Final Report

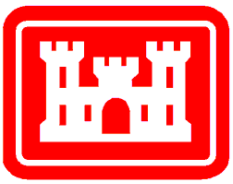
Charleston Harbor Navigation Improvement Project (Post 45) Dredging MPRSA Section 103 Sediment Testing and Analysis

Charleston, South Carolina

Contract No. W912EP-09-D-0013-DW01

Prepared for:

U.S. Army Corps of Engineers
Charleston Regulatory District,
69-A Hagood Avenue
Charleston, South Carolina 29403



Prepared by:

ANAMAR Environmental Consulting, Inc.
2106 NW 67th Place
Gainesville, Florida 32653

ANAMAR
Environmental Consulting, Inc.

(ANAMAR Project No. 12-0003)

December 2013

TABLE OF CONTENTS

EXECUTIVE SUMMARY ES-1
1 INTRODUCTION 1
1.1 Project Area Description 1
1.2 Dredging History 5
1.3 Description of the Testing Approach 5
1.3.1 Evaluation of Dredge Material for Disposal 5
1.3.2 Objectives and Deliverables 6
2 MATERIALS AND METHODS 8
2.1 Project Design and Rationale 8
2.2 Sample Collection Techniques 11
2.2.1 Field Effort 11
2.2.2 Site Positioning 12
2.2.3 Decontamination Procedures 13
2.2.4 In Situ Water Column Measurements 13
2.2.5 Sediment Sampling with Vibracore 14
2.2.6 Sediment Sampling with Grab Sampler 16
2.2.7 Water Sampling 16
2.2.8 Sample Transport, Processing, and Custody 17
2.3 Physical and Chemical Analytical Procedures 17
2.3.1 Physical Procedures 17
2.3.2 Chemical Analytical Procedures 18
2.4 Bioaccumulation and Toxicology Procedures 20
2.4.1 Bioassay Testing 20
2.4.2 Seawater for Bioassay Testing 24
2.4.3 Water Column Bioassay Procedures 24
2.4.4 Whole Sediment (Solid Phase) Bioassay Procedures 29
2.4.5 Bioaccumulation Potential Procedures 33
2.5 Tissue Analysis Recommendations 38
2.6 Data Reduction and Applicable Technical Quality Standards 41
2.6.1 Sediment Chemistry 41
2.6.2 Elutriate and Site Water Chemistry 41
2.6.3 Toxicology 41
2.6.4 Tissue Chemistry 42
2.7 Reporting Limits 43
3 RESULTS AND DISCUSSION 44
3.1 Field Sampling 44
3.2 Sediment Physical Results 45
3.3 Sediment Chemistry 47
3.3.1 Metals 47
3.3.2 Ammonia, Total Petroleum Hydrocarbons, and Total Organic Carbon 48
3.3.3 Organotins 50
3.3.4 PAHs 50
3.3.5 Pesticides 52

3.3.6 PCBs and Aroclors 52
3.3.7 PBDEs 52
3.3.8 Dioxins and Furans 52
3.4 Elutriate and Water Chemistry 53
3.4.1 Metals and Ammonia 53
3.4.2 Pesticides 55
3.4.3 PAHs 55
3.5 Water Column Bioassay Results 56
3.5.1 *Americamysis bahia* 56
3.5.2 *Menidia beryllina* 58
3.5.3 *Mytilus galloprovincialis* 62
3.6 Benthic Bioassay Results 65
3.6.1 *Ampelisca abdita* 65
3.6.2 *Neanthes arenaceodentata* 66
3.7 Bioaccumulation Toxicity Test Results 68
3.7.1 *Neanthes virens* 69
3.7.2 *Macoma nasuta* 69
3.8 Toxicology Discussion 71
3.9 Tissue Chemistry Results 73
3.9.1 Lipids and Total Solids in Tissue 74
3.9.2 Metals in Tissue 74
3.9.3 PAHs in Tissue 78
3.9.4 PBDEs in Tissue 79
3.9.5 Organotins in Tissue 80
3.9.6 Dioxins in Tissue 80
4 QUALITY ASSURANCE/QUALITY CONTROL 84
4.1 Deviations from SAP/QAPP 84
4.1.1 Field Sampling 84
4.1.2 Toxicology 84
4.2 Sample Receipt 85
4.2.1 AMEC 85
4.2.2 ALS Environmental 85
4.2.3 NewFields 86
4.3 Physical Analysis 86
4.4 Sediment Chemistry 86
4.4.1 General Chemistry Parameters 86
4.4.2 Total Metals 87
4.4.3 Organotin Compounds 87
4.4.4 Organochlorine Pesticides by EPA Method 8081 88
4.4.5 PCB Aroclors by EPA Method 8082 88
4.4.6 PCB Congeners by EPA Method 8082 89
4.4.7 Polybrominated Diphenyl Ethers by 8270C-SIM 89
4.4.8 Polynuclear Aromatic Hydrocarbons by EPA Method 8270 91
4.4.9 Dioxins and Furans by EPA Method 8290 91
4.5 Site Water and Elutriate Chemistry 91
4.5.1 Total Metals 91

4.5.2 Organochlorine Pesticides by EPA Method 8081 92
4.5.3 Polynuclear Aromatic Hydrocarbons by EPA Method 8270 92
4.6 Toxicology 93
4.6.1 Water Column Test Data 93
4.6.2 Benthic Test Data 95
4.6.3 Bioaccumulation Test Data 95
4.7 Tissue Chemistry 96
4.7.1 Total Metals 96
4.7.2 Polynuclear Aromatic Hydrocarbons and Polybrominated Diphenyl Ethers by EPA Method 8270 97
4.7.3 Organotin Compounds 98
4.7.4 Dioxins and Furans by EPA Method 8290 99
5 ADDAMS MODEL 100
6 REFERENCES 112

LIST OF EXHIBITS

Exhibit 1-1. Overview of Charleston Harbor Federal Navigation Channel Reaches 3
Exhibit 1-2. Charleston Harbor Sampling Locations, Charleston Harbor 103 4
Exhibit 1-3. Principal Data Users and Areas of Responsibility 7
Exhibit 1-4. Subcontractors and Responsibilities 7
Exhibit 2-1. Dredging Units, Navigational Channel Areas, and Sample IDs: ENTRANCE CHANNEL 8
Exhibit 2-2. Dredging Units, Navigational Channel Areas, and Sample IDs: LOWER HARBOR and SHEM CREEK CHANNEL 8
Exhibit 2-3. Dredging Units, Navigational Channel Areas, and Sample IDs: UPPER HARBOR 9
Exhibit 2-4. Summary of Field Sampling Materials and Methods 9
Exhibit 2-5. Summary of Laboratory Analysis and Bioassay Test Species 10
Exhibit 2-6. Field Sampling Activities 11
Exhibit 2-7. Summary of Methods and Equipment Used During Sediment, Elutriate, and Tissue Analysis 19
Exhibit 2-8. Biological Testing Performed for Dredged Material Evaluation 21
Exhibit 2-9. Project Samples and Associated Site Water 21
Exhibit 2-10. Threshold Ammonia Concentrations for Amphipods 22
Exhibit 2-11. Bulk Sediment Porewater Measurements 23
Exhibit 2-12. Test Condition Summary for *Americamysis bahia* 26
Exhibit 2-13. Test Condition Summary for *Menidia beryllina* 27
Exhibit 2-14. Test Condition Summary with *Mytilus galloprovincialis* 28
Exhibit 2-15. Test Condition Summary with *Ampelisca abdita* 31
Exhibit 2-16. Test Condition Summary with *Neanthes arenaceodentata* 32
Exhibit 2-17. Test Condition Summary with *Neanthes virens* 34
Exhibit 2-18. Test Condition Summary with *Neanthes virens* – Supplemental Testing 35
Exhibit 2-19. Test Condition Summary with *Macoma nasuta* 36
Exhibit 2-20. Test Condition Summary with *Macoma nasuta* – Supplemental Testing 37
Exhibit 2-21. Summary of Bioaccumulation Tissue Analyses 38
Exhibit 2-22. Summary of Theoretical Bioaccumulation Potential and Sediment Total TEQs for Tissue Analysis Recommendations 40
Exhibit 3-1. Grain Size Distribution for Composited and Reference Samples 47
Exhibit 3-2. Summary of Results for Metals in Sediments 49
Exhibit 3-3. Summary of Results for Ammonia, TPH, and TOC in Sediments 50
Exhibit 3-4. Summary of Results for PAHs in Sediments 51
Exhibit 3-5. Summary of Results for Dioxins in Sediments 53
Exhibit 3-6. Summary of Results for Metals in Elutriates and Site Waters 54
Exhibit 3-7. Summary of Results for PAHs in Elutriate and Site Waters 55
Exhibit 3-8. *Americamysis bahia* Reference-Toxicant Test Results 57
Exhibit 3-9. Summary of the Water Column Bioassay with *Americamysis bahia* 58

Exhibit 3-10. *Menidia beryllina* Reference-Toxicant Test Results 60
Exhibit 3-11. Summary of the Water Column Bioassay with *Menidia beryllina* 61
Exhibit 3-12. *Mytilus galloprovincialis* Control Acceptability Results 62
Exhibit 3-13. *Mytilus galloprovincialis* Reference-Toxicant Test Results 63
Exhibit 3-14. Summary of the Water Column Bioassay with *Mytilus galloprovincialis* 64
Exhibit 3-15. Summary of the 10-Day Benthic Bioassay with *Ampelisca abdita* 66
Exhibit 3-16. Summary of the 10-Day Benthic Bioassay with *Neanthes arenaceodentata* 68
Exhibit 3-17. Summary of the Bioaccumulation Toxicity Tests with *Macoma nasuta* and *Neanthes virens* 70
Exhibit 3-18. Water Column Bioassay Test Results Summary 72
Exhibit 3-19. Benthic Bioassay Test Results Summary 73
Exhibit 3-20. Summary of Mean Wet Weight Metal Results for *Neanthes virens* Tissue 75
Exhibit 3-21. Summary of Mean Wet Weight Metal Results for *Macoma nasuta* Tissue 77
Exhibit 3-22 Summary of Statistically Significantly Greater Mean Wet Weight PAH Results for *Macoma nasuta* tissues 79
Exhibit 3-23. *Neanthes virens*: Summary of Mean Wet Weight of Individual Dioxin and Furan Congener Results 81
Exhibit 3-24. *Neanthes virens*: Summary of Mean Wet Weight Total Dioxin and Furan Results 81
Exhibit 3-25. *Macoma nasuta*: Summary of Mean Wet Weight of Individual Dioxin and Furan Congener Results 83
Exhibit 3-26. *Macoma nasuta*: Summary of Mean Wet Weight Total Dioxin and Furan Results 83
Exhibit 5-1. Simulation Type: Descent, Collapse, and Diffusion 101
Exhibit 5-2. Site Description 101
Exhibit 5-3. Current Velocity Data 102
Exhibit 5-4. Material Data 102
Exhibit 5-5. Output Options 102
Exhibit 5-6. Disposal Operation Data 102
Exhibit 5-7. Volumetric Fractions and Toxicity Criteria of Dredge Material 103

LIST OF TABLES

Table 1 Vibracore Sample Summary
Table 2 Reference and Water Sample Summary
Table 3 Site Water Sample Summary and Water Column Measurements
Table 4 Results of Physical Analyses for Sediment Subsamples
Table 5 Results of Physical Analyses for Sediment Composite Samples
Table 6 Analytical Results for Dry Weight Metals, Ammonia, TPH, TOC, and Organotins in Sediment Samples
Table 7 Analytical Results for Dry Weight PAHs in Sediment Samples
Table 8 Analytical Results for Dry Weight Pesticides in Sediment Samples
Table 9 Analytical Results for Dry Weight PCBs and Aroclors in Sediment Samples
Table 10 Analytical Results for Dry Weight PBDEs in Sediment Samples
Table 11 Analytical Results for Dry Weight Dioxin and Furan in Sediment Samples
Table 12 Results of Total Metal and Ammonia Analyses in Site Water and Elutriates
Table 13 Results of Pesticide Analyses in Site Water and Elutriates
Table 14 Results of PAH Analyses in Site Water and Elutriates
Table 15 Summary of Ammonia and Survival Data for *Americamysis bahia* (Water Column Test)
Table 16 Survival Data for *Americamysis bahia* (Water Column Test)
Table 17 Summary of Ammonia and Survival Data for *Menidia beryllina* (Water Column Test)
Table 18 Survival Data for *Menidia beryllina* (Water Column Test)
Table 19 Summary of Ammonia and Survival Data for *Mytilus galloprovincialis* (Water Column Test)
Table 20 Normality Data for *Mytilus galloprovincialis* (Water Column Test)
Table 21 Summary of Ammonia and Survival Data for *Ampelisca abdita* (Benthic Test)
Table 22 Survival Data for *Ampelisca abdita* (Benthic Test)
Table 23 Summary of Ammonia and Survival Data for *Neanthes arenaceodentata* (Benthic Test)
Table 24 Survival Data for *Neanthes arenaceodentata* (Benthic Test)
Table 25 Survival Data for *Nereis virens* (Bioaccumulation Test)
Table 26 Survival Data for *Macoma nasuta* (Bioaccumulation Test)
Table 27 Analytical Results for Wet Weight Lipids and Total Solids in *Neanthes virens* Tissues
Table 28 Analytical Results for Wet Weight Lipids and Total Solids in *Macoma nasuta* Tissues
Table 29 Analytical Results for Wet Weight Metals in *Neanthes virens* Tissues
Table 30 Analytical Results for Wet Weight Metals in *Macoma nasuta* Tissues
Table 31 Analytical Results for Dry Weight Metals in *Neanthes virens* Tissues
Table 32 Analytical Results for Dry Weight Metals in *Macoma nasuta* Tissues

Table 33 Analytical Results for Wet Weight PAHs in *Neanthes virens* Tissues
Table 34 Analytical Results for Wet Weight PAHs in *Macoma nasuta* Tissues
Table 35 Analytical Results for Dry Weight PAHs in *Neanthes virens* Tissues
Table 36 Analytical Results for Dry Weight PAHs in *Macoma nasuta* Tissues
Table 37 Analytical Results for Wet Weight PBDEs in *Neanthes virens* Tissues
Table 38 Analytical Results for Wet Weight PBDEs in *Macoma nasuta* Tissues
Table 39 Analytical Results for Dry Weight PBDEs in *Neanthes Virens* Tissues
Table 40 Analytical Results for Dry Weight PDBEs in *Macoma nasuta* Tissues
Table 41 Analytical Results for Wet Weight Organotins in *Neanthes virens* Tissues
Table 42 Analytical Results for Wet Weight Organotins in *Macoma nasuta* Tissues
Table 43 Analytical Results for Dry Weight Organotins in *Neanthes virens* Tissues
Table 44 Analytical Results for Dry Weight Organotins in *Macoma nasuta* Tissues
Table 45 Analytical Results for Wet Weight Dioxins and Furans in *Neanthes virens* tissues
Table 46 Analytical Results for Wet Weight Dioxins and Furans in *Macoma nasuta* tissues
Table 47 Analytical Results for Dry Weight Dioxins and Furans in *Neanthes virens* tissues
Table 48 Analytical Results for Dry Weight Dioxins and Furans in *Macoma nasuta* tissues

LIST OF FIGURES

Figure 1 Entrance Channel 1 Sampling Locations
Figure 2 Entrance Channel 2 Sampling Locations
Figure 3 Mount Pleasant Reach Sampling Locations
Figure 4 Rebellion, Bennis, and Horse Reach Sampling Locations
Figure 5 Hog Island Reach Sampling Locations
Figure 6 Drum Island and Myer's Bend Reach Sampling Locations
Figure 7 Wando River Lower Reach Sampling Location
Figure 8 Wando River Upper Reach Sampling Locations
Figure 9 Daniel Island Reach Sampling Locations
Figure 10 Daniel Island Bend/Clouter Creek Reach Sampling Locations
Figure 11 Navy Yard Reach/North Charleston Reach Sampling Locations
Figure 12 Port Terminal, Filbin Creek & Ordnance Reach Sampling Locations
Figure 13 Ordnance Reach Turning Basin & Widener Sampling Locations
Figure 14 Bennis Reach Widener Sampling Location
Figure 15 Hog Island Reach Widener Sampling Locations
Figure 16 Wando River Turning Basin Widener Sampling Locations
Figure 17 Daniel Island Reach Widener Sampling Locations
Figure 18 Wando River Lower Reach Widener Sampling Locations
Figure 19 North Charleston Reach & Filbin Creek Reach Widener Sampling Locations
Figure 20 Anchorage Basin Sampling Locations
Figure 21 Shem Creek Sampling Locations
Figure 22 ODMDS and Reference Station Sampling Locations

APPENDICES

NOTE:

Appendices are provided in electronic format only and are included on the accompanying disc.

Appendix A	SAP/QAPP and SOW
Appendix B	Field Paperwork
	B-1: Core Field Logs
	B-2: Reference Logs
	B-3: Site Water Logs
	B-4: Daily Quality Control Reports
	B-5: Instrument Calibration Log
	B-6: Temperature Logs
	B-7: Composite Logs
Appendix C	Sediment Physical Lab Report
Appendix D	Chemical Quality Assurance Report
Appendix E	Chemistry Lab Reports
	E-1: Sediment Chemistry
	E-2: Elutriate and Site Water Chemistry
	E-3: Tissue Recommendations
	E-4: Tissue Chemistry
Appendix F	Statistical Calculations
	F-1: *Neanthes virens* (sand worm) Statistics
	F-2: *Macoma nasuta* (bent-nose clam) Statistics
Appendix G	Toxicology Lab Report
Appendix H	ADDAMS Model
Appendix I	Photos of Samples
Appendix J	Pertinent Correspondence

ACRONYMS and ABBREVIATIONS

ADDAMS	Automated Dredging and Disposal Alternatives Modeling System
AET	apparent effects threshold
ANOVA	analysis of variance
ASTM	American Society for Testing and Materials
BSAF	biota sediment accumulation factor
CCV	continuing calibration verification
CETIS	Comprehensive Environmental Toxicity Information System™
CFR	Code of Federal Regulations
CMC	criteria maximum concentration
CQAR	Chemical Quality Assurance Report
DQCR	Daily Quality Control Report
DU	dredging unit
EC_{50}	effective concentration affecting 50% of the population
EET	ecological effects threshold
EPA (USEPA)	U.S. Environmental Protection Agency
ERL	effects range-low
FDA	U.S. Food and Drug Administration
ICV	initial calibration verification
LC_{50}	lethal concentration affecting 50% of a population
LCS	laboratory control sample
MDL	method detection limit
MLLW	mean lower low water
MLW	mean low water
MPRSA	Marine Protection, Research, and Sanctuaries Act of 1972
MRL	method reporting limit
MS/MSD	matrix spike/matrix spike duplicate
NOEC	no observed effect concentration
ODMDS	ocean dredged material disposal site
PAH	polynuclear aromatic hydrocarbon
PCB	polychlorinated biphenyl
PBDE	polybrominated diphenyl ethers
RPD	relative percent difference
SAP/QAPP	Sampling and Analysis Plan/Quality Assurance Project Plan
SDS	sodium dodecyl sulfate
SERIM	Southeast Regional Implementation Manual
SMMP	Site Management and Monitoring Plan
SRM	standard reference material
STFATE	short-term fate
TBP	theoretical bioaccumulation potential
TDL	target detection limit
TEL	threshold effects level
TEQ	toxicity equivalent
TOC	total organic carbon
UIA	un-ionized ammonia
USACE	U.S. Army Corps of Engineers
USCS	Unified Soil Classification System
USDA	U.S. Department of Agriculture

EXECUTIVE SUMMARY

This report details the field sampling, analysis, and results of an MPRSA Section 103 sediment testing and analysis in support of the existing Charleston Harbor Federal Navigation Project as well as the Charleston Harbor Navigation Improvement Project (Post 45). Charleston Harbor is a 14-square-mile tidal estuary in Berkeley and Charleston counties, South Carolina, and is formed from the junction of the Ashley, Cooper, and Wando rivers. Field sampling took place from October 20 through November 19, 2012, and consisted of sediment and water sample collection for physical, chemical, toxicological, and bioaccumulation analyses.

Sampling Approach

Areas proposed to be dredged were divided into 21 project-specific dredging units (DUs). The rationale for the sampling approach is discussed in Section 2.1 and in the Sampling and Analysis Plan (SAP) (Appendix A). All of the subsamples within each DU were collected by a vibracore to target depths or refusal. Subsamples within each DU were composited and homogenized to create one composite sediment sample per DU. Analysis of the composited sediment samples consisted of three analytical tiers: physical, chemical, and toxicological/bioaccumulation.

Sediment Physical Results

Grain size distribution was analyzed in all subsamples and composite samples from 21 DUs.

Reference Station
Sample RS-CH-A was comprised primarily of sand (>93% sand) and was classified as poorly-graded sand/silty sand (SP-SM).

Upper Harbor and Wideners
Samples DANW12, NYNC12, and PTFC12 were comprised primarily of silt and clay and were classified as clay of high plasticity, elastic silt (CH). Samples DANI12, NCW12, CCRK12, and ORDT12 were comprised primarily of sand (>50% sand) and were classified as either clayey sand (SC) or silty sand (SM).

Lower Harbor and Wideners
Most of the samples from the lower harbor and associated wideners were comprised primarily of sand (>55% sand) and were classified as clayey sand (SC). Sample DRMY12 was comprised primarily of clay (45% clay) and was classified as clay of high plasticity, elastic silt (CH). Sample WUTB12 was comprised primarily of silt (>41% silt) and was classified as silt of high plasticity, elastic silt (MH).

Anchorage Basin
Sample ABMA12 was comprised primarily of sand (54% sand) and was classified as clayey sand (SC).

Shem Creek
Sample SHCR12 was comprised primarily of clay (38% clay) and was classified as clay of high plasticity, elastic silt (CH).

Entrance Channel

Sample CHEC12-1 was comprised primarily of sand (>43% sand) and was classified as clay of high plasticity, elastic silt (CH). Samples CHEC12-2 and MTPL12 were comprised primarily of sand (>64% sand) and were classified as clayey sand (SC).

Sediment Chemistry Results

Metals

Samples with concentrations exceeding the TEL and ERL are summarized below.

- Arsenic – DANW12, PTFC12, ORDT12 field split, DRMY12, WUTB12, ABMA12, SHCR12, CHEC12-1, CHEC12-1 field split, MTPL12
- Cadmium – CHEC12-2 and MTPL12
- Chromium – NYNC12, NCW12, PTFC12, WUTB12, MTPL12
- Nickel – DANI12, DANW12, NYNC12, NCW12, PTFC12, WUTB12, MTPL12

Sample MTPL12 had the highest concentrations of every metal analyzed except lead.

Ammonia, TPH, and TOC

Total ammonia concentrations for all samples ranged from 0.78 mg/kg in RS-CH-A to 170 mg/kg in DANW12. Concentrations of TPH ranged from <130 mg/kg in RS-CH-A to 630 mg/kg in SHCR12. TOC concentrations ranged from 0.070% in RS-CH-A to 2.60% in MTPL12.

Organotins

Total organotins (as tin) ranged from 0.55 µg/kg in RS-CH-A to 2.6 µg/kg in SHCR12. There are no published sediment screening criteria (i.e., TEL, ERL) for organotins.

PAHs

Dibenzo(a,h)anthracene in sample SHCR12 (8.3 mg/kg) was the only PAH detected in concentrations greater than the TEL (6.22 mg/kg). No other PAHs were present above the sediment screening criteria (i.e., TEL, ERL).

Pesticides

None of the pesticides tested were detected above the MRL in any sediment sample. No pesticides were present above the sediment screening criteria (i.e., TEL, ERL).

PCBs and Aroclors

Of the 26 PCB congeners and seven aroclors tested, none were detected above the MRL in any sediment sample. Results for total EPA Region 4 PCBs and total NOAA PCBs did not exceed the sediment screening criteria (i.e., TEL, ERL) in any sample.

PBDEs

PBDE 209 was detected above the MRL in samples DANW12, NYNC12, PTFC12, and BENW12. PBDE 47, PBDE 99, PBDE 100, and PBDE 153 were detected above the MRL in sample WLR12. No other PBDEs were detected above the MRL in any sample. There are no published sediment screening criteria (i.e., TEL, ERL) for PBDEs.

Dioxins and Furans

The total TEQs for all samples exceeded the TEL and/or AET. TEQs ranged from 0.991 ng/kg in sample HGIS12 to 5.943 ng/kg in sample DANW12.

Elutriate and Water Chemistry

Metals

No metals were detected in concentrations greater than the CMC in any elutriate or site water sample.

Ammonia

Ammonia concentrations in elutriate samples ranged from 1.6 µg/L in MTPL12 to 28.2 µg/L in DRMY12. Ammonia concentrations in site water samples LHSW, ECSW, and ODMDS SW were <0.003 µg/L. Ammonia concentrations in site water sample UHSW was 0.061 µg/L.

Pesticides

No pesticides were detected in concentrations greater than the MRL or CMC in any elutriate or site water sample.

PAHs

Several samples had PAHs detected in concentrations greater than the MRL. There are no published CMCs for PAHs.

Toxicology

Water Column Bioassays

Water column tests were performed with the mysid crustacean *Americamysis bahia*, the atherinoid fish *Menidia beryllina*, and larvae of the bivalve mollusk *Mytilus galloprovincialis*. Complete results are provided in Exhibits 3-9, 3-11, and 3-14 and Tables 15 through 20. The EC_{50}/LC_{50} values used for compliance are summarized below.

Ammonia concentrations in the bulk sediment were sufficiently elevated to predict ammonia-related impacts in the elutriate tests with larval mussels. Based on this observation, elutriates were prepared with ammonia-reduced sediments that were tested concurrent to the standard elutriate preparations. Estimated EC_{50} values were greater than 100% for all samples following ammonia reduction. Based on the results of the ammonia-reduction procedures, toxicity appeared to be related to ammonia in the elutriate preparations.

DU Location	Treatment	Endpoint Result (%)					
		Americamysis bahia		***Menidia beryllina***		***Mytilus galloprovincialis***	
		LC_{50}	**Application Factor**	**LC_{50}**	**Application Factor**	**EC_{50}**	**Application Factor**
Upper Harbor and Wideners	DANI12	>100	0.01	>100	0.01	57.0	0.05
	DANW12	>100	0.01	>100	0.01	42.0	0.05
	NYNC12	>100	0.01	>100	0.01	69.6	0.05
	NCW12	>100	0.01	>100	0.01	67.9	0.05
	CCRK12	>100	0.01	>100	0.01	68.8	0.05
	PTFC12	>100	0.01	>100	0.01	63.1	0.05
	ORDT12	>100	0.01	94.8	0.01	35.2	0.05
Lower Harbor and Wideners	REHR12	>100	0.01	>100	0.01	55.3	0.05
	BENW12	>100	0.01	>100	0.01	73.1	0.05
	HGIS12	>100	0.01	>100	0.01	>100	0.05
	HGIW12	>100	0.01	>100	0.01	64.8	0.05
	DRMY12	71.3	0.01	51.6	0.01	22.0	0.05
	WUTB12	>100	0.01	75.0	0.01	29.9	0.05
	WRTB12	>100	0.01	>100	0.01	56.3	0.05
	WLR12	>100	0.01	>100	0.01	92.3	0.05
	WLRW12	>100	NA	>100	NA	>100	NA
Anchorage Basin	ABMA12	>100	0.01	49.8	0.01	20.0	0.05
Shem Creek	SHCR12	73.6	0.01	51.0	0.01	17.5	0.05
Entrance Channel	CHEC12-1	>100	0.01	75.8	0.01	29.5	0.05
	CHEC12-2	>100	0.01	>100	0.01	51.2	0.05
	MTPL12	>100	NA	>100	NA	>100	NA

NA= No modeling required. The results are not statistically significantly greater than the control sample.

Benthic Bioassays

Benthic tests were conducted using the amphipod crustacean *Ampelisca abdita* and the polychaete worm *Neanthes arenaceodentata*.

Mean survival within the *A. abdita* benthic tests ranged from 84% to 95%. Survival within all samples was not statistically different than that of the associated batch references. Mean percent survival in all treatments was within 20% of the batch references, indicating that the test treatments met the limiting permissible concentration for disposal.

Mean survival within the *N. arenaceodentata* benthic tests ranged from 90% to 100%. Mortalities in the test sediments did not exceed those in the respective reference samples by more than 10% and were not statistically significantly different, indicating that the test treatments met the limiting permissible concentration for disposal. Mean survival results are summarized below.

Bioaccumulation Bioassays

Bioaccumulation tests were conducted with the polychaete worm *Neanthes virens* and the bivalve mollusk *Macoma nasuta*. No significant toxicity was observed in the bioaccumulation tests. Survival in all treatments was ≥90%.

Tissue Chemistry

Lipids and Total Solids

Neanthes virens: Total solids ranged from 14.1% to 17.5% among project, reference, and pre-exposure tissue samples. Percent lipids in the three pre-exposure tissue replicates was 1.20%.

Macoma nasuta: Total solids ranged from 16.5% to 20.2% among project, reference, and pre-exposure tissue samples. Percent lipids in the three pre-exposure tissue replicates ranged from 0.81% to 0.84%.

Metals in Tissue

Based on sediment chemistry results, metals testing was performed on *N. virens* and *M. nasuta* tissues from all project, reference, and pre-exposure samples.

Neanthes virens: Most metal analytes tested were detected in concentrations greater than the MRL in project, reference, and pre-exposure tissue samples. No sample mean concentration exceeded the FDA action level for any metal tested. For all project samples tested at least one of the metal analytes: cadmium; chromium; copper; lead; mercury; nickel; or selenium was statistically significantly greater than mean concentrations in the reference tissues (Exhibit 3-20). Copper concentrations in all of the upper harbor and widener samples were statistically significantly greater than the reference tissue and exceeded the EET. With the exception of ORDT12 and ABMA12, nickel concentrations in all other project tissue samples were statistically significantly greater than the reference tissue. In addition, nickel, cadmium, and chromium in all the entrance channel samples were statistically significantly greater than the reference tissue. Lead concentrations in ABMA12 were statistically significantly greater than the reference tissue and exceeded the EET. Statistically significantly greater results are summarized in the table on Page ES-6.

Macoma nasuta: Most metal analytes tested were detected in concentrations greater than the MRL in project, reference, and pre-exposure tissue samples. No sample mean concentration exceeded the FDA action level for any metal tested. All metals tested had mean concentrations that were statistically significantly greater than the reference tissue in at least one sample. In all samples, chromium, nickel, and selenium concentrations were statistically significantly greater than the reference tissue. In all but one sample, beryllium concentrations were statistically significantly greater than the reference tissue. In all but two samples, lead concentrations were statistically significantly greater than the reference tissue and exceeded the EET. In all of the upper harbor samples, one lower harbor sample (REHR12), and the anchorage basin (ABMA12), copper concentrations were statistically significantly greater than the reference tissue and exceeded the EET. In sample ABMA12, zinc concentrations were statistically significantly greater than the reference tissue and exceeded the EET. Statistically significantly greater results are summarized in the table on Page ES-7.

Summary of Mean Wet Weight Metal Results for *Neanthes virens* Tissue That Are Statistically Significantly Greater than the Reference Tissues

DU Location	Sample ID	Mean Concentrations (mg/L)						
		Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium
Upper Harbor and Wideners	DANI12	0.0342	0.0588	***2.558***	0.0788	0.0160	**0.257**	0.27
	DANW12	0.0290	0.0772	***2.288***	0.0677	0.0154	**0.119**	0.27
	NCW12	0.0312	0.0590	***2.296***	0.0728	0.0138	**0.335**	0.27
	CCRK12	0.0326	0.0583	***2.314***	0.0766	0.0153	**0.220**	0.27
	UH12*	0.0307	0.0648	***2.238***	0.0705	0.0149	**0.245**	0.25
	ORDT12	0.0315	0.0634	***2.426***	0.0773	0.0165	0.104	0.28
Lower Harbor and Wideners	REHR12	0.0337	**0.1114**	***2.376***	0.0813	0.0153	**0.151**	0.31
	BENW12	0.0367	**0.0907**	0.963	0.0895	**0.0228**	**0.289**	0.29
	HGIS12	0.0369	**0.119**	0.989	0.0882	0.0198	**0.295**	0.31
	HGIW12	0.0342	**0.0918**	0.873	0.0828	0.0190	**0.146**	0.26
	DRMY12	0.0361	**0.0947**	0.908	0.0855	0.0185	**0.166**	0.29
	WUTB12	0.0359	0.0770	0.940	0.0865	0.0196	**0.209**	0.30
	WRTB12	0.0348	0.0794	0.982	0.0741	0.0203	**0.160**	0.29
	WLR12	0.0347	**0.0969**	0.953	0.0767	0.0188	**0.349**	0.31
	WLRW12	0.0358	0.0755	0.917	0.0723	0.0198	**0.274**	0.29
Anchorage Basin	ABMA12	0.0313	0.073	1.74	***0.111***	0.0207	0.125	0.28
Shem Creek	SHCR12	0.0316	0.0708	1.028	0.0726	0.0203	**0.135**	0.29
Entrance Channel	CHEC12-1	**0.0396**	**0.0928**	0.953	0.0851	0.0197	**0.133**	0.32
	CHEC12-2	**0.0401**	**0.0966**	0.969	0.0884	0.0204	**0.164**	**0.33**
	MTPL12	**0.0397**	**0.0926**	0.917	0.0807	0.0192	**0.255**	0.30
Reference	RS-CH-A	0.0350	0.081	1.72	0.0788	0.0179	0.114	0.28
Pre-exposure	Pre-exposure	0.0284	0.100	1.12	0.0748	0.0168	0.163	0.27
FDA Action Level		3	12	x	1.5	1	70	x
EET		27.8	10.0	0.4	0.1	0.3	2.2	14.2
SABB		0.26-1.8	2.8-7.1	2.5-3.5	0.36-0.60	0.02-0.05	1.6-3.5	1.2-1.9

*UH12 is a composite of NYNC12 and PTFC12

x = No FDA action level or ecological effects threshold for polychaetes published for this parameter.

Bolded Values = The mean concentration in project tissues is statistically significantly greater than in the reference tissues.

Italicized Values = Indicate significantly different results that are greater than the Ecological Effects Threshold

Summary of Mean Wet Weight Metal Results for Macoma nasuta Tissue That Are Statistically Significantly Greater than the Reference Tissues

DU Location	Sample ID	Mean Concentrations (mg/L)												
		Antimony	Arsenic	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc
Upper Harbor and Wideners	DANI12	0.0141	3.816	**0.0052**	**0.0399**	**0.621**	***2.840***	0.1431	**0.0157**	**0.552**	**0.43**	0.027	0.0023	17.0
	DANW12	0.0127	3.688	**0.0074**	**0.0414**	**0.755**	***2.608***	***0.2113***	**0.0156**	**0.504**	**0.46**	0.027	**0.0037**	17.5
	NCW12	**0.0439**	3.708	**0.0055**	**0.0446**	**0.574**	***2.694***	***0.1379***	**0.0165**	**0.500**	**0.46**	0.025	0.0027	17.6
	CCRK12	0.0153	3.600	**0.0065**	**0.0484**	**0.712**	***2.740***	***0.1856***	**0.0152**	**0.574**	**0.43**	0.024	0.0029	17.9
	UH12*	**0.0173**	3.430	**0.0051**	0.0367	**0.526**	***2.670***	0.1449	**0.0157**	**0.503**	**0.41**	0.023	0.0022	16.3
	ORDT12	0.0102	3.536	**0.0071**	0.0351	**0.607**	***2.714***	***0.2117***	**0.0148**	**0.414**	**0.46**	0.023	0.0020	15.6
Lower Harbor and Wideners	REHR12	0.0136	3.804	**0.0068**	**0.0433**	**0.533**	***2.608***	***0.1994***	**0.0168**	**0.515**	**0.42**	0.025	**0.0056**	17.1
	BENW12	**0.0203**	**6.012**	**0.0050**	**0.0477**	**0.684**	2.114	***0.1798***	0.0080	**0.669**	**0.46**	0.051	**0.0076**	18.8
	HGIS12	**0.0189**	**6.092**	**0.0049**	**0.0399**	**0.548**	2.242	***0.1747***	0.0084	**0.549**	**0.45**	0.053	0.0029	19.1
	HGIW12	0.0152	**6.396**	**0.0098**	**0.0397**	**0.690**	2.420	***0.2782***	0.0110	**0.587**	**0.54**	**0.062**	**0.0063**	19.9
	DRMY12	0.0146	**6.044**	**0.0066**	0.0375	**0.490**	2.372	***0.2148***	0.0113	**0.478**	**0.47**	0.058	0.0025	19.1
	WUTB12	**0.0183**	**5.378**	**0.0054**	**0.0400**	**0.504**	2.252	***0.1895***	0.0106	**0.552**	**0.49**	0.057	0.0026	18.8
	WRTB12	0.0158	**6.102**	**0.0060**	0.0392	**0.525**	2.286	***0.2275***	0.0114	**0.485**	**0.49**	0.055	0.0028	20.3
	WLR12	**0.0251**	**6.054**	**0.0041**	**0.0375**	**0.528**	2.296	***0.1574***	0.0098	**0.539**	**0.47**	0.056	0.0028	17.6
	WLRW12	**0.0207**	**6.626**	**0.0042**	**0.0422**	**0.485**	2.236	***0.1651***	0.0096	**0.548**	**0.49**	**0.071**	0.0023	19.1
Anchorage Basin	ABMA12	0.0106	**4.40**	**0.0052**	**0.0472**	**0.432**	***2.60***	***0.274***	0.0077	**0.456**	**0.42**	0.0454	0.0021	***21.3***
Shem Creek	SHCR12	**0.0303**	**6.522**	**0.0075**	**0.0378**	**0.484**	2.418	***0.2576***	0.0099	**0.439**	**0.47**	**0.063**	0.0024	18.4
Entrance Channel	CHEC12-1	0.0122	**6.590**	**0.0087**	**0.0383**	**0.594**	2.530	***0.2457***	0.0117	**0.543**	**0.49**	**0.065**	0.0026	18.2
	CHEC12-2	**0.0200**	**5.904**	**0.0053**	**0.0707**	**0.690**	2.312	***0.1475***	0.0108	**0.643**	**0.49**	0.059	**0.0090**	19.1
	MTPL12	**0.0231**	**5.668**	0.0039	**0.0535**	**0.512**	1.984	0.1149	0.0106	**0.490**	**0.43**	0.048	**0.0067**	19.5
Reference	RS-CH-A	0.0148	4.13	0.0014	0.0338	0.253	2.21	0.113	0.0117	0.296	0.38	0.0373	0.00056	17.4
Pre-Exposure	Pre-exposure	0.0164	4.94	0.0007	0.0409	0.189	3.12	0.166	0.0125	0.379	0.44	0.0469	0.00044	18.9
FDA Action Level: Bivalves		x	86	x	4	13	x	1.7	1	80	x	x	x	x
Ecological Effects Threshold: Bivalves		x	12.6	x	1.0	6.3	0.2	0.1	0.3	2.2	14.2	1.0	0.3	11.6
South Atl. Bight Background: Bivalves		<0.16	4.4-8.6	<0.19	0.68-2.7	0.4-4.6	1.2-2.9	0.05-0.77	<0.02	0.9-3.7	0.70-1.4	<0.96	<0.10	10-20

*UH12 is a composite of NYNC12 and PTFC12

x = No FDA action level or Ecological Effects Threshold for bivalves published for this parameter.

Bolded Values = The mean concentration of project tissues is statistically significantly greater than the reference tissues.

Italicized Values = Indicate significantly different results that are greater than the Ecological Effects Threshold and/or South Atlantic Bight Background concentrations.

PAHs in Tissue

Based on sediment chemistry results, PAHs were analyzed in *N. virens* and *M. nasuta* tissues from all project, reference, and pre-exposure samples.

Neanthes virens: No PAHs were detected in concentrations greater than the MRL in any sample. According to Section 7.5.1 of the SERIM, if more than three replicates are below the LRL, no statistical comparison to the reference should be made. Since all concentrations are below the laboratory's MRL, statistical comparisons were not made.

Macoma nasuta: Fluoranthene, naphthalene, and pyrene were the only PAHs that had mean adjusted concentrations that were greater than the MRL in more than three replicates in some samples. Therefore, statistical comparisons with the reference were performed on those samples. Samples ORDT12, DRMY12, WUTB12, WRTB12, ABMA12, and SHCR12 tissues had fluoranthene concentrations that were statistically significantly greater than the reference tissues. Sample DANI12 tissues had naphthalene concentrations that were statistically significantly greater than the reference tissues. Samples ABMA12 and SHCR12 tissues had pyrene concentrations that were statistically significantly greater than the reference tissues. Samples DRMY12, ORDT12, WRTB12, WUTB12, ABMA12, and SHCR12 had total HMW PAHs and total PAHs that were statistically significantly greater than the reference tissues. None of the statistically significantly different results exceeded the EET or South Atlantic Bight background values.

PBDEs in Tissue

Based on sediment chemistry results, PBDEs were analyzed in *N. virens* and *M. nasuta* tissues from project sample WLR12, reference, and pre-exposure samples.

Neanthes virens: With the exception of PBDE 47, no other PBDEs were detected in concentrations greater than the MRL in sample WLR12. The mean concentration of PBDE 47 in sample WLR12 was statistically significantly greater than the reference tissues.

Macoma nasuta: With the exception of PBDE 99, no other PBDEs were detected in concentrations greater than the MRL in sample WLR12. The mean concentration of PBDE 99 in sample WLR12 was statistically significantly greater than the reference tissues.

Organotins in Tissue

Based on sediment chemistry results, organotins were analyzed in *N. virens* and *M. nasuta* tissues from project samples WLR12, WUTB12, UH12, NCW12, SHCR12; reference; and pre-exposure samples.

Neanthes virens: No samples had concentrations of individual organotin cations or total organotins that were statistically significantly greater than the reference or that exceeded the EET for tri-n-butyltin.

Macoma nasuta: No samples had concentrations of individual organotin cations or total organotins that were statistically significantly greater than the reference or that exceeded the EET for tri-n-butyltin.

Dioxins/Furans in Tissue

Based on sediment chemistry results, dioxins were analyzed in *N. virens* and *M. nasuta* tissues from project samples CHEC12-1, REHR12, WLR12, WUTB12, CCRK12, ORDT12, HGIW12, DANW12, WLRW12, ABMA12; reference; and pre-exposure samples.

Neanthes virens: In sample ABMA12, concentrations of total tetra-furans were statistically significantly greater than the reference. No other samples had concentrations of dioxin or furan congeners, total dioxins, or total furans that were statistically significantly greater than the reference.

Macoma nasuta: In samples CHEC12-1, WUTB12, and ABMA12, dioxin/furan TEQs were statistically significantly greater than the reference. In sample WUTB12, concentrations of OCDD, total hexa-furans, and total hepta-furans were statistically significantly greater than the reference. In sample CHEC12-1, concentrations of total tetra-dioxins and total hexa-dioxins were statistically significantly greater than the reference. No other samples had concentrations of individual dioxin or furan congeners, total dioxins, or total furans that were statistically significantly greater than the reference.

ADDAMS Model

Based on results of the STFATE module of the ADDAMS model, all proposed dredge material may be disposed at the center of the ODMDS. Up to 9,000 cubic yards per trip of dredge material from all upper harbor and lower harbor dredge units may be disposed at the ODMDS. Up to 13,500 cubic yards per trip of dredge material from the entrance channel dredge units may be disposed at the ODMDS.

Summary of Test Results

A complete summary of all sediment, elutriate, toxicology, and bioaccumulation test results is provided on the following table.

Summary of Charleston Post 45 Section 103 Sediment Testing Results

				Solid Phase Bioassays		Water Column Bioassays								Elutriate Chemistry	Bioaccumulation										Sediment Chemistry								
				Amphipod *A . abdita*	Polychaeta *N. arenaceodentata*	Mysid *A. Bahia*		Fish *M. berylina*		Bivalve Larvae *M. galloprovincialis*		Ammonia Reduced *M. galloprovincialis*			Metals		PAH		PBDE		Organotins		Dioxins		Metals	TPH	PAH		PBDE	Organotins	PCBs	Pesticides	Dioxins
DU	Dredging Unit Name	Composite Sample ID	Average Passing # 200 sieve	MEAN SURVIVAL (%)		Survival Stat < Control	LC50	Survival Stat < Control	LC50	Survival Stat < Control	EC50	Survival Stat < Control	EC50	Exceed CMC?	*N. virens*	*M. nasuta*	*N. virens*	*M. nasuta*	*N. virens*	*M. nasuta*	*N. virens*	*M. nasuta*	*N. virens*	*M. nasuta*	>ERL or TEL	(mg/kg)	Total PAH (ug/kg)	>ERL or TEL	>MRL	>MRL	>MRL	>MRL	TEQ (ng/kg)
Entrance Channel																																
1	Charleston Entrance Channel (area 1)	CHEC12-1	50.3	89	92	NO	>100%	YES	75.8%	YES	29.5%	NO	>100%	NO	Cd/1.13 Cr/1.15 Ni/1.17	As/1.59 Be/6.37 Cd/1.13 Cr/2.35 **Pb**/2.18 Ni/1.83 Se/1.31 Ag/1.73	NS>REF	NS>REF	--	--	--	--	NS>REF	TEQ	As	360	73						3.103
2	Charleston Entrance Channel (area 2)	CHEC12-2	32.5	91	90	NO	>100%	NO	>100%	YES	51.2%	NO	>100%	NO	Cd/1.14 Cr/1.20 Ni/1.44 Se/1.19	Sb/1.35 As/1.43 Be/3.93 Cd/2.09 Cr/2.73 **Pb**/1.31 Ni/2.17 Se/1.29 Tl/16.12	NS>REF	NS>REF	--	--	--	--	--	--	Cd	<130	38						2.003
3	Mount Pleasant Range	MTPL12	28.6	82	92	NO	>100%	NO	>100%	NO	>100%	Not run		NO	Cd/1.13 Cr/1.15 Ni/2.24	Sb/1.55 As/1.37 Cd/1.58 Cr/2.03 Ni/1.65 Se/1.15 Tl/12.09	NS>REF	NS>REF	--	--	--	--	--	--	As, Cd, Cr, Ni	<130	16						1.515
Lower Harbor																																
4	Rebellion, Bennis, and Horse reaches	REHR12	29.4	89	100	NO	>100%	YES	>100%	YES	55.3%	NO	>100%	NO	Cr/1.38 **Cu**/1.38 Ni/1.33	Be/5.00 Cd/1.28 Cr/2.11 **Cu**/1.18 **Pb**/1.77 Hg/1.44 Ni/1.74 Se/1.12 Tl/10.00	NS>REF	NS>REF	--	--	--	--	NS>REF	NS>REF		<110	20						1.843
5	Hog Island Reach	HGIS12	36.6	91	92	NO	>100%	NO	>100%	YES	>100%	NO	>100%	NO	Cr/1.47 Ni/2.59	Sb/1.27 As/1.47 Be/3.57 Cd/1.18 Cr/2.17 **Pb**/1.55 Ni/1.85 Se/1.20	NS>REF	NS>REF	--	--	--	--	--	--		<120	148						0.991
6	Drum Island Reach, Drum Island Widener, and Meyers Bend	DRMY12	69.0	87	100	YES	71.3%	YES	51.6%	YES	22.0%	NO	>100%	NO	Cr/1.17 Ni/1.46	As/1.46 Be/4.85 Cr/1.97 **Pb**/1.90 Ni/1.61 Se/1.25	NS>REF	Fluoranthene/2.64 Total PAHs/1.77 Total HMW PAHs/2.28	--	--	--	--	--	--	As	280	144						2.352
7	Wando River Lower Reach	WLR12	42.6	89	96	NO	>100%	NO	>100%	YES	92.3%	NO	>100%	NO	Cr/1.20 Ni/3.07	Sb/1.70 As/1.46 Be/3.04 Cd/1.11 Cr/2.09 **Pb**/1.40 Ni/1.82 Se/1.24	NS>REF	NS>REF	PBDE 47	PBDE 99	NS>REF	NS>REF	NS>REF	NS>REF		210	55		#47, #99, #100, #153	Tri-n-Butyltin			2.315
8	Wando River Upper Reach and Wando River Turning Basin	WUTB12	75.3	84	98	NO	>100%	YES	75.0%	YES	29.9%	NO	>100%	NO	Ni/1.83	Sb/1.23 As/1.30 Be/3.99 Cd/1.18 Cr/1.99 **Pb**/1.68 Ni/1.86 Se/1.30	NS>REF	Fluoranthene/2.21 Total PAHs/4.00 Total HMW PAHs/3.21	--	--	NS>REF	NS>REF	NS>REF	NS>REF	As, Cr, Ni	480	141			Tri-n-Butyltin			5.356

ANAMAR Environmental Consulting, Inc.

Summary of Charleston Post 45 Section 103 Sediment Testing Results

				Solid Phase Bioassays		Water Column Bioassays									Bioaccumulation										Sediment Chemistry									
				Amphipod *A . abdita*	Polychaeta *N. arenaceodentata*	Mysid *A. Bahia*		Fish *M. beryllina*		Bivalve Larvae *M. galloprovincialis*		Ammonia Reduced *M. galloprovincialis*		**Elutriate Chemistry**	Metals		PAH		PBDE		Organotins		Dioxins		Metals	TPH	PAH		PBDE	Organotins	PCBs	Pesticides	Dioxins
DU	Dredging Unit Name	Composite Sample ID	Average Passing # 200 sieve	MEAN SURVIVAL (%)		Survival Stat < Control	LC50	Survival Stat < Control	LC50	Survival Stat < Control	EC50	Survival Stat < Control	EC50	Exceed CMC?	*N. virens*	*M. nasuta*	*N. virens*	*M. nasuta*	*N. virens*	*M. nasuta*	*N. virens*	*M. nasuta*	*N. virens*	*M. nasuta*	>ERL or TEL	(mg/kg)	Total PAH (ug/kg)	>ERL or TEL	>MRL	>MRL	>MRL	>MRL	TEQ (ng/kg)
14	Bennis Reach Widener	BENW12	28.5	85	92	NO	>100%	NO	>100%	YES	73.1%	NO	>100%	NO	Cr/1.12 Ni/2.54 Hg/1.27	Sb/1.37 As/1.45 Be/3.65 Cd/1.41 Cr/2.71 **Pb**/1.59 Ni/2.26 Se/1.21 Tl/13.60	NS>REF	NS>REF	--	--	--	--	--	--		<110	16		#209				0.412
15	Hog Island Widener	HGIW12	25.0	84	100	NO	>100%	NO	>100%	YES	64.8%	NO	>100%	NO	Cr/1.14 Ni/1.28	As/1.45 Be/3.65 Cd/1.41 Cr/2.71 **Pb**/2.47 Ni/1.98 Se/1.42 Ag/1.66 Tl/11.26	NS>REF	NS>REF	--	--	--	--	NS>REF	TEQs OCDD		<120	155						1.912
16	Wando River Turning Basin Widener	WRTB12	40.7	88	100	NO	>100%	NO	>100%	YES	56.3%	NO	>100%	NO	Ni/1.41	As/1.48 Be/4.41 Cr/2.08 **Pb**/2.02 Ni/1.64 Se/1.29	NS>REF	Fluoranthene/2.21 Total PAHs/1.59 Total HMW PAHs/1.94	--	--	--	--	--	--		150	69						1.821
18	Wando River Lower Reach Widener	WLRW12	29.1	91	94	NO	>100%	NO	>100%	NO	>100%	NO	>100%	NO	Ni/2.40	Sb/1.69 As/1.46 Be/3.04 Cd/1.11 Cr/2.09 **Pb**/1.40 Ni/1.82 Se/1.24 Ag/1.90	NS>REF	NS>REF	--	--	--	--	NS>REF	NS>REF		<110	31						1.619
20	Anchorage Basin	ABMA12	45.7	95	98	YES	>100%	YES	49.8%	YES	20.0%	NO	>100%	NO	**Pb**/1.40	As/1.07 Be/3.82 Cd/1.40 Cr/1.71 Cu/1.09 **Pb**/2.43 Ni/1.54 Se/1.11 **Zn**/1.22	NS>REF	Fluoranthene/2.69 Pyrene/3.39 Total PAHs/2.07 Total HMW PAHs/2.77	--	--	--	--	Total tetra-furans	TEQs	As	340	101						2.916
21	Shem Creek Channel	SHCR12	64.4	86	100	YES	73.6%	YES	51.0%	YES	17.5%	NO	>100%	NO	Ni/1.19	Sb/2.04 As/1.58 Be/5.50 Cr/1.92 **Pb**/2.28 Ni/1.48 Se/1.25 Ag/1.70	NS>REF	Fluoranthene/4.23 Pyrene/6.11 Total PAHs/2.93 Total HMW PAHs/4.15	--	--	--	--	--	--	As	630	559	Dibenzo(a,h) anthracene					2.953
Upper Harbor																																	
9	Daniel Island Reach	DANI12	49.6	94	100	NO	>100%	YES	>100%	YES	57.0%	NO	>100%	NO	**Cu**/1.49 Ni/1.83	Be/3.84 Cd/1.18 Cr/2.46 **Cu**/1.29 Hg/1.34 Ni/1.86 Se/1.13	NS>REF	Naphthlene/4.58	--	--	--	--	--	--	Ni	<140	126						2.802
10	Daniel Island Bend, Clouter Creek Reach, Clouter Creek Reach Widener	CCRK12	47.5	94	100	NO	>100%	YES	>100%	YES	68.8%	NO	>100%	NO	**Cu**/1.35 Ni/1.93	Be/4.75 Cd/1.43 Cr/2.81 **Cu**/1.24 **Pb**/1.65 Hg/1.30 Ni/1.94 Se/1.14	NS>REF	NS>REF	--	--	--	--	NS>REF	NS>REF		<140	110						2.368
11	Navy Yard Reach, North Charleston Reach	NYNC12	66.0	90	98	NO	>100%	NO	>100%	YES	69.6%	NO	>100%	NO	**Cu**/1.30 Ni/2.15	Sb/1.17 Be/3.74 Cr/2.08 **Cu**/1.21 Hg/1.34 Ni/1.70 Se/1.08	NS>REF	NS>REF	--	--	--	--	--	--	Cr, Ni	<150	191		#209	Tri-n-Butyltin			3.198
12	Port Terminal Reach, Filbin Creek Reach, Ordnance Reach	PTFC12	67.8	94	98	NO	>100%	YES	>100%	YES	63.1%	NO	>100%	NO			NS>REF	NS>REF	--	--	NS>REF	NS>REF	--	--	As, Cr, Ni	<150	155		#209	Tri-n-Butyltin			2.767

ANAMAR Environmental Consulting, Inc.

Summary of Charleston Post 45 Section 103 Sediment Testing Results

				Solid Phase Bioassays		Water Column Bioassays									Bioaccumulation										Sediment Chemistry								
				Amphipod *A . abdita*	Polychaeta *N. arenaceodentata*	Mysid *A. Bahia*		Fish *M. beryllina*		Bivalve Larvae *M. galloprovincialis*		Ammonia Reduced *M. galloprovincialis*		**Elutriate Chemistry**	Metals		PAH		PBDE		Organotins		Dioxins		Metals	TPH	PAH		PBDE	Organotins	PCBs	Pesticides	Dioxins
DU	Dredging Unit Name	Composite Sample ID	Average Passing # 200 sieve	MEAN SURVIVAL (%)		Survival Stat < Control	LC50	Survival Stat < Control	LC50	Survival Stat < Control	EC50	Survival Stat < Control	EC50	Exceed CMC?	*N. virens*	*M. nasuta*	*N. virens*	*M. nasuta*	*N. virens*	*M. nasuta*	*N. virens*	*M. nasuta*	*N. virens*	*M. nasuta*	>ERL or TEL	(mg/kg)	Total PAH (ug/kg)	>ERL or TEL	>MRL	>MRL	>MRL	>MRL	TEQ (ng/kg)
13	Ordnance Reach Turning Basin, Ordnance Reach Turning Basin Widener	ORDT12	44.1	88	98	NO	>100%	YES	94.8%	YES	35.2%	NO	>100%	NO	**Cu**/141	Be/5.21 Cr/2.40 **Cu**/1.23 **Pb**/1.88 Hg/1.27 Ni/1.40 Se/1.23	NS>REF	Fluoranthene/2.46 Total PAH/1.78 Total HMW PAHs/2.31	--	--	--	--	NS>REF	NS>REF		<150	68						3.658
17	Daniel Island Reach Widener	DANW12	59.6	86	98	NO	>100%	YES	>100%	YES	42.0%	NO	>100%	NO	**Cu**/1.33 Ni/1.05	Be/5.41 Cd/1.22 Cr/2.99 **Cu**/1.18 **Pb**/1.87 Hg/1.34 Ni/1.70 Se/1.21 Tl/6.73	NS>REF	NS>REF	--	--	--	--	NS>REF	NS>REF	As, Ni	<160	16		#209				5.943
19	North Charleston Reach Widener and Filbin Creek Reach Widener	NCW12	49.9	94	100	NO	>100%	YES	>100%	YES	67.9%	NO	>100%	NO	**Cu**/1.33 Ni/2.94	Sb/2.96 Be/4.01 Cd/1.32 Cr/2.27 **Cu**/1.22 **Pb**/1.22 Hg/1.41 Ni/1.69 Se/1.21	NS>REF	NS>REF	--	--	NS>REF	NS>REF	--	--	Cr, Ni	150	148			Tri-n-Butyltin			2.714
Notes														Analyte List: Metals Ammonia Pesticides PAHs	Entry - concentration in tissues statistically > than reference and / ratio test/reference **Pb** - analyte > EET and/or SAB Background conc		NS>REF means not statistically signficantly > reference		-- analyte not tested for that sample		-- analyte not tested for that sample		-- analyte not tested for that sample		No entry means no exceedences			No entry means no exceedences	No entry means conc < MRL	No entry means conc < MRL	No entry means conc < MRL	No entry means conc < MRL	

1 INTRODUCTION

1.1 Project Area Description

Charleston Harbor is a 14-square-mile tidal estuary in Berkeley and Charleston counties, South Carolina, and is formed from the junction of the Ashley, Cooper, and Wando rivers. Morris Island and Sullivan's Island form a protective barrier near the entrance at the southeast portion of the harbor, as do two jetties that frame the north and south sides of the inlet (Exhibit 1-1). The harbor is bordered to the southeast, west, and north by the Atlantic Ocean, the city of Charleston, the town of Mount Pleasant, and James Island and is traversed by the Atlantic Intracoastal Waterway. Mean and spring tidal ranges at the entrance channel are 5.1 and 5.9 feet, respectively.

Charleston Harbor has been a key economic driver in the region for over 300 years, due in part to its deep depths (currently maintained at -45 feet mean lower low water [MLLW]) at the main shipping channel and even greater depth (-47 feet MLLW) in the entrance channel (South Carolina Ports Authority 2012). The harbor's location along the U.S. Atlantic coast allows access for European and South American ships.

The Charleston Harbor Post 45 Deepening Feasibility Study is designed to evaluate and determine the need to improve navigability in the harbor. Objectives of the feasibility study are to investigate and analyze

- Existing vessel sizes using the harbor to determine and identify any impacts to navigation and usage from the current -45-foot-MLLW channel depth.
- Future vessel sizes and drafts as projected over the expected life of the improvement project to forecast channel depth requirements of up to -52 feet MLLW in the lower harbor and up to -48 feet MLLW in the upper harbor.

The Feasibility Study is expected to investigate several navigation improvement scenarios for the harbor, including channel deepening, channel widening, channel realignment/bend easing, and turning basin widening and/or lengthening. In support of the Feasibility Study, a sediment evaluation of proposed dredge material from the harbor reaches was conducted to determine its suitability for ocean disposal or beneficial use.

Exhibit 1-1 provides an overview of the Charleston Harbor Federal Navigation Channel which is divided into three primary reaches: the entrance channel, lower harbor, and upper harbor reaches. Exhibit 1-2 shows all the sampling locations within the entire harbor.

Entrance Channel—The entrance channel begins at the 47-foot contour line in the Atlantic Ocean and extends northwest 17 miles to the harbor entrance between Fort Moultrie and Fort Sumter. The entire entrance channel, which consists of the Fort Sumter Range, is currently maintained at 800 feet wide by -47 feet MLLW deep. The Mount Pleasant Range, which is located between the jetties, is included as part of the entrance channel for the purposes of this study. The Mount Pleasant Range transitions from -47 feet to -45 feet MLLW and has a width of ≥500 feet.

Lower Harbor—At the harbor's entrance, the channel continues with a depth of -45 feet MLLW and a varying width of 500 to 900 feet, extending northwest along the Cooper River and

northeast along the Wando River to the South Carolina Ports Authority Wando Welch Terminal. The lower harbor includes the Anchorage Basin, Rebellion Reach, Bennis Reach, Horse Reach, Hog Island Reach, Drum Island Reach, Myers Bend, Wando River Lower Reach and Wando River Upper Reach. Proposed channel wideners included in the lower harbor consist of the Bennis Reach Widener, Hog Island Widener, Drum Island Widener, Wando River Lower Reach Widener, and Wando River Turning Basin Widener.

Upper Harbor—The upper harbor consists of the remainder of the harbor upstream along the Cooper River to the South Carolina Ports Authority North Charleston Terminal. The upper harbor includes the Daniel Island Reach, Daniel Island Bend, Clouter Creek Reach, Navy Yard Reach, North Charleston Reach, Filbin Creek Reach, Port Terminal Reach, and Ordnance Reach (and the associated Ordnance Reach Turning Basin). Proposed channel wideners included in the upper harbor consist of the Daniel Island Reach Widener, Clouter Creek Reach Widener, North Charleston Reach Widener, and Ordnance Reach Turning Basin Widener.

Shem Creek— Shem Creek is not part of the Charleston Harbor Navigation Deepening Project and Feasibility Study; however, testing was included as part of this sampling effort. Shem Creek Channel is a small (110 feet wide by -12 feet MLLW deep) channel that serves the town of Mount Pleasant and is regularly used by shrimp trawlers and other commercial fishing vessels.

The Naval Weapons Station Channel north of Ordnance Reach is not included in the project area. Similarly, the channel extending from Mount Pleasant Range through the Ashley River is not included in the project area.

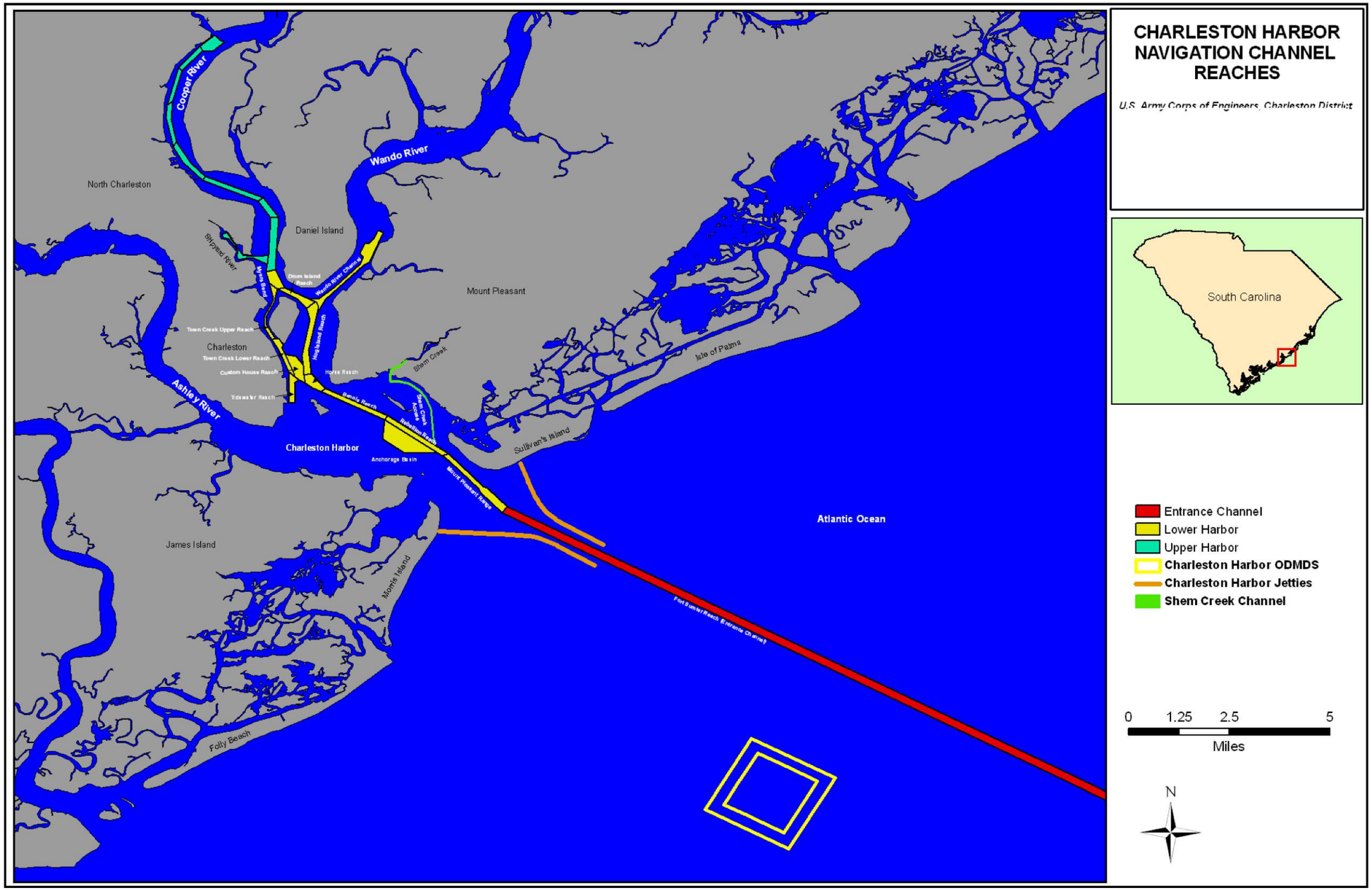
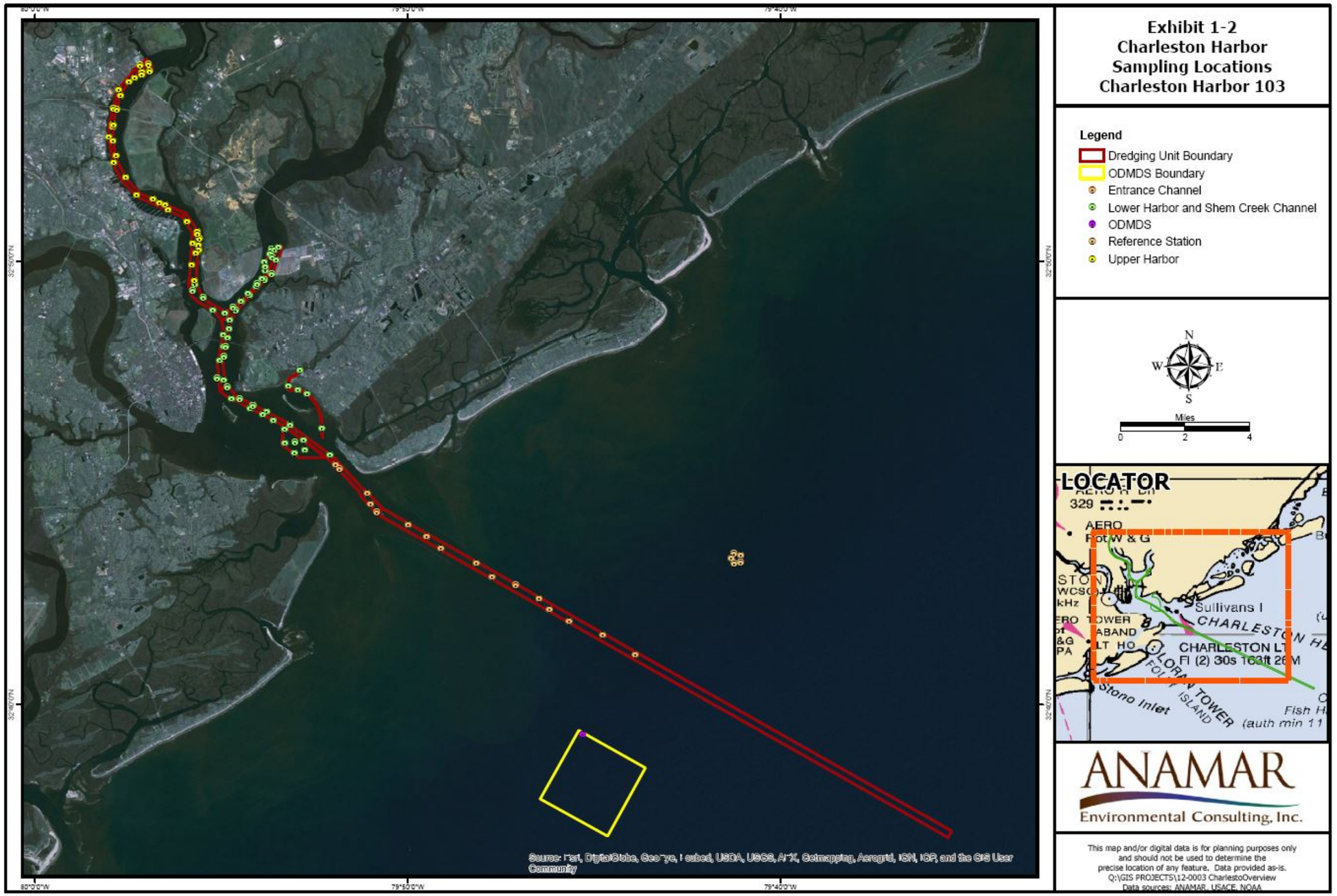


Exhibit 1-1. Overview of Charleston Harbor Federal Navigation Channel Reaches


80°0'0"W
79°55'0"W
79°40'0"W
32°50'0"N
32°40'0"N
Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
Exhibit 1-2
Charleston Harbor
Sampling Locations
Charleston Harbor 103
Legend
Dredging Unit Boundary
ODMDS Boundary
Entrance Channel
Lower Harbor and Shem Creek Channel
ODMDS
Reference Station
Upper Harbor
N
W
E
S
Miles
0
2
4
LOCATOR
329
AERO
Fl W & G
Sullivans I
CHARLESTON
CHARLESTON LT
Fl (2) 30s 163ft 26M
Stono Inlet
ISLAND
TOWER
ANAMAR
Environmental Consulting, Inc.
This map and/or digital data is for planning purposes only
and should not be used to determine the
precise location of any feature. Data provided as-is.
Q:\GIS PROJECTS\12-0003 CharlestoOverview
Data sources: ANAMAR, USACE, NOAA

1.2 Dredging History

Most of the project area is regularly maintained to its full authorized project depth and width. Maintenance dredging within Charleston Harbor is required on a regular basis to provide unrestricted navigation for ocean-going vessels calling upon the Port of Charleston. Dredging depths throughout the harbor vary widely due to shoaling and other natural processes. Rapid shoaling occurs in Lower Town Creek Reach (and turning basin), Drum Island Reach, Wando River Turning Basin, Shipyard River, Daniel Island Reach, Ordnance Reach, and Ordnance Reach Turning Basin. Other reaches shoal less rapidly.

