ND	2.0	ND
4,4'-DDE	4.0	ND	4.0	ND
2,4'-DDE	2.0	ND	2.0	ND
Total DDT		ND		ND
Endosulfan I	2.0	ND	2.0	ND
Endosulfan II	4.0	ND	4.0	ND
Endosulfan sulfate	4.0	ND	4.0	ND
Heptachlor	2.0	ND	2.0	ND
Heptachlor epoxide	2.0	ND	2.0	ND
Industrial Chemicals	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)
PCB 8	0.80	ND	0.80	ND
PCB 18	0.80	ND	0.80	ND
PCB 28	0.80	ND	0.80	ND
PCB 44	0.80	ND	0.80	ND
PCB 49	0.80	ND	0.80	ND
PCB 52	0.80	ND	0.80	ND
PCB 66	0.80	ND	0.80	ND
PCB 87	0.80	ND	0.80	ND
PCB 101	0.80	ND	0.80	ND
PCB 105	0.80	ND	0.80	ND
PCB 118	0.80	ND	0.80	ND
PCB 128	0.80	ND	0.80	ND
PCB 138	0.80	ND	0.80	ND
PCB 153	0.80	ND	0.80	ND
PCB 170	0.80	ND	0.80	ND
PCB 180	0.80	ND	0.80	ND
PCB 183	0.80	ND	0.80	ND
PCB 184	0.80	ND	0.80	ND
PCB 187	0.80	ND	0.80	ND
PCB 195	0.80	ND	0.80	ND
PCB 206	0.80	ND	0.80	ND
PCB 209	0.80	ND	0.80	ND
Total PCB		ND		ND

ND = Not detected

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

Total PCB = sum of congeners x 2

SUPPLEMENTAL PUBLIC NOTICE NAN-2016-00908-A-EHA

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

Northeast Supply Enhancement Project – Raritan Bay Loop

CONSTITUENTS	PRISM A2aL SITE WATER		PRISM A2aL ELUTRIATE	
	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION
Metals	ppb (ug/L)	ppb (ug/L)	ppb (ug/L)	ppb (ug/L)
Ag	0.4	ND	0.4	ND
Cd	0.2	ND	0.2	ND
Cr	0.32	ND	0.32	ND
Cu	1	ND	1	ND
Hg	0.05	ND	0.05	ND
Ni	0.8	ND		8.23
Pb	0.4	ND	0.4	ND
Zn		15.3		7.91
Pesticides	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)
Aldrin	2.0	ND	2.0	ND
α-Chlordane	2.0	ND	2.0	ND
Trans Nonachlor	2.0	ND	2.0	ND
Diendrin	4.0	ND	4.0	ND
4,4'-DDT	4.0	ND	4.0	ND
2,4'-DDT	2.0	ND	2.0	ND
4,4'-DDD	4.0	ND	4.0	ND
2,4'-DDD	2.0	ND	2.0	ND
4,4'-DDE	4.0	ND	4.0	ND
2,4'-DDE	2.0	ND	2.0	ND
Total DDT		ND		ND
Endosulfan I	2.0	ND	2.0	ND
Endosulfan II	4.0	ND	4.0	ND
Endosulfan sulfate	4.0	ND	4.0	ND
Heptachlor	2.0	ND	2.0	ND
Heptachlor epoxide	2.0	ND	2.0	ND
Industrial Chemicals	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)	pptr (ng/L)
PCB 8	0.80	ND	0.80	ND
PCB 18	0.80	ND	0.80	ND
PCB 28	0.80	ND	0.80	ND
PCB 44	0.80	ND	0.80	ND
PCB 49	0.80	ND	0.80	ND
PCB 52	0.80	ND	0.80	ND
PCB 66	0.80	ND	0.80	ND
PCB 87	0.80	ND	0.80	ND
PCB 101	0.80	ND	0.80	ND
PCB 105	0.80	ND	0.80	ND
PCB 118	0.80	ND	0.80	ND
PCB 128	0.80	ND	0.80	ND
PCB 138	0.80	ND	0.80	ND
PCB 153	0.80	ND	0.80	ND
PCB 170	0.80	ND	0.80	ND
PCB 180	0.80	ND	0.80	ND
PCB 183	0.80	ND	0.80	ND
PCB 184	0.80	ND	0.80	ND
PCB 187	0.80	ND	0.80	ND
PCB 195	0.80	ND	0.80	ND
PCB 206	0.80	ND	0.80	ND
PCB 209	0.80	ND	0.80	ND
Total PCB		ND		ND

ND = Not detected

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

Total PCB = sum of congeners x 2

SUPPLEMENTAL PUBLIC NOTICE NAN-2016-00908-A-EHA

Table 2

TOXICITY TEST RESULTS

Prism C

Northeast Supply Enhancement Project - Raritan Bay Loop - NAN-2016-00908-EHA

Suspended Particulate Phase

Test Species	Test Duration	LC ₅₀ /EC ₅₀	LPC (a)
<i>Menidia beryllina</i>	96 hours	(b) >100%	>1
<i>Americamysis bahia</i>	96 hours	(b) >100%	>1
<i>Mytilus galloprovincialis</i> (larval survival)	48 hours	(b) 65%	0.65
<i>Mytilus galloprovincialis</i> (larval normal development)	48 hours	(c) 65%	0.65

(a) Limiting Permissible Concentration (LPC) is the LC₅₀ or EC₅₀ multiplied by 0.01.

(b) Median Lethal Concentration (LC₅₀) resulting in mortality in 50% of organisms at test termination

(c) Median Effective Concentration (EC₅₀) 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)
<i>Ampelisca abdita</i>	88	90	-2.0	No
<i>Americamysis bahia</i>	92	95	-3.0	No

SUPPLEMENTAL PUBLIC NOTICE NAN-2016-00908-A-EHA

Table 2

TOXICITY TEST RESULTS

Prism D

Northeast Supply Enhancement Project - Raritan Bay Loop - NAN-2016-00908-EHA

Suspended Particulate Phase

Test Species	Test Duration	LC ₅₀ /EC ₅₀	LPC (a)
<i>Menidia beryllina</i>	96 hours	(b) >100%	>1
<i>Americamysis bahia</i>	96 hours	(b) >100%	>1
<i>Mytilus galloprovincialis</i> (larval survival)	48 hours	(b) 71%	0.71
<i>Mytilus galloprovincialis</i> (larval normal development)	48 hours	(c) 67%	0.67

(a) Limiting Permissible Concentration (LPC) is the LC₅₀ or EC₅₀ multiplied by 0.01.

(b) Median Lethal Concentration (LC50) resulting in mortality in 50% of organisms at test termination

(c) Median Effective Concentration (EC₅₀) 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)
<i>Ampelisca abdita</i>	88	95	-7.0	No
<i>Americamysis bahia</i>	92	97	-5.0	No

SUPPLEMENTAL PUBLIC NOTICE NAN-2016-00908-A-EHA

Table 2

TOXICITY TEST RESULTS

Prism A1

Northeast Supply Enhancement Project - Raritan Bay Loop - NAN-2016-00908-EHA

Suspended Particulate Phase

Test Species	Test Duration	LC ₅₀ /EC ₅₀	LPC (a)
<i>Menidia beryllina</i>	96 hours	(b) >100%	>1
<i>Americamysis bahia</i>	96 hours	(b) >100%	>1
<i>Mytilus galloprovincialis</i> (larval survival)	48 hours	(b) >100%	>1
<i>Mytilus galloprovincialis</i> (larval normal development)	48 hours	(c) >100%	>1

(a) Limiting Permissible Concentration (LPC) is the LC₅₀ or EC₅₀ multiplied by 0.01.

(b) Median Lethal Concentration (LC₅₀) resulting in mortality in 50% of organisms at test termination

(c) Median Effective Concentration (EC₅₀) 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? (α=0.05)
<i>Ampelisca abdita</i>	88	90	-2.0	No
<i>Americamysis bahia</i>	92	93	-1.0	No

SUPPLEMENTAL PUBLIC NOTICE NAN-2016-00908-A-EHA

Table 2

TOXICITY TEST RESULTS

Prism G

Northeast Supply Enhancement Project - Raritan Bay Loop - NAN-2016-00908-EHA

Suspended Particulate Phase

Test Species	Test Duration	LC ₅₀ /EC ₅₀	LPC (a)
<i>Menidia beryllina</i>	96 hours	(b) >100%	>1
<i>Americamysis bahia</i>	96 hours	(b) >100%	>1
<i>Mytilus galloprovincialis</i> (larval survival)	48 hours	(b) 52%	0.52
<i>Mytilus galloprovincialis</i> (larval normal development)	48 hours	(c) 50%	0.5

(a) Limiting Permissible Concentration (LPC) is the LC₅₀ or EC₅₀ multiplied by 0.01.

(b) Median Lethal Concentration (LC₅₀) resulting in mortality in 50% of organisms at test termination

(c) Median Effective Concentration (EC₅₀) 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? (α=0.05)
<i>Ampelisca abdita</i>	88	85	3.0	No
<i>Americamysis bahia</i>	92	93	-1.0	No

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Table 2

TOXICITY TEST RESULTS

Prism A2aU

Northeast Supply Enhancement Project - Raritan Bay Loop - NAN-2016-00908-EHA

Suspended Particulate Phase

Test Species	Test Duration	LC ₅₀ /EC ₅₀	LPC (a)
<i>Menidia beryllina</i>	96 hours	(b) >100%	>1
<i>Americamysis bahia</i>	96 hours	(b) >100%	>1
<i>Mytilus galloprovincialis</i> (larval survival)	48 hours	(b) >100%	>1
<i>Mytilus galloprovincialis</i> (larval normal development)	48 hours	(c) 96%	0.96

(a) Limiting Permissible Concentration (LPC) is the LC₅₀ or EC₅₀ multiplied by 0.01.

(b) Median Lethal Concentration (LC50) resulting in mortality in 50% of organisms at test termination

(c) Median Effective Concentration (EC₅₀) 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? (α=0.05)
<i>Ampelisca abdita</i>	88	70	18	Yes
<i>Americamysis bahia</i>	92	91	1.0	No

SUPPLEMENTAL PUBLIC NOTICE NAN-2016-00908-A-EHA

Table 2

TOXICITY TEST RESULTS

Prism Fa

Northeast Supply Enhancement Project - Raritan Bay Loop - NAN-2016-00908-EHA

Suspended Particulate Phase

Test Species	Test Duration	LC ₅₀ /EC ₅₀	LPC (a)
<i>Menidia beryllina</i>	96 hours	(b) >100%	>1
<i>Americamysis bahia</i>	96 hours	(b) >100%	>1
<i>Mytilus galloprovincialis</i> (larval survival)	48 hours	(b) >100%	>1
<i>Mytilus galloprovincialis</i> (larval normal development)	48 hours	(c) >100%	>1

(a) Limiting Permissible Concentration (LPC) is the LC₅₀ or EC₅₀ multiplied by 0.01.