Advanced maintenance is conducted in high-shoaling areas to enable the project area to remain at the authorized depth for a longer period of time. The harbor was deepened to the project depth between 1999 and 2004, when portions along several reaches were dredged 2 to 4 feet deeper (additional advanced maintenance) because of historically higher shoaling rates. This resulted in potential dredging depths of -51 or -53 feet MLLW in those areas. Since this deepening, maintenance has been performed on a 12- to 18-month frequency including the additional advanced maintenance.

The anticipated average annual maintenance dredging needs from the Charleston Harbor federal navigation channels are approximately 2,200,000 cubic yards. About 1,360,000 cubic yards of this total currently go to the ODMDS. The sediment in Charleston Harbor reaches where maintenance dredging occurs are predominately fine-grained sediments except for entrance channel materials, which are expected to contain more sand. Future maintenance dredging quantities for Charleston Harbor are expected to be similar to those recorded during the last approximately 15 years. However, a post-improvement shoaling analysis has not yet been conducted. Table 6-1 in the Sampling and Analysis Plan/Quality Assurance Project Plan (SAP/QAPP) summarizes expected dredged material quantities for the Charleston Harbor Post-45 Deepening Project.

1.3 Description of the Testing Approach

1.3.1 Evaluation of Dredge Material for Disposal

Sediment and suspended phase testing are required under Marine Protection, Research, and Sanctuaries Act (MPRSA) Section 103 to determine the suitability of the material to be dredged for ocean disposal. MPRSA Section 103 requires that all proposed operations involving the transportation and discharge of dredged material into ocean waters be evaluated to determine the potential environmental impact of such activities. The proposed dumping must be evaluated using criteria published by the U.S. Environmental Protection Agency (EPA) in Title 40 of the CFR (40 CFR), Parts 220–228. Specific testing methods are described in the *Evaluation of Dredged Material Proposed for Ocean Disposal - Testing Manual* (EPA and USACE 1991, referred to here as the 'Green Book') and in the *Southeast Regional Implementation Manual (SERIM), Requirements and Procedures for Evaluation of the Ocean Disposal of Dredged Material in Southeast U.S. Atlantic and Gulf Coast Waters* (EPA and USACE 2008, referred to here as the 'SERIM'). These manuals provide guidance to support the tiered-testing procedure for evaluating compliance with the limiting permissible concentration (LPC) as defined by 40 CFR 220–228.

Chemical and biological analyses of Charleston Harbor sediments have been previously performed. A list of recent data reports is provided in Section 5.3.2 of the SAP/QAPP (Appendix A).

1.3.2 Objectives and Deliverables

Ocean disposal of dredged material from the Charleston Harbor Federal Navigation Channel will be required as part of the proposed deepening project, and the project will require a Department of Army Section 103 permit. The purpose of this testing is to assist USACE in determining the suitability of dredge material from the harbor for either ocean disposal or beneficial use. Beneficial use is defined as utilizing dredged sediments as resource materials in productive ways that provide environmental, economic, or social benefit. Sediment samples from representative sites throughout the project area were collected and evaluated. The samples were collected from locations and depths coinciding with the dredging prism and were analyzed for physical, chemical, toxicological, and bioaccumulation parameters. Details on the rationale and experimental design are provided in Section 2.1.

USACE contracted with ANAMAR Environmental Consulting, Inc. to collect sediment and water samples, conduct required analyses, and present the results in a report. The field effort, laboratory methods, and this report are in accordance with the scope of work and the SAP/QAPP (Appendix A).

Deliverables associated with this project include a

- Draft SAP/QAPP
- Final SAP/QAPP
- Health and Safety Plan
- Daily Quality Control Reports (DQCR)
- Preliminary sediment physical and chemical data for tissue recommendations
- Laboratory electronic data and reports
- Draft sediment testing report and supporting documentation
- Final sediment testing report and supporting documentation
- A Chemical Quality Assurance Report (CQAR)

ANAMAR coordinated and directed operations for this project and worked closely with USACE to develop a sampling and analysis scheme, schedule, and deliverables. ANAMAR also reviewed all data and produced this report summarizing the results of the physical, chemical, and toxicological testing of sediment, elutriate, water, and tissue samples of the proposed dredge material. Exhibits 1-3 and 1-4 indicate the principal users of data, subcontractors, and their respective areas of responsibility associated with this evaluation.

Exhibit 1-3. Principal Data Users and Areas of Responsibility

Agency or Company	Area(s) of Responsibility
U.S. Army Corps of Engineers, Charleston District (Charleston, North Carolina)	Permit and maintain the harbor with the dredged material to be potentially disposed at the Charleston ODMDS
U.S. Environmental Protection Agency, Region 4 (Atlanta, Georgia)	Give concurrence to environmental requirements of dredged sediment for approval of offshore disposal per the Green Book and the SERIM

Exhibit 1-4. Subcontractors and Responsibilities

Company, Location, Website	Area(s) of Responsibility
AMEC (Jacksonville, Florida) www.amec.com	Laboratory preparation and physical analysis of sediment; sample holding and archiving
ALS Environmental (Kelso, Washington) www.caslab.com/Kelso-Laboratory	Laboratory preparation and chemical analysis of sediment, elutriate, and tissue samples; sample holding and archiving
Athena Technologies, Inc. (McClellanville, South Carolina) www.athenatechnologies.com	Support for field collection of sediment samples requiring vibracore equipment
NewFields Laboratory (Port Gamble, Washington) www.newfields.com	Laboratory preparation for suspended phase, solid phase, and bioaccumulation potential analyses; sample holding and archiving

2 MATERIALS AND METHODS

2.1 Project Design and Rationale

USACE developed the sampling design and rationale, and a SAP/QAPP was prepared and approved by EPA Region 4 (Appendix A). The SAP/QAPP details the sampling design, analysis, and reporting requirements. Areas proposed to be dredged were divided into 21 project-specific dredging units (DUs). Each DU was expected to have consistent characteristics relative to the project area as a whole (Green Book, SERIM). Three to six subsampling stations were selected from within each DU and were based on the results of a bathymetric survey conducted during February 2012 and provided by USACE. Stations were positioned to best represent dredged material that may be disposed at the Charleston ODMDS.

Target sampling depths at each station coincided with the project depth at that location, -54 feet and -52 feet MLLW for the entrance channel, -52 feet MLLW for the lower harbor, and -52 feet and -48 feet MLLW for the upper harbor, plus allowable overdepth and advanced maintenance. The project depth at each sampling location is presented in Table 1.

Exhibits 2-1 through 2-3 show sample nomenclature, composite schemes, and the relationships between DUs in the entrance channel, lower harbor, Shem Creek channel, and upper harbor, respectively. Exhibit 2-4 summarizes field sampling materials and methods, and Exhibit 2-5 summarizes the laboratory analyses.

Exhibit 2-1. Dredging Units, Navigational Channel Areas, and Sample IDs: ENTRANCE CHANNEL

Project-Specific Dredging Unit	Channel Area Represented by Dredging Unit	Subsample IDs	Composite Sample ID
1	Charleston Entrance Channel (area 1)	CHEC12-1A through E	CHEC12-1
2	Charleston Entrance Channel (area 2)	CHEC12-2A through E	CHEC12-2
3	Mount Pleasant Range	MTPL12-A through E	MTPL12

Exhibit 2-2. Dredging Units, Navigational Channel Areas, and Sample IDs: LOWER HARBOR and SHEM CREEK CHANNEL

Project-Specific Dredging Unit	Channel Area(s) Represented by Dredging Unit	Subsample IDs	Composite Sample ID
4	Rebellion, Bennis, and Horse reaches	REHR12-A through F	REHR12
5	Hog Island Reach	HGIS12-A through E	HGIS12
6	Drum Island Reach, Drum Island Widener, and Meyers Bend	DRMY12-A through E	DRMY12
7	Wando River Lower Reach	WLR12-A through E	WLR12
8	Wando River Upper Reach and Wando River Turning Basin	WUTB12-A through E	WUTB12
14	Bennis Reach Widener	BENW12-A through F	BENW12
15	Hog Island Widener	HGIW12-A through E	HGIW12
16	Wando River Turning Basin Widener	WRTB12-A through E	WRTB12
18	Wando River Lower Reach Widener	WLRW12-A through E	WLRW12
20	Anchorage Basin	ABMA12-A through E	ABMA12
21	Shem Creek Channel	SHCR12-A through E	SHCR12

Exhibit 2-3. Dredging Units, Navigational Channel Areas, and Sample IDs: UPPER HARBOR

Project-Specific Dredging Unit	Channel Area(s) Represented by Dredging Unit	Subsample IDs	Composite Sample ID
9	Daniel Island Reach	DANI1-2A through E	DANI12
10	Daniel Island Bend, Clouter Creek Reach, Clouter Creek Reach Widener	CCRK12-A through E	CCRK12
11	Navy Yard Reach, North Charleston Reach	NYNC12-A through E	NYNC12
12	Port Terminal Reach, Filbin Creek Reach, Ordnance Reach	PTFC12-A through E	PTFC12
13	Ordnance Reach Turning Basin, Ordnance Reach Turning Basin Widener	ORDT12-A through E	ORDT12
17	Daniel Island Reach Widener	DANW12-A through C	DANW12
19	North Charleston Reach Widener and Filbin Creek Reach Widener	NCW12-A through E	NCW12

Exhibit 2-4. Summary of Field Sampling Materials and Methods

FIELD SAMPLE COLLECTION:
- 105 project sediment subsamples (3 to 6 subsamples/DU), 2 field split samples (collected from composite samples CHEC12-1 and ORDT12)

SAMPLING GEAR:
- Vibracore (Core Samples)
- Petersen-style grab sampler (Reference Sample)
- Pneumatic stainless steel pump (Water Sample)

VESSELS:
- S/V *ANAMAR* (24-foot Grady White)
- R/V *Artemis* (30-foot SeaArk pontoon vessel)

PRESERVATION:
- Sediment chemistry and all water samples were kept at $\leq$4°C
- Site water in various containers, with or without stabilizing agents, were kept at $\leq$4°C
- Holding time requirements were analyte-specific and test-specific

IN SITU DATA:

Conductivity (mS/cm)
pH
Sea State
Turbidity (NTU)
Water Temperature (°C)
Dissolved Oxygen (mg/L and % saturation)
Salinity (ppt)
Tide Cycle
Water Depth (feet)
Weather Observations

Exhibit 2-5. Summary of Laboratory Analysis and Bioassay Test Species

SEDIMENT PHYSICAL ANALYSES (all subsamples and composite samples):

- Hydrometer grain size
- Total solids/water content
- Specific gravity

SEDIMENT CHEMICAL ANALYSES (composite samples only):

- Metals
- Ammonia (as total nitrogen)
- Total petroleum hydrocarbons
- Organotins
- Total organic carbon (TOC)
- Polynuclear aromatic hydrocarbons (PAHs)
- Organochlorine pesticides
- Polychlorinated biphenyl (PCB) congeners
- PCB Aroclors
- Polybrominated diphenyl ethers (PBDEs)
- Dioxins

ELUTRIATES AND SITE WATER ANALYSES:

- Metals
- Ammonia (as total nitrogen)
- PAHs
- Organochlorine pesticides

TISSUE CHEMICAL ANALYSES:

- See Section 2.5

BIOASSAY AND BIOACCUMULATION TESTS (composite samples only):

Water Column (Suspended Particulate Phase) 72-hour toxicity tests using three species:

1. Fish: *Menidia beryllina* (inland silverside)
2. Mysid crustacean: *Americamysis bahia* (opossum shrimp)
3. Bivalve mollusk: larval *Mytilus galloprovincialis* (Mediterranean mussel)

Whole Sediment (Solid Phase) Bioassay 10-day toxicity tests using two species:

1. Infaunal amphipod crustacean: *Ampelisca abdita* (no common name)
2. Epifaunal polychaete worm: *Neanthes arenaceodentata* (no common name)

Whole Sediment Bioaccumulation Potential 28-day exposure tests using two species:

1. Infaunal polychaete worm: *Neanthes virens* (sand worm)
2. Bivalve mollusk: *Macoma nasuta* (bent-nose clam)

2.2 Sample Collection Techniques

2.2.1 Field Effort

Field sampling took place from October 20 through November 19, 2012. Field personnel consisted of scientists from ANAMAR and Athena Technologies. The field team used two marinas: Daniel Island Marina in Charleston and Tolers Cove Marina in Mount Pleasant. All compositing was conducted by ANAMAR at their headquarters in Gainesville, Florida. Exhibit 2-6 summarizes the field sampling effort. Tables 1, 2, and 3 provide additional information on core, grab, and water samples, respectively.

Exhibit 2-6. Field Sampling Activities

Date	General Activity
October 19	• Sampling team arrives in Charleston
October 20-26	• Collect core samples ORDT12-A through E, PTFC12-A through E, NYNC12-A through E, CCRK12-A through E, DANW12-A through C, and DANI12-A
October 27	• Operations suspended due to Hurricane Sandy
October 28	• Collect site water sample UHSW12 • Collect core sample DANI12-B
October 29	• Core and water samples delivered to ANAMAR headquarters
October 30-November 4	• Collect core samples DANI12-C through E, NCW12-A through E, REHR12-A through F, ABMA12-A through E, CHEC12-2A through B
November 5	• Collect core samples MTPL12-E, WLRW12-A through E • Second set of core samples delivered to ANAMAR headquarters
November 6	• Operations suspended due to weather
November 7-8	• Collect core samples MTPL12-B through D, WRTB12-A through E, WUTB12-A through B
November 9	• Collect core samples CHEC12-2C through E • Collect water samples LHSW12-1 and ECSW12 • Ship samples to ALS and NewFields
November 10-13	• Collect core samples CHEC12-1A through E, MTPL12-A and E , WUTB12-C through E, WLR12-A through E • Collect reference grab samples RS-CH-A-A through E
November 14	• Third set of samples delivered to ANAMAR headquarters • Collect core samples BENW12-B through F, SHCR12-A through E
November 15	• Operations suspended due to weather
November 16-17	• Collect core samples BENW12-A, HGIW12-A through E, DRMY12-C through D
November 18	• Operations suspended due to weather
November 19	• Collect core samples HGIS12-A through E; DRMY12-A, B, and E • Collect water sample LHSW12-2
November 20	• Final set of samples delivered to ANAMAR headquarters
November 28-December 3	• Final shipment of samples to NewFields, ALS, and AMEC

2.2.2 Site Positioning

Sampling station locations were chosen to coincide with the dredging prism and were based on a bathymetric survey conducted in February 2012 and provided by USACE. The bathymetric data were used to identify locations of sediment sampling stations to best represent dredge material proposed for disposal at the Charleston ODMDS. Site water sampling stations were chosen to best represent the hydrochemical conditions within the entrance channel, lower harbor, and upper harbor. Sampling locations are shown in Figures 1 through 22.

Target station coordinates were uploaded to a Garmin GPSmap 182c on the S/V *ANAMAR*, Trimble global positioning system (GPS) (sub-meter accurate) on the R/V *Artemis*, and a handheld Garmin GPS. Uploaded coordinates in all GPS units were reviewed and compared with the original coordinates to verify accuracy prior to field sampling. The hand-held Garmin GPS was used as a backup navigation unit to ensure that sampling locations were recorded. The GPS antenna on the *ANAMAR* is located about mid-way between the bow and stern. The GPS antenna on the *Artemis* is located over the coring moon pool to ensure accuracy of recorded sample location.

Navigation and positioning of the *Artemis* and the *ANAMAR* vessels were handled by U.S. Coast Guard-certified Master Captains under direction of the ANAMAR project manager or field team leader. Most samples were taken within 10 meters of the target station and conformed to Section 11.1.3 of the SAP/QAPP. There were only four exceptions. Coring subsample station HGIS12-D was repositioned 35 feet east of the target due to difficulty anchoring at the target location. Coring subsample station WRTB12-B was repositioned 20 feet from the target due to repeatedly encountering refusal at the sediment surface at the target location (possibly due to rocks or a buoy anchor). Coring subsample station DANW12-A was repositioned 40 feet west of the target due to unsatisfactory penetration at the target location. Coring subsample station DAN12-C was repositioned a short distance away from the target to sample an interval between the refusal elevation at station DANI12-A and the uppermost sediment elevation at station DANI12-B. These corrective actions conform to guidance in Section 10.3 of the QAPP.

During vibracore sampling, a lead line was used to verify fathometer readings, and depths were recorded to the nearest inch. Water depths were used to field-verify that target stations were located over the most appropriate sediment surface elevations, which were calculated in the field using real-time tide height data (in feet, MLLW) from NOAA Station ID 8665530 at Charleston. Water depths during water sampling were recorded to the nearest 0.5-feet using a Humminbird fathometer.

Coordinates of each station were recorded using GPS units in the field, and waypoints were recorded on waypoint field logs and sampling field logs. Sampled locations are depicted in Figures 1 through 22. Tables 1 through 3 contain spatial and temporal data along with field observations taken during core, grab, and site water sampling, respectively.

2.2.3 Decontamination Procedures

All equipment contacting sediment or water samples was cleaned and decontaminated prior to sampling each day and between each DU. Decontamination procedures followed those outlined in Florida Department of Environmental Protection (FDEP) Standard Operation Procedures (SOP) FC1000. Personnel handling sediment samples and equipment wore disposable nitrile gloves, which were changed frequently to prevent cross-contamination. Below is a summary of the decontamination process.

1) Wash and scrub with site water to remove gross contamination
2) Wash and scrub with Liquinox®
3) Rinse with site water
4) Rinse with de-ionized water
5) Rinse with pesticide-grade isopropanol
6) Rinse with de-ionized water
7) Rinse with pesticide-grade hexane
8) Rinse with deionized water
9) Air dry

Decontaminating stainless steel bin

Upon drying, decontaminated equipment was wrapped in new aluminum foil or enclosed in a decontaminated stainless steel container (with stainless steel lid) until ready for use.

2.2.4 In Situ Water Column Measurements

A Hydrolab Surveyor with Data Sonde 4a multiprobe meter and a Hach 2100P turbidimeter were used to measure water column parameters at each site water station. Meters were calibrated each day prior to use according to manufacturer's instructions. An end-of-day reading was also taken to document that the instrument remained calibrated within acceptance criteria. Water column measurements were collected from approximately 3 feet below surface, at mid-depth, and 3 feet above the bottom and consisted of

- Time of reading
- Depth of reading (feet)
- Water temperature (°C)
- pH (units)
- Salinity (parts per thousand [ppt])
- Conductivity (mS/cm)
- Dissolved oxygen (mg/L and percent saturation)
- Turbidity (NTU, near-surface only)

Water depth measurements, tidal cycle, and weather observations were recorded at every station on field sampling logs. Water column measurements were taken at site water stations only and are summarized in Table 3. Sampling logs and calibration logs are provided in Appendix B.

2.2.5 Sediment Sampling with Vibracore

Subsurface core samples were obtained using a vibratory core sampler (vibracore). Vibracore services were performed by Athena Technologies under the guidance of an ANAMAR field team leader who was present on the sampling vessel at all times to direct operations, record field notes, and containerize and label samples. The vibracore samples were collected from the *Artemis*, a sampling vessel fitted for vibracore sampling. The vessel carried all necessary sediment sampling equipment.

The vessel captain navigated to each target using a helms map displayed on a Panasonic Toughbook® computer. Once on-station, the vessel was immobilized using a three-point anchoring system. Vessel coordinates were compared to station coordinates loaded in a second GPS to confirm location accuracy. Depths were recorded to the nearest inch from lead-line readings. Bottom elevation was calculated in the field using real-time water level in feet MLLW as measured from NOAA Station ID 8665530 at Charleston. Core penetration required to reach project depth was calculated by adding real-time elevation of the substrate surface (as a negative value) to the project depth.

Athena's vibracore system was deployed from the deck of the vessel and consisted of a generator with a mechanical vibrator attached via cable. This vibrator was attached directly to a 4-inch-diameter stainless steel casing. The sampler was lowered to the substrate through a moon pool in the deck of the sampling platform by attaching lengths of drill stem. The vibracore apparatus was then activated and the sample barrel penetrated into the sediment until it reached target depth or refusal, whichever came first. Vibracore refusal is defined as the point where the core barrel is advanced to depth and additional downward force applied to the vibracore drill stem does not result in measurable penetration into the sediment. This is often the result of the end of the coring tube encountering rock or consolidated sediment. In the Charleston Harbor area, vibracore refusal was often encountered after penetrating a short distance into Cooper Marl.

When sediment cores are collected using a vibracore, the retrieved sample is subject to material compaction (e.g., a core with a penetration depth of 10 feet may result in a recovered core of only 8 to 9 feet in length, depending on the sediment composition). According to the SAP/QAPP requirements, core samples were considered acceptable if the core was inserted vertically into the sediment, reached target depth or refusal, and recovered at least 75% of penetrated depth. Alternatively, the acceptance limit for each core could be lowered if the first core is below 75% and subsequent cores collected were within ±15% of the initial core. If the collected cores showed widely varying recoveries over several attempts, the material was collected, and the recovery lengths and reason for low recoveries were recorded on the field sheets.

When the vibracore reached target depth or refusal, the vibracore apparatus was then deactivated and the core retrieved using an electric winch. Once the sample was on-deck, the recovered core length was verified and acceptance based on percent recovery requirements was determined. The core material was then removed from the sampler and placed into a stainless steel bin and characterized.

The core barrel was pressurized with compressed air to facilitate extraction of consolidated sediment

The presence of consolidated clay made extracting the sample from the core barrel sometimes difficult and time-consuming. Extraction of consolidated material was made easier by the use of pressurized air applied to the inside of the core barrel via a stainless steel pipe fitting and pressurized hose. The use of air pressure in combination with vibrations was often sufficient to extract the sample material. In some instances, air pressure was not sufficient or was temporarily unavailable. In such cases, a stainless steel soil auger was used to loosen material in the core barrel.

One to four cores were collected at each station to achieve required sample volume. To ensure that the final composite sample from each DU was representative of the material to be dredged from the area, equal numbers of cores were collected from each substation within a single DU, with the exception of the Mount Pleasant reach; see Section 4.1 for more details. After all cores were collected at the station, the sample material was photographed, transferred to Teflon® bags, labeled, and placed immediately into ice-filled coolers. Suspended fine particulate matter was captured in Teflon® bags, labeled, and placed into ice-filled coolers. All containers were properly labeled and sampling information was recorded on individual project-specific field logs. At the end of each sampling day, iced sample coolers were transferred to a refrigerated truck for storage at ±4°C.

There were some equipment failures (e.g., vibrator head, drive cables, cable hoist) during field sampling; however, since there were redundant systems in place with backup equipment on board, most repairs were conducted in the field, resulting in minimal downtime. Core barrels used while sampling prior to October 30 were constructed of 0.065-inch-thick stainless steel. Cracking and bending was observed on these core barrels during sampling. New barrels were used beginning October 30 which were constructed of 0.083-inch-thick stainless steel and proved to be stronger and more resistant to cracking and bending.

Sediment vibracore sampling locations are shown in Figures 1 through 22. A summary of vibracore samples, including dates and times, station coordinates, elevations, effective penetration lengths, and effective percent recovery lengths, are included in Table 1. The effective percent recovery excludes the material that was intentionally discarded from below

project depth or lost during sampling. This procedure is described in more detail in Attachment 7 of the SAP/QAPP (Appendix A). Copies of sediment core logs are in Appendix B.

2.2.6 Sediment Sampling with Grab Sampler

Grab samples were collected from the reference station with an 8.8-gallon-capacity custom Petersen-style grab sampler that was lowered and raised by a winch through the moon pool. The vessel was anchored in place during sampling operations. One person operated the winch and another person guided the sampler into a decontaminated stainless steel bin. Excess water was allowed to drain from the sampler before placing sample material in the bin. When the required volume of sediment was collected for each subsample, a photograph of the material was taken and notes on the subsample's appearance and characteristics were recorded on a project-specific field log. Using decontaminated stainless steel utensils (e.g., spoons, scrapers) and disposable nitrile gloves, the subsample was placed in pre-cleaned, labeled Teflon® bags and stored on ice. At the end of each sampling day, iced sample coolers were transferred to a refrigerated truck for preservation at ≥4°C. Figure 22 shows the locations of the reference stations. Table 2 and the field logs in Appendix B provide additional information on grab sampling.

2.2.7 Water Sampling

Site water for elutriate preparation and chemical analysis was collected from three stations and at the Charleston Harbor ODMDS using a stainless steel pneumatic pump attached to a woven stainless steel-encased Teflon® hose and powered by compressed air. All equipment contacting sample water was decontaminated prior to use by methods outlined in Section 2.2.3. The intake hose was lowered through the water column. A stainless steel weight was attached to the end with a stainless steel cable to allow the hose to hang approximately 3 feet above the sediment surface, except during the collection of ODMDS water (ODMDS SW12), which was collected 3 feet below the water surface. Another piece of stainless steel-encased Teflon® hose was attached to the discharge nozzle of the pump. A pressure valve was used to adjust flow.

Pneumatic water pump with regulator, pressurized air tubing, weight, and stainless steel-encased Teflon® hoses

Between 35 and 160 gallons of water was collected at each site water station in decontaminated Teflon®-lined or low-density polyethylene 20-liter Cubitainers®. In addition, background chemistry samples were collected at all site water stations and at the ODMDS using pre-cleaned, pre-preserved containers provided by ALS. All water samples were placed in ice-filled coolers and were later transferred to a refrigerated truck for storage at ≥4°C.

Water sampling locations are shown on Figures 2, 4, 10, and 22. Water sampling dates and times, station coordinates, and related information are included in Table 3. Copies of water sampling logs are provided in Appendix B.

2.2.8 Sample Transport, Processing, and Custody

2.2.8.1 Transport from Charleston

Samples were transported from Charleston to ANAMAR's headquarters in Gainesville, Florida, by refrigerated truck on October 29, November 5, November 14, and November 20, 2012. The temperature inside each truck was monitored to ensure samples met preservation criteria. Copies of temperature logs are provided in Appendix B.

2.2.8.2 Compositing

All compositing was conducted at ANAMAR's headquarters in Gainesville, Florida, using decontaminated stainless steel mixing equipment, which included a stainless steel electric-powered mixer with a 40-gallon-capacity hopper. ANAMAR personnel homogenized each subsample and collected sediment for physical analysis. Then the subsamples from each DU were composited and homogenized using the same equipment mentioned above. After samples were composited and thoroughly homogenized, appropriate volumes of each sample were divided and placed in method-specific, pre-cleaned, pre-labeled Teflon® bags (for chemical analysis) or plastic bags (for physical and bioassay analysis). The equipment was decontaminated between each composite sample. Compositing was conducted in accordance with the scheme presented in Exhibits 2-1 through 2-3.

2.2.8.3 Transport to the Laboratories

Due to the duration of sampling operations and the need to meet holding times, samples were shipped to ALS and Newfields in several batches throughout November to ensure the laboratories would receive the samples within holding time. On the day of shipping, coolers were packed with ice, taped, sealed with custody tape, and labeled for shipment. The sediment and water samples were shipped in coolers via refrigerated trucks or overnight carriers to the appropriate laboratories.

Chain-of-custody records for each laboratory were completed to reflect the final sample names and to identify the analyses and analytical methods required. These chain-of-custody records accompanied the samples during shipment to the laboratories. Samples were shipped to AMEC in Jacksonville, Florida, for physical testing; to ALS in Kelso, Washington, for chemical analysis; and to NewFields in Port Gamble, Washington, for toxicological analysis. A Dickson RL110 temperature data logger was used to verify that the temperature inside the refrigerated truck remained at or below EPA analytical method criteria (≤4°±2°C as stated in Section 11.1.11 of the SAP/QAPP) during transport to the laboratories. Copies of final signed chain-of-custody forms are included in the laboratory reports (Appendices C, E, and G).

2.3 Physical and Chemical Analytical Procedures

2.3.1 Physical Procedures

AMEC performed physical analysis of all sediment samples. ANAMAR performed quality assurance/quality control (QA/QC) on sediment physical data and presented the data for both composite and subsamples in summary tables.

2.3.1.1 Grain Size Distribution

Gradation tests are performed by AMEC in general accordance with methods ASTM D-422 and ASTM D-1140. Each representative sample was air-dried and dry-prepped in accordance with

method ASTM D-421, and results of the sieve analysis of material larger than a #10 sieve (2.00-mm mesh size) were determined. The minus #10 sieve material was then soaked in a dispersing agent. Following the soaking period, the sample was placed in a mechanical stirring apparatus and then in a sedimentation cylinder where hydrometer readings were taken over a 24-hour period. After the final hydrometer reading was taken, the sample was washed over a #200 sieve (0.075-mm mesh size), placed in an oven, and dried to a constant weight. After drying, the sample was sieved over a nest of sieves to determine the gradation of the material greater than #200 sieve size. Cumulative frequency percentages were graphed and presented by AMEC on USACE Form 2087 (Appendix C).

2.3.1.2 Moisture Content

Moisture content was performed by AMEC in general accordance with method ASTM D-2216-80 and Plumb (1981). The sample weight was recorded and the sample was placed in an oven and dried to a constant mass at 110°C (383.2 Kelvin). Once a constant dry mass was obtained, the percent moisture was determined by subtracting the dry mass from the wet mass, then dividing the loss in mass due to drying (the mass of just moisture) by the wet mass. The percent total solids were reported on a 100% wet weight basis.

2.3.1.3 Atterberg Limits

Tests for liquid and plastic limits are performed by AMEC in general accordance with ASTM D-4318, wet method, as follows. The minus #40 sieved material is mixed with a small amount of water and placed in the liquid limit device. A groove is cut using the flat grooving tool and the liquid limit is determined by the number of drops of the cup. When the number of drops is in the desired range, a moisture sample is obtained and placed in a 230° oven and dried to a constant weight. This is repeated until three determinations have been obtained, one between 15 and 25 blows, one between 20 and 30 blows, and one between 25 and 35 blows. The reported value is the intersecting value at 25 blows when all three are plotted.

The plastic limit is determined by slowly air-drying a small sample left over from the liquid limit determination. The sample is rolled and air-dried until the thread becomes crumbly and lacks cohesion. When this point is reached, the sample is placed in a tare and weighed, then placed in an oven and dried to a constant weight. The moisture content is the plastic limit.

2.3.1.4 Specific Gravity

Specific gravity was determined by AMEC in general accordance with method ASTM D-854. Each sample was placed in a mechanical stirring device and de-ionized water was added to form a slurry. The slurry was then transferred to a pycnometer and was de-aired by applying a vacuum. After vacuuming, the pycnometer with sample was allowed to reach thermal equilibrium. The water level was adjusted to a calibration mark, and the pycnometer with sample was weighed. After the pycnometer with sample weight was recorded, the sample was emptied into a drying container and placed in an oven until a constant dry mass of sediment solids was obtained.

2.3.2 Chemical Analytical Procedures

The chemical analysis of sediment, water, elutriate, and tissue samples was performed by ALS. ANAMAR performed QA/QC on these data and presented the data in summary tables. Complete reports are provided in Appendix E.

Chemical analyses were performed in accordance with published procedures. Analytical methods, preparation methods, target detection limits, and laboratory reporting limits for sediment, water, and tissue analyses are provided in Section 13.3 of the QAPP (Appendix A). Elutriates were generated using methods described in Section 10.1.2.1 of the Green Book, equivalent to Section 10.1.2.1 of the *Inland Testing Manual* (ITM) (EPA and USACE 1998). Brief descriptions of the analytical methods and instrumentation used for analysis are provided in Exhibit 2-7.

Exhibit 2-7. Summary of Methods and Equipment Used During Sediment, Elutriate, and Tissue Analysis

EPA Method	Instrument	Methodology Summary
350.1 – Ammonia in sediment and water	Colorimetric Autoanalyzer	Alkaline phenol and hypochlorite react with ammonia to form indophenol blue that is proportional to the ammonia concentration. The blue color is intensified with sodium nitroprusside. Once developed, the color is read using a spectrophotometer, and calculated using linear regression.
200.8 - Trace Metals	ICP/MS	Inductively coupled plasma-mass spectrometry (ICP-MS) is applicable to the determination of sub-µg/L concentrations of a large number of elements in water samples and in waste extracts or digests. Acid digestion prior to filtration and analysis is required for aqueous samples, sediments, and tissues for which total (acid-leachable) elements are required.
7470 - Mercury in water	Mercury Analyzer Cold Vapor Atomic Absorption (water)	Method 7470 is a cold-vapor atomic absorption procedure approved for determining the concentration of mercury in mobility-procedure extracts and aqueous wastes. All samples are subjected to an appropriate dissolution step before analysis.
7471 - Mercury in Sediment and Tissues	Mercury Analyzer Cold Vapor Atomic Absorption (sediment)	Method 7471 is approved for measuring total mercury (organic and inorganic) in sediments and tissues. All samples are subjected to an appropriate dissolution step before analysis. If this dissolution procedure is not sufficient to dissolve a specific matrix type or sample, this method is not applicable for that matrix.
7742 - Selenium	Borohydride Atomic Absorption	Method 7742 uses a borohydride generator for analysis. The selenium is converted to the +4 oxidation state during digestion in hydrochloric acid. Selenium is then converted to its volatile hydride using hydrogen produced from the reaction of the acidified sample with sodium borohydride in a continuous-flow hydride generator.
8081 - Pesticides	Gas Chromatograph	Method 8081 may be is used to determine the concentrations of various organochlorine pesticides in extracts from solid and liquid matrices using fused-silica, open-tubular capillary columns with electron capture detectors (ECD) or electrolytic conductivity detectors (ELCD). The compounds that can be run by this method may be determined by either a single- or dual-column analysis system.

EPA Method	Instrument	Methodology Summary
8082 – PCB Congeners and Aroclors	Gas Chromatograph	Method 8082 is used to determine the concentrations of PCBs as individual PCB congeners in extracts from solid, tissue, and aqueous matrices using open-tubular capillary columns with ECD or ELCD. The target compounds may be determined by a single- or dual-column analysis system.
8270 SIM - PAHs and PBDEs	Gas Chromatograph/ Mass Spectrometer	This method is used to determine the concentration of semi-volatile/PAH organic compounds in extracts prepared from many types of solid matrices and water samples. Direct injection of a sample may be used in limited applications.
8290 - Dioxins and Furans	High Resolution Mass Spectroscopy (HR/MS)	This method uses an HR/MS to prepare and analyze sediment and tissue samples for the analysis of dioxins and furans.
9060 (modified*)	TOC Analyzer	Method 9060 is used to determine the concentration of organic carbon in sediment by catalytic combustion or wet chemical oxidation. The carbon dioxide formed from this procedure is measured and is proportional to the TOC in the sample.
9071 – Oil & Grease	Gravimetric (Electronic Balance)	A representative portion of wet (as received) waste is acidified with concentrated hydrochloric acid and chemically dried with magnesium sulfate or sodium sulfate. Magnesium sulfate monohydrate is used to dry acidified sludges as it will combine with 75% of its own weight in water. Anhydrous sodium sulfate is used to dry soil and sediment samples.
Krone et al. (1989)	Grignard Reaction/Gas Chromatograph/ Flame Photometric	This method refers to the Grignard reaction, gas chromatograph, and flame photometric detection of di-n-butyltin, n-butyltin, and tri-n-butyltin cations in sediment, elutriates, and tissues. All samples are subjected to an extraction phase prior to analysis, and the concentration is determined using standard organic protocols.

***** Minor modifications were made to Method 9060 that were approved by the National Environmental Laboratory Accreditation Conference (NELAC).

2.4 Bioaccumulation and Toxicology Procedures

NewFields laboratory conducted biological testing using sediment samples collected by ANAMAR as part of this sediment evaluation. The information presented in this section is excerpted from the NewFields report *Biological Testing Results for Charleston Harbor Dredged Material Evaluation.* The complete laboratory report is in Appendix G.

The material under consideration for ocean disposal in the Charleston ODMDS was evaluated in accordance with procedures and criteria outlined in the Green Book and the SERIM and with guidance outlined in the ITM. Biological analyses using reference sediment were performed concurrently with the test sediment evaluations.

2.4.1 Bioassay Testing

This program included bioassay analysis of 21 project area composite samples and one reference sample. In addition, appropriate laboratory control samples were run with each of the selected test species. Bioassay testing for this project consisted of three water column

bioassays, two whole sediment bioassays, and two whole sediment bioaccumulation potential tests. The bioassay and bioaccumulation tests conducted in support of this project are summarized in Exhibit 2-8. In addition to the standard testing program, supplemental tests were conducted to investigate the potential contribution of ammonia to toxicity observed during the initial suite of tests. The methods used for this testing program are presented in this section.

M. edulis is a preferred test species for the water column larval test. However, gravid *M. edulis* were not available at the time of testing. Due to seasonal availability of gravid adults, the SERIM allows for the use of alternative species, including the mussel *M. galloprovincialis,* which were gravid at the time of this sediment evaluation and were used for the larval bivalve elutriate tests. The echinoderm species *Arbacia punctulata* and *Strongylocentrotus purpuratus* were potentially at the fringes of their historical spawning windows at the time of testing; however, these species were not considered as ideal alternatives due to their extreme sensitivity to ammonia-related effects. Exhibit 2-8 lists the species used for each test. Exhibit 2-9 lists the sediment samples and associated site water samples used for water column elutriate preparation.

Exhibit 2-8. Biological Testing Performed for Dredged Material Evaluation

Test Type	Taxonomic Group	Test Species	Project Samples (yes/no)	Reference Sediment (yes/no)	Control Sediment or Water (yes/no)
Standard Testing Program					
Water column (suspended particulate phase)	Mysid shrimp	*Americamysis bahia*	Yes[1]	NA	Yes
	Fish	*Menidia beryllina*	Yes[1]	NA	Yes
	Bivalve larval	*Mytilus galloprovincialis*	Yes[1]	NA	Yes
Whole sediment (solid phase)	Amphipod	*Ampelisca abdita*	Yes	Yes	Yes
	Polychaete	*Neanthes arenaceodentata*	Yes	Yes	Yes
Bioaccumulation potential	Polychaete	*Neanthes virens*	Yes	Yes	Yes
	Bivalve	*Macoma nasuta*	Yes	Yes	Yes

[1] Sediment elutriates of project material
NA = Tests or treatments that are not applicable to the selected tests

Exhibit 2-9 Project Samples and Associated Site Water

Location	Sample ID	Site Water ID
Upper Harbor	DANI12, CCRK12, NYNC12, PTFC12, ORDT12, DANW12, NCW12	UHSW12
Lower Harbor	REHR12, HGIS12, DRMY12, WLR12, WUTB12, BENW12, HGIW12, WRTB12, WLRW12, ABMA12, SHCR12	LHSW12
Entrance Channel	CHEC12-1, CHEC12-2, MTPL12	ECSW12
Reference Station	RS-CH-A	NA

2.4.1.1 Ammonia and Salinity Screening in Sediments

While elevated ammonia concentrations in the porewater are transient qualities in dredged material, they can influence organism survival and development in laboratory tests. If ammonia concentrations in test composites are at effects levels or have low salinity, they would be considered non-persistent effects for this material. Therefore, prior to testing, bulk sediment

porewater ammonia concentrations and salinity were measured to determine if any methods modifications or supplemental testing would be required.

It is important to distinguish between bulk sediment porewater and bioassay test porewater. Bulk sediment porewater is analyzed on the sediment sample after receipt. Bulk sediment refers to the whole sediment as it is received at the laboratory. To measure bulk sediment porewater, sediment is taken directly from the sample containers and is homogenized with a stainless steel spoon. A subsample is then placed into a centrifuge tube for extraction. After centrifugation there is typically a well-defined separation between the sediment (bottom) and porewater (top). The porewater is decanted into a separate container for analysis.

Bioassay test porewater is taken after the sediment has been layered into test chambers and provided with overlying seawater (per the test procedure). For the benthic sediment bioassays, 2 cm (175 mL) of sediment is layered into 1-liter glass beakers or mason jars and filled with 775 ml of laboratory seawater, covered, aerated, and allowed to equilibrate overnight until test initiation the following day. Sediment porewater is then collected by decanting the overlying water from a surrogate chamber, placing the sediment in a centrifuge tube, and extracted as described above. The porewater sample is a more accurate indicator of the conditions the benthic organisms will be exposed to.

Bulk sediment ammonia concentrations are used for initial screening to predict potential ammonia-related effects and are compared to threshold ammonia values. Threshold ammonia concentrations for amphipods and the results of the bulk sediment porewater measurements are summarized in Exhibits 2-10 and 2-11, respectively.

Exhibit 2-10. Threshold Ammonia Concentrations for Amphipods

Parameter	*Ampelisca abdita*
Total Ammonia (EPA 1994)	<30 mg/L (pH 7.7)
Un-ionized Ammonia (EPA 1994)	<0.4 mg/L (pH 7.7)
Total Ammonia (internal lab – NOEC)	29.8 mg/L (running mean)
Un-ionized Ammonia (internal lab – NOEC)	0.444 mg/L (running mean)

NOEC = No observed effects concentration

Exhibit 2-11. Bulk Sediment Porewater Measurements

Sample ID	Ammonia (mg/L)		Salinity (ppt)	pH
	Total Ammonia	Un-ionized		
DANI12	**63.8**	0.489	26	7.3
CCRK12	36.2	0.478	26	7.5
NYNC12	26.6	0.226	24	7.3
PTFC12	33.5	0.282	25	7.3
ORDT12	35.8	0.597	25	7.6
DANW12	**67.3**	1.123	25	7.6
NCW12	42.3	0.261	24	7.2
CHEC12-1	26.6	0.364	33	7.6
CHEC12-2	24.4	0.142	30	7.2
MTPL12	5.45	0.061	30	7.5
REHR12	29.2	0.432	29	7.6
HGIS12	22.8	0.205	28	7.4
DRMY12	**100**	0.452	28	7.1
WLR12	27.6	0.125	27	7.1
WUTB12	43.1	0.769	27	7.3
BENW12	28.1	0.198	30	7.3
HGIW12	31.6	0.450	27	7.6
WRTB12	26.0	0.464	27	7.7
WLRW12	11.2	0.251	27	7.8
ABMA12	**51.8**	0.586	32	7.5
SHCR12	**74.5**	0.525	30	7.3
RS-CH-A	NA	NA	NA	NA

BOLD = A bulk porewater ammonia concentration of 50 mg/L total ammonia was chosen as the critical value used for implementation of ammonia-reduction procedures within the amphipod benthic test.
NA = Not analyzed; insufficient volume extracted during centrifugation.

Ammonia concentrations for the project samples ranged from 5.45 to 100 mg/L total ammonia. Samples DRMY12 and SHCR12 had the highest bulk sediment porewater ammonia concentrations of 100 mg/L and 74.5 mg/L total ammonia, respectively. Based on the bulk sediment ammonia concentrations, some of the samples tested in the benthic amphipod test and the water column tests were predicted to have ammonia-related effects because measured ammonia concentrations were above threshold values. Based on the 4-day water-only ammonia effects range values, ammonia-related effects were not predicted for the polychaete benthic test.

The threshold for taking action to address potential ammonia-related effects for the amphipod test using *Ampelisca abdita* is 30 mg/L total ammonia measured in the sediment porewater of benthic test chamber (USEPA/USACE 2008). The bulk porewater ammonia values represent the worst-case scenario of ammonia concentrations that the organisms will be exposed to during the benthic test. Because the test method involves the layering of 175 mL of sediment with 775 mL of overlying seawater, there is a reduction in the porewater ammonia concentrations through the act of dilution. This dilution can range from 1% to 45% depending upon the nature of the sediment, and is not strictly proportional to the volume of sediment and water

added to the test chamber. To account for the discrepancy between bulk porewater ammonia concentrations and actual porewater ammonia concentrations measured in the benthic test chamber, a bulk porewater ammonia concentration of 50 mg/L total ammonia was chosen as the critical value used for implementation of ammonia-reduction procedures within the amphipod benthic test.

Based on this critical value, ammonia-reduction procedures following the SERIM guidance were implemented for samples DANI12, DANW12, DRMY12, ABMA12, and SHCR12 for the amphipod test. Supplemental tests with ammonia-reduction procedures were also conducted for the larval water column test for all samples except MTPL12. The methods for the supplemental tests are described in Sections 2.4.3 and 2.4.4.

Porewater salinity for all samples ranged from 24 to 33 ppt. Based on this salinity range, it is likely the test sediments were well acclimated to marine conditions and would not pose any concerns for the suite of test species.

2.4.2 Seawater for Bioassay Testing

Control and dilution water used in this study, including the flow-through studies, came from the northern portion of Hood Canal (part of Puget Sound) at Port Gamble, Washington. This seawater source has been used successfully on similar bioassay testing programs performed by NewFields. Extensive testing on a variety of species has shown there is no significant potential for toxicity or bioaccumulation from this water supply. Acceptable survival of organisms in control sediment has been achieved consistently in previous dredge material testing conducted by the laboratory. Previous chemical analysis of this water source showed no significant concentrations of contaminants of concern or bioaccumulation potential.

2.4.3 Water Column Bioassay Procedures

Water column tests were performed to estimate the potential impact of dredged material disposal on organisms that live in the water column. The water column test was performed using a 4:1 volumetric dilution of seawater to sediment. Project site waters (UHSW12, ECSW12, and LHSW12) were used for elutriate preparations. Sediment from each composite sample was combined with the appropriate site water, vigorously agitated for 30 minutes, and allowed to settle for approximately 1 hour at room temperature (16°C to 18°C). Following settling, the supernatant was gently decanted. The supernatant represented the 100% test concentration and was diluted with laboratory seawater (0.45-µm-filtered Hood Canal seawater) to create subsequent test dilutions for the water column tests. The laboratory seawater diluent was also used for the laboratory control treatment.

For all treatments, with the exception of sample MTPL12, ammonia was suspected as a primary source of toxicity in the bivalve larval development elutriate tests. After conferring with representatives of USACE-Charleston and USEPA Region 4, these tests were conducted with "ammonia-reduced" test sediments. For this preparation, ammonia in the test sediment was reduced prior to elutriate preparation. The ammonia-reduction procedures were similar to those approved for the benthic tests (Appendix N USACE/USEPA 1998; USEPA/USACE 2008). Following the Appendix N and SERIM guidance, as well as methods suggested by Ferretti et al. (2000), test sediment was placed in a thin (1 to 2 cm), even layer in a 9"x12" glass dish, with 4 liters of overlying filtered seawater (laboratory control water). The overlying water was replaced once daily until the ammonia concentrations were reduced below potential threshold

levels (Exhibit 2-10). While the 1994 method recommends two replacements per day, more recent studies have shown that one replacement per day is sufficient to reduce ammonia concentrations (Ferretti et al. 2000). Once the ammonia was reduced from the whole sediment, the elutriate preparation and testing were conducted following the standard SERIM methods cited above. The toxicity of the treated elutriate was then compared to that of the untreated elutriate to determine if the toxicity was decreased by the removal of ammonia. This procedure was conducted in conjunction with the larval development water column test *(Mytilus galloprovincialis)* only.

Three species were evaluated for the water column bioassays: *Americamysis bahia* (mysid shrimp), *Menidia beryllina* (inland silverside fish), and *Mytilus galloprovincialis* (mussel) larvae. Mysid shrimp (*A. bahia*) and inland silverside fish (*M. beryllina*) were supplied by Aquatic Research Organisms, Hampton, New Hampshire. Mysids and fish were held at 20°C and fed *Artemia* nauplii ad libitum prior to testing. Adult mussels (*M. galloprovincialis*) were supplied by Taylor Shellfish, Shelton, Washington. Mussels were held in seawater at 14°C prior to spawning for collection of gametes.

The water column tests with mysid shrimp and fish were performed with dilutions of 100%, 50%, and 10% of elutriate as well as a clean seawater control and site water control. The fish test was performed under static conditions (non-renewal), while the mysid shrimp test received a test solution renewal at 48 hours (static renewal). The mysid test solution renewal was performed with freshly prepared elutriate samples (used within 24 hours of preparation). Ten animals were used per replicate, with five replicates per elutriate concentration. These tests were run for 96 hours.

The larval bivalve development test was run using sample elutriates of 100%, 50%, 25%, 10%, and 1% concentrations; a clean seawater control; and a site water control. There were five replicates per elutriate concentration. The test was terminated at 48 hours when development of the bivalve larvae to the prodissoconch stage in the control was confirmed. At study termination, survival and normal development were compared between the control and test groups to determine if significant mortality or abnormal development occurred. Determinations of proportion normal (the number of normal larvae divided by the total number of larvae recovered) and the proportion survived (the total number of larvae recovered divided by the stocking density) was used for determining test acceptability. Statistical interpretations of the test data were performed using mean normal survivorship, a combined endpoint that divides the number of normally developed embryos in each replicate by the stocking density.

Daily water quality monitoring of test chambers was carried out for pH, dissolved oxygen, salinity, and temperature. Ammonia was analyzed at the start and end of the tests in all concentrations. All water quality instruments were calibrated daily or on their recommended schedule. Records of instrument calibration were retained in the laboratory logs. To evaluate the relative sensitivity of the organisms, reference toxicity tests were performed using standard reference toxicants (Lee 1980).

The experimental design, procedures, and water-quality measurements for all test organisms are summarized in Exhibits 2-12 through 2-21.

2.4.3.1 *Mysid Shrimp: Americamysis bahia*

The experimental design, procedures and water-quality measurements for the 96-hour water column (suspended particulate phase) bioassay using *A. bahia* are presented in Exhibit 2-12. Due to the large number of samples, this test was conducted in three batches.

Exhibit 2-12. Test Condition Summary for *Americamysis bahia*

Batch ID	**1**		**2**	**3**
Sample identification	Control, UHSW12, ORDT12, PTFC12, NYNC12, CCRK12, DANW12, DANI12, NCW12		Control, ECSW12, LHSW12, CHEC12-1, CHEC12-2, MTPL12, REHR12, WUTB12, WRTB12, ABMA12	Control, LHSW12, HGIS12, DRMY12, WLR12, BENW12, HGIW12, SHCR12
Dates samples were collected	October 20 - 31, 2012		November 2 - 10, 2012	November 12 - 19, 2012
Date received at NewFields	November 2 - 8, 2012		November 13 - 17, 2012	November 27, 2012
Sample storage conditions	4°C, dark		4°C, dark	4°C, dark
Test dates	November 9 - 13, 2012		November 21 - 25, 2012	December 3 - 7, 2012
Recommended Holding Time: 56 days	9 - 20 days		11 - 19 days	14 - 21 days
Source of control sediment	Not applicable		Not applicable	Not applicable
Test species	*Americamysis bahia*		*Americamysis bahia*	*Americamysis bahia*
Supplier	Aquatic Research Organisms	Courtesy of Alan Kennedy, ERDC	Aquatic Research Organisms	Aquatic Research Organisms
Date acquired	November 9, 2012		November 20, 2012	December 1, 2012
Acclimation/holding time	0 days		1 day	2 days
Age at test initiation	4 days old		4 days old	5 days old
Test procedures	ITM, SERIM, Green Book		ITM, SERIM, Green Book	ITM, SERIM, Green Book
Test location	NewFields, Port Gamble, WA		NewFields, Port Gamble, WA	NewFields, Port Gamble, WA
Test type/duration	96-hour/static renewal		96-hour/static renewal	96-hour/static renewal
Control water	0.45-µm-filtered North Hood Canal water, adjusted with DI water		0.45-µm-filtered North Hood Canal water, adjusted with DI water	0.45-µm-filtered North Hood Canal water, adjusted with DI water
Test dissolved oxygen, Recommended >4.6 mg/L	Actual: 4.8–10.6 mg/L		Actual: 3.9–7.7 mg/L	Actual: 3.8–7.8 mg/L
Test temperature Recommended: 20°±1°C	Actual: 18.0–21.0°C		Actual: 19.2–21.0°C	Actual: 19.0–21.0°C
Test pH Recommended: 7.8±0.5	Actual: 7.2–8.0		Actual: 7.2–8.3	Actual: 7.3–8.4
Test salinity Recommended: 30±2 ppt	Actual: 27–32 ppt		Actual: 30–35 ppt	Actual: 29–31 ppt
Control performance standard Recommended: >90% survival	Actual: 100%, Pass		Actual: 100%, Pass	Actual: 96%, Pass
Test Lighting	16 hours light, 8 hours dark		16 hours light, 8 hours dark	16 hours light, 8 hours dark
Test Chamber	400-mL glass chamber		400-mL glass chamber	400-mL glass chamber
Replicates/treatment	5		5	5
Concentration/treatment	10%, 50%, and 100% elutriate		10%, 50%, and 100% elutriate	10%, 50%, and 100% elutriate
Organisms/replicate	10		10	10
Exposure volume	250 mL		250 mL	250 mL
Feeding	0.1 mL of *Artemia* sp. (brine shrimp) nauplii, twice daily		0.1 mL of *Artemia* sp. (brine shrimp) nauplii, twice daily	0.1 mL of *Artemia* sp. (brine shrimp) nauplii, twice daily
Test solution renewal	Day 2		Day 2	Day 2
Deviations from test protocol	Minor deviations in temperature, salinity, and pH		Minor deviations in dissolved oxygen, salinity, and pH	Minor deviations in dissolved oxygen and pH

2.4.3.2 *Fish: Menidia beryllina (Inland Silverside)*

The experimental design, procedures, and water quality measurements for the 96-hour water column (suspended particulate phase) bioassay using *M. beryllina* are presented in Exhibit 2-13. Due to the large number of samples, this test was conducted in three batches.

Exhibit 2-13. Test Condition Summary for *Menidia beryllina*

Batch ID	**1**		**2**	**3**
Sample identification	Control, UHSW12, ORDT12, PTFC12, NYNC12, CCRK12, DANW12, DANI12, NCW12		Control, LHSW12, REHR12, HGIS12, DRMY12, WLR12, WUTB12, BENW12, HGIW12, WRTB12, WLRW12, ABMA12, SHCR12	Control, CHEC12-1, CHEC12-2, MTPL12
Dates samples were collected	October 20 - 31, 2012	Courtesy of MBL Aquaculture	November 2 - 19, 2012	November 4 - 10, 2012
Date received at NewFields	November 2 - 8, 2012		November 13 - 27, 2012	November 14 - 17, 2012
Sample storage conditions	4°C, dark		4°C, dark	4°C, dark
Test dates	November 9 - 13, 2012		December 3 - 7, 2012	December 7 - 11, 2012
Recommended Holding Time: 56 days	9 - 20 days		14 - 31 days	27 - 33 days
Source of control sediment	Not applicable		Not applicable	Not applicable
Test species	*Menidia beryllina*		*Menidia beryllina*	*Menidia beryllina*
Supplier	Aquatic Biosystems		Aquatic Biosystems	Aquatic Biosystems
Date acquired	November 9, 2012		December 1, 2012	December 6, 2012
Acclimation/holding time	2 days		2 days	1 day
Age at test initiation	12 days old		12 days old	11 days old
Test procedures	ITM, SERIM, Green Book		ITM, SERIM, Green Book	ITM, SERIM, Green Book
Test location	NewFields, Port Gamble, WA		NewFields, Port Gamble, WA	NewFields, Port Gamble, WA
Test type/duration	96-hour/static renewal		96-hour/static renewal	96-hour/static renewal
Control water	0.45-µm-filtered North Hood Canal water, adjusted with DI water		0.45-µm-filtered North Hood Canal water, adjusted with DI water	0.45-µm-filtered North Hood Canal water, adjusted with DI water
Test dissolved oxygen, Recommended >4.6 mg/L	Actual: 5.3–10.6 mg/L		Actual: 5.1–7.8 mg/L	Actual: 5.5–8.0 mg/L
Test temperature Recommended: 20°±1°C	Actual: 18.8–20.9°C		Actual: 19.0–20.8°C	Actual: 19.0–20.5°C
Test pH Recommended: 7.8±0.5	Actual: 7.3–8.0		Actual: 7.3–8.2	Actual: 7.5–8.3
Test salinity Recommended: 30±2 ppt	Actual: 27–31 ppt		Actual: 29–31 ppt	Actual: 26–30 ppt
Control performance standard Recommended: >90% survival	Seawater Control: 94%, Pass		Seawater Control: 94%, Pass	Seawater Control: 100%, Pass
Test Lighting	16 hours light, 8 hours dark		16 hours light, 8 hours dark	16 hours light, 8 hours dark
Test Chamber	400-mL glass chamber		400-mL glass chamber	400-mL glass chamber
Replicates/treatment	5		5	5
Concentration/treatment	10%, 50%, and 100% elutriate		10%, 50%, and 100% elutriate	10%, 50%, and 100% elutriate
Organisms/replicate	10		10	10
Exposure volume	200 mL		200 mL	200 mL
Feeding	0.2 mL of *Artemia* sp. (brine shrimp) nauplii on Day 2		0.2 mL of *Artemia* sp. (brine shrimp) nauplii on Day 2	0.2 mL of *Artemia* sp. (brine shrimp) nauplii on Day 2
Test solution renewal	None		None	None
Deviations from test protocol	Minor deviation in salinity		None	Minor deviation in salinity

2.4.3.3 *Bivalve Larvae: Mytilus galloprovincialis (Mediterranean Mussel)*

The experimental design, procedures, and water quality measurements for the water column (suspended particulate phase) bioassay using larval *M. galloprovincialis* are presented in Exhibit 2-14. Due to the large number of samples, this test was conducted in two batches.

Exhibit 2-14. Test Condition Summary with *Mytilus galloprovincialis*

Batch ID	**1**	**2**
Sample identification	Control, UHSW12, DANI12, CCRK12, NYNC12, PTFC12, ORDT12, DANW12, NCW12, ECSW12, CHEC12-2, MTPL12	Control, ECSW12, CHEC12-1, LHSW12, REHR12, HGIS12, DRMY12, WLR12, WUTB12, BENW12, HGIW12, WRTB12, WLRW12, ABMA12, SHCR12
Dates samples were collected	October 20 – November 5, 2012	November 2 – 19, 2012
Date received at NewFields	November 2 - 16, 2012	November 13 – 27, 2012
Sample storage conditions	4°C, dark	4°C, dark
Test dates	Nov 29 – Dec 1, 2012	December 7 -9, 2012
Recommended Holding Time: 56 days	24 - 40 days	18 - 35 days
Source of control sediment	Not applicable	Not applicable
Test species	*Mytilus galloprovincialis*	*Mytilus galloprovincialis*
Supplier	Taylor Shellfish	Taylor Shellfish
Date acquired	Broodstock: November 28, 2012	Broodstock: December 6, 2012
Acclimation/holding time	0 day	1 day
Age class	<2 hr larvae	<2 hr larvae
Test procedures	ITM, SERIM, Green Book	ITM, SERIM, Green Book
Test location	NewFields, Port Gamble, WA	NewFields, Port Gamble, WA
Test type/duration	48-hour/static	48-hour/static
Control water	0.45-µm-filtered North Hood Canal water, adjusted with DI water	0.45-µm-filtered North Hood Canal water, adjusted with DI water
Test dissolved oxygen Recommended: >4.9 mg/L	Actual: 7.3–8.7 mg/L	Actual: 6.9–8.3 mg/L
Test temperature Recommended: 16°±1°C	Actual: 16.4–17.0°C	Actual: 16.4–16.9°C
Test pH Recommended: 7.8±0.5	Actual: 7.5–8.1	Actual: 7.5–8.5
Test salinity Recommended: 30±2 ppt	Actual: 26–30 ppt	Actual: 27–34 ppt
Control performance standards Recommended: >70% normal development >90% survival	Seawater Control: 95.6% normality; Pass 96.7% survival; Pass	Seawater Control: 96.3% normality; Pass 96.0% survival; Pass
Test lighting	16 hours light/8 hours dark	16 hours light/8 hours dark
Test chamber	20-mL glass chamber	20-mL glass chamber
Replicates/treatment	5	5
Concentration/treatment	1, 10, 25, 50, and 100% elutriate	1, 10, 25, 50, and 100% elutriate
Organisms/replicate Recommended: 15-30 organisms/mL Not to exceed 50 embryos/mL	21.4 embryos/ml	29.2 embryos/ml
Exposure volume	10 mL	10 mL
Feeding	None	None
Test solution renewal	None	None
Deviations from test protocol	Minor deviations in salinity	Minor deviations in salinity

2.4.4 Whole Sediment (Solid Phase) Bioassay Procedures

Benthic tests were performed to estimate the potential impact of ocean disposal of dredged material on benthic organisms that attempt to re-colonize the area after disposal has occurred. The 10-day tests were performed using the polychaete, *Neanthes arenaceodentata*, and the amphipod, *Ampelisca abdita.*

Polychaete worms *(N. arenaceodentata)* were supplied by Aquatic Toxicology Support LLC of Bremerton, Washington. Juvenile polychaete worms were held in filtered water at 20°C. Cultures of *N. arenaceodentata* are maintained in the absence of sediment and do not have an available "native" sediment for use as a control matrix. Control sediment used in the benthic polychaete worm test was obtained from Yaquina Bay, Oregon. This sediment source is a frequently used matrix known to support survival and growth.

Amphipods (*A. abdita*) were obtained from Brezina & Associates of Dillon Beach, California. Organisms were held at 20°C prior to testing. The native sediment from San Rafael, California, was provided by the supplier for use as the control sediment.

Benthic tests were conducted as 10-day static exposures with five replicates for each test treatment, the reference, and control sediment. Two centimeters of sediment (approximately 175 mL) were placed into each 1-liter glass chamber with 775 mL of overlying water. Trickle-flow aeration was provided through glass pipettes, and care was taken to avoid disturbing the sediment surface. Test chambers were placed into randomly assigned positions and allowed to equilibrate to test conditions overnight.

For the amphipod test, ammonia concentrations were reduced in samples DANI12, DANW12, DRMY12, ABMA12, and SHCR12 following the procedures in Appendix E of the ITM (USEPE/USACE 1998) and Appendix N of the SERIM (USEPA/USACE 2008). As indicated in the guidance, overlying water in the test chambers was renewed once daily during the ammonia reduction process. To perform renewals, overlying water was siphoned from each of the test chambers, ensuring that surficial sediments were not disturbed. Laboratory seawater was then placed into each test chamber using a diffuser to prevent disturbance of test sediments. Porewater ammonia concentrations were monitored in sacrificial surrogate containers. To collect porewater samples, overlying water was removed and sediment was placed into a centrifuge tube. Sediment samples were centrifuged for 20 minutes, after which the supernatant was collected for analysis. Ammonia was measured in the extracted porewater using an ion-specific probe. Once the porewater ammonia concentrations were below the no-observed-effects concentration (NOEC), the control, reference, and any non-ammonia-reduced treatments were prepared following the method cited in the previous paragraph.

Prior to test initiation, water quality measurements were taken in one replicate for each test treatment and included dissolved oxygen, temperature, salinity, and pH. To initiate the test, organisms were randomly allocated to each of the test chambers. Initial stocking densities were 10 organisms per test chamber for the polychaete test and 20 organisms per test chamber for the amphipod test.

During the test, water quality was monitored daily in one alternating replicate per treatment. No food was provided during the 10-day exposures. Ammonia was measured in both interstitial (pore water) and overlying water at initiation and termination. As indicated above, these measurements were made from a surrogate chamber for each test treatment. Sediment pore water was extracted via centrifugation. All water quality instruments were calibrated daily or on their recommended schedule. Records of instrument calibration were retained in the laboratory logs.

At test termination, the sediments were carefully sieved to remove the test organisms, and survivorship was assessed using methods described in the Green Book (USEPA/USACE 1991). To evaluate the relative sensitivity of the organisms, reference toxicity tests were performed using standard reference toxicants (Lee 1980).

2.4.4.1 *Amphipod: Ampelisca abdita*

The experimental design, procedures, and water quality measurements for the 10-day whole sediment (solid phase) bioassay using *A. abdita* are presented in Exhibit 2-15. Due to the large number of samples, this test was conducted in two batches.

Exhibit 2-15. Test Condition Summary with *Ampelisca abdita*

Batch ID	**1**	**2**
Sample identification	RS-CH-A, DANI12, CCRK12, NYNC12, PTFC12, ORDT12, DANW12, NCW12, CHEC12-1, CHEC12-2, MTPL12, ABMA12, Control	RS-CH-A, REHR12, HGIS12, DRMY12, WLR12, WUTB12, BENW12, HGIW12, WRTB12, WLRW12, SHCR12, Control
Dates samples were collected	October 20 – November 10, 2012	November 2 - 19, 2012
Date received at NewFields	November 13 – December 3, 2012	
Sample storage conditions	4°C, dark	
Test dates	December 7 - 17, 2012	December 11 - 21, 2012
Recommended Holding Time: 56 days	27-48 days	22-39 days
Source of control sediment	San Rafael, CA	
Test species	*Ampelisca abdita*	
Supplier	Brezina and Associates	
Date acquired	December 5, 2012	
Acclimation/holding time	2 days	5 days
Age class	Sub-adult, 3-5 mm	
Test procedures	ITM	
Test location	NewFields, Port Gamble, WA	
Test type/duration	10 day/static	
Control water	0.45-µm-filtered North Hood Canal water	
Test dissolved oxygen Recommended: >4.2 mg/L	Actual: 7.2–7.9 mg/L	Actual: 7.4–8.0 mg/L
Test temperature Recommended: 20°±1°C	Actual: 18.2–20.5°C	Actual: 18.4–20.5°C
Test pH Recommended: 7.8±0.5	Actual: 7.7–8.4	Actual: 7.7–8.4
Test salinity Recommended: 30±2 ppt	Actual: 26–30 ppt	Actual: 27–29 ppt
Control performance standard >90% survival	Actual: 92%, Pass	Actual: 93%, Pass
Reference Toxicant LC_{50}	52.5 mg/L total ammonia	61.3 mg/L total ammonia
Mean; Acceptable Range	55.3; 11.4-99.3 mg/L total ammonia	54.1; 11.4-96.7 mg/L total ammonia
NOEC (total ammonia)	26.3 mg/L total ammonia	50.8 mg/L total ammonia
NOEC (un-ionized ammonia)	0.422 mg/L UIA	0.491 mg/L UIA
Test lighting	Continuous	
Test chamber	1000-mL glass chamber	
Replicates/treatment	5 + 2 surrogates	
Concentration/treatment	NA	
Organisms/replicate	20	
Exposure volume	175 mL sediment (2 cm)/775 mL of overlying water	
Feeding	None	
Test solution renewal	None	
Deviations from test protocol	Slight deviations in temperature, salinity, and pH	

NOEC = No observed effects concentration

2.4.4.2 *Polychaete: Neanthes arenaceodentata*

The experimental design, procedures, and water quality measurements for the 10-day whole sediment (solid phase) bioassay using *N. arenaceodentata* are presented in Exhibit 2-16. Due to the large number of samples, this test was conducted in two batches.

Exhibit 2-16. Test Condition Summary with *Neanthes arenaceodentata*

Batch ID	**1**	**2**
Sample identification	RS-CH-A, DANI12, CCRK12, NYNC12, PTFC12, ORDT12, DANW12, NCW12, REHR12, ABMA12, Control	RS-CH-A, CHEC12-1, CHEC12-2, MTPL12, HGIS12, DRMY12, WLR12, WUTB12, BENW12, HGIW12, WRTB12, WLRW12, SHCR12, Control
Dates samples were collected	October 20 – November 10, 2012	November 4 - 19, 2012
Date received at NewFields	November 13 – December 3, 2012	December 3, 2012
Sample storage conditions	4°C, dark	
Test dates	November 27 – December 3, 2012	December 11 - 21, 2012
Recommended Holding Time: 56 days	17-38 days	22-37 days
Source of control sediment	Yauqina Bay, CA	
Test species	*Neanthes arenaceodentata*	
Supplier	Aquatic Toxicology Support	
Date acquired	November 20, 2012	December 11, 2012
Acclimation/holding time	7 days	0 days
Age class	Juvenile, 2-3 week post-emergence	
Test procedures	ITM	
Test location	NewFields, Port Gamble, WA	
Test type/duration	10 day/static	
Control water	0.45-µm-filtered North Hood Canal water	
Test dissolved oxygen Recommended: >4.2 mg/L	Actual: 6.7–7.8 mg/L	Actual: 7.4–7.9 mg/L
Test temperature Recommended: 20°±1°C	Actual: 19.0–20.6°C	Actual: 18.3–20.7°C
Test pH Recommended: 7.8±0.5	Actual: 76–8.3	Actual: 7.7–8.5
Test salinity Recommended: 30±2 ppt	Actual: 29–31 ppt	Actual: 27–30 ppt
Control performance standard >90% survival	Actual: 100%, Pass	Actual: 94%, Pass
Reference Toxicant LC_{50}	187.1 mg/L total ammonia	186.7 mg/L total ammonia
Mean; Acceptable Range	167.1; 70.7-263.5 mg/L total ammonia	169.9; 74.7-263.1 mg/L total ammonia
NOEC (total ammonia)	165.0 mg/L total ammonia	148.0 mg/L total ammonia
NOEC (un-ionized ammonia)	1.693 mg/L UIA	1.138 mg/L UIA
Test lighting	Continuous	
Test chamber	1000-mL glass chamber	
Replicates/treatment	5 + 2 surrogates	
Concentration/treatment	NA	
Organisms/replicate	10	
Exposure volume	175 mL sediment (2 cm)/775 mL of overlying water	
Feeding	None	
Test solution renewal	None	
Deviations from test protocol	Slight deviations in temperature, salinity, and pH	

2.4.5 Bioaccumulation Potential Procedures

Assessment of bioaccumulation potential was carried out using the polychaete worm *Neanthes virens* and the bivalve *Macoma nasuta* over a 28-day test period.