(b) Median Lethal Concentration (LC₅₀) resulting in mortality in 50% of organisms at test termination

(c) Median Effective Concentration (EC₅₀) 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)
<i>Ampelisca abdita</i>	88	97	-9.0	No
<i>Americamysis bahia</i>	92	93	-1.0	No

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Table 2

TOXICITY TEST RESULTS

Prism E1a

Northeast Supply Enhancement Project - Raritan Bay Loop - NAN-2016-00908-EHA

Suspended Particulate Phase

Test Species	Test Duration	LC ₅₀ /EC ₅₀	LPC (a)
<i>Menidia beryllina</i>	96 hours	(b) >100%	>1
<i>Americamysis bahia</i>	96 hours	(b) >100%	>1
<i>Mytilus galloprovincialis</i> (larval survival)	48 hours	(b) 32%	0.32
<i>Mytilus galloprovincialis</i> (larval normal development)	48 hours	(c) 17%	0.17

(a) Limiting Permissible Concentration (LPC) is the LC₅₀ or EC₅₀ multiplied by 0.01.

(b) Median Lethal Concentration (LC50) resulting in mortality in 50% of organisms at test termination

(c) Median Effective Concentration (EC₅₀) 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? (α=0.05)
<i>Ampelisca abdita</i>	87	78	9.0	No
<i>Americamysis bahia</i>	99	97	2.0	No

SUPPLEMENTAL PUBLIC NOTICE NAN-2016-00908-A-EHA

Table 2

TOXICITY TEST RESULTS

Prism E2a

Northeast Supply Enhancement Project - Raritan Bay Loop - NAN-2016-00908-EHA

Suspended Particulate Phase

Test Species	Test Duration	LC ₅₀ /EC ₅₀	LPC (a)
<i>Menidia beryllina</i>	96 hours	(b) >100%	>1
<i>Americamysis bahia</i>	96 hours	(b) >100%	>1
<i>Mytilus galloprovincialis</i> (larval survival)	48 hours	(b) 31%	0.31
<i>Mytilus galloprovincialis</i> (larval normal development)	48 hours	(c) 18%	0.18

(a) Limiting Permissible Concentration (LPC) is the LC₅₀ or EC₅₀ multiplied by 0.01.

(b) Median Lethal Concentration (LC50) resulting in mortality in 50% of organisms at test termination

(c) Median Effective Concentration (EC₅₀) 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? (α=0.05)
<i>Ampelisca abdita</i>	87	85	2.0	No
<i>Americamysis bahia</i>	99	96	3.0	No

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Table 2

TOXICITY TEST RESULTS

Prism A2aL

Northeast Supply Enhancement Project - Raritan Bay Loop - NAN-2016-00908-EHA

Suspended Particulate Phase

Test Species	Test Duration	LC ₅₀ /EC ₅₀	LPC (a)
<i>Menidia beryllina</i>	96 hours	(b) >100%	>1
<i>Americamysis bahia</i>	96 hours	(b) >100%	>1
<i>Mytilus galloprovincialis</i> (larval survival)	48 hours	(b) >100%	>1
<i>Mytilus galloprovincialis</i> (larval normal development)	48 hours	(c) >100%	>1

(a) Limiting Permissible Concentration (LPC) is the LC₅₀ or EC₅₀ multiplied by 0.01.

(b) Median Lethal Concentration (LC₅₀) resulting in mortality in 50% of organisms at test termination

(c) Median Effective Concentration (EC₅₀) 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? (α=0.05)
<i>Ampelisca abdita</i>	87	80	7.0	No
<i>Americamysis bahia</i>	99	96	3.0	No

SUPPLEMENTAL PUBLIC NOTICE NAN-2016-00908-A-EHA

TABLE 3. 28 DAY BIOACCUMULATION TEST RESULTS: CHEMICAL ANALYSIS OF TISSUE

Wet weight concentrations

Northeast Supply Enhancement Project - Raritan Bay Loop - NAN-2016-00908-EHA

Prism C

CONSTITUENTS	<i>Macoma nasuta</i>				<i>Nereis virens</i>			
	REFERENCE		TEST		REFERENCE		TEST	
	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)
Arsenic		1.89		2.03		1.89		1.88
Cadmium		0.0235		0.0281		0.0358		0.0384
Chromium		0.369		0.256		0.150		0.0757
Copper		1.55		1.61		1.27		1.15
Lead		0.162		* 0.273		0.123		0.212
Mercury		0.0106		0.0114		0.0206		0.0228
Nickel		0.447		0.496		0.200		0.201
Silver		0.0261		0.0233		0.0284		0.0191
Zinc		12.4		13.2		16.5		22.0
Pesticides	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)
Aldrin	0.14	ND	0.14	ND	0.14	ND	0.14	ND
Dieldrin	0.29	ND	0.29	ND	0.36	ND	0.40	ND
a-Chlordane	0.20	ND	0.20	ND	0.20	ND	0.20	ND
Trans nonachlor	0.20	ND	0.20	ND	0.24	ND	0.20	ND
Heptachlor		0.15	0.20	ND	0.18	ND	0.20	ND
Heptachlor epoxide	0.20	ND	0.20	ND	0.20	ND	0.20	ND
Endosulfan I	0.14	ND	0.14	ND		0.54	0.14	ND
Endosulfan II	0.29	ND	0.29	ND	0.29	ND	0.29	ND
Endosulfan sulfate	0.29	ND	0.29	ND	0.29	ND	0.29	ND
4,4'-DDT	0.40	ND	0.40	ND	0.40	ND	0.40	ND
2,4'-DDT	0.20	ND		0.22	0.20	ND	0.20	ND
4,4'-DDD	0.40	ND	0.40	ND	0.40	ND	0.40	ND
2,4'-DDD	0.20	ND	0.20	ND	0.20	ND	0.20	ND
4,4'-DDE	0.40	ND	0.40	ND	0.40	ND	0.40	ND
2,4'-DDE	0.20	ND		0.24	0.20	ND	0.20	ND
Total DDT		ND		1.16		ND		ND
Industrial Chemicals		ppb (µg/kg)		ppb (µg/kg)		ppb (µg/kg)		ppb (µg/kg)
PCB 8	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 18	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 28	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 44	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 49	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 52	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 66	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 87	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 101	0.25	ND	0.25	ND		0.23		0.22
PCB 105	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 118	0.25	ND	0.25	ND	0.25	ND	0.25	ND
PCB 128	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 138	0.25	ND	0.25	ND		0.90		0.66
PCB 153	0.25	ND	0.25	ND		1.2		1.2
PCB 170	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 180	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 183	0.25	ND	0.25	ND		0.18	0.25	ND
PCB 184	0.25	ND	0.25	ND	0.31	ND	0.25	ND

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TABLE 3. 28 DAY BIOACCUMULATION TEST RESULTS: CHEMICAL ANALYSIS OF TISSUE

Wet weight concentrations

Northeast Supply Enhancement Project - Raritan Bay Loop - NAN-2016-00908-EHA

Prism C

CONSTITUENTS	<i>Macoma nasuta</i>				<i>Nereis virens</i>			
	REFERENCE		TEST		REFERENCE		TEST	
	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION
PCB 187	0.25	ND	0.25	ND		0.36		0.52
PCB 195	0.25	ND	0.25	ND	0.25	ND	0.25	ND
PCB 206	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 209	0.25	ND	0.25	ND	0.31	ND	0.25	ND
Total PCB		ND		ND		10.89		9.70
1,4-Dichlorobenzene	2000	ND	2000	ND	2000	ND	2000	ND
PAH's		ppb (µg/kg)		ppb (µg/kg)		ppb (µg/kg)		ppb (µg/kg)
Acenaphthene	50	ND	50	ND	50	ND	50	ND
Acenaphthylene	50	ND	50	ND	50	ND	50	ND
Anthracene	50	ND	50	ND	50	ND	50	ND
Fluorene	50	ND	50	ND	50	ND	50	ND
Naphthalene	50	ND	50	ND	50	ND	50	ND
Phenanthrene		47		38	50	ND	50	ND
Benzo(a)anthracene	50	ND	50	ND	50	ND	50	ND
Benzo(a)pyrene	50	ND	50	ND	50	ND	50	ND
Benzo(g,h,i)perylene	50	ND	50	ND	50	ND	50	ND
Benzo(b)fluoranthene	50	ND	50	ND	50	ND	50	ND
Benzo(k)fluoranthene	50	ND	50	ND	50	ND	50	ND
Chrysene	50	ND	50	ND	50	ND	50	ND
Dibenz(a,h)anthracene	50	ND	50	ND	50	ND	50	ND
Fluoranthene	50	ND	50	ND	50	ND	50	ND
Indeno(1,2,3-cd)pyrene	50	ND	50	ND	50	ND	50	ND
Pyrene	50	ND	50	ND	50	ND	50	ND
Total PAH's		422		413		ND		ND
Dioxins/Furans		pptr (ng/kg)		pptr (ng/kg)		pptr (ng/kg)		pptr (ng/kg)
2378 TCDD	0.195	ND	0.197	ND	0.198	ND	0.196	ND
12378 PeCDD	0.975	ND	0.986	ND	0.990	ND	0.981	ND
123478 HxCDD	0.975	ND	0.986	ND	0.990	ND	0.981	ND
123678 HxCDD	0.975	ND	0.986	ND		0.446		0.420
123789 HxCDD	0.975	ND		0.340		0.451		0.338
1234678 HpCDD	0.975	ND		0.377		0.685		0.623
1234789 OCDD		1.05	*	9.39		2.77	*	4.58
2378 TCDF	0.195	ND	0.197	ND		0.929		0.581
12378 PeCDF	0.975	ND	0.986	ND		0.435		0.411
23478 PeCDF	0.975	ND	0.986	ND		0.451		0.358
123478 HxCDF	0.975	ND	0.986	ND		0.431	0.981	ND
123678 HxCDF	0.975	ND	0.986	ND		0.419	0.981	ND
123789 HxCDF	0.975	ND	0.986	ND	0.990	ND	0.981	ND
234678 HxCDF	0.975	ND	0.986	ND		0.427	0.981	ND
1234678 HpCDF	0.975	ND	0.986	ND		0.505		0.269
1234789 HpCDF	0.975	ND	0.986	ND	0.990	ND	0.981	ND
12346789 OCDF	1.95	ND		0.852		0.892		0.818

ND = Not detected

Total PAH = Sum of all PAH's

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

Total PCB = Sum of congeners reported x 2

Concentrations shown are the mean of 5 replicate analyses in wet weight.