The polychaetes *N. virens* were obtained from Aquatic Research Organisms, Inc. in Hampton, New Hampshire. Organisms were acclimated to and held at 14°C prior to testing. Native *N. virens* sediment from the Damariscotta River, Boothbay Harbor, Maine, was provided by Aquatic Research Organisms for use as the control sediment in the polychaete test. The bivalves *M. nasuta* were supplied by J & G Gunstone in Discovery Bay, Washington, and held at 14°C prior to testing. Native *M. nasuta* sediment from Discovery Bay, Washington, was provided by J & G Gunstone for use as the control sediment in the bivalve test. These control sediments have been routinely tested in conjunction with their respective organisms at this laboratory, as well as many other bioassay laboratories. Results of historical testing have demonstrated acceptable organism health and sediment quality.

The bioaccumulation assessment was performed in 37.8-liter (10-gallon) aquaria modified with overflow standpipe water ports. Chambers were loaded with 5 to 6 liters of sediment to a depth of 5 to 6 cm and supplied with a continuous seawater supply through an adjustable valve. Chambers were filled with approximately 18.5 liters of overlying water to the level of the overflow standpipe, and the flow was maintained at five to 10 water exchanges per day (92.5 to 185 liters per day). Aeration was supplied to each chamber. Each of these tests was initiated using five replicates.

N. virens exposures were conducted using 20 animals in each replicate test chamber. For *M. nasuta* exposures, 30 animals were placed in each replicate test chamber. The test chambers were maintained under flow-through conditions and water quality measurements were taken in one replicate of each test treatment daily. Water quality parameters included pH, salinity, temperature, and dissolved oxygen. All water quality instruments were calibrated daily or on their recommended schedule. Records of instrument calibration were retained in the laboratory logs. On Day 28, the sediment was sieved to remove the worms and clams. The surviving animals were placed in clean flow-through aquaria to purge their gut contents over 24 hours. To evaluate the relative sensitivity of the organisms, reference toxicity tests were performed using standard reference toxicants (Lee 1980). Tissues were then placed into certified-clean glass sample jars, frozen, and sent to ALS Environmental in Kelso, Washington, for chemical analysis.

Supplemental Testing

Sample ABMA12 was inadvertently left out of the initial testing program. At the time the omission was realized, the sample was beyond the eight week (56 day) holding time. Newfields alerted ANAMAR immediately and coordination with USACE and EPA was initiated to develop a plan for corrective action. The corrective action is discussed in more detail in Section 4.1.2 and pertinent correspondence is provided in Appendix J. The supplemental testing program included bioassay analysis of ABMA12, the reference sample (RS-CH-A), and a control sample.

N. virens exposures were conducted using 25 animals in each replicate test chamber. For *M. nasuta* exposures, 30 animals were placed in each replicate test chamber.

2.4.5.1 *Polychaete: Neanthes virens (Sand Worm)*

The experimental design, procedures, and water quality measurements for the 28-day flow-through bioassay using *N. virens* are presented in Exhibit 2-17. Due to the large number of samples, this test was conducted in two batches.

Exhibit 2-17. Test Condition Summary with *Neanthes virens*

Batch ID	**1**	**2**
Sample identification	RS-CH-A, ORDT12, PTFC12, NYNC12, CCRK12, DANW12, DANI12, NCW12, REHR12, Control	RS-CH-A, CHEC12-1, CHEC12-2, MTPL12, HGIS12, DRMY12, WLR12, WUTB12, BENW12, HGIW12, WRTB12, WLRW12, SHCR12, Control
Dates samples were collected	October 20 – November 10, 2012	November 4 - 19, 2012
Date received at NewFields	November 13, 2012	December 3, 2012
Sample storage conditions	4°C, dark	
Test dates	November 20 – December 18, 2012	Dec 28, 2012 – Jan 25, 2013
Recommended Holding Time: 56 days	10-31 days	39-54 days
Source of control sediment	Damariscotta River, Boothbay Harbor, ME	
Test species	*Neanthes virens*	
Supplier	Aquatic Research Organisms, Hampton, NH	
Date acquired	November 14, 2012	December 21, 2012
Acclimation/holding time	6 days	6 days
Age class	Adult	
Test procedures	ITM, SERIM	
Test location	NewFields, Port Gamble, WA	
Test type/duration	28-Day/Flow-through	
Control water	Sand-filtered North Hood Canal water	
Test dissolved oxygen Recommended: >5.0 mg/L	Actual: 4.5–9.1 mg/L	Actual: 5.1–9.3 mg/L
Test temperature Recommended: 10 ±5°C	Actual: 11.8–17.3°C	Actual: 9.6–14.6°C
Test pH Recommended: 7.8±0.5	Actual: 7.2–8.1	Actual: 7.5–8.1
Test salinity Recommended: 32±2 ppt	Actual: 28-31 ppt	Actual: 28-31 ppt
Control performance standard >90% survival	Actual: 97%, Pass	Actual: 97%, Pass
Reference Toxicant (sodium dodecyl sulfate [SDS])	LC_{50} = 35.3 mg/L SDS	LC_{50} = 61.7 mg/L SDS
Acceptable Range LC_{50}	26.5 – 50.4 mg/L SDS	27.4 – 47.9 mg/L SDS
Test lighting	16 hours light:8 hours dark	
Test chamber	10 gallon glass aquaria (49.5 x 24.8 x 29.2 cm)	
Replicates/treatment	5	
Concentration/treatment	NA	
Organisms/replicate	20	
Exposure volume	5–6 L sediment (5–6 cm depth) with 18.5 L of overlying water	
Feeding	None	
Water Renewal (Flow-through) Recommended: 6 – 10 volume exchanges/day 92.5 – 185 L/day	Actual: 38 – 56 mL/30 sec 109.4 – 161.3 L/day	
Deviations from test protocol	Minor deviations in dissolved oxygen, temperature, and pH	

Supplemental Testing

The experimental design, procedures, and water quality measurements for the 28-day flow-through bioassay using *N. virens* are presented in Exhibit 2-18. The need for the supplemental testing is discussed in Section 4.1.2.

Exhibit 2-18. Test Condition Summary with *Neanthes virens* – Supplemental Testing

Batch ID	Supplemental Testing
Sample identification	RS-CH-A, ABMA12, Control
Dates samples were collected	November 3 – November 10, 2012
Date received at NewFields	November 13 – December 3, 2012
Sample storage conditions	4°C, dark
Test dates	March 28 – April 25, 2013
Recommended Holding Time: 56 days	145 days (out of hold)
Source of control sediment	Damariscotta River, Boothbay Harbor, ME
Test species	*Neanthes virens*
Supplier	Aquatic Research Organisms, Hampton, NH
Date acquired	March 27, 2013
Acclimation/holding time	1 day
Age class	Adult
Test procedures	ITM, SERIM
Test location	NewFields, Port Gamble, WA
Test type/duration	28-Day/Flow-through
Control water	Sand-filtered North Hood Canal water
Test dissolved oxygen Recommended: >5.0 mg/L	Actual: 4.4-8.9 mg/L
Test temperature Recommended: 10 ±5°C	Actual: 13.5-15.7°C
Test pH Recommended: 7.8±0.5	Actual: 7.0-8.1
Test salinity Recommended: 32±2 ppt	Actual: 29-30 ppt
Control performance standard >90% survival	Actual: 99.2%; Pass
Reference Toxicant (sodium dodecyl sulfate)	LC_{50} = 47.6 mg/L SDS
Acceptable Range LC_{50}	19.2-65.8 mg/L SDS
Test lighting	16 hours light:8 hours dark
Test chamber	10 gallon glass aquaria (49.5 x 24.8 x 29.2 cm)
Replicates/treatment	5
Concentration/treatment	NA
Organisms/replicate	25
Exposure volume	5–6 L sediment (5–6 cm depth) with 18.5 L of overlying water
Feeding	None
Water Renewal (Flow-through) Recommended: 6 – 10 volume exchanges/day 92.5 – 185 L/day	Actual: 38 – 56 mL/30 sec 109.4 – 161.3 L/day
Deviations from test protocol	Minor deviations in pH and dissolved oxygen; sediment out of holding time

2.4.5.2 *Bivalve: Macoma nasuta (Bent-nose Clam)*

The experimental design, procedures, and water quality measurements for the 28-day flow-through bioassay using *M. nasuta* are presented in Exhibit 2-19. Due to the large number of samples, this test was conducted in two batches.

Exhibit 2-19. Test Condition Summary with *Macoma nasuta*

Batch ID	**1**	**2**
Sample identification	RS-CH-A, ORDT12, PTFC12, NYNC12, CCRK12, DANW12, DANI12, NCW12, REHR12, Control	RS-CH-A, CHEC12-1, CHEC12-2, MTPL12, HGIS12, DRMY12, WLR12, WUTB12, BENW12, HGIW12, WRTB12, WLRW12, SHCR12, Control
Dates samples were collected	October 20 – November 2, 2012	November 4 - 19, 2012
Date received at NewFields	November 13, 2012	December 3, 2012
Sample storage conditions	4°C, dark	
Test dates	November 21 – December 19, 2012	Dec 27, 2012 – Jan 24, 2013
Recommended Holding Time: 56 days	19-32 days	38-53 days
Source of control sediment	Discovery Bay, WA	
Test species	*Macoma nasuta*	
Supplier	J&G Gunstone Clams, Discovery Bay, WA	
Date acquired	November 15, 2012	December 17, 2012
Acclimation/holding time	6 days	10 days
Age class	Adult	
Test procedures	ITM, SERIM	
Test location	NewFields, Port Gamble, WA	
Test type/duration	28-Day/Flow-through	
Control water	Sand-filtered North Hood Canal water	
Test dissolved oxygen Recommended: >5.0 mg/L	Actual: 6.6–8.8 mg/L	Actual: 5.9–9.9 mg/L
Test temperature Recommended: 12°- 16 ±1°C	Actual: 11.9–18.9°C	Actual: 10.3–14.8°C
Test pH Recommended: 7.8±0.5	Actual: 7.3–8.1	Actual: 7.5–8.1
Test salinity Recommended: 32±2 ppt	Actual: 28-30 ppt	Actual: 29-31 ppt
Control performance standard >90% survival	Actual: 95.3%, Pass	Actual: 92.7%, Pass
Reference Toxicant (sodium dodecyl sulfate)	LC_{50} = 26.6 mg/L SDS	LC_{50} = 35.3 mg/L SDS
Acceptable Range LC_{50}	0.0 – 60.1 mg/L SDS	0.0 – 51.4 mg/L SDS
Test lighting	16 hours light:8 hours dark	
Test chamber	10 gallon glass aquaria (49.5 x 24.8 x 29.2 cm)	
Replicates/treatment	5	
Concentration/treatment	NA	
Organisms/replicate	30	
Exposure volume	5–6 L sediment (5–6 cm depth) with 18.5 L of overlying water	
Feeding	None	
Water Renewal (Flow-through) Recommended: 6 – 10 volume exchanges/day 92.5 – 185 L/day	Actual: 38 – 56 mL/30 sec 109.4 – 161.3 L/day	
Deviations from test protocol	Minor deviations in temperature and salinity	

Supplemental Testing

The experimental design, procedures, and water quality measurements for the 28-day flow-through bioassay using *M. nasuta* are presented in Exhibit 2-20. The need for the supplemental testing is discussed in Section 4.1.2.

Exhibit 2-20. Test Condition Summary with *Macoma nasuta* – Supplemental Testing

Batch ID	Supplemental Testing
Sample identification	RS-CH-A, ABMA12, Control
Dates samples were collected	November 3 – November 10, 2012
Date received at NewFields	November 13 – December 3, 2012
Sample storage conditions	4°C, dark
Test dates	April 2 – April 30, 2013
Recommended Holding Time: 56 days	150 (out of hold)
Source of control sediment	Discovery Bay, WA
Test species	*Macoma nasuta*
Supplier	J&G Gunstone Clams, Discovery Bay, WA
Date acquired	March 28, 2013
Acclimation/holding time	4 days
Age class	Adult
Test procedures	ITM, SERIM
Test location	NewFields, Port Gamble, WA
Test type/duration	28-Day/Flow-through
Control water	Sand-filtered North Hood Canal water
Test dissolved oxygen Recommended: >5.0 mg/L	Actual: 6.2–9.2 mg/L
Test temperature Recommended: 12°- 16 ±1°C	Actual: 13.7–16.9°C
Test pH Recommended: 7.8±0.5	Actual: 7.1-8.2
Test salinity Recommended: 32±2 ppt	Actual: 29-30 ppt
Control performance standard >90% survival	Actual: 98%; Pass
Reference Toxicant (sodium dodecyl sulfate)	LC_{50} = 40.6 mg/L SDS
Acceptable Range LC_{50}	0.0-52.4 mg/L SDS
Test lighting	16 hours light:8 hours dark
Test chamber	10 gallon glass aquaria (49.5 x 24.8 x 29.2 cm)
Replicates/treatment	5
Concentration/treatment	NA
Organisms/replicate	30
Exposure volume	5–6 L sediment (5–6 cm depth) with 18.5 L of overlying water
Feeding	None
Water Renewal (Flow-through) Recommended: 6 – 10 volume exchanges/day 92.5 – 185 L/day	Actual: 38 – 56 mL/30 sec 109.4 – 161.3 L/day
Deviations from test protocol	Minor deviations in pH and salinity; sediment out of holding time

2.5 Tissue Analysis Recommendations

On Day 28 of the bioaccumulation potential tests, the sediment was sieved to remove live specimens of *Neanthes virens* and *Macoma nasuta*. The surviving animals were placed in clean flow-through aquaria to depurate their gastrointestinal tract over a 24-hour period. Soft tissue was separated from the hard shells of *M. nasuta*. Whole animal tissue (minus the valves of *M. nasuta*) was then placed into certified-clean glass sample jars, frozen, and sent to ALS for chemical analysis.

USACE reviewed the sediment chemistry results to determine which analytes should be tested in the corresponding tissue samples based on SERIM guidance. The proposed tissue analyses and the rationale were provided to EPA Region 4 by USACE for review and approval, and EPA concurred with the approach. Based on the sediment physical and chemistry results, USACE recommended that samples PTFC12 and NYNC12, which are adjacent to each other (DUs 11 and 12), be composited for tissue analysis because they were very similar with respect to physical and chemical characteristics. The new sample name for this composited sample is UHC12. Due to the large number of samples associated with this project, the bioaccumulation testing was conducted in two batches. USACE proposed to composite the reference and pre-exposure tissues from the two batches for comparison with the project samples. EPA Region 4 approved this approach. Project tissue analyses are summarized in Exhibit 2-21 and the rationale is provided in the sections below. The complete tissue bioaccumulation recommendation proposal is included in Appendix E-3.

Exhibit 2-21. Summary of Bioaccumulation Tissue Analyses

Location	Sample ID	Metals	PAHs	Dioxins	PBDE	Organotins	PCBs	Pesticides
Reference	RS-CH-A							
Upper Harbor and Wideners	DANW12	x	x	x				
	DANI12	x	x					
	NCW12	x	x			x		
	CCRK12	x	x	x				
	UH12*	x	x			x		
	ORDT12	x	x	x				
Lower Harbor and Wideners	REHR12	x	x	x				
	BENW12	x	x					
	HGIS12	x	x					
	HGIW12	x	x	x				
	DRMY12	x	x					
	WUTB12	x	x	x		x		
	WRTB12	x	x					
	WLR12	x	x	x	x	x		
	WLRW12	x	x	x				
Anchorage Basin	ABMA12	x	x	x				
Shem Creek	SHCR12	x	x			x		
Entrance Channel	CHEC12-1	x	x	x				
	CHEC12-2	x	x					
	MTPL12	x	x					

*Composite Sample = NYNC12/ PTFC12
Note: Blank cell means no tissue analysis required for that sample and/or analyte.

Total Solids
Concentrations of total solids were analyzed for *N. virens* and *M. nasuta* project sample tissues, reference tissues, and pre-exposure tissues.

Lipids
Lipid concentrations were analyzed for *N. virens* and *M. nasuta* pre-exposure tissues only.

Metals
Most metals were detected above the method reporting limit (MRL) in all project sediment samples. Based on these results and guidance from the SERIM, the full suite of metals was analyzed for all project tissues, reference tissues, and pre-exposure tissues.

Polynuclear Aromatic Hydrocarbons (PAHs)
Several PAHs were detected above the MRL in all project sediment samples. Based on these results and guidance from the SERIM, the full suite of PAHs was analyzed for all project tissues, reference tissues, and pre-exposure tissues.

Dioxins – Theoretical Bioaccumulation Potential Analysis
The analysis of Charleston Post 45 sediments indicated varied dioxin/furan concentrations. As part of a Tier II evaluation, the potential for benthic impact related to bioaccumulation of nonpolar organic compounds is evaluated according to Green Book (USEPA/USACE 1991) guidance. This involves calculation of theoretical bioaccumulation potential (TBP) of nonpolar organic compounds based on partitioning between the organic carbon in sediments and the lipids in organisms.

The approved procedure calculates the TBP for a test organism by factoring the concentrations of the nonpolar organic chemical and the TOC in the sediment and the percent lipid concentration in the organism. The TBP estimates the magnitude of bioaccumulation likely to be associated with nonpolar organic contaminants in the dredged material and is used to predict the potential for bioaccumulation in the samples. It should be noted that TBP usually overestimates the actual bioaccumulation potential. A biota sediment accumulation factor (BSAF) of 1 was used for the calculation.

The ten sediment samples with the highest (i.e., worst-case) TBP were proposed for actual tissue analysis and comparison with the reference tissues. The rationale for not analyzing all the samples was if samples with higher TBPs do not have significant bioaccumulation then it is assumed that samples with lower TBP will not have significant bioaccumulation either. The TBP for all the samples are summarized in Exhibit 2-22, and the ten project tissue samples that were analyzed for dioxins appear in bold.

Exhibit 2-22. Summary of Theoretical Bioaccumulation Potential and Sediment Total TEQs for Tissue Analysis Recommendations

Sample ID	TBP – *M. nasuta*	TBP – *N. virens*	Sediment Total TEQ
BENW12	0.3542	0.5195	0.4123
MTPL12	0.4370	0.6409	1.5149
WRTB12	0.6099	0.8944	1.8214
HGIS12	0.6246	0.9161	0.9911
NCW12	0.8376	1.2285	2.7138
CHEC12-2	0.9819	1.4401	2.0030
NYNC12	1.1817	1.7332	3.1986
PTFC12	1.0273	1.5067	2.7669
DRMY12	1.2336	1.8092	2.3520
DANI12	1.3302	1.9509	2.8022
SHCR12	1.3343	1.9569	2.9532
RS-CH-A	**0.9093**	**2.0385**	**1.2972**
WLRW12	**1.4220**	**2.0856**	**1.6192**
CCRK12	**1.5445**	**2.2653**	**2.3682**
WLR12	**1.7020**	**2.4963**	**2.3147**
WUTB12	**1.7933**	**2.6302**	**5.3560**
HGIW12	**1.8724**	**2.7462**	**1.9123**
REHR12	**2.3559**	**3.3975**	**1.8439**
ABMA12	**2.3875**	**3.5016**	**2.9159**
CHEC12-1*	**2.5394**	**3.7245**	**3.8937**
ORDT12*	**2.5405**	**3.7260**	**3.6583**
DANW12	**4.1373**	**4.1373**	**5.9427**

* Field split sample – the higher TEQ of the two samples was used in the TBP calculation.
Bold = Project tissue samples that were analyzed for dioxins.

Organotins

The analyses of Charleston Post 45 sediment samples indicated ten samples had detectable concentrations of organotins (Table 6). Sediment sample PTFC12 had the highest concentration of organotins (tri-n-butyltin at 3.8 µg/kg). Samples with concentrations of organotins greater than the MRL were analyzed. If organotins in sediment samples were not detected in concentrations greater than the MRL, then analysis of bioaccumulation tissues was not proposed. In addition, sample SHCR12 was analyzed because it was the only sample that had three organotin compounds were detected, even though the concentrations were below the respective MRLs. A total of five project tissue samples plus the reference station were analyzed for organotins and included WLR12, WUTB12, UH12 (composite of NYNC12 and PTFC12), SHCR12, and RS-CH-A (reference).

PBDEs

The Charleston Post 45 sediment analyses indicated 18 samples had detectable concentrations of PBDE (Table 10). Nine samples had detectable concentrations of PBDE 209 >1.0 µg/kg. Of these nine samples, only four samples (DANW12, NYNC12, PTFC12, BENW12) had a PBDE 209 concentration greater than the MRL. Several samples (SHCR12, CHEC12-1, WUTB12, and DRMY12) did have elevated MRLs for PBDE 209 due to dilutions. Concentrations reported for the samples with elevated MRLs were estimated values (J-flagged) less than the MRLs.

Sample WLR12 had concentrations of PBDE 47, PBDE 99, PBDE 100, and PBDE 153 greater than MRL, but less than 1.0 µg/kg. WLR12 also had estimated values for PBDE 85, PBDE 154, and PBDE 209 (also less than 1.0 µg/kg). Since WLR12 had the most detected PBDE congeners of any sample, the tissues from this sample and the reference sample were analyzed for PBDEs.

Pesticides

Pesticides were not detected in any sediment sample; therefore, no tissue samples were analyzed for pesticides.

PCBs

PCBs were not detected in any sediment sample; therefore, no tissue samples were analyzed for PCBs.

2.6 Data Reduction and Applicable Technical Quality Standards

Raw field and laboratory data were summarized and compiled into tables. Figures and maps were used to depict data trends and spatially associate results with respect to sampling locations.

2.6.1 Sediment Chemistry

Results of laboratory analyses of sediment samples are compared to published sediment screening values as appropriate and in conformance with the Green Book and the SERIM. These levels are the threshold effects level (TEL), effects range low (ERL), and the apparent effects threshold (AET). The TEL represents the concentration below which adverse effects are expected to occur only rarely. The ERL is the value at which toxicity may begin to be observed in sensitive species (Buchman 2008). The AET represents the concentration above which adverse biological impacts would always be expected due to exposure to that contaminant alone (Buchman 2008). These comparisons are intended for reference use only and are not intended for regulatory decisions.

2.6.2 Elutriate and Site Water Chemistry

Results of elutriate and water sample analyses were compared to the latest published EPA Water Quality Criteria of criteria maximum concentration (CMC [synonymous with 'acute']) (http://water.epa.gov/scitech/swguidance/standards/criteria/current/index.cfm). The CMC is an estimate of the highest concentration of a pollutant in saltwater to which an aquatic community can be exposed briefly without resulting in an unacceptable effect (USEPA 2006).

2.6.3 Toxicology

All water quality and endpoint data were entered into Microsoft Excel® spreadsheets. Water quality parameters were summarized by calculating the mean, minimum, and maximum values for each test treatment. Endpoint data were calculated for each replicate, and the mean value and standard deviation were determined for each test treatment.

All hand-entered data were reviewed for data entry errors. Any errors found were corrected before summary calculations were performed. A minimum of 10% of all calculations and data sorting were reviewed for errors. Review counts were conducted on any apparent outliers.

Statistical comparisons were made according to the Green Book and were performed using SAS/STAT® software (SAS 2007) or CETIS™ software (CETIS 2012). Before statistical comparisons were conducted, data were tested for normal distribution. Any data that violated the assumption of normal distribution were transformed using an arcsine square root transformation before statistical analysis. All data were tested for equality of variance using Levene's test.

Water column tests are evaluated by calculating the LC_{50} for *A. Bahia* and *M. Beryllina*, and the EC_{50} for the larval test. The LC_{50} is the concentration of the elutriate prepared from the project sediment and site water at which 50% of the exposed organisms will die during analysis. The EC_{50} is the concentration of the elutriate at which 50% of the exposed organisms will not develop normally.

Benthic test results were compared to reference results using analysis of variance (ANOVA) with SAS Proc GLM software with Dunnett's multiple comparison test on the mean values. The Dunnett's test was performed as a one-way test, testing for significantly lower survival than in the reference sample.

2.6.4 Tissue Chemistry

Results of laboratory analyses of tissue samples were compared to published tissue screening values. The most recent U.S. Food and Drug Administration (FDA) action levels (FDA 2011) were used for statistical comparisons as appropriate after accounting for steady-state adjustments of results in Appendix H of SERIM. If mean project tissue results were statistically significantly greater than the reference tissue results, they were compared with taxa-specific, ecological non-specific effects thresholds (EET) and the EPA Region 4 background concentrations for the South Atlantic Bight found in Appendix H of the SERIM. If results are statistically significantly greater than the mean reference tissue results and also exceed EPA Region 4 bioaccumulation values, results may also be used in a risk-based evaluation by USACE.

All project and reference tissue samples have five replicates, and pre-exposure tissues have three replicates. The mean of results of each set of replicates was calculated and compared to the mean of the reference tissue. Means were calculated as follows:

- For non-detects/U-flagged data, the method detection limit (MDL) was used in all statistical calculations.
- For J-flagged and non-flagged data, the result was used in all statistical calculations.

Mean tissue results for wet weight PAHs were adjusted by multiplying the mean value with the analyte-specific steady state factor. In cases where the mean concentration (or mean adjusted concentration) of an analyte in *N. virens* or *M. nasuta* tissue was found to exceed that of the reference tissue and at least two of the five replicate samples had detected levels of the contaminant (greater than the MRL), a statistical comparison was made using ANOVA and Dunnett's multiple comparisons procedures. The biostatistical software program ToxCalc v5.0.32 (Tidepool Scientific LLC) was used to check for normality and homogeneity of variance. If the distribution was determined to be non-normal or the variances unequal, the data were transformed and the distribution and variances were re-evaluated. If either of these assumptions was not met and a suitable transformation was not found, the data were analyzed using Steel's Many One Rank Test. If no mean tissue contaminant concentration (or mean

adjusted concentration) was found to be statistically significantly greater than that of the reference tissue, then no additional analysis was necessary to demonstrate compliance with the LPC (Green Book).

2.7 Reporting Limits

The sediment chemical concentration, MDL, and method reporting limit (MRL) were reported on a dry weight basis. The MDL refers to the minimum concentration of a given analyte that can be measured and reported with a 99% confidence level that the analyte concentration is greater than zero (40 CFR Part 136 Appendix B). The MRL refers to the minimum concentration that the laboratory will report analytical chemistry data with confidence in quantitative accuracy of a given data. Common laboratory procedures for defining an MRL include assigning it to a fixed factor above the MDL or by using the lowest calibration standard. MRLs are often adjusted by the laboratory for sample-specific parameters such as sample weight, percent solids, or dilution.

3 RESULTS AND DISCUSSION

3.1 Field Sampling

Field sampling took place from October 20 through November 19, 2012. Weather conditions did delay or suspend sampling operations on a few days; however, the overall project schedule was not affected. Details on daily weather, wind, and tidal conditions are provided on the field sheets (Appendix B) and are summarized in Tables 1, 2, and 3.

Water column parameters were recorded at the three site water stations and at the ODMDS station. Readings were collected at about 3 feet below the water surface, at mid-depth, and about 3 feet above the sediment surface. *In situ* readings are summarized in Tables 2 and 3.

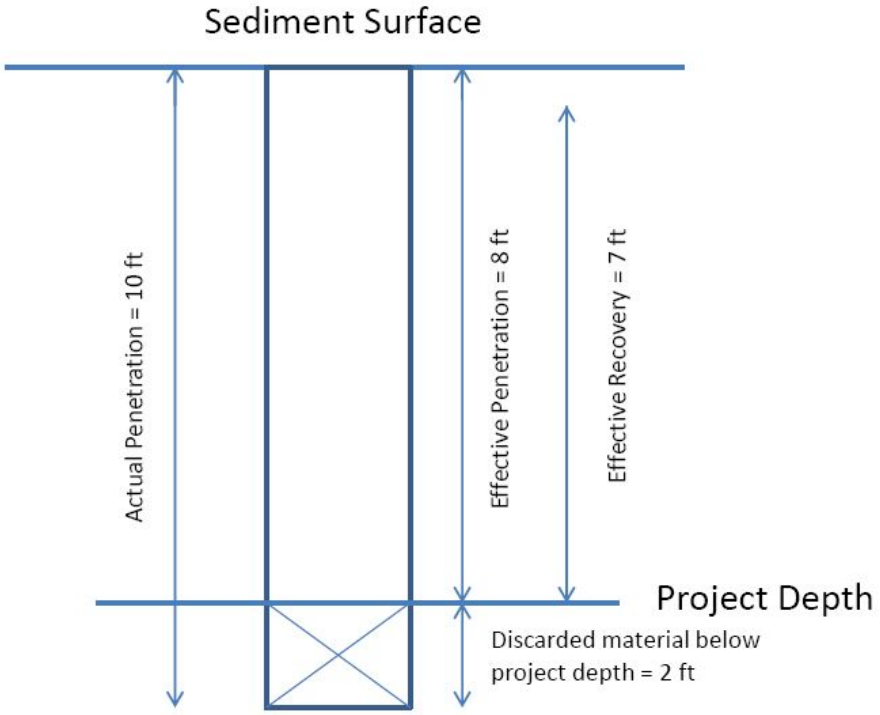
Refusal was encountered at many of the stations due to the presence of Cooper Marl, consolidated clay (especially calcareous clay), limestone, or coarse sand. The core barrel over-penetrated 0.2 to 1.6 feet below target elevation at four stations (REHR12-D, REHR12-F, HGIS12-E, and BENW12-D). At each of these four stations, the material collected below project depth was discarded.

At station WRTB12-D, the maximum length of the 20-foot-long core barrel was reached prior to achieving target elevation. At station NCW12-A, the first coring attempt resulted in reaching refusal at the surface of the sediment, possibly due to the presence of a chain associated with a nearby marker buoy. The material obtained with the first attempt was discarded and the sample was recollected, although refusal was reached after penetrating 3.1 to 3.3 feet below the sediment surface. Strong currents sometimes affected the core barrel during sampling by reducing the angle at which the barrel entered the sediment. A tag line was tied to the core barrel and operated from the bow of the vessel to correct for the effects of current.

Percent effective recovery averaged 79% (range = 43% to 100%) among the core samples retained for analysis (Table 1). Acceptance criteria for percent recovery is discussed in Section 2.2.5. At station REHR12-C, the bottom 2 feet of coarse sand fell from the core barrel during sampling, resulting in 57% effective recovery. The lowest percent recovery (43%) was at station CHEC12-1E, which had an effective recovery of 0.5 feet out of an effective penetration of 1.2 feet due in part to the loss of 0.4 feet of sediment during sample retrieval. In some cases, such as while sampling at station DRMY12-D, consistently low percent effective recovery was attributed to compaction of unconsolidated sediment during sampling.

At a couple of stations (REHR12-D and REHR12-F), the technique of overpenetration was used to try to improve sample retention in the core tube. Typically, loss of material from the bottom of the core tube during retrieval occurs because the sample material does not form a good seal and falls out the bottom of the core during retrieval. To improve percent recovery, the vibracore operator overpenetrated to try to reach a consolidated substrate to help form a "plug" or seal to keep the sample in the core tube during retrieval. The distance the core was advanced beyond project depth was measured so that any material retained in the core tube that was beyond the project depth was described in the field notes but was discarded and not included in the sample.

Effective recovery length excludes the length of material lost or intentionally discarded from below project depth. The diagram below depicts the overpenetration procedure and shows how effective recovery is calculated.



Effective % Recovery = Effective Recovery/Effective Penetration = 7 ft/8 ft = 87.5%

One core sample each was discarded from stations CCRK12-C, NYNC12-B, ORDT12-C, WLR12-D, and WUTB12-A due to unsatisfactory percent effective recovery. The first two core samples at station PTFC12-A were discarded due to unsatisfactory percent effective recovery. The first one or two core samples were discarded while sampling stations NCW12-A and WRTB12-B, respectively, due to encounters with hard material at the sediment surface, such as rocks or possibly hardware associated with nearby marker buoys.

3.2 Sediment Physical Results

Grain size distribution was analyzed in all subsamples and composite samples from 21 DUs. Complete results of physical testing for percent grain size distributions, percent solids, Unified Soil Classification System (USCS) classes, are presented in Tables 4 and 5, for sediment subsamples and composite samples, respectively. Table 5 also includes specific gravity, Atterberg limits, and hydrometer readings for composite samples. The laboratory report of physical analysis results using USACE Form 2087 is provided in Appendix C. Grain size results for the composite samples are summarized in Exhibit 3-1.

Reference Station
Sample RS-CH-A was comprised primarily of sand (>93% sand) and was classified as poorly-graded sand/silty sand (SP-SM).

Upper Harbor and Wideners
Samples DANW12, NYNC12, and PTFC12 were comprised primarily of silt and clay and were classified as clay of high plasticity, elastic silt (CH). Samples DANI12, NCW12, CCRK12, and ORDT12 were comprised primarily of sand (>50% sand) and were classified as either clayey sand (SC) or silty sand (SM).

Lower Harbor and Wideners
Most of the samples from the lower harbor and associated wideners were comprised primarily of sand (>55% sand) and were classified as clayey sand (SC). Sample DRMY12 was comprised primarily of clay (45% clay) and was classified as clay of high plasticity, elastic silt (CH). Sample WUTB12 was comprised primarily of silt (>41% silt) and was classified as silt of high plasticity, elastic silt (MH).

Anchorage Basin
Sample ABMA12 was comprised primarily of sand (54% sand) and was classified as clayey sand (SC).

Shem Creek
Sample SHCR12 was comprised primarily of clay (38% clay) and was classified as clay of high plasticity, elastic silt (CH).

Entrance Channel
Sample CHEC12-1 was comprised primarily of sand (>43% sand) and was classified as clay of high plasticity, elastic silt (CH). Samples CHEC12-2 and MTPL12 were comprised primarily of sand (>64% sand) and were classified as clayey sand (SC).

Exhibit 3-1. Grain Size Distribution for Composited and Reference Samples

Location	Sample ID	Grain Size Distribution[1] (percent by weight)				
		Gravel	Sand	Silt	Clay	USCS
Reference	RS-CH-A	0.0	93.7	1.6	4.7	SP-SM
Upper Harbor and Wideners	DANW12	0.0	40.4	28.3	31.3	CH
	DANI12	0.0	50.6	13.3	36.1	SC
	NCW12	0.0	50.1	19.4	30.5	SM
	CCRK12	0.3	52.2	18.3	29.2	SC
	NYNC12	0.0	34.0	32.3	33.7	CH
	PTFC12	0.0	32.2	29.4	38.4	CH
	ORDT12	0.2	55.7	12.1	32.0	SC
	ORDT12 FS	0.0	58.1	9.8	32.1	SC
Lower Harbor and Wideners	REHR12	1.7	68.9	12.7	16.7	SC
	BENW12	1.0	70.5	11.8	16.7	SC
	HGIS12	1.0	62.4	12.4	24.2	SC
	HGIW12	0.3	74.7	5.2	19.8	SC
	DRMY12	0.0	31.0	23.6	45.4	CH
	WUTB12	0.4	24.3	33.8	41.5	MH
	WRTB12	0.1	59.2	18.9	21.8	SC
	WLR12	2.4	55.0	18.3	24.3	SC
	WLRW12	1.0	69.9	13.2	15.9	SC
Anchorage Basin	ABMA12	0.0	54.3	21.3	24.4	SC
Shem Creek	SHCR12	0.0	35.6	26.2	38.2	CH
Entrance Channel	CHEC12-1	4.5	45.2	22.1	28.2	CH
	CHEC12-1 FS	0.6	43.7	23.6	32.1	CH
	CHEC12-2	2.8	64.7	16.0	16.5	SC
	MTPL12	0.5	70.9	7.8	20.8	SC

[1]Particle sizes: gravel ≥4.750 mm, sand = 0.075–4.749 mm, silt & clay <0.075 mm.
FS = Field Split
CH = Clay of high plasticity, elastic silt
MH = Silt of high plasticity, elastic silt
SC = Clayey sand
SM = Silty sand
SP = Poorly-graded sand

3.3 Sediment Chemistry

Sediment chemistry was performed on composited samples and the reference sample. Analytical results for sediment chemistry are presented in Tables 6 through 11. Analytical results were compared to published sediment screening criteria (i.e., TEL, ERL), which are defined in Section 2.6.1. Sediment chemistry results were used to determine bioaccumulation tissue chemistry analysis. The complete laboratory report is provided in Appendix E-1.

3.3.1 Metals

In all project samples (excluding the reference station), all metals tested were detected in concentrations greater than the MRL, with the exception of mercury. Mercury was detected in

concentrations greater than the MRL in several of the lower harbor samples (HGIW12, DRMY12, WUTB12, WRTB12), the anchorage basin (ABMA12), Shem Creek (SHCR12), and the entrance channel samples (CHEC12-1, CHEC12-2, MTPL12). Arsenic, cadmium, chromium, and nickel were detected in concentrations greater than the TEL and/or ERL in several samples (see bullets below). No other metals were detected above the TEL or ERL in any of the sediment samples.

Samples with concentrations exceeding the TEL and ERL are summarized below.

- Arsenic – DANW12, PTFC12, ORDT12 field split, DRMY12, WUTB12, ABMA12, SHCR12, CHEC12-1, CHEC12-1 field split, MTPL12
- Cadmium – CHEC12-2 and MTPL12
- Chromium – NYNC12, NCW12, PTFC12, WUTB12, MTPL12
- Nickel – DANI12, DANW12, NYNC12, NCW12, PTFC12, WUTB12, MTPL12

Sample MTPL12 had the highest concentrations of every metal analyzed except lead. Exhibit 3-2 provides a summary of the metals concentrations compared to the TEL and ERL, and the bolded values denote results that were greater than the TEL and/or ERL. Complete results are provided in Table 6.

3.3.2 Ammonia, Total Petroleum Hydrocarbons, and Total Organic Carbon

Total ammonia concentrations for all samples were greater than the MRL and ranged from 0.78 mg/kg in RS-CH-A to 170 mg/kg in DANW12.

TPH was detected above the MRL in three of the lower harbor/widener samples including DRMY12, WUTB12, and WLR12. TPH was also detected above the MRL in the anchorage basin (ABMA12), Shem Creek (SHCR12), and one entrance channel sample (CHEC12-1). Concentrations of TPH ranged from <130 mg/kg in RS-CH-A to 630 mg/kg in SHCR12.

TOC was detected above the MRL in all samples and concentrations ranged from 0.070% in RS-CH-A to 2.60% in MTPL12.

Results are summarized in Exhibit 3-3, and complete results are provided in Table 6. There are no published sediment screening criteria (i.e., TEL, ERL) for ammonia, TPH, or TOC.

Exhibit 3-2. Summary of Results for Metals in Sediments

Sample ID	Analyte Concentrations (mg/kg)												
	Antimony	Arsenic	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc
RS-CH-A (reference)	0.026	2.17	0.120	0.012	5.69	0.27	1.170	<0.002	0.82	<0.03	<0.004	0.013	4.2
DANI12	0.155	5.78	0.550	0.414	42.5	9.16	5.300	0.020	**19.7**	1.60	0.074	0.187	43.4
DANW12	0.124	**7.52**	0.944	0.591	45.6	7.16	9.290	0.023	**17.3**	1.31	0.105	0.291	47.7
NYNC12	0.236	6.93	0.548	0.423	**57.0**	10.9	4.530	0.019	**22.9**	2.18	0.081	0.173	48.5
NCW12	0.404	6.95	0.538	0.493	**59.4**	11.4	3.590	0.023	**23.5**	2.25	0.079	0.183	48.4
CCRK12	0.122	7.14	0.492	0.294	33.7	8.29	5.010	0.014	15.3	1.35	0.069	0.169	37.2
PTFC12	0.295	**8.48**	0.605	0.438	**61.6**	12.5	6.630	0.020	**24.8**	1.97	0.086	0.182	53.8
ORDT12	0.041	6.99	0.597	0.089	19.7	4.98	7.270	0.012	6.29	0.24	0.036	0.093	25.3
ORDT12 (field split)	0.119	**7.27**	0.728	0.108	20.5	5.32	7.380	0.016	6.87	0.39	0.063	0.125	26.5
REHR12	0.180	4.65	0.425	0.390	22.0	3.27	3.240	0.011	7.95	0.56	0.079	0.247	19.8
BENW12	0.333	3.85	0.378	0.601	33.7	5.18	5.190	0.017	14.2	1.42	0.108	0.412	28.0
HGIS12	0.155	4.91	0.389	0.254	24.8	4.76	3.550	0.016	10.6	1.20	0.047	0.134	23.6
HGIW12	0.099	6.29	0.545	0.233	22.7	3.98	4.800	0.020	8.04	0.60	0.048	0.243	22.1
DRMY12	0.082	**8.91**	0.710	0.208	30.6	7.54	8.940	0.025	10.8	0.54	0.054	0.148	36.6
WUTB12	0.264	**11.8**	0.751	0.446	**55.3**	14.3	10.4	0.040	**22.3**	1.93	0.106	0.231	59.5
WRTB12	0.088	5.05	0.451	0.150	21.3	4.84	5.560	0.027	7.72	0.60	0.035	0.141	22.6
WLR12	0.189	6.09	0.400	0.336	34.8	6.83	3.350	0.013	14.9	1.09	0.054	0.159	32.2
WLWR12	0.153	4.39	0.361	0.238	23.4	3.64	2.400	0.010	9.45	1.12	0.044	0.123	20.3
ABMA12	0.067	**8.77**	0.550	0.314	24.2	5.50	7.340	0.019	7.64	0.33	0.064	0.168	27.6
SHCR12	0.054	**11.8**	0.715	0.129	27.7	11.1	12.9	0.040	8.02	0.36	0.052	0.142	44.0
CHEC12-1	0.076	**9.03**	0.575	0.204	25.4	4.93	7.700	0.020	6.71	0.30	0.034	0.116	24.9
CHEC12-1 (field split)	0.059	**8.68**	0.548	0.212	25.1	4.95	7.520	0.018	6.66	0.31	0.037	0.113	24.1
CHEC12-2	0.257	6.75	0.485	**3.500**	46.6	7.37	3.260	0.021	15.3	2.10	0.391	0.573	49.3
MTPL12	0.880	**13.7**	1.120	**5.410**	**112**	14.6	2.830	0.050	**29.6**	3.59	0.654	1.360	92.9
TEL	x	7.24	x	0.676	52.3	18.7	30.24	0.13	15.9	x	0.73	x	124
ERL	x	8.2	x	1.2	81	34	46.7	0.15	20.9	x	1	x	150

Bolded value = Result is greater than or equal to the TEL and/or ERL.
x = No TEL or ERL published for this parameter. "<" less-than symbol indicates analyte was not detected at or above the MDL (value indicates the MDL).

Exhibit 3-3. Summary of Results for Ammonia, TPH, and TOC in Sediments

DU Location	Sample ID	Analyte Concentrations		
		Total Ammonia (mg/kg)	TPH (mg/kg)	TOC (%)
Reference	RS-CH-A	0.78	<110	0.070
Upper Harbor and Wideners	DANI12	107	<140	1.58
	DANW12	170	<160	2.11
	NYNC12	56.2	<150	2.03
	NCW12	56.6	150	2.43
	CCRK12	56.5	<140	1.15
	PTFC12	71.7	<150	2.02
	ORDT12	95.3	<150	1.08
	ORDT12 (field split)	98.8	<150	1.08
Lower Harbor and Wideners	REHR12	33.0	<110	0.599
	BENW12	13.7	<110	0.873
	HGIS12	16.4	<120	1.19
	HGIW12	27.8	<120	0.766
	DRMY12	130	280	1.43
	WUTB12	111	480	2.24
	WRTB12	40.7	150	0.778
	WLR12	23.6	210	1.02
	WLWR12	5.79	<110	0.854
Anchorage Basin	ABMA12	109	340	0.916
Shem Creek	SHCR12	118	630	1.66
Entrance Channel	CHEC12-1	77.4	360	1.14
	CHEC12-1 (field split)	42.2	530	1.15
	CHEC12-2	40.3	<130	1.53
	MTPL12	3.52	<130	2.60

"<" less-than symbol indicates analyte was not detected at or above the MDL (value indicates the MDL).

3.3.3 Organotins

Tri-n-butyltin was detected in concentrations greater than the MRL in three of the upper harbor/widener samples including NYNC12, NCW12, and PTFC12. Tri-n-butyltin was detected in concentrations greater than the MRL in two of the lower harbor/widener samples including WUTB12 and WLR12. No other samples had concentrations of organotins greater than the MRL. Total organotins (as tin) ranged from 0.55 µg/kg in RS-CH-A to 2.6 µg/kg in SHCR12. There are no published sediment screening criteria (i.e., TEL, ERL) for organotins. Complete results are provided in Table 6.

3.3.4 PAHs

Dibenzo(a,h)anthracene in sample SHCR12 (8.3 mg/kg) was the only PAH detected in concentrations greater than the TEL (6.22 mg/kg). No other PAHs were detected in concentrations greater than the TEL or ERL in any sample. Several samples had PAHs detected in concentrations greater than the MRL (Exhibit 3-4). All but one of the upper harbor/widener

samples had between six and ten PAHs detected in concentrations greater than the MRL. All but two of the lower harbor/widener samples had between three and ten PAHs detected in concentrations greater than the MRL. ABMA12 had nine PAHs detected in concentrations greater than the MRL. SHCR12 had 12 PAHs detected in concentrations greater than the MRL. Entrance channel samples CHEC12-1 and CHEC12-2 had between three and eight PAHs detected in concentrations greater than the MRL. No PAHs were detected above the MRL in samples RS-CH-A, DANW12, REHR12, BENW12, and MTPL12. Total LMW PAHs, total HMW PAHs, and total PAHs are summarized in Exhibit 3-4, and complete results are provided in Table 7.

Exhibit 3-4. Summary of Results for PAHs in Sediments

DU Location	Sample ID	Analyte Concentrations (µg/kg)		
		Total LMW PAHs	Total HMW PAHs	Total PAHs
Reference	RS-CH-A	4.9	4.8	14
Upper Harbor and Wideners	DANI12	18	72	126
	DANW12	5.4	6.6	16
	NYNC12	13	124	191
	NCW12	14	94	148
	CCRK12	13	64	110
	PTFC12	14	95	155
	ORDT12	7.5	40	68
	ORDT12 (field split)	8.2	46	77
Lower Harbor and Wideners	REHR12	5.6	8.0	20
	BENW12	5.5	6.1	16
	HGIS12	14	90	148
	HGIW12	19	98	155
	DRMY12	14	85	144
	WUTB12	15	85	141
	WRTB12	7.3	40	69
	WLR12	7.6	32	55
	WLWR12	22	4.8	31
Anchorage Basin	ABMA12	10	57	101
Shem Creek	SHCR12	24	314	559
Entrance Channel	CHEC12-1	9.9	39	73
	CHEC12-1 (field split)	9.8	43	84
	CHEC12-2	5.9	21	38
	MTPL12	5.6	5.9	16
Screening Criteria	**TEL**	312	655	1684
	ERL	552	1700	4022

3.3.5 Pesticides

None of the pesticides tested were detected above the MRL, TEL, or ERL in any sediment sample. However, MDLs for chlordane, dieldrin, and toxaphene were greater than the ERL or TEL for all of the samples. MRLs for toxaphene in some samples did not meet the target detection limit (TDL) in Table 13-2 of the QAPP. See Section 4.4.4.2 for more details. Complete results for pesticides are provided in Table 8.

3.3.6 PCBs and Aroclors

Of the 26 PCB congeners and seven aroclors tested, none were detected above the MRL in any sediment sample. Results for total EPA Region 4 PCBs and total NOAA PCBs did not exceed the TEL or ERL for any sample. Complete results are provided in Table 9.

3.3.7 PBDEs

Of the 17 PBDE congeners tested, PBDE 209 was detected above the MRL in samples DANW12, NYNC12, PTFC12, and BENW12. PBDE 47, PBDE 99, PBDE 100, and PBDE 153 were detected above the MRL in sample WLR12. No other PBDEs were detected above the MRL in any sample. There are no published sediment screening criteria (i.e., TEL, ERL) for PBDEs. Complete results are provided in Table 10.

3.3.8 Dioxins and Furans

Seven dioxin congeners, 10 furan congeners, and eight groups of total congener compounds were tested in the project samples. Two dioxin congeners (1,2,3,4,5,6,7,8-HpCDD and OCDD) were detected above the MRL in all samples except RS-CH-A. Dioxin congener 1,2,3,7,8,9-HxCDD was detected above the MRL in several samples. With the exception of OCDF in sample SHCR12, no furan congeners were detected above the MRL in any sample. Total TCDD, total PeCDD, total HxCDD, and total HpCDD were detected above the MRL in most of the samples. The total TEQs for all samples exceeded the TEL and/or AET. The total TEQs values are compared to dioxin benchmarks in Exhibit 3-5. Complete results for dioxins and furans are provided in Table 11.

Exhibit 3-5. Summary of Results for Dioxins in Sediments

DU Location	Sample ID	Total TEQ (ng/kg)
Reference	RS-CH-A	**1.297**
Upper Harbor and Wideners	DANI12	**2.802**
	DANW12	**5.943**
	NYNC12	**3.198**
	NCW12	**2.714**
	CCRK12	**2.368**
	PTFC12	**2.767**
	ORDT12	**3.658**
	ORDT12 (field split)	**2.445**
Lower Harbor and Wideners	REHR12	**1.844**
	BENW12	**0.412**
	HGIS12	**0.991**
	HGIW12	**1.912**
	DRMY12	**2.352**
	WUTB12	**5.356**
	WRTB12	**1.821**
	WLR12	**2.315**
	WLWR12	**1.619**
Anchorage Basin	ABMA12	**2.916**
Shem Creek	SHCR12	**2.953**
Entrance Channel	CHEC12-1	**3.103**
	CHEC12-1 (field split)	**3.894**
	CHEC12-2	**2.003**
	MTPL12	**1.515**
Screening Criteria	**TEL**	0.85
	AET	3.6

Bolded numbers indicate a value that exceeds the TEL and/or the AET.

3.4 Elutriate and Water Chemistry

Analytical results for elutriates generated from sediment and site water samples are presented in Tables 12 through 14. Results for elutriate and site water samples are compared to the CMC, which is defined in Section 2.6.2. The complete laboratory report is provided in Appendix E-2.

3.4.1 Metals and Ammonia

No metals were detected in concentrations greater than the CMC in any elutriate or site water sample. Mercury and selenium were not detected above the MRL in any sample. Most other metals were detected above the MRL in the elutriate and water samples. Results are summarized in Exhibit 3-6, and complete results are provided in Table 12.

Ammonia concentrations in elutriate samples ranged from 1.6 µg/L in MTPL12 to 28.2 µg/L in DRMY12. Ammonia concentrations in site water samples LHSW, ECSW, and ODMDS SW were <0.003 µg/L. Ammonia concentrations in site water sample UHSW was 0.061 µg/L.

Exhibit 3-6. Summary of Results for Metals in Elutriates and Site Waters

Sample ID	Analyte Concentrations (µg/L)												
	Antimony	Arsenic	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc
UHSW12	1.110	1.96	0.0348	0.036	0.93	0.984	0.744	0.17	0.67	0.3	0.027	0.032	2.33
DANI12	0.908	5.27	0.0007	0.019	0.25	0.055	0.019	<0.02	1.15	<0.2	<0.0004	<0.002	0.34
DANW12	1.160	18.6	0.0076	0.023	0.16	0.177	0.050	<0.02	0.47	0.5	<0.004	0.002	0.24
NYNC12	1.250	3.24	0.0014	0.025	0.35	0.136	0.011	<0.02	1.75	<0.2	0.004	0.003	0.41
NCW12	1.370	2.93	0.0011	0.018	0.33	0.083	0.021	<0.02	2.35	0.5	<0.004	<0.002	0.33
CCRK12	1.520	4.95	0.0031	0.031	0.29	0.142	0.131	<0.02	2.52	0.3	0.010	0.004	0.25
PTFC12	0.968	6.44	0.0023	0.019	0.20	0.125	0.009	<0.02	0.72	<0.2	0.005	0.011	0.33
ORDT12	1.050	11.0	0.0012	0.018	0.19	0.291	0.025	<0.02	0.38	<0.2	<0.004	<0.002	0.78
ORDT12 (FS)	1.180	9.95	0.0017	0.016	0.16	0.360	0.019	<0.02	0.28	<0.2	<0.004	0.004	0.78
LHSW12	0.91	1.90	0.0197	0.026	0.61	0.641	0.199	0.12	0.60	<0.2	0.019	0.023	1.10
REHR12	1.40	4.48	0.0043	0.023	0.34	0.228	0.063	0.08	1.23	0.3	0.011	0.005	0.28
BENW12	1.57	3.63	0.0065	0.026	0.56	0.275	0.055	0.02	2.69	0.2	0.008	0.009	0.69
HGIS12	1.85	4.11	0.0061	0.018	0.37	0.210	0.049	0.02	0.87	<0.2	0.005	<0.002	0.47
HGIW12	1.65	5.19	0.0071	0.013	0.29	0.217	0.076	0.02	0.69	0.3	0.005	<0.002	0.34
DRMY12	0.98	18.9	0.0070	0.026	0.27	0.461	0.044	<0.02	0.43	0.5	0.005	<0.002	0.53
WUTB12	0.78	49.0	0.0076	0.018	0.32	0.136	0.028	0.03	1.26	<0.2	0.005	<0.002	0.44
WRTB12	1.99	4.32	0.0042	0.013	0.41	0.189	0.048	0.03	0.68	<0.2	0.004	<0.002	0.29
WLR12	1.26	3.26	0.0044	0.022	0.31	0.147	0.022	<0.02	5.14	0.4	0.004	0.002	0.39
WLWR12	2.21	4.34	0.0194	0.022	0.62	0.248	0.022	<0.02	2.35	0.4	0.006	0.003	0.52
ABMA12	1.78	19.1	0.0053	0.012	0.43	0.188	0.052	0.03	0.93	<0.2	0.006	0.003	0.35
SHCR12	1.22	26.9	0.0083	0.012	0.42	0.227	0.061	<0.02	0.46	<0.2	0.005	<0.002	0.44
ECSW12	0.56	1.57	0.0060	0.024	0.35	0.349	0.072	<0.02	0.38	<0.2	0.011	0.016	0.45
CHEC12-1	1.26	47.3	0.0062	0.014	0.29	0.169	0.043	0.03	0.64	<0.2	0.006	<0.002	0.49
CHEC12-1 (FS)	1.01	40.3	0.0071	0.015	0.35	0.154	0.046	<0.02	0.62	<0.2	<0.004	<0.002	0.45
CHEC12-2	0.65	3.64	0.0074	0.033	0.51	0.137	0.034	0.02	2.09	<0.2	0.010	0.008	0.39
MTPL12	0.88	6.23	0.0056	0.070	0.70	0.201	0.027	0.03	4.29	<0.2	0.007	0.015	1.24
ODMDS-SW12	<0.40	1.44	0.0051	0.025	0.35	0.516	0.045	0.02	0.40	<0.2	0.005	0.013	0.55
CMC	x	69	x	40	1100	4.8	210	1.8	74	290	1.9	x	90

x = No CMC published for this parameter.
"<" less-than symbol indicates analyte was not detected at or above the MDL (value indicates the MDL).

3.4.2 Pesticides

No pesticides were detected in concentrations greater than the MRL or CMC in any elutriate or site water sample. Complete results are provided in Table 13.

3.4.3 PAHs

Several samples had PAHs detected in concentrations greater than the MRL. All of the upper harbor/wideners elutriate and site water samples had at least one and up to six PAHs detected in concentrations above the MRL. In the lower harbor/wideners, elutriate and site water samples LHSW12, BENW12, HGIS12, HGIW12, DRMY12, and WRTB12 had at least one and up to three PAHs detected in concentrations above the MRL. Sample ABMA12 had one PAH detected in concentrations above the MRL. Sample SHCR12 had four PAHs detected in concentrations above the MRL. In the entrance channel samples, CHEC12-1 and CHEC12-2 had one PAH detected in concentrations above the MRL. There are no published CMCs for PAHs. Results for Total LMW PAHs, Total HMW PAHs, and Total PAHs are summarized in Exhibit 3-7, and complete results are provided in Table 14. Non-detect (ND) results used the MDL for calculating the Total LMW PAHs, Total HMW PAHs, and Total PAHs.

Exhibit 3-7 Summary of Results for PAHs in Elutriate and Site Waters

DU Location	Sample ID	Analyte Concentrations (µg/L)		
		Total LMW PAHs	Total HMW PAHs	Total PAHs
Upper Harbor Site Water	UHSW12	0.036	0.038	0.084
Upper Harbor and Wideners	DANI12	0.058	0.0061	0.069
	DANW12	0.024	0.0028	0.031
	NYNC12	0.034	0.0084	0.047
	NCW12	0.038	0.016	0.059
	CCRK12	0.028	0.0069	0.040
	PTFC12	0.044	0.0099	0.059
	ORDT12	0.053	0.018	0.079
	ORDT12 (field split)	0.036	0.039	0.083
Lower Harbor Site Water	LHSW12	0.015	0.013	0.037
Lower Harbor and Wideners	REHR12	0.020	0.0027	0.028
	BENW12	0.013	0.0025	0.021
	HGIS12	0.014	0.0038	0.023
	HGIW12	0.023	0.0088	0.040
	DRMY12	0.031	0.013	0.050
	WUTB12	0.034	0.0078	0.046
	WRTB12	0.037	0.012	0.054
	WLR12	0.031	0.0034	0.039
	WLWR12	0.024	0.0055	0.038
Anchorage Basin	ABMA12	0.038	0.013	0.057
Shem Creek	SHCR12	0.022	0.023	0.055
Entrance Channel Site Water	ECSW12	0.021	0.0024	0.029
Entrance Channel	CHEC12-1	0.032	0.0033	0.040
	CHEC12-1 (field split)	0.038	0.0038	0.046
	CHEC12-2	0.045	0.0056	0.059
	MTPL12	0.037	0.0019	0.044
ODMDS	ODMDS-SW12	0.022	0.0045	0.031

3.5 Water Column Bioassay Results

The results of the water column toxicity tests are presented in this section, including summaries of test results and water quality observations. The complete laboratory report is provided in Appendix G. The water column tests were performed with the mysid shrimp *(Americamysis bahia)*, the inland silverside fish *(Menidia beryllina)*, and larvae of the mussel *(Mytilus galloprovincialis)*.

3.5.1 *Americamysis bahia*

The water column tests with *A. bahia* were run in three batches and were initiated on November 9, November 21, and December 3, 2012. Mean survival for all samples is summarized in Tables 15 and 16. Ammonia concentrations are presented in Table 15, and additional water quality measurements and test conditions are summarized in Section 2.4.3.1. Complete water quality measurements are provided in Section 3 of the toxicology report (Appendix G). Water quality parameters were within target limits throughout the duration of the tests, with minor deviations. See Section 4.6.1.1 for more details on deviations.

The control treatments for all three batches met the acceptability criterion of ≥90% survival. Mean survival of the respective site water samples included in each batch ranged from 96% to 100%. These results meet the criteria established for a successful control matrix and indicate that all three site waters were acceptable for comparisons.

The results of the ammonia reference-toxicant tests and related ammonia threshold data are summarized in Exhibit 3-8. Reference-toxicant tests (positive controls) were conducted concurrently with each test batch using ammonium chloride (ammonia results reported as total and un-ionized). The results of the Batch 2 reference-toxicant test fell within the laboratory confidence limits for all endpoints. The endpoint results for total ammonia for Batches 1 and 3 resulted in an LC_{50} that was unable to be calculated due to a lack of significant mortality (Batch 1) and an LC_{50} slightly below the laboratory confidence limits (Batch 3). While it is useful to report results in terms of total ammonia because these values are directly measured by ion-selective electrode, the calculated un-ionized ammonia (UIA) values can sometimes be a better predictor of aquatic toxicity largely because slight differences within test pH have a significant effect on the expression of UIA. The no observed effect concentrations (NOEC) for UIA for the three batch reference-toxicant tests ranged from 0.251 mg/L to 0.611 mg/L, which were similar to the laboratory mean of 0.411 mg/L and within two standard deviations of the running mean (0.066 mg/L to 0.816 mg/L). Given the results of the reference-toxicant tests and the high control and site water survival within the elutriate test, it is unlikely that the test organisms were unhealthy or more sensitive than usual.

Exhibit 3-8. *Americamysis bahia* Reference-Toxicant Test Results

Endpoint Parameter (Survival)	Ammonia Reference-Toxicant Batch Results (mg/L)		
	Batch 1 (Nov 8, 2012)	Batch 2 (Nov 21, 2012)	Batch 3 (Dec 4, 2012)
Total Ammonia LC_{50}	NA	45.7	8.5
Total Ammonia LC_{50} Mean; 2 Std. Dev. Confidence Limits (at the time of testing)	NA	41.4; 10.5 – 72.3	41.2; 10.4 – 72.0
Total Ammonia NOEC	25.5	37.2	<22.4
Total Ammonia Mean NOEC (running mean)	25.9		
UIA LC_{50}	NA	0.702	0.213
UIA LC_{50} Mean; 2 Std. Dev. Confidence Limits (at the time of testing)	NA	0.687; 0.078 – 1.296	0.688; 0.095 – 1.281
UIA NOEC	0.251	0.611	<0.311
UIA NOEC Mean; 2 Std. Dev. Confidence Limits (running mean)	0.441; 0.066 – 0.816		

NA = Unable to be calculated.

Results of the testing are summarized in Exhibit 3-9, and complete results are provided in Tables 15 and 16. Mean percent survival in the 100% elutriate preparations was significantly different than the control in samples ABMA12, DRMY12, and SHCR12. The estimated LC_{50} values for these four samples were >100%, >100%, 71.3%, and 73.6%, respectively.

Ammonia concentrations observed in the *A. bahia* elutriate test are summarized in Table 15. The UIA concentrations in the 100% elutriates exceeded the minimum NOEC (0.251 mg/L UIA) for test composites CHEC12-1, CHEC12-2, ABMA12, DRMY12, HGIW12, and SHCR12. The UIA NOEC was also exceeded in the 50% concentration in samples WRTB12 and SHCR12. Three of these five samples (ABMA12, DRMY12, and SHCR12) expressed statistically significant mortality within the 100% elutriate concentration, suggesting that ammonia may have been a contributing factor to the observed toxicity.

Exhibit 3-9. Summary of the Water Column Bioassay with *Americamysis bahia*

Sample ID	Concentration (%)	Mean Survival (%)	Statistically Less than Control? (yes/no)	Statistically Less than Site Water? (yes/no)	LC_{50} (%)
Batch 1 (Nov 9-13, 2012)					
Control		100	--	--	
UHSW12 (Site Water)		100	No	--	
ORDT12	100	100	No	No	>100
PTFC12	100	100	No	No	>100
NYNC12	100	98	No	No	>100
CCRK12	100	98	No	No	>100
DANW12	100	98	No	No	>100
DANI12	100	98	No	No	>100
NCW12	100	99	No	No	>100
Batch 2 (Nov 21-25, 2012)					
Control		100	--	--	
ECSW12 (Site Water)		96	No	--	
CHEC12-1	100	94	No	No	>100
CHEC12-2	100	100	No	No	>100
MTPL12	100	100	No	No	>100
LHSW12 (Site Water)		100			
REHR12	100	100	No	No	>100
WUTB12	100	98	No	No	>100
WRTB12	100	96	No	No	>100
WLRW12	100	96	No	No	>100
ABMA12	100	56	**Yes**	**Yes**	>100
Batch 3 (Dec 3-7, 2012)					
Control		96	--	--	
LHSW12 (Site Water)		98	No	--	
HGIS12	100	100	No	No	>100
DRMY12	100	4	**Yes**	**Yes**	71.3
WLR12	100	98	No	No	>100
BENW12	100	94	No	No	>100
HGIW12	100	100	No	No	>100
SHCR12	100	10	**Yes**	**Yes**	73.6

3.5.2 *Menidia beryllina*

The water column tests with *M. beryllina* were run in five batches and were initiated on November 9, November 21, November 30, December 3, and December 5, 2012. Mean survival for all samples is summarized in Tables 17 and 18. Ammonia concentrations are presented in

Table 17, and additional water quality measurements and test conditions are summarized in Section 2.4.3.2. Complete water quality measurements are provided in Section 3 of the toxicology report (Appendix G). Water quality parameters were within the target limits throughout the duration of the tests with minor deviations. See Section 4.6.1.2 for more details on deviations.

Mean survival of the control for Batch 2 and Batch 3 was 82% and 78%, respectively, and did not meet the control acceptability criterion of ≥90%. Batches 4 and 5 represent the retesting of the samples in Batches 2 and 3, and control survival for these two batches did meet acceptability criteria. Mean survivals for all acceptable batches (1, 4, and 5) are provided in Tables 17 and 18.

The control treatments for the reported batches met the acceptability criterion of ≥90% survival (range: 92% to 100%). Mean survivals for the respective site water samples, UHSW12 and LHSW12, included in each test batch were 90% and met the criteria established for a successful control matrix, indicating that these site waters were acceptable for comparisons. Batch 5 represents a retesting event of the entrance channel samples associated with the site water sample ECSW12; however, at the time of testing, this site water had been completely used up in the previous test batches and was not available for inclusion in the retesting. The three entrance channel samples (CHEC12-1, CHEC12-2, and MTPL12) were compared to the control mean survival for this test batch.

The results of the ammonia reference-toxicant tests and related ammonia threshold data are summarized in Exhibit 3-10. Reference-toxicant tests (positive controls) were conducted concurrently with each test batch using ammonium chloride (ammonia results reported as total and un-ionized). The UIA LC_{50} value for all three tests fell within the laboratory confidence limits at the time of testing, indicating that the populations of test organisms used in these tests were similar in sensitivity to those previously tested at the NewFields laboratory.

Exhibit 3-10. ***Menidia beryllina*** **Reference-Toxicant Test Results**

Endpoint Parameter (Survival)	Ammonia Reference-Toxicant Batch Results (mg/L)		
	Batch 1 (Nov 9, 2012)	**Batch 4 (Dec 3, 2012)**	**Batch 5 (Dec 7, 2012)**
Total Ammonia LC_{50}	40.1	4.1	22.4
Total Ammonia LC_{50} Mean; 2 Std. Dev. Confidence Limits (at the time of testing)	32.5; 3.9 – 61.1	31.7; 4.9 – 58.5	28.8; 3.4 – 54.2
Total Ammonia NOEC	27.7	<17.2	17.6
Total Ammonia Mean NOEC (running mean)	21.9		
UIA LC_{50}	0.305	0.126	0.333
UIA LC_{50} Mean; 2 Std. Dev. Confidence Limits (at the time of testing)	0.687; 0.000 – 1.243	0.687; 0.000 – 1.207	0.499; 0.000 – 1.163
UIA NOEC	0.278	<0.235	0.268
UIA NOEC Mean; 2 Std. Dev. Confidence Limits (running mean)	0.404; 0.000 – 0.975		

Results of the *Menidia* water column testing are summarized in Exhibit 3-11, and complete results are provided in Tables 17 and 18. Mean percent survival in the 100% elutriates for the composite samples were significantly different than the control in 12 of the 21 samples tested. Nine of those samples also expressed a significant difference to the corresponding site water mean percentage survival. Of the twelve treatments found to be significantly different than the control and associated site water, six samples had calculated LC_{50} values of less than 100%; including ORDT12 (94.8%), WUTB12 (75.0%), DRMY12 (51.6%), ABMA12 (49.8%), SCHR12 (51.0%), and CHEC12-1 (75.8%).

Ammonia concentrations observed in the *M. beryllina* elutriate test are summarized in Table 17. The UIA concentrations exceeded the concurrent reference-toxicant derived NOEC in the 100% elutriate concentration of samples CHEC12-1 and CHEC12-2. Of these two samples, only CHEC12-1 resulted in significant toxicity in the 100% elutriate concentration (18% mean survival). The mortality observed in this treatment may have been influenced by the presence of ammonia. Based upon the calculated UIA values for all other treatments, ammonia did not appear to be a contributing factor to any observed toxicity.