Means were determined using conservative estimates of concentrations of constituents that were at concentrations below the detection limit.

*= Statistically significant at the 95% confidence level

SUPPLEMENTAL PUBLIC NOTICE NAN-2016-00908-A-EHA

TABLE 3. 28 DAY BIOACCUMULATION TEST RESULTS: CHEMICAL ANALYSIS OF TISSUE

Wet weight concentrations

Northeast Supply Enhancement Project - Raritan Bay Loop - NAN-2016-00908-EHA

Prism D

CONSTITUENTS	<i>Macoma nasuta</i>				<i>Nereis virens</i>			
	REFERENCE		TEST		REFERENCE		TEST	
	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)
Arsenic		1.89		1.93		1.89		1.67
Cadmium		0.0235		0.0281		0.0358		0.0357
Chromium		0.369		0.299		0.150		0.109
Copper		1.55		1.73		1.27		1.33
Lead		0.162		* 0.355		0.123		0.133
Mercury		0.0106		0.00990		0.0206		0.0212
Nickel		0.447		0.507		0.200		0.237
Silver		0.0261		0.0248		0.0284		0.0208
Zinc		12.4		12.7		16.5		15.5
Pesticides	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)
Aldrin	0.14	ND	0.14	ND	0.14	ND	0.14	ND
Dieldrin	0.29	ND	0.29	ND	0.36	ND	0.40	ND
a-Chlordane	0.20	ND	0.20	ND	0.20	ND	0.20	ND
Trans nonachlor	0.20	ND	0.20	ND	0.24	ND	0.20	ND
Heptachlor		0.15	0.20	ND	0.18	ND	0.20	ND
Heptachlor epoxide	0.20	ND	0.20	ND	0.20	ND	0.20	ND
Endosulfan I	0.14	ND	0.14	ND		0.54	0.14	ND
Endosulfan II	0.29	ND	0.29	ND	0.29	ND	0.29	ND
Endosulfan sulfate	0.29	ND	0.29	ND	0.29	ND	0.29	ND
4,4'-DDT	0.40	ND	0.40	ND	0.40	ND	0.40	ND
2,4'-DDT	0.20	ND		0.13	0.20	ND	0.20	ND
4,4'-DDD	0.40	ND	0.40	ND	0.40	ND	0.40	ND
2,4'-DDD	0.20	ND	0.20	ND	0.20	ND	0.20	ND
4,4'-DDE	0.40	ND	0.40	ND	0.40	ND	0.40	ND
2,4'-DDE	0.20	ND	0.20	ND	0.20	ND	0.20	ND
Total DDT		ND		0.93		ND		ND
Industrial Chemicals		ppb (µg/kg)		ppb (µg/kg)		ppb (µg/kg)		ppb (µg/kg)
PCB 8	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 18	0.25	ND	0.25	ND	0.31	ND		0.16
PCB 28	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 44	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 49	0.25	ND		0.16	0.31	ND		0.17
PCB 52	0.25	ND		0.26	0.31	ND		0.48
PCB 66	0.25	ND	0.25	ND	0.31	ND		0.15
PCB 87	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 101	0.25	ND		0.22		0.23		* 0.53
PCB 105	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 118	0.25	ND	0.25	ND	0.25	ND		0.16
PCB 128	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 138	0.25	ND	0.25	ND		0.90		0.87
PCB 153	0.25	ND	0.25	ND		1.2		1.0
PCB 170	0.25	ND		0.48	0.31	ND	0.25	ND
PCB 180	0.25	ND	0.25	ND	0.31	ND		0.24
PCB 183	0.25	ND	0.25	ND		0.18	0.25	ND
PCB 184	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 187	0.25	ND	0.25	ND		0.36		0.51

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TABLE 3. 28 DAY BIOACCUMULATION TEST RESULTS: CHEMICAL ANALYSIS OF TISSUE

Wet weight concentrations

Northeast Supply Enhancement Project - Raritan Bay Loop - NAN-2016-00908-EHA

Prism D

CONSTITUENTS	<i>Macoma nasuta</i>				<i>Nereis virens</i>			
	REFERENCE		TEST		REFERENCE		TEST	
	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION
PCB 195	0.25	ND		0.29	0.25	ND	0.25	ND
PCB 206	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 209	0.25	ND	0.25	ND	0.31	ND	0.25	ND
Total PCB		ND		7.07		10.89		11.54
1,4-Dichlorobenzene	2000	ND	2000	ND	2000	ND	2000	ND
PAH's		ppb (µg/kg)		ppb (µg/kg)		ppb (µg/kg)		ppb (µg/kg)
Acenaphthene	50	ND	50	ND	50	ND	50	ND
Acenaphthylene	50	ND	50	ND	50	ND	50	ND
Anthracene	50	ND	50	ND	50	ND	50	ND
Fluorene	50	ND	50	ND	50	ND	50	ND
Naphthalene	50	ND	50	ND	50	ND	50	ND
Phenanthrene		47	50	ND	50	ND	50	ND
Benzo(a)anthracene	50	ND	50	ND	50	ND	50	ND
Benzo(a)pyrene	50	ND	50	ND	50	ND	50	ND
Benzo(g,h,i)perylene	50	ND	50	ND	50	ND	50	ND
Benzo(b)fluoranthene	50	ND	50	ND	50	ND	50	ND
Benzo(k)fluoranthene	50	ND	50	ND	50	ND	50	ND
Chrysene	50	ND	50	ND	50	ND	50	ND
Dibenz(a,h)anthracene	50	ND	50	ND	50	ND	50	ND
Fluoranthene	50	ND	50	ND	50	ND	50	ND
Indeno(1,2,3-cd)pyrene	50	ND	50	ND	50	ND	50	ND
Pyrene	50	ND	50	ND	50	ND	50	ND
Total PAH's		422		ND		ND		ND
Dioxins/Furans		pptr (ng/kg)		pptr (ng/kg)		pptr (ng/kg)		pptr (ng/kg)
2378 TCDD	0.195	ND	0.196	ND	0.198	ND	0.199	ND
12378 PeCDD	0.975	ND	0.982	ND	0.990	ND	0.994	ND
123478 HxCDD	0.975	ND	0.982	ND	0.990	ND	0.994	ND
123678 HxCDD	0.975	ND		0.412		0.446		0.432
123789 HxCDD	0.975	ND		0.213		0.451		0.412
1234678 HpCDD	0.975	ND		0.477		0.685		0.604
1234789 OCDD		1.05	*	6.30		2.77		2.78
2378 TCDF	0.195	ND	*	0.128		0.929		0.597
12378 PeCDF	0.975	ND	0.982	ND		0.435		0.350
23478 PeCDF	0.975	ND	0.982	ND		0.451		0.368
123478 HxCDF	0.975	ND	0.982	ND		0.431	0.994	ND
123678 HxCDF	0.975	ND	0.982	ND		0.419	0.994	ND
123789 HxCDF	0.975	ND	0.982	ND	0.990	ND	0.994	ND
234678 HxCDF	0.975	ND	0.982	ND		0.427	0.994	ND
1234678 HpCDF	0.975	ND		0.283		0.505		0.310
1234789 HpCDF	0.975	ND	0.982	ND	0.990	ND	0.994	ND
12346789 OCDF	1.95	ND	1.96	ND		0.892	1.99	ND

ND = Not detected

Total PAH = Sum of all PAH's

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

Total PCB = Sum of congeners reported x 2

Concentrations shown are the mean of 5 replicate analyses in wet weight.

Means were determined using conservative estimates of concentrations of constituents that were at concentrations below the detection limit.

*= Statistically significant at the 95% confidence level

SUPPLEMENTAL PUBLIC NOTICE NAN-2016-00908-A-EHA

TABLE 3. 28 DAY BIOACCUMULATION TEST RESULTS: CHEMICAL ANALYSIS OF TISSUE

Wet weight concentrations

Northeast Supply Enhancement Project - Raritan Bay Loop - NAN-2016-00908-EHA

Prism A1

CONSTITUENTS	<i>Macoma nasuta</i>				<i>Nereis virens</i>			
	REFERENCE		TEST		REFERENCE		TEST	
	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)
Arsenic		1.89		1.76		1.89		1.79
Cadmium		0.0235		0.0249		0.0358		0.0386
Chromium		0.369		0.303		0.150		0.0726
Copper		1.55		1.77		1.27		1.19
Lead		0.162		* 0.218		0.123		0.110
Mercury		0.0106		0.00946		0.0206		0.0238
Nickel		0.447		0.481		0.200		0.226
Silver		0.0261		0.0163		0.0284		0.0177
Zinc		12.4		12.4		16.5		13.4
Pesticides	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)
Aldrin	0.14	ND	0.14	ND	0.14	ND	0.14	ND
Dieldrin	0.29	ND	0.29	ND	0.36	ND	0.40	ND
α-Chlordane	0.20	ND	0.20	ND	0.20	ND	0.20	ND
Trans nonachlor	0.20	ND	0.20	ND	0.24	ND	0.20	ND
Heptachlor		0.15	0.20	ND	0.18	ND	0.20	ND
Heptachlor epoxide	0.20	ND	0.20	ND	0.20	ND	0.20	ND
Endosulfan I	0.14	ND	0.14	ND		0.54		0.094
Endosulfan II	0.29	ND	0.29	ND	0.29	ND	0.29	ND
Endosulfan sulfate	0.29	ND	0.29	ND	0.29	ND	0.29	ND
4,4'-DDT	0.40	ND	0.40	ND	0.40	ND	0.40	ND
2,4'-DDT	0.20	ND	0.20	ND	0.20	ND	0.20	ND
4,4'-DDD	0.40	ND	0.40	ND	0.40	ND	0.40	ND
2,4'-DDD	0.20	ND	0.20	ND	0.20	ND	0.20	ND
4,4'-DDE	0.40	ND	0.40	ND	0.40	ND	0.40	ND
2,4'-DDE	0.20	ND	0.20	ND	0.20	ND	0.20	ND
Total DDT		ND		ND		ND		ND
Industrial Chemicals		ppb (µg/kg)		ppb (µg/kg)		ppb (µg/kg)		ppb (µg/kg)
PCB 8	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 18	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 28	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 44	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 49	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 52	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 66	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 87	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 101	0.25	ND	0.25	ND		0.23	0.25	ND
PCB 105	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 118	0.25	ND	0.25	ND	0.25	ND	0.25	ND
PCB 128	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 138	0.25	ND	0.25	ND		0.90		0.58
PCB 153	0.25	ND	0.25	ND		1.2		0.83
PCB 170	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 180	0.25	ND	0.25	ND	0.31	ND		0.22
PCB 183	0.25	ND	0.25	ND		0.18	0.25	ND
PCB 184	0.25	ND	0.25	ND	0.31	ND	0.25	ND

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TABLE 3. 28 DAY BIOACCUMULATION TEST RESULTS: CHEMICAL ANALYSIS OF TISSUE

Wet weight concentrations

Northeast Supply Enhancement Project - Raritan Bay Loop - NAN-2016-00908-EHA

Prism A1

CONSTITUENTS	<i>Macoma nasuta</i>				<i>Nereis virens</i>			
	REFERENCE		TEST		REFERENCE		TEST	
	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION
PCB 187	0.25	ND	0.25	ND		0.36		0.47
PCB 195	0.25	ND		0.22	0.25	ND	0.25	ND
PCB 206	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 209	0.25	ND	0.25	ND	0.31	ND	0.25	ND
Total PCB		ND		5.69		10.89		8.70
1,4-Dichlorobenzene	2000	ND	2000	ND	2000	ND	2000	ND
PAH's		ppb (µg/kg)		ppb (µg/kg)		ppb (µg/kg)		ppb (µg/kg)
Acenaphthene	50	ND	50	ND	50	ND	50	ND
Acenaphthylene	50	ND	50	ND	50	ND	50	ND
Anthracene	50	ND	50	ND	50	ND	50	ND
Fluorene	50	ND	50	ND	50	ND	50	ND
Naphthalene	50	ND	50	ND	50	ND	50	ND
Phenanthrene		47		28	50	ND	50	ND
Benzo(a)anthracene	50	ND	50	ND	50	ND	50	ND
Benzo(a)pyrene	50	ND	50	ND	50	ND	50	ND
Benzo(g,h,i)perylene	50	ND	50	ND	50	ND	50	ND
Benzo(b)fluoranthene	50	ND	50	ND	50	ND	50	ND
Benzo(k)fluoranthene	50	ND	50	ND	50	ND	50	ND
Chrysene	50	ND	50	ND	50	ND	50	ND
Dibenz(a,h)anthracene	50	ND	50	ND	50	ND	50	ND
Fluoranthene	50	ND	50	ND	50	ND	50	ND
Indeno(1,2,3-cd)pyrene	50	ND	50	ND	50	ND	50	ND
Pyrene	50	ND	50	ND	50	ND	50	ND
Total PAH's		422		403		ND		ND
Dioxins/Furans		pptr (ng/kg)		pptr (ng/kg)		pptr (ng/kg)		pptr (ng/kg)
2378 TCDD	0.195	ND	0.198	ND	0.198	ND	0.198	ND
12378 PeCDD	0.975	ND	0.993	ND	0.990	ND	0.990	ND
123478 HxCDD	0.975	ND	0.993	ND	0.990	ND	0.990	ND
123678 HxCDD	0.975	ND	0.993	ND		0.446	0.990	ND
123789 HxCDD	0.975	ND	0.993	ND		0.451	0.990	ND
1234678 HpCDD	0.975	ND	0.993	ND		0.685		0.549
1234789 OCDD		1.05	*	21.0		2.77	*	5.78
2378 TCDF	0.195	ND	0.198	ND		0.929		0.502
12378 PeCDF	0.975	ND	0.993	ND		0.435	0.990	ND
23478 PeCDF	0.975	ND	0.993	ND		0.451	0.990	ND
123478 HxCDF	0.975	ND	0.993	ND		0.431	0.990	ND
123678 HxCDF	0.975	ND	0.993	ND		0.419	0.990	ND
123789 HxCDF	0.975	ND	0.993	ND	0.990	ND	0.990	ND
234678 HxCDF	0.975	ND	0.993	ND		0.427	0.990	ND
1234678 HpCDF	0.975	ND	0.993	ND		0.505	0.990	ND
1234789 HpCDF	0.975	ND	0.993	ND	0.990	ND	0.990	ND
12346789 OCDF	1.95	ND	1.99	ND		0.892	1.98	ND

ND = Not detected

Total PAH = Sum of all PAH's

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

Total PCB = Sum of congeners reported x 2

Concentrations shown are the mean of 5 replicate analyses in wet weight.

Means were determined using conservative estimates of concentrations of constituents that were at concentrations below the detection limit.

*= Statistically significant at the 95% confidence level

SUPPLEMENTAL PUBLIC NOTICE NAN-2016-00908-A-EHA

TABLE 3. 28 DAY BIOACCUMULATION TEST RESULTS: CHEMICAL ANALYSIS OF TISSUE

Wet weight concentrations

Northeast Supply Enhancement Project - Raritan Bay Loop - NAN-2016-00908-EHA

Prism G

CONSTITUENTS	<i>Macoma nasuta</i>				<i>Nereis virens</i>			
	REFERENCE		TEST		REFERENCE		TEST	
	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)
Arsenic		1.89		1.98		1.89		1.89
Cadmium		0.0235		0.0234		0.0358		0.0370
Chromium		0.369		0.422		0.150		0.0971
Copper		1.55	*	2.76		1.27		1.44
Lead		0.162	*	0.794		0.123	*	0.173
Mercury		0.0106	*	0.0229		0.0206		0.0192
Nickel		0.447	*	0.569		0.200		0.209
Silver		0.0261		0.0205		0.0284		0.0134
Zinc		12.4		13.5		16.5		30.5
Pesticides	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)
Aldrin	0.14	ND	0.14	ND	0.14	ND	0.14	ND
Dieldrin	0.29	ND	0.29	ND	0.36	ND	0.40	ND
α-Chlordane	0.20	ND	0.20	ND	0.20	ND	0.20	ND
Trans nonachlor	0.20	ND	0.29	ND	0.24	ND	0.20	ND
Heptachlor		0.15	0.20	ND	0.18	ND		0.13
Heptachlor epoxide	0.20	ND	0.20	ND	0.20	ND	0.20	ND
Endosulfan I	0.14	ND	0.14	ND		0.54	0.14	ND
Endosulfan II	0.29	ND	0.29	ND	0.29	ND	0.29	ND
Endosulfan sulfate	0.29	ND	0.29	ND	0.29	ND	0.29	ND
4,4'-DDT	0.40	ND	0.40	ND	0.40	ND	0.40	ND
2,4'-DDT	0.20	ND	0.20	ND	0.20	ND	0.20	ND
4,4'-DDD	0.40	ND	0.40	ND	0.40	ND	0.40	ND
2,4'-DDD	0.20	ND	0.20	ND	0.20	ND	0.20	ND
4,4'-DDE	0.40	ND	0.40	ND	0.40	ND	0.40	ND
2,4'-DDE	0.20	ND	0.20	ND	0.20	ND	0.20	ND
Total DDT		ND		ND		ND		ND
Industrial Chemicals		ppb (µg/kg)		ppb (µg/kg)		ppb (µg/kg)		ppb (µg/kg)
PCB 8	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 18	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 28	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 44	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 49	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 52	0.25	ND		0.19	0.31	ND	0.25	ND
PCB 66	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 87	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 101	0.25	ND	0.25	ND		0.23		0.24
PCB 105	0.25	ND	*	0.71	0.31	ND	0.25	ND
PCB 118	0.25	ND	0.25	ND	0.25	ND	0.25	ND
PCB 128	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 138	0.25	ND	0.25	ND		0.90		0.73
PCB 153	0.25	ND	0.25	ND		1.2		1.2
PCB 170	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 180	0.25	ND	0.25	ND	0.31	ND	*	0.45
PCB 183	0.25	ND	0.25	ND		0.18	0.25	ND
PCB 184	0.25	ND	0.25	ND	0.31	ND	0.25	ND

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TABLE 3. 28 DAY BIOACCUMULATION TEST RESULTS: CHEMICAL ANALYSIS OF TISSUE

Wet weight concentrations

Northeast Supply Enhancement Project - Raritan Bay Loop - NAN-2016-00908-EHA

Prism G

CONSTITUENTS	<i>Macoma nasuta</i>				<i>Nereis virens</i>			
	REFERENCE		TEST		REFERENCE		TEST	
	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION
PCB 187	0.25	ND	0.25	ND		0.36		0.44
PCB 195	0.25	ND	0.25	ND	0.25	ND	0.25	ND
PCB 206	0.25	ND	0.25	ND	0.31	ND	*	0.30
PCB 209	0.25	ND	0.25	ND	0.31	ND	0.25	ND
Total PCB		ND	*	6.80		10.89		10.72
1,4-Dichlorobenzene	2000	ND	2000	ND	2000	ND	2000	ND
PAH's		ppb (µg/kg)		ppb (µg/kg)		ppb (µg/kg)		ppb (µg/kg)
Acenaphthene	50	ND	50	ND	50	ND	50	ND
Acenaphthylene	50	ND	50	ND	50	ND	50	ND
Anthracene	50	ND		29	50	ND	50	ND
Fluorene	50	ND	50	ND	50	ND	50	ND
Naphthalene	50	ND	50	ND	50	ND	50	ND
Phenanthrene		47	*	130	50	ND	*	55
Benzo(a)anthracene	50	ND	*	71	50	ND	50	ND
Benzo(a)pyrene	50	ND	50	ND	50	ND	50	ND
Benzo(g,h,i)perylene	50	ND	50	ND	50	ND	50	ND
Benzo(b)fluoranthene	50	ND	50	ND	50	ND	50	ND
Benzo(k)fluoranthene	50	ND	50	ND	50	ND	50	ND
Chrysene	50	ND	*	66	50	ND	50	ND
Dibenz(a,h)anthracene	50	ND	50	ND	50	ND	50	ND
Fluoranthene	50	ND	*	200	50	ND	*	84
Indeno(1,2,3-cd)pyrene	50	ND	50	ND	50	ND	50	ND
Pyrene	50	ND	*	190	50	ND	*	58
Total PAH's		422	*	936		ND	*	522
Dioxins/Furans		pptr (ng/kg)		pptr (ng/kg)		pptr (ng/kg)		pptr (ng/kg)
2378 TCDD	0.195	ND	0.197	ND	0.198	ND	0.198	ND
12378 PeCDD	0.975	ND	0.986	ND	0.990	ND	0.990	ND
123478 HxCDD	0.975	ND	0.986	ND	0.990	ND	0.990	ND
123678 HxCDD	0.975	ND	0.986	ND		0.446	0.990	ND
123789 HxCDD	0.975	ND	0.986	ND		0.451		0.457
1234678 HpCDD	0.975	ND	0.986	ND		0.685		0.504
1234789 OCDD		1.05	*	4.34		2.77		2.36
2378 TCDF	0.195	ND	0.197	ND		0.929		0.349
12378 PeCDF	0.975	ND	0.986	ND		0.435	0.990	ND
23478 PeCDF	0.975	ND	0.986	ND		0.451		0.433
123478 HxCDF	0.975	ND	0.986	ND		0.431	0.990	ND
123678 HxCDF	0.975	ND	0.986	ND		0.419	0.990	ND
123789 HxCDF	0.975	ND	0.986	ND	0.990	ND	0.990	ND
234678 HxCDF	0.975	ND	0.986	ND		0.427	0.990	ND
1234678 HpCDF	0.975	ND	0.986	ND		0.505		0.449
1234789 HpCDF	0.975	ND	0.986	ND	0.990	ND	0.990	ND
12346789 OCDF	1.95	ND	1.97	ND		0.892	1.98	ND