Exhibit 3-11. Summary of the Water Column Bioassay with *Menidia beryllina*

Sample ID	Concentration (%)	Mean Survival (%)	Statistically Less than Control? (yes/no)	Statistically Less than Site Water? (yes/no)	LC_{50} (%)
Batch 1 (Nov 9-13, 2012)					
Control		94	--	--	
UHSW12 (Site Water)		90	No	--	
ORDT12	100	44	**Yes**	**Yes**	94.8
PTFC12	100	74	**Yes**	**Yes**	>100
NYNC12	100	82	No	No	>100
CCRK12	100	76	**Yes**	No	>100
DANW12	100	52	**Yes**	**Yes**	>100
DANI12	100	68	**Yes**	**Yes**	>100
NCW12	100	74	**Yes**	**Yes**	>100
Batch 4 (Dec 3-7, 2012)					
Control		94	--	--	
LHSW12 (Site Water)		90	No	--	
REHR12	100	80	**Yes**	No	>100
HGIS12	100	96	No	No	>100
DRMY12	100	0	**Yes**	**Yes**	51.6
WLR12	100	92	No	No	>100
WUTB12	100	18	**Yes**	**Yes**	75.0
BENW12	100	88	No	No	>100
HGIW12	100	94	No	No	>100
WRTB12	100	82	No	No	>100
WLRW12	100	90	No	No	>100
ABMA12	100	0	**Yes**	**Yes**	49.8
SHCR12	100	0	**Yes**	**Yes**	51.0
Batch 5 (Dec 7-11, 2012)					
Control		100	--	--	
ECSW12 (Site Water)		*	*	*	
CHEC12-1	100	18	**Yes**	*	75.8
CHEC12-2	100	96	No	*	>100
MTPL12	100	100	No	*	>100

*Site water was not run with this set of tests.

3.5.3 *Mytilus galloprovincialis*

The water column test with *M. galloprovincialis* was conducted in two batches and was initiated on November 29 and December 7, 2012. The tests met the acceptability criteria for proportion normal and survival (Exhibit 3-12). The mean survivorship endpoint data for all samples are summarized in Tables 19 and 20. As described in Section 2.4.3, determinations of proportion normal (the number of normal larvae divided by the total number of larvae recovered) and the proportion survived (the total number of larvae recovered divided by the stocking density) was used for determining test acceptability. Statistical interpretations of the test data were performed using mean normal survivorship, a combined endpoint that divides the number of normally developed embryos in each replicate by the stocking density.

Exhibit 3-12. *Mytilus galloprovincialis* Control Acceptability Results

Test Batch	Test Date	Mean Proportion Normal (%) >70%	Mean Proportion Survival (%) >90%	Mean Combined Normal Development (%)[1]	Meets Acceptability Criteria?
Control 1	Nov 29 – Dec 1, 2012	95.6	96.7	94.2	Yes
Control 2	Dec 7 – 9, 2012	96.3	96.0	92.7	Yes

A summary of ammonia concentrations is presented in Table 19, and water quality measurements and test conditions are summarized in Section 2.4.3.3. Complete water quality measurements are provided in Section 3 of the toxicology report (Appendix G). Dissolved oxygen, temperature, and pH were within the recommended limits during the test. Salinity was recorded slightly above the targeted salinity of range of 30 ± 2 ppt, but was still within the recommended test range of 16 to 34 ppt.

The embryo stocking densities were 21.4 and 29.2 embryos/mL of test solution, within the recommended density of 15 to 30 embryos/mL. Mean survivorships in the site water controls within their respective batches were all ≥90%, indicating that the site water was acceptable for testing.

The results of the ammonia reference-toxicant tests and related ammonia threshold data are summarized in Exhibit 3-13. Reference-toxicant tests (positive controls) were conducted concurrently with each test batch using ammonium chloride (ammonia results reported as total and un-ionized). The EC_{50} values for both tests fell within the laboratory confidence limits at the time of testing, indicating that the populations of test organisms used in these tests were similar in sensitivity to those previously tested at the NewFields laboratory.

Exhibit 3-13. ***Mytilus galloprovincialis*** **Reference-Toxicant Test Results**

Endpoint Parameter (Survival)	Ammonia Reference-Toxicant Batch Results (mg/L)	
	Batch 1 (Nov 9, 2012)	Batch 2 (Dec 4, 2012)
Total Ammonia EC_{50}	5.8	3.0
Total Ammonia EC_{50} Mean; 2 Std. Dev. Confidence Limits (at the time of testing)	4.7; 0.6 – 9.0	4.6; 1.1 – 8.1
Total Ammonia NOEC	3.6	1.7
Total Ammonia Mean NOEC (running mean)	2.7	
UIA EC_{50}	0.038	0.057
UIA EC_{50} Mean; 2 Std. Dev. Confidence Limits (at the time of testing)	0.067; 0.005 – 0.129	0.062; 0.006 – 0.118
UIA NOEC	0.011	0.016
UIA NOEC Mean; 2 Std. Dev. Confidence Limits (running mean)	0.036	

Ammonia concentrations observed in the *M. galloprovincialis* elutriate test are summarized in Table 19. Measured ammonia values in 18 of the 21 samples expressed concentrations similar to or greater than the determined NOEC values derived from the concurrent ammonia reference-toxicant test (total ammonia or un-ionized). Ammonia may be considered a potential contributing factor to the negative developmental response of the test organisms in these treatments.

As noted in Section 2.4.3, ammonia concentrations in the bulk sediment were sufficiently elevated to predict ammonia-related impacts in the elutriate tests with larval mussels. Based on this observation, elutriates were prepared with ammonia-reduced sediments that were tested concurrent to the standard elutriate preparations. Mean survivorship of the 100% concentrations of all standard elutriates was statistically different than the control or their respective site water with the exception of samples WLRW12 and MTPL12. The estimated EC_{50} values for the standard treatments ranged from 17.5% to >100% and are summarized in Exhibit 3-14.

Normal development and survivorship greatly increased in all of the ammonia-reduced treatments. Mean survivorship in all of the 100% elutriate samples was not significantly different than that of the control or their respective site waters. Estimated EC_{50} values were greater than 100% for all samples following ammonia reduction. Observed toxicity in all test treatments was ameliorated by the ammonia-reduction procedures.

Exhibit 3-14. Summary of the Water Column Bioassay with *Mytilus galloprovincialis*

Sample ID	Concentration (%)	Mean Normal Survivorship (%)[1]	Statistically Less than Control? (yes/no)	Statistically Less than Site Water? (yes/no)	EC_{50} (%)[2]	Mean Normal Survivorship (%)[1]	Statistically Less than Control? (yes/no)	Statistically Less than Site Water? (yes/no)	EC_{50} (%)[2]
Standard Test						**Ammonia Reduced**			
Batch 1 (Nov 29 – Dec 1 2012)									
Control		94.2	--	--					
UHSW12 (Site Water)		94.2	No	--					
DANI12	100	0.0	**Yes**	**Yes**	57.0	83.6	No	**Yes**	>100
CCRK12	100	0.1	**Yes**	**Yes**	68.8	98.5	No	No	>100
NYNC12	100	0.0	**Yes**	**Yes**	69.6	97.6	No	No	>100
PTFC12	100	0.0	**Yes**	**Yes**	63.1	97.9	No	No	>100
ORDT12	100	0.0	**Yes**	**Yes**	35.2	98.1	No	No	>100
DANW12	100	0.0	**Yes**	**Yes**	42.0	93.2	No	No	>100
NCW12	100	0.0	**Yes**	**Yes**	67.9	96.3	No	No	>100
ECSW12 (Site Water)		94.3	No	--					
CHEC12-2	100	0.0	**Yes**	**Yes**	51.2	93.4	No	No	>100
MTPL12	100	83.2	No	**Yes**	>100				
Batch 2 (Dec 7-9, 2012)									
Control		92.7	--	--					
ECSW12 (Site Water)		90.8	No	--					
CHEC12-1		0.0	**Yes**	**Yes**	29.5	89.4	No	No	>100
LHSW12 (Site Water)		93.5	No	--					
REHR12	100	0.0	**Yes**	**Yes**	55.3	96.7	No	No	>100
HGIS12	100	71.4	**Yes**	**Yes**	>100	91.8	No	No	>100
DRMY12	100	0.0	**Yes**	**Yes**	22.0	93.7	No	No	>100
WLR12	100	41.4	**Yes**	**Yes**	92.3	96.5	No	No	>100
WUTB12	100	0.0	**Yes**	**Yes**	29.9	86.9	No	No	>100
BENW12	100	11.0	**Yes**	**Yes**	73.1	95.5	No	No	>100
HGIW12	100	0.0	**Yes**	**Yes**	64.8	92.4	No	No	>100
WRTB12	100	0.0	**Yes**	**Yes**	56.3	93.2	No	No	>100
WLRW12	100	81.9	No	No	>100	92.4	No	No	>100
ABMA12	100	0.0	**Yes**	**Yes**	20.0	94.4	No	No	>100
SHCR12	100	0.0	**Yes**	**Yes**	17.5	94.2	No	No	>100

[1] Calculated as the number of normally developed embryos + number of embryos stocked (stocking density)
[2] Values derived from CETIS statistical output.

3.6 Benthic Bioassay Results

The results of the benthic toxicity tests are presented in this section. The benthic tests were performed with an amphipod (*Ampelisca abdita*) and a polychaete worm (*Neanthes arenaceodentata*).

3.6.1 *Ampelisca abdita*

The 10-day benthic tests with *A. abdita* were conducted in two batches and were initiated on December 7 and 11, 2012. The tests were validated by 92% and 93% mean survival in the control samples, meeting the acceptability criterion of ≥90%. Mean survival and ammonia concentrations for all samples are summarized in Tables 21 and 22. Summaries of water quality measurements and test conditions are presented in Section 2.4.4.1. Complete water quality measurements are provided in Section 3 of the toxicology report (Appendix G). Water quality parameters were within the laboratory's targeted limits throughout the 10-day tests with minor deviations observed in both batches. See Section 4.6.2.1 for more details on deviations.

The reference-toxicant test results indicated that the population of test organisms used in these tests was similar in sensitivity to those previously tested at the NewFields laboratory. The results of the ammonia reference-toxicant tests are summarized in Section 2.4.4.1.

Ammonia concentrations observed in the *A. abdita* tests are summarized in Table 21. Several samples exceeded the un-ionized ammonia NOEC values derived from the concurrent ammonia reference-toxicant tests; however, given the high survival observed in all treatments, ammonia concentrations did not appear to have negatively impacted the test results.

Mean survival within the *A. abdita* benthic tests ranged from 84% to 95%. Survival within all samples was not statistically different than that of the associated batch references. Mean percent survival in all treatments was within 20% of the batch references, indicating that the test treatments met the limiting permissible concentration for disposal. Mean survival results are summarized in Exhibit 3-15, and complete results are provided in Tables 21 and 22.

Exhibit 3-15. Summary of the 10-Day Benthic Bioassay with *Ampelisca abdita*

Sample ID	Mean Survival (%)	Statistically Less than Reference? (yes/no)	Exceeds LPC? (yes/no)
Control	92		
RS-CH-A	91		
DANI12	94	No	No
CCRK12	94	No	No
NYNC12	90	No	No
PTFC12	94	No	No
ORDT12	88	No	No
DANW12	86	No	No
NCW12	94	No	No
CHEC12-1	89	No	No
CHEC12-2	91	No	No
MTPL12	82	No	No
ABMA12	95	No	No
Control	93		
RS-CH-A	86		
REHR12	89	No	No
HGIS12	91	No	No
DRMY12	87	No	No
WLR12	89	No	No
WUTB12	84	No	No
BENW12	85	No	No
HGIW12	84	No	No
WRTB12	88	No	No
WLRW12	91	No	No
SHCR12	86	No	No

3.6.2 *Neanthes arenaceodentata*

The 10-day benthic test with *N. arenaceodentata* was conducted in two batches and was initiated on November 27 and December 11, 2012. The tests were validated by 100% and 94% mean survival in the control samples, meeting the acceptability criterion of ≥90%. Mean survival and ammonia concentrations for all samples are summarized in Tables 23 and 24. A summary of water quality measurements and test conditions is presented in Section 2.4.4.2. Complete water quality measurements are provided in Section 3 of the toxicology report (Appendix G). Water quality parameters were within the laboratory's targeted limits throughout the 10-day tests with minor deviations observed in Batch 2. See Section 4.6.2.2 for more details on deviations.

The reference-toxicant test indicated that the population of test organisms used in these tests was similar in sensitivity to those previously tested at the NewFields laboratory. The results of the ammonia reference-toxicant test are summarized in Section 2.4.4.2.

Ammonia concentrations observed in the *N. arenaceodentata* test are summarized in Table 23. All values were below the NOEC values derived from the ammonia reference-toxicant test. This indicates that ammonia concentrations within the overlying or interstitial water should not have been a contributor to any adverse biological effects observed in the test treatments.

Mean survival in the reference sample was 98% in both test batches. Mean survival in the project sediments ranged from 90% to 100%. Mortalities in the test sediments did not exceed those in the respective reference samples by more than 10% and were not statistically significantly different. All samples met the limiting permissible concentration for benthic toxicity as defined in the Green Book (USEPA/USACE 1991). Mean survival results are summarized in Exhibit 3-16, and complete results are provided in Tables 23 and 24.

Exhibit 3-16. Summary of the 10-Day Benthic Bioassay with *Neanthes arenaceodentata*

Sample ID	Mean Survival (%)	Significantly Less than Reference? (yes/no)	Exceeds LPC? (yes/no)
Control	100		
RS-CH-A	98		
DANI12	100	No	No
CCRK12	100	No	No
NYNC12	98	No	No
PTFC12	98	No	No
ORDT12	98	No	No
DANW12	98	No	No
NCW12	100	No	No
REHR12	100	No	No
ABMA12	98	No	No
Control	94		
RS-CH-A	98		
CHEC12-1	92	No	No
CHEC12-2	90	No	No
MTPL12	92	No	No
HGIS12	92	No	No
DRMY12	100	No	No
WLR12	96	No	No
WUTB12	98	No	No
BENW12	92	No	No
HGIW12	100	No	No
WRTB12	100	No	No
WLRW12	94	No	No
SHCR12	100	No	No

3.7 Bioaccumulation Toxicity Test Results

Assessment of bioaccumulation potential was determined by a 28-day exposure to the treatment samples. The bioaccumulation test was conducted with the clam *Macoma nasuta* and the polychaete *Neanthes virens*. Following laboratory exposures, the gut contents of the test organisms were purged for 24 hours in clean seawater in the absence of sediment. *M. nasuta* were then shucked for tissue collection, placed in certified pre-cleaned glass jars, and frozen. *N. virens* organisms were also placed in certified pre-cleaned glass containers and frozen. Tissues from both test organisms were delivered to ALS Environmental in Kelso, Washington, for chemical analysis.

The initial 28-day bioaccumulation tests were conducted in two batches for each species. The *M. nasuta* tests were initiated on November 21 and December 27, 2012. The *N. virens* tests were initiated on November 20 and December 28, 2012. Sample ABMA12 was inadvertently left

out of the initial testing program. NewFields alerted ANAMAR immediately and coordination with USACE and EPA was initiated to develop a plan for corrective action. The corrective action is discussed in more detail in Section 4.6.2, and pertinent correspondence is provided in Appendix J. The supplemental testing program included bioassay analysis of ABMA12, the reference sample (RS-CH-A), and a control sample.

Summaries of water quality measurements and test conditions for *N. virens* and *M. nasuta* are presented in Section 2.4.5.1 and 2.4.5.2, respectively. Deviations from targeted water quality parameters were noted during the bioaccumulation tests, and appropriate actions were taken to remedy issues when applicable. While some measurements were outside the laboratory targets, there were no deviations outside the tolerance range for test organisms. See Section 4.6.3 for more details on deviations.

The reference-toxicant tests conducted on each batch of bioaccumulation test species indicated that three of the four populations of test organisms used in these tests were similar in sensitivity to those previously tested at the NewFields laboratory. The reference-toxicant test conducted in conjunction with the second *N. virens* test batch was above the confidence limits (two standard deviations) for that test and suggested that that population of worms was less sensitive than those previously tested. This result did not indicate poor organism health and would not suggest a significant test deviation when evaluating the test results. It should be noted that the reference-toxicant tests performed on organisms used in bioaccumulation assessments are used as a tool to evaluate organism health and sensitivity and do not directly correlate with the organism's potential to bioaccumulate. The results of the sodium dodecyl sulfate (SDS) reference-toxicant tests are summarized in Sections 2.4.5.1 and 2.4.5.2.

3.7.1 *Neanthes virens*

Mean survival in the control samples was 97% for both batches, and mean survival in the reference samples was 97% and 99% for Batch 1 and Batch 2, respectively. Survival in the project sediment samples ranged from 94% to 100%. Mean survival for all samples is summarized in Exhibit 3-17, and complete results are provided in Table 25.

Supplemental Testing

Mean survival in the control and reference samples was 99.2% and 100%, respectively. Survival in ABMA12 was 99.2%.

3.7.2 *Macoma nasuta*

Mean survival in the control samples was 95.3% and 92.7% and mean survival in the reference samples was 98.0% and 96.0% for Batch 1 and Batch 2, respectively. Survival in the project sediment samples ranged from 90.0% to 99.3%. Mean survival for all samples is summarized in Exhibit 3-17, and complete results are provided in Table 26.

Two replicate chambers within the *M. nasuta* tests were accidently stocked with different numbers of clams than the target of 30. Within Batch 1, sample REHR12 replicate 5 was stocked with 32 clams. Within Batch 2, sample SCHR12 replicate 3 was stocked with 25 clams. In each case, the starting number of clams was adjusted when the mean percent survival was calculated.

Supplemental Testing

Mean survival in the control and reference samples was 98.0%. Survival in ABMA12 was 98.0%. One chamber (ABMA12 replicate 2) was accidentally stocked with 31 clams instead of the target of 30. For this replicate, the starting number of clams was adjusted when the mean percent survival was calculated.

Exhibit 3-17. Summary of the Bioaccumulation Toxicity Tests with *Macoma nasuta* and *Neanthes virens*

Sample ID	*M. nasuta* Mean Survival (%)	*N. virens* Mean Survival (%)
	Batch 1: November 20, 2012	**Batch 1: November 20, 2012**
Control	95.3	97
RS-CH-A	98.0	97
ORDT12	99.3	97
PTFC12	96.7	95
NYNC12	96.7	94
CCRK12	97.3	95
DANW12	97.3	98
DANI12	96.0	98
NCW12	96.7	99
REHR12	97.3	94
	Batch 2: December 27 2012	**Batch 2: December 28 2012**
Control	92.7	97
RS-CH-A	96.0	99
CHEC12-1	94.0	99
CHEC12-2	96.7	100
MTPL12	91.3	100
HGIS12	91.3	98
DRMY12	96.7	97
WLR12	98.0	95
WUTB12	93.3	99
BENW12	90.0	100
HGIW12	96.0	98
WRTB12	94.7	95
WLRW12	91.3	100
SHCR12	94.0	97
	Supplemental: April 2, 2013	**Supplemental: March 28, 2013**
Control	98.0	99.2
RS-CH-A	98.0	100
ABMA12	98.0	99.2

3.8 Toxicology Discussion

Exhibit 3-18 provides a summary of endpoint results for all three water column tests.

For the *Americamysis bahia* water-column test, no significant difference in mean percent survival was observed in the 100% elutriate for 17 of the 21 samples relative to the control and the site water (Exhibit 3-9). In the 100% elutriate preparation for samples ABMA12, DRMY12, and SHCR12, mean percent survival was significantly lower than that of the control and site waters, with LC_{50} values ranging from 71.3% to >100% elutriate. The UIA concentrations in these samples exceeded the NOEC from the concurrent reference toxicant test with ammonia, suggesting that ammonia may have been a contributing factor to the observed toxicity (Table 15).

In the fish tests with *Menidia beryllina*, mean percent survival in 12 of the 21 test elutriates was significantly different than that of the control or associated site water (Exhibit 3-11). Treatments with calculable LC_{50} estimates included ORDT12, DRMY12, WUTB12, ABMA12, SHCR12, and CHEC12-1 (ranging from 49.8% to 94.8%). The UIA concentrations exceeded the concurrent reference-toxicant derived NOEC in the 100% elutriate concentration of sample CHEC12-1 (of the samples mentioned above) (Table 17). The mortality observed in this treatment may have been influenced by the presence of ammonia. Based upon the calculated UIA values for all other treatments, ammonia did not appear to be a contributing factor to any observed toxicity.

The larval water-column test with *Mytilus galloprovincialis* was conducted with both unadjusted and ammonia-reduced treatments, and the results are presented in Exhibit 3-19 and Tables 19 and 20. Significant toxicity was observed in 19 of the 21 unadjusted test treatments, with EC_{50} values ranging from 17.5% to 92.3%. As predicted by the bulk porewater measurements (Exhibit 2-11), ammonia concentrations in the unadjusted elutriate preparations were above the reference-toxicant derived NOEC values for a majority of the samples and may be considered a potential contributor to the observed toxicity. In the ammonia-reduced elutriates, ammonia concentrations were lowered sufficiently and the estimated EC_{50} values for all samples were >100%.

With the exception of samples MTPL12 and WLRW12, sediment elutriates expressed a significant biological response in at least one of three species evaluated in the water column testing suite. The correlation between biological response and measured ammonia values above the calculated threshold levels (NOEC) suggests that ammonia was likely the primary contributor to toxicity observed in some of these tests. The concurrent testing of ammonia-reduced sediment elutriates included in the *Mytilus* larval development test also shows that toxicity was significantly reduced when ammonia concentrations within the sediment were reduced below threshold levels prior to testing.

Exhibit 3-18. Water Column Bioassay Test Results Summary

DU Location	Treatment	Endpoint Result (%)			
		Americamysis bahia LC_{50}	***Menidia beryllina*** LC_{50}	***Mytilus galloprovincialis*** EC_{50}	
		Standard Method*	**Standard Method***	**Standard Method***	**Ammonia Reduced**
Upper Harbor and Wideners	DANI12	>100	**>100**	**57.0**	>100
	DANW12	>100	**>100**	**42.0**	>100
	NYNC12	>100	>100	**69.6**	>100
	NCW12	>100	**>100**	**67.9**	>100
	CCRK12	>100	**>100**	**68.8**	>100
	PTFC12	>100	**>100**	**63.1**	>100
	ORDT12	>100	**94.8**	**35.2**	>100
Lower Harbor and Wideners	REHR12	>100	**>100**	**55.3**	>100
	BENW12	>100	>100	**73.1**	>100
	HGIS12	>100	>100	**>100**	>100
	HGIW12	>100	>100	**64.8**	>100
	DRMY12	**71.3**	**51.6**	**22.0**	>100
	WUTB12	>100	**75.0**	**29.9**	>100
	WRTB12	>100	>100	**56.3**	>100
	WLR12	>100	>100	**92.3**	>100
	WLRW12	>100	>100	>100	>100
Anchorage Basin	ABMA12	**>100**	**49.8**	**20.0**	>100
Shem Creek	SHCR12	**73.6**	**51.0**	**17.5**	>100
Entrance Channel	CHEC12-1	>100	**75.8**	**29.5**	>100
	CHEC12-2	>100	>100	**51.2**	>100
	MTPL12	>100	>100	>100	Not tested

*Method follows guidance in SERIM.
Bold = Mean percent survival in the 100% elutriate preparations was significantly different than the control.

The results of the two benthic tests are summarized in Exhibit 3-19. Based on mean percent survival, neither test species indicated an adverse sensitivity to any sample indicating that all test treatments would be considered suitable for ocean disposal.

Exhibit 3-19. Benthic Bioassay Test Results Summary

DU Location	Treatment	Mean Survival (%)			
		Ampelisca abdita		*Neanthes arenaceodentata*	
		Batch 1	Batch 2	Batch 1	Batch 2
Reference	RS-CH-A	91	86	98	98
Upper Harbor and Wideners	DANI12	94*		100	
	DANW12	86*		98	
	NYNC12	90		98	
	NCW12	94		100	
	CCRK12	94		100	
	PTFC12	94		98	
	ORDT12	88		98	
Lower Harbor and Wideners	REHR12		89	100	
	BENW12		85		92
	HGIS12		91		92
	HGIW12		84		100
	DRMY12		87*		100
	WUTB12		84		98
	WRTB12		88		100
	WLR12		89		96
	WLRW12		91		94
Anchorage Basin	ABMA12	95*		98	
Shem Creek	SHCR12		86*		100
Entrance Channel	CHEC12-1	89			92
	CHEC12-2	91			90
	MTPL12	82			92

* Results are derived from samples that were ammonia-reduced within the benthic amphipod (*A. abdita)* test as part of the standard SERIM assessment.

No significant toxicity was observed in the bioaccumulation tests. Survival in all treatments was ≥90%, suggesting adequate tissue mass was available for chemical analysis.

3.9 Tissue Chemistry Results

Wet and dry weight tissue chemistry results for *M. nasuta* and *N. virens* are presented in Tables 27 through 48. The complete tissue chemistry laboratory report is provided in Appendix E-4.

The bioaccumulation tissue results for the sample station average concentrations are presented in the data summary tables. A statistical comparison of tissue concentrations of the test analyte from each project sample relative to the field reference tissue concentrations using ANOVA and Dunnett's multiple comparisons procedures was performed using ToxCalc. Treatments that indicated non-normal distribution and/or unequal variances were transformed. If treatments continued to show non-normal distribution or unequal variances after transformation, the data were analyzed using Steel's Many One Rank Test. Complete results of statistical analyses and

transformations are provided in Appendix F. Samples that are statistically significantly greater than the reference are identified in bold in the data summary tables. FDA action levels, ecological effects thresholds (EET), and south Atlantic Bight background values are also included in the data summary tables.

3.9.1 Lipids and Total Solids in Tissue

Total solids were analyzed in *M. nasuta* and *N. virens* tissues from project, reference, and pre-exposure tissue samples. Lipids were analyzed from pre-exposure tissues only.

3.9.1.1 *Neanthes virens*

Analytical results for total solids and lipids for *N. virens* are presented in Table 27. Total solids ranged from 14.1% to 17.5% among project, reference, and pre-exposure tissue samples. Percent lipids in the three pre-exposure tissue replicates was 1.20%.

3.9.1.2 *Macoma nasuta*

Analytical results for total solids and lipids for *M. nasuta* are presented in Table 28. Total solids ranged from 16.5% to 20.2% among project, reference, and pre-exposure tissue samples. Percent lipids in the three pre-exposure tissue replicates ranged from 0.81% to 0.84%.

3.9.2 Metals in Tissue

Based on sediment chemistry results, metals testing was performed on *N. virens* and *M. nasuta* tissues from all project, reference, and pre-exposure samples.

3.9.2.1 *Neanthes virens*

Results of wet and dry weight metals analyses on *N. virens* tissues are presented in Tables 29 and 31, respectively. Mean concentrations of metals in *N. virens* tissue samples are summarized in Exhibit 3-20. Results that are bolded indicate the mean concentration in the sample tissues is statistically significantly greater than in the reference tissues, and results in bold italics also exceeded the EET (SERIM Appendix H).

Most metal analytes tested were detected in concentrations greater than the MRL in project, reference, and pre-exposure tissue samples. For all project samples tested at least one of the metal analytes: cadmium; chromium; copper; lead; mercury; nickel; or selenium was statistically significantly greater than mean concentrations in the reference tissues (Exhibit 3-20). Copper concentrations in all of the upper harbor and widener samples were statistically significantly greater than the reference tissue and exceeded the EET. With the exception of ORDT12 and ABMA12, nickel concentrations in all other project tissue samples were statistically significantly greater than the reference tissue. In addition, nickel, cadmium, and chromium in all the entrance channel samples were statistically significantly greater than the reference tissue. Lead concentrations in ABMA12 were statistically significantly greater than the reference tissue and exceeded the EET. No sample mean concentration exceeded the FDA action level for any metal tested.

Exhibit 3-20. Summary of Mean Wet Weight Metal Results for *Neanthes virens* Tissue

DU Location	Sample ID	Mean Concentrations (mg/kg)												
		Antimony	Arsenic	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc
Upper Harbor and Wideners	DANI12	0.0022	2.256	0.0005	0.0342	0.0588	***2.558***	0.0788	0.0160	**0.257**	0.27	0.013	0.0001	19.1
	DANW12	0.0022	1.994	0.0005	0.0290	0.0772	***2.288***	0.0677	0.0154	**0.119**	0.27	0.011	0.0003	27.9
	NCW12	0.0039	2.284	0.0005	0.0312	0.0590	***2.296***	0.0728	0.0138	**0.335**	0.27	0.012	0.0005	16.2
	CCRK12	0.0026	2.208	0.0005	0.0326	0.0583	***2.314***	0.0766	0.0153	**0.220**	0.27	0.013	0.0001	17.6
	UH12*	0.0024	2.042	0.0005	0.0307	0.0648	***2.238***	0.0705	0.0149	**0.245**	0.25	0.010	0.0002	17.6
	ORDT12	0.0037	2.106	0.0006	0.0315	0.0634	***2.426***	0.0773	0.0165	0.104	0.28	0.011	0.0005	17.5
Lower Harbor and Wideners	REHR12	0.0061	2.274	0.0005	0.0337	**0.1114**	***2.376***	0.0813	0.0153	**0.151**	0.31	0.011	0.0004	18.0
	BENW12	0.0030	2.414	0.0004	0.0367	**0.0907**	0.963	0.0895	**0.0228**	**0.289**	0.29	0.021	0.0008	17.1
	HGIS12	0.0035	2.466	0.0006	0.0369	**0.119**	0.989	0.0882	0.0198	**0.295**	0.31	0.022	0.0005	24.9
	HGIW12	0.0022	2.178	0.0004	0.0342	**0.0918**	0.873	0.0828	0.0190	**0.146**	0.26	0.017	0.0002	15.9
	DRMY12	0.0026	2.242	0.0005	0.0361	**0.0947**	0.908	0.0855	0.0185	**0.166**	0.29	0.018	0.0002	16.3
	WUTB12	0.0023	2.314	0.0006	0.0359	0.0770	0.940	0.0865	0.0196	**0.209**	0.30	0.021	0.0002	18.8
	WRTB12	0.0027	2.170	0.0005	0.0348	0.0794	0.982	0.0741	0.0203	**0.160**	0.29	0.020	0.0001	11.2
	WLR12	0.0150	2.286	0.0005	0.0347	**0.0969**	0.953	0.0767	0.0188	**0.349**	0.31	0.018	0.0003	24.7
	WLRW12	0.0023	2.412	0.0005	0.0358	0.0755	0.917	0.0723	0.0198	**0.274**	0.29	0.016	0.0002	20.3
Anchorage Basin	ABMA12	0.0031	2.290	0.0006	0.0313	0.073	1.74	***0.111***	0.0207	0.125	0.28	0.0104	0.00015	14.1
Shem Creek	SHCR12	0.0031	2.134	0.0006	0.0316	0.0708	1.028	0.0726	0.0203	**0.135**	0.29	0.021	0.0002	16.5
Entrance Channel	CHEC12-1	0.0031	2.330	0.0005	**0.0396**	**0.0928**	0.953	0.0851	0.0197	**0.133**	0.32	0.023	0.0003	26.9
	CHEC12-2	0.0028	2..490	0.0005	**0.0401**	**0.0966**	0.969	0.0884	0.0204	**0.164**	**0.33**	0.022	0.0005	17.5
	MTPL12	0.0032	2.460	0.0005	**0.0397**	**0.0926**	0.917	0.0807	0.0192	**0.255**	0.30	0.019	0.0014	18.1
Reference	RS-CH-A	0.0026	2.330	0.0005	0.0350	0.081	1.72	0.0788	0.0179	0.114	0.28	0.0188	0.00014	18.9
Pre-exposure	Pre-exposure	0.0030	2.360	0.0005	0.0284	0.100	1.12	0.0748	0.0168	0.163	0.27	0.0225	0.00013	18.6
FDA Action Level: Polychaetes		x	76	x	3	12	x	1.5	1	70	x	x	x	x
Ecological Effects Threshold: Polychaetes		x	12.6	x	27.8	10.0	0.4	0.1	0.3	2.2	14.2	1.0	0.3	0.3
South Atl. Bight Background: Polychaetes		<0.22	6.2-46	<0.22	0.26-1.8	2.8-7.1	2.5-3.5	0.36-0.60	0.02-0.05	1.6-3.5	1.2-1.9	<0.95	<0.22	20-27

*UH12 is a composite of NYNC12 and PTFC12
x = No FDA action level or ecological effects threshold for polychaetes published for this parameter.
Bolded Values = The mean concentration in project tissues is statistically significantly greater than in the reference tissues.
Italicized Values = Indicate significantly different results that are greater than the ecological effects threshold
Note: FDA Action Levels, Ecological Effects Threshold, and South Atlantic Bight Background value come from SERIM Appendix H.

3.9.2.2 *Macoma nasuta*

Results for wet and dry weight metals in *M. nasuta* tissues are presented in Tables 30 and 32, respectively. Mean concentrations of metals in *M. nasuta* tissue samples are summarized in Exhibit 3-21. Results that are bolded indicate the mean concentration in the sample tissues is statistically significantly greater than in the reference tissues, and results in bold italics also exceeded the EET.

Most metal analytes tested were detected in concentrations greater than the MRL in project, reference, and pre-exposure tissue samples. All metals tested had mean concentrations that were statistically significantly greater than the reference tissue in at least one sample (Exhibit 3-21). In all samples, chromium, nickel, and selenium concentrations were statistically significantly greater than the reference tissue. In all but one sample, beryllium concentrations were statistically significantly greater than the reference tissue. In all but two samples, lead concentrations were statistically significantly greater than the reference tissue and exceeded the EET. In all of the upper harbor samples, one lower harbor sample (REHR12), and the anchorage basin (ABMA12), copper concentrations were statistically significantly greater than the reference tissue and exceeded the EET. In sample ABMA12, zinc concentrations were statistically significantly greater than the reference tissue and exceeded the EET. No sample mean concentration exceeded the FDA action level for any metal tested.

Exhibit 3-21. Summary of Mean Wet Weight Metal Results for *Macoma nasuta* Tissue

DU Location	Sample ID	Mean Concentrations (mg/kg)												
		Antimony	Arsenic	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc
Upper Harbor and Wideners	DANI12	0.0141	3.816	**0.0052**	**0.0399**	**0.621**	***2.840***	0.1431	**0.0157**	**0.552**	**0.43**	0.027	0.0023	17.0
	DANW12	0.0127	3.688	**0.0074**	**0.0414**	**0.755**	***2.608***	***0.2113***	**0.0156**	**0.504**	**0.46**	0.027	**0.0037**	17.5
	NCW12	**0.0439**	3.708	**0.0055**	**0.0446**	**0.574**	***2.694***	***0.1379***	**0.0165**	**0.500**	**0.46**	0.025	0.0027	17.6
	CCRK12	0.0153	3.600	**0.0065**	**0.0484**	**0.712**	***2.740***	***0.1856***	**0.0152**	**0.574**	**0.43**	0.024	0.0029	17.9
	UH12*	**0.0173**	3.430	**0.0051**	0.0367	**0.526**	***2.670***	0.1449	**0.0157**	**0.503**	**0.41**	0.023	0.0022	16.3
	ORDT12	0.0102	3.536	**0.0071**	0.0351	**0.607**	***2.714***	***0.2117***	**0.0148**	**0.414**	**0.46**	0.023	0.0020	15.6
Lower Harbor and Wideners	REHR12	0.0136	3.804	**0.0068**	**0.0433**	**0.533**	***2.608***	***0.1994***	**0.0168**	**0.515**	**0.42**	0.025	**0.0056**	17.1
	BENW12	**0.0203**	**6.012**	**0.0050**	**0.0477**	**0.684**	2.114	***0.1798***	0.0080	**0.669**	**0.46**	0.051	**0.0076**	18.8
	HGIS12	**0.0189**	**6.092**	**0.0049**	**0.0399**	**0.548**	2.242	***0.1747***	0.0084	**0.549**	**0.45**	0.053	0.0029	19.1
	HGIW12	0.0152	**6.396**	**0.0098**	**0.0397**	**0.690**	2.420	***0.2782***	0.0110	**0.587**	**0.54**	**0.062**	**0.0063**	19.9
	DRMY12	0.0146	**6.044**	**0.0066**	0.0375	**0.490**	2.372	***0.2148***	0.0113	**0.478**	**0.47**	0.058	0.0025	19.1
	WUTB12	**0.0183**	**5.378**	**0.0054**	**0.0400**	**0.504**	2.252	***0.1895***	0.0106	**0.552**	**0.49**	0.057	0.0026	18.8
	WRTB12	0.0158	**6.102**	**0.0060**	0.0392	**0.525**	2.286	***0.2275***	0.0114	**0.485**	**0.49**	0.055	0.0028	20.3
	WLR12	**0.0251**	**6.054**	**0.0041**	**0.0375**	**0.528**	2.296	***0.1574***	0.0098	**0.539**	**0.47**	0.056	0.0028	17.6
	WLRW12	**0.0207**	**6.626**	**0.0042**	**0.0422**	**0.485**	2.236	***0.1651***	0.0096	**0.548**	**0.49**	**0.071**	0.0023	19.1
Anchorage Basin	ABMA12	0.0106	**4.40**	**0.0052**	**0.0472**	**0.432**	***2.60***	***0.274***	0.0077	**0.456**	**0.42**	0.0454	0.0021	***21.3***
Shem Creek	SHCR12	**0.0303**	**6.522**	**0.0075**	0.0378	**0.484**	2.418	***0.2576***	0.0099	**0.439**	**0.47**	**0.063**	0.0024	18.4
Entrance Channel	CHEC12-1	0.0122	**6.590**	**0.0087**	**0.0383**	**0.594**	2.530	***0.2457***	0.0117	**0.543**	**0.49**	**0.065**	0.0026	18.2
	CHEC12-2	**0.0200**	**5.904**	**0.0053**	**0.0707**	**0.690**	2.312	***0.1475***	0.0108	**0.643**	**0.49**	0.059	**0.0090**	19.1
	MTPL12	**0.0231**	**5.668**	0.0039	**0.0535**	**0.512**	1.984	0.1149	0.0106	**0.490**	**0.43**	0.048	**0.0067**	19.5
Reference	RS-CH-A	0.0148	4.13	0.0014	0.0338	0.253	2.21	0.113	0.0117	0.296	0.38	0.0373	0.00056	17.4
Pre-Exposure	Pre-exposure	0.0164	4.94	0.0007	0.0409	0.189	3.12	0.166	0.0125	0.379	0.44	0.0469	0.00044	18.9
FDA Action Level: Bivalves		x	86	x	4	13	x	1.7	1	80	x	x	x	x
Ecological Effects Threshold: Bivalves		x	12.6	x	1.0	6.3	0.2	0.1	0.3	2.2	14.2	1.0	0.3	11.6
South Atl. Bight Background: Bivalves		<0.16	4.4-8.6	<0.19	0.68-2.7	0.4-4.6	1.2-2.9	0.05-0.77	<0.02	0.9-3.7	0.70-1.4	<0.96	<0.10	10-20

*UH12 is a composite of NYNC12 and PTFC12

x = No FDA action level or Ecological Effects Threshold for bivalves published for this parameter.

Bolded Values = The mean concentration of project tissues is statistically significantly greater than the reference tissues.

Italicized Values = Indicate significantly different results that are greater than the Ecological Effects Threshold and/or South Atlantic Bight Background concentrations.

3.9.3 PAHs in Tissue

Based on sediment chemistry results, PAHs were analyzed in *N. virens* and *M. nasuta* tissues from all project, reference, and pre-exposure samples. Mean tissue results for wet weight PAHs were "adjusted" by multiplying the mean value with the analyte-specific steady state factor. Tables 33 and 34 use the term "adjusted concentration" which refers to the above-mentioned calculation.

3.9.3.1 *Neanthes virens*

Results of wet and dry weight PAH analyses in *N. virens* tissues are presented in Tables 33 and 35, respectively. No PAHs were detected in concentrations greater than the MRL in any sample. According to Section 7.5.1 of the SERIM, if more than three replicates are below the LRL, no statistical comparison to the reference should be made. Since all concentrations are below the laboratory's MRL, statistical comparisons were not made.

3.9.3.2 *Macoma nasuta*

Results of wet and dry weight PAH analyses in *M. nasuta* tissues are presented in Tables 34 and 36, respectively. Fluoranthene, naphthalene, and pyrene were the only PAHs that had mean adjusted concentrations that were greater than the MRL in more than three replicates in some samples. Therefore, statistical comparisons with the reference were performed on those samples. These results are summarized in Exhibit 3-22. Results that are bolded indicate the mean concentration in the sample tissues is statistically significantly greater than in the reference tissues.

Samples ORDT12, DRMY12, WUTB12, WRTB12, ABMA12, and SHCR12 tissues had fluoranthene concentrations that were statistically significantly greater than the reference tissues. Sample DANI12 tissues had naphthalene concentrations that were statistically significantly greater than the reference tissues. Samples ABMA12 and SHCR12 tissues had pyrene concentrations that were statistically significantly greater than the reference tissues. Samples DRMY12, ORDT12, WRTB12, WUTB12, ABMA12, and SHCR12 had total HMW PAHs and total PAHs that were statistically significantly greater than the reference tissues. None of the statistically significantly different results exceeded the EET or South Atlantic Bight background values.

Exhibit 3-22 Summary of Statistically Significantly Greater Mean Wet Weight PAH Results for *Macoma nasuta* tissues

DU Location	Sample ID	Mean Adjusted Concentration (µg/kg)[1]					
		Fluoranthene	Naphthalene	Pyrene	Total LMW PAHs	Total HMW PAHs	Total PAHs
Upper Harbor and Wideners	DANI12	2.3	**3.3**	1.8	8.0	7.3	17
	DANW12	1.5	2.2	1.0	6.5	4.6	13
	NCW12	3.5	1.2	2.9	5.7	9.3	18
	CCRK12	3.0	2.3	3.0	7.0	9.9	20
	UH12*	3.6	4.8	2.9	9.8	10	23
	ORDT12	**6.4**	2.3	4.4	7.4	**15**	**25**
Lower Harbor and Wideners	REHR12	0.84	2.4	0.54	6.1	3.7	12
	BENW12	1.9	1.4	1.0	5.4	5.2	13
	HGIS12	2.3	0.86	1.8	5.1	6.4	14
	HGIW12	4.0	1.4	2.4	5.8	9.2	18
	DRMY12	**6.8**	1.1	4.6	6.7	**15**	**24**
	WUTB12	**5.7**	1.2	3.3	5.8	**21**	**55**
	WRTB12	**5.7**	1.7	3.9	6.5	**13**	**22**
	WLR12	2.6	1.0	1.5	5.4	6.5	14
	WLRW12	1.5	1.3	0.67	5.1	4.2	11
Anchorage Basin	ABMA12	**7.0**	0.73	**6.1**	7.5	**18**	**29**
Shem Creek	SHCR12	**11**	1.8	**11**	7.3	**27**	**41**
Entrance Channel	CHEC12-1	3.5	2.8	1.8	7.2	7.8	17
	CHEC12-2	1.7	3.2	0.89	6.9	4.9	14
	MTPL12	1.7	3.1	0.86	7.2	5.0	14
Reference	RS-CH-A	2.6	0.72	1.8	5.4	6.5	14
Pre-Exposure		5.0	0.70	2.6	5.4	10	18
Ecological Effects Threshold: Bivalves		8.8	x	x	x	x	40000
South Atl. Bight Background: Bivalves		<20	<20	<20	60.0	60.0	170

[1] Adjusted concentration was calculated by multiplying the mean concentration value with the analyte-specific steady state factor.

*UH12 is a composite of NYNC12 and PTFC12

x = No Ecological Effects Threshold for bivalves published for this parameter.

Bolded Values = The mean concentration of project tissues is statistically significantly greater than the reference tissues.

3.9.4 PBDEs in Tissue

Based on sediment chemistry results, PBDEs were analyzed in *N. virens* and *M. nasuta* tissues from project sample WLR12, reference, and pre-exposure samples.

3.9.4.1 *Neanthes virens*

Results of wet and dry weight PBDE analyses in *N. virens* tissues are presented in Tables 37 and 39, respectively. With the exception of PBDE 47 in sample WLR12, no other PBDEs were detected in concentrations greater than the MRL in any sample. The mean concentration of PBDE 47 in sample WLR12 was statistically significantly greater than the reference tissues.

However, four of the five replicates in sample WLR12 had "X" qualifiers indicating that the results may contain a slight bias due to the chromatograms indicating the presence of non-target background concentrations. See Section 4.7.2.5 for more details.

3.9.4.2 *Macoma nasuta*

Results of wet and dry weight PBDE analyses in *M. nasuta* tissues are presented in Tables 38 and 40, respectively. With the exception of PBDE 99, no other PBDEs were detected in concentrations greater than the MRL in sample WLR12. The mean concentration of PBDE 99 in sample WLR12 was statistically significantly greater than the reference tissues. However, all five replicates in sample WLR12 had "X" qualifiers indicating that the results may contain a slight bias due to the chromatograms indicating the presence of non-target background concentrations. See Section 4.7.2.5 for more details.

3.9.5 Organotins in Tissue

Based on sediment chemistry results, organotins were analyzed in *N. virens* and *M. nasuta* tissues from project samples WLR12, WUTB12, UH12, NCW12, SHCR12; reference; and pre-exposure samples.

3.9.5.1 *Neanthes virens*

Results of wet and dry weight organotins analyses in *N. virens* tissues are presented in Tables 41 and 43, respectively. No samples had concentrations of individual organotin cations or total organotins that were statistically significantly greater than the reference or that exceeded the tri-n-butyltin EET.

3.9.5.2 *Macoma nasuta*

Results of wet and dry weight PBDE analyses in *M. nasuta* tissues are presented in Tables 42 and 44, respectively. No samples had concentrations of individual organotin cations or total organotins that were statistically significantly greater than the reference or that exceeded the tri-n-butyltin EET.

3.9.6 Dioxins in Tissue

Based on sediment chemistry results, dioxins were analyzed in *N. virens* and *M. nasuta* tissues from project samples CHEC12-1, REHR12, WLR12, WUTB12, CCRK12, ORDT12, HGIW12, DANW12, WLRW12, ABMA12; reference; and pre-exposure samples.

3.9.6.1 *Neanthes virens*

Analytical results for wet and dry weight dioxins in *N. virens* tissues are presented in Tables 45 and 47, respectively. There were some concentrations of individual dioxin and furan congeners, total dioxins, and total furans that were greater than the MRL in two or more project replicate samples. Exhibits 3-23 and 3-24 summarize mean wet weight results. In sample ABMA12, the mean concentration of total tetra-furans (3.78 ng/kg) was statistically significantly greater than that of the reference (1.28 ng/kg). No other samples had mean concentrations of individual dioxin or furan congeners, total dioxins, or total furans that were statistically significantly greater than the reference. There are no FDA action limits or EET screening criteria for dioxins.

Exhibit 3-23. *Neanthes virens*: Summary of Mean Wet Weight of Individual Dioxin and Furan Congener Results

Sample ID	Mean Concentration of Replicates (ng/kg)																	
	Total TEQ	2,3,7,8-TCDD	1,2,3,7,8-PeCDD	1,2,3,4,7,8-HxCDD	1,2,3,6,7,8-HxCDD	1,2,3,7,8,9-HxCDD	1,2,3,4,6,7,8 HpCDD	OCDD	2,3,7,8-TCDF	1,2,3,7,8-PeCDF	2,3,4,7,8-PeCDF	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDF	2,3,4,6,7,8-HpCDF	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	OCDF
CHEC12-1	0.569	0.192	0.197	0.104	0.109	0.101	1.14	7.77	0.696	0.104	0.118	0.158	0.133	0.198	0.146	0.644	0.196	6.10
REHR12	0.459	0.175	0.0897	0.113	0.146	0.155	0.767	4.70	0.986	0.147	0.196	0.118	0.107	0.138	0.102	0.284	0.108	0.356
WLR12	0.934	0.347	0.293	0.210	0.232	0.208	0.731	4.15	0.784	0.211	0.215	0.206	0.171	0.239	0.202	0.248	0.271	0.485
WUTB12	1.90	0.697	0.604	0.431	0.442	0.412	0.816	5.91	1.14	0.518	0.556	0.486	0.407	0.521	0.490	0.373	0.458	0.806
CCRK12	2.12	0.691	0.756	0.650	0.664	0.621	1.04	3.29	1.13	0.564	0.592	0.461	0.377	0.633	0.455	0.464	0.715	1.20
ORDT12	0.870	0.317	0.264	0.220	0.242	0.217	0.948	5.09	1.07	0.203	0.301	0.225	0.187	0.245	0.219	0.303	0.205	0.473
HGIW12	2.21	0.620	0.788	0.663	0.685	0.639	1.42	9.86	1.12	0.682	0.683	0.664	0.526	0.971	0.614	0.630	0.838	1.73
DANW12	0.691	0.291	0.186	0.140	0.152	0.143	0.936	7.86	1.06	0.132	0.175	0.141	0.125	0.183	0.124	0.276	0.127	0.321
WLRW12	3.00	0.869	1.13	0.957	0.985	0.920	1.84	15.9	1.06	0.828	0.828	0.753	0.613	1.10	0.713	0.684	1.05	2.11
ABMA12	0.937	0.233	0.212	0.190	0.491	0.266	4.42	34.2	1.64	0.224	0.281	0.243	0.161	0.180	0.167	0.940	0.180	2.83
RS-CH-A	0.833	0.247	0.180	0.0795	0.418	0.148	3.87	28.4	1.26	0.110	0.136	0.138	0.164	0.574	0.229	0.771	0.194	2.63
Pre-Exp	0.912	0.214	0.224	0.0840	0.256	0.210	3.69	27.3	1.40	0.174	0.186	0.309	0.320	0.608	0.234	1.09	0.245	3.08

Underlined results contain at least two replicate results greater than the MRL. Results with no underline had concentrations less than the MRL in 3 or more replicates.

Exhibit 3-24. *Neanthes virens*: Summary of Mean Wet Weight Total Dioxin and Furan Results

Sample ID	Mean Concentration of Replicates (ng/kg)							
	Total Tetra-Dioxins	Total Tetra-Furans	Total Penta-Dioxins	Total Penta-Furans	Total Hexa-Dioxins	Total Hexa-Furans	Total Hepta-Dioxins	Total Hepta-Furans
CHEC12-1	0.192	0.448	0.191	0.575	1.24	0.156	1.44	0.762
REHR12	0.433	1.94	0.0897	1.50	0.777	0.278	1.42	0.220
WLR12	0.347	0.838	0.293	0.757	0.251	0.226	1.25	0.236
WUTB12	0.813	1.09	0.720	0.848	1.10	0.470	1.89	0.416
CCRK12	0.691	1.13	0.756	1.20	0.685	0.465	1.50	0.572
ORDT12	0.447	0.906	0.264	1.09	1.63	0.228	2.27	0.230
HGIW12	1.15	0.924	0.788	0.846	1.32	0.706	2.83	0.722
DANW12	0.297	0.858	0.186	0.613	0.713	0.209	2.87	0.133
WLRW12	1.02	0.957	1.13	0.897	2.89	0.760	6.74	0.843
ABMA12	0.696	**3.78**	0.250	2.85	3.37	1.28	10.33	3.03
RS-CH-A	0.247	1.28	0.131	1.42	0.851	0.739	6.90	1.49
Pre-Exposure	0.214	1.13	0.224	1.36	1.23	1.61	6.28	0.923

Bolded results are statistically significantly greater than that of the reference tissues and contain at least two replicate results greater than the MRL.
Underlined results contain at least two replicate results greater than the MRL. Results with no underline had concentrations less than the MRL in 3 or more replicates.

3.9.6.2 *Macoma nasuta*

Analytical results for wet and dry weight dioxins in *M. nasuta* tissues are presented in Tables 46 and 48, respectively. There were some concentrations of individual dioxin and furan congeners, total dioxins, and total furans that were greater than the MRL in two or more project replicate samples. Exhibits 3-25 and 3-26 summarize mean wet weight results. In samples CHEC12-1, WUTB12, and ABMA12, dioxin/furan TEQs were statistically significantly greater than the reference. In sample WUTB12, concentrations of OCDD, total hexa-furans, and total hepta-furans were statistically significantly greater than the reference. Note that all five replicates in sample WUTB12 for OCDD had "B" qualifiers indicating that the method blank contains contaminant above detection limit. See Section 4.7.4.1 for more details. In sample CHEC12-1, concentrations of total tetra-dioxins and total hexa-dioxins were statistically significantly greater than the reference. No other samples had concentrations of individual dioxin or furan congeners, total dioxins, or total furans that were statistically significantly greater than the reference. There are no FDA action limits or EET screening criteria for dioxins.

Exhibit 3-25. ***Macoma nasuta*****: Summary of Mean Wet Weight of Individual Dioxin and Furan Congener Results**

Sample ID	Mean Concentration of Replicates (ng/kg)																	
	Total TEQ	2,3,7,8-TCDD	1,2,3,7,8-PeCDD	1,2,3,4,7,8-HxCDD	1,2,3,6,7,8-HxCDD	1,2,3,7,8,9-HxCDD	1,2,3,4,6,7,8-HpCDD	OCDD	2,3,7,8-TCDF	1,2,3,7,8-PeCDF	2,3,4,7,8-PeCDF	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDF	2,3,4,6,7,8-HpCDF	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	OCDF
CHEC12-1	**3.09**	0.579	1.42	2.66	2.84	2.61	4.18	23.2	0.0927	0.184	0.180	0.384	0.318	0.495	0.364	0.616	0.700	1.81
REHR12	3.81	0.653	1.90	3.17	3.40	3.12	4.45	13.0	0.152	0.199	0.202	0.370	0.309	0.485	0.373	0.482	0.685	1.15
WLR12	1.22	0.442	0.462	0.489	0.528	0.486	1.31	7.92	0.242	0.154	0.154	0.169	0.144	0.221	0.173	0.278	0.196	1.19
WUTB12	**2.88**	0.570	1.32	2.09	2.21	2.04	7.02	**61.0**	0.132	0.172	0.170	0.875	0.205	0.315	0.246	1.87	0.482	5.79
CCRK12	0.347	0.161	0.0849	0.100	0.104	0.0964	0.659	6.62	0.0750	0.0665	0.0648	0.0798	0.0670	0.100	0.0744	0.0967	0.115	0.223
ORDT12	0.418	0.168	0.109	0.132	0.159	0.194	1.24	12.6	0.0538	0.0826	0.0902	0.0957	0.0830	0.102	0.0939	0.194	0.120	0.566
HGIW12	0.538	0.163	0.169	0.175	0.202	0.193	0.708	9.39	0.103	0.184	0.173	0.179	0.158	0.177	0.166	0.163	0.160	0.401
DANW12	0.363	0.160	0.0906	0.124	0.134	0.122	0.540	7.62	0.0926	0.0688	0.0641	0.0834	0.0680	0.107	0.0790	0.0745	0.0974	0.236
WLRW12	0.463	0.174	0.138	0.148	0.175	0.166	0.467	3.81	0.120	0.117	0.102	0.122	0.0982	0.141	0.116	0.129	0.121	0.283
ABMA12	**1.97**	0.395	0.391	0.483	1.54	0.989	48.9	623*	0.151	0.162	0.178	0.391	0.152	0.171	0.226	2.78	0.381	23.1
RS-CH-A	0.438	0.245	0.0889	0.0503	0.0532	0.0793	1.92	15.2	0.104	0.0631	0.0617	0.0646	0.0548	0.0779	0.0612	0.343	0.0786	1.64
Pre-Exp	0.394	0.177	0.132	0.0475	0.0496	0.0461	1.39	9.35	0.0920	0.0521	0.0498	0.0642	0.0530	0.0787	0.0612	0.177	0.0659	0.973

Bolded results are statistically significantly greater than that of the reference tissues and contain at least two replicate results greater than the MRL.
Underlined results contain at least two replicate results greater than the MRL. Results with no underline had concentrations less than the MRL in 3 or more replicates.
*See discussion in Section 4.7.4.4

Exhibit 3-26. ***Macoma nasuta*****: Summary of Mean Wet Weight Total Dioxin and Furan Results**

Sample ID	Mean Concentration of Replicates (ng/kg)							
	Total Tetra-Dioxins	Total Tetra-Furans	Total Penta-Dioxins	Total Penta-Furans	Total Hexa-Dioxins	Total Hexa-Furans	Total Hepta-Dioxins	Total Hepta-Furans
CHEC12-1	**1.39**	0.0927	1.42	0.182	**9.04**	0.780	5.96	1.63
REHR12	0.717	0.152	1.90	0.201	4.40	0.401	4.45	0.971
WLR12	0.442	0.242	0.462	0.154	0.625	0.281	1.62	0.852
WUTB12	0.570	0.132	1.32	0.171	2.12	**4.58**	8.31	**8.03**
CCRK12	0.359	0.0750	0.120	0.0656	1.46	0.0789	2.42	0.108
ORDT12	1.22	0.0845	0.463	0.127	3.96	0.173	3.63	0.479
HGIW12	1.28	0.103	0.339	0.114	2.49	0.369	2.00	0.156
DANW12	0.239	0.0926	0.334	0.0666	2.36	0.0823	1.92	0.0848
WLRW12	0.365	0.120	0.145	0.109	0.892	0.118	1.39	0.157
ABMA12	0.643	0.151	0.651	0.542	12.4	4.04	134	13.7
RS-CH-A	0.245	0.104	0.0889	0.0624	0.235	0.0905	2.71	0.600
Pre-Exposure	0.177	0.0920	0.132	0.0510	0.0747	0.0631	1.05	0.393

Bolded results are statistically significantly greater than that of the reference tissues and contain at least two replicate results greater than the MRL.
Underlined results contain at least two replicate results greater than the MRL. Results with no underline had concentrations less than the MRL in 3 or more replicates.

4 QUALITY ASSURANCE/QUALITY CONTROL

4.1 Deviations from SAP/QAPP

4.1.1 Field Sampling

In the Mount Pleasant reach, the field crew started sample collection at substation MTPL12-E on November 11, 2012. A total of 7 gallons of sediment was collected in two core samples, and based on that volume, the field crew proceeded to collect two core samples from each of the other four stations. However, the sediment elevations at substations A through C were lower than at substations D and E and less sample volume was collected at those stations than was expected, and an insufficient volume of material was collected after all stations were sampled. Since both project depth and width of this reach increase at the east end of the reach, a larger volume of dredge material will be excavated from the east end. Therefore, the field team collected two additional cores from substation E to obtain the required volume for the composite sample. Since the additional volume of sample came from the portion of the reach that will contain the greatest volume of dredge material, the overall composite sample was representative of dredge material that will be excavated from this reach.

Also in the Mount Pleasant reach, the project depth transitions from -59 feet in the lower harbor to -61 feet in the entrance channel. The project depths for stations MTPL12-A and MTPL12-B, were recorded incorrectly on the field sheets. The depth at these stations is -59 feet, not -61 feet. This mistake does not impact data quality because the vibracore hit refusal before reaching the project depth. The correct project depths for these stations are presented in Table 1, with a footnote to indicate the error.

Photos of the sample material were taken in the field as the samples were collected. In some cases, the photos either were not taken or the images were not usable. For samples ORDT12-A and ORDT12-C, the photo placard was too overexposed due to bright sunlight to be readable; however, the timestamp of when the picture was taken matches the time when these stations were occupied and thus confirms the sample location. Photos are available for all subsamples except the following: DRMY12-C, DRMY12-D, BENW12-E, BENW12-F, HGIW12-E, SHCR12-A, NYNC12-A, NYNC12-B, and ORDT12-B. Composite photos are available for all samples except REHR12, DANI12, PTFC12, ORDT12, DANW12, and NCW12.

4.1.2 Toxicology

All tests were conducted within the 8-week sediment holding time, with the exception of bioaccumulation potential tests for sample AMBA12. Through an inadvertent error, this sample was not included in the initial batches of bioaccumulation tests and was past the recommended 8-week holding time. Upon discovery, NewFields notified ANAMAR immediately about the mistake. ANAMAR then notified the USACE project manager. A plan for corrective action was developed and was approved by USACE and EPA. A memo detailing the corrective action and decision tree is included in Appendix J. The steps for corrective action are summarized below.

First, bioaccumulation tests for sample ABMA12 and the reference sample (RS-CH12-A) were initiated as soon as possible. After the bioaccumulation tests were completed, the corrective action plan called for the analysis of the ABMA12 and the pre-exposure tissue samples for the same suite of analytes as outlined in the USACE tissue recommendations (see Section 2.5). The need to analyze the second set of reference tissues associated with the ABMA12

bioaccumulation tests was determined later and was based on additional sediment chemistry results and comparison of the initial and re-test pre-exposure tissue results as explained below.

The corrective action plan required the reanalysis of the ABMA12 and RS-CH12-A sediment samples for mercury, PAHS, and dioxins. These sediment chemistry results were compared to the initial results to determine if there was any substantial changes in analyte concentrations as a result of the samples being out of hold. Criteria were developed and provided in the corrective action memo for determining if the reanalyzed results were similar enough to the initial results (Appendix J).

In addition, the initial pre-exposure tissues results for mercury, PAHs, and dioxins were compared with the pre-exposure tissues associated with the ABMA12 bioaccumulation tests. The criteria for the evaluation of the pre-exposure tissues was not developed prior to analysis, but was addressed by USACE and EPA after the results had been submitted. The criteria for the sediment and tissue chemistry analysis as previously described were used to determine if the ABMA12 tissue results could be compared to the initial reference tissue results or if the reference tissues set up with the ABMA12 tissues would be required for comparison instead.

Upon review by USACE and EPA, the results of mercury and dioxins were determined to be sufficiently similar (i.e. met the established criteria) between the two sets of sediment chemistry data and the two sets of pre-exposure tissue data. This meant that the reference tissue from the initial bioaccumulation test could be used for statistical comparison, and analysis of the reference tissues that were setup with the ABMA12 tissues would not be required. However, results for the reanalysis of the sediment samples for PAHs showed difference greater than allowed by the criteria outlined in the corrective action memo. Therefore, PAHs were analyzed in the ABMA12 tissues, pre-exposure tissues, and reference tissues. The PAH results for the reference tissues have not been submitted by the laboratory as of the date of this draft report. ANAMAR will provide the results along with any required statistical evaluation as soon as they are available. These results will be incorporated in the final report as needed.

4.2 Sample Receipt

4.2.1 AMEC

Sediment samples for physical analysis were shipped from ANAMAR on November 1, 2012, November 20, 2012, and December 3, 2012, and received at AMEC on November 2, 2012, November 21, 2012, and December 4, 2012, respectively. All samples were received in good condition, and the laboratory performed all requested analyses in accordance with the QAPP.

4.2.2 ALS Environmental

4.2.2.1 Sediment and Site Water Samples

Sediment and site water were shipped from ANAMAR to ALS throughout the month of November 2012 in order to meet recommended EPA holding times. All samples were shipped either with wet ice using next day delivery using a common courier or by refrigerated truck. Temperatures were checked at ALS upon arrival, and all samples were received in good condition, at a temperature of <4°C.

4.2.2.2 Tissue Samples

All tissue samples except for ABMA12 samples and associated reference and pre-exposure samples were shipped from NewFields on January 28, 2012, and delivered the next day to ALS. All samples were received at <0°C, and immediately frozen at ALS at -20°C, for storage until the analytical requirements were determined.

All tissue samples for ABMA12 and associated reference and pre-exposure samples were shipped from NewFields on May 2, 2012, and delivered the next day to ALS. All samples were received at <0°C, and immediately frozen at ALS at -20°C, for storage until the analytical requirements were determined.

4.2.3 NewFields

Twenty-one composite samples, one reference sample, and three site water samples were collected between October 20 and November 19, 2012, and were received in multiple batches from November 2 to December 3, 2012 (see specific chain-of-custody forms in Appendix G). Custody seals on the containers were received intact. Temperatures of the samples upon receipt ranged from 1°C to 3°C. Site water and sediment samples were stored in the dark in a walk-in cold room at 4°C ± 2°C. Test sediments were not sieved prior to testing.

4.3 Physical Analysis

Two field splits were prepared by ANAMAR and analyzed by AMEC. Laboratory results showed less than 20% relative percent difference between the native sample and its field split for the highest percentage grain size found in the samples. Laboratory QC samples were not required for this project.

4.4 Sediment Chemistry

4.4.1 General Chemistry Parameters

4.4.1.1 Oil and Grease, Total by EPA 9071B

Samples REHR12 and ABMA12 were received with insufficient holding time remaining. The analysis was performed as soon as possible after receipt by the laboratory. The data was flagged to indicate the holding time violation.

The matrix spike recovery for sample REHR12 was outside control criteria because of suspected matrix interference. A matrix spike duplicate was also analyzed, but produced similar results. The results of the original analysis were reported. No further corrective action was appropriate.

4.4.1.2 Ammonia as Nitrogen by Standard Method 4500-NH3 E Modified

The matrix spike recovery of ammonia as nitrogen for sample RS-CH12-A was outside control criteria because of suspected matrix interference. A matrix spike duplicate was also analyzed, but produced similar results. The results of the original analysis were reported. No further corrective action was appropriate.

No other anomalies associated with the analysis of these samples were observed.

4.4.2 Total Metals

4.4.2.1 Matrix Spike Recovery Exceptions

Antimony recoveries are generally low for soil and sediment samples when digested using EPA Method 3050B. Despite anticipated low recoveries, the method is still generally prescribed because of its versatility for general metals analysis. Antimony results (in conjunction with the matrix spike recovery) from this procedure should be used only as indicators to estimate concentrations. The matrix spike recovery of antimony for samples DANI12 and CHEC12-1 were below the ALS control criterion. Since low recoveries resulted from a method defect and were possibly magnified by certain matrix components, no corrective action was appropriate. The associated QA/QC results (e.g., control sample, calibration standards, etc.) indicated the analysis was in control.

No other anomalies associated with the analysis of these samples were observed.

4.4.3 Organotin Compounds

4.4.3.1 Matrix Spike Recovery Exceptions

A matrix spike sample and duplicate matrix spike sample were originally extracted on ORDT12 field split. During the extraction process, the matrix spike sample container was broken. At the request of the project manager, the duplicate matrix spike has been reported as the matrix spike. Recoveries were acceptable in the laboratory control sample and duplicate matrix spike.

Spikes had recoveries outside the acceptance criteria for each sample spike. The recoveries achieved indicated the presence of matrix interference in the sample for n-butyltin and di-n-butyltin.

4.4.3.2 Relative Percent Difference Exceptions

The relative percent difference (RPD) for n-butyltin and di-n-butyltin in the matrix spike (MS/MSD) analyses of NCW12 was outside control criteria. All spike recoveries in the associated laboratory control sample (LCS) were within acceptance limits, indicating that the problem was restricted to the MS/MSD and the analytical batch was in control. No further corrective action was appropriate.

The RPD for all analytes in the replicate matrix spike analyses of WRTB12 and for n-butyltin in the replicate matrix spike analyses of REHR12 and SHCR12 were outside control criteria. All spike recoveries in the LCS were within acceptance limits, indicating the analytical batch was in control. No further corrective action was appropriate.

4.4.3.3 Calibration Verification Exceptions

The analysis of butyltins requires the use of dual-column confirmation. When the continuing calibration verification (CCV) criterion is met for both columns, the lower of the two sample results is generally reported. The primary evaluation criteria were not met for the CCV on the confirmation column for n-butyltin. The results were reported from the column with an acceptable CCV. The data quality was not affected and no further corrective action was necessary.

4.4.3.4 Sample Notes and Discussion

The advisory criteria were exceeded for one of more analytes in the standard reference material (SRM). The recovery information reported is for advisory purposes only, i.e., to provide additional information about the performance of these compounds in this matrix. The associated QA/QC results indicated the analysis was in control. No further corrective action was required.

4.4.4 Organochlorine Pesticides by EPA Method 8081

4.4.4.1 Matrix Spike Recoveries

Most pesticide compounds had recoveries below 70%. Precision was acceptable for the MS/MSDs, indicating a matrix interference in the samples.

4.4.4.2 Elevated Detection Limits

The detection limit was elevated for at least one analyte in several samples. The chromatogram indicated the presence of non-target background components, preventing adequate resolution of the target compounds at the normal limit. The results were flagged to indicate the matrix interference. The MDL reported was below the target detection limit specified in the QAPP.

Due to limitations in the analytical method, the MDL and MRL for chlordane, dieldrin, and toxaphene are above the ERL and TEL screening criteria. Since the MDL and MRL did meet the TDL specified in the QAPP, and the screening criteria are not used to determine disposal options for the dredge material, the impact on the results is minimal.

4.4.4.3 Sample Notes and Discussion

Advisory criteria were exceeded for several compounds in the SRM. The recovery information reported is for advisory purposes only, i.e., to provide additional information about the performance of these compounds in this matrix. The associated QAQC results indicated the analysis was in control. No further corrective action was required.

No other anomalies associated with the analysis of these samples were observed.

4.4.5 PCB Aroclors by EPA Method 8082

4.4.5.1 Continuing Calibration Verification

The analysis of PCB aroclors by EPA 8082A requires the use of dual-column confirmation. When the CCV criterion is met for both columns, the lower of the two sample results is generally reported. The primary evaluation criteria were not met on the confirmation column for Tetrachloro-m-xylene in the CCV. The results were reported from the column with an acceptable CCV. The data quality was not affected and no further corrective action was necessary.

No other anomalies associated with the analysis of these samples were observed.

4.4.6 PCB Congeners by EPA Method 8082

4.4.6.1 Second Source Exceptions

The analysis of PCB congeners by EPA 8082 requires the use of dual-column confirmation. When the initial calibration verification (ICV) criteria are met for both columns, the lower of the two sample results is generally reported. The data quality was not affected and no further corrective action was necessary.

4.4.6.2 Matrix Spike Recovery

The matrix spikes were outside the acceptance criteria for several congeners across several samples. The precision for the MS/MSDs were acceptable for all congeners, indicating a matrix interference in the sediment.

4.4.6.3 Laboratory Control Sample

The recovery of PCB 49 was outside the control limits listed in the results summary. The limits are default values temporarily in use until sufficient data points are generated to calculate statistical control limits. Based on the method and historical data, the recoveries observed were in the range expected for this procedure. No further corrective action was taken.

4.4.6.4 Elevated Detection Limits

The detection limit was elevated in several compounds for several samples due to matrix interference, preventing adequate resolution of the target compounds at the normal limit. The results were flagged to indicate the matrix interference. For sample WUTB12, the MDL and MRL were elevated above the target detection limit specified in the QAPP (1.1 µg/kg for the MDL/RL versus 1.0 µg/kg for the TDL).

4.4.6.5 Sample Notes and Discussion

The advisory criteria were exceeded for several PCB congeners in one of the SRMs. The recovery information reported is for advisory purposes only, i.e. to provide additional information about the performance of these compounds in this matrix. The associated quality control results indicated the analysis was in control. No further corrective action was required.

In addition, one of the three SRMs for this project was inadvertently run from the wrong standard. This SRM included aroclors but did not have any values for congeners. As a result of the laboratory review, this SRM has been removed from the final report.

No other anomalies associated with the analysis of these samples were observed.

4.4.7 Polybrominated Diphenyl Ethers by 8270C-SIM

4.4.7.1 Calibration Verification Exceptions

The following analytes were flagged as outside the upper control criterion for CCV in PBDE 190 and PBDE 203. In accordance with the EPA Method 8270D, 80% or more of the CCV analytes must have passed within 20% of the true value. The remaining analytes are allowed a 40% difference as per the ALS SOP. The CCV met these criteria. The data quality was not affected and no further corrective action was required.

4.4.7.2 Matrix Spike Recovery

The recovery of PBDE 209 in the MS of sample NYNC12 was outside the control limits listed in the results summary. The limits are default values temporarily in use until sufficient data points are generated to calculate statistical control limits. Based on the method and historic data, the recoveries observed were in the range expected for this procedure. No further corrective action was taken.

The matrix spike recoveries for several of the PBDE congeners for samples NCW12 and WRTB12 were outside the default control criteria because of suspected matrix interference. A matrix spike duplicate was also analyzed, but produced similar results. The results of the original analysis were reported. No further corrective action was appropriate.

The recovery of all analytes for samples RS-CH12-A MS and REHR12 MSD were outside the default control criteria listed on the report summary. Recoveries in the associated LCS were acceptable, which indicated the analytical batch was in control. No further corrective action was appropriate.

4.4.7.3 Relative Percent Difference

The RPD for PBDE 47 in the replicate matrix spike analyses of sample NCW12 was outside control criteria. In general, the RPD was relatively high for all spiked compounds, which indicates a low bias in the MSD. All spike recoveries and RPD in the associated replicate LCS were within acceptance limits, indicating the analytical batch was in control. No further corrective action was appropriate.

The matrix spike recovery of PBDE 209 for sample BENW12 was outside control criteria because of suspected matrix interference. A matrix spike duplicate was also analyzed, but produced similar results. All recoveries in the associated replicate LCS were within acceptance limits, which indicated the analytical batch was in control. The results of the original analysis were reported. No further corrective action was appropriate.

The RPDs for all analytes in the replicate matrix spike analyses of sample REHR12 were outside control criteria. The RPD indicates a low bias in the MSD. All spike recoveries and RPD in the associated replicate LCS were within acceptance limits, indicating the analytical batch was in control. No further corrective action was taken.

4.4.7.4 Elevated Reporting Limits

The reporting limits were elevated in samples WUTB12, CHEC12-1, CHEC12-2, DRMY12, and SHCR12. The sample extracts were diluted prior to instrumental analysis due to relatively high levels of non-target background components. The extracts were highly colored, which indicated the need to perform dilutions prior to injection into the instrument. Clean-up of the extracts was performed within the scope of the method, but did not eliminate enough of the background components to prevent dilutions.

No other anomalies associated with the analysis of these samples were observed.

4.4.8 Polynuclear Aromatic Hydrocarbons by EPA Method 8270

4.4.8.1 Continuing Calibration Verification

Benzo(a)pyrene and indeno(1,2,3-cd)pyrene were flagged as outside the upper control criterion for CCV. In accordance with the EPA Method 8270D, 80% or more of the CCV analytes must have passed within 20% of the true value. The remaining analytes are allowed a 40% difference as per the ALS SOP. The CCV met these criteria. The data quality was not affected and no further corrective action was required.

4.4.8.2 Standard Reference Material

The advisory criterion was exceeded for fluorene, fluoranthene, and naphthalene in the SRM. The true values listed for the SRM are surrogate corrected concentrations while the reported analytical results were not surrogate corrected. The recovery information reported for these analytes is for advisory purposes only (i.e. to provide additional detail related to the performance of each individual compound). No further corrective action was required.

4.4.8.3 Continuing Calibration Verification

Two compounds were slightly outside acceptance criteria for the CCVs analyzed. All other compounds for all remaining CCVs were acceptable.

4.4.8.4 Elevated Detection Limits

The detection limits for several samples were elevated due to sub-optimal sample mass extracted for analysis. The samples contained low percent solids which prevented extraction of the sample mass necessary to achieve target detection limits. In all cases, the MDLs and LRLs achieved were below the TDLs specified in the QAPP.

No other anomalies associated with the analysis of these samples were observed.

4.4.9 Dioxins and Furans by EPA Method 8290

4.4.9.1 Method Detection Limits

Detection limits are calculated for each analyte in each sample by measuring the height of the noise level for each quantitation ion for the associated labeled standard. The concentration equivalent to 2.5 times the height of the noise is then calculated using the appropriate response factor and the weight of the sample. The calculated concentration equals the detection limit.

4.4.9.2 Method Blanks

The method blank contained low levels of several analytes at or below the LRL. The affected samples and dioxin compounds are flagged with a B qualifier. The method blank still met the acceptance criteria specified in the SERIM.

4.5 Site Water and Elutriate Chemistry

4.5.1 Total Metals

4.5.1.1 Matrix Spike Recovery

The control criteria for matrix spike recovery of arsenic for sample ORDT12 and MS/MSD for ABMA12 were not applicable. The analyzed concentration in the sample was significantly

higher than the added spike concentration, preventing accurate evaluation of the spike recovery.

No other anomalies associated with the analysis of these samples were observed.

4.5.2 Organochlorine Pesticides by EPA Method 8081

4.5.2.1 Matrix Spike Recovery

Several compounds had spikes below 70% recoveries, indicating matrix interference and a potential low bias in the samples.

4.5.2.2 Elevated Detection Limits

The MDL and MRL are elevated for several compounds due to matrix interference. These results are indicated with an "i" qualifier. In all cases the MDL still meet the limits specified in the QAPP.

4.5.2.3 *Continuing Calibration Verification*

Mirex and methoxychlor are greater than 15% difference in one and two CCVs respectively. All other CCVs are less than 15% difference.

No other anomalies associated with the analysis of these samples were observed.

4.5.3 Polynuclear Aromatic Hydrocarbons by EPA Method 8270

4.5.3.1 Method Blank

The method blank contained low levels of naphthalene and phenanthrene above the MRL. In accordance with ALS policy, all sample results less than twenty times the level found in the method blank were flagged as estimated. The associated samples with hits greater than the MRL for the analytes in question were re-extracted and re-analyzed. The re-extracted method blank also showed contamination for the same analytes. On-going corrective actions were taken and communicated between the project manager and the client. While some reduction of background contamination has been observed, on-going efforts aim to identify and eliminate all potential sources.

4.5.3.2 Matrix Spike Recovery

Several compounds had spikes below 70% recoveries. The precision determined from the MS/MSD was acceptable for all spikes indicating matrix interference and a potential low bias in the samples.

4.5.3.3 Continuing Calibration Verification

Several CCVs were outside the upper control criterion for CCV indicating a potential high bias in the samples. In accordance with EPA Method 8270D, 80% or more of the CCV analytes must have passed within 20% of the true value. The remaining analytes are allowed a 40% difference as per the ALS SOP. The CCV met these criteria. In addition, most samples results were below the target detection limit in the QAPP, so the impact on the sample results is low. The data quality was not affected and no further corrective action was required.

4.5.3.4 Sample Notes and Discussion

The results reported for 1-methylnaphthalene in samples ORDT12 Field Split and NYNC12 may contain a slight bias. The chromatogram indicated the presence of non-target background components. The matrix interference may have resulted in a slight high bias in the affected samples. The results were flagged with "X" to indicate the issue.

No other anomalies associated with the analysis of these samples were observed.

4.6 Toxicology

The quality assurance objectives for toxicity testing are detailed in the Green Book and in the laboratory's quality assurance manuals. The objectives for accuracy and precision involve all aspects of the testing process, including the following:

- Water and sediment sampling and handling
- Source and condition of test organisms
- Condition of equipment
- Test conditions
- Instrument calibration
- Use of reference toxicants
- Record-keeping
- Data evaluation

Each test organism was evaluated in reference toxicant tests during the test period to establish the sensitivity of the test organisms. The reference toxicant LC_{50} or EC_{50} should fall within two standard deviations of the historical laboratory mean. Water quality measurements were monitored to ensure they fell within prescribed limits.

The methods employed in every phase of the toxicity testing program are detailed in the NewFields standard operating practices. All NewFields staff members receive regular documented training in all standard operating practices and test methods. All data collected and produced as a result of the testing process were recorded on approved data sheets. If an aspect of a test deviated from protocol, the test was evaluated to determine if it was valid according to the regulatory agencies responsible for approving the proposed permitting action.

4.6.1 Water Column Test Data

4.6.1.1 *Americamysis bahia*

Dissolved oxygen was recorded below the laboratory target level of 4.6 mg/L in multiple samples and concentrations within Batches 2 and 3 (minimum of 3.8 mg/L). Upon discovery, low dissolved oxygen was corrected by the addition of aeration to all replicates of the respective treatments or through test solution renewal (if the deviation coincided with prescribed test solution renewal on Day 2). No action was necessary to address low dissolved oxygen observed at the time of test termination (Day 4). Test temperatures were below the recommended limits of 20°C ± 1°C on Day 1 within the Batch 1 test (minimum 18.0°C). Since temperatures for a majority of the treatments measured on Day 1 were within range, this deviation was likely due to a spatial difference in temperature within the test room. Air circulation within the test room was adjusted and temperatures were within limits for the duration of the test. Salinity values were observed slightly outside the targeted limits of

30 ± 2 ppt in several treatments across Batches 1 and 2. These salinities were possibly driven by equilibrium between the porewater salinity and the overlying water during elutriate preparation. Measurements of pH were recorded slightly outside the recommended limits of 7.8 ± 0.5, but were within the tolerance range of the test organisms (6 to 9 pH units).

The results of the ammonia reference-toxicant tests and related ammonia threshold data are summarized in Exhibit 3-8. Reference-toxicant tests (positive controls) were conducted concurrently with each test batch using ammonium chloride (ammonia results reported as total and un-ionized). The results of the Batch 2 reference-toxicant test fell within the laboratory confidence limits for all endpoints. The endpoint results for total ammonia for Batches 1 and 3 resulted in an LC_{50} that could not be calculated due to a lack of significant mortality (Batch 1) and an LC_{50} slightly below the laboratory confidence limits (Batch 3). The NOEC for UIA for the three batch reference-toxicant tests ranged from 0.251 mg/L to 0.611 mg/L, which were similar to the laboratory mean of 0.411 mg/L and within two standard deviations of the running mean (0.066 mg/L to 0.816 mg/L). Given the results of the reference-toxicant tests and the high control and site water survival within the elutriate test, it is unlikely that the test organisms were unhealthy or more sensitive than usual.

4.6.1.2 *Menidia beryllina*

Water quality parameters were within the target ranges throughout the test batches with minor deviations in salinity. Salinity was measured slightly below the targeted salinity range of 30 ± 2 ppt (minimum of 26 ppt), but was well within the tolerance range of the test organism (13 ppt to 34 ppt).

The results of the ammonia reference-toxicant tests and related ammonia threshold data are summarized in Exhibit 3-10. Reference-toxicant tests (positive controls) were conducted concurrently with each test batch using ammonium chloride (ammonia results were reported as total and un-ionized). The UIA LC_{50} value for all three tests fell within the laboratory confidence limits at the time of testing, indicating that the populations of test organisms used in these tests were similar in sensitivity to those previously tested at the NewFields laboratory.

4.6.1.3 *Mytilus galloprovincialis*

Dissolved oxygen, temperature, and pH were within the recommended limits during the test. Salinity was recorded slightly above the targeted salinity of range of 30 ± 2 ppt, but was still within the recommended test range of 16 to 34 ppt. Complete water quality measurements are provided in Section 3 of the toxicology report (Appendix G).

The results of the ammonia reference-toxicant tests and related ammonia threshold data are summarized in Exhibit 3-13. Reference-toxicant tests (positive controls) were conducted concurrently with each test batch using ammonium chloride (ammonia results were reported as total and un-ionized). The EC_{50} value for both tests fell within the laboratory confidence limits at the time of testing, indicating that the populations of test organisms used in these tests were similar in sensitivity to those previously tested at the NewFields laboratory.

4.6.2 Benthic Test Data

4.6.2.1 *Ampelisca abdita*

Temperatures within most treatments fell slightly below the recommended limits of 20±1°C (minimum of 18.2°C) on December 14, 2012, due to a temporary interruption in the water bath temperature control. Temperature control was restored upon discovery and temperatures were within limits for the remainder of the test.

Salinity values were observed slightly below the recommended limits of 30 ± 2 ppt in several treatments across both batches, reaching a minimum salinity of 26 ppt. These lower salinities were possibly driven by equilibrium between the porewater salinity and the overlying water. pH measurements were recorded slightly above the recommended limits of 7.8 ± 0.5 pH units. Deviations in salinity and pH were within the tolerance range of the test organisms: 18 to 32 ppt salinity and 6 to 9 pH units. Given the high survival observed in all treatments, these deviations are unlikely to have impacted the test results.

The reference-toxicant test results indicated that the population of test organisms used in these tests was similar in sensitivity to those previously tested at the NewFields laboratory. The results of the ammonia reference-toxicant tests are summarized in Section 2.4.4.1.

4.6.2.2 *Neanthes arenaceodentata*

Temperatures within most treatments fell slightly below the recommended limits of 20 ± 1°C on Day 3 (minimum of 18.3°C) due to a temporary interruption in the water bath temperature control. Temperature control was restored upon discovery and temperatures were within limits for the remainder of the test. A salinity of 27 ppt was observed in sample SCHR12 on Day 0, slightly below the recommended limits of 30 ± 2 ppt. No action was taken to correct this deviation; however, salinities were recorded within limits for the remainder of the test, suggesting that this value was possibly an anomaly. Measurements of pH were recorded slightly above the recommended limits of 7.8 ± 0.5 pH units, but were within the tolerance range of the test organisms (6 to 9 pH units). Given the high survival observed in all treatments, these deviations are unlikely to have impacted the test results.

The reference-toxicant test indicated that the population of test organisms used in these tests was similar in sensitivity to those previously tested at the NewFields laboratory. The results of the ammonia reference-toxicant test are summarized in Section 2.4.4.2.

4.6.3 Bioaccumulation Test Data

4.6.3.1 Deviations in Water Quality Measurements

Measurements of salinity were within the laboratory targeted range during the *N. virens* and *M. nasuta* tests. Dissolved oxygen was recorded below the laboratory targeted level of 5.0 mg/L in replicate 3 of sample DANI12 within the *N. virens* test (Batch 1). Aeration and water flow were slightly increased to this chamber and dissolved oxygen was within limits for the remainder of the test. Test temperatures were above the recommended maximum limits within the Batch 1 tests for both species. The temperature deviations coincided with temporary interruptions to water flow experienced on December 14, 15, 18, and 19, 2012. The maximum temperature experienced during this period was 18.9°C and was within the tolerance range for these test species (<22°C). Within the Batch 2 *M. nasuta* test, the temperature of replicate 2 of sample RS-CH-A was 10.3°C at test initiation, slightly below the recommended limit of 11°C. The

temperature control setting was increased and temperatures were within the recommended limits for the remainder of the test. A single deviation was observed in pH (*M. nasuta*; Batch 1) with a differential of 0.1 units below the recommended pH range of 7.3 to 8.3 units. No action was taken to adjust for low pH levels, and normal levels were observed the following day. These minor deviations did not appear to affect the survival of test organisms.

The reference-toxicant tests conducted on each batch of bioaccumulation test species indicated that three of the four populations of test organisms used in these tests were similar in sensitivity to those previously tested at the NewFields laboratory. The reference-toxicant test conducted in conjunction with second *N. virens* test batch was above the confidence limits (two standard deviations) for that test and suggested that that population of worms was less sensitive than those previously tested. This result did not indicate poor organism health and would not suggest a significant test deviation when evaluating the test results. It should be noted that the reference-toxicant tests performed on organisms used in bioaccumulation assessments are utilized as a tool to evaluate organisms health and sensitivity and do not directly correlate with the organisms potential to bioaccumulate. The results of the sodium dodecyl sulfate (SDS) reference-toxicant tests are summarized in Sections 2.4.5.1 and 2.4.5.2.

4.7 Tissue Chemistry

The quality control section for tissue chemistry has been divided into analytical groups and then further subdivided into quality control issues and exceptions to the acceptance criteria. Since the number of samples for tissue chemistry was very large, the log-in batches were limited to 20 samples each, and each report contained only the QC associated with those samples. For each QC issue and exception presented in this section, the affected log-in groups will be included in the explanation. The complete reports may be found in electronic format in Appendix E-4.

4.7.1 Total Metals

4.7.1.1 Method Blank

The method blank for zinc exceeded the reporting limit in ALS batch K1303183. The zinc results in all samples were at least 100 times the concentration in the method blank, indicating a very low impact on the samples.

4.7.1.2 Matrix Spike Recoveries

The MS recoveries were outside the acceptance criteria for zinc in ALS batches K1303186, K1303188, K1303190, K1303260, K1303261, and K1305093. The most likely cause for the spike recovery failures is the heterogeneity of the samples.

The MS recovery was outside the acceptance limit for silver in ALS batch K1303190, but was within control for the MSD.

All other spike recoveries were acceptable across all analytical batches and metals analyzed.

4.7.1.3 Duplicate Precision

The duplicate precision recoveries were outside the acceptance criteria for zinc in ALS batches K1303186, K1303188, K1303190, K1303260, K1303261, and K1305093. The most likely cause for the precision failures is the heterogeneity of the samples.

All other duplicates were acceptable for all analytical batches and metals analyzed.

4.7.1.4 Standard Reference Material

The chromium was outside the laboratory-recommended limits for one SRM on ALS batch K1303190, and lead was outside the laboratory-recommended limits for one SRM on ALS batch K1303256. For each sample report, a second SRM was analyzed and reported within limits. The impact on the sample results is minimal.

4.7.1.5 Continuing Calibration Verification

The closing CCV for cadmium was slightly outside the acceptance limits for ALS batch K1303257. Based on the EPA method, the result was within the method criteria for a closing CCV, as long as the instrument met calibration requirements for its next run.

4.7.2 Polynuclear Aromatic Hydrocarbons and Polybrominated Diphenyl Ethers by EPA Method 8270

4.7.2.1 Matrix Spike Recoveries

The MS recoveries for several PAH compounds are below the acceptance criterion of 70% for ALS batches K1303173, K1303188, K1303190, K1303256, K1303257, K1303261, and K1305093. Based on the calculated precision between the MS and MSD, the low recoveries indicate a matrix interference in the sample. Since most of the sample results are well below the LRL, the expected impact of these spikes is low.

The spike recoveries for PBDE compounds were outside the acceptance criteria in the MSD. The precision was acceptable for all spike compounds, indicating a matrix interference in the sample. Since nearly all results were below the LRL, the impact on the samples is low.

4.7.2.2 Continuing Calibration Verification

The CCV for the compounds in the following laboratory batches were outside the acceptance criteria found in the SERIM:

- Pyrene in ALS batch K1303173
- Pyrene in ALS batch K1303183
- Dibenz(a, h)anthracene in ALS batch K1303190
- Pyrene, benzo(b)fluoranthene, and benzo(k)fluoranthene in ALS batch K1303196
- Pyrene in ALS batch K1303256
- Indeno(1,2,3-cd)pyrene, dibenz(a, h)anthracene, and benzo(a)pyrene in ALS batch K1303260
- Pyrene in ALS batch K1303261
- Pyrene in ALS batch K1303263
- Dibenz(a, h) anthracene and benzo(g, h, i) perylene in ALS batch K1305093

In accordance with the EPA Method 8270D, 80% or more of the CCV analytes must have passed within 20% of the true value. The remaining analytes are allowed a 40% difference as per the ALS SOP. The CCV met these criteria. No further corrective action was required.

4.7.2.3 Internal Standard

The internal standard recovery of perylene-d12 in sample M.n. WUTB 12-comp Rep.3 in ALS batch K1303256 was outside control criteria because of suspected matrix interference. The sample was reanalyzed at a dilution with acceptable results. All analytes associated with the affected internal standard were reported from the diluted analysis. The reporting limits were elevated accordingly and no further corrective action was taken.

4.7.2.4 Standard Reference Material

The recoveries for benzo(a)pyrene in ALS batch K1304754 are outside the ALS advisory limits. All sample results are well below the LRL, indicating a low impact.

The recoveries for chrysene and benzo(a)pyrene are outside the ALS advisory limits for one SRM each in ALS batch K1305093. In each case, a second SRM was within limits for these compound, indicating a low impact on the sample results.

4.7.2.5 Matrix Interferences

Results for PBDE 47 and PBDE 99 are qualified with an "X" for both *Macoma nasuta* and *Neanthes virens*. These results have slight interferences of non-target compounds that could not be sufficiently resolved during analysis and elevated either the result or the MDL and MRL. Since the results in the reference and pre-exposure tissue were not similarly affected, the results in the project tissue samples are likely due to the uptake of chemical constituents during bioaccumulation. The impact on the overall results is likely to be low, since screening criteria for these tests are not available.

4.7.3 Organotin Compounds

4.7.3.1 Continuing Calibration Verification

The analysis of butyltins by Krone requires the use of dual column confirmation. When the CCV criterion is met for both columns, the lower of the two sample results is generally reported. The primary evaluation criteria were not met on the confirmation column for di-n-butyltin in ALS batches K1303449 and K1303451. The results were reported from the column with an acceptable CCV and the data quality was not affected. No further corrective action was necessary.

4.7.3.2 Matrix Spike Recoveries

The matrix spike recoveries were outside the acceptance criteria for ALS batches K1303451 and K1305093. Precision calculated from the MS and MSD was within limits for both batches, indicating a matrix interference in the samples.

4.7.3.3 Standard Reference Material

The recoveries in the SRM for tri-n-butyltin in ALS batch K1303451, and tri-n-butyltin and di-n-butyltin in ALS batch K1305093 were slightly below the ALS advisory limits, indicating a

potential slightly low bias in the samples. Results from other QC for these batches show that the impact on the sample results is low.

4.7.4 Dioxins and Furans by EPA Method 8290

4.7.4.1 Method Blank

The method blank for OCDD was detected above the reporting limit in ALS batch K1305093. All other blank results were below the reporting limit.

4.7.4.2 Laboratory Control Sample

The LCS for ALS batches K1303445, K1303337, K1303450, and K1305093 had several slight exceedances of the acceptance criteria. Since nearly all sample results were below the LRL, the impact on the results should be low.

4.7.4.3 Matrix Spike Recoveries

Several spikes have high recoveries in ALS batches K1303447 and K1305093, indicating a slight high bias in the samples. These recoveries are likely the result of a matrix interference in the samples.

4.7.4.4 Statistical Analysis

The OCDD results for *Macoma nasuta* tissues in the ABMA12 samples (Exhibit 3-25) appeared to be significantly greater than those in the reference. However, the ToxCalc statistical calculations do not show statistically significant differences.

Sample ID	OCDD Result (ng/kg)	Qualifier	MDL	MRL	TEQ
ABMA12 Comp Rep 1	35.7	--	0.369	11.8	0.011
ABMA12 Comp Rep 2	32.6	--	0.324	12.0	0.010
ABMA12 Comp Rep 3	41.2	--	0.481	14.0	0.012
ABMA12 Comp Rep 4	2970	--	0.489	11.0	0.891
ABMA12 Comp Rep 5	37.8	--	0.660	12.0	0.011
ABMA12 Comp Mean % of reference tissue	623 4099				
RS-CH-A Rep 1	10.3	B	0.0596	9.49	0.003
RS-CH-A Rep 2	8.87	BJ	0.0691	9.62	0.003
RS-CH-A Rep 3	6.10	BJ	0.0420	8.40	0.002
RS-CH-A Rep 4	7.38	BJ	0.0879	9.80	0.002
RS-CH-A Rep 5	43.4	B	0.199	8.46	0.013
RS-CH-A Mean	15.2				

The discrepancy between the apparent differences and the statistical calculations can be traced to the outlier for sample ABMA12 Comp Rep 4, which skews the average results to a factor of more than 10 times any other concentration in the set. In addition, the calculated standard deviation is greater than 1300 for this set. If this outlier is removed from the set and the statistical calculations are performed again, then the results show that there are statistical differences in between the tissues for ABMA12 and the reference tissues. Since the analysis in question is for OCDD, with a very low TEF, the overall impact on the dioxin TEQ is small.

5 ADDAMS MODEL

Simulations of the Short-Term Fate of Dredged Material Disposal in Open-Water Models (STFATE) module of the ADDAMS model were run to establish compliance of the water column toxicity for the Charleston Harbor Post 45 sediment samples. Based on analytical results for elutriate chemistry, no applications (run) of the model are presented in this report for Tier II—Water Quality Criteria (National Recommended Water Quality Criteria: 2008, Criteria Maximum Concentration). All results were either detected at levels below the CMC, or were reported as non-detects below the laboratory's MDLs and MRLs.

Based on the LC_{50} and EC_{50} results, 27 applications (runs) of the model are presented in this report for Section 103 Regulatory Analysis for Ocean Water, Tier III, Short-Term Fate of Dredged Material from Split Hull Barge or Hopper/Toxicity Run and Multiple Bin Hopper/Toxicity.

Results across the three test species of *Americamysis bahia*, *Menidia beryllina*, and *Mytilus galloprovincialis* show that the LC_{50} or EC_{50} was significantly different from the control sample in 19 of the 21 project samples tested. Two of the project samples, WLRW2 and MTPL12, were not statistically significantly different from the control sample, and in accordance with section 3.3.1 of the SERIM do not require modeling to meet disposal criteria. Volumetric fractions for the modeling were determined by Paul Schroeder at ERDC using physical results as reported in Table 5. Data for the STFATE model input parameters utilized in the module are shown in Exhibits 5-1 through 5-7.

Exhibit 5-1. Simulation Type: Descent, Collapse, and Diffusion

Coefficients		
Parameter	**Keyword**	**Value**
Settling Coefficient	BETA	0.000[1]
Apparent Mass Coefficient	CM	1.000[1]
Drag Coefficient	CD	0.500[1]
Form Drag for Collapsing Cloud	CDRAG	1.000[1]
Skin Friction for Collapsing Cloud	CFRIC	0.010[1]
Drag for an Ellipsoidal Wedge	CD3	0.100[1]
Drag for a Plate	CD4	1.000[1]
Friction Between Cloud and Bottom	FRICTN	0.010[1]
4/3 Law Horizontal Diffusion Dissipation Factor	ALAMDA	0.001[1]
Unstratified Water Vertical Diffusion Coefficient	AKYO	Pritchard Expression
Cloud/Ambient Density Gradient Ratio	GAMA	0.250[1]
Turbulent Thermal Entrainment	ALPHAO	0.235[1]
Entrainment in Collapse	ALPHAC	0.100[1]
Stripping Factor	CSTRIP	0.003[1]

[1] Model Default Value

Exhibit 5-2. Site Description

Parameter	Value	Units
Number of Grid Points (left to right)	45[1]	n/a
Number of Grid Points (top to bottom)	45[1]	n/a
Spacing Between Grid Points (left to right)	350[1]	ft
Spacing Between Grid Points (top to bottom)	350[1]	ft
Constant Water Depth	36	ft
Roughness Height at Bottom of Disposal Site	0.005[2]	ft
Slope of Bottom in X-Direction	0	deg.
Slope of Bottom in Z-Direction	0	deg.
Number of Points in Ambient Density Profile Point	2	n/a
Ambient Density at Depth = 0 ft	1.0215	g/cc
Ambient Density at Depth = 36 ft	1.0220	g/cc
Distance from the Top Edge of Grid (upper left corner of site)	1,800	ft
Distance from the Left Edge of Grid (upper left corner of site)	1,800	ft
Distance from the Top Edge of Grid (lower right corner of site)	13,950	ft
Distance from the Left Edge of Grid (lower right corner of site)	13,950	ft
Number of Depths for Transport-Diffusion Output	3 (0, 18, and 36 feet)	#

Exhibit 5-3. Current Velocity Data

Parameter	Value	Units
X-Direction Velocity	0.0	ft/sec
Z-Direction Velocity	0.33	ft/sec

Exhibit 5-4. Material Data

Parameter	Value	Units
Dredging Site Water Density (average)	1.016	g/cc
Number of Layers	1	n/a
Material Velocity at Disposal (X-Dir)	0	ft/s
Material Velocity at Disposal (Z-Dir)	9.42	ft/s

Exhibit 5-5. Output Options

Parameter	Value	Units
Duration of Simulation	14,400	sec
Long-Term Time Step	600	sec

Exhibit 5-6. Disposal Operation Data

Parameter	Mechanical /Hydraulic Dredge	Hopper (Entrance Channel Only)	Mechanical Dredge (Shem Creek)	Hydraulic Dredge (Shem Creek)	Units
Length of Disposal Vessel	315	390	180	315	ft
Width of Disposal Vessel	53	76	60	53	ft
Pre-Disposal Draft	25	28	11	25	ft
Post-Disposal Draft	10	15	3	10	ft
Time Needed to Empty the Bin	60	60	60	60	sec
Material Volume	9,000	13,500	3,300	3,600	cy

The volumetric fractions shown in Exhibit 5-7 below (shaded in gray and italicized) were calculated from a spreadsheet developed by Paul Schroeder at ERDC and EPA Region 4 using laboratory grain size, specific gravity, Atterberg limits and total solids. The calculations also take into account the type of dredge that will be used. The spreadsheet is provided electronically in Appendix H on the attached CD and is titled *Charleston Volumetric Fractions.xls.*

Toxicology results in Exhibit 5-7 (shaded in yellow and underlined) were provided by NewFields and chemical results were provided by ALS and were used to determine the limiting permissible concentration used in the ADDAMS model. For the larval test, all samples were treated prior to analysis to remove ammonia. Since all ammonia ameliorated results indicated that ammonia was solely responsible for the toxicity, the application factor was increased to 0.05 for the larval test, and then compared to the *Americamysis bahia* and *Menidia beryllina*. The lowest value of

the three was selected for use in the STFATE model. A summary of the LC_{50}/EC_{50} values is included in Exhibit 5-7.

Exhibit 5-7. Volumetric Fractions and Toxicity Criteria of Dredge Material

Analyte		UPPER HARBOR AND WIDENERS				
		DANW12	DANI12	NCW12	CCRK12	NYNC12
Bucket Entrainment	**%**	*20*	*20*	*20*	*20*	*20*
Volume Fraction - Clumps		*0.453*	*0.8*	*0.800*	*0.8*	*0.8*
Volume Fraction - Coarse		*0.028*	*0*	*0.00003*	*0*	*0*
Volume Fraction - Silts		*0.019*	*0*	*0.00001*	*0*	*0*
Volume Fraction - Clays		*0.021*	*0*	*0.00002*	*0*	*0*
Volume Fraction - Water		*0.478*	*0.2*	*0.200*	*0.2*	*0.2*
Hydraulic Entrainment	*Ratio*	*1.49*	*1.24*	*1.25*	*1.20*	*1.65*
Revised Water Content	*%*	*284.4*	*190.8*	*193.2*	*185.9*	*255.0*
Revised Solids Content	*%*	*26.0*	*34.4*	*34.1*	*35.0*	*28.2*
Volume Fraction - Clumps		*0*	*0*	*0*	*0*	*0*
Volume Fraction - Coarse		*0.047*	*0.083*	*0.082*	*0.088*	*0.044*
Volume Fraction - Silts		*0.033*	*0.022*	*0.032*	*0.031*	*0.042*
Volume Fraction - Clays		*0.037*	*0.059*	*0.050*	*0.049*	*0.043*
Volume Fraction - Water		*0.883*	*0.836*	*0.837*	*0.832*	*0.871*
Min. Vol. Fraction - Water		*0.707*	*0.634*	*0.633*	*0.630*	*0.658*
Americamysis bahia $\%LC_{50}$		>100	>100	>100	>100	>100
Value for STFATE input (Application factor 0.01)		1.00	1.00	1.00	1.00	1.00
Menidia beryllina $\%LC_{50}$		>100	>100	>100	>100	>100
Value for STFATE input (Application factor 0.01)		1.00	1.00	1.00	1.00	1.00
Mytilus galloprovincialis $\%EC_{50}$		42.0	57.0	67.9	68.8	69.6
Value for STFATE input (Application factor 0.05)		2.10	2.85	3.40	3.44	3.48
Final Value used for STFATE modeling		1.00	1.00	1.00	1.00	1.00

Exhibit 5-7 (cont.). Volumetric Fractions and Toxicity Criteria of Dredge Material

Analyte		UPPER HARBOR AND WIDENERS		LOWER HARBOR AND WIDENERS		
		PTFC12	ORDT12	REHR12	BENW12	HGIS12
Bucket Entrainment	*%*	*20*	*20*	*20*	*20*	*20*
Volume Fraction - Clumps		*0.8*	*0.738*	*0.8*	*0.8*	*0.700*
Volume Fraction - Coarse		*0*	*0.008*	*0*	*0*	*0.016*
Volume Fraction - Silts		*0*	*0.002*	*0*	*0*	*0.003*
Volume Fraction - Clays		*0*	*0.004*	*0*	*0*	*0.006*
Volume Fraction - Water		*0.2*	*0.249*	*0.2*	*0.2*	*0.275*
Hydraulic Entrainment	*Ratio*	*1.70*	*1.11*	*NA*	*NA*	*NA*
Revised Water Content	*%*	*290.5*	*198.4*	*NA*	*NA*	*NA*
Revised Solids Content	*%*	*25.6*	*33.5*	*NA*	*NA*	*NA*
Volume Fraction - Clumps		*0*	*0*	*NA*	*NA*	*NA*
Volume Fraction - Coarse		*0.037*	*0.089*	*NA*	*NA*	*NA*
Volume Fraction - Silts		*0.034*	*0.019*	*NA*	*NA*	*NA*
Volume Fraction - Clays		*0.044*	*0.051*	*NA*	*NA*	*NA*
Volume Fraction - Water		*0.885*	*0.840*	*NA*	*NA*	*NA*
Min. Vol. Fraction - Water		*0.691*	*0.664*	*NA*	*NA*	*NA*
Americamysis bahia %LC_{50}		>100	>100	>100	>100	>100
Value for STFATE input (Application factor 0.01)		1.00	1.00	1.00	1.00	1.00
Menidia beryllina %LC_{50}		>100	95	>100	>100	>100
Value for STFATE input (Application factor 0.01)		1.00	0.95	1.00	1.00	1.00
Mytilus galloprovincialis %EC_{50}		63.1	35.2	55.3	73.1	>100
Value for STFATE input (Application factor 0.05)		3.16	1.76	2.76	3.66	1.00
Final Value used for STFATE		1.00	0.95	1.00	1.00	1.00

Exhibit 5-7 (cont.). Volumetric Fractions and Toxicity Criteria of Dredge Material

LOWER HARBOR AND WIDENERS						
Analyte		**HGIW12**	**DRMY12**	**WUTB12**	**WRTB12**	**WLR12**
Bucket Entrainment	*%*	*20*	*20*	*20*	*20*	*20*
Volume Fraction - Clumps		*0.558*	*0.628*	*0.653*	*0.764*	*0.787*
Volume Fraction - Coarse		*0.048*	*0.010*	*0.006*	*0.006*	*0.002*
Volume Fraction - Silts		*0.003*	*0.008*	*0.008*	*0.002*	*0.001*
Volume Fraction - Clays		*0.013*	*0.015*	*0.010*	*0.002*	*0.001*
Volume Fraction - Water		*0.378*	*0.339*	*0.323*	*0.227*	*0.210*
Americamysis bahia %LC_{50}		>100	71.3	>100	>100	>100
Value for STFATE input (Application factor 0.01)		1.00	0.713	1.00	1.00	1.00
Menidia beryllina %LC_{50}		>100	51.6	75.0	>100	>100
Value for STFATE input (Application factor 0.01)		1.00	0.516	0.750	1.00	1.00
Mytilus galloprovincialis %EC_{50}		64.8	22.0	29.9	56.3	92.3
Value for STFATE input (Application factor 0.05)		3.24	1.10	1.50	2.82	4.62
Final Value used for STFATE modeling		1.00	0.516	0.750	1.00	1.00

Exhibit 5-7 (cont.). Volumetric Fractions and Toxicity Criteria of Dredge Material

Analyte		ANCHORAGE BASIN	SHEM CREEK	ENTRANCE CHANNEL	
		ABMA12	SHCR12	CHEC12-1	CHEC12-2
Bucket Entrainment	*%*	*20*	*20*	*NA*	*NA*
Volume Fraction - Clumps		*0.475*	*0.636*	*NA*	*NA*
Volume Fraction - Coarse		*0.039*	*0.010*	*NA*	*NA*
Volume Fraction - Silts		*0.015*	*0.007*	*NA*	*NA*
Volume Fraction - Clays		*0.017*	*0.011*	*NA*	*NA*
Volume Fraction - Water		*0.454*	*0.336*	*NA*	*NA*
Hydraulic Entrainment	*Ratio*	*NA*	*1.61*	*1.37*	*0.8825*
Revised Water Content	*%*	*NA*	*380.1*	*262.2*	*131.7*
Revised Solids Content	*%*	*NA*	*20.8*	*27.6*	*43.2*
Volume Fraction - Clumps		*NA*	*0.159*	*0*	*0*
Volume Fraction - Coarse		*NA*	*0.032*	*0.062*	*0.149*
Volume Fraction - Silts		*NA*	*0.024*	*0.028*	*0.035*
Volume Fraction - Clays		*NA*	*0.035*	*0.035*	*0.036*
Volume Fraction - Water		*NA*	*0.909*	*0.875*	*0.779*
Min. Vol. Fraction - Water		*NA*	*0.763*	*0.705*	*0.584*
Revised Water Fraction		*NA*	*0.750*	*NA*	*NA*
Americamysis bahia %LC_{50}		>100	73.6	>100	>100
Value for STFATE input (Application factor 0.01)		1.00	0.736	1.00	1.00
Menidia beryllina %LC_{50}		49.8	51.0	75.8	>100
Value for STFATE input (Application factor 0.01)		0.498	0.510	0.758	1.00
Mytilus galloprovincialis %EC_{50}		20.0	17.5	29.5	51.2
Value for STFATE input (Application factor 0.05)		1.00	0.875	1.48	1.28
Final Value used for STFATE modeling		0.498	0.510	0.758	1.00

The input and output files are provided in Appendix H on the enclosed disc. All models were run at a disposal location of 7,875 x 7,875. Since the dredger had not been contracted for operations at the time of reporting, the model inputs were selected from representative dredges available for dredging operations. The actual dredges used may vary slightly in physical dimensions, but are unlikely to significantly alter the final results presented in this section.

Dredge units CHEC12-1 and CHEC12-2 were modeled using the *Glenn Edwards*, which is a 13,500-cubic-yard dredge. USACE indicated that a hydraulic cutter may also be used in some areas of the entrance channel. Since the inputs are the same for both types of dredging, no additional modeling was performed.

Dredge units in the lower harbor, including site ABMA12, will be dredged by a mechanical clamshell dredge. All dredge units were tested at 9,000 cubic yards using the barge inputs described in Exhibit 5-6.

Dredge units in the upper harbor will likely be dredged using a mechanical clam shell dredge, although a hydraulic dredge may also be used. All dredge units were tested at 9,000 cubic yards using the barge inputs described in Exhibit 5-6 for both hydraulic and mechanical dredger.

Dredge material in Shem Creek will likely be dredged using a mechanical clamshell dredge, although a hydraulic dredge may also be used. Due to the limited size and depth of the work area, smaller dredges were used to model the dredging in this area. The barge inputs are shown in Exhibit 5-6 and allow for either a 3,300-cubic-yard mechanical dredge or 3,600-cubic-yard hydraulic dredge. This area was also modeled using a 9,000-cubic-yard mechanical dredge; the model meets the disposal criteria for the full 9,000 cubic yards.

Results of the initial mixing simulations after 4 hours of mixing (specified for water column evaluation) and the maximum concentration found outside the disposal area for each dredging unit are summarized in accordance with Section 7.4 of the SERIM and are shown in Exhibit 5-8 below. The location of the maximum concentration is shown as X Location and Z Location. All samples may be disposed in the center of the disposal area using a mechanical or hydraulic cutter/hopper dredge as indicated with each dredge unit.

Exhibit 5-8. Four-Hour Criteria and Disposal Boundary Criteria after Initial Mixing

Depth, feet	Four-Hour Criteria after Initial Mixing				Disposal Site Boundary Criteria		
	% Max Conc. Above Background on Grid	Dilution on Grid ($D_{a\text{-}tox}$)	X Location	Z Location	Time, hours	Max Conc. Outside Disposal Area	Dilution ($D_{a\text{-}tox}$)
Sample	ORDT12 Mechanical Dredge @ 9,000 Cubic Yards						
0	3.01E-08	>100000	8,400	11,900	4	0	N/A
18	2.74E-02	3649	8,400	11,900	4	0	N/A
27	1.48E-01	675	8,400	11,900	4	0	N/A
36	2.01E-02	4974	8,400	11,900	4	0	N/A
Sample	ORDT12 Hydraulic Dredge @ 9,000 Cubic Yards						
0	1.80E-07	>100,000	8,400	11,900	4	0	N/A
18	9.81E-02	1018	8,400	11,900	4	0	N/A
26	4.81E-01	207	8,400	11,900	4	0	N/A
36	6.50E-02	1537	8,400	11,900	4	0	N/A
Sample	PTFC12 Mechanical Dredge @ 9,000 Cubic Yards						
0	6.10E-08	>100,000	8,400	11,900	4	0	N/A
18	2.60E-02	3845	8,400	11,900	4	0	N/A
26	1.21E-01	825	8,400	11,900	4	0	N/A
36	1.64E-02	6097	8,400	11,900	4	0	N/A

Exhibit 5-8. Four-Hour Criteria and Disposal Boundary Criteria after Initial Mixing

Depth, feet	Four-Hour Criteria after Initial Mixing				Disposal Site Boundary Criteria		
	% Max Conc. Above Background on Grid	Dilution on Grid ($D_{a\text{-}tox}$)	X Location	Z Location	Time, hours	Max Conc. Outside Disposal Area	Dilution ($D_{a\text{-}tox}$)
Sample	PTFC12 Hydraulic Dredge @ 9,000 Cubic Yards						
0	1.63E-07	>100,000	8,400	11,900	4	0	N/A
18	1.01E-01	989	8,400	11,900	4	0	N/A
26	5.10E-01	195	8,400	11,900	4	0	N/A
36	6.91E-02	1446	8,400	11,900	4	0	N/A
Sample	NYNC Mechanical Dredge @ 9,000 Cubic Yards						
0	6.10E-08	>100,000	8,400	11,900	4	0	N/A
18	2.60E-02	3845	8,400	11,900	4	0	N/A
26	1.21E-01	825	8,400	11,900	4	0	N/A
36	1.64E-02	6097	8,400	11,900	4	0	N/A
Sample	NYNC Hydraulic Dredge @ 9,000 Cubic Yards						
0	1.68E-07	>100,000	8,400	11,900	4	0	N/A
18	1.00E-01	999	8,400	11,900	4	0	N/A
26	5.01E-01	199	8,400	11,900	4	0	N/A
36	6.78E-02	1474	8,400	11,900	4	0	N/A
Sample	CCRK Mechanical Dredge @ 9,000 Cubic Yards						
0	6.10E-08	>100,000	8,400	11,900	4	0	N/A
18	2.60E-02	3845	8,400	11,900	4	0	N/A
26	1.21E-01	825	8,400	11,900	4	0	N/A
36	1.64E-02	6097	8,400	11,900	4	0	N/A
Sample	CCRK Hydraulic Dredge @ 9,000 Cubic Yards						
0	2.66E-07	>100,000	8,400	11,900	4	0	N/A
18	5.09E-02	1964	8,400	11,900	4	0	N/A
26	2.05E-01	487	8,400	11,900	4	0	N/A
36	2.78E-02	3596	8,400	11,900	4	0	N/A
Sample	DANW12 Mechanical Dredge @ 9,000 Cubic Yards						
0	7.54E-08	>100,000	8,400	11,900	4	0	N/A
18	5.43E-02	1841	8,400	11,900	4	0	N/A
27	3.80E-01	262	8,400	11,900	4	0	N/A
36	2.81E-01	355	8,400	11,900	4	0	N/A
Sample	DANW12 Hydraulic Dredge @ 9,000 Cubic Yards						
0	1.65E-07	>100,000	8,400	11,900	4	0	N/A
18	1.01E-01	989	8,400	11,900	4	0	N/A
26	5.09E-01	195	8,400	11,900	4	0	N/A
36	6.88E-02	1452	8,400	11,900	4	0	N/A
Sample	DANI12 Mechanical Dredge @ 9,000 Cubic Yards						
0	6.10E-08	>100,000	8,400	11,900	4	0	N/A
18	2.60E-02	3845	8,400	11,900	4	0	N/A
26	1.21E-01	825	8,400	11,900	4	0	N/A
36	1.64E-02	6097	8,400	11,900	4	0	N/A

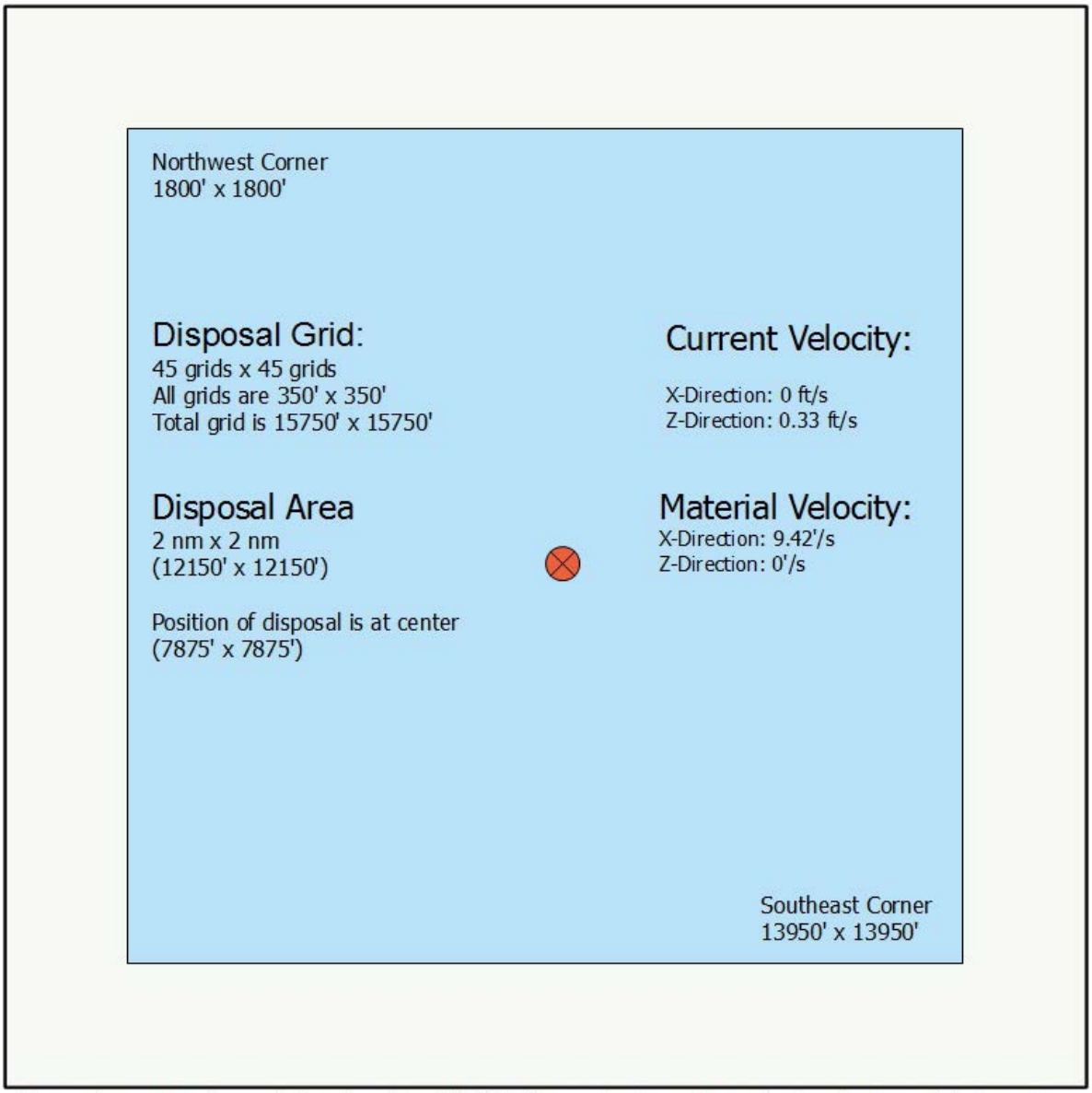
Exhibit 5-8. Four-Hour Criteria and Disposal Boundary Criteria after Initial Mixing

Depth, feet	Four-Hour Criteria after Initial Mixing				Disposal Site Boundary Criteria		
	% Max Conc. Above Background on Grid	Dilution on Grid ($D_{a\text{-}tox}$)	X Location	Z Location	Time, hours	Max Conc. Outside Disposal Area	Dilution ($D_{a\text{-}tox}$)
Sample	DANI12 Hydraulic Dredge @ 9,000 Cubic Yards						
0	1.80E-07	>100,000	8,400	11,900	4	0	N/A
18	9.76E-02	1024	8,400	11,900	4	0	N/A
26	4.78E-01	208	8,400	11,900	4	0	N/A
36	6.47E-02	1545	8,400	11,900	4	0	N/A
Sample	NCW12 Mechanical Dredge @ 9,000 Cubic Yards						
0	6.10E-08	>100,000	8,400	11,900	4	0	N/A
18	2.60E-02	3845	8,400	11,900	4	0	N/A
26	1.21E-01	825	8,400	11,900	4	0	N/A
36	1.64E-02	6097	8,400	11,900	4	0	N/A
Sample	NCW12 Hydraulic Dredge @ 9,000 Cubic Yards						
0	1.81E-07	>100,000	8,400	11,900	4	0	N/A
18	9.77E-02	1023	8,400	11,900	4	0	N/A
26	4.78E-01	208	8,400	11,900	4	0	N/A
36	6.47E-02	1545	8,400	11,900	4	0	N/A
Sample	REHR12 Mechanical Dredge @ 9,000 Cubic Yards						
0	6.10E-08	>100,000	8,400	11,900	4	0	N/A
18	2.60E-02	3845	8,400	11,900	4	0	N/A
26	1.21E-01	825	8,400	11,900	4	0	N/A
36	1.64E-02	6097	8,400	11,900	4	0	N/A
Sample	HGIS12 Mechanical Dredge @ 9,000 Cubic Yards						
0	3.52E-08	>100,000	8,400	11,900	4	0	N/A
18	3.05E-02	3278	8,400	11,900	4	0	N/A
27	1.64E-01	609	8,400	11,900	4	0	N/A
36	2.21E-02	4524	8,400	11,900	4	0	N/A
Sample	HGIW12 Mechanical Dredge @ 9,000 Cubic Yards						
0	5.78E-08	>100,000	8,400	11,900	4	0	N/A
18	4.27E-02	2341	8,400	11,900	4	0	N/A
27	2.22E-01	449	8,400	11,900	4	0	N/A
36	3.00E-02	3332	8,400	11,900	4	0	N/A
Sample	DRMY12 Mechanical Dredge @ 9,000 Cubic Yards						
0	4.54E-08	>100,000	8,400	11,900	4	0	N/A
18	3.78E-02	2645	8,400	11,900	4	0	N/A
27	2.01E-01	497	8,400	11,900	4	0	N/A
36	2.72E-02	3675	8,400	11,900	4	0	N/A
Sample	WLR12 Mechanical Dredge @ 9,000 Cubic Yards						
0	2.39E-08	>100,000	8,400	11,900	4	0	N/A
18	2.30E-02	4347	8,400	11,900	4	0	N/A
27	1.26E-01	793	8,400	11,900	4	0	N/A
36	1.70E-02	5881	8,400	11,900	4	0	N/A

Exhibit 5-8. Four-Hour Criteria and Disposal Boundary Criteria after Initial Mixing

Depth, feet	Four-Hour Criteria after Initial Mixing				Disposal Site Boundary Criteria		
	% Max Conc. Above Background on Grid	Dilution on Grid ($D_{a\text{-}tox}$)	X Location	Z Location	Time, hours	Max Conc. Outside Disposal Area	Dilution ($D_{a\text{-}tox}$)
Sample	BENW12 Mechanical Dredge @ 9,000 Cubic Yards						
0	6.10E-08	>100,000	8,400	11,900	4	0	N/A
18	2.60E-02	3845	8,400	11,900	4	0	N/A
26	1.21E-01	825	8,400	11,900	4	0	N/A
36	1.64E-02	6097	8,400	11,900	4	0	N/A
Sample	WRTB12 Mechanical Dredge @ 9,000 Cubic Yards						
0	2.87E-02	3483	8,400	12,250	4	0	N/A
18 (=max)	1.12E-01	892	8,400	12,250	4	0	N/A
36	1.52E-02	6578	8,400	12,250	4	0	N/A
Sample	ABMA12 Mechanical Dredge @ 9,000 Cubic Yards						
0	7.17E-08	>100,000	8,400	11,900	4	0	N/A
18	5.15E-02	1941	8,400	11,900	4	0	N/A
27	2.66E-01	375	8,400	11,900	4	0	N/A
36	3.61E-02	2769	8,400	11,900	4	0	N/A
Sample	SHCR12 Mechanical Dredge @ 3,300 Cubic Yards						
0	9.65E-10	>100,000	8,400	11,900	4	0	N/A
18	1.00E-02	9999	8,400	11,900	4	0	N/A
27	8.82E-02	1133	8,400	11,900	4	0	N/A
36	1.19E-02	8402	8,400	11,900	4	0	N/A
Sample	SHCR12 Hydraulic Dredge @ 3,600 Cubic Yards						
0	1.19E-09	>100,000	8,400	11,900	4	0	N/A
18	2.25E-02	4443	8,400	11,900	4	0	N/A
27	2.23E-01	447	8,400	11,900	4	0	N/A
36	3.01E-02	3321	8,400	11,900	4	0	N/A
Sample	CHEC12-1 Hopper/Hydraulic Dredge @ 13,500 Cubic Yards						
0	1.41E-06	>100,000	8,400	11,900	4	0	N/A
18	1.78E-01	561	8,400	11,900	4	0	N/A
26	6.64E-01	150	8,400	11,900	4	0	N/A
36	8.99E-02	1111	8,400	11,900	4	0	N/A
Sample	CHEC12-2 Hopper/Hydraulic Dredge @ 13,500 Cubic Yards						
0	1.69E-06	>100,000	8,400	11,900	4	0	N/A
18	1.63E-01	612	8,400	11,900	4	0	N/A
27	5.80E-01	171	8,400	11,900	4	0	N/A
36	7.84E-02	1275	8,400	11,900	4	0	N/A
MTPL12, WLRW12, and HGIW12							
No modeling required. The results are not statistically significantly different from the control sample.							

Charleston ODMDS Disposal Map



All samples may be disposed at center of the ODMDS. All upper harbor and lower harbor dredge material may be disposed up to a total of 9,000 cubic yards for each disposal trip. All entrance channel dredge material may be disposed up to a total of 13,500 cubic yards for each disposal trip.

6 REFERENCES

Buchman, M.F. 2008. *NOAA Screening Quick Reference Tables*. NOAA, OR&R Report 08-1, Office of Response and Restoration Division, Seattle, WA.

CETIS. 2012. *CETIS™ Comprehensive Environmental Toxicity Information System User's Guide.* Tidepool Scientific Software. McKinleyville, CA.

Ferretti, J.A., D.F. Calesso, and T.R. Hermon. 2000. Evaluation of Methods to Remove Ammonia Interference in Marine Sediment Toxicity Tests. *Environmental Toxicology and Chemistry*. 19(8):1935-1941.

Krone, C.A., D.W. Brown, D.G. Burrows, R.G. Bogar, S. Chan, and U. Varanasi. 1989. A method for analysis of butyltin species and measurements of butyltins in sediment and English sole livers from Puget Sound. *Marine Environmental Research.* 27(1):1–18.

Lee, D.R. 1980. Reference Toxicants in Quality Control of Aquatic Bioassays. Pp. 188–199 In: A.L. Buikema and J. Cairns (Eds.), *Aquatic Invertebrate Bioassays*. ASTM Special Technical Publication 715, American Society for Testing and Materials, Philadelphia, PA.

Marine Protection, Research, and Sanctuaries Act of 1972, §103, 33 United States Code §1413 (2011)

Plumb, R.H. 1981. *Procedures for Handling and Chemical Analysis of Sediment and Water Samples*. Great Lakes Laboratory, State University College at Buffalo, Buffalo, NY. Submitted to EPA and USACE Technical Committee on Criteria for Dredged and Fill Material, EPA, Grosse Ile, MI, and U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.

SAS Institute Inc. 2007. SAS OnlineDoc® 9.2. Cary, NC. SAS Institute Inc.

South Carolina State Ports Authority. 2012. Harbor Deepening [website]. Accessed 12/20/12 online at http://www.scspa.com/Cargo/ReadytoGrow/harbordeepening.asp .

U.S. Army Corps of Engineers. 2012. *Scope of Work. Evaluation of Dredged Material Proposed for Ocean Disposal, Charleston Harbor Navigation Improvement Project (Post 45), Charleston, South Carolina* [second revision, 8/30/12]. USACE, Charleston District, Charleston, SC.

U.S. Environmental Protection Agency and U.S. Army Corps of Engineers. 1991. *Evaluation of Dredged Material Proposed for Ocean Disposal--Testing Manual* [Green Book]. EPA 503-8-91-001. EPA, Region 4 and USACE, South Atlantic Division, Atlanta, GA.

U.S. Environmental Protection Agency and U.S. Army Corps of Engineers. 1998. *Evaluation of Dredged Material Proposed for Discharge in Water of the U.S. – Testing Manual. Inland Testing Manual*. EPA, Office of Water, Office of Science and Technology, Washington, D.C., and USACE, Operations, construction, and Readiness Division, Washington, D.C.

U.S. Environmental Protection Agency and U.S. Army Corps of Engineers. 2008. *Southeast Regional Implementation Manual (SERIM), Requirements and Procedures for Evaluation of the Ocean Disposal of Dredged Material in Southeast U.S. Atlantic and Gulf Coast Waters*. EPA Region 4, Atlanta, GA, and USACE South Atlantic Division, Atlanta, GA.

U.S. Environmental Protection Agency. 2006. *National Recommended Water Quality Criteria*. EPA Region 4, Water Management Division, Wetlands, Coastal & Nonpoint Source Branch, Atlanta, GA.

U.S. Environmental Protection Agency. 2012. *ECOTOX User Guide: ECOTOXicology Database System*. Version 4.0. Available: http:/www.epa.gove/ecotox.

U.S. Food and Drug Administration. 2001. Chapter 9: Environmental Chemical Contaminants and Pesticides. In: U.S. Department of Health and Human Services (ed.), *Fish and Fishery Products Hazards and Controls Guidance, Third Edition* [online document]. Accessed 02/25/11 online at: http://www.fda.gov/Food/GuidanceComplianceRegulatoryInformation/GuidanceDocuments/Seafood/FishandFisheriesProductsHazardsandControlsGuide/default.htm.

U.S. Food and Drug Administration. 2011. Chapter 9: Environmental Chemical Contaminants and Pesticides. In: U.S. Department of Health and Human Services (ed.), *Fish and Fishery Products Hazards and Controls Guidance, Fourth Edition* [online document]. Accessed 01/09/12 online at: http://www.fda.gov/Food/GuidanceComplianceRegulatoryInformation/GuidanceDocuments/Seafood/FishandFisheriesProductsHazardsandControlsGuide/default.htm.