ND = Not detected

Total PAH = Sum of all PAH's

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

Total PCB = Sum of congeners reported x 2

Concentrations shown are the mean of 5 replicate analyses in wet weight.

Means were determined using conservative estimates of concentrations of constituents that were at concentrations below the detection limit.

*= Statistically significant at the 95% confidence level

SUPPLEMENTAL PUBLIC NOTICE NAN-2016-00908-A-EHA

TABLE 3. 28 DAY BIOACCUMULATION TEST RESULTS: CHEMICAL ANALYSIS OF TISSUE

Wet weight concentrations

Northeast Supply Enhancement Project - Raritan Bay Loop - NAN-2016-00908-EHA

Prism Fa

CONSTITUENTS	<i>Macoma nasuta</i>				<i>Nereis virens</i>			
	REFERENCE		TEST		REFERENCE		TEST	
	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)
Arsenic		1.89		* 2.20		1.89		1.55
Cadmium		0.0235		* 0.0330		0.0358		0.0358
Chromium		0.369		* 0.611		0.150		0.207
Copper		1.55		* 2.81		1.27		* 2.02
Lead		0.162		* 0.511		0.123		0.137
Mercury		0.0106		* 0.0142		0.0206		0.0230
Nickel		0.447		* 0.729		0.200		* 0.277
Silver		0.0261		0.0267		0.0284		0.0261
Zinc		12.4		* 15.1		16.5		24.7
Pesticides	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)
Aldrin	0.14	ND	0.14	ND	0.14	ND	0.14	ND
Dieldrin	0.29	ND	0.29	ND	0.36	ND	0.40	ND
α-Chlordane	0.20	ND	0.20	ND	0.20	ND	0.20	ND
Trans nonachlor	0.20	ND	0.29	ND	0.24	ND	0.20	ND
Heptachlor		0.15	0.20	ND	0.18	ND	0.20	ND
Heptachlor epoxide	0.20	ND	0.20	ND	0.20	ND	0.20	ND
Endosulfan I	0.14	ND	0.14	ND		0.54	0.14	ND
Endosulfan II	0.29	ND	0.29	ND	0.29	ND	0.29	ND
Endosulfan sulfate	0.29	ND	0.29	ND	0.29	ND	0.29	ND
4,4'-DDT	0.40	ND	0.40	ND	0.40	ND	0.40	ND
2,4'-DDT	0.20	ND	0.20	ND	0.20	ND	0.20	ND
4,4'-DDD	0.40	ND	0.40	ND	0.40	ND	0.40	ND
2,4'-DDD	0.20	ND	0.20	ND	0.20	ND	0.20	ND
4,4'-DDE	0.40	ND	0.40	ND	0.40	ND	0.40	ND
2,4'-DDE	0.20	ND	0.20	ND	0.20	ND	0.20	ND
Total DDT		ND		ND		ND		ND
Industrial Chemicals		ppb (µg/kg)		ppb (µg/kg)		ppb (µg/kg)		ppb (µg/kg)
PCB 8	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 18	0.25	ND		0.15	0.31	ND		0.18
PCB 28	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 44	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 49	0.25	ND		* 0.61	0.31	ND	0.25	ND
PCB 52	0.25	ND		* 0.89	0.31	ND		* 0.59
PCB 66	0.25	ND		* 0.47	0.31	ND	0.25	ND
PCB 87	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 101	0.25	ND		* 0.55		0.23		* 0.47
PCB 105	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 118	0.25	ND		* 0.31	0.25	ND		0.18
PCB 128	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 138	0.25	ND		* 0.32		0.90		0.69
PCB 153	0.25	ND		* 0.39		1.2		1.3
PCB 170	0.25	ND	0.25	ND	0.31	ND	0.25	ND
PCB 180	0.25	ND	0.25	ND	0.31	ND		* 0.39
PCB 183	0.25	ND	0.25	ND		0.18	0.25	ND
PCB 184	0.25	ND	0.25	ND	0.31	ND	0.25	ND

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TABLE 3. 28 DAY BIOACCUMULATION TEST RESULTS: CHEMICAL ANALYSIS OF TISSUE

Wet weight concentrations

Northeast Supply Enhancement Project - Raritan Bay Loop - NAN-2016-00908-EHA

Prism Fa

CONSTITUENTS	<i>Macoma nasuta</i>				<i>Nereis virens</i>			
	REFERENCE		TEST		REFERENCE		TEST	
	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION
PCB 187	0.25	ND	0.25	ND		0.36		0.46
PCB 195	0.25	ND	0.25	ND	0.25	ND	0.25	ND
PCB 206	0.25	ND	0.25	ND	0.31	ND		0.23
PCB 209	0.25	ND	0.25	ND	0.31	ND	0.25	ND
Total PCB		ND		* 10.88		10.89		12.23
1,4-Dichlorobenzene	2000	ND	2000	ND	2000	ND	2000	ND
PAH's		ppb (µg/kg)		ppb (µg/kg)		ppb (µg/kg)		ppb (µg/kg)
Acenaphthene	50	ND	50	ND	50	ND	50	ND
Acenaphthylene	50	ND	50	ND	50	ND	50	ND
Anthracene	50	ND	50	ND	50	ND	50	ND
Fluorene	50	ND	50	ND	50	ND	50	ND
Naphthalene	50	ND	50	ND	50	ND	50	ND
Phenanthrene		47	50	ND	50	ND		* 39
Benzo(a)anthracene	50	ND	50	ND	50	ND	50	ND
Benzo(a)pyrene	50	ND	50	ND	50	ND	50	ND
Benzo(g,h,i)perylene	50	ND	50	ND	50	ND	50	ND
Benzo(b)fluoranthene	50	ND	50	ND	50	ND	50	ND
Benzo(k)fluoranthene	50	ND	50	ND	50	ND	50	ND
Chrysene	50	ND	50	ND	50	ND	50	ND
Dibenz(a,h)anthracene	50	ND	50	ND	50	ND	50	ND
Fluoranthene	50	ND	50	ND	50	ND	50	ND
Indeno(1,2,3-cd)pyrene	50	ND	50	ND	50	ND	50	ND
Pyrene	50	ND	50	ND	50	ND	50	ND
Total PAH's		422		ND		ND		* 414
Dioxins/Furans		pptr (ng/kg)		pptr (ng/kg)		pptr (ng/kg)		pptr (ng/kg)
2378 TCDD	0.195	ND	0.191	ND	0.198	ND	0.198	ND
12378 PeCDD	0.975	ND	0.957	ND	0.990	ND	0.988	ND
123478 HxCDD	0.975	ND	0.957	ND	0.990	ND	0.988	ND
123678 HxCDD	0.975	ND	0.957	ND		0.446	0.988	ND
123789 HxCDD	0.975	ND	0.957	ND		0.451	0.988	ND
1234678 HpCDD	0.975	ND	0.957	ND		0.685	0.988	ND
1234789 OCDD		1.05		* 5.28		2.77		2.90
2378 TCDF	0.195	ND	0.191	ND		0.929		0.339
12378 PeCDF	0.975	ND	0.957	ND		0.435	0.988	ND
23478 PeCDF	0.975	ND	0.957	ND		0.451	0.988	ND
123478 HxCDF	0.975	ND	0.957	ND		0.431	0.988	ND
123678 HxCDF	0.975	ND	0.957	ND		0.419	0.988	ND
123789 HxCDF	0.975	ND	0.957	ND	0.990	ND	0.988	ND
234678 HxCDF	0.975	ND	0.957	ND		0.427	0.988	ND
1234678 HpCDF	0.975	ND	0.957	ND		0.505	0.988	ND
1234789 HpCDF	0.975	ND	0.957	ND	0.990	ND	0.988	ND
12346789 OCDF	1.95	ND	1.91	ND		0.892	1.98	ND

ND = Not detected

Total PAH = Sum of all PAH's

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

Total PCB = Sum of congeners reported x 2

Concentrations shown are the mean of 5 replicate analyses in wet weight.

Means were determined using conservative estimates of concentrations of constituents that were at concentrations below the detection limit.