TABLES

TABLE 1
Vibracore Sample Summary

Subsample ID	Date	Time	Northing[1] (feet, NAD 83)	Easting[1] (feet, NAD 83)	Target Depth (feet, MLLW)	Metrics Per Core Sample						Notes
						Water Depth (feet)	Water Surface Elevation[2] (feet, MLLW)	Top of Core Elevation[3] (feet, MLLW)	Effective Bottom of Core Elevation (feet, MLLW)	Effective Penetration Length per Core (feet)	Effective Recovery Length per Core[4] (%)	
CHEC12-1A	11/10/12	8:25	319991.88	2376865.88	-61	47.8	2.84	-45.0	-55.5	10.5	79	2 core samples totaling 11 gallons. Reached refusal each time.
		9:00			-61	47.8	2.84	-45.0	-55.6	10.6	80	
CHEC12-1B	11/10/12	9:25	318493.27	2378290.33	-61	48.4	1.54	-46.9	-53.2	6.3	75	2 core samples totaling 8 gallons. Reached refusal each time.
		9:55			-61	48.4	1.54	-46.9	-53.7	6.8	81	
CHEC12-1C	11/10/12	10:30	316955.72	2381072.93	-61	50.2	1.0	-49.2	-55.3	6.1	81	2 core samples totaling 8 gallons. Reached refusal each time.
		10:45			-61	50.2	1.0	-49.2	-54.8	5.6	84	
CHEC12-1D	11/10/12	11:15	315082.27	2385703.11	-61	55.8	1.1	-54.7	-56.4	1.7	90	2 core samples totaling 2.5 gallons. Reached refusal each time. 2 to 4 inches lost per sample.
		11:45			-61	55.8	1.1	-54.7	-56.2	1.5	78	
CHEC12-1E	11/10/12	12:25	312469.94	2390201.77	-61	55.2	2.5	-52.7	-54.1	1.4	47	2 core samples totaling <1 gallon. Reached refusal each time due to limestone. 2 to 5 inches lost per sample.
		12:35			-61	55.2	2.5	-52.7	-53.8	1.2	43	
CHEC12-2A	11/4/12	8:38	329887.96	2358726.27	-61	55.3	4.49	-50.8	-57.1	6.3	100	2 core samples totaling 9.5 gallons. Reached refusal each time due to consolidated clay.
		9:01			-61	55.3	4.49	-50.8	-57.4	6.7	96	
CHEC12-2B	11/4/12	7:22	326712.44	2363290.36	-61	54.5	2.93	-51.6	-59.1	7.5	86	2 core samples totaling 10 gallons. Reached refusal each time.
		7:49			-61	54.5	2.93	-51.6	-59.0	7.4	89	
CHEC12-2C	11/9/12	11:45	324722.31	2368195.98	-61	53.5	3.26	-50.2	-54.2	4.0	92	2 core samples totaling 5 gallons. Reached refusal each time.
		12:25			-61	53.5	3.26	-50.2	-54.3	4.1	74	
CHEC12-2D	11/9/12	13:30	322831.96	2370372.24	-61	51.5	5.41	-46.1	-54.2	8.1	79	2 core samples totaling 9 gallons. Reached refusal each time.
		13:55			-61	51.5	5.41	-46.1	-54.3	8.2	80	
CHEC12-2E	11/9/12	15:30	321757.99	2373654.18	-61	51.0	6.19	-44.8	-54.3	9.5	71	2 core samples totaling 9 gallons. Reached refusal each time.
		15:45			-61	51.0	6.19	-44.8	-54.4	9.6	71	
MTPL12-A[5]	11/11/12	12:30	337920.91	2348687.71	-59	51.8	0.82	-51.0	-53.2	2.2	96	2 core samples totaling 3 gallons. Reached refusal due to Cooper marl.
		13:15			-59	51.8	0.82	-51.0	-52.3	1.3	88	
MTPL12-B[5]	11/8/12	8:40	337371.27	2349227.52	-59	53.8	1.7	-52.1	-54.6	2.5	90	2 core samples totaling 3.5 gallons. Reached refusal each time due to Cooper marl.
		9:20			-59	53.8	1.7	-52.1	-54.8	2.7	94	
MTPL12-C	11/7/12	9:30	334090.94	2353081.29	-61	54.0	3.3	-50.7	-54.2	3.5	81	2 core samples totaling 5.5 gallons. Reached refusal each time due to Cooper marl. Used soil auger to remove sample from barrel.
		10:30			-61	54.0	3.3	-50.7	-53.9	3.2	76	
MTPL12-D	11/7/12	7:30	332649.59	2353543.21	-61	53.3	2.0	-51.3	-54.8	3.5	74	2 core samples totaling 5 gallons. Reached refusal each time due to Cooper marl.
		8:35			-61	53.3	2.0	-51.3	-54.8	3.4	73	
MTPL12-E	11/5/12	7:50	331500.33	2354408.09	-61	49.7	2.83	-46.8	-54.0	7.2	77	2 core samples totaling 7 gallons. Reached refusal each time due to Cooper marl.
		8:05			-61	49.7	2.83	-46.8	-54.0	7.2	73	
	11/12/12	12:45	331505.98	2354406.01	-61	47.8	-0.12	-48.0	-54.3	6.3	79	2 core samples totaling 7 gallons. Obtained these two additional core samples to achieve adequate volume for analysis. This station was chosen due to a wider channel equating to more dredged material. Reached refusal each time due to Cooper marl.
		13:05			-61	47.8	-0.12	-48.0	-54.1	6.2	80	

TABLE 1 (*continued*)
Vibracore Sample Summary

Subsample ID	Date	Time	Northing[1] (feet, NAD 83)	Easting[1] (feet, NAD 83)	Target Depth (feet, MLLW)	Metrics Per Core Sample						Notes
						Water Depth (feet)	Water Surface Elevation[2] (feet, MLLW)	Top of Core Elevation[3] (feet, MLLW)	Effective Bottom of Core Elevation (feet, MLLW)	Effective Penetration Length per Core (feet)	Effective Recovery Length per Core[4] (%)	
REHR12-A	11/3/12	11:26	348378.34	2333682.05	-59	57.1	5.86	-51.2	-56.5	5.3	86	1 core sample totaling 4 gallons. Reached refusal due to clay.
REHR12-B	11/3/12	10:07	346756.14	2335409.49	-59	55.7	5.53	-50.1	-53.3	3.2	84	1 core sample totaling 2 gallons. Reached refusal due to clay.
REHR12-C	11/2/12	13:01	344723.68	2338627.80	-59	50.1	4.84	-45.2	-54.7	9.4	57	1 core sample totaling 6 gallons. Reached refusal due to coarse sand. Bottom 2 feet of coarse sand fell from barrel.
REHR12-D	11/2/12	12:25	343280.66	2342363.36	-59	51.3	5.25	-46.1	-58.9	12.8	95	1 core sample totaling 8 gallons. Overpenetrated 2 inches but lost bottom 4 inches.
REHR12-E	11/2/12	9:45	341295.19	2344256.67	-59	52.5	5.47	-47.0	-59.0	12.0	100	1 core sample totaling 8 gallons.
REHR12-F	11/2/12	11:21	339294.55	2347911.08	-59	57.8	5.85	-51.9	-59.0	7.1	98	1 core sample totaling 5.5 gallons. Overpenetrated 6 inches and discarded 6 inches from bottom. Lost entire sample on first attempt and discarded second attempt due to poor recovery.
HGIS12-A	11/19/12	8:20	357624.51	2333948.39	-59	52.4	3.1	-49.3	-54.6	5.3	79	2 cores totaling 5 gallons. Reached refusal each time due to Cooper marl.
		8:40			-59	52.4	3.1	-49.3	-54.6	5.3	89	
HGIS12-B	11/19/12	14:00	355560.07	2333058.84	-59	54.5	6.2	-48.3	-54.1	5.8	73	2 cores totaling 4 gallons. Reached refusal each time due to Cooper marl and clay.
		14:15			-59	54.5	6.2	-48.3	-54.6	6.3	87	
HGIS12-C	11/19/12	14:40	353940.75	2333136.21	-59	54.6	5.4	-49.2	-54.1	4.9	85	2 cores totaling 5 gallons. Reached refusal each time due to Cooper marl.
		14:55			-59	54.6	5.4	-49.2	-54.2	5.0	95	
HGIS12-D	11/19/12	7:30	352051.27	2332627.06	-59	49.8	2.0	-47.8	-54.7	6.9	93	2 cores totaling 8 gallons. Reached refusal each time due to Cooper marl. Sampling location is about 35 feet east of target station, towards mid-line of channel.
		7:45			-59	49.8	2.0	-47.8	-53.9	6.2	92	
HGIS12-E	11/19/12	6:55	349387.05	2333186.94	-59	55.7	1.6	-54.1	-59.0	4.9	97	2 cores totaling 7 gallons. Discarded bottom 3 inches from both core samples to correct for 3 inches of overpenetration.
		7:05			-59	55.7	1.6	-54.1	-59.0	4.9	98	
DRMY12-A	11/19/12	12:05	362402.51	2329094.29	-59	56.5	6.9	-49.6	-51.7	2.1	92	2 cores totaling 3 gallons. Reached refusal each time due to Cooper marl.
		12:20			-59	56.5	6.9	-49.6	-52.7	3.1	84	
DRMY12-B	11/19/12	11:00	361495.79	2328811.97	-59	56.4	6.4	-50.0	-52.1	2.1	64	2 cores totaling 2 gallons. Reached refusal each time due to Cooper marl.
		11:25			-59	56.4	6.4	-50.0	-52.3	2.3	81	
DRMY12-C	11/17/12	11:20	360549.20	2330264.89	-59	48.7	7.5	-41.2	-51.3	10.1	73	2 cores totaling 8 gallons. Penetrated to maximum length of core barrel.
		11:35			-59	48.7	7.5	-41.2	-51.2	10.0	73	
DRMY12-D	11/17/12	9:55	358929.85	2331583.07	-59	40.6	7.4	-33.2	-53.2	20.0	45	2 cores totaling 15 gallons. Penetrated to maximum length of core barrel. Consistent and low recovery attributable to unconsolidated material.
		10:30			-59	40.6	7.4	-33.2	-53.2	20.0	61	
DRMY12-E	11/19/12	9:30	358555.56	2333242.40	-59	54.1	4.7	-49.4	-58.9	9.5	72	2 cores totaling 9 gallons. Reached refusal each time due to Cooper marl.
		9:50			-59	54.1	4.7	-49.4	-58.9	9.5	68	
WLR12-A	11/13/12	15:50	363106.39	2338664.22	-59	52.0	2.58	-49.4	-52.5	3.1	84	3 cores totaling 5 gallons. Reached refusal each time due to Cooper marl.
		16:05			-59	52.0	2.58	-49.4	-52.6	3.2	74	
		16:15			-59	52.0	2.58	-49.4	-52.5	3.1	68	

TABLE 1 (*continued*)
Vibracore Sample Summary

Subsample ID	Date	Time	Northing[1] (feet, NAD 83)	Easting[1] (feet, NAD 83)	Target Depth (feet, MLLW)	Metrics Per Core Sample						Notes
						Water Depth (feet)	Water Surface Elevation[2] (feet, MLLW)	Top of Core Elevation[3] (feet, MLLW)	Effective Bottom of Core Elevation (feet, MLLW)	Effective Penetration Length per Core (feet)	Effective Recovery Length per Core[4] (%)	
WLR12-B	11/13/12	14:45	362265.09	2337512.85	-59	48.8	0.74	-48.1	-51.9	3.8	96	3 cores totaling 7 gallons. Reached refusal each time due to Cooper marl.
		15:05			-59	48.8	0.74	-48.1	-51.8	3.7	91	
		15:20			-59	48.8	0.74	-48.1	-52.0	3.9	85	
WLR12-C	11/13/12	13:15	361012.96	2336613.49	-59	49.6	-0.30	-49.9	-52.6	2.7	94	3 cores totaling 6 gallons. Reached refusal each time due to Cooper marl.
		13:45			-59	49.6	-0.30	-49.9	-52.6	2.8	100	
		14:15			-59	49.6	-0.30	-49.9	-52.6	2.7	94	
WLR12-D	11/12/12	15:20	360107.10	2335546.80	-59	55.0	3.08	-51.9	-56.4	4.5	96	3 cores totaling 10 gallons. Reached refusal each time due to clay. Lost 4 to 8 inches from each sample. One additional sample was discarded due to low recovery.
		16:25			-59	55.0	3.08	-51.9	-56.7	4.8	82	
		16:35			-59	55.0	3.08	-51.9	-57.5	5.6	72	
WLR12-E	11/12/12	14:00	358873.74	2334745.32	-59	49.2	1.1	-48.1	-55.3	7.3	48	3 cores totaling 7 gallons. Reached refusal each time due to Cooper marl.
		14:25			-59	49.2	1.1	-48.1	-55.2	7.2	55	
		14:45			-59	49.2	1.1	-48.1	-55.2	7.2	53	
WUTB12-A	11/8/12	11:50	367618.17	2340526.03	-59	50.3	4.75	-45.5	-55.8	10.3	52	3 cores totaling 10 gallons. Reached refusal each time. An additional sample was discarded due to low recovery.
		12:15			-59	50.3	4.75	-45.5	-55.7	10.2	55	
		12:35			-59	50.3	4.75	-45.5	-56.2	10.7	66	
WUTB12-B	11/8/12	13:30	366200.79	2339661.26	-59	55.5	5.92	-49.6	-52.8	3.2	63	3 cores totaling 5 gallons. Reached refusal each time due to Cooper marl.
		13:45			-59	55.5	5.92	-49.6	-53.4	3.8	70	
		14:30			-59	55.5	5.92	-49.6	-53.7	4.1	67	
WUTB12-C	11/11/12	14:45	365892.10	2340217.05	-59	55.8	3.97	-51.9	-53.3	1.4	58	3 cores totaling 2 gallons. Reached refusal each time due to Cooper marl.
		15:20			-59	55.8	3.97	-51.9	-53.3	1.4	65	
		15:35			-59	55.8	3.97	-51.9	-53.0	1.2	85	
WUTB12-D	11/11/12	16:00	364946.48	2338696.86	-59	53.0	5.33	-47.7	-55.9	8.3	55	3 cores totaling 9.5 gallons. Reached refusal each time due to Cooper marl. No loss from bottom of core barrel.
		16:35			-59	53.0	5.33	-47.7	-56.1	8.4	54	
		16:50			-59	53.0	5.33	-47.7	-56.5	8.8	52	
WUTB12-E	11/13/12	17:15	363915.70	2339617.95	-59	56.1	4.80	-51.3	-53.5	2.3	78	3 cores totaling 6 gallons. Reached refusal each time due to Cooper marl.
		17:40			-59	56.1	4.80	-51.3	-53.9	2.6	87	
		17:50			-59	56.1	4.80	-51.3	-53.8	2.5	93	
DANI12-A	10/26/12	17:15	369260.61	2329389.20	-59	57.5	5.6	-51.9	-54.4	2.5	87	3 core samples totaling 5 gallons. Reached refusal each time due to Cooper marl.
		17:35			-59	57.5	5.6	-51.9	-54.2	2.3	74	
		18:05			-59	57.5	5.6	-51.9	-54.9	3.0	78	
DANI12-B	10/28/12	16:50	368003.32	2328730.39	-59	54.3	3.7	-50.6	-56.5	5.9	73	3 core samples totaling 9 gallons. Reached refusal each time.
		17:00			-59	54.3	3.7	-50.6	-56.4	5.8	79	
		17:15			-59	54.3	3.7	-50.6	-56.5	5.9	76	

TABLE 1 (*continued*)
Vibracore Sample Summary

Subsample ID	Date	Time	Northing[1] (feet, NAD 83)	Easting[1] (feet, NAD 83)	Target Depth (feet, MLLW)	Metrics Per Core Sample						Notes
						Water Depth (feet)	Water Surface Elevation[2] (feet, MLLW)	Top of Core Elevation[3] (feet, MLLW)	Effective Bottom of Core Elevation (feet, MLLW)	Effective Penetration Length per Core (feet)	Effective Recovery Length per Core[4] (%)	
DANI12-C	10/30/12	8:31	366696.69	2329175.36	-59	54.0	6.08	-47.9	-58.9	11.0	83	3 core samples totaling 13 gallons. No Cooper marl obs. Core #3 overpenetrated 1" and discarded same. Discarded material was gravelly clay with sand.
		8:59			-59	54.0	6.08	-47.9	-58.9	11.0	81	
		9:18			-59	54.0	6.08	-47.9	-59.0	11.1	82	
DANI12-D	10/30/12	10:08	365114.17	2328604.84	-59	53.5	6.3	-47.2	-54.3	7.1	75	3 core samples totaling 11 gallons. Reached refusal each time.
		10:28			-59	53.5	6.3	-47.2	-53.6	6.4	81	
		10:45			-59	53.5	6.3	-47.2	-54.0	6.8	77	
DANI12-E	10/31/12	7:55	362955.75	2329025.36	-59	55.1	5.09	-50.0	-51.2	1.3	80	3 core samples totaling 4.5 gallons. Reached refusal each time due to clay or Cooper marl. Discarded additional core sample due to unsatisfactory penetration.
		8:19			-59	55.1	5.09	-50.0	-51.8	1.8	91	
		8:39			-59	55.1	5.09	-50.0	-52.1	2.1	96	
CCRK12-A	10/25/12	13:25	374076.28	2323222.01	-55	41.3	2.1	-39.2	-47.9	8.8	76	2 core samples totaling 9 gallons. Reached refusal each time.
		13:40			-55	41.3	2.1	-39.2	-47.9	8.8	76	
CCRK12-B	10/25/12	12:05	373289.94	2324859.05	-55	48.5	0.9	-47.6	-51.4	3.8	78	2 core samples totaling 4 gallons. Reached refusal each time.
		12:25			-55	48.5	0.9	-47.6	-51.4	3.8	74	
CCRK12-C	10/24/12	17:05	372542.39	2325288.42	-55	50.1	5.6	-44.5	-52.2	7.7	64	2 core samples totaling 8 gallons. Reached refusal each time. 1 additional sample discarded due to excessive loss of material.
		17:20			-55	50.1	5.6	-44.5	-51.7	7.3	84	
CCRK12-D	10/24/12	14:20	370945.18	2327915.69	-55	53.1	4.2	-48.9	-54.5	5.6	60	2 core samples totaling 5 gallons.
		14:30			-55	53.1	4.2	-48.9	-54.6	5.7	63	
CCRK12-E	10/24/12	15:50	369709.62	2329378.20	-55	55.7	5.3	-50.4	-54.2	3.8	83	2 core samples totaling 5 gallons.
		16:00			-55	55.7	5.3	-50.4	-54.0	3.6	91	
NYNC12-A	10/22/12	13:40	383819.62	2317577.50	-55	51.7	5.6	-46.1	-53.1	7.0	73	3 core samples totaling 8 gallons. Reached refusal each time due to Cooper marl.
		13:50			-55	51.7	5.6	-46.1	-53.1	7.0	68	
		14:05			-55	51.7	5.6	-46.1	-53.1	7.0	67	
NYNC12-B	10/23/12	10:30	382467.50	2317049.05	-55	48.3	1.1	-47.2	-54.7	7.5	76	3 core samples totaling 9 gallons. Reached refusal each time. Zero recovery from first two sampling attempts.
		11:25			-55	48.3	1.1	-47.2	-54.7	7.4	75	
		11:50			-55	48.3	1.1	-47.2	-54.3	7.1	74	
NYNC12-C	10/23/12	13:00	378960.57	2317794.44	-55	48.8	3.9	-44.9	-54.4	9.6	67	3 core samples totaling 10 gallons. Reached refusal each time.
		13:20			-55	48.8	3.9	-44.9	-54.4	9.5	61	
		13:55			-55	48.8	3.9	-44.9	-54.3	9.4	62	
NYNC12-D	10/23/12	15:30	376924.41	2319471.78	-55	52.8	5.7	-47.1	-50.9	3.8	65	3 core samples totaling 5 gallons. Reached refusal each time due to clay.
		16:10			-55	52.8	5.7	-47.1	-50.9	3.8	67	
		16:25			-55	52.8	5.7	-47.1	-51.0	3.9	70	
NYNC12-E	10/23/12	17:15	374485.18	2320955.30	-55	53.6	5.3	-48.3	-50.6	2.3	82	3 core samples collected. Reached refusal each time due to Cooper marl.
		17:30			-55	53.6	5.3	-48.3	-50.6	2.3	97	
		17:45			-55	53.6	5.3	-48.3	-50.6	2.3	79	

TABLE 1 (*continued*)
Vibracore Sample Summary

Subsample ID	Date	Time	Northing[1] (feet, NAD 83)	Easting[1] (feet, NAD 83)	Target Depth (feet, MLLW)	Metrics Per Core Sample						Notes
						Water Depth (feet)	Water Surface Elevation[2] (feet, MLLW)	Top of Core Elevation[3] (feet, MLLW)	Effective Bottom of Core Elevation (feet, MLLW)	Effective Penetration Length per Core (feet)	Effective Recovery Length per Core[4] (%)	
PTFC12-A	10/21/12	11:45	392246.52	2321259.90	-55	47.4	5.0	-42.4	-54.4	12.0	76	2 core samples totaling 9 gallons. Reached refusal each time. Discarded two additional core samples due to poor recovery.
		12:55			-55	47.4	5.0	-42.4	-54.4	12.0	66	
PTFC12-B	10/22/12	9:45	389959.85	2319756.65	-55	47.7	1.4	-46.3	-50.8	4.5	83	2 core samples totaling 5 gallons. Reached refusal each time due to Cooper marl.
		10:10			-55	47.7	1.4	-46.3	-50.8	4.5	82	
PTFC12-C	10/22/12	10:50	388885.29	2318342.70	-55	46.8	2.7	-44.1	-50.5	6.4	69	2 core samples totaling 5 gallons. Reached refusal each time due to Cooper marl.
		11:00			-55	46.8	2.7	-44.1	-50.5	6.4	77	
PTFC12-D	10/22/12	11:15	386294.19	2317661.87	-55	50.4	2.9	-47.5	-52.5	5.0	82	2 core samples totaling 6 gallons. Reached refusal each time due to Cooper marl.
		11:25			-55	50.4	2.9	-47.5	-52.5	5.0	77	
PTFC12-E	10/22/12	12:05	384168.33	2317587.44	-55	52.0	4.1	-47.9	-53.2	5.3	72	2 core samples totaling 5 gallons. Reached refusal each time due to Cooper marl.
		12:20			-55	52.0	4.1	-47.9	-53.9	6.0	71	
ORDT12-A	10/20/12	9:45	392383.67	2322424.30	-55	46.8	3.8	-43.0	-53.1	10.2	64	2 core samples totaling 8 gallons. Reached refusal each time.
		11:40			-55	46.8	3.8	-43.0	-52.6	9.7	62	
ORDT12-B	10/20/12	13:25	391459.51	2322575.92	-55	34.8	6.2	-28.6	-37.1	8.5	82	2 core samples totaling 10 gallons. Reached refusal each time.
		13:50			-55	34.8	6.2	-28.6	-37.1	8.5	76	
ORDT12-C	10/20/12	14:45	391354.83	2321555.52	-55	42.8	5.2	-37.6	-54.6	17.0	68	2 core samples totaling 13 gallons. Reached refusal each time. One additional sample discarded.
		15:20			-55	42.8	5.2	-37.6	-54.6	17.0	65	
ORDT12-D	10/21/12	8:10	390933.13	2321512.96	-55	28.1	0.8	-27.3	-47.3	20.0	81	2 core samples totaling 20 gallons. Reached refusal each time due to clay.
		8:40			-55	28.1	0.8	-27.3	-47.3	20.0	79	
ORDT12-E	10/21/12	9:45	390501.28	2320523.34	-55	24.7	2.6	-22.1	-42.1	20.0	92	2 core samples totaling 24 gallons. Reached or approached refusal each time due to clay. Not possible to reach project depth due to water depth and sediment type.
		10:20			-55	24.7	2.6	-22.1	-42.1	20.0	83	
BENW12-A	11/16/12	9:15	346781.49	2334292.12	-59	55.5	7.6	-47.9	-49.9	2.0	88	3 core samples totaling 7 gallons. Reached refusal each time due to Cooper marl.
		9:45			-59	55.5	7.6	-47.9	-51.2	3.3	98	
		10:30			-59	55.5	7.6	-47.9	-51.7	3.8	91	
BENW12-B	11/14/12	15:20	345536.54	2336864.49	-59	48.1	0.8	-47.3	-49.4	2.1	100	2 core samples totaling 4 gallons. Reached refusal each time due to Cooper marl.
		15:45			-59	48.1	0.8	-47.3	-49.4	2.1	100	
BENW12-C	11/14/12	10:15	346063.64	2337275.95	-59	51.2	6.2	-45.0	-48.8	3.8	91	1 core sample totaling 3.5 gallons. Reached refusal due to Cooper marl.
BENW12-D	11/14/12	9:30	345131.59	2339164.84	-59	55.2	6.9	-48.3	-59.1	10.8	70	1 core sample totaling 6 gallons. Overpenetrated 1.6 feet and lost 1.5 feet of sample.
BENW12-E	11/14/12	8:00	343936.55	2340043.05	-59	54.0	7.8	-46.2	-56.3	10.1	62	1 core sample totaling 4.5 gallons. Reached refusal.
BENW12-F	11/14/12	9:05	343387.60	2342367.85	-59	49.1	7.4	-41.7	-52.0	10.3	84	1 core sample totaling 5.5 gallons. Reached refusal.

TABLE 1 (*continued*)
Vibracore Sample Summary

Subsample ID	Date	Time	Northing[1] (feet, NAD 83)	Easting[1] (feet, NAD 83)	Target Depth (feet, MLLW)	Metrics Per Core Sample						Notes
						Water Depth (feet)	Water Surface Elevation[2] (feet, MLLW)	Top of Core Elevation[3] (feet, MLLW)	Effective Bottom of Core Elevation (feet, MLLW)	Effective Penetration Length per Core (feet)	Effective Recovery Length per Core[4] (%)	
HGIW12-A	11/17/12	12:10	356365.11	2333835.38	-59	53.5	7.2	-46.3	-58.5	12.2	89	1 core sample totaling 6 gallons. Reached refusal.
HGIW12-B	11/17/12	12:30	355184.40	2333666.79	-59	44.8	6.7	-38.1	-50.6	12.5	91	1 core sample totaling 7 gallons. Reached refusal due to clay.
HGIW12-C	11/16/12	11:55	353888.81	2333425.80	-59	41.7	5.9	-35.8	-47.0	11.3	84	1 core sample totaling 8 gallons. Reached refusal.
HGIW12-D	11/16/12	11:25	352541.92	2333192.52	-59	39.1	6.7	-32.4	-43.9	11.5	99	1 core sample totaling 8 gallons. Reached refusal due to Cooper marl.
HGIW12-E	11/17/12	14:00	349567.42	2332256.75	-59	58.8	6.0	-52.8	-59.0	6.2	97	1 core sample totaling 4 gallons. Reached project depth.
WRTB12-A	11/7/12	12:25	367268.20	2339524.92	-59	35.8	5.6	-30.3	-41.1	10.8	93	1 core totaling 7.5 gallons. Reached refusal due to Cooper marl.
WRTB12-B	11/7/12	13:30	367238.66	2339954.66	-59	32.0	5.8	-26.2	-36.4	10.2	98	1 core totaling 9 gallons. Reached refusal due to Cooper marl. First two attempts encountered refusal at surface and sample material was discarded. Moved 20 ft from original station to obtain sample.
WRTB12-C	11/7/12	14:20	366626.31	2339330.84	-59	38.2	5.8	-32.4	-42.8	10.4	96	1 core totaling 9 gallons. Reached refusal. No Cooper marl encountered.
WRTB12-D	11/7/12	15:15	365603.01	2338583.73	-59	26.5	5.5	-21.0	-41.0	20.0	80	1 core totaling 12 gallons. Reached maximum length of 20-foot core barrel.
WRTB12-E	11/7/12	16:00	364328.61	2338725.46	-59	37.1	5.1	-32.0	-40.5	8.5	76	1 core totaling 5 gallons. Reached refusal.
DANW12-A	10/26/12	13:30	368678.15	2329629.58	-59	21.0	1.8	-19.2	-22.0	2.8	77	3 core samples totaling 5 gallons. Reached refusal each time. Relocated station 40 ft closer to channel (west) compared to 10/25/12 attempt. Discarded one additional sample due to unsatisfactory recovery.
		13:50			-59	21.0	1.8	-19.2	-22.0	2.8	91	
		14:15			-59	21.0	1.8	-19.2	-22.0	2.8	91	
DANW12-B	10/25/12	16:40	367800.14	2329508.98	-59	47.0	5.6	-41.4	-49.2	7.8	66	3 core samples totaling 18 gallons. Reached refusal each time. Station on steep slope. Bottom depth changes rapidy, making depth measurements difficult.
		17:10			-59	47.0	5.6	-41.4	-49.5	8.1	96	
		17:30			-59	47.0	5.6	-41.4	-50.6	9.2	96	
DANW12-C	10/26/12	14:50	367068.89	2329578.08	-59	21.2	3.0	-18.2	-27.4	9.3	93	3 core samples totaling 18 gallons. Reached refusal each time. Relocated station to -17 ft bottom elevation to sample interval below Station DANW12A and above Station DANW12B.
		15:00			-59	21.2	3.0	-18.2	-27.5	9.3	92	
		15:15			-59	21.2	3.0	-18.2	-27.5	9.3	91	
WLRW12-A	11/5/12	13:05	363322.56	2338321.90	-59	49.8	5.7	-44.1	-48.1	4.0	100	1 core sample collected, totaling 3 gallons. Reached refusal.
WLRW12-B	11/5/12	12:30	362572.09	2337608.40	-59	46.8	6.0	-40.8	-52.0	11.2	81	1 core sample collected, totaling 7 gallons. Reached refusal.
WLRW12-C	11/5/12	11:45	361231.65	2336405.53	-59	45.3	5.90	-39.4	-52.5	13.1	96	1 core sample collected, totaling 8.5 gallons. Reached refusal.
WLRW12-D	11/5/12	11:05	360205.80	2335403.03	-59	47.5	5.73	-41.8	-51.9	10.1	83	1 core sample collected, totaling 5 gallons. Reached refusal.
WLRW12-E	11/5/12	10:15	359253.05	2334339.42	-59	49.6	5.20	-44.4	-55.1	10.7	78	1 core sample collected, totaling 6 gallons. Reached refusal.
NCW12-A	11/1/12	7:43	388082.00	2318603.37	-55	51.3	4.41	-46.8	-50.0	3.2	84	3 core samples totaling 4.5 gallons. Station located west side of red buoy marker 58. Reached refusal each time. Hit refusal at sediment surface during one attempt and sample discarded and re-collected.
		8:15			-55	51.3	4.41	-46.8	-50.1	3.3	79	
		8:24			-55	51.3	4.41	-46.8	-49.9	3.1	79	

TABLE 1 (*continued*)
Vibracore Sample Summary

Subsample ID	Date	Time	Northing[1] (feet, NAD 83)	Easting[1] (feet, NAD 83)	Target Depth (feet, MLLW)	Metrics Per Core Sample						Notes
						Water Depth (feet)	Water Surface Elevation[2] (feet, MLLW)	Top of Core Elevation[3] (feet, MLLW)	Effective Bottom of Core Elevation (feet, MLLW)	Effective Penetration Length per Core (feet)	Effective Recovery Length per Core[4] (%)	
NCW12-B	11/1/12	10:00	386142.78	2318129.41	-55	48.3	5.65	-42.7	-46.0	3.3	77	3 core samples totaling 5 gallons. Reached refusal each time.
		10:15			-55	48.3	5.65	-42.7	-47.6	4.9	80	
		10:43			-55	48.3	5.65	-42.7	-46.9	4.2	62	
NCW12-C	11/1/12	11:47	384016.56	2317694.03	-55	43.3	5.32	-38.0	-46.8	8.8	58	3 core samples totaling 12 gallons. Reached refusal each time.
		11:58			-55	43.3	5.32	-38.0	-47.3	9.3	60	
		12:17			-55	43.3	5.32	-38.0	-47.5	9.5	71	
NCW12-D	10/31/12	11:49	381927.76	2317636.90	-55	49.5	5.12	-44.4	-46.5	2.1	88	3 core samples totaling 4.5 gallons. Reached refusal each time.
		12:09			-55	49.5	5.12	-44.4	-46.6	2.3	92	
		12:19			-55	49.5	5.12	-44.4	-46.7	2.3	93	
NCW12-E	10/31/12	9:52	379920.94	2318090.86	-55	47.5	6.01	-41.5	-44.0	2.5	80	3 core samples totaling 6.5 gallons. Reached refusal each time.
		10:18			-55	47.5	6.01	-41.5	-44.2	2.7	94	
		10:46			-55	47.5	6.01	-41.5	-44.5	3.0	97	
ABMA12-A	11/3/12	13:03	342716.79	2341625.01	-42	36.6	5.4	-31.2	-42.0	10.8	95	1 core sample collected, totaling 7 gallons.
ABMA12-B	11/3/12	12:22	340816.36	2341685.94	-42	32.6	5.72	-26.9	-42.0	15.2	86	1 core sample collected, totaling 8 gallons.
ABMA12-C	11/3/12	13:40	340928.34	2343095.17	-42	37.1	4.88	-32.2	-42.0	9.8	89	1 core sample collected, totaling 6 gallons.
ABMA12-D	11/4/12	10:10	339944.45	2344444.24	-42	42.0	5.33	-36.7	-42.0	5.3	92	1 core sample collected, totaling 3.5 gallons.
ABMA12-E	11/4/12	11:00	339503.88	2343009.55	-42	39.8	5.54	-34.2	-42.0	7.8	94	1 core sample collected, totaling 5 gallons.
SHCR12-A	11/14/12	11:30	350786.13	2343627.28	-17	15.7	3.9	-11.8	-17.0	5.2	87	2 core samples totaling 6.5 gallons.
		11:40			-17	15.7	3.9	-11.8	-16.9	5.2	98	
SHCR12-B	11/14/12	12:10	348654.08	2342092.62	-17	11.5	2.9	-8.6	-17.0	8.4	67	2 core samples totaling 7 gallons. Lost 2 inches from bottom of second core sample.
		12:25			-17	11.5	2.9	-8.6	-16.9	8.3	69	
SHCR12-C	11/14/12	13:00	348132.50	2343387.24	-17	7.6	1.5	-6.1	-17.0	10.9	75	2 core samples totaling 10 gallons.
		13:20			-17	7.6	1.5	-6.1	-17.0	10.9	92	
SHCR12-D	11/14/12	13:45	347604.21	2344676.68	-17	12.8	0.2	-12.6	-17.0	4.4	70	2 core samples totaling 4 gallons.
		13:50			-17	12.8	0.2	-12.6	-17.0	4.4	70	
SHCR12-E	11/14/12	14:15	342924.88	2346766.70	-17	8.3	0.7	-7.6	-17.0	9.3	77	2 core samples totaling 8 gallons.
		14:30			-17	8.3	0.7	-7.6	-17.0	9.3	65	

[1] Datum NAD 83, South Carolina State Plane (feet).
[2] Water surface elevation is based on real-time tide height data at MLLW from NOAA Station ID 8665530 at Charleston, South Carolina.
[3] Calculated by added recorded water depth (- feet) to real-time tide height data at MLLW from NOAA Station ID 8665530.
[4] Effective recovery length excludes length of material lost or intentionally discarded from below project depth.
[5] Project depths were recorded incorrectly on the field sheets. The project depth at these stations is -59 ft, not -61 ft. See Section 4 for an explanation.

Source: ANAMAR Environmental Consulting, Inc. and Athena Technologies, Inc.

TABLE 2
Reference Sample Summary

Subsample ID:	Reference				
	RS-CH-A-A	**RS-CH-A-B**	**RS-CH-A-C**	**RS-CH-A-D**	**RS-CH-A-E**
Date	11/10/12	11/10/12	11/10/12	11/10/12	11/10/12
Sampling Start/End Times (EST)	13:15–13:45	13:50–14:10	14:15–14:35	14:35–14:55	15:10–15:30
Depth of Water (feet)	42.0	43.2	43.7	43.2	43.0
Easting[1]	2403586.79	2404556.53	2403233.23	2403653.61	2404542.39
Northing[1]	326425.77	326240.79	325845.85	325087.17	325234.40
Sampling Method	Mod. Petersen grab	Mod. Petersen and Ponar	Mod. Petersen grab	Mod. Petersen grab	Mod. Petersen grab
Sampling Depth	Surface of sediment	Surface of sediment	Surface of sediment	Surface of sediment	Surface of sediment
Field Description of Sample	Fine sand with shell fragments, olive gray and light gray. No live organisms, odor, or organic debris observed.	Fine to medium sand with shell fragments, olive gray and light gray. Live sea biscuit and worms observed.	Fine sand with silt clumps and shell fragments, olive gray layer and light gray with dark gray streaks. Live worms observed.	Fine to medium sand with silt clumps and shell fragments, olive gray and light gray. Live brittlestars and tube worms observed.	Fine to medium sand with shell fragments, olive gray and light gray. Live worms observed.
Weather/Tidal Cycle	Clear skies, northwest winds at 5–10 knots, mid-rising tide, 1–2 ft waves	Clear skies, northwest winds at 5–10 knots, mid-falling tide, 1–2 ft waves	Clear skies, northwest winds at 0–5 knots, high rising tide, 1–2 ft waves	Clear skies, northwest winds at 5–10 knots, high rising tide, 1–2 ft waves	Clear skies, northwest winds at 5–10 knots, high rising tide, 1–2 ft waves
General Conditions and Observations	Collected 14 gallons of sediment using a total of 5 grab attempts.	Collected over 12 gallons of sediment using a total of 6 grab attempts.	Collected 14 gallons of sediment using a total of 6 grab attempts.	Collected 12 gallons of sediment using a total of 5 grab attempts.	Collected 12 gallons of sediment using a total of 6 grab attempts.

[1] Datum NAD 83, South Carolina State Plane (feet).

Source: ANAMAR Environmental Consulting, Inc.

TABLE 3
Site Water Sample Summary and Water Column Measurements

Station ID:	UHSW12			LHSW12-1			LHSW12-2			ECSW12			ODMDS SW12		
Date	10/28/2012			11/9/2012			11/19/2012			11/9/2012			11/13/2012		
Sampling Start/End Times (EST)	14:06–15:05			12:10–13:40			16:40–17:15			16:00–16:44			15:00–15:30		
Water Depth (feet)	50.5			52.0			53.5			58.7			36.0		
Easting[1]	2324087.81			2337170.48			2337234.04			2361315.41			2383076.59		
Northing[1]	373508.16			345750.17			345828.40			328296.70			301485.15		
Sampling Method	Pneumatic pump			Pneumatic pump			Pneumatic pump			Pneumatic pump			Direct grab		
Sampling Depth	3 feet above sediment surface			3 feet above sediment surface			3 feet above sediment surface			3 feet above sediment surface			3 feet below water surface		
Time of Measurement (EST)	14:10	14:08	14:06	12:15	12:18	12:22	16:45	16:48	16:50	16:05	16:08	16:10	15:10	15:13	15:15
Depth of Measurement (feet)	3	25	47	3	25	50	3	25	49	3	27	55	3	18	33
Water Temperature (°C)	20.99	21.09	21.27	15.89	15.26	15.34	13.48	13.47	13.57	16.21	15.92	15.85	17.34	16.99	17.00
pH (SU)	7.03	6.76	6.39	5.49	6.03	6.58	7.01	7.91	6.91	5.01	5.42	5.80	5.37	5.96	6.37
Salinity (ppt)	21.56	23.60	28.35	27.39	29.26	30.45	28.31	28.45	28.71	34.05	34.17	34.12	33.77	35.60	35.57
Conductivity (mS/cm)	34.13	37.37	43.91	42.52	45.10	46.62	43.89	43.94	44.5	51.70	51.84	51.78	51.68	53.75	53.69
Dissolved O_2 (mg/L)	7.39	6.60	6.45	8.83	8.72	8.34	--	--	--	9.81	7.77	7.59	9.87	7.53	7.36
Dissolved O_2 (%)	95.6	86.0	86.4	107.9	104.2	101.0	--	--	--	119.7	97.7	95.5	110.1	96.8	94.4
Turbidity (NTU)	5.67	--	--	2.97	--	--	10.4	--	--	2.61	--	--	3.74	--	--
Weather/Tidal Cycle	Partly cloudy skies, north winds at >15 knots, mid-falling tide, 1–2 ft waves			Clear skies, southwest winds at 0–5 knots, mid-rising tide, 1–2 ft waves			Cloudy skies, north winds at 10–15 knots, mid-rising tide, calm waves			Clear skies, southwest winds at 5–10 knots, high falling tide, 1–2 ft waves			Cloudy skies with rain, southeast winds at 5–10 knots, low rising tide, 4–5 ft waves		
General Conditions and Observations	Collected 75 gallons of water and a water chemistry kit. Water had a yellow tint.			Collected 105 gallons of water and a water chemistry kit. Water was light tan in color.			This is the second collection at this station (first sample exceeded holding time). Collected 55 gallons of water. Water was light brown in color. Dissolved oxygen readings not recorded due to high saturation readings.			Collected 35 gallons of water and a water chemistry kit. No suspended material, odor, or color was observed.			Collected a water chemistry kit. No suspended material, odor, or color was observed.		

[1] Datum NAD 83, South Carolina State Plane (feet). Locations for LHSW12-1 and ODMDS SW12 were converted from latitude/longitude using the webpage www.earthpoint.us/StatePlain.aspx

-- = Dissolved oxygen readings not recorded due to sensor malfunction.

Source: ANAMAR Environmental Consulting, Inc.

TABLE 4
Results of Physical Analyses for Sediment Subsamples

Analyte		REFERENCE					UPPER HARBOR AND WIDENERS				
		RS-CH-A-A	RS-CH-A-B	RS-CH-A-C	RS-CH-A-D	RS-CH-A-E	DANI12-A	DANI12-B	DANI12-C	DANI12-D	DANI12-E
Sediment Description		SAND, poorly graded with clay, mostly fine grained sand-sized quartz, few clay, trace silt, light brown	SAND, poorly graded with clay, mostly fine grained sand-sized quartz, few clay, trace silt, light brown	SAND, poorly graded with clay, mostly fine grained sand-sized quartz, few clay, trace silt, light brown	SAND, poorly graded with clay, mostly fine sand-sized quartz, few clay, few medium to fine grained sand-sized shell, trace silt, light brown	SAND, poorly graded with clay, mostly fine grained sand-sized quartz, few clay, few medium to fine grained sand-sized shell, trace silt, light brown	SILT, elastic, some clay, little fine grained sand-sized quartz, light brown	CLAY, some fine grained sand-sized quartz, little silt, light brown	SAND, clayey, mostly fine grained sand-sized quartz, some clay, little silt, gray	CLAY, some silt, little fine grained sand-sized quartz, gray	CLAY, some fine grained sand-sized quartz, little silt, light brown
% Gravel		0.0	0.0	0.0	0.2	0.6	2.2	0.0	0.0	0.0	0.0
% Sand - Coarse		0.1	0.0	0.1	0.8	0.7	0.4	1.4	0.1	0.1	0.7
% Sand - Medium		2.8	2.0	1.8	7.9	7.9	1.0	3.7	1.3	0.7	1.1
% Sand - Fine		90.4	91.9	90.4	84.9	85.4	24.9	39.6	54.2	22.1	34.7
% Sand - Total		93.3	93.9	92.3	93.6	94.0	26.3	44.7	55.6	22.9	36.5
% Silt		2.1	1.9	3.1	1.9	1.2	39.7	20.1	16.9	36.1	24.0
% Clay		4.6	4.2	4.6	4.3	4.2	31.8	35.2	27.5	41.0	39.5
% Solids		77.8	67.0	73.4	77.5	78.2	63.4	61.5	61.8	55.4	61.9
% Moisture (wet)		22.2	33.0	26.6	22.5	21.8	36.6	38.5	38.2	44.6	38.1
USCS Classification		SP-SC	SP-SC	SP-SC	SP-SC	SP-SC	MH	CH	SC	CH	CH
Specific Gravity		2.682	2.678	2.700	2.693	2.755	2.603	2.556	2.531	2.582	2.753
Sieve Size	**% Finer**	**RS-CH-A-A**	**RS-CH-A-B**	**RS-CH-A-C**	**RS-CH-A-D**	**RS-CH-A-E**	**DANI12-A**	**DANI12-B**	**DANI12-C**	**DANI12-D**	**DANI12-E**
3/4"	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1/2"	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
3/8"	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
#4	%	100.0	100.0	100.0	99.8	99.4	97.8	100.0	100.0	100.0	100.0
#10	%	99.9	100.0	99.9	99.0	98.7	97.4	98.6	99.9	99.9	99.3
#20	%	99.1	99.4	99.5	95.7	96.0	96.9	97.2	99.6	99.7	98.9
#40	%	97.1	98.0	98.1	91.1	90.8	96.4	94.9	98.6	99.2	98.2
#60	%	84.6	90.2	92.2	83.5	80.4	95.3	92.1	90.7	98.0	95.9
#100	%	19.7	18.8	32.8	22.2	23.5	91.9	76.3	71.0	91.7	87.6
#200	%	6.7	6.1	7.7	6.2	5.4	71.5	55.3	44.4	77.1	63.5
Hydrometer Readings (% less than the following sizes)		5.7 @ 0.0510 mm	5.5 @ 0.0510 mm	6.4 @ 0.0508 mm	5.8 @ 0.0508 mm	4.9 @ 0.0511 mm	46.6 @ 0.0435 mm	50.6 @ 0.0447 mm	41.3 @ 0.0466 mm	59.9 @ 0.0444 mm	59.0 @ 0.0421 mm
		5.3 @ 0.0362 mm	5.1 @ 0.0361 mm	5.9 @ 0.0360 mm	5.4 @ 0.0360 mm	4.5 @ 0.0362 mm	41.6 @ 0.0316 mm	45.8 @ 0.0324 mm	39.0 @ 0.0333 mm	56.1 @ 0.0318 mm	53.3 @ 0.0305 mm
		5.3 @ 0.0229 mm	5.1 @ 0.0229 mm	5.5 @ 0.0229 mm	5.4 @ 0.0228 mm	4.5 @ 0.0229 mm	39.6 @ 0.0202 mm	43.4 @ 0.0207 mm	36.0 @ 0.0214 mm	52.2 @ 0.0204 mm	49.6 @ 0.0196 mm
		5.3 @ 0.0132 mm	5.1 @ 0.0132 mm	5.5 @ 0.0132 mm	5.4 @ 0.0132 mm	4.5 @ 0.0132 mm	37.4 @ 0.0118 mm	41.0 @ 0.0121 mm	32.9 @ 0.0125 mm	50.4 @ 0.0119 mm	45.9 @ 0.0114 mm
		5.3 @ 0.0093 mm	4.7 @ 0.0093 mm	5.5 @ 0.0093 mm	5.0 @ 0.0093 mm	4.5 @ 0.0093 mm	34.7 @ 0.0084 mm	38.7 @ 0.0086 mm	31.5 @ 0.0089 mm	44.9 @ 0.0085 mm	43.2 @ 0.0082 mm
		4.9 @ 0.0066 mm	4.2 @ 0.0066 mm	4.6 @ 0.0066 mm	4.5 @ 0.0066 mm	4.2 @ 0.0066 mm	32.7 @ 0.0060 mm	36.5 @ 0.0061 mm	28.6 @ 0.0063 mm	42.2 @ 0.0061 mm	40.6 @ 0.0058 mm
		4.5 @ 0.0030 mm	4.3 @ 0.0030 mm	4.6 @ 0.0030 mm	4.2 @ 0.0030 mm	4.2 @ 0.0030 mm	29.0 @ 0.0030 mm	32.2 @ 0.0031 mm	26.9 @ 0.0032 mm	37.3 @ 0.0031 mm	35.8 @ 0.0029 mm
		4.1 @ 0.0014 mm	4.0 @ 0.0014 mm	4.3 @ 0.0014 mm	3.8 @ 0.0014 mm	3.9 @ 0.0014 mm	25.2 @ 0.0013 mm	27.0 @ 0.0013 mm	23.5 @ 0.0013 mm	31.1 @ 0.0013 mm	29.6 @ 0.0012 mm
		–	–	–	–	–	–	–	–	–	–

TABLE 4 *(continued)*
Results of Physical Analyses for Sediment Subsamples

Analyte		UPPER HARBOR AND WIDENERS							
		DANW12-A	**DANW12-B**	**DANW12-C**	**NYNC12-A**	**NYNC12-B**	**NYNC12-C**	**NYNC12-D**	**NYNC12-E**
Sediment Description		SAND, clayey, mostly fine grained sand-sized quartz, little clay, little silt, greenish brown	CLAY, little silt, little fine grained sand-sized quartz, greenish gray	CLAY, little fine grained sand-sized quartz, little silt, gray	CLAY, some silt, little fine grained sand-sized quartz, greenish gray	CLAY, some silt, little fine grained sand-sized quartz, greenish brown	CLAY, some silt, some fine grained sand-sized quartz, greenish brown and gray	CLAY, some fine grained sand-sized quartz, little silt, gray	SILT, some fine grained sand-sized quartz, little clay, greenish brown
% Gravel		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Sand - Coarse		0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
% Sand - Medium		2.3	0.4	0.4	1.3	1.8	1.9	3.5	5.5
% Sand - Fine		60.7	14.2	17.3	28.2	24.8	30.7	37.9	41.5
% Sand - Total		63.0	14.6	17.7	29.9	26.6	32.6	41.4	47.0
% Silt		15.2	22.0	19.5	31.6	36.1	30.2	24.4	29.3
% Clay		21.8	63.4	62.8	38.5	37.3	37.2	34.2	23.7
% Solids		75.1	51.2	50.8	57.1	57.1	57.3	64.1	69.8
% Moisture (wet)		24.9	48.8	49.2	42.9	42.9	42.7	35.9	30.2
USCS Classification		SC	CH	CH	CH	CH	CH	CH	MH
Specific Gravity		2.635	2.657	2.641	2.671	2.663	2.678	2.680	2.722
Sieve Size	**% Finer**	**DANW12-A**	**DANW12-B**	**DANW12-C**	**NYNC12-A**	**NYNC12-B**	**NYNC12-C**	**NYNC12-D**	**NYNC12-E**
3/4"	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1/2"	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
3/8"	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
#4	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
#10	%	100.0	100.0	100.0	99.6	100.0	100.0	100.0	100.0
#20	%	98.9	99.8	99.8	99.2	99.3	99.4	99.4	98.4
#40	%	97.7	99.6	99.6	98.3	98.2	98.1	96.5	94.5
#60	%	95.7	99.3	98.6	96.1	95.8	95.4	91.1	88.9
#100	%	83.5	96.1	97.4	89.9	90.6	88.5	71.0	74.2
#200	%	37.0	85.4	82.3	70.1	73.4	67.4	58.6	53.0
Hydrometer Readings (% less than the following sizes)		36.3 @ 0.0434 mm	79.8 @ 0.0288 mm	81.8 @ 0.0290 mm	57.1 @ 0.0363 mm	58.4 @ 0.0362 mm	55.3 @ 0.0369 mm	53.9 @ 0.0373 mm	49.7 @ 0.0375 mm
		34.1 @ 0.0312 mm	78.6 @ 0.0208 mm	80.6 @ 0.0209 mm	51.3 @ 0.0270 mm	56.0 @ 0.0262 mm	51.9 @ 0.0269 mm	51.6 @ 0.0269 mm	47.5 @ 0.0270 mm
		31.8 @ 0.0200 mm	75.1 @ 0.0138 mm	78.1 @ 0.0136 mm	49.6 @ 0.0173 mm	50.2 @ 0.0174 mm	47.2 @ 0.0176 mm	45.8 @ 0.0178 mm	41.9 @ 0.0179 mm
		27.9 @ 0.0119 mm	70.3 @ 0.0084 mm	70.3 @ 0.0086 mm	45.0 @ 0.0104 mm	45.5 @ 0.0104 mm	44.6 @ 0.0104 mm	41.2 @ 0.0107 mm	35.3 @ 0.0108 mm
		24.6 @ 0.0085 mm	65.6 @ 0.0063 mm	66.0 @ 0.0064 mm	42.7 @ 0.0075 mm	42.0 @ 0.0075 mm	41.4 @ 0.0075 mm	37.8 @ 0.0077 mm	30.3 @ 0.0079 mm
		22.3 @ 0.0055 mm	62.1 @ 0.0041 mm	61.2 @ 0.0042 mm	39.4 @ 0.0054 mm	38.6 @ 0.0054 mm	38.0 @ 0.0054 mm	34.9 @ 0.0056 mm	25.3 @ 0.0058 mm
		18.1 @ 0.0031 mm	57.5 @ 0.0023 mm	57.7 @ 0.0024 mm	31.3 @ 0.0026 mm	23.8 @ 0.0025 mm	31.7 @ 0.0026 mm	31.0 @ 0.0026 mm	19.9 @ 0.0028 mm
		13.6 @ 0.0013 mm	52.3 @ 0.0010 mm	36.5 @ 0.0012 mm	19.7 @ 0.0012 mm	23.3 @ 0.0012 mm	20.6 @ 0.0012 mm	26.4 @ 0.0012 mm	16.5 @ 0.0012 mm
		–	–	–	–	–	–	–	–

TABLE 4 *(continued)*
Results of Physical Analyses for Sediment Subsamples

Analyte		UPPER HARBOR AND WIDENERS									
		NCW12-A	**NCW12-B**	**NCW12-C**	**NCW12-D**	**NCW12-E**	**CCRK12-A**	**CCRK12-B**	**CCRK12-C**	**CCRK12-D**	**CCRK12-E**
Sediment Description		SAND, clayey, some fine sand-sized quartz, some clay, little silt, gray	CLAY, some silt, little fine grained sand-sized quartz, gray	CLAY, some fine sand-sized quartz, some silt, gray	SAND, clayey, mostly fine grained sand-sized quartz, little clay, little silt, gray	CLAY, some fine grained sand-sized quartz, some silt, gray	SAND, mostly fine grained sand-sized quartz, little clay, little silt, gray	SAND, mostly fine grained sand-sized quartz, little clay, little silt, greenish gray	SAND, clayey, mostly fine to medium grained sand-sized quartz, little clay, little silt, greenish gray	CLAY, some fine grained sand-sized quartz, little silt, greenish gray	CLAY, little fine grained sand-sized quartz, little silt, greenish gray
% Gravel		0.7	0.1	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0
% Sand - Coarse		0.4	0.2	0.0	0.2	0.1	0.0	0.0	3.6	0.0	0.0
% Sand - Medium		3.8	1.6	1.7	2.3	1.3	1.7	8.7	27.1	1.6	1.1
% Sand - Fine		49.9	25.0	37.7	58.1	37.1	59.7	54.4	29.9	33.7	27.5
% Sand - Total		54.1	26.8	39.4	60.6	38.5	61.4	63.1	60.6	35.3	28.6
% Silt		17.3	36.0	28.1	17.7	29.9	12.3	13.8	14.1	25.3	28.7
% Clay		27.9	37.1	32.5	21.7	31.6	26.3	23.1	24.6	39.4	42.7
% Solids		66.1	59.5	53.8	61.9	66.7	59.1	66.5	63.4	59.0	59.6
% Moisture (wet)		33.9	40.5	46.2	38.1	33.3	40.9	33.5	36.6	41.0	40.4
USCS Classification		SC	CH	CH	SC	CH	SC	SC	SC	CH	CH
Specific Gravity		2.619	2.610	2.557	2.694	2.654	2.668	2.689	2.652	2.634	2.611
Sieve Size	**% Finer**	**NCW12-A**	**NCW12-B**	**NCW12-C**	**NCW12-D**	**NCW12-E**	**CCRK12-A**	**CCRK12-B**	**CCRK12-C**	**CCRK12-D**	**CCRK12-E**
3/4"	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1/2"	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
3/8"	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
#4	%	99.3	99.9	100.0	100.0	100.0	100.0	100.0	99.3	100.0	100.0
#10	%	98.9	99.7	100.0	99.8	99.9	100.0	100.0	95.7	100.0	100.0
#20	%	97.7	99.3	99.6	99.4	99.5	99.5	97.7	88.5	99.6	99.6
#40	%	95.1	98.1	98.3	97.5	98.6	98.3	91.3	68.6	98.4	98.9
#60	%	86.4	95.1	95.3	91.6	95.1	94.4	81.3	60.7	95.5	97.1
#100	%	69.5	87.2	83.7	72.3	75.5	55.0	51.0	51.5	84.2	88.9
#200	%	45.2	73.1	60.6	39.4	61.5	38.6	36.9	38.7	64.7	71.4
Hydrometer Readings (% less than the following sizes)		41.2 @ 0.0460 mm	63.7 @ 0.0520 mm	57.0 @ 0.0445 mm	36.7 @ 0.0437 mm	51.1 @ 0.0407 mm	37.9 @ 0.0423 mm	35.3 @ 0.0425 mm	37.3 @ 0.0424 mm	57.4 @ 0.0368 mm	59.3 @ 0.0363 mm
		40.4 @ 0.0326 mm	55.6 @ 0.0379 mm	51.6 @ 0.0322 mm	32.9 @ 0.0315 mm	48.5 @ 0.0293 mm	36.8 @ 0.0301 mm	32.0 @ 0.0307 mm	35.7 @ 0.0303 mm	52.8 @ 0.0271 mm	55.8 @ 0.0264 mm
		38.8 @ 0.0207 mm	51.5 @ 0.0243 mm	45.2 @ 0.0209 mm	31.6 @ 0.0201 mm	45.2 @ 0.0189 mm	34.5 @ 0.0193 mm	29.7 @ 0.0197 mm	34.1 @ 0.0194 mm	49.4 @ 0.0177 mm	51.8 @ 0.0173 mm
		35.5 @ 0.0121 mm	47.4 @ 0.0142 mm	42.6 @ 0.0122 mm	29.6 @ 0.0117 mm	40.6 @ 0.0112 mm	31.7 @ 0.0114 mm	28.1 @ 0.0115 mm	30.3 @ 0.0115 mm	45.4 @ 0.0105 mm	48.8 @ 0.0102 mm
		31.5 @ 0.0087 mm	42.6 @ 0.0102 mm	37.2 @ 0.0088 mm	27.2 @ 0.0084 mm	35.3 @ 0.0082 mm	29.4 @ 0.0081 mm	27.0 @ 0.0082 mm	29.3 @ 0.0082 mm	43.7 @ 0.0075 mm	44.8 @ 0.0075 mm
		29.2 @ 0.0062 mm	39.8 @ 0.0073 mm	33.9 @ 0.0063 mm	23.3 @ 0.0060 mm	32.7 @ 0.0058 mm	27.2 @ 0.0058 mm	24.3 @ 0.0059 mm	26.1 @ 0.0059 mm	39.2 @ 0.0049 mm	42.5 @ 0.0046 mm
		24.9 @ 0.0031 mm	34.5 @ 0.0036 mm	29.9 @ 0.0031 mm	19.6 @ 0.0030 mm	26.9 @ 0.0029 mm	23.8 @ 0.0028 mm	20.4 @ 0.0028 mm	20.8 @ 0.0028 mm	33.6 @ 0.0028 mm	39.6 @ 0.0027 mm
		21.5 @ 0.0013 mm	28.2 @ 0.0015 mm	25.4 @ 0.0013 mm	14.6 @ 0.0013 mm	21.7 @ 0.0013 mm	19.7 @ 0.0012 mm	15.9 @ 0.0013 mm	17.2 @ 0.0013 mm	28.0 @ 0.0012 mm	32.9 @ 0.0012 mm
		–	–	–	–	–	–	–	–	–	–

TABLE 4 *(continued)*
Results of Physical Analyses for Sediment Subsamples

Analyte		UPPER HARBOR AND WIDENERS									
		PTFC12-A	**PTFC12-B**	**PTFC12-C**	**PTFC12-D**	**PTFC12-E**	**ORDT12-A**	**ORDT12-B**	**ORDT12-C**	**ORDT12-D**	**ORDT12-E**
Sediment Description		CLAY, some fine grained sand-sized quartz, little silt, dark gray	CLAY, some fine grained sand-sized quartz, little silt, grayish brown	CLAY, little fine grained sand-sized quartz, little silt, greenish brown and gray	CLAY, little fine grained sand-sized quartz, little silt, greenish brown	CLAY, some silt, little fine grained sand-sized quartz, greenish brown	CLAY, some silt, few fine grained sand-sized quartz, dark gray	SAND, mostly fine grained sand-sized quartz, little clay, little silt, gray	CLAY, little silt, little fine grained sand-sized quartz, dark gray	SAND, mostly fine grained sand-sized quartz, little clay, few silt, gray	SAND, mostly fine grained sand-sized quartz, little clay, little silt, gray
% Gravel		0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.4	0.0	0.2
% Sand - Coarse		0.0	0.0	0.0	0.0	0.0	0.0	5.5	1.1	0.4	1.2
% Sand - Medium		1.3	1.0	1.0	1.0	1.5	0.5	10.6	1.9	5.2	5.9
% Sand - Fine		31.8	40.0	29.9	24.0	29.4	8.5	40.4	13.0	65.8	51.9
% Sand - Total		33.1	41.0	30.9	25.0	30.9	9.0	56.5	16.0	71.4	59.0
% Silt		20.8	27.2	31.8	21.6	33.3	30.2	10.8	23.4	6.8	12.5
% Clay		46.1	31.8	37.3	53.4	34.8	60.8	29.7	60.2	21.8	28.3
% Solids		54.3	58.6	49.4	57.8	58.6	35.8	59.4	34.1	68.5	61.1
% Moisture (wet)		45.7	41.4	50.6	42.2	41.4	64.2	40.6	65.9	31.5	38.9
USCS Classification		CH	CH	CH	CH	CH	CH	SC	CH	SC	SC
Specific Gravity		2.661	2.653	2.639	2.661	2.648	2.642	2.668	2.607	2.689	2.674
Sieve Size	**% Finer**	**PTFC12-A**	**PTFC12-B**	**PTFC12-C**	**PTFC12-D**	**PTFC12-E**	**ORDT12-A**	**ORDT12-B**	**ORDT12-C**	**ORDT12-D**	**ORDT12-E**
3/4"	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1/2"	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
3/8"	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
#4	%	100.0	100.0	100.0	100.0	100.0	100.0	97.0	99.6	100.0	99.8
#10	%	100.0	100.0	100.0	100.0	100.0	100.0	91.5	98.5	99.6	98.6
#20	%	99.8	99.8	99.8	99.5	99.5	99.7	87.4	97.7	97.8	96.8
#40	%	98.7	99.0	99.0	99.0	98.5	99.5	80.9	96.6	94.4	92.7
#60	%	91.9	95.5	96.8	98.0	96.0	98.7	67.2	93.9	88.8	84.3
#100	%	79.1	84.5	88.8	91.5	88.8	96.8	50.5	87.0	48.0	58.0
#200	%	66.9	59.0	69.1	75.0	69.1	91.0	40.5	83.6	28.6	40.8
Hydrometer Readings (% less than the following sizes)		65.8 @ 0.0352 mm	50.7 @ 0.0382 mm	56.9 @ 0.0365 mm	73.0 @ 0.0312 mm	57.4 @ 0.0365 mm	87.0 @ 0.0365 mm	40.3 @ 0.0402 mm	83.4 @ 0.0358 mm	28.5 @ 0.0443 mm	40.4 @ 0.0410 mm
		62.1 @ 0.0257 mm	48.4 @ 0.0276 mm	54.0 @ 0.0265 mm	70.7 @ 0.0227 mm	52.8 @ 0.0269 mm	83.5 @ 0.0264 mm	40.3 @ 0.0284 mm	81.0 @ 0.0258 mm	27.9 @ 0.0315 mm	39.3 @ 0.0292 mm
		59.1 @ 0.0167 mm	43.3 @ 0.0182 mm	51.2 @ 0.0172 mm	68.4 @ 0.0147 mm	48.3 @ 0.0177 mm	78.3 @ 0.0172 mm	38.2 @ 0.0183 mm	79.5 @ 0.0164 mm	27.4 @ 0.0200 mm	37.6 @ 0.0187 mm
		54.8 @ 0.0100 mm	39.4 @ 0.0108 mm	47.2 @ 0.0103 mm	60.8 @ 0.0092 mm	42.6 @ 0.0107 mm	72.2 @ 0.0103 mm	35.2 @ 0.0108 mm	72.4 @ 0.0100 mm	25.1 @ 0.0117 mm	34.8 @ 0.0110 mm
		50.5 @ 0.0073 mm	36.0 @ 0.0078 mm	42.6 @ 0.0075 mm	56.7 @ 0.0068 mm	39.1 @ 0.0077 mm	66.1 @ 0.0075 mm	32.6 @ 0.0078 mm	66.1 @ 0.0073 mm	23.0 @ 0.0084 mm	32.6 @ 0.0079 mm
		45.1 @ 0.0046 mm	31.6 @ 0.0049 mm	36.9 @ 0.0048 mm	52.2 @ 0.0044 mm	35.8 @ 0.0050 mm	60.0 @ 0.0047 mm	29.5 @ 0.0049 mm	59.1 @ 0.0046 mm	21.9 @ 0.0052 mm	29.3 @ 0.0057 mm
		35.4 @ 0.0028 mm	27.2 @ 0.0029 mm	31.8 @ 0.0028 mm	47.2 @ 0.0025 mm	30.9 @ 0.0028 mm	50.4 @ 0.0028 mm	25.5 @ 0.0028 mm	48.8 @ 0.0028 mm	19.7 @ 0.0030 mm	25.9 @ 0.0027 mm
		15.3 @ 0.0013 mm	19.3 @ 0.0013 mm	17.0 @ 0.0013 mm	34.4 @ 0.0012 mm	20.8 @ 0.0013 mm	29.7 @ 0.0013 mm	17.9 @ 0.0013 mm	31.6 @ 0.0013 mm	10.4 @ 0.0013 mm	20.3 @ 0.0012 mm
		–	–	–	–	–	–	–	–	–	–

Analyte		LOWER HARBOR AND WIDENERS								
		REHR12-A	**REHR12-B**	**REHR12-C**	**REHR12-D**	**REHR12-E**	**REHR12-F**	**BENW12-A**	**BENW12-B**	**BENW12-C**
Sediment Description		CLAY, little silt, little fine grained sand-sized quartz, gray	CLAY, some fine grained sand-sized quartz, little silt, gray	SAND, silty, some medium to mostly fine grained sand-sized quartz, few silt, few clay, gray	SAND, silty, mostly fine grained sand-sized quartz, few silt, few clay, few medium grained sand-sized quartz, gray	SAND, clayey, little medium to mostly fine grained sand-sized quartz, little clay, few silt, gray	SAND, clayey, mostly fine grained sand-sized quartz, little clay, little medium grained sand-sized quartz, few silt, gray	SAND, clayey, some fine grained sand-sized quartz, little clay, little silt, little coarse to fine grained sand-sized shell, brown	SAND, clayey, mostly fine grained sand-sized quartz, little clay, few silt, brown	SAND, clayey, mostly fine grained sand-sized quartz, little silt, few medium to fine grained sand-sized shell, brown
% Gravel		0.0	0.7	0.0	0.7	2.7	2.6	5.0	0.0	2.6
% Sand - Coarse		0.5	0.4	4.2	1.8	1.3	2.6	2.3	0.2	3.9
% Sand - Medium		5.6	3.2	29.4	8.7	21.6	11.5	5.6	2.1	11.7
% Sand - Fine		12.5	33.7	49.3	66.1	42.4	59.0	48.4	59.8	54.2
% Sand - Total		18.6	37.3	82.9	76.6	65.3	73.1	56.3	62.1	69.8
% Silt		24.4	24.3	9.2	11.9	11.1	9.5	14.3	10.4	10.2
% Clay		57.0	37.7	7.9	10.8	20.9	14.8	24.4	27.5	17.4
% Solids		56.1	64.8	81.6	76.8	76.8	75.6	69.9	63.7	72.1
% Moisture (wet)		43.9	35.2	18.4	23.2	23.2	24.4	30.1	36.3	27.9
USCS Classification		CH	CH	SM	SM	SC	SC	SC	SC	SC
Specific Gravity		2.606	2.471	2.660	2.656	2.650	2.634	2.680	2.672	2.673
Sieve Size	**% Finer**	**REHR12-A**	**REHR12-B**	**REHR12-C**	**REHR12-D**	**REHR12-E**	**REHR12-F**	**BENW12-A**	**BENW12-B**	**BENW12-C**
3/4"	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1/2"	%	100.0	100.0	100.0	100.0	100.0	98.8	100.0	100.0	100.0
3/8"	%	100.0	100.0	100.0	100.0	100.0	98.4	97.4	100.0	100.0
#4	%	100.0	99.3	100.0	99.3	97.3	97.4	95.0	100.0	97.4
#10	%	99.5	98.9	95.8	97.5	96.0	94.8	92.7	99.8	93.5
#20	%	97.2	98.0	81.8	94.6	90.4	90.6	89.8	98.9	85.4
#40	%	93.9	95.7	66.4	88.8	74.4	83.3	87.1	97.7	81.8
#60	%	90.4	91.1	52.7	73.9	61.3	70.3	81.9	95.0	65.4
#100	%	85.4	81.1	33.2	32.3	41.0	40.0	64.7	80.3	49.4
#200	%	81.4	62.0	17.1	22.7	32.0	24.3	38.7	37.9	27.6
Hydrometer Readings (% less than the following sizes)		80.5 @ 0.0447 mm	59.9 @ 0.0417 mm	9.8 @ 0.0500 mm	15.4 @ 0.0488 mm	28.6 @ 0.0458 mm	22.4 @ 0.0474 mm	33.5 @ 0.0462 mm	37.2 @ 0.0467 mm	25.1 @ 0.0482 mm
		77.7 @ 0.0318 mm	54.2 @ 0.0306 mm	9.8 @ 0.0354 mm	14.9 @ 0.0346 mm	28.0 @ 0.0325 mm	21.8 @ 0.0337 mm	32.8 @ 0.0328 mm	36.4 @ 0.0331 mm	23.7 @ 0.0343 mm
		75.0 @ 0.0203 mm	45.8 @ 0.0203 mm	9.3 @ 0.0224 mm	14.3 @ 0.0219 mm	26.2 @ 0.0207 mm	19.3 @ 0.0216 mm	30.0 @ 0.0210 mm	32.3 @ 0.0213 mm	20.2 @ 0.0220 mm
		71.0 @ 0.0118 mm	43.7 @ 0.0118 mm	8.2 @ 0.0130 mm	13.2 @ 0.0127 mm	23.8 @ 0.0121 mm	18.2 @ 0.0125 mm	27.9 @ 0.0123 mm	31.5 @ 0.0123 mm	19.5 @ 0.0127 mm
		65.4 @ 0.0085 mm	41.0 @ 0.0085 mm	7.7 @ 0.0092 mm	12.1 @ 0.0091 mm	22.6 @ 0.0086 mm	17.1 @ 0.0089 mm	26.6 @ 0.0087 mm	30.0 @ 0.0087 mm	19.7 @ 0.0090 mm
		60.1 @ 0.0061 mm	38.9 @ 0.0061 mm	8.3 @ 0.0065 mm	11.0 @ 0.0064 mm	21.5 @ 0.0061 mm	15.4 @ 0.0063 mm	25.3 @ 0.0062 mm	28.4 @ 0.0062 mm	18.3 @ 0.0064 mm
		49.3 @ 0.0030 mm	34.2 @ 0.0030 mm	7.4 @ 0.0032 mm	10.6 @ 0.0031 mm	19.4 @ 0.0030 mm	14.4 @ 0.0031 mm	22.3 @ 0.0030 mm	25.6 @ 0.0031 mm	16.0 @ 0.0031 mm
		39.0 @ 0.0013 mm	28.7 @ 0.0013 mm	6.9 @ 0.0013 mm	8.4 @ 0.0013 mm	16.4 @ 0.0013 mm	11.4 @ 0.0013 mm	19.4 @ 0.0013 mm	21.3 @ 0.0013 mm	13.2 @ 0.0013 mm
		–	–	–	–	–	–	–	–	–

TABLE 4 *(continued)*
Results of Physical Analyses for Sediment Subsamples

Analyte		LOWER HARBOR AND WIDENERS							
		BENW12-D	**BENW12-E**	**BENW12-F**	**HGIS12-A**	**HGIS12-B**	**HGIS12-C**	**HGIS12-D**	**HGIS12-E**
Sediment Description		SAND, silty, mostly fine grained sand-sized quartz, little medium to fine grained sand-sized shell, few silt, few clay, brown	CLAY, some fine grained sand-sized quartz, little silt, few medium to fine sand-sized shell, brown	SAND, poorly graded with silt, some medium to fine grained sand-sized quartz, few silt, few clay, few medium to fine grained sand-sized shell, gray	SILT, elastic, some fine grained sand-sized quartz, some clay, trace fine gravel to fine sand-sized shell, gray	SAND, clayey, some fine grained sand-sized quartz, little clay, little silt, few medium to fine sand-sized shell, gray	SAND, clayey, mostly fine grained sand-sized quartz, some clay, little silt, trace medium to fine sand-sized shell, gray	SAND, clayey, mostly fine grained sand-sized quartz, little clay, little silt, trace medium to fine sand-sized shell, gray	SAND, clayey, mostly fine grained sand-sized quartz, little clay, few silt, trace medium to fine sand-sized shell, gray
% Gravel		1.0	0.2	2.5	6.4	0.4	0.7	0.3	1.8
% Sand - Coarse		1.4	1.6	7.6	1.4	1.3	0.1	0.5	1.2
% Sand - Medium		30.1	4.7	37.0	3.5	9.6	1.2	2.4	6.9
% Sand - Fine		56.6	31.0	44.1	35.3	44.2	50.1	57.7	65.9
% Sand - Total		88.1	37.3	88.7	40.2	55.1	51.4	60.6	74.0
% Silt		3.7	19.9	2.4	26.9	17.3	19.0	18.6	10.1
% Clay		7.2	42.6	6.4	26.5	27.2	28.9	20.5	14.1
% Solids		80.6	54.7	81.2	67.0	62.4	66.0	69.8	70.7
% Moisture (wet)		19.4	45.3	18.8	33.0	37.6	34.0	30.2	29.3
USCS Classification		SM	CH	SP-SM	MH	SC	SC	SC	SC
Specific Gravity		2.626	2.640	2.640	2.605	2.615	2.615	2.616	2.625
Sieve Size	**% Finer**	**BENW12-D**	**BENW12-E**	**BENW12-F**	**HGIS12-A**	**HGIS12-B**	**HGIS12-C**	**HGIS12-D**	**HGIS12-E**
3/4"	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1/2"	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
3/8"	%	100.0	100.0	98.9	94.1	100.0	100.0	100.0	100.0
#4	%	99.0	99.8	97.5	93.6	99.6	99.3	99.7	98.2
#10	%	97.6	98.2	89.9	92.2	98.3	99.2	99.2	97.0
#20	%	87.6	95.9	71.4	90.8	94.4	98.8	98.4	94.8
#40	%	67.5	93.5	52.9	88.7	88.7	98.0	96.8	90.1
#60	%	42.2	90.8	37.4	84.6	77.0	95.9	90.1	68.3
#100	%	18.2	76.2	16.3	69.0	57.3	74.6	67.2	41.3
#200	%	10.9	62.5	8.8	53.4	44.5	47.9	39.1	24.2
Hydrometer Readings (% less than the following sizes)		9.2 @ 0.0512 mm	59.5 @ 0.0436 mm	8.0 @ 0.0515 mm	39.2 @ 0.0430 mm	43.6 @ 0.0434 mm	44.6 @ 0.0437 mm	34.0 @ 0.0449 mm	21.5 @ 0.0469 mm
		8.6 @ 0.0363 mm	58.6 @ 0.0310 mm	7.5 @ 0.0364 mm	38.0 @ 0.0306 mm	40.1 @ 0.0313 mm	41.6 @ 0.0314 mm	30.9 @ 0.0323 mm	20.4 @ 0.0334 mm
		8.0 @ 0.0230 mm	52.1 @ 0.0201 mm	6.9 @ 0.0231 mm	35.0 @ 0.0197 mm	36.6 @ 0.0201 mm	38.8 @ 0.0201 mm	28.3 @ 0.0207 mm	18.9 @ 0.0213 mm
		8.1 @ 0.0133 mm	50.2 @ 0.0117 mm	6.9 @ 0.0133 mm	31.9 @ 0.0116 mm	33.9 @ 0.0118 mm	35.1 @ 0.0118 mm	25.8 @ 0.0121 mm	16.8 @ 0.0124 mm
		7.6 @ 0.0094 mm	44.8 @ 0.0084 mm	6.9 @ 0.0094 mm	29.0 @ 0.0083 mm	31.2 @ 0.0084 mm	32.9 @ 0.0084 mm	24.0 @ 0.0086 mm	15.3 @ 0.0089 mm
		7.0 @ 0.0066 mm	43.1 @ 0.0060 mm	6.5 @ 0.0067 mm	27.3 @ 0.0059 mm	28.5 @ 0.0060 mm	30.2 @ 0.0060 mm	21.6 @ 0.0062 mm	14.4 @ 0.0063 mm
		7.5 @ 0.0032 mm	40.1 @ 0.0029 mm	6.4 @ 0.0032 mm	24.0 @ 0.0029 mm	24.2 @ 0.0030 mm	26.3 @ 0.0030 mm	18.9 @ 0.0030 mm	13.7 @ 0.0031 mm
		6.3 @ 0.0014 mm	34.4 @ 0.0013 mm	5.7 @ 0.0014 mm	21.5 @ 0.0012 mm	20.6 @ 0.0013 mm	21.9 @ 0.0013 mm	15.1 @ 0.0013 mm	11.6 @ 0.0013 mm
		–	–	–	–	–	–	–	–

TABLE 4 *(continued)*
Results of Physical Analyses for Sediment Subsamples

Analyte		LOWER HARBOR AND WIDENERS									
		HGIW12-A	**HGIW12-B**	**HGIW12-C**	**HGIW12-D**	**HGIW12-E**	**DRMY12-A**	**DRMY12-B**	**DRMY12-C**	**DRMY12-D**	**DRMY12-E**
Sediment Description		SAND, clayey, mostly fine grained sand-sized quartz, little clay, little silt, few medium to fine grained sand-sized shell, gray	SAND, clayey, mostly fine grained sand-sized quartz, little clay, few silt, trace medium to fine grained sand-sized shell, gray	SAND, silty, mostly fine grained sand-sized quartz, few clay, few silt, trace medium to fine grained sand-sized shell, dark brown	SAND, clayey, mostly fine grained sand-sized quartz, little clay, few silt, trace medium to fine grained sand-sized shell, gray	CLAY, little fine grained sand-sized quartz, little clay, little silt, dark gray	CLAY, some fine grained sand-sized quartz, little silt, gray	CLAY, some fine grained sand-sized quartz, some silt, gray	SAND, clayey, mostly fine grained sand-sized quartz, little clay, few silt, dark gray	CLAY, little silt, few fine grained sand-sized quartz, gray	CLAY, some fine grained sand-sized quartz, little silt, dark gray
% Gravel		0.2	1.7	0.0	1.9	0.0	0.0	0.0	0.3	0.0	0.0
% Sand - Coarse		1.2	4.1	0.2	1.6	0.1	0.5	0.2	0.9	0.0	0.0
% Sand - Medium		9.4	11.7	5.3	7.9	0.5	2.1	4.6	4.4	0.6	1.8
% Sand - Fine		58.9	55.0	82.7	56.7	24.3	35.5	36.1	66.9	6.6	36.0
% Sand - Total		69.5	70.8	88.2	66.2	24.9	38.1	40.9	72.2	7.2	37.8
% Silt		12.7	8.1	3.6	10.3	17.7	20.0	22.9	9.7	27.6	15.0
% Clay		17.6	19.4	8.2	21.6	57.4	41.9	36.2	17.8	65.2	47.2
% Solids		73.1	65.5	75.4	67.8	57.1	56.3	60.1	69.6	43.2	47.2
% Moisture (wet)		26.9	34.5	24.6	32.2	42.9	43.7	39.9	30.4	56.8	52.8
USCS Classification		SC	SC	SM	SC	CH	CH	CH	SC	CH	CH
Specific Gravity		2.696	2.491	2.674	2.669	2.684	2.632	2.643	2.645	2.57	2.596
Sieve Size	**% Finer**	**HGIW12-A**	**HGIW12-B**	**HGIW12-C**	**HGIW12-D**	**HGIW12-E**	**DRMY12-A**	**DRMY12-B**	**DRMY12-C**	**DRMY12-D**	**DRMY12-E**
3/4"	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1/2"	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
3/8"	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
#4	%	99.8	98.3	100.0	98.1	100.0	100.0	100.0	99.7	100.0	100.0
#10	%	98.6	94.2	99.8	96.5	99.9	99.5	99.8	98.8	100.0	100.0
#20	%	95.6	89.2	99.1	93.2	99.8	98.7	98.6	97.8	99.7	99.5
#40	%	89.2	82.5	94.5	88.6	99.4	97.4	95.2	94.4	99.4	98.2
#60	%	69.0	72.0	84.0	82.7	96.9	94.6	89.5	80.8	99.1	92.4
#100	%	37.4	41.2	45.0	57.5	85.6	81.1	77.9	46.4	96.5	83.6
#200	%	30.3	27.5	11.8	31.9	75.1	61.9	59.1	27.5	92.8	62.2
Hydrometer Readings (% less than the following sizes)		25.3 @ 0.0475 mm	26.6 @ 0.0478 mm	11.7 @ 0.0508 mm	29.4 @ 0.0454 mm	72.0 @ 0.0384 mm	61.4 @ 0.0444 mm	54.5 @ 0.0453 mm	27.4 @ 0.0660 mm	91.2 @ 0.0573 mm	61.6 @ 0.0450 mm
		24.7 @ 0.0337 mm	25.9 @ 0.0339 mm	11.1 @ 0.0360 mm	27.0 @ 0.0325 mm	70.4 @ 0.0274 mm	54.7 @ 0.0321 mm	51.2 @ 0.0324 mm	24.8 @ 0.0473 mm	86.9 @ 0.0413 mm	61.6 @ 0.0318 mm
		22.2 @ 0.0216 mm	24.5 @ 0.0216 mm	11.1 @ 0.0227 mm	25.9 @ 0.0207 mm	68.0 @ 0.0176 mm	52.5 @ 0.0204 mm	47.8 @ 0.0207 mm	23.5 @ 0.0336 mm	85.9 @ 0.0293 mm	58.4 @ 0.0203 mm
		20.9 @ 0.0125 mm	22.5 @ 0.0126 mm	10.5 @ 0.0131 mm	24.2 @ 0.0121 mm	64.9 @ 0.0103 mm	50.3 @ 0.0119 mm	45.6 @ 0.0120 mm	22.2 @ 0.0214 mm	83.7 @ 0.0187 mm	55.3 @ 0.0119 mm
		18.4 @ 0.0089 mm	21.2 @ 0.0089 mm	9.9 @ 0.0093 mm	22.6 @ 0.0086 mm	61.0 @ 0.0075 mm	48.3 @ 0.0084 mm	42.6 @ 0.0086 mm	21.0 @ 0.0124 mm	78.4 @ 0.0110 mm	53.1 @ 0.0085 mm
		17.8 @ 0.0063 mm	19.9 @ 0.0063 mm	8.8 @ 0.0066 mm	22.0 @ 0.0061 mm	58.0 @ 0.0054 mm	44.0 @ 0.0060 mm	38.3 @ 0.0061 mm	19.9 @ 0.0088 mm	72.0 @ 0.0080 mm	49.1 @ 0.0060 mm
		16.5 @ 0.0031 mm	18.5 @ 0.0031 mm	7.8 @ 0.0032 mm	20.0 @ 0.0030 mm	52.1 @ 0.0027 mm	37.6 @ 0.0027 mm	32.2 @ 0.0028 mm	18.6 @ 0.0063 mm	66.8 @ 0.0058 mm	43.9 @ 0.0030 mm
		13.7 @ 0.0013 mm	14.9 @ 0.0013 mm	7.1 @ 0.0013 mm	17.1 @ 0.0013 mm	46.4 @ 0.0012 mm	32.3 @ 0.0013 mm	29.2 @ 0.0013 mm	16.4 @ 0.0031 mm	60.5 @ 0.0029 mm	38.6 @ 0.0013 mm
		–	–	–	–	–	–	–	13.9 @ 0.0013 mm	51.8 @ 0.0012 mm	–

TABLE 4 *(continued)*
Results of Physical Analyses for Sediment Subsamples

Analyte		LOWER HARBOR AND WIDENERS									
		WUTB12-A	**WUTB12-B**	**WUTB12-C**	**WUTB12-D**	**WUTB12-E**	**WRTB12-A**	**WRTB12-B**	**WRTB12-C**	**WRTB12-D**	**WRTB12-E**
Sediment Description		CLAY, fat, little silt, few fine grained sand-sized quartz, dark gray	CLAY, fat, some silt, little fine grained sand-sized quartz, dark gray	SILT, elastic, some clay, some fine grained sand-sized quartz, brown	CLAY, fat, some silt, little fine grained sand-sized quartz, dark gray	SILT, elastic, some clay, little fine grained sand-sized quartz, brown	SAND, silty, mostly fine grained sand-sized quartz, little silt, little clay, brown	SAND, clayey, little medium to some fine grained sand-sized quartz, little clay, little silt, brown	SAND, clayey, mostly fine grained sand-sized quartz, little clay, few silt, few medium grained sand-sized quartz, brown	SAND, clayey, some fine grained sand-sized quartz, some clay, little medium grained sand-sized quartz, few silt, gray	SAND, clayey, some fine grained sand-sized quartz, some clay, little silt, gray
% Gravel		0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0	0.0
% Sand - Coarse		0.0	0.3	0.0	0.0	0.0	1.4	2.8	0.5	0.4	1.1
% Sand - Medium		0.5	1.0	1.0	0.6	0.5	4.6	20.2	11.9	13.3	4.0
% Sand - Fine		7.5	19.6	33.1	12.0	22.7	52.8	42.8	59.8	45.8	47.2
% Sand - Total		8.0	20.9	34.1	12.6	23.2	58.8	65.8	72.2	59.5	52.3
% Silt		26.5	37.4	37.1	36.3	39.3	22.8	13.0	9.3	10.1	18.4
% Clay		65.5	41.7	28.8	51.1	37.5	18.4	19.1	18.5	30.4	29.3
% Solids		34.4	50.9	70.6	40.2	50.4	68.3	71.2	73.9	60.4	61.9
% Moisture (wet)		65.6	49.1	29.4	59.8	49.6	31.7	28.8	26.1	39.6	38.1
USCS Classification		CH	CH	MH	CH	MH	SM	SC	SC	SC	SC
Specific Gravity		2.605	2.658	2.658	2.589	2.624	2.650	2.669	2.643	2.621	2.651
Sieve Size	**% Finer**	**WUTB12-A**	**WUTB12-B**	**WUTB12-C**	**WUTB12-D**	**WUTB12-E**	**WRTB12-A**	**WRTB12-B**	**WRTB12-C**	**WRTB12-D**	**WRTB12-E**
3/4"	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1/2"	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
3/8"	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
#4	%	100.0	100.0	100.0	100.0	100.0	100.0	97.9	100.0	100.0	100.0
#10	%	100.0	99.7	100.0	100.0	100.0	98.6	95.1	99.5	99.6	98.9
#20	%	99.7	99.2	99.6	99.7	99.8	97.6	88.9	97.0	97.5	97.0
#40	%	99.5	98.7	99.0	99.4	99.5	94.0	74.9	87.6	86.3	94.9
#60	%	99.4	97.8	97.4	99.0	98.8	85.9	61.8	72.9	70.8	92.8
#100	%	98.0	93.0	93.0	95.9	95.9	58.8	48.7	49.8	53.2	79.0
#200	%	92.0	79.1	65.9	87.4	76.8	41.2	32.1	27.8	40.5	47.7
Hydrometer Readings (% less than the following sizes)		91.9 @ 0.0621 mm	76.5 @ 0.0581 mm	55.0 @ 0.0580 mm	87.8 @ 0.0607 mm	76.2 @ 0.0565 mm	38.8 @ 0.0634 mm	27.8 @ 0.0465 mm	27.7 @ 0.0666 mm	39.5 @ 0.0654 mm	46.0 @ 0.0625 mm
		90.6 @ 0.0441 mm	62.2 @ 0.0434 mm	49.2 @ 0.0424 mm	80.2 @ 0.0440 mm	61.5 @ 0.0428 mm	34.4 @ 0.0458 mm	27.1 @ 0.0330 mm	25.5 @ 0.0476 mm	37.8 @ 0.0466 mm	41.3 @ 0.0451 mm
		87.7 @ 0.0313 mm	60.2 @ 0.0309 mm	47.7 @ 0.0302 mm	76.3 @ 0.0315 mm	54.1 @ 0.0312 mm	29.3 @ 0.0331 mm	25.7 @ 0.0210 mm	24.1 @ 0.0339 mm	36.2 @ 0.0331 mm	38.8 @ 0.0322 mm
		84.8 @ 0.0200 mm	58.2 @ 0.0197 mm	46.2 @ 0.0193 mm	75.2 @ 0.0200 mm	50.6 @ 0.0200 mm	27.1 @ 0.0211 mm	22.4 @ 0.0123 mm	23.5 @ 0.0215 mm	36.2 @ 0.0210 mm	38.0 @ 0.0205 mm
		81.9 @ 0.0116 mm	53.1 @ 0.0116 mm	39.0 @ 0.0115 mm	66.3 @ 0.0118 mm	46.9 @ 0.0117 mm	23.5 @ 0.0124 mm	21.1 @ 0.0087 mm	22.1 @ 0.0125 mm	34.5 @ 0.0122 mm	33.2 @ 0.0121 mm
		79.2 @ 0.0082 mm	49.1 @ 0.0083 mm	36.1 @ 0.0083 mm	61.3 @ 0.0085 mm	45.2 @ 0.0083 mm	22.8 @ 0.0088 mm	19.8 @ 0.0062 mm	20.6 @ 0.0089 mm	32.9 @ 0.0087 mm	31.6 @ 0.0086 mm
		69.3 @ 0.0059 mm	44.2 @ 0.0060 mm	31.0 @ 0.0060 mm	54.0 @ 0.0061 mm	39.9 @ 0.0060 mm	19.9 @ 0.0063 mm	18.0 @ 0.0031 mm	19.3 @ 0.0063 mm	31.3 @ 0.0062 mm	30.1 @ 0.0061 mm
		60.8 @ 0.0029 mm	36.3 @ 0.0030 mm	25.4 @ 0.0030 mm	48.1 @ 0.0030 mm	33.9 @ 0.0030 mm	17.1 @ 0.0031 mm	15.7 @ 0.0013 mm	17.4 @ 0.0031 mm	28.2 @ 0.0030 mm	27.1 @ 0.0030 mm
		49.0 @ 0.0013 mm	32.9 @ 0.0013 mm	20.7 @ 0.0013 mm	41.3 @ 0.0013 mm	28.5 @ 0.0013 mm	15.4 @ 0.0013 mm	–	15.7 @ 0.0013 mm	24.6 @ 0.0013 mm	22.8 @ 0.0013 mm

Analyte		LOWER HARBOR AND WIDENERS									
		WLR12-A	**WLR12-B**	**WLR12-C**	**WLR12-D**	**WLR12-E**	**WLRW12-A**	**WLRW12-B**	**WLRW12-C**	**WLRW12-D**	**WLRW12-E**
Sediment Description		CLAY, some fine grained sand-sized quartz, little silt, few medium to fine grained sand-sized shell, gray	SAND, clayey, mostly fine grained sand-sized quartz, little silt, few medium to fine grained sand-sized shell, gray	CLAY, some silt, some fine grained sand-sized quartz, gray	SAND, clayey, some fine grained sand-sized quartz, some clay, little silt, few medium to fine grained sand-sized limerock fragments, gray	CLAY, some fine grained sand-sized quartz, little silt, gray	CLAY, fat, some silt, little fine grained sand-sized quartz, gray	SAND, clayey, some fine grained sand-sized quartz, little clay, little silt, few medium grained sand-sized quartz, gray	SAND, silty, little medium grained to mostly fine grained sand-sized quartz, few clay, few silt, gray	SAND, clayey, mostly fine grained sand-sized quartz, little clay, little silt, gray	SAND, siltly, little medium to mostly fine grained sand-sized quartz, little silt, little clay, gray
% Gravel		0.0	0.0	0.0	1.2	0.0	0.0	0.0	2.5	0.1	0.1
% Sand - Coarse		0.6	0.1	0.0	2.9	0.1	0.2	1.3	4.3	0.8	1.1
% Sand - Medium		7.2	1.3	0.7	24.9	0.9	1.7	7.6	22.9	5.4	14.7
% Sand - Fine		29.0	52.8	32.2	30.0	30.2	21.6	47.6	58.6	62.8	56.9
% Sand - Total		36.8	54.2	32.9	57.8	31.2	23.5	56.5	85.8	69.0	72.7
% Silt		26.2	20.0	32.7	11.4	25.4	35.0	17.4	3.5	14.6	13.7
% Clay		37.0	25.8	34.4	29.6	43.4	41.5	26.1	8.2	16.3	13.5
% Solids		60.6	67.2	67.9	64.2	48.8	64.0	70.0	83.9	74.2	78.2
% Moisture (wet)		39.4	32.8	32.1	35.8	51.2	36.0	30.0	16.1	25.8	21.8
USCS Classification		CH	SC	CH	SC	CH	CH	SC	SM	SC	SM
Specific Gravity		2.671	2.747	2.701	2.796	2.648	2.642	2.651	2.689	2.665	2.686
Sieve Size	**% Finer**	**WLR12-A**	**WLR12-B**	**WLR12-C**	**WLR12-D**	**WLR12-E**	**WLRW12-A**	**WLRW12-B**	**WLRW12-C**	**WLRW12-D**	**WLRW12-E**
3/4"	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1/2"	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
3/8"	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
#4	%	100.0	100.0	100.0	98.8	100.0	100.0	100.0	97.5	99.9	99.9
#10	%	99.4	99.9	100.0	95.9	99.9	99.8	98.7	93.2	99.1	98.8
#20	%	96.5	99.8	99.9	85.7	99.5	99.1	95.2	84.2	96.6	94.2
#40	%	92.2	98.6	99.3	71.0	99.0	98.1	91.1	70.3	93.7	84.1
#60	%	86.2	95.9	97.9	59.4	97.9	97.0	86.3	54.9	90.1	68.7
#100	%	78.5	73.5	92.8	50.3	91.5	92.7	59.0	25.9	60.6	50.5
#200	%	63.2	45.8	67.1	41.0	68.8	76.5	43.5	11.7	30.9	27.2
Hydrometer Readings (% less than the following sizes)		60.6 @ 0.0411 mm	37.2 @ 0.0439 mm	48.7 @ 0.0430 mm	36.8 @ 0.0433 mm	67.2 @ 0.0426 mm	66.0 @ 0.0397 mm	40.5 @ 0.0442 mm	11.6 @ 0.0490 mm	26.0 @ 0.0471 mm	20.1 @ 0.0476 mm
		55.5 @ 0.0298 mm	35.7 @ 0.0312 mm	46.1 @ 0.0308 mm	36.0 @ 0.0307 mm	64.1 @ 0.0305 mm	61.2 @ 0.0288 mm	36.9 @ 0.0318 mm	11.1 @ 0.0348 mm	21.8 @ 0.0339 mm	18.8 @ 0.0339 mm
		48.0 @ 0.0195 mm	32.6 @ 0.0200 mm	42.9 @ 0.0197 mm	34.6 @ 0.0195 mm	58.9 @ 0.0196 mm	51.7 @ 0.0192 mm	32.6 @ 0.0205 mm	10.0 @ 0.0221 mm	19.7 @ 0.0216 mm	17.5 @ 0.0216 mm
		44.7 @ 0.0114 mm	29.6 @ 0.0117 mm	40.4 @ 0.0115 mm	33.1 @ 0.0113 mm	55.9 @ 0.0114 mm	48.5 @ 0.0112 mm	31.2 @ 0.0119 mm	9.4 @ 0.0128 mm	19.0 @ 0.0125 mm	16.9 @ 0.0125 mm
		40.6 @ 0.0082 mm	28.2 @ 0.0083 mm	37.9 @ 0.0082 mm	32.4 @ 0.0081 mm	51.8 @ 0.0082 mm	44.7 @ 0.0081 mm	28.3 @ 0.0085 mm	8.9 @ 0.0091 mm	18.4 @ 0.0089 mm	16.3 @ 0.0088 mm
		38.1 @ 0.0059 mm	26.8 @ 0.0059 mm	35.6 @ 0.0058 mm	30.3 @ 0.0057 mm	45.7 @ 0.0059 mm	42.4 @ 0.0058 mm	27.0 @ 0.0061 mm	8.5 @ 0.0064 mm	17.1 @ 0.0063 mm	14.5 @ 0.0063 mm
		32.5 @ 0.0029 mm	22.4 @ 0.0029 mm	30.0 @ 0.0029 mm	26.8 @ 0.0028 mm	39.5 @ 0.0029 mm	37.7 @ 0.0029 mm	23.4 @ 0.0030 mm	7.5 @ 0.0032 mm	15.1 @ 0.0031 mm	12.6 @ 0.0031 mm
		26.7 @ 0.0012 mm	19.4 @ 0.0012 mm	26.6 @ 0.0012 mm	16.3 @ 0.0012 mm	33.2 @ 0.0012 mm	33.5 @ 0.0012 mm	20.3 @ 0.0013 mm	6.8 @ 0.0013 mm	13.5 @ 0.0013 mm	10.6 @ 0.0013 mm
		–	–	–	–	–	–	–	–	–	–

TABLE 4 *(continued)*
Results of Physical Analyses for Sediment Subsamples

Analyte		ANCHORAGE BASIN					SHEM CREEK				
		ABMA12-A	ABMA12-B	ABMA12-C	ABMA12-D	ABMA12-E	SHCR12-A	SHCR12-B	SHCR12-C	SHCR12-D	SHCR12-E
Sediment Description		SAND, clayey, mostly fine grained sand-sized quartz, little clay, little silt, trace medium to fine grained sand-sized shell, dark gray	SAND, clayey, mostly fine grained sand-sized quartz, some clay, little silt, dark gray	SAND, clayey, mostly fine grained sand-sized quartz, little clay, little silt, gray-brown	SAND, clayey, mostly fine grained sand-sized quartz, little clay, few silt, few medium to fine grained sand-sized shell, dark gray	SAND, clayey, mostly fine grained sand-sized quartz, little clay, few silt, dark gray	SAND, clayey, mostly fine grained sand-sized quartz, few silt, few medium to fine grained limerock, dark gray	CLAY, some silt, little fine grained sand-sized quartz, little medium to fine grained sand-sized limerock, dark gray	CLAY, some silt, trace fine grained sand-sized quartz, dark gray	CLAY, some silt, little fine grained sand-sized quartz, dark gray	CLAY, some fine grained sand-sized quartz, some silt, dark gray
% Gravel		1.7	0.3	0.0	1.2	0.0	2.8	2.0	0.0	0.0	0.0
% Sand - Coarse		2.4	0.1	0.2	0.8	0.0	1.7	5.5	0.2	0.1	0.4
% Sand - Medium		2.3	0.7	2.2	5.8	0.5	7.9	12.1	0.8	2.6	0.3
% Sand - Fine		55.4	51.2	63.9	66.4	70.1	64.5	12.5	3.3	20.0	45.7
% Sand - Total		60.1	52.0	66.3	73.0	70.6	74.1	30.1	4.3	22.7	46.4
% Silt		13.1	17.9	11.5	9.0	10.2	8.0	29.8	44.8	34.7	24.1
% Clay		25.1	29.8	22.2	16.8	19.2	15.1	38.1	50.9	42.6	29.5
% Solids		63.2	57.0	63.4	78.2	71.8	68.5	43.7	35.1	48.8	51.4
% Moisture (wet)		36.8	43.0	36.6	21.8	28.2	31.5	56.3	64.9	51.2	48.6
USCS Classification		SC	SC	SC	SC	SC	SC	CH	CH	CH	CH
Specific Gravity		2.693	2.669	2.653	2.701	2.640	2.635	2.508	2.659	2.616	2.634
Sieve Size	**% Finer**	**ABMA12-A**	**ABMA12-B**	**ABMA12-C**	**ABMA12-D**	**ABMA12-E**	**SHCR12-A**	**SHCR12-B**	**SHCR12-C**	**SHCR12-D**	**SHCR12-E**
3/4"	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1/2"	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
3/8"	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
#4	%	98.3	99.7	100.0	98.8	100.0	97.2	98.0	100.0	100.0	100.0
#10	%	95.9	99.6	99.8	98.0	100.0	95.5	92.5	99.8	99.9	99.6
#20	%	94.6	99.3	99.2	96.5	99.8	92.5	87.1	99.3	98.8	99.5
#40	%	93.6	98.9	97.6	92.2	99.5	87.6	80.4	99.0	97.3	99.3
#60	%	90.8	97.1	87.6	73.0	98.4	79.2	76.8	98.7	95.8	99.0
#100	%	67.4	72.7	54.1	36.4	74.9	49.9	72.0	97.8	88.7	94.0
#200	%	38.2	47.7	33.7	25.8	29.4	23.1	67.9	95.7	77.3	53.6
Hydrometer Readings (% less than the following sizes)		35.3 @ 0.0453 mm	44.8 @ 0.0439 mm	33.4 @ 0.0465 mm	23.9 @ 0.0464 mm	26.7 @ 0.0470 mm	21.0 @ 0.0486 mm	63.7 @ 0.0463 mm	93.9 @ 0.0417 mm	74.3 @ 0.0434 mm	50.9 @ 0.0450 mm
		33.8 @ 0.0322 mm	42.5 @ 0.0314 mm	32.6 @ 0.0330 mm	23.3 @ 0.0330 mm	24.8 @ 0.0336 mm	20.4 @ 0.0345 mm	59.3 @ 0.0332 mm	86.1 @ 0.0303 mm	69.9 @ 0.0311 mm	47.1 @ 0.0323 mm
		32.4 @ 0.0205 mm	38.7 @ 0.0202 mm	29.6 @ 0.0211 mm	21.4 @ 0.0210 mm	24.1 @ 0.0213 mm	19.1 @ 0.0220 mm	57.1 @ 0.0212 mm	80.9 @ 0.0194 mm	65.4 @ 0.0200 mm	44.3 @ 0.0206 mm
		30.3 @ 0.0119 mm	36.4 @ 0.0118 mm	28.1 @ 0.0123 mm	20.3 @ 0.0122 mm	22.9 @ 0.0124 mm	17.8 @ 0.0128 mm	51.7 @ 0.0124 mm	73.1 @ 0.0115 mm	57.5 @ 0.0118 mm	41.5 @ 0.0120 mm
		28.1 @ 0.0085 mm	34.2 @ 0.0084 mm	26.5 @ 0.0087 mm	19.1 @ 0.0087 mm	21.0 @ 0.0088 mm	15.9 @ 0.0091 mm	44.0 @ 0.0090 mm	62.7 @ 0.0084 mm	48.8 @ 0.0086 mm	36.0 @ 0.0087 mm
		26.1 @ 0.0061 mm	31.2 @ 0.0060 mm	23.5 @ 0.0062 mm	17.3 @ 0.0062 mm	19.7 @ 0.0063 mm	15.3 @ 0.0064 mm	39.8 @ 0.0064 mm	53.9 @ 0.0060 mm	44.4 @ 0.0062 mm	31.4 @ 0.0062 mm
		22.9 @ 0.0030 mm	27.1 @ 0.0030 mm	21.1 @ 0.0031 mm	16.6 @ 0.0030 mm	18.3 @ 0.0031 mm	14.2 @ 0.0032 mm	35.8 @ 0.0032 mm	47.7 @ 0.0030 mm	38.9 @ 0.0031 mm	27.1 @ 0.0031 mm
		19.1 @ 0.0013 mm	22.4 @ 0.0013 mm	18.6 @ 0.0013 mm	14.1 @ 0.0013 mm	15.6 @ 0.0013 mm	12.1 @ 0.0013 mm	31.3 @ 0.0013 mm	42.4 @ 0.0013 mm	33.3 @ 0.0013 mm	25.2 @ 0.0013 mm
		–	–	–	–	–	–	–	–	–	–

TABLE 4 *(continued)*
Results of Physical Analyses for Sediment Subsamples

Analyte		ENTRANCE CHANNEL									
		CHEC12-1A	**CHEC12-1B**	**CHEC12-1C**	**CHEC12-1D**	**CHEC12-1E**	**CHEC12-2A**	**CHEC12-2B**	**CHEC12-2C**	**CHEC12-2D**	**CHEC12-2E**
Sediment Description		CLAY, some silt, some fine grained sand-sized quartz, few medium grained sand-sized quartz, gray	CLAY, some fine grained sand-sized quartz, some silt, gray	SAND, clayey, some fine grained sand-sized quartz, some clay, some silt, few medium to fine grained sand-sized shell, gray	Limerock, silty, fine gravel to fine sand-sized, little silt, little fine sand-sized quartz, few clay, light brown	Limestone, silty, fine gravel to fine sand-sized limerock, little fine sand-sized quartz, few silt, few clay, light brown	SAND, silty, mostly fine grained sand-sized quartz, little silt, little clay, brown	SAND, silty, mostly fine grained sand-sized quartz, few clay, few silt, few medium to fine grained sand-sized shell, dark brown	SAND, clayey, mostly fine grained sand-sized quartz, little clay, little silt, dark brown-gray	CLAY, some fine grained sand-sized quartz, some silt, dark gray	CLAY, some fine grained sand-sized quartz, some silt, dark gray
% Gravel		0.0	0.5	1.8	7.9	8.7	0.2	4.0	0.0	0.0	2.4
% Sand - Coarse		0.6	0.2	1.8	5.4	12.2	0.0	2.6	0.3	0.0	1.0
% Sand - Medium		3.5	1.8	11.6	22.9	15.1	1.5	12.7	3.2	0.8	3.2
% Sand - Fine		25.3	31.1	37.6	40.2	27.6	62.7	61.0	57.5	39.3	37.1
% Sand - Total		29.4	33.1	51.0	68.5	54.9	64.2	76.3	61.0	40.1	41.3
% Silt		30.8	29.5	24.0	14.7	8.7	19.0	9.7	17.8	30.3	30.7
% Clay		39.8	36.9	23.2	8.9	5.0	16.6	10.0	21.2	29.6	25.6
% Solids		54.0	44.0	55.0	75.6	35.9	70.1	77.3	62.6	54.5	64.4
% Moisture (wet)		46.0	56.0	45.0	24.4	64.1	29.9	22.7	37.4	45.5	35.6
USCS Classification		CH	CH	SC	SM	SM	SM	SM	SC	CH	CH
Specific Gravity		2.762	2.672	2.709	2.805	2.786	2.692	2.676	2.630	2.686	2.599
Sieve Size	**% Finer**	**CHEC12-1A**	**CHEC12-1B**	**CHEC12-1C**	**CHEC12-1D**	**CHEC12-1E**	**CHEC12-2A**	**CHEC12-2B**	**CHEC12-2C**	**CHEC12-2D**	**CHEC12-2E**
3/4"	%	100.0	100.0	100.0	100.0	77.3	100.0	100.0	100.0	100.0	100.0
1/2"	%	100.0	100.0	100.0	100.0	74.7	100.0	100.0	100.0	100.0	100.0
3/8"	%	100.0	100.0	100.0	97.2	73.3	100.0	100.0	100.0	100.0	100.0
#4	%	100.0	99.5	98.2	92.1	68.6	99.8	96.0	100.0	100.0	97.6
#10	%	99.4	99.3	96.4	86.7	56.4	99.8	93.4	99.7	100.0	96.6
#20	%	98.3	98.8	91.8	79.0	52.3	99.6	87.8	99.0	99.7	95.5
#40	%	95.9	97.5	84.8	63.8	41.3	98.3	80.7	96.5	99.2	93.4
#60	%	92.9	95.7	78.2	47.3	29.4	92.9	73.9	88.9	96.9	89.4
#100	%	85.6	90.5	68.8	30.8	18.8	77.0	42.8	58.0	81.5	76.0
#200	%	70.6	66.4	47.2	23.6	13.7	35.6	19.7	39.0	59.9	56.3
Hydrometer Readings (% less than the following sizes)		57.6 @ 0.0422 mm	57.5 @ 0.0452 mm	40.3 @ 0.0449 mm	18.0 @ 0.0458 mm	12.9 @ 0.0463 mm	31.5 @ 0.0451 mm	18.3 @ 0.0476 mm	34.8 @ 0.0463 mm	53.3 @ 0.0418 mm	48.1 @ 0.0429 mm
		53.7 @ 0.0303 mm	56.3 @ 0.0320 mm	39.5 @ 0.0319 mm	17.4 @ 0.0325 mm	11.6 @ 0.0331 mm	27.6 @ 0.0326 mm	16.1 @ 0.0341 mm	31.8 @ 0.0331 mm	44.0 @ 0.0310 mm	41.7 @ 0.0314 mm
		49.9 @ 0.0194 mm	51.7 @ 0.0205 mm	35.1 @ 0.0205 mm	15.7 @ 0.0207 mm	11.2 @ 0.0210 mm	25.0 @ 0.0209 mm	11.8 @ 0.0127 mm	28.1 @ 0.0213 mm	41.8 @ 0.0198 mm	37.5 @ 0.0203 mm
		47.0 @ 0.0113 mm	47.0 @ 0.0120 mm	31.7 @ 0.0120 mm	14.1 @ 0.0121 mm	9.1 @ 0.0123 mm	21.8 @ 0.0122 mm	11.3 @ 0.0090 mm	24.4 @ 0.0124 mm	37.1 @ 0.0117 mm	33.3 @ 0.0120 mm
		44.0 @ 0.0081 mm	42.2 @ 0.0086 mm	25.7 @ 0.0086 mm	11.4 @ 0.0086 mm	7.4 @ 0.0088 mm	19.2 @ 0.0088 mm	13.4 @ 0.0066 mm	23.1 @ 0.0089 mm	34.8 @ 0.0083 mm	29.8 @ 0.0086 mm
		41.2 @ 0.0058 mm	38.7 @ 0.0061 mm	23.9 @ 0.0062 mm	9.8 @ 0.0062 mm	5.7 @ 0.0063 mm	17.4 @ 0.0062 mm	10.3 @ 0.0064 mm	21.7 @ 0.0063 mm	31.1 @ 0.0060 mm	27.1 @ 0.0062 mm
		34.5 @ 0.0029 mm	32.9 @ 0.0030 mm	20.5 @ 0.0030 mm	7.0 @ 0.0031 mm	4.5 @ 0.0031 mm	15.3 @ 0.0031 mm	9.5 @ 0.0031 mm	20.8 @ 0.0031 mm	27.9 @ 0.0029 mm	22.6 @ 0.0030 mm
		29.6 @ 0.0012 mm	29.3 @ 0.0013 mm	17.2 @ 0.0013 mm	6.0 @ 0.0013 mm	4.0 @ 0.0013 mm	13.2 @ 0.0013 mm	8.3 @ 0.0013 mm	17.7 @ 0.0013 mm	25.3 @ 0.0013 mm	20.4 @ 0.0013 mm
		–	–	–	–	–	–	–	–	–	–

TABLE 4 *(continued)*
Results of Physical Analyses for Sediment Subsamples

Analyte		ENTRANCE CHANNEL				
		MTPL12-A	**MTPL12-B**	**MTPL12-C**	**MTPL12-D**	**MTPL12-E**
Sediment Description		SILT, elastic, some fine grained sand-sized quartz, little clay, gray	SILT, elastic, some fine grained sand-sized quartz, some clay, gray	SILT, elastic, some fine grained sand-sized quartz, little clay, gray	SILT, elastic, some fine grained sand-sized quartz, little clay, gray	SAND, clayey, little medium to mostly fine grained sand-sized quartz, little clay, few silt, gray
% Gravel		0.0	3.3	0.4	0.0	0.5
% Sand - Coarse		0.9	2.1	0.1	0.1	0.5
% Sand - Medium		7.1	6.8	5.3	4.1	16.1
% Sand - Fine		29.9	37.4	43.6	42.8	57.7
% Sand - Total		37.9	46.3	49.0	47.0	74.3
% Silt		34.0	30.5	30.6	31.6	7.4
% Clay		28.1	19.9	20.0	21.4	17.8
% Solids		56.3	58.7	70.8	69.6	66.2
% Moisture (wet)		43.7	41.3	29.2	30.4	33.8
USCS Classification		MH	MH	MH	MH	SC
Specific Gravity		2.656	2.632	2.745	2.732	2.736
Sieve Size	**% Finer**	**MTPL12-A**	**MTPL12-B**	**MTPL12-C**	**MTPL12-D**	**MTPL12-E**
3/4"	%	100.0	100.0	100.0	100.0	100.0
1/2"	%	100.0	100.0	100.0	100.0	100.0
3/8"	%	100.0	100.0	100.0	100.0	100.0
#4	%	100.0	96.7	99.6	100.0	99.5
#10	%	99.1	94.6	99.5	99.9	99.0
#20	%	97.6	92.2	98.7	99.4	97.3
#40	%	92.0	87.8	94.2	95.8	82.9
#60	%	79.7	76.7	93.1	81.3	57.3
#100	%	73.7	66.8	61.4	66.0	38.3
#200	%	62.1	50.4	50.6	53.0	25.2
Hydrometer Readings (% less than the following sizes)		59.7 @ 0.0426 mm	48.4 @ 0.0443 mm	48.4 @ 0.0408 mm	50.7 @ 0.0407 mm	24.3 @ 0.0465 mm
		52.4 @ 0.0311 mm	43.3 @ 0.0320 mm	46.3 @ 0.0292 mm	45.7 @ 0.0296 mm	22.8 @ 0.0331 mm
		43.2 @ 0.0204 mm	34.9 @ 0.0210 mm	37.3 @ 0.0194 mm	41.5 @ 0.0191 mm	21.3 @ 0.0211 mm
		36.9 @ 0.0120 mm	28.2 @ 0.0124 mm	26.9 @ 0.0118 mm	29.5 @ 0.0117 mm	20.6 @ 0.0122 mm
		33.3 @ 0.0086 mm	24.9 @ 0.0089 mm	22.8 @ 0.0085 mm	25.2 @ 0.0084 mm	19.9 @ 0.0086 mm
		29.7 @ 0.0062 mm	21.5 @ 0.0063 mm	20.8 @ 0.0060 mm	22.5 @ 0.0060 mm	18.6 @ 0.0061 mm
		26.2 @ 0.0030 mm	18.4 @ 0.0031 mm	18.1 @ 0.0030 mm	19.9 @ 0.0030 mm	16.4 @ 0.0030 mm
		25.0 @ 0.0013 mm	16.4 @ 0.0013 mm	16.4 @ 0.0013 mm	18.1 @ 0.0013 mm	14.9 @ 0.0013 mm
		–	–	–	–	–

See Appendix C for grain size distribution graphs.
CH - Clay of high plasticity, elastic silt
CL - Clay
MH - Silt of high plasticity, elastic silt
SC - Clayey sand
SM - Silty sand
SP - Poorly-graded sand
Source: AMEC Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 5
Results of Physical Analyses for Sediment Composite Samples

Analyte		REFERENCE	UPPER HARBOR AND WIDENERS							
		RS-CH-A	DANW12	DANI12	NCW12	CCRK12	NYNC12	PTFC12	ORDT12	ORDT12 (field split)
Sediment Description		SAND, poorly graded with clay, mostly fine grained sand-sized quartz, few clay, light brown	CLAY, some fine grained sand-sized quartz, some silt, gray	SAND, clayey, some fine sand-sized quartz, some clay, little silt, gray	SAND, clayey, some fine sand-sized quartz, some clay, little silt, gray	SAND, mostly fine grained sand-sized quartz, some clay, little silt, greenish gray	CLAY, some fine grained sand-sized quartz, some silt, greenish gray	CLAY, some fine grained sand-sized quartz, little silt, greenish gray and brown	SAND, mostly fine grained sand-sized quartz, some clay, little silt, gray	SAND, mostly fine grained sand-sized quartz, some clay, few silt, gray
% Gravel		0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.2	0.0
% Sand - Coarse		0.1	0.0	0.2	0.2	0.5	0.0	0.0	0.7	0.0
% Sand - Medium		2.5	2.0	2.0	2.5	9.3	2.5	1.3	5.6	5.9
% Sand - Fine		91.1	38.4	48.4	47.4	42.4	31.5	30.9	49.4	52.2
% Sand - Total		93.7	40.4	50.6	50.1	52.2	34.0	32.2	55.7	58.1
% Silt		1.6	28.3	13.3	19.4	18.3	32.3	29.4	12.1	9.8
% Clay		4.7	31.3	36.1	30.5	29.2	33.7	38.4	32.0	32.1
% Solids		76.1	52.2	60.7	60.6	60.9	57.9	54.3	58.1	56.8
% Moisture (wet)		23.9	47.8	39.3	39.4	39.1	42.1	45.7	43.2	43.2
USCS Classification		SP-SM	CH	SC	SM	SC	CH	CH	SC	SC
Specific Gravity		2.646	2.641	2.677	2.651	2.656	2.647	2.661	2.653	2.655
Atterberg Limits	**PL**	NP (non-plastic)	24	30	37	24	28	35	26	26
	LL	NV (non-viscous)	68	67	65	68	77	89	70	73
	PI	NP (non-plastic)	44	37	28	44	49	54	44	47
Sieve Size	**% Finer**	**RS-CH-A**	**DANW12**	**DANI12**	**NCW12**	**CCRK12**	**NYNC12**	**PTFC12**	**ORDT12**	**ORDT12 (field split)**
1/2"	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
3/8"	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
#4	%	100.0	100.0	100.0	100.0	99.7	100.0	100.0	99.8	100.0
#10	%	99.9	100.0	99.8	99.8	99.2	100.0	100.0	99.1	100.0
#20	%	99.1	99.5	99.1	99.0	97.0	99.3	99.7	97.3	97.9
#40	%	97.4	98.0	97.8	97.3	89.9	97.5	98.7	93.5	94.1
#60	%	88.3	92.0	92.6	92.4	84.3	94.2	94.0	86.6	86.2
#100	%	19.2	80.7	76.8	76.1	65.4	84.2	83.3	61.4	56.1
#200	%	6.3	59.6	49.4	49.9	47.5	66.0	67.8	44.1	41.9
Hydrometer Readings (% less than the following sizes)		5.9 @ 0.0509 mm	51.1 @ 0.0386 mm	48.9 @ 0.0445 mm	47.8 @ 0.0445 mm	42.6 @ 0.0408 mm	51.1 @ 0.0383 mm	55.3 @ 0.0366 mm	43.7 @ 0.0406 mm	41.1 @ 0.0418 mm
		5.5 @ 0.0361 mm	47.7 @ 0.0281 mm	48.0 @ 0.0316 mm	47.0 @ 0.0316 mm	41.5 @ 0.0291 mm	48.8 @ 0.0276 mm	51.9 @ 0.0267 mm	43.6 @ 0.0287 mm	40.6 @ 0.0297 mm
		5.5 @ 0.0228 mm	42.1 @ 0.0185 mm	44.4 @ 0.0202 mm	41.1 @ 0.0205 mm	39.2 @ 0.0187 mm	46.5 @ 0.0178 mm	49.6 @ 0.0172 mm	40.8 @ 0.0185 mm	40.0 @ 0.0188 mm
		5.1 @ 0.0132 mm	38.1 @ 0.0110 mm	42.7 @ 0.0118 mm	37.8 @ 0.0120 mm	35.9 @ 0.0111 mm	42.0 @ 0.0106 mm	45.1 @ 0.0103 mm	38.0 @ 0.0109 mm	37.7 @ 0.0111 mm
		5.1 @ 0.0093 mm	34.2 @ 0.0080 mm	40.1 @ 0.0084 mm	34.5 @ 0.0086 mm	33.6 @ 0.0079 mm	38.6 @ 0.0077 mm	41.7 @ 0.0075 mm	34.7 @ 0.0079 mm	34.4 @ 0.0080 mm
		4.6 @ 0.0066 mm	31.5 @ 0.0052 mm	37.4 @ 0.0060 mm	32.0 @ 0.0061 mm	30.3 @ 0.0057 mm	34.7 @ 0.0056 mm	37.9 @ 0.0047 mm	31.9 @ 0.0049 mm	32.2 @ 0.0051 mm
		4.7 @ 0.0030 mm	27.7 @ 0.0029 mm	32.4 @ 0.0030 mm	26.5 @ 0.0031 mm	25.7 @ 0.0027 mm	28.6 @ 0.0027 mm	31.2 @ 0.0028 mm	29.6 @ 0.0028 mm	29.0 @ 0.0029 mm
		3.9 @ 0.0014 mm	19.4 @ 0.0013 mm	28.0 @ 0.0013 mm	22.3 @ 0.0013 mm	16.7 @ 0.0013 mm	14.9 @ 0.0013 mm	15.3 @ 0.0013 mm	23.6 @ 0.0012 mm	24.5 @ 0.0012 mm

TABLE 5 *(continued)*
Results of Physical Analyses for Sediment Composite Samples

Analyte		LOWER HARBOR AND WIDENERS								
		REHR12	**BENW12**	**HGIS12**	**HGIW12**	**DRMY12**	**WUTB12**	**WRTB12**	**WLR12**	**WLRW12**
Sediment Description		SAND, clayey, mostly fine grained sand-sized quartz, little clay, little silt, little medium grained sand-sized quartz, gray	SAND, clayey, some fine grained sand-sized quartz, little silt, little medium to fine grained sand-sized shell, brown	SAND, clayey, mostly fine grained sand-sized quartz, little clay, few silt, trace medium to fine sand-sized shell, gray	SAND, clayey, mostly fine grained sand-sized quartz, little clay, few silt, few medium to fine grained sand-sized shell, gray	CLAY, little fine grained sand-sized quartz, little silt, dark gray	SILT, some fine grained sand-sized quartz, some clay, gray	SAND, clayey, some fine grained sand-sized quartz, little clay, little silt, few medium grained sand-sized quartz, gray	SAND, clayey, some fine grained sand-sized quartz, little silt, little medium to fine grained sand-sized shell, gray	SAND, clayey, mostly fine grained sand-sized quartz, little clay, little silt, few medium grained sand-sized quartz, few medium to fine sand-sized shell, gray
% Gravel		1.7	1.0	1.0	0.3	0.0	0.4	0.1	2.4	1.0
% Sand - Coarse		3.4	3.4	0.5	2.5	0.3	0.2	1.8	3.2	4.0
% Sand - Medium		15.9	21.1	4.4	9.4	1.8	1.5	10.6	13.5	13.4
% Sand - Fine		49.6	46.0	57.5	62.8	28.9	22.6	46.8	38.3	52.5
% Sand - Total		68.9	70.5	62.4	74.7	31.0	24.3	59.2	55.0	69.9
% Silt		12.7	11.8	12.4	5.2	23.6	33.8	18.9	18.3	13.2
% Clay		16.7	16.7	24.2	19.8	45.4	41.5	21.8	24.3	15.9
% Solids		73.7	71.4	66.4	69.1	50.4	42.5	68.2	62.6	75.9
% Moisture (wet)		26.3	28.6	33.6	30.9	49.6	57.5	31.8	37.4	24.1
USCS Classification		SC	SC	SC	SC	CH	MH	SC	SC	SC
Specific Gravity		2.683	2.663	2.691	2.623	2.644	2.643	2.656	2.645	2.662
Atterberg Limits	**PL**	20	28	25	24	34	48	21	28	22
	LL	37	53	46	36	84	118	45	59	37
	PI	17	25	21	12	50	70	24	31	15
Sieve Size	**% Finer**	**REHR12**	**BENW12**	**HGIS12**	**HGIW12**	**DRMY12**	**WUTB12**	**WRTB12**	**WLR12**	**WLRW12**
1/2"	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
3/8"	%	99.2	100.0	100.0	100.0	100.0	100.0	100.0	98.8	100.0
#4	%	98.3	99.0	99.0	99.7	100.0	99.6	99.9	97.6	99.0
#10	%	94.9	95.6	98.5	97.2	99.7	99.4	98.1	94.4	95.0
#20	%	87.8	87.3	97.0	93.8	99.3	98.9	95.4	88.5	89.7
#40	%	79.0	74.5	94.1	87.8	97.9	97.9	87.5	80.9	81.6
#60	%	65.3	61.6	82.7	76.1	93.8	97.1	77.3	73.7	71.3
#100	%	40.8	42.3	61.0	42.9	80.1	94.3	57.8	62.2	46.1
#200	%	29.4	28.5	36.6	25.0	69.0	75.3	40.7	42.6	29.1
Hydrometer Readings (% less than the following sizes)		24.0 @ 0.0477 mm	26.1 @ 0.0467 mm	34.1 @ 0.0460 mm	23.7 @ 0.0486 mm	65.5 @ 0.0463 mm	62.9 @ 0.0440 mm	31.2 @ 0.0466 mm	36.6 @ 0.0454 mm	25.2 @ 0.0473 mm
		23.3 @ 0.0338 mm	24.3 @ 0.0333 mm	32.7 @ 0.0328 mm	23.7 @ 0.0344 mm	59.4 @ 0.0332 mm	59.8 @ 0.0314 mm	30.4 @ 0.0331 mm	33.0 @ 0.0326 mm	24.5 @ 0.0336 mm
		21.2 @ 0.0216 mm	21.7 @ 0.0214 mm	31.3 @ 0.0208 mm	23.0 @ 0.0218 mm	57.9 @ 0.0211 mm	55.6 @ 0.0202 mm	28.4 @ 0.0211 mm	30.9 @ 0.0208 mm	20.6 @ 0.0216 mm
		19.1 @ 0.0126 mm	20.5 @ 0.0124 mm	28.4 @ 0.0122 mm	22.3 @ 0.0126 mm	56.3 @ 0.0122 mm	52.6 @ 0.0118 mm	26.2 @ 0.0123 mm	29.5 @ 0.0121 mm	19.9 @ 0.0125 mm
		17.7 @ 0.0089 mm	19.3 @ 0.0088 mm	26.2 @ 0.0087 mm	21.0 @ 0.0090 mm	53.4 @ 0.0087 mm	47.5 @ 0.0085 mm	24.1 @ 0.0088 mm	27.4 @ 0.0086 mm	18.6 @ 0.0089 mm
		17.1 @ 0.0063 mm	16.8 @ 0.0063 mm	24.9 @ 0.0062 mm	20.4 @ 0.0063 mm	47.9 @ 0.0062 mm	43.5 @ 0.0060 mm	22.8 @ 0.0062 mm	25.3 @ 0.0062 mm	16.7 @ 0.0063 mm
		15.9 @ 0.0031 mm	16.4 @ 0.0031 mm	22.4 @ 0.0030 mm	18.1 @ 0.0031 mm	42.3 @ 0.0028 mm	36.6 @ 0.0030 mm	19.5 @ 0.0031 mm	22.3 @ 0.0031 mm	15.0 @ 0.0031 mm
		13.8 @ 0.0013 mm	14.5 @ 0.0013 mm	19.5 @ 0.0013 mm	16.6 @ 0.0013 mm	38.0 @ 0.0013 mm	31.3 @ 0.0013 mm	17.3 @ 0.0013 mm	18.3 @ 0.0013 mm	13.6 @ 0.0013 mm

TABLE 5 *(continued)*
Results of Physical Analyses for Sediment Composite Samples

Analyte		ANCHORAGE BASIN	SHEM CREEK	ENTRANCE CHANNEL			
		ABMA12	SHCR12	CHEC12-1	CHEC12-1 (field split)	CHEC12-2	MTPL12
Sediment Description		SAND, clayey, mostly fine grained sand-sized quartz, little clay, little silt, gray	CLAY, some fine grained sand-sized quartz, little silt, dark gray	CLAY, some fine grained sand-sized quartz, little silt, few medium grained sand-sized quartz, gray	CLAY, some fine grained sand-sized quartz, little silt, few medium to fine grained sand-sized limerock fragments, gray	SAND, clayey, mostly fine grained sand-sized quartz, little clay, little silt, few medium grained sand-sized quartz, gray	SAND, clayey, mostly fine grained sand-sized quartz, little clay, little medium grained sand-sized quartz, few silt, gray
% Gravel		0.0	0.0	4.5	0.6	2.8	0.5
% Sand - Coarse		0.8	1.0	2.2	2.0	1.9	1.1
% Sand - Medium		1.7	3.8	9.3	8.6	6.1	13.2
% Sand - Fine		51.8	30.8	33.7	33.1	56.7	56.6
% Sand - Total		54.3	35.6	45.2	43.7	64.7	70.9
% Silt		21.3	26.2	22.1	23.6	16.0	7.8
% Clay		24.4	38.2	28.2	32.1	16.5	20.8
% Solids		58.3	45.0	52.9	52.5	65.6	63.9
% Moisture (wet)		41.7	55.0	47.1	47.5	34.4	36.1
USCS Classification		SC	CH	CH	CH	SC	SC
Specific Gravity		2.666	2.637	2.679	2.596	2.673	2.761
Atterberg Limits	**PL**	21	38	35	34	22	28
	LL	54	105	78	76	50	74
	PI	33	67	43	42	28	46
Sieve Size	**% Finer**	**ABMA12**	**SHCR12**	**CHEC12-1**	**CHEC12-1 FS**	**CHEC12-2**	**MTPL12**
1/2"	%	100.0	100.0	100.0	100.0	100.0	100.0
3/8"	%	100.0	100.0	96.2	100.0	97.9	100.0
#4	%	100.0	100.0	95.5	99.4	97.2	99.5
#10	%	99.2	99.0	93.3	97.4	95.3	98.4
#20	%	98.6	97.6	89.8	94.2	92.9	96.5
#40	%	97.5	95.2	84.0	88.8	89.2	85.2
#60	%	92.4	92.3	77.8	83.4	83.4	62.3
#100	%	66.4	79.2	67.8	73.8	61.6	44.9
#200	%	45.7	64.4	50.3	55.7	32.5	28.6
Hydrometer Readings (% less than the following sizes)		35.5 @ 0.0467 mm	63.0 @ 0.0451 mm	48.4 @ 0.0445 mm	53.7 @ 0.0444 mm	32.1 @ 0.0468 mm	36.1 @ 0.0448 mm
		34.7 @ 0.0331 mm	60.7 @ 0.0321 mm	43.9 @ 0.0321 mm	50.2 @ 0.0319 mm	29.7 @ 0.0334 mm	32.9 @ 0.0321 mm
		32.2 @ 0.0212 mm	57.2 @ 0.0205 mm	39.6 @ 0.0206 mm	44.9 @ 0.0206 mm	23.5 @ 0.0217 mm	29.9 @ 0.0206 mm
		29.7 @ 0.0123 mm	51.4 @ 0.0121 mm	37.9 @ 0.0120 mm	41.4 @ 0.0121 mm	21.2 @ 0.0126 mm	26.8 @ 0.0120 mm
		28.0 @ 0.0088 mm	44.5 @ 0.0087 mm	31.7 @ 0.0086 mm	37.2 @ 0.0086 mm	19.7 @ 0.0090 mm	23.6 @ 0.0086 mm
		25.7 @ 0.0062 mm	40.0 @ 0.0062 mm	29.2 @ 0.0062 mm	33.7 @ 0.0062 mm	17.4 @ 0.0064 mm	21.5 @ 0.0061 mm
		22.6 @ 0.0031 mm	35.5 @ 0.0031 mm	25.2 @ 0.0030 mm	29.1 @ 0.0031 mm	16.1 @ 0.0031 mm	20.2 @ 0.0030 mm
		20.8 @ 0.0013 mm	32.1 @ 0.0013 mm	20.6 @ 0.0013 mm	24.3 @ 0.0013 mm	14.5 @ 0.0013 mm	19.2 @ 0.0013 mm

See Appendix C for grain size distribution graphs.

CH - Clay of high plasticity, elastic silt
CL - Clay
SC - Clayey sand
MH - Silt of high plasticity, elastic silt
SM - Silty sand
SP - Poorly-graded sand

Source: AMEC, Inc.
Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 6
Analytical Results for Dry Weight Metals, Ammonia, TPH, TOC, and Organotins in Sediment Samples

				REFERENCE				UPPER HARBOR AND WIDENERS															
			SAMPLE ID	RS-CH-A				DANI12				DANW12				NYNC12				NCW12				CCRK12			
Analyte	Maximum Detected Conc. mg/kg	TEL mg/kg	ERL mg/kg	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL
Metals																											
Antimony	0.88	x	x	0.026	J,N	0.020	0.050	0.155	N	0.008	0.046	0.124	N	0.009	0.049	0.236	N	0.009	0.050	0.404	N	0.008	0.046	0.122	N	0.009	0.050
Arsenic	**13.7**	7.24	8.2	2.17	--	0.06	0.49	5.78	--	0.06	0.47	**7.52**	--	0.06	0.50	6.93	--	0.06	0.50	6.95	--	0.05	0.45	7.14	--	0.06	0.50
Beryllium	1.12	x	x	0.120	J	0.003	0.196	0.550	--	0.003	0.186	0.944	--	0.003	0.200	0.548	--	0.003	0.199	0.538	--	0.003	0.182	0.492	--	0.003	0.198
Cadmium	**5.410**	0.676	1.2	0.012	J	0.003	0.020	0.414	--	0.003	0.019	0.591	--	0.003	0.020	0.423	--	0.003	0.020	0.493	--	0.003	0.018	0.294	--	0.003	0.020
Chromium	**112**	52.3	81	5.69	--	0.03	0.20	42.5	--	0.03	0.19	45.6	--	0.03	0.20	**57.0**	--	0.03	0.20	**59.4**	--	0.03	0.18	33.7	--	0.03	0.20
Copper	14.6	18.7	34	0.27	--	0.05	0.10	9.16	--	0.05	0.09	7.16	--	0.05	0.10	10.9	--	0.05	0.10	11.4	--	0.05	0.09	8.29	--	0.05	0.10
Lead	12.9	30.24	46.7	1.170	--	0.009	0.049	5.300	--	0.008	0.047	9.290	--	0.009	0.050	4.530	--	0.009	0.050	3.590	--	0.008	0.045	5.010	--	0.009	0.050
Mercury	0.05	0.13	0.15	ND	U	0.002	0.019	0.020	J	0.003	0.027	0.023	J	0.003	0.032	0.019	J	0.003	0.027	0.023	J	0.003	0.026	0.014	J	0.003	0.026
Nickel	**29.6**	15.9	20.9	0.82	--	0.03	0.20	**19.7**	--	0.03	0.19	**17.3**	--	0.03	0.20	**22.9**	--	0.03	0.20	**23.5**	--	0.03	0.18	15.3	--	0.03	0.20
Selenium	3.59	x	x	ND	U	0.03	0.10	1.60	--	0.06	0.19	1.31	--	0.03	0.10	2.18	--	0.06	0.20	2.25	--	0.11	0.37	1.35	--	0.06	0.20
Silver	0.654	0.73	1	ND	U	0.004	0.020	0.074	--	0.007	0.019	0.105	--	0.008	0.020	0.081	--	0.008	0.020	0.079	--	0.007	0.018	0.069	--	0.008	0.020
Thallium	1.36	x	x	0.013	J	0.002	0.020	0.187	--	0.002	0.019	0.291	--	0.002	0.020	0.173	--	0.002	0.020	0.183	--	0.002	0.018	0.169	--	0.002	0.020
Zinc	92.9	124	150	4.2	--	0.2	0.5	43.4	--	0.2	0.5	47.7	--	0.2	0.5	48.5	--	0.2	0.5	48.4	--	0.2	0.5	37.2	--	0.2	0.5
Others																											
Ammonia (as total nitrogen)	170	x	x	0.78	--	0.07	0.16	107	--	0.7	8.1	170	--	0.4	4.8	56.2	--	0.4	4.4	56.6	--	0.7	8.4	56.5	--	0.4	4.0
Petroleum Hydrocarbons, Total	630	x	x	ND	U	110	130	ND	U	140	160	ND	U	160	190	ND	U	150	180	150	J	140	170	ND	U	140	160
Analyte	Maximum Detected Conc. %	TEL %	ERL %	Result %	Qualifier	MDL	MRL	Result %	Qualifier	MDL	MRL	Result %	Qualifier	MDL	MRL	Result %	Qualifier	MDL	MRL	Result %	Qualifier	MDL	MRL	Result %	Qualifier	MDL	MRL
Carbon, Total Organic	2.6	x	x	0.070	--	0.020	0.050	1.58	--	0.020	0.050	2.11	--	0.020	0.050	2.03	--	0.020	0.050	2.43	--	0.020	0.050	1.15	--	0.020	0.050
Analyte	Maximum Detected Conc. µg/kg	TEL µg/kg	ERL µg/kg	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
n-butyltin Cation	1.3	x	x	ND	U	0.33	1.3	ND	U	0.26	1.0	ND	U	0.51	2.0	ND	U	0.46	1.8	ND	U	0.26	1.0	ND	U	0.43	1.7
Di-n-butyltin Cation	2.0	x	x	ND	U	0.24	1.3	ND	U	0.19	1.0	ND	U	0.37	2.0	ND	Ui	1.3	1.8	ND	Ui	0.87	1.0	ND	Ui	1.3	1.7
Tri-n-butyltin Cation	3.8	x	x	ND	U	0.54	1.3	0.82	J	0.43	1.0	ND	U	0.83	2.0	2.0	--	0.77	1.8	2.0	--	0.43	1.0	1.6	J	0.71	1.7
Total Organotins (as tin)	2.6	x	x	0.55				0.60				0.87				1.8				1.4				1.6			

TABLE 6 *(continued)*
Analytical Results for Dry Weight Metals, Ammonia, TPH, TOC, and Organotins in Sediment Samples

SAMPLE ID	UPPER HARBOR AND WIDENERS												LOWER HARBOR AND WIDENERS											
	PTFC12				ORDT12				ORDT12 (field split)				REHR12				BENW12				HGIS12				HGIW12			
Analyte	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL
Metals																												
Antimony	0.295	N	0.009	0.050	0.041	J,N	0.009	0.050	0.119	N	0.009	0.050	0.180	N	0.019	0.049	0.333	N	0.020	0.050	0.155	N	0.020	0.050	0.099	N	0.020	0.049
Arsenic	**8.48**	--	0.06	0.49	6.99	--	0.06	0.50	**7.27**	--	0.06	0.49	4.65	--	0.06	0.49	3.85	--	0.06	0.47	4.91	--	0.06	0.46	6.29	--	0.06	0.49
Beryllium	0.605	--	0.003	0.197	0.597	--	0.003	0.198	0.728	--	0.003	0.197	0.425	--	0.003	0.194	0.378	--	0.003	0.189	0.389	--	0.003	0.185	0.545	--	0.003	0.195
Cadmium	0.438	--	0.003	0.020	0.089	--	0.003	0.020	0.108	--	0.003	0.020	0.390	--	0.003	0.019	0.601	--	0.003	0.019	0.254	--	0.003	0.019	0.233	--	0.003	0.019
Chromium	**61.6**	--	0.03	0.20	19.7	--	0.03	0.20	20.5	--	0.03	0.20	22.0	--	0.03	0.19	33.7	--	0.03	0.19	24.8	--	0.03	0.19	22.7	--	0.03	0.20
Copper	12.5	--	0.05	0.10	4.98	--	0.05	0.10	5.32	--	0.05	0.10	3.27	--	0.05	0.10	5.18	--	0.05	0.09	4.76	--	0.05	0.09	3.98	--	0.05	0.10
Lead	6.630	--	0.009	0.049	7.270	--	0.009	0.050	7.380	--	0.009	0.049	3.240	--	0.009	0.049	5.190	--	0.008	0.047	3.550	--	0.008	0.046	4.800	--	0.009	0.049
Mercury	0.020	J	0.003	0.032	0.012	J	0.003	0.026	0.016	J	0.003	0.032	0.011	J	0.002	0.019	0.017	J	0.002	0.021	0.016	J	0.002	0.019	0.020	--	0.002	0.018
Nickel	**24.8**	--	0.03	0.20	6.29	--	0.03	0.20	6.87	--	0.03	0.20	7.95	--	0.03	0.19	14.2	--	0.03	0.19	10.6	--	0.03	0.19	8.04	--	0.03	0.20
Selenium	1.97	--	0.06	0.20	0.24	--	0.03	0.10	0.39	--	0.03	0.10	0.56	--	0.03	0.10	1.42	--	0.06	0.20	1.20	--	0.06	0.20	0.60	--	0.03	0.09
Silver	0.086	--	0.008	0.020	0.036	--	0.008	0.020	0.063	--	0.008	0.020	0.079	--	0.004	0.019	0.108	--	0.004	0.020	0.047	--	0.004	0.020	0.048	--	0.004	0.020
Thallium	0.182	--	0.002	0.020	0.093	--	0.002	0.020	0.125	--	0.002	0.020	0.247	--	0.002	0.019	0.412	--	0.002	0.019	0.134	--	0.002	0.019	0.243	--	0.002	0.019
Zinc	53.8	--	0.2	0.5	25.3	--	0.2	0.5	26.5	--	0.2	0.5	19.8	--	0.2	0.5	28.0	--	0.2	0.5	23.6	--	0.2	0.5	22.1	--	0.2	0.5
Others																												
Ammonia (as total nitrogen)	71.7	--	0.4	4.7	95.3	--	0.4	4.3	98.8	--	0.4	4.3	33.0	--	0.07	0.18	13.7	--	0.07	0.18	16.4	--	0.08	0.19	27.8	--	0.08	0.18
Petroleum Hydrocarbons, Total	ND	U	150	190	ND	U	150	180	ND	U	150	180	ND	U	110	140	ND	U	110	140	ND	U	120	150	ND	U	120	140
Analyte	**Result %**	**Qualifier**	**MDL**	**MRL**	**Result %**	**Qualifier**	**MDL**	**MRL**	**Result %**	**Qualifier**	**MDL**	**MRL**	**Result %**	**Qualifier**	**MDL**	**MRL**	**Result %**	**Qualifier**	**MDL**	**MRL**	**Result %**	**Qualifier**	**MDL**	**MRL**	**Result %**	**Qualifier**	**MDL**	**MRL**
Carbon, Total Organic	2.02	--	0.020	0.050	1.08	--	0.020	0.050	1.08	--	0.020	0.050	0.599	--	0.020	0.050	0.873	--	0.020	0.050	1.19	--	0.020	0.050	0.766	--	0.020	0.050
Analyte	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**
n-butyltin Cation	ND	U	0.48	1.9	0.82	J	0.46	1.8	ND	U	0.45	1.8	ND	U	0.36	1.4	ND	U	0.36	1.4	ND	U	0.39	1.5	ND	U	0.37	1.5
Di-n-butyltin Cation	ND	Ui	1.2	1.9	ND	U	0.34	1.8	ND	U	0.33	1.8	ND	U	0.26	1.4	ND	U	0.26	1.4	ND	U	0.29	1.5	ND	U	0.27	1.5
Tri-n-butyltin Cation	3.8	--	0.78	1.9	ND	Ui	1.3	1.8	ND	U	0.74	1.8	ND	U	0.59	1.4	ND	U	0.59	1.4	ND	U	0.64	1.5	ND	U	0.61	1.5
Total Organotins (as tin)	2.5				1.3				0.78				0.62				0.62				0.67				0.64			

TABLE 6 *(continued)*
Analytical Results for Dry Weight Metals, Ammonia, TPH, TOC, and Organotins in Sediment Samples

SAMPLE ID	LOWER HARBOR AND WIDENERS																				ANCHORAGE BASIN			
	DRMY12				WUTB12				WRTB12				WLR12				WLRW12				ABMA12			
Analyte	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL
Metals																								
Antimony	0.082	N	0.020	0.050	0.264	N	0.019	0.049	0.088	N	0.020	0.049	0.189	N	0.020	0.049	0.153	N	0.020	0.050	0.067	N	0.020	0.050
Arsenic	**8.91**	--	0.06	0.49	**11.8**	--	0.06	0.50	5.05	--	0.06	0.49	6.09	--	0.06	0.47	4.39	--	0.06	0.47	**8.77**	--	0.06	0.47
Beryllium	0.710	--	0.003	0.195	0.751	--	0.003	0.198	0.451	--	0.003	0.198	0.400	--	0.003	0.189	0.361	--	0.003	0.187	0.550	--	0.003	0.189
Cadmium	0.208	--	0.003	0.020	0.446	--	0.003	0.020	0.150	--	0.003	0.020	0.336	--	0.003	0.019	0.238	--	0.003	0.019	0.314	--	0.003	0.019
Chromium	30.6	--	0.03	0.20	**55.3**	--	0.03	0.20	21.3	--	0.03	0.20	34.8	--	0.03	0.19	23.4	--	0.03	0.19	24.2	--	0.03	0.19
Copper	7.54	--	0.05	0.10	14.3	--	0.05	0.10	4.84	--	0.05	0.10	6.83	--	0.05	0.09	3.64	--	0.05	0.09	5.50	--	0.05	0.10
Lead	8.940	--	0.009	0.049	10.4	--	0.009	0.050	5.560	--	0.009	0.049	3.350	--	0.009	0.047	2.400	--	0.008	0.047	7.340	--	0.009	0.047
Mercury	0.025	--	0.002	0.023	0.040	--	0.002	0.020	0.027	--	0.002	0.018	0.013	J	0.002	0.018	0.010	J	0.002	0.019	0.019	--	0.002	0.019
Nickel	10.8	--	0.03	0.20	**22.3**	--	0.03	0.20	7.72	--	0.03	0.20	14.9	--	0.03	0.19	9.45	--	0.03	0.19	7.64	--	0.03	0.19
Selenium	0.54	--	0.03	0.10	1.93	--	0.06	0.20	0.60	--	0.03	0.10	1.09	--	0.06	0.20	1.12	--	0.03	0.10	0.33	--	0.03	0.10
Silver	0.054	--	0.004	0.020	0.106	--	0.004	0.019	0.035	--	0.004	0.020	0.054	--	0.004	0.020	0.044	--	0.004	0.020	0.064	--	0.004	0.020
Thallium	0.148	--	0.002	0.020	0.231	--	0.002	0.020	0.141	--	0.002	0.020	0.159	--	0.002	0.019	0.123	--	0.002	0.019	0.168	--	0.002	0.019
Zinc	36.6	--	0.2	0.5	59.5	--	0.2	0.5	22.6	--	0.2	0.5	32.2	--	0.2	0.5	20.3	--	0.2	0.5	27.6	--	0.2	0.5
Others																								
Ammonia (as total nitrogen)	130	--	0.10	0.25	111	--	0.13	0.32	40.7	--	0.08	0.19	23.6	--	0.08	0.21	5.79	--	0.07	0.17	109	--	0.09	0.23
Petroleum Hydrocarbons, Total	280	--	160	190	480	--	200	250	150	J	120	150	210	--	130	160	ND	U	110	130	340	--	150	180
Analyte	**Result %**	**Qualifier**	**MDL**	**MRL**	**Result %**	**Qualifier**	**MDL**	**MRL**	**Result %**	**Qualifier**	**MDL**	**MRL**	**Result %**	**Qualifier**	**MDL**	**MRL**	**Result %**	**Qualifier**	**MDL**	**MRL**	**Result %**	**Qualifier**	**MDL**	**MRL**
Carbon, Total Organic	1.43	--	0.020	0.050	2.24	--	0.020	0.050	0.778	--	0.020	0.050	1.02	--	0.020	0.050	0.854	--	0.020	0.050	0.916	--	0.020	0.050
Analyte	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**
n-butyltin Cation	ND	U	0.50	2.0	ND	U	0.63	2.5	ND	U	0.39	1.5	ND	U	0.42	1.6	ND	U	0.35	1.4	ND	Ui	0.81	1.8
Di-n-butyltin Cation	ND	Ui	0.80	2.0	ND	U	0.46	2.5	ND	U	0.28	1.5	ND	U	0.31	1.6	ND	U	0.26	1.4	ND	Ui	0.50	1.8
Tri-n-butyltin Cation	1.2	J	0.83	2.0	3.2	--	1.1	2.5	ND	U	0.64	1.5	2.0	--	0.68	1.6	ND	U	0.57	1.4	ND	U	0.75	1.8
Total Organotins (as tin)	1.2				2.0				0.67				1.3				0.60				1.1			