*= Statistically significant at the 95% confidence level

SUPPLEMENTAL PUBLIC NOTICE NAN-2016-00908-A-EHA

TABLE 3. 28 DAY BIOACCUMULATION TEST RESULTS: CHEMICAL ANALYSIS OF TISSUE

Wet weight concentrations

Northeast Supply Enhancement Project - Raritan Bay Loop - NAN-2016-00908-EHA

Prism A2aU

CONSTITUENTS	<i>Macoma nasuta</i>				<i>Nereis virens</i>			
	REFERENCE		TEST		REFERENCE		TEST	
	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)
Arsenic		1.89		* 2.43		1.89		1.87
Cadmium		0.0235		* 0.0361		0.0358		0.0360
Chromium		0.369		0.469		0.150		0.113
Copper		1.55		1.78		1.27		1.24
Lead		0.162		* 0.545		0.123		0.119
Mercury		0.0106		* 0.0234		0.0206		0.0220
Nickel		0.447		0.524		0.200		0.254
Silver		0.0261		* 0.0411		0.0284		0.0221
Zinc		12.4		* 15.5		16.5		18.0
Pesticides	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)
Aldrin	0.14	ND	0.14	ND	0.14	ND	0.14	ND
Dieldrin	0.29	ND	0.29	ND	0.36	ND	0.40	ND
α-Chlordane	0.20	ND	0.20	ND	0.20	ND		0.25
Trans nonachlor	0.20	ND	0.29	ND	0.24	ND	0.20	ND
Heptachlor		0.15	0.15	ND	0.18	ND	0.20	ND
Heptachlor epoxide	0.20	ND	0.20	ND	0.20	ND	0.20	ND
Endosulfan I	0.14	ND	0.14	ND		0.54	0.14	ND
Endosulfan II	0.29	ND	0.29	ND	0.29	ND	0.29	ND
Endosulfan sulfate	0.29	ND	0.29	ND	0.29	ND	0.29	ND
4,4'-DDT	0.40	ND	0.40	ND	0.40	ND	0.40	ND
2,4'-DDT	0.20	ND	0.20	ND	0.20	ND	0.20	ND
4,4'-DDD	0.40	ND	0.40	ND	0.40	ND	0.40	ND
2,4'-DDD	0.20	ND	0.20	ND	0.20	ND		0.16
4,4'-DDE	0.40	ND		0.27	0.40	ND	0.40	ND
2,4'-DDE	0.20	ND	0.20	ND	0.20	ND	0.20	ND
Total DDT		ND		0.97		ND		0.96
Industrial Chemicals		ppb (µg/kg)		ppb (µg/kg)		ppb (µg/kg)		ppb (µg/kg)
PCB 8	0.25	ND	0.40	ND	0.31	ND	0.25	ND
PCB 18	0.25	ND		* 0.26	0.31	ND	0.25	ND
PCB 28	0.25	ND		* 0.55	0.31	ND	0.25	ND
PCB 44	0.25	ND	0.40	ND	0.31	ND	0.25	ND
PCB 49	0.25	ND		* 0.60	0.31	ND		* 0.25
PCB 52	0.25	ND		* 1.2	0.31	ND		* 0.71
PCB 66	0.25	ND		* 0.85	0.31	ND		* 0.30
PCB 87	0.25	ND		* 0.45	0.31	ND	0.25	ND
PCB 101	0.25	ND		* 1.5		0.23		* 0.83
PCB 105	0.25	ND		* 0.30	0.31	ND	0.25	ND
PCB 118	0.25	ND		* 0.75	0.25	ND		* 0.40
PCB 128	0.25	ND	0.40	ND	0.31	ND	0.25	ND
PCB 138	0.25	ND		* 0.90		0.90		0.90
PCB 153	0.25	ND		* 0.95		1.2		* 1.5
PCB 170	0.25	ND	0.40	ND	0.31	ND	0.25	ND
PCB 180	0.25	ND	0.40	ND	0.31	ND		* 0.49
PCB 183	0.25	ND	0.40	ND		0.18	0.25	ND
PCB 184	0.25	ND	0.40	ND	0.31	ND	0.25	ND

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TABLE 3. 28 DAY BIOACCUMULATION TEST RESULTS: CHEMICAL ANALYSIS OF TISSUE

Wet weight concentrations

Northeast Supply Enhancement Project - Raritan Bay Loop - NAN-2016-00908-EHA

Prism A2aU

CONSTITUENTS	<i>Macoma nasuta</i>				<i>Nereis virens</i>			
	REFERENCE		TEST		REFERENCE		TEST	
	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION
PCB 187	0.25	ND	0.40	ND		0.36		0.43
PCB 195	0.25	ND	0.25	ND	0.25	ND	0.25	ND
PCB 206	0.25	ND	0.40	ND	0.31	ND	*	0.25
PCB 209	0.25	ND	0.40	ND	0.31	ND	0.25	ND
Total PCB		ND	*	20.87		10.89	*	15.12
1,4-Dichlorobenzene	2000	ND	2000	ND	2000	ND	2000	ND
							6.04	
PAH's		ppb (µg/kg)		ppb (µg/kg)		ppb (µg/kg)		ppb (µg/kg)
Acenaphthene	50	ND	50	ND	50	ND	50	ND
Acenaphthylene	50	ND	50	ND	50	ND	50	ND
Anthracene	50	ND	50	ND	50	ND	50	ND
Fluorene	50	ND	50	ND	50	ND	50	ND
Naphthalene	50	ND	50	ND	50	ND	50	ND
Phenanthrene		47	50	ND	50	ND	50	ND
Benzo(a)anthracene	50	ND	50	ND	50	ND	50	ND
Benzo(a)pyrene	50	ND	50	ND	50	ND	50	ND
Benzo(g,h,i)perylene	50	ND	50	ND	50	ND	50	ND
Benzo(b)fluoranthene	50	ND	50	ND	50	ND	50	ND
Benzo(k)fluoranthene	50	ND	50	ND	50	ND	50	ND
Chrysene	50	ND	50	ND	50	ND	50	ND
Dibenz(a,h)anthracene	50	ND	50	ND	50	ND	50	ND
Fluoranthene	50	ND	50	ND	50	ND	50	ND
Indeno(1,2,3-cd)pyrene	50	ND	50	ND	50	ND	50	ND
Pyrene	50	ND	50	ND	50	ND	50	ND
Total PAH's		422		ND		ND		ND
Dioxins/Furans		pptr (ng/kg)		pptr (ng/kg)		pptr (ng/kg)		pptr (ng/kg)
2378 TCDD	0.195	ND	*	0.178	0.198	ND	0.197	ND
12378 PeCDD	0.975	ND	0.992	ND	0.990	ND	0.986	ND
123478 HxCDD	0.975	ND	0.992	ND	0.990	ND	0.986	ND
123678 HxCDD	0.975	ND	0.992	ND		0.446		0.426
123789 HxCDD	0.975	ND	0.992	ND		0.451		0.440
1234678 HpCDD	0.975	ND	*	1.20		0.685		0.661
1234789 OCDD		1.05	*	8.13		2.77	*	3.82
2378 TCDF	0.195	ND	*	0.231		0.929		0.884
12378 PeCDF	0.975	ND	0.992	ND		0.435	0.986	ND
23478 PeCDF	0.975	ND	0.992	ND		0.451		0.441
123478 HxCDF	0.975	ND	0.992	ND		0.431	0.986	ND
123678 HxCDF	0.975	ND	0.992	ND		0.419	0.986	ND
123789 HxCDF	0.975	ND	0.992	ND	0.990	ND	0.986	ND
234678 HxCDF	0.975	ND	0.992	ND		0.427	0.986	ND
1234678 HpCDF	0.975	ND		0.507		0.505		0.461
1234789 HpCDF	0.975	ND	0.992	ND	0.990	ND	0.986	ND
12346789 OCDF	1.95	ND	1.98	ND		0.892	1.97	ND

ND = Not detected

Total PAH = Sum of all PAH's

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

Total PCB = Sum of congeners reported x 2

Concentrations shown are the mean of 5 replicate analyses in wet weight.

Means were determined using conservative estimates of concentrations of constituents that were at concentrations below the detection limit.

*= Statistically significant at the 95% confidence level

SUPPLEMENTAL PUBLIC NOTICE NAN-2016-00908-A-EHA

TABLE 3. 28 DAY BIOACCUMULATION TEST RESULTS: CHEMICAL ANALYSIS OF TISSUE

Wet weight concentrations

Northeast Supply Enhancement Project - Raritan Bay Loop - NAN-2016-00908-EHA

Prism E1a

CONSTITUENTS	<i>Macoma nasuta</i>				<i>Nereis virens</i>			
	REFERENCE		TEST		REFERENCE		TEST	
	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)
Arsenic		2.22		2.25		1.79		1.47
Cadmium		0.0262		0.0293		0.0388		0.0397
Chromium		0.205		0.157		0.241		0.0626
Copper		1.58		1.04		1.29		0.728
Lead		0.151		0.137		0.129		0.124
Mercury		0.00500		0.00520		0.00986		0.00812
Nickel		0.344		0.360		0.218		0.168
Silver		0.0543		0.0378		0.0278		0.0140
Zinc		11.7		12.6		10.8		* 33.8
Pesticides	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)
Aldrin	0.14	ND	0.14	ND	0.14	ND	0.14	ND
Dieldrin	0.40	ND	0.40	ND	0.40	ND		0.25
a-Chlordane	0.20	ND	0.20	ND	0.20	ND	0.20	ND
Trans nonachlor	0.20	ND	0.20	ND	0.20	ND	0.20	ND
Heptachlor	0.20	ND	0.20	ND	0.20	ND		0.15
Heptachlor epoxide	0.20	ND	0.20	ND	0.20	ND	0.20	ND
Endosulfan I	0.14	ND		0.32	0.14	ND		0.25
Endosulfan II	0.29	ND	0.29	ND	0.29	ND	0.29	ND
Endosulfan sulfate	0.29	ND	0.29	ND	0.29	ND	0.29	ND
4,4'-DDT	0.40	ND	0.40	ND	0.40	ND	0.40	ND
2,4'-DDT	0.20	ND	0.20	ND	0.20	ND		0.14
4,4'-DDD	0.40	ND	0.40	ND	0.40	ND	0.40	ND
2,4'-DDD	0.20	ND	0.20	ND		0.19		0.44
4,4'-DDE	0.40	ND	0.40	ND	0.40	ND	0.40	ND
2,4'-DDE	0.20	ND	0.20	ND	0.20	ND		0.18
Total DDT		ND		ND		0.99		* 1.36
Industrial Chemicals		ppb (µg/kg)		ppb (µg/kg)		ppb (µg/kg)		ppb (µg/kg)
PCB 8	0.25	ND	0.25	ND	0.25	ND	0.25	ND
PCB 18	0.25	ND	0.25	ND	0.25	ND	0.25	ND
PCB 28	0.25	ND	0.25	ND	0.25	ND	0.25	ND
PCB 44	0.25	ND	0.25	ND	0.25	ND	0.25	ND
PCB 49	0.25	ND	0.25	ND	0.25	ND	0.25	ND
PCB 52	0.25	ND	0.25	ND		0.27	0.25	ND
PCB 66	0.25	ND	0.25	ND	0.25	ND	0.25	ND
PCB 87	0.25	ND	0.25	ND	0.25	ND	0.25	ND
PCB 101	0.25	ND	0.25	ND		0.34		0.21
PCB 105	0.25	ND	0.25	ND	0.25	ND	0.25	ND
PCB 118	0.25	ND	0.25	ND		0.28	0.25	ND
PCB 128	0.25	ND	0.25	ND	0.25	ND	0.25	ND
PCB 138	0.25	ND	0.25	ND		0.95		0.70
PCB 153	0.25	ND	0.25	ND		1.2		0.88
PCB 170	0.25	ND	0.25	ND		0.17	0.25	ND
PCB 180	0.25	ND	0.25	ND		0.53		0.38
PCB 183	0.25	ND	0.25	ND		0.16	0.25	ND
PCB 184	0.25	ND	0.25	ND	0.25	ND	0.25	ND

SUPPLEMENTAL PUBLIC NOTICE NAN-2016-00908-A-EHA

TABLE 3. 28 DAY BIOACCUMULATION TEST RESULTS: CHEMICAL ANALYSIS OF TISSUE

Wet weight concentrations

Northeast Supply Enhancement Project - Raritan Bay Loop - NAN-2016-00908-EHA

Prism E1a

CONSTITUENTS	<i>Macoma nasuta</i>				<i>Nereis virens</i>			
	REFERENCE		TEST		REFERENCE		TEST	
	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION
PCB 187	0.25	ND	0.25	ND		0.42		0.23
PCB 195	0.25	ND	0.25	ND	0.25	ND	0.25	ND
PCB 206	0.25	ND	0.25	ND		0.19		0.17
PCB 209	0.25	ND	0.25	ND	0.25	ND	0.25	ND
Total PCB		ND		ND		12.02		9.14
1,4-Dichlorobenzene	2000	ND	2000	ND	2000	ND	2000	ND
PAH's		ppb (µg/kg)		ppb (µg/kg)		ppb (µg/kg)		ppb (µg/kg)
Acenaphthene	50	ND	50	ND	50	ND	50	ND
Acenaphthylene	50	ND	50	ND	50	ND	50	ND
Anthracene	50	ND	50	ND	50	ND	50	ND
Fluorene	50	ND	50	ND	50	ND	50	ND
Naphthalene	50	ND	50	ND	50	ND	50	ND
Phenanthrene		50	50	ND	50	ND	50	ND
Benzo(a)anthracene	50	ND	50	ND	50	ND	50	ND
Benzo(a)pyrene	50	ND	50	ND	50	ND	50	ND
Benzo(g,h,i)perylene	50	ND	50	ND	50	ND	50	ND
Benzo(b)fluoranthene	50	ND	50	ND	50	ND	50	ND
Benzo(k)fluoranthene	50	ND	50	ND	50	ND	50	ND
Chrysene	50	ND	50	ND	50	ND	50	ND
Dibenz(a,h)anthracene	50	ND	50	ND	50	ND	50	ND
Fluoranthene	50	ND	50	ND	50	ND	50	ND
Indeno(1,2,3-cd)pyrene	50	ND	50	ND	50	ND	50	ND
Pyrene	50	ND	50	ND	50	ND	50	ND
Total PAH's		425		ND		ND		ND
Dioxins/Furans		pptr (ng/kg)		pptr (ng/kg)		pptr (ng/kg)		pptr (ng/kg)
2378 TCDD	0.197	ND	0.196	ND	0.198	ND	0.198	ND
12378 PeCDD	0.984	ND	0.982	ND		0.434	0.987	ND
123478 HxCDD	0.984	ND	0.982	ND	0.989	ND	0.987	ND
123678 HxCDD	0.984	ND	0.982	ND	0.989	ND	0.987	ND
123789 HxCDD		0.216	0.982*	ND		0.272	0.987*	ND
1234678 HpCDD		0.273	0.982*	ND		0.626		0.438
1234789 OCDD		1.24	*	3.73		2.21		1.97
2378 TCDF	0.197	ND	0.196	ND		0.924		0.647
12378 PeCDF	0.984	ND	0.982	ND		0.202	0.987*	ND
23478 PeCDF	0.984	ND	0.982	ND		0.225	0.987*	ND
123478 HxCDF	0.984	ND	0.982	ND	0.989	ND	0.987	ND
123678 HxCDF	0.984	ND	0.982	ND	0.989	ND	0.987	ND
123789 HxCDF	0.984	ND	0.982	ND	0.989	ND	0.987	ND
234678 HxCDF	0.984	ND	0.982	ND		0.423	0.987	ND
1234678 HpCDF	0.984	ND	0.982	ND		0.280	0.987*	ND
1234789 HpCDF	0.984	ND	0.982	ND	0.989	ND	0.987	ND
12346789 OCDF	1.97	ND	1.96	ND		0.834	1.98	ND

ND = Not detected

Total PAH = Sum of all PAH's

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

Total PCB = Sum of congeners reported x 2

Concentrations shown are the mean of 5 replicate analyses in wet weight.

Means were determined using conservative estimates of concentrations of constituents that were at concentrations below the detection limit.

*= Statistically significant at the 95% confidence level

SUPPLEMENTAL PUBLIC NOTICE NAN-2016-00908-A-EHA

TABLE 3. 28 DAY BIOACCUMULATION TEST RESULTS: CHEMICAL ANALYSIS OF TISSUE

Wet weight concentrations

Northeast Supply Enhancement Project - Raritan Bay Loop - NAN-2016-00908-EHA

Prism E2a

CONSTITUENTS	<i>Macoma nasuta</i>				<i>Nereis virens</i>			
	REFERENCE		TEST		REFERENCE		TEST	
	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)
Arsenic		2.22		* 3.18		1.79		1.51
Cadmium		0.0262		* 0.0339		0.0388		0.0399
Chromium		0.205		0.204		0.241		0.0676
Copper		1.58		1.48		1.29		0.822
Lead		0.151		* 0.200		0.129		0.138
Mercury		0.00500		* 0.00688		0.00986		0.00940
Nickel		0.344		0.397		0.218		0.163
Silver		0.0543		0.0478		0.0278		0.0188
Zinc		11.7		* 14.3		10.8		16.8
Pesticides	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)
Aldrin	0.14	ND	0.14	ND	0.14	ND		0.14
Dieldrin	0.40	ND	0.40	ND	0.40	ND	0.40	ND
α-Chlordane	0.20	ND	0.20	ND	0.20	ND		0.18
Trans nonachlor	0.20	ND	0.20	ND	0.20	ND	0.20	ND
Heptachlor	0.20	ND		0.12	0.20	ND	0.20	ND
Heptachlor epoxide	0.20	ND	0.20	ND	0.20	ND	0.20	ND
Endosulfan I	0.14	ND		0.26	0.14	ND		0.33
Endosulfan II	0.29	ND	0.29	ND	0.29	ND	0.29	ND
Endosulfan sulfate	0.29	ND	0.29	ND	0.29	ND	0.29	ND
4,4'-DDT	0.40	ND	0.40	ND	0.40	ND	0.40	ND
2,4'-DDT	0.20	ND	0.20	ND	0.20	ND		0.13
4,4'-DDD	0.40	ND	0.40	ND	0.40	ND	0.40	ND
2,4'-DDD	0.20	ND	0.20	ND		0.19	0.20	ND
4,4'-DDE	0.40	ND	0.40	ND	0.40	ND	0.40	ND
2,4'-DDE	0.20	ND	0.20	ND	0.20	ND		0.31
Total DDT		ND		ND		0.99		1.14
Industrial Chemicals		ppb (µg/kg)		ppb (µg/kg)		ppb (µg/kg)		ppb (µg/kg)
PCB 8	0.25	ND	0.25	ND	0.25	ND	0.25	ND
PCB 18	0.25	ND	0.25	ND	0.25	ND	0.25	ND
PCB 28	0.25	ND	0.25	ND	0.25	ND	0.25	ND
PCB 44	0.25	ND	0.25	ND	0.25	ND		0.16
PCB 49	0.25	ND	0.25	ND	0.25	ND		* 0.31
PCB 52	0.25	ND		0.18		0.27		* 0.77
PCB 66	0.25	ND	0.25	ND	0.25	ND		0.19
PCB 87	0.25	ND	0.25	ND	0.25	ND	0.25	ND
PCB 101	0.25	ND	0.25	ND		0.34		* 0.70
PCB 105	0.25	ND	0.25	ND	0.25	ND	0.25	ND
PCB 118	0.25	ND	0.25	ND		0.28		0.39
PCB 128	0.25	ND	0.25	ND	0.25	ND		0.16
PCB 138	0.25	ND	0.25	ND		0.95		1.1
PCB 153	0.25	ND	0.25	ND		1.2		1.4
PCB 170	0.25	ND	0.25	ND		0.17	0.25	ND
PCB 180	0.25	ND	0.25	ND		0.53		0.62
PCB 183	0.25	ND	0.25	ND		0.16		0.19
PCB 184	0.25	ND	0.25	ND	0.25	ND	0.25	ND

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TABLE 3. 28 DAY BIOACCUMULATION TEST RESULTS: CHEMICAL ANALYSIS OF TISSUE

Wet weight concentrations

Northeast Supply Enhancement Project - Raritan Bay Loop - NAN-2016-00908-EHA

Prism E2a

CONSTITUENTS	<i>Macoma nasuta</i>				<i>Nereis virens</i>			
	REFERENCE		TEST		REFERENCE		TEST	
	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION
PCB 187	0.25	ND	0.25	ND		0.42		0.45
PCB 195	0.25	ND	0.25	ND	0.25	ND	0.25	ND
PCB 206	0.25	ND	0.25	ND		0.19		0.16
PCB 209	0.25	ND	0.25	ND	0.25	ND	0.25	ND
Total PCB		ND		5.61		12.02		* 15.45
1,4-Dichlorobenzene	2000	ND	2000	ND	2000	ND	2000	ND
PAH's		ppb (µg/kg)		ppb (µg/kg)		ppb (µg/kg)		ppb (µg/kg)
Acenaphthene	50	ND	50	ND	50	ND	50	ND
Acenaphthylene	50	ND	50	ND	50	ND	50	ND
Anthracene	50	ND	50	ND	50	ND	50	ND
Fluorene	50	ND	50	ND	50	ND	50	ND
Naphthalene	50	ND	50	ND	50	ND	50	ND
Phenanthrene		50	50	ND	50	ND	50	ND
Benzo(a)anthracene	50	ND	50	ND	50	ND	50	ND
Benzo(a)pyrene	50	ND	50	ND	50	ND	50	ND
Benzo(g,h,i)perylene	50	ND	50	ND	50	ND	50	ND
Benzo(b)fluoranthene	50	ND	50	ND	50	ND	50	ND
Benzo(k)fluoranthene	50	ND	50	ND	50	ND	50	ND
Chrysene	50	ND	50	ND	50	ND	50	ND
Dibenz(a,h)anthracene	50	ND	50	ND	50	ND	50	ND
Fluoranthene	50	ND	50	ND	50	ND	50	ND
Indeno(1,2,3-cd)pyrene	50	ND	50	ND	50	ND	50	ND
Pyrene	50	ND	50	ND	50	ND	50	ND
Total PAH's		425		ND		ND		ND
Dioxins/Furans		pptr (ng/kg)		pptr (ng/kg)		pptr (ng/kg)		pptr (ng/kg)
2378 TCDD	0.197	ND	0.194	ND	0.198	ND	0.195	ND
12378 PeCDD	0.984	ND	0.969	ND		0.434	0.988	ND
123478 HxCDD	0.984	ND	0.969	ND	0.989	ND	0.988	ND
123678 HxCDD	0.984	ND	0.969	ND	0.989	ND	0.988	ND
123789 HxCDD		0.216	0.969*	ND		0.272	0.988	ND
1234678 HpCDD		0.273		* 0.447		0.626		0.559
1234789 OCDD		1.24		* 4.53		2.21		2.28
2378 TCDF	0.197	ND	0.194	ND		0.924		0.856
12378 PeCDF	0.984	ND	0.969	ND		0.202	0.988	ND
23478 PeCDF	0.984	ND	0.969	ND		0.225	0.988*	ND
123478 HxCDF	0.984	ND	0.969	ND	0.989	ND	0.988	ND
123678 HxCDF	0.984	ND	0.969	ND	0.989	ND	0.988	ND
123789 HxCDF	0.984	ND	0.969	ND	0.989	ND	0.988	ND
234678 HxCDF	0.984	ND	0.969	ND		0.423	0.988	ND
1234678 HpCDF	0.984	ND	0.969	ND		0.280		* 0.437
1234789 HpCDF	0.984	ND	0.969	ND	0.989	ND	0.988	ND
12346789 OCDF	1.97	ND	1.94	ND		0.834	1.97	ND

ND = Not detected

Total PAH = Sum of all PAH's

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

Total PCB = Sum of congeners reported x 2

Concentrations shown are the mean of 5 replicate analyses in wet weight.

Means were determined using conservative estimates of concentrations of constituents that were at concentrations below the detection limit.

*= Statistically significant at the 95% confidence level

SUPPLEMENTAL PUBLIC NOTICE NAN-2016-00908-A-EHA

TABLE 3. 28 DAY BIOACCUMULATION TEST RESULTS: CHEMICAL ANALYSIS OF TISSUE

Wet weight concentrations

Northeast Supply Enhancement Project - Raritan Bay Loop - NAN-2016-00908-EHA

Prism A2aL

CONSTITUENTS	<i>Macoma nasuta</i>				<i>Nereis virens</i>			
	REFERENCE		TEST		REFERENCE		TEST	
	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)
Arsenic		2.22		2.65		1.79		1.70
Cadmium		0.0262		0.0244		0.0388		0.0386
Chromium		0.205		0.300		0.241		0.644
Copper		1.58		1.55		1.29		1.21
Lead		0.151	*	0.319		0.129		0.208
Mercury		0.00500	*	0.00622		0.00986		0.0104
Nickel		0.344	*	0.460		0.218		* 0.503
Silver		0.0543		0.0489		0.0278		0.0161
Zinc		11.7		12.4		10.8		21.1
Pesticides	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)	ppb (µg/kg)
Aldrin	0.14	ND	0.14	ND	0.14	ND	0.14	ND
Dieldrin	0.40	ND	0.40	ND	0.40	ND		0.31
a-Chlordane	0.20	ND	0.20	ND	0.20	ND	0.20	ND
Trans nonachlor	0.20	ND	0.20	ND	0.20	ND	0.20	ND
Heptachlor	0.20	ND	0.20	ND	0.20	ND	0.20	ND
Heptachlor epoxide	0.20	ND	0.20	ND	0.20	ND	0.20	ND
Endosulfan I	0.14	ND	0.14	ND	0.14	ND	0.14	ND
Endosulfan II	0.29	ND	0.29	ND	0.29	ND	0.29	ND
Enosulfan sulfate	0.29	ND	0.29	ND	0.29	ND	0.29	ND
4,4'-DDT	0.40	ND	0.40	ND	0.40	ND	0.40	ND
2,4'-DDT	0.20	ND	0.20	ND	0.20	ND		0.17
4,4'-DDD	0.40	ND	0.40	ND	0.40	ND	0.40	ND
2,4'-DDD	0.20	ND	0.20	ND		0.19		0.26
4,4'-DDE	0.40	ND	0.40	ND	0.40	ND	0.40	ND
2,4'-DDE	0.20	ND	0.20	ND	0.20	ND		0.49
Total DDT		ND		ND		0.99		* 1.52
Industrial Chemicals		ppb (µg/kg)		ppb (µg/kg)		ppb (µg/kg)		ppb (µg/kg)
PCB 8	0.25	ND	0.25	ND	0.25	ND	0.25	ND
PCB 18	0.25	ND	0.25	ND	0.25	ND	0.25	ND
PCB 28	0.25	ND	0.25	ND	0.25	ND	0.25	ND
PCB 44	0.25	ND	0.25	ND	0.25	ND	0.25	ND
PCB 49	0.25	ND	0.25	ND	0.25	ND	0.25	ND
PCB 52	0.25	ND		0.16		0.27	0.25	ND
PCB 66	0.25	ND	0.25	ND	0.25	ND	0.25	ND
PCB 87	0.25	ND	0.25	ND	0.25	ND	0.25	ND
PCB 101	0.25	ND		0.18		0.34		0.34
PCB 105	0.25	ND	0.25	ND	0.25	ND	0.25	ND
PCB 118	0.25	ND	0.25	ND		0.28		0.21
PCB 128	0.25	ND	0.25	ND	0.25	ND	0.25	ND
PCB 138	0.25	ND		0.15		0.95		0.65
PCB 153	0.25	ND	0.25	ND		1.2		0.99
PCB 170	0.25	ND	0.25	ND		0.17	0.25	ND
PCB 180	0.25	ND	0.25	ND		0.53		0.41
PCB 183	0.25	ND	0.25	ND		0.16	0.25	ND
PCB 184	0.25	ND	0.25	ND	0.25	ND	0.25	ND

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TABLE 3. 28 DAY BIOACCUMULATION TEST RESULTS: CHEMICAL ANALYSIS OF TISSUE

Wet weight concentrations

Northeast Supply Enhancement Project - Raritan Bay Loop - NAN-2016-00908-EHA

Prism A2aL

CONSTITUENTS	<i>Macoma nasuta</i>				<i>Nereis virens</i>			
	REFERENCE		TEST		REFERENCE		TEST	
	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION
PCB 187	0.25	ND	0.25	ND		0.42		0.29
PCB 195	0.25	ND	0.25	ND	0.25	ND	0.25	ND
PCB 206	0.25	ND	0.25	ND		0.19		0.16
PCB 209	0.25	ND	0.25	ND	0.25	ND	0.25	ND
Total PCB		ND		5.73		12.02		9.85
1,4-Dichlorobenzene	2000	ND	2000	ND	2000	ND	2000	ND
PAH's		ppb (µg/kg)		ppb (µg/kg)		ppb (µg/kg)		ppb (µg/kg)
Acenaphthene	50	ND	50	ND	50	ND	50	ND
Acenaphthylene	50	ND	50	ND	50	ND	50	ND
Anthracene	50	ND	50	ND	50	ND	50	ND
Fluorene	50	ND	50	ND	50	ND	50	ND
Naphthalene	50	ND	50	ND	50	ND	50	ND
Phenanthrene		50	50	ND	50	ND	50	ND
Benzo(a)anthracene	50	ND	50	ND	50	ND	50	ND
Benzo(a)pyrene	50	ND	50	ND	50	ND	50	ND
Benzo(g,h,i)perylene	50	ND	50	ND	50	ND	50	ND
Benzo(b)fluoranthene	50	ND	50	ND	50	ND	50	ND
Benzo(k)fluoranthene	50	ND	50	ND	50	ND	50	ND
Chrysene	50	ND	50	ND	50	ND	50	ND
Dibenz(a,h)anthracene	50	ND	50	ND	50	ND	50	ND
Fluoranthene	50	ND	50	ND	50	ND	50	ND
Indeno(1,2,3-cd)pyrene	50	ND	50	ND	50	ND	50	ND
Pyrene	50	ND	50	ND	50	ND	50	ND
Total PAH's		425		ND		ND		ND
Dioxins/Furans		pptr (ng/kg)		pptr (ng/kg)		pptr (ng/kg)		pptr (ng/kg)
2378 TCDD	0.197	ND	0.193	ND	0.198	ND	0.198	ND
12378 PeCDD	0.984	ND	0.963	ND		0.434	0.992	ND
123478 HxCDD	0.984	ND	0.963	ND	0.989	ND	0.992	ND
123678 HxCDD	0.984	ND	0.963	ND	0.989	ND	0.992	ND
123789 HxCDD		0.216	0.963*	ND		0.272	0.992*	ND
1234678 HpCDD		0.273	*	0.441		0.626	0.992	ND
1234789 OCDD		1.24	*	3.85		2.21		3.00
2378 TCDF	0.197	ND	0.193	ND		0.924		0.526
12378 PeCDF	0.984	ND	0.963	ND		0.202	0.992*	ND
23478 PeCDF	0.984	ND	0.963	ND		0.225	0.992*	ND
123478 HxCDF	0.984	ND	0.963	ND	0.989	ND	0.992	ND
123678 HxCDF	0.984	ND	0.963	ND	0.989	ND	0.992	ND
123789 HxCDF	0.984	ND	0.963	ND	0.989	ND	0.992	ND
234678 HxCDF	0.984	ND	0.963	ND		0.423	0.992	ND
1234678 HpCDF	0.984	ND	0.963	ND		0.280	0.992*	ND
1234789 HpCDF	0.984	ND	0.963	ND	0.989	ND	0.992	ND
12346789 OCDF	1.97	ND	1.93	ND		0.834	1.98	ND

ND = Not detected

Total PAH = Sum of all PAH's

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

Total PCB = Sum of congeners reported x 2

Concentrations shown are the mean of 5 replicate analyses in wet weight.

Means were determined using conservative estimates of concentrations of constituents that were at concentrations below the detection limit.

*= Statistically significant at the 95% confidence level