TABLE 6 *(continued)*
Analytical Results for Dry Weight Metals, Ammonia, TPH, TOC, and Organotins in Sediment Samples

SAMPLE ID	SHEM CREEK				ENTRANCE CHANNEL															
	SHCR12				CHEC12-1				CHEC12-1 Field Split				CHEC12-2				MTPL12			
Analyte	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL
Metals																				
Antimony	0.054	N	0.020	0.050	0.076	N	0.020	0.050	0.059	N	0.020	0.049	0.257	N	0.019	0.047	0.880	N	0.019	0.047
Arsenic	**11.8**	--	0.06	0.50	**9.03**	--	0.06	0.48	**8.68**	--	0.06	0.50	6.75	--	0.06	0.48	**13.7**	--	0.06	0.48
Beryllium	0.715	--	0.003	0.200	0.575	--	0.003	0.192	0.548	--	0.003	0.202	0.485	--	0.003	0.191	1.120	--	0.003	0.191
Cadmium	0.129	--	0.003	0.020	0.204	--	0.003	0.019	0.212	--	0.003	0.020	**3.500**	--	0.003	0.019	**5.410**	--	0.003	0.019
Chromium	27.7	--	0.03	0.20	25.4	--	0.03	0.19	25.1	--	0.03	0.20	46.6	--	0.03	0.19	**112**	--	0.03	0.19
Copper	11.1	--	0.05	0.10	4.93	--	0.05	0.10	4.95	--	0.05	0.10	7.37	--	0.05	0.10	14.6	--	0.05	0.10
Lead	12.9	--	0.009	0.050	7.700	--	0.009	0.048	7.520	--	0.009	0.050	3.260	--	0.009	0.048	2.830	--	0.009	0.048
Mercury	0.040	--	0.003	0.031	0.020	--	0.002	0.018	0.018	J	0.002	0.020	0.021	--	0.002	0.020	0.050	--	0.002	0.019
Nickel	8.02	--	0.03	0.20	6.71	--	0.03	0.19	6.66	--	0.03	0.20	15.3	--	0.03	0.19	**29.6**	--	0.03	0.19
Selenium	0.36	--	0.03	0.10	0.30	--	0.03	0.10	0.31	--	0.03	0.10	2.10	--	0.06	0.20	3.59	--	0.15	0.49
Silver	0.052	--	0.004	0.020	0.034	--	0.004	0.020	0.037	--	0.004	0.020	0.391	--	0.004	0.019	0.654	--	0.004	0.019
Thallium	0.142	--	0.002	0.020	0.116	--	0.002	0.019	0.113	--	0.002	0.020	0.573	--	0.002	0.019	1.360	--	0.002	0.019
Zinc	44.0	--	0.2	0.5	24.9	--	0.2	0.5	24.1	--	0.2	0.5	49.3	--	0.2	0.5	92.9	--	0.2	0.5
Others																				
Ammonia (as total nitrogen)	118	--	0.12	0.29	77.4	--	0.11	0.26	42.2	--	0.11	0.26	40.3	--	0.08	0.20	3.52	--	0.08	0.20
Petroleum Hydrocarbons, Total	630	--	190	230	360	--	170	200	530	--	170	210	ND	U	130	150	ND	U	130	160

Analyte	Result %	Qualifier	MDL	MRL	Result %	Qualifier	MDL	MRL	Result %	Qualifier	MDL	MRL	Result %	Qualifier	MDL	MRL	Result %	Qualifier	MDL	MRL
Carbon, Total Organic	1.66	--	0.020	0.050	1.14	--	0.020	0.050	1.15	--	0.020	0.050	1.53	--	0.020	0.050	2.60	--	0.020	0.050

Analyte	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
n-butyltin Cation	1.3	JP	0.59	2.3	ND	U	0.53	2.1	ND	U	0.54	2.1	ND	U	0.40	1.6	ND	U	0.41	1.6
Di-n-butyltin Cation	2.0	J	0.43	2.3	ND	U	0.39	2.1	ND	U	0.39	2.1	ND	Ui	0.41	1.6	ND	U	0.30	1.6
Tri-n-butyltin Cation	1.6	J	0.98	2.3	ND	U	0.87	2.1	ND	U	0.88	2.1	ND	U	0.66	1.6	ND	U	0.67	1.6
Total Organotins (as tin)	2.6				0.91				0.92				0.75				0.70			

Results in bold exceed the TEL and/or ERL.
i = The MRL/MDL is elevated due to a matrix interference.
J = The result is an estimated value.
N = The matrix spike sample recovery is not within control limits (See Section 4 or the laboratory case narrative for an explanation).
P = The GC or HPLC confirmation criteria were exceeded and the relative percent difference is greater than 40% between the two analytical results.
U = The analyte was analyzed but was not detected (ND) at or above the MDL.
-- = no qualifier needed
Source: ALS Environmental Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 7
Analytical Results for Dry Weight PAHs in Sediment Samples

Analyte	SAMPLE ID	Max Conc. µg/kg	TEL µg/kg	ERL µg/kg	REFERENCE STATION				UPPER HARBOR AND WIDENERS															
					RS-CH-A				DANI12				DANW12				NYNC12				NCW12				CCRK12			
					Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
1-Methylnaphthalene^{LMW}		6.2	x	x	ND	U	0.51	3.2	1.3	J	0.51	4.2	ND	U	0.51	4.9	ND	U	0.51	4.3	0.83	J	0.51	4.2	0.59	J	0.51	4.1
2-Methylnaphthalene^{LMW}		7.9	20.2	70	ND	U	0.46	3.2	2.5	J	0.46	4.2	ND	U	0.46	4.9	0.70	J	0.46	4.3	1.5	J	0.46	4.2	1.2	J	0.46	4.1
Acenaphthene^{LMW}		1.7	6.71	16	ND	U	0.76	3.2	1.3	J	0.76	4.2	ND	U	0.76	4.9	1.1	J	0.76	4.3	1.0	J	0.76	4.2	1.1	J	0.76	4.1
Acenaphthylene		5.3	5.87	44	ND	U	0.59	3.2	1.5	J	0.59	4.2	ND	U	0.59	4.9	2.0	J	0.59	4.3	1.4	J	0.59	4.2	1.3	J	0.59	4.1
Anthracene^{LMW}		7.7	46.9	85.3	ND	U	0.58	3.2	3.5	J	0.58	4.2	ND	U	0.58	4.9	4.4	--	0.58	4.3	4.0	J	0.58	4.2	2.6	J	0.58	4.1
Benzo(a)anthracene^{HMW}		44	74.8	261	ND	U	0.72	3.2	10	--	0.72	4.2	1.0	J	0.72	4.9	14	--	0.72	4.3	12	--	0.72	4.2	8.8	--	0.72	4.1
Benzo(a)pyrene^{HMW}		51	88.8	430	ND	U	0.76	3.2	11	--	0.76	4.2	ND	U	0.76	4.9	14	--	0.76	4.3	10	--	0.76	4.2	9.3	--	0.76	4.1
Benzo(b)fluoranthene		94	x	x	ND	U	0.92	3.2	16	--	0.92	4.2	ND	U	0.92	4.9	26	--	0.92	4.3	17	--	0.92	4.2	14	--	0.92	4.1
Benzo(g,h,i)perylene		42	x	x	ND	U	0.85	3.2	5.8	--	0.85	4.2	ND	U	0.85	4.9	8.1	--	0.85	4.3	6.7	--	0.85	4.2	5.6	--	0.85	4.1
Benzo(k)fluoranthene		36	x	x	ND	U	0.87	3.2	6.3	--	0.87	4.2	ND	U	0.87	4.9	8.4	--	0.87	4.3	6.7	--	0.87	4.2	5.2	--	0.87	4.1
Chrysene^{HMW}		62	108	384	ND	U	0.80	3.2	11	--	0.80	4.2	ND	U	0.80	4.9	17	--	0.80	4.3	10	--	0.80	4.2	7.3	--	0.80	4.1
Dibenzo(a,h)anthracene^{HMW}		**8.3**	6.22	63.4	ND	U	0.80	3.2	1.8	J	0.80	4.2	ND	U	0.80	4.9	2.5	J	0.80	4.3	1.9	J	0.80	4.2	1.6	J	0.80	4.1
Fluoranthene^{HMW}		73	113	600	ND	U	0.98	3.2	18	--	0.98	4.2	1.3	J	0.98	4.9	35	--	0.98	4.3	26	--	0.98	4.2	17	--	0.98	4.1
Fluorene^{LMW}		1.7	21.2	19	ND	U	0.61	3.2	1.7	J	0.61	4.2	ND	U	0.61	4.9	1.1	J	0.61	4.3	1.3	J	0.61	4.2	1.1	J	0.61	4.1
Indeno(1,2,3-cd)pyrene		44	x	x	ND	U	0.87	3.2	6.9	--	0.87	4.2	ND	U	0.87	4.9	10	--	0.87	4.3	8.2	--	0.87	4.2	6.6	--	0.87	4.1
Naphthalene^{LMW}		3.8	34.6	160	ND	U	0.60	3.2	3.8	J	0.60	4.2	1.1	J	0.60	4.9	2.0	J	0.60	4.3	2.0	J	0.60	4.2	3.3	J	0.60	4.1
Phenanthrene^{LMW}		10	86.7	240	ND	U	1.4	3.2	3.8	J	1.4	4.2	ND	U	1.4	4.9	3.6	J	1.4	4.3	3.0	J	1.4	4.2	3.3	J	1.4	4.1
Pyrene^{HMW}		76	153	665	ND	U	0.76	3.2	20	--	0.76	4.2	1.9	J	0.76	4.9	41	--	0.76	4.3	34	--	0.76	4.2	20	--	0.76	4.1
Total LMW PAHs		24	312	552	4.9				18				5.4				13				14				13			
Total HMW PAHs		314	655	1700	4.8				72				6.6				124				94				64			
Total PAHs		559	1684	4022	14				126				16				191				148				110			

TABLE 7 *(continued)*
Analytical Results for Dry Weight PAHs in Sediment Samples

SAMPLE ID	UPPER HARBOR AND WIDENERS												LOWER HARBOR AND WIDENERS											
	PTFC12				ORDT12				ORDT12 (field split)				REHR12				BENW12				HGIS12				HGIW12			
Analyte	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
1-Methylnaphthalene^{LMW}	ND	U	0.51	4.7	ND	U	0.51	4.4	ND	U	0.51	4.4	ND	U	0.51	3.5	ND	U	0.51	3.4	ND	U	0.51	3.7	0.68	J	0.51	3.6
2-Methylnaphthalene^{LMW}	0.63	J	0.46	4.7	ND	U	0.46	4.4	ND	U	0.46	4.4	0.66	J	0.46	3.5	0.57	J	0.46	3.4	0.73	J	0.46	3.7	1.1	J	0.46	3.6
Acenaphthene^{LMW}	1.0	J	0.76	4.7	ND	U	0.76	4.4	ND	U	0.76	4.4	ND	U	0.76	3.5	ND	U	0.76	3.4	0.86	J	0.76	3.7	1.7	J	0.76	3.6
Acenaphthylene	1.5	J	0.59	4.7	0.78	J	0.59	4.4	0.93	J	0.59	4.4	ND	U	0.59	3.5	ND	U	0.59	3.4	2.1	J	0.59	3.7	2.5	J	0.59	3.6
Anthracene^{LMW}	5.6	--	0.58	4.7	2.3	J	0.58	4.4	2.8	J	0.58	4.4	ND	U	0.58	3.5	ND	U	0.58	3.4	3.1	J	0.58	3.7	3.5	J	0.58	3.6
Benzo(a)anthracene^{HMW}	12	--	0.72	4.7	5.7	--	0.72	4.4	6.5	--	0.72	4.4	1.4	J	0.72	3.5	1.0	J	0.72	3.4	13	--	0.72	3.7	14	--	0.72	3.6
Benzo(a)pyrene^{HMW}	13	--	0.76	4.7	5.5	--	0.76	4.4	6.3	--	0.76	4.4	1.5	J	0.76	3.5	ND	U	0.76	3.4	14	--	0.76	3.7	14	--	0.76	3.6
Benzo(b)fluoranthene	20	--	0.92	4.7	8.5	--	0.92	4.4	9.4	--	0.92	4.4	2.0	J	0.92	3.5	0.98	J	0.92	3.4	17	--	0.92	3.7	15	--	0.92	3.6
Benzo(g,h,i)perylene	8.3	--	0.85	4.7	3.8	J	0.85	4.4	4.2	J	0.85	4.4	1.1	J	0.85	3.5	ND	U	0.85	3.4	8.2	--	0.85	3.7	7.5	--	0.85	3.6
Benzo(k)fluoranthene	7.2	--	0.87	4.7	3.3	J	0.87	4.4	2.9	J	0.87	4.4	ND	U	0.87	3.5	ND	U	0.87	3.4	7.3	--	0.87	3.7	6.2	--	0.87	3.6
Chrysene^{HMW}	13	--	0.80	4.7	6.6	--	0.80	4.4	7.4	--	0.80	4.4	1.1	J	0.80	3.5	ND	U	0.80	3.4	13	--	0.80	3.7	13	--	0.80	3.6
Dibenzo(a,h)anthracene^{HMW}	2.5	J	0.80	4.7	1.1	J	0.80	4.4	1.2	J	0.80	4.4	ND	U	0.80	3.5	ND	U	0.80	3.4	2.0	J	0.80	3.7	1.7	J	0.80	3.6
Fluoranthene^{HMW}	26	--	0.98	4.7	11	--	0.98	4.4	13	--	0.98	4.4	1.7	J	0.98	3.5	1.3	J	0.98	3.4	24	--	0.98	3.7	27	--	0.98	3.6
Fluorene^{LMW}	1.6	J	0.61	4.7	0.83	J	0.61	4.4	0.80	J	0.61	4.4	ND	U	0.61	3.5	ND	U	0.61	3.4	0.83	J	0.61	3.7	1.5	J	0.61	3.6
Indeno(1,2,3-cd)pyrene	10	--	0.87	4.7	4.3	J	0.87	4.4	5.0	--	0.87	4.4	1.4	J	0.87	3.5	ND	U	0.87	3.4	9.4	--	0.87	3.7	7.5	--	0.87	3.6
Naphthalene^{LMW}	1.8	J	0.60	4.7	1.1	J	0.60	4.4	1.1	J	0.60	4.4	1.1	J	0.60	3.5	1.1	J	0.60	3.4	2.0	J	0.60	3.7	3.1	J	0.60	3.6
Phenanthrene^{LMW}	2.5	J	1.4	4.7	1.5	J	1.4	4.4	1.8	J	1.4	4.4	ND	U	1.4	3.5	ND	U	1.4	3.4	5.8	--	1.4	3.7	7.0	--	1.4	3.6
Pyrene^{HMW}	28	--	0.76	4.7	10	--	0.76	4.4	12	--	0.76	4.4	1.5	J	0.76	3.5	1.4	J	0.76	3.4	24	--	0.76	3.7	28	--	0.76	3.6
Total LMW PAHs	14				7.5				8.2				5.6				5.5				14				19			
Total HMW PAHs	95				40				46				8.0				6.1				90				98			
Total PAHs	155				68				77				20				16				148				155			

TABLE 7 *(continued)*
Analytical Results for Dry Weight PAHs in Sediment Samples

SAMPLE ID	LOWER HARBOR AND WIDENERS																				ANCHORAGE BASIN			
	DRMY12				WUTB12				WRTB12				WLR12				WLRW12				ABMA12			
Analyte	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
1-Methylnaphthalene[LMW]	0.66	J	0.51	4.8	0.78	J	0.63	6.2	ND	U	0.51	3.7	ND	U	0.51	4.0	6.2	--	0.51	3.4	ND	U	0.51	4.4
2-Methylnaphthalene[LMW]	1.0	J	0.46	4.8	1.1	J	0.57	6.2	0.55	J	0.46	3.7	0.53	J	0.46	4.0	7.9	--	0.46	3.4	0.68	J	0.46	4.4
Acenaphthene[LMW]	1.3	J	0.76	4.8	ND	U	0.94	6.2	ND	U	0.76	3.7	ND	U	0.76	4.0	ND	U	0.76	3.4	ND	U	0.76	4.4
Acenaphthylene	2.1	J	0.59	4.8	1.8	J	0.73	6.2	1.1	J	0.59	3.7	0.75	J	0.59	4.0	ND	U	0.59	3.4	1.2	J	0.59	4.4
Anthracene[LMW]	4.4	J	0.58	4.8	4.7	J	0.72	6.2	1.4	J	0.58	3.7	1.5	J	0.58	4.0	ND	U	0.58	3.4	2.0	J	0.58	4.4
Benzo(a)anthracene[HMW]	12	--	0.72	4.8	9.2	--	0.89	6.2	5.0	--	0.72	3.7	4.4	--	0.72	4.0	ND	U	0.72	3.4	8.5	--	0.72	4.4
Benzo(a)pyrene[HMW]	13	--	0.76	4.8	11	--	0.94	6.2	5.8	--	0.76	3.7	4.4	--	0.76	4.0	ND	U	0.76	3.4	9.4	--	0.76	4.4
Benzo(b)fluoranthene	19	--	0.92	4.8	16	--	1.2	6.2	8.3	--	0.92	3.7	6.1	--	0.92	4.0	ND	U	0.92	3.4	13	--	0.92	4.4
Benzo(g,h,i)perylene	8.4	--	0.85	4.8	8.3	--	1.1	6.2	4.2	--	0.85	3.7	2.8	J	0.85	4.0	ND	U	0.85	3.4	7.0	--	0.85	4.4
Benzo(k)fluoranthene	7.1	--	0.87	4.8	6.4	--	1.1	6.2	3.1	J	0.87	3.7	2.3	J	0.87	4.0	ND	U	0.87	3.4	4.7	--	0.87	4.4
Chrysene[HMW]	14	--	0.80	4.8	7.9	--	0.99	6.2	6.6	--	0.80	3.7	4.8	--	0.80	4.0	ND	U	0.80	3.4	9.6	--	0.80	4.4
Dibenzo(a,h)anthracene[HMW]	2.0	J	0.80	4.8	1.8	J	0.99	6.2	0.84	J	0.80	3.7	1.0	J	0.80	4.0	ND	U	0.80	3.4	2.0	J	0.80	4.4
Fluoranthene[HMW]	22	--	0.98	4.8	30	--	1.3	6.2	11	--	0.98	3.7	9.3	--	0.98	4.0	ND	U	0.98	3.4	14	--	0.98	4.4
Fluorene[LMW]	1.5	J	0.61	4.8	1.7	J	0.75	6.2	ND	U	0.61	3.7	0.65	J	0.61	4.0	1.5	J	0.61	3.4	0.74	J	0.61	4.4
Indeno(1,2,3-cd)pyrene	8.3	--	0.87	4.8	8.1	--	1.1	6.2	4.7	--	0.87	3.7	3.5	J	0.87	4.0	ND	U	0.87	3.4	8.7	--	0.87	4.4
Naphthalene[LMW]	2.1	J	0.60	4.8	2.7	J	0.74	6.2	1.6	J	0.60	3.7	1.2	J	0.60	4.0	3.4	--	0.60	3.4	1.5	J	0.60	4.4
Phenanthrene[LMW]	3.2	J	1.4	4.8	3.3	J	1.8	6.2	1.9	J	1.4	3.7	2.4	J	1.4	4.0	ND	U	1.4	3.4	3.9	J	1.4	4.4
Pyrene[HMW]	22	--	0.76	4.8	25	--	0.94	6.2	11	--	0.76	3.7	8.2	--	0.76	4.0	ND	U	0.76	3.4	13	--	0.76	4.4
Total LMW PAHs	14				15				7.3				7.6				22				10			
Total HMW PAHs	85				85				40				32				4.8				57			
Total PAHs	144				141				69				55				31				101			

TABLE 7 *(continued)*
Analytical Results for Dry Weight PAHs in Sediment Samples

SAMPLE ID	SHEM CREEK CHANNEL				ENTRANCE CHANNEL															
	SHCR12				CHEC12-1				CHEC12-1 (field split)				CHEC12-2				MTPL12			
Analyte	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
1-Methylnaphthalene[LMW]	0.64	J	0.58	5.7	ND	U	0.52	5.1	0.54	J	0.53	5.2	ND	U	0.51	3.9	ND	U	0.51	3.9
2-Methylnaphthalene[LMW]	1.1	J	0.52	5.7	0.67	J	0.47	5.1	0.77	J	0.47	5.2	0.50	J	0.46	3.9	0.63	J	0.46	3.9
Acenaphthene[LMW]	0.89	J	0.86	5.7	ND	U	0.78	5.1	ND	U	0.78	5.2	ND	U	0.76	3.9	ND	U	0.76	3.9
Acenaphthylene	5.3	J	0.67	5.7	1.3	J	0.61	5.1	1.6	J	0.61	5.2	ND	U	0.59	3.9	ND	U	0.59	3.9
Anthracene[LMW]	7.7	--	0.66	5.7	2.1	J	0.60	5.1	2.4	J	0.60	5.2	0.75	J	0.58	3.9	ND	U	0.58	3.9
Benzo(a)anthracene[HMW]	44	--	0.82	5.7	5.7	--	0.74	5.1	6.5	--	0.74	5.2	3.7	J	0.72	3.9	1.1	J	0.72	3.9
Benzo(a)pyrene[HMW]	51	--	0.86	5.7	6.9	--	0.78	5.1	8.7	--	0.78	5.2	3.0	J	0.76	3.9	ND	U	0.76	3.9
Benzo(b)fluoranthene	94	--	1.1	5.7	9.2	--	0.94	5.1	11	--	0.94	5.2	3.9	--	0.92	3.9	ND	U	0.92	3.9
Benzo(g,h,i)perylene	42	--	0.96	5.7	5.0	J	0.87	5.1	6.9	--	0.87	5.2	2.5	J	0.85	3.9	ND	U	0.85	3.9
Benzo(k)fluoranthene	36	--	0.99	5.7	4.0	J	0.89	5.1	5.1	J	0.89	5.2	1.2	J	0.87	3.9	ND	U	0.87	3.9
Chrysene[HMW]	62	--	0.91	5.7	7.9	--	0.82	5.1	10	--	0.82	5.2	3.5	J	0.80	3.9	ND	U	0.80	3.9
Dibenzo(a,h)anthracene[HMW]	**8.3**	--	0.91	5.7	1.2	J	0.82	5.1	1.3	J	0.82	5.2	ND	U	0.80	3.9	ND	U	0.80	3.9
Fluoranthene[HMW]	73	--	1.2	5.7	9.5	--	1.0	5.1	8.4	--	1.1	5.2	5.1	--	0.98	3.9	1.3	J	0.98	3.9
Fluorene[LMW]	1.5	J	0.69	5.7	ND	U	0.63	5.1	ND	U	0.63	5.2	ND	U	0.61	3.9	ND	U	0.61	3.9
Indeno(1,2,3-cd)pyrene	44	--	0.99	5.7	4.6	J	0.89	5.1	6.8	--	0.89	5.2	2.8	J	0.87	3.9	ND	U	0.87	3.9
Naphthalene[LMW]	2.0	J	0.68	5.7	2.0	J	0.62	5.1	2.1	J	0.62	5.2	1.4	J	0.60	3.9	1.1	J	0.60	3.9
Phenanthrene[LMW]	10	--	1.6	5.7	3.2	J	1.5	5.1	2.6	J	1.5	5.2	ND	U	1.4	3.9	ND	U	1.4	3.9
Pyrene[HMW]	76	--	0.86	5.7	8.1	--	0.78	5.1	7.9	--	0.78	5.2	4.5	--	0.76	3.9	1.1	J	0.76	3.9
Total LMW PAHs	24				9.9				9.8				5.9				5.6			
Total HMW PAHs	314				39				43				21				5.9			
Total PAHs	559				73				84				38				16			

[LMW] Low Molecular Weight PAHs (NOAA 1989)
[HMW] High Molecular Weight PAHs (NOAA 1989)
Non-detect (ND) results use the MDL for calculating the Total PAHs.
J = The result is an estimated value.
U = The analyte was analyzed but was not detected (ND) at or above the MDL.
-- = no qualifier needed

Source: ALS Environmental
Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 8

Analytical Results for Dry Weight Pesticides in Sediment Samples

				REFERENCE				UPPER HARBOR AND WIDENERS																	
			SAMPLE ID	RS-CH-A				DANI12				DANW12				NYNC12				NCW12				CCRK12			
Analyte	Maximum Conc. µg/kg	TEL µg/kg	ERL µg/kg	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
Aldrin	ND	x	x	ND	U	0.16	0.63	ND	U	0.16	0.83	ND	U	0.16	0.97	ND	U	0.16	0.88	ND	U	0.16	0.85	ND	U	0.16	0.83
Chlordane & Derivatives																											
Chlordane (technical)	ND	2.26	0.5	ND	U	**1.9**	6.3	ND	U	**1.9**	8.3	ND	U	**1.9**	9.7	ND	U	**1.9**	8.8	ND	U	**1.9**	8.5	ND	U	**1.9**	8.3
α (cis)-Chlordane	ND	x	x	ND	U	0.10	0.63	ND	U	0.10	0.83	ND	U	0.10	0.97	ND	U	0.10	0.88	ND	U	0.10	0.85	ND	U	0.10	0.83
γ (trans)-Chlordane	ND	x	x	ND	U	0.090	0.63	ND	U	0.090	0.83	ND	U	0.090	0.97	ND	U	0.090	0.88	ND	U	0.090	0.85	ND	U	0.090	0.83
Oxychlordane	ND	x	x	ND	U	0.085	0.63	ND	U	0.085	0.83	ND	U	0.085	0.97	ND	U	0.085	0.88	ND	U	0.085	0.85	ND	U	0.085	0.83
cis-Nonachlor	ND	x	x	ND	U	0.12	0.63	ND	U	0.12	0.83	ND	U	0.12	0.97	ND	U	0.12	0.88	ND	U	0.12	0.85	ND	U	0.12	0.83
trans-Nonachlor	ND	x	x	ND	U	0.087	0.63	ND	U	0.087	0.83	ND	U	0.087	0.97	ND	U	0.087	0.88	ND	U	0.087	0.85	ND	U	0.087	0.83
DDT & Derivatives																											
o,p' (2,4')-DDD	ND	x	x	ND	U	0.13	0.63	ND	U	0.13	0.83	ND	U	0.13	0.97	ND	U	0.13	0.88	ND	U	0.13	0.85	ND	U	0.13	0.83
p,p' (4,4')-DDD	ND	1.22	2	ND	U	0.11	0.63	ND	U	0.11	0.83	ND	U	0.11	0.97	ND	U	0.11	0.88	ND	U	0.11	0.85	ND	U	0.11	0.83
o,p' (2,4')-DDE	ND	x	x	ND	U	0.16	0.63	ND	U	0.16	0.83	ND	U	0.16	0.97	ND	U	0.16	0.88	ND	U	0.16	0.85	ND	U	0.16	0.83
p,p' (4,4')-DDE	ND	2.07	2.2	ND	U	0.11	0.63	ND	U	0.11	0.83	ND	U	0.11	0.97	ND	U	0.11	0.88	ND	U	0.11	0.85	ND	U	0.11	0.83
o,p' (2,4')-DDT	ND	x	x	ND	U	0.058	0.63	ND	U	0.058	0.83	ND	U	0.058	0.97	ND	U	0.058	0.88	ND	U	0.058	0.85	ND	U	0.058	0.83
p,p' (4,4')-DDT	ND	1.19	1	ND	U	0.17	0.63	ND	U	0.17	0.83	ND	U	0.17	0.97	ND	U	0.17	0.88	ND	U	0.17	0.85	ND	U	0.17	0.83
Dieldrin	ND	0.715	0.02	ND	U	**0.14**	0.63	ND	U	**0.14**	0.83	ND	U	**0.14**	0.97	ND	U	**0.14**	0.88	ND	U	**0.14**	0.85	ND	U	**0.14**	0.83
Endosulfan & Derivatives																											
Endosulfan I	ND	x	x	ND	U	0.063	0.63	ND	U	0.063	0.83	ND	U	0.063	0.97	ND	U	0.063	0.88	ND	U	0.063	0.85	ND	U	0.063	0.83
Endosulfan II	ND	x	x	ND	U	0.14	0.63	ND	U	0.14	0.83	ND	U	0.14	0.97	ND	U	0.14	0.88	ND	U	0.14	0.85	ND	U	0.14	0.83
Endrin & Derivatives																											
Endrin	ND	x	x	ND	U	0.094	0.63	ND	U	0.094	0.83	ND	U	0.094	0.97	ND	U	0.094	0.88	ND	U	0.094	0.85	ND	U	0.094	0.83
Endrin Aldehyde	ND	x	x	ND	U	0.12	0.63	ND	U	0.12	0.83	ND	U	0.12	0.97	ND	U	0.12	0.88	ND	U	0.12	0.85	ND	U	0.12	0.83
Endrin Ketone	ND	x	x	ND	U	0.093	0.63	ND	U	0.093	0.83	ND	U	0.093	0.97	ND	U	0.093	0.88	ND	U	0.093	0.85	ND	U	0.093	0.83
Heptachlor & Derivatives																											
Heptachlor	ND	x	x	ND	U	0.12	0.63	ND	U	0.12	0.83	ND	U	0.12	0.97	ND	U	0.12	0.88	ND	U	0.12	0.85	ND	U	0.12	0.83
Heptachlor Epoxide	ND	x	x	ND	U	0.084	0.63	ND	U	0.084	0.83	ND	U	0.084	0.97	ND	U	0.084	0.88	ND	U	0.084	0.85	ND	U	0.084	0.83
α-BHC	ND	x	x	ND	U	0.11	0.63	ND	U	0.11	0.83	ND	U	0.11	0.97	ND	U	0.11	0.88	ND	U	0.11	0.85	ND	U	0.11	0.83
β-BHC	ND	x	x	ND	U	0.18	0.63	ND	U	0.18	0.83	ND	U	0.18	0.97	ND	U	0.18	0.88	ND	U	0.18	0.85	ND	U	0.18	0.83
δ-BHC	ND	x	x	ND	U	0.074	0.63	ND	U	0.074	0.83	ND	U	0.074	0.97	ND	U	0.074	0.88	ND	U	0.074	0.85	ND	U	0.074	0.83
γ-BHC (Lindane)	ND	0.32	x	ND	U	0.080	0.63	ND	U	0.080	0.83	ND	U	0.080	0.97	ND	U	0.080	0.88	ND	U	0.080	0.85	ND	U	0.080	0.83
Methoxychlor	ND	x	x	ND	U	0.19	0.63	ND	U	0.19	0.83	ND	Ui	0.97	0.97	ND	U	0.19	0.88	ND	U	0.19	0.85	ND	U	0.19	0.83
Mirex®	ND	x	x	ND	U	0.099	0.63	ND	U	0.099	0.83	ND	U	0.099	0.97	ND	U	0.099	0.88	ND	U	0.099	0.85	ND	U	0.099	0.83
Toxaphene	ND	0.1	x	ND	U	**4.8**	32	ND	Ui	**5.9**	42	ND	U	**4.8**	49	ND	U	**4.8**	44	ND	Ui	**43**	43	ND	U	**4.8**	42
Chlorinated Pesticides, Total	48	x	x	9.7				11				10				9.7				48				9.7			

TABLE 8 *(continued)*
Analytical Results for Dry Weight Pesticides in Sediment Samples

SAMPLE ID	UPPER HARBOR AND WIDENERS												LOWER HARBOR AND WIDENERS															
	PTFC12				ORDT12				ORDT12 Field Split				REHR12				BENW12				HGIS12				HGIW12			
Analyte	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
Aldrin	ND	U	0.16	0.93	ND	U	0.16	0.88	ND	U	0.16	0.88	ND	U	0.16	0.69	ND	U	0.16	0.69	ND	U	0.16	0.75	ND	U	0.16	0.72
Chlordane & Derivatives																												
Chlordane (technical)	ND	U	**1.9**	9.3	ND	U	**1.9**	8.8	ND	U	**1.9**	8.8	ND	U	**1.9**	6.9	ND	U	**1.9**	6.9	ND	U	**1.9**	7.5	ND	U	**1.9**	7.2
α (cis)-Chlordane	ND	U	0.10	0.93	ND	U	0.10	0.88	ND	U	0.10	0.88	ND	U	0.10	0.69	ND	U	0.10	0.69	ND	U	0.10	0.75	ND	U	0.10	0.72
γ (trans)-Chlordane	ND	U	0.090	0.93	ND	U	0.090	0.88	ND	U	0.090	0.88	ND	U	0.090	0.69	ND	U	0.090	0.69	ND	U	0.090	0.75	ND	U	0.090	0.72
Oxychlordane	ND	U	0.085	0.93	ND	U	0.085	0.88	ND	U	0.085	0.88	ND	U	0.085	0.69	ND	U	0.085	0.69	ND	U	0.085	0.75	ND	U	0.085	0.72
cis-Nonachlor	ND	U	0.12	0.93	ND	U	0.12	0.88	ND	U	0.12	0.88	ND	U	0.12	0.69	ND	U	0.12	0.69	ND	U	0.12	0.75	ND	U	0.12	0.72
trans-Nonachlor	ND	U	0.087	0.93	ND	U	0.087	0.88	ND	U	0.087	0.88	ND	U	0.087	0.69	ND	U	0.087	0.69	ND	U	0.087	0.75	ND	U	0.087	0.72
DDT & Derivatives																												
o,p' (2,4')-DDD	ND	U	0.13	0.93	ND	U	0.13	0.88	ND	U	0.13	0.88	ND	U	0.13	0.69	ND	U	0.13	0.69	ND	U	0.13	0.75	ND	U	0.13	0.72
p,p' (4,4')-DDD	ND	U	0.11	0.93	ND	U	0.11	0.88	ND	U	0.11	0.88	ND	U	0.11	0.69	ND	U	0.11	0.69	ND	U	0.11	0.75	ND	U	0.11	0.72
o,p' (2,4')-DDE	ND	U	0.16	0.93	ND	U	0.16	0.88	ND	U	0.16	0.88	ND	U	0.16	0.69	ND	U	0.16	0.69	ND	U	0.16	0.75	ND	U	0.16	0.72
p,p' (4,4')-DDE	ND	U	0.11	0.93	ND	U	0.11	0.88	ND	U	0.11	0.88	ND	U	0.11	0.69	ND	U	0.11	0.69	ND	U	0.11	0.75	ND	U	0.11	0.72
o,p' (2,4')-DDT	ND	U	0.058	0.93	ND	U	0.058	0.88	ND	U	0.058	0.88	ND	U	0.058	0.69	ND	U	0.058	0.69	ND	U	0.058	0.75	ND	U	0.058	0.72
p,p' (4,4')-DDT	ND	U	0.17	0.93	ND	Ui	0.20	0.88	ND	U	0.17	0.88	ND	U	0.17	0.69	ND	U	0.17	0.69	ND	U	0.17	0.75	ND	U	0.17	0.72
Dieldrin	ND	U	**0.14**	0.93	ND	U	**0.14**	0.88	ND	U	**0.14**	0.88	ND	U	**0.14**	0.69	ND	U	**0.14**	0.69	ND	U	**0.14**	0.75	ND	U	**0.14**	0.72
Endosulfan & Derivatives																												
Endosulfan I	ND	U	0.063	0.93	ND	U	0.063	0.88	ND	U	0.063	0.88	ND	U	0.063	0.69	ND	U	0.063	0.69	ND	U	0.063	0.75	ND	U	0.063	0.72
Endosulfan II	ND	U	0.14	0.93	ND	U	0.14	0.88	ND	U	0.14	0.88	ND	U	0.14	0.69	ND	U	0.14	0.69	ND	U	0.14	0.75	ND	U	0.14	0.72
Endrin & Derivatives																												
Endrin	ND	U	0.094	0.93	ND	U	0.094	0.88	ND	U	0.094	0.88	ND	U	0.094	0.69	ND	U	0.094	0.69	ND	U	0.094	0.75	ND	U	0.094	0.72
Endrin Aldehyde	ND	U	0.12	0.93	ND	U	0.12	0.88	ND	U	0.12	0.88	ND	U	0.12	0.69	ND	U	0.12	0.69	ND	U	0.12	0.75	ND	U	0.12	0.72
Endrin Ketone	ND	U	0.093	0.93	ND	U	0.093	0.88	ND	U	0.093	0.88	ND	U	0.093	0.69	ND	U	0.093	0.69	ND	U	0.093	0.75	ND	U	0.093	0.72
Heptachlor & Derivatives																												
Heptachlor	ND	U	0.12	0.93	ND	U	0.12	0.88	ND	U	0.12	0.88	ND	U	0.12	0.69	ND	U	0.12	0.69	ND	U	0.12	0.75	ND	U	0.12	0.72
Heptachlor Epoxide	ND	U	0.084	0.93	ND	U	0.084	0.88	ND	U	0.084	0.88	ND	U	0.084	0.69	ND	U	0.084	0.69	ND	U	0.084	0.75	ND	U	0.084	0.72
α-BHC	ND	U	0.11	0.93	ND	U	0.11	0.88	ND	U	0.11	0.88	ND	U	0.11	0.69	ND	U	0.11	0.69	ND	U	0.11	0.75	ND	U	0.11	0.72
β-BHC	ND	U	0.18	0.93	ND	U	0.18	0.88	ND	U	0.18	0.88	ND	U	0.18	0.69	ND	U	0.18	0.69	ND	U	0.18	0.75	ND	U	0.18	0.72
δ-BHC	ND	U	0.074	0.93	ND	U	0.074	0.88	ND	U	0.074	0.88	ND	U	0.074	0.69	ND	U	0.074	0.69	ND	U	0.074	0.75	ND	U	0.074	0.72
γ-BHC (Lindane)	ND	U	0.080	0.93	ND	U	0.080	0.88	ND	U	0.080	0.88	ND	U	0.080	0.69	ND	U	0.080	0.69	ND	Ui	0.75	0.75	ND	U	0.080	0.72
Methoxychlor	ND	U	0.19	0.93	ND	U	0.19	0.88	ND	U	0.19	0.88	ND	U	0.19	0.69	ND	U	0.19	0.69	ND	U	0.19	0.75	ND	U	0.19	0.72
Mirex®	ND	U	0.099	0.93	ND	U	0.099	0.88	ND	U	0.099	0.88	ND	U	0.099	0.69	ND	U	0.099	0.69	ND	U	0.099	0.75	ND	U	0.099	0.72
Toxaphene	ND	U	**4.8**	47	ND	Ui	**7.0**	44	ND	U	**4.8**	44	ND	U	**4.8**	35	ND	U	**4.8**	35	ND	U	4.8	38	ND	U	**4.8**	36
Chlorinated Pesticides, Total	9.7				12				9.7				9.7				9.7				10				9.7			

TABLE 8 *(continued)*
Analytical Results for Dry Weight Pesticides in Sediment Samples

SAMPLE ID	LOWER HARBOR AND WIDENERS																				ANCHORAGE BASIN			
	DRMY12				WUTB12				WRTB12				WLR12				WLRW12				ABMA12			
Analyte	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
Aldrin	ND	U	0.16	0.97	ND	U	0.20	1.3	ND	U	0.16	0.75	ND	U	0.16	0.80	ND	U	0.16	0.66	ND	U	0.16	0.88
Chlordane & Derivatives																								
Chlordane (technical)	ND	U	**1.9**	9.7	ND	U	**2.4**	13	ND	U	**1.9**	7.5	ND	U	**1.9**	8.0	ND	U	**1.9**	6.6	ND	U	**1.9**	8.8
α (cis)-Chlordane	ND	U	0.10	0.97	ND	U	0.13	1.3	ND	U	0.10	0.75	ND	U	0.10	0.80	ND	U	0.10	0.66	ND	U	0.10	0.88
γ (trans)-Chlordane	ND	U	0.090	0.97	ND	U	0.12	1.3	ND	U	0.090	0.75	ND	U	0.090	0.80	ND	U	0.090	0.66	ND	U	0.090	0.88
Oxychlordane	ND	U	0.085	0.97	ND	U	0.11	1.3	ND	U	0.085	0.75	ND	U	0.085	0.80	ND	U	0.085	0.66	ND	U	0.085	0.88
cis-Nonachlor	ND	U	0.12	0.97	ND	U	0.15	1.3	ND	U	0.12	0.75	ND	U	0.12	0.80	ND	U	0.12	0.66	ND	U	0.12	0.88
trans-Nonachlor	ND	U	0.087	0.97	ND	U	0.11	1.3	ND	U	0.087	0.75	ND	U	0.087	0.80	ND	U	0.087	0.66	ND	U	0.087	0.88
DDT & Derivatives																								
o,p' (2,4')-DDD	ND	U	0.13	0.97	ND	U	0.17	1.3	ND	U	0.13	0.75	ND	U	0.13	0.80	ND	U	0.13	0.66	ND	U	0.13	0.88
p,p' (4,4')-DDD	ND	U	0.11	0.97	ND	U	0.14	1.3	ND	U	0.11	0.75	ND	U	0.11	0.80	ND	U	0.11	0.66	ND	U	0.11	0.88
o,p' (2,4')-DDE	ND	U	0.16	0.97	ND	U	0.20	1.3	ND	U	0.16	0.75	ND	U	0.16	0.80	ND	U	0.16	0.66	ND	U	0.16	0.88
p,p' (4,4')-DDE	ND	U	0.11	0.97	ND	U	0.14	1.3	ND	U	0.11	0.75	ND	U	0.11	0.80	ND	U	0.11	0.66	ND	U	0.11	0.88
o,p' (2,4')-DDT	ND	U	0.058	0.97	ND	U	0.072	1.3	ND	U	0.058	0.75	ND	U	0.058	0.80	ND	U	0.058	0.66	ND	U	0.058	0.88
p,p' (4,4')-DDT	ND	U	0.17	0.97	ND	U	0.21	1.3	ND	U	0.17	0.75	ND	U	0.17	0.80	ND	U	0.17	0.66	ND	U	0.17	0.88
Dieldrin	ND	U	**0.14**	0.97	ND	U	**0.18**	1.3	ND	U	**0.14**	0.75	ND	U	**0.14**	0.80	ND	U	**0.14**	0.66	ND	U	**0.14**	0.88
Endosulfan & Derivatives																								
Endosulfan I	ND	U	0.063	0.97	ND	U	0.078	1.3	ND	U	0.063	0.75	ND	U	0.063	0.80	ND	U	0.063	0.66	ND	U	0.063	0.88
Endosulfan II	ND	U	0.14	0.97	ND	U	0.18	1.3	ND	U	0.14	0.75	ND	U	0.14	0.80	ND	U	0.14	0.66	ND	U	0.14	0.88
Endrin & Derivatives																								
Endrin	ND	U	0.094	0.97	ND	U	0.12	1.3	ND	U	0.094	0.75	ND	U	0.094	0.80	ND	U	0.094	0.66	ND	U	0.094	0.88
Endrin Aldehyde	ND	U	0.12	0.97	ND	U	0.15	1.3	ND	U	0.12	0.75	ND	U	0.12	0.80	ND	U	0.12	0.66	ND	U	0.12	0.88
Endrin Ketone	ND	U	0.093	0.97	ND	U	0.12	1.3	ND	U	0.093	0.75	ND	U	0.093	0.80	ND	U	0.093	0.66	ND	U	0.093	0.88
Heptachlor & Derivatives																								
Heptachlor	ND	Ui	0.13	0.97	ND	Ui	0.19	1.3	ND	U	0.12	0.75	ND	U	0.12	0.80	ND	U	0.12	0.66	ND	U	0.12	0.88
Heptachlor Epoxide	ND	U	0.084	0.97	ND	U	0.11	1.3	ND	U	0.084	0.75	ND	U	0.084	0.80	ND	U	0.084	0.66	ND	U	0.084	0.88
α-BHC	ND	U	0.11	0.97	ND	U	0.14	1.3	ND	U	0.11	0.75	ND	U	0.11	0.80	ND	U	0.11	0.66	ND	U	0.11	0.88
β-BHC	ND	U	0.18	0.97	ND	U	0.23	1.3	ND	U	0.18	0.75	ND	U	0.18	0.80	ND	U	0.18	0.66	ND	U	0.18	0.88
δ-BHC	ND	U	0.074	0.97	ND	U	0.092	1.3	ND	U	0.074	0.75	ND	U	0.074	0.80	ND	U	0.074	0.66	ND	U	0.074	0.88
γ-BHC (Lindane)	ND	U	0.080	0.97	ND	U	0.099	1.3	ND	U	0.080	0.75	ND	U	0.080	0.80	ND	U	0.080	0.66	ND	U	0.080	0.88
Methoxychlor	ND	U	0.19	0.97	ND	U	0.24	1.3	ND	U	0.19	0.75	ND	U	0.19	0.80	ND	U	0.19	0.66	ND	U	0.19	0.88
Mirex®	ND	U	0.099	0.97	ND	U	0.13	1.3	ND	U	0.099	0.75	ND	U	0.099	0.80	ND	U	0.099	0.66	ND	U	0.099	0.88
Toxaphene	ND	Ui	**7.4**	49	ND	U	**6.0**	*62*	ND	U	**4.8**	38	ND	U	**4.8**	40	ND	U	**4.8**	33	ND	U	**4.8**	44
Chlorinated Pesticides, Total	12				12				9.7				9.7				9.7				9.7			

TABLE 8 *(continued)*
Analytical Results for Dry Weight Pesticides in Sediment Samples

SAMPLE ID	SHEM CREEK				ENTRANCE CHANNEL															
	SHCR12				CHEC12-1				CHEC12-1 Field Split				CHEC12-2				MTPL12			
Analyte	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
Aldrin	ND	U	0.19	1.2	ND	U	0.17	1.1	ND	U	0.17	1.1	ND	U	0.16	0.77	ND	U	0.16	0.78
Chlordane & Derivatives																				
Chlordane (technical)	ND	U	**2.2**	12	ND	U	**2.0**	11	ND	Ui	**2.5**	11	ND	U	**1.9**	7.7	ND	U	**1.9**	7.8
α (cis)-Chlordane	ND	U	0.12	1.2	ND	U	0.11	1.1	ND	U	0.11	1.1	ND	U	0.10	0.77	ND	U	0.10	0.78
γ (trans)-Chlordane	ND	U	0.11	1.2	ND	U	0.092	1.1	ND	U	0.093	1.1	ND	U	0.090	0.77	ND	U	0.090	0.78
Oxychlordane	ND	U	0.096	1.2	ND	U	0.087	1.1	ND	U	0.088	1.1	ND	U	0.085	0.77	ND	U	0.085	0.78
cis-Nonachlor	ND	U	0.14	1.2	ND	U	0.13	1.1	ND	U	0.13	1.1	ND	U	0.12	0.77	ND	U	0.12	0.78
trans-Nonachlor	ND	U	0.099	1.2	ND	U	0.089	1.1	ND	U	0.090	1.1	ND	U	0.087	0.77	ND	U	0.087	0.78
DDT & Derivatives																				
o,p' (2,4')-DDD	ND	U	0.15	1.2	ND	U	0.14	1.1	ND	U	0.14	1.1	ND	U	0.13	0.77	ND	U	0.13	0.78
p,p' (4,4')-DDD	ND	U	0.13	1.2	ND	U	0.12	1.1	ND	U	0.12	1.1	ND	U	0.11	0.77	ND	U	0.11	0.78
o,p' (2,4')-DDE	ND	U	0.19	1.2	ND	U	0.17	1.1	ND	U	0.17	1.1	ND	U	0.16	0.77	ND	U	0.16	0.78
p,p' (4,4')-DDE	ND	U	0.13	1.2	ND	U	0.12	1.1	ND	U	0.12	1.1	ND	U	0.11	0.77	ND	U	0.11	0.78
o,p' (2,4')-DDT	ND	U	0.066	1.2	ND	U	0.060	1.1	ND	U	0.060	1.1	ND	U	0.058	0.77	ND	U	0.058	0.78
p,p' (4,4')-DDT	ND	U	0.20	1.2	ND	U	0.18	1.1	ND	U	0.18	1.1	ND	U	0.17	0.77	ND	U	0.17	0.78
Dieldrin	ND	U	**0.16**	1.2	ND	U	**0.15**	1.1	ND	U	**0.15**	1.1	ND	U	**0.14**	0.77	ND	U	**0.14**	0.78
Endosulfan & Derivatives																				
Endosulfan I	ND	U	0.071	1.2	ND	U	0.065	1.1	ND	U	0.065	1.1	ND	U	0.063	0.77	ND	U	0.063	0.78
Endosulfan II	ND	U	0.16	1.2	ND	U	0.15	1.1	ND	U	0.15	1.1	ND	U	0.14	0.77	ND	U	0.14	0.78
Endrin & Derivatives																				
Endrin	ND	U	0.11	1.2	ND	U	0.096	1.1	ND	U	0.097	1.1	ND	U	0.094	0.77	ND	U	0.094	0.78
Endrin Aldehyde	ND	U	0.14	1.2	ND	U	0.13	1.1	ND	U	0.13	1.1	ND	U	0.12	0.77	ND	U	0.12	0.78
Endrin Ketone	ND	U	0.11	1.2	ND	U	0.095	1.1	ND	U	0.096	1.1	ND	U	0.093	0.77	ND	U	0.093	0.78
Heptachlor & Derivatives																				
Heptachlor	ND	U	0.14	1.2	ND	U	0.13	1.1	ND	U	0.13	1.1	ND	U	0.12	0.77	ND	Ui	0.13	0.78
Heptachlor Epoxide	ND	U	0.095	1.2	ND	U	0.086	1.1	ND	U	0.087	1.1	ND	U	0.084	0.77	ND	U	0.084	0.78
α-BHC	ND	U	0.13	1.2	ND	U	0.12	1.1	ND	U	0.12	1.1	ND	U	0.11	0.77	ND	U	0.11	0.78
β-BHC	ND	U	0.21	1.2	ND	U	0.19	1.1	ND	U	0.19	1.1	ND	U	0.18	0.77	ND	U	0.18	0.78
δ-BHC	ND	U	0.084	1.2	ND	U	0.076	1.1	ND	U	0.077	1.1	ND	U	0.074	0.77	ND	U	0.074	0.78
γ-BHC (Lindane)	ND	U	0.091	1.2	ND	Ui	1.1	1.1	ND	Ui	1.1	1.1	ND	U	0.080	0.77	ND	U	0.080	0.78
Methoxychlor	ND	U	0.22	1.2	ND	U	0.20	1.1	ND	U	0.20	1.1	ND	U	0.19	0.77	ND	U	0.19	0.78
Mirex®	ND	U	0.12	1.2	ND	U	0.11	1.1	ND	U	0.11	1.1	ND	U	0.099	0.77	ND	U	0.099	0.78
Toxaphene	ND	U	**5.5**	*57*	ND	U	**4.9**	*51*	ND	U	**5.0**	*52*	ND	U	**4.8**	39	ND	U	**4.8**	39
Chlorinated Pesticides, Total	11				11				12				9.7				9.7			

Non-detect (ND) results use the MDL for calculating the Total Pesticides.
i = The MRL/MDL is elevated due to a matrix interference.
U = The analyte was analyzed but was not detected (ND) at or above the MDL.
Bolded values indicate the MDL is greater than the TEL or ERL.
Italicized values indicate the MRL does not meet the target detection limit in Table 13-2 of the QAPP.

Source: ALS Environmental
Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 9
Analytical Results for Dry Weight PCBs and Aroclors in Sediment Samples

				REFERENCE				UPPER HARBOR AND WIDENERS																	
			SAMPLE ID	RS-CH-A				DANI12				DANW12				NYNC12				NCW12				CCRK12			
Analyte	Maximum Conc. µg/kg	TEL µg/kg	ERL µg/kg	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
PCB 8[NOAA]	ND	x	x	ND	U	0.21	0.43	ND	Ui	0.70	0.70	ND	U	0.21	0.49	ND	U	0.21	0.44	ND	Ui	0.73	0.73	ND	U	0.21	0.43
PCB 18[NOAA]	0.26	x	x	ND	U	0.096	0.32	ND	U	0.096	0.42	ND	U	0.096	0.49	ND	U	0.096	0.44	ND	U	0.096	0.43	ND	U	0.096	0.42
PCB 28[NOAA]	ND	x	x	ND	U	0.064	0.32	ND	U	0.064	0.42	ND	U	0.064	0.49	ND	U	0.064	0.44	ND	U	0.064	0.43	ND	U	0.064	0.42
PCB 44[NOAA]	ND	x	x	ND	U	0.065	0.32	ND	U	0.065	0.42	ND	U	0.065	0.49	ND	U	0.065	0.44	ND	U	0.065	0.43	ND	U	0.065	0.42
PCB 49	ND	x	x	ND	U	0.058	0.32	ND	U	0.058	0.42	ND	U	0.058	0.49	ND	U	0.058	0.44	ND	U	0.058	0.43	ND	U	0.058	0.42
PCB 52[NOAA]	ND	x	x	ND	U	0.059	0.32	ND	U	0.059	0.42	ND	U	0.059	0.49	ND	U	0.059	0.44	ND	U	0.059	0.43	ND	U	0.059	0.42
PCB 66[NOAA]	ND	x	x	ND	U	0.035	0.32	ND	U	0.035	0.42	ND	U	0.035	0.49	ND	U	0.035	0.44	ND	U	0.035	0.43	ND	U	0.035	0.42
PCB 77	0.28	x	x	ND	U	0.047	0.32	0.087	JP	0.047	0.42	ND	U	0.047	0.49	ND	U	0.047	0.44	0.066	J	0.047	0.43	ND	U	0.047	0.42
PCB 87	ND	x	x	ND	U	0.038	0.32	ND	U	0.038	0.42	ND	U	0.038	0.49	ND	U	0.038	0.44	ND	U	0.038	0.43	ND	Ui	0.088	0.42
PCB 101[NOAA]	0.077	x	x	ND	U	0.049	0.32	ND	U	0.049	0.42	ND	U	0.049	0.49	ND	U	0.049	0.44	0.065	J	0.049	0.43	ND	U	0.049	0.42
PCB 105[NOAA]	ND	x	x	ND	U	0.033	0.32	ND	U	0.033	0.42	ND	U	0.033	0.49	ND	U	0.033	0.44	ND	U	0.033	0.43	ND	U	0.033	0.42
PCB 118[NOAA]	ND	x	x	ND	U	0.031	0.32	ND	U	0.031	0.42	ND	U	0.031	0.49	ND	U	0.031	0.44	ND	U	0.031	0.43	ND	U	0.031	0.42
PCB 126	ND	x	x	ND	U	0.043	0.32	ND	U	0.043	0.42	ND	U	0.043	0.49	ND	U	0.043	0.44	ND	U	0.043	0.43	ND	U	0.043	0.42
PCB 128[NOAA]	ND	x	x	ND	U	0.031	0.32	ND	U	0.031	0.42	ND	U	0.031	0.49	ND	U	0.031	0.44	ND	U	0.031	0.43	ND	U	0.031	0.42
PCB 138[NOAA]	ND	x	x	ND	U	0.064	0.32	ND	U	0.064	0.42	ND	U	0.064	0.49	ND	U	0.064	0.44	ND	U	0.064	0.43	ND	U	0.064	0.42
PCB 153[NOAA]	0.092	x	x	ND	U	0.038	0.32	ND	U	0.038	0.42	ND	U	0.038	0.49	ND	U	0.038	0.44	0.092	J	0.038	0.43	ND	U	0.038	0.42
PCB 156	ND	x	x	ND	U	0.042	0.32	ND	U	0.042	0.42	ND	U	0.042	0.49	ND	U	0.042	0.44	ND	U	0.042	0.43	ND	U	0.042	0.42
PCB 169	ND	x	x	ND	U	0.041	0.32	ND	U	0.041	0.42	ND	U	0.041	0.49	ND	U	0.041	0.44	ND	U	0.041	0.43	ND	U	0.041	0.42
PCB 170[NOAA]	ND	x	x	ND	U	0.026	0.32	ND	U	0.026	0.42	ND	U	0.026	0.49	ND	U	0.026	0.44	ND	U	0.026	0.43	ND	U	0.026	0.42
PCB 180[NOAA]	ND	x	x	ND	U	0.095	0.32	ND	U	0.095	0.42	ND	U	0.095	0.49	ND	U	0.095	0.44	ND	U	0.095	0.43	ND	U	0.095	0.42
PCB 183	ND	x	x	ND	U	0.081	0.32	ND	U	0.081	0.42	ND	U	0.081	0.49	ND	U	0.081	0.44	ND	U	0.081	0.43	ND	U	0.081	0.42
PCB 184	ND	x	x	ND	U	0.052	0.32	ND	U	0.052	0.42	ND	U	0.052	0.49	ND	U	0.052	0.44	ND	U	0.052	0.43	ND	U	0.052	0.42
PCB 187[NOAA]	ND	x	x	ND	U	0.047	0.32	ND	U	0.047	0.42	ND	U	0.047	0.49	ND	U	0.047	0.44	ND	U	0.047	0.43	ND	U	0.047	0.42
PCB 195[NOAA]	ND	x	x	ND	U	0.031	0.32	ND	U	0.031	0.42	ND	U	0.031	0.49	ND	U	0.031	0.44	ND	U	0.031	0.43	ND	U	0.031	0.42
PCB 206[NOAA]	ND	x	x	ND	U	0.031	0.32	ND	U	0.031	0.42	ND	U	0.031	0.49	ND	U	0.031	0.44	ND	U	0.031	0.43	ND	U	0.031	0.42
PCB 209[NOAA]	ND	x	x	ND	U	0.041	0.32	ND	U	0.041	0.42	ND	U	0.041	0.49	ND	U	0.041	0.44	ND	U	0.041	0.43	ND	U	0.041	0.42
Total EPA R4 PCBs	2.6	21.6	22.7	1.4				2.0				1.4				1.4				2.1				1.5			
Total NOAA PCBs	4.3	21.6	22.7	2.1				3.1				2.1				2.1				3.3				2.1			
Aroclor-1016	ND	x	x	ND	U	2.1	6.3	ND	U	2.1	5.0	ND	U	2.1	9.7	ND	U	2.1	8.8	ND	U	2.1	5.0	ND	U	2.1	8.3
Aroclor-1221	ND	x	x	ND	U	2.1	13	ND	U	2.1	10	ND	U	2.1	20	ND	U	2.1	18	ND	U	2.1	10	ND	U	2.1	17
Aroclor-1232	ND	x	x	ND	U	2.1	6.3	ND	U	2.1	5.0	ND	U	2.1	9.7	ND	U	2.1	8.8	ND	U	2.1	5.0	ND	U	2.1	8.3
Aroclor-1242	ND	x	x	ND	U	2.1	6.3	ND	U	2.1	5.0	ND	U	2.1	9.7	ND	U	2.1	8.8	ND	U	2.1	5.0	ND	U	2.1	8.3
Aroclor-1248	ND	x	x	ND	U	2.1	6.3	ND	U	2.1	5.0	ND	U	2.1	9.7	ND	U	2.1	8.8	ND	U	2.1	5.0	ND	U	2.1	8.3
Aroclor-1254	ND	63.3	x	ND	U	2.1	6.3	ND	U	2.1	5.0	ND	U	2.1	9.7	ND	U	2.1	8.8	ND	U	2.1	5.0	ND	U	2.1	8.3
Aroclor-1260	ND	x	x	ND	U	2.1	6.3	ND	U	2.1	5.0	ND	U	2.1	9.7	ND	U	2.1	8.8	ND	U	2.1	5.0	ND	U	2.1	8.3

TABLE 9 *(continued)*
Analytical Results for Dry Weight PCBs and Aroclors in Sediment Samples

SAMPLE ID	UPPER HARBOR AND WIDENERS												LOWER HARBOR AND WIDENERS											
	PTFC12				ORDT12				ORDT12 Field Split				REHR12				BENW12				HGIS12				HGIW12			
Analyte	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
PCB 8[NOAA]	ND	U	0.21	0.47	ND	U	0.21	0.44	ND	U	0.21	0.44	ND	U	0.21	0.43	ND	U	0.21	0.43	ND	U	0.21	0.43	ND	U	0.21	0.43
PCB 18[NOAA]	ND	U	0.096	0.47	ND	U	0.096	0.44	ND	U	0.096	0.44	ND	U	0.096	0.35	ND	U	0.096	0.35	ND	U	0.096	0.38	ND	U	0.096	0.36
PCB 28[NOAA]	ND	U	0.064	0.47	ND	U	0.064	0.44	ND	U	0.064	0.44	ND	U	0.064	0.35	ND	U	0.064	0.35	ND	U	0.064	0.38	ND	U	0.064	0.36
PCB 44[NOAA]	ND	U	0.065	0.47	ND	U	0.065	0.44	ND	U	0.065	0.44	ND	U	0.065	0.35	ND	U	0.065	0.35	ND	U	0.065	0.38	ND	U	0.065	0.36
PCB 49	ND	U	0.058	0.47	ND	U	0.058	0.44	ND	U	0.058	0.44	ND	U	0.058	0.35	ND	U	0.058	0.35	ND	U	0.058	0.38	ND	U	0.058	0.36
PCB 52[NOAA]	ND	U	0.059	0.47	ND	U	0.059	0.44	ND	U	0.059	0.44	ND	U	0.059	0.35	ND	U	0.059	0.35	ND	U	0.059	0.38	ND	U	0.059	0.36
PCB 66[NOAA]	ND	U	0.035	0.47	ND	U	0.035	0.44	ND	U	0.035	0.44	ND	U	0.035	0.35	ND	U	0.035	0.35	ND	U	0.035	0.38	ND	U	0.035	0.36
PCB 77	ND	U	0.047	0.47	ND	U	0.047	0.44	ND	U	0.047	0.44	ND	U	0.047	0.35	ND	U	0.047	0.35	ND	Ui	0.20	0.38	ND	Ui	0.056	0.36
PCB 87	ND	U	0.038	0.47	ND	U	0.038	0.44	ND	U	0.038	0.44	ND	U	0.038	0.35	ND	U	0.038	0.35	ND	U	0.038	0.38	ND	U	0.038	0.36
PCB 101[NOAA]	ND	U	0.049	0.47	ND	U	0.049	0.44	ND	U	0.049	0.44	ND	U	0.049	0.35	ND	U	0.049	0.35	ND	U	0.049	0.38	ND	U	0.049	0.36
PCB 105[NOAA]	ND	U	0.033	0.47	ND	U	0.033	0.44	ND	U	0.033	0.44	ND	U	0.033	0.35	ND	U	0.033	0.35	ND	U	0.033	0.38	ND	U	0.033	0.36
PCB 118[NOAA]	ND	U	0.031	0.47	ND	U	0.031	0.44	ND	U	0.031	0.44	ND	U	0.031	0.35	ND	U	0.031	0.35	ND	U	0.031	0.38	ND	U	0.031	0.36
PCB 126	ND	U	0.043	0.47	ND	U	0.043	0.44	ND	U	0.043	0.44	ND	U	0.043	0.35	ND	U	0.043	0.35	ND	U	0.043	0.38	ND	U	0.043	0.36
PCB 128[NOAA]	ND	U	0.031	0.47	ND	U	0.031	0.44	ND	U	0.031	0.44	ND	U	0.031	0.35	ND	U	0.031	0.35	ND	U	0.031	0.38	ND	U	0.031	0.36
PCB 138[NOAA]	ND	U	0.064	0.47	ND	U	0.064	0.44	ND	U	0.064	0.44	ND	U	0.064	0.35	ND	U	0.064	0.35	ND	U	0.064	0.38	ND	U	0.064	0.36
PCB 153[NOAA]	ND	U	0.038	0.47	ND	U	0.038	0.44	ND	U	0.038	0.44	ND	U	0.038	0.35	ND	U	0.038	0.35	ND	U	0.038	0.38	ND	U	0.038	0.36
PCB 156	ND	U	0.042	0.47	ND	U	0.042	0.44	ND	U	0.042	0.44	ND	U	0.042	0.35	ND	U	0.042	0.35	ND	U	0.042	0.38	ND	U	0.042	0.36
PCB 169	ND	U	0.041	0.47	ND	U	0.041	0.44	ND	U	0.041	0.44	ND	U	0.041	0.35	ND	U	0.041	0.35	ND	U	0.041	0.38	ND	U	0.041	0.36
PCB 170[NOAA]	ND	U	0.026	0.47	ND	U	0.026	0.44	ND	U	0.026	0.44	ND	U	0.026	0.35	ND	U	0.026	0.35	ND	U	0.026	0.38	ND	U	0.026	0.36
PCB 180[NOAA]	ND	U	0.095	0.47	ND	U	0.095	0.44	ND	U	0.095	0.44	ND	U	0.095	0.35	ND	U	0.095	0.35	ND	U	0.095	0.38	ND	U	0.095	0.36
PCB 183	ND	U	0.081	0.47	ND	U	0.081	0.44	ND	U	0.081	0.44	ND	U	0.081	0.35	ND	U	0.081	0.35	ND	U	0.081	0.38	ND	U	0.081	0.36
PCB 184	ND	U	0.052	0.47	ND	U	0.052	0.44	ND	U	0.052	0.44	ND	U	0.052	0.35	ND	U	0.052	0.35	ND	U	0.052	0.38	ND	U	0.052	0.36
PCB 187[NOAA]	ND	U	0.047	0.47	ND	U	0.047	0.44	ND	U	0.047	0.44	ND	U	0.047	0.35	ND	U	0.047	0.35	ND	U	0.047	0.38	ND	U	0.047	0.36
PCB 195[NOAA]	ND	U	0.031	0.47	ND	U	0.031	0.44	ND	U	0.031	0.44	ND	U	0.031	0.35	ND	U	0.031	0.35	ND	U	0.031	0.38	ND	U	0.031	0.36
PCB 206[NOAA]	ND	U	0.031	0.47	ND	U	0.031	0.44	ND	U	0.031	0.44	ND	U	0.031	0.35	ND	U	0.031	0.35	ND	U	0.031	0.38	ND	U	0.031	0.36
PCB 209[NOAA]	ND	U	0.041	0.47	ND	U	0.041	0.44	ND	U	0.041	0.44	ND	U	0.041	0.35	ND	U	0.041	0.35	ND	U	0.041	0.38	ND	U	0.041	0.36
Total EPA R4 PCBs	1.4				1.4				1.4				1.4				1.4				1.6				1.5			
Total NOAA PCBs	2.1				2.1				2.1				2.1				2.1				2.1				2.1			
Aroclor-1016	ND	U	2.1	9.3	ND	U	2.1	8.8	ND	U	2.1	8.8	ND	U	2.1	6.9	ND	U	2.1	6.9	ND	U	2.1	7.5	ND	U	2.1	7.2
Aroclor-1221	ND	U	2.1	19	ND	U	2.1	18	ND	U	2.1	18	ND	U	2.1	14	ND	U	2.1	14	ND	U	2.1	15	ND	U	2.1	15
Aroclor-1232	ND	U	2.1	9.3	ND	U	2.1	8.8	ND	U	2.1	8.8	ND	U	2.1	6.9	ND	U	2.1	6.9	ND	U	2.1	7.5	ND	U	2.1	7.2
Aroclor-1242	ND	U	2.1	9.3	ND	U	2.1	8.8	ND	U	2.1	8.8	ND	U	2.1	6.9	ND	U	2.1	6.9	ND	U	2.1	7.5	ND	U	2.1	7.2
Aroclor-1248	ND	U	2.1	9.3	ND	U	2.1	8.8	ND	U	2.1	8.8	ND	U	2.1	6.9	ND	U	2.1	6.9	ND	U	2.1	7.5	ND	U	2.1	7.2
Aroclor-1254	ND	U	2.1	9.3	ND	U	2.1	8.8	ND	U	2.1	8.8	ND	U	2.1	6.9	ND	U	2.1	6.9	ND	U	2.1	7.5	ND	U	2.1	7.2
Aroclor-1260	ND	U	2.1	9.3	ND	U	2.1	8.8	ND	U	2.1	8.8	ND	U	2.1	6.9	ND	U	2.1	6.9	ND	U	2.1	7.5	ND	U	2.1	7.2

TABLE 9 *(continued)*
Analytical Results for Dry Weight PCBs and Aroclors in Sediment Samples

SAMPLE ID	LOWER HARBOR AND WIDENERS																				ANCHORAGE BASIN			
	DRMY12				WUTB12				WRTB12				WLR12				WLRW12				ABMA12			
Analyte	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
PCB 8[NOAA]	ND	U	0.21	0.49	ND	Ui	1.1	1.1	ND	U	0.21	0.43	ND	U	0.21	0.43	ND	U	0.21	0.43	ND	U	0.21	0.44
PCB 18[NOAA]	ND	U	0.096	0.49	ND	U	0.12	0.62	ND	U	0.096	0.38	ND	U	0.096	0.40	0.14	JP	0.096	0.33	ND	U	0.096	0.44
PCB 28[NOAA]	ND	U	0.064	0.49	ND	U	0.079	0.62	ND	U	0.064	0.38	ND	U	0.064	0.40	ND	U	0.064	0.33	ND	U	0.064	0.44
PCB 44[NOAA]	ND	U	0.065	0.49	ND	U	0.081	0.62	ND	U	0.065	0.38	ND	U	0.065	0.40	ND	U	0.065	0.33	ND	U	0.065	0.44
PCB 49	ND	U	0.058	0.49	ND	U	0.072	0.62	ND	U	0.058	0.38	ND	U	0.058	0.40	ND	U	0.058	0.33	ND	U	0.058	0.44
PCB 52[NOAA]	ND	U	0.059	0.49	ND	U	0.073	0.62	ND	U	0.059	0.38	ND	U	0.059	0.40	ND	U	0.059	0.33	ND	U	0.059	0.44
PCB 66[NOAA]	ND	U	0.035	0.49	ND	U	0.044	0.62	ND	U	0.035	0.38	ND	U	0.035	0.40	ND	U	0.035	0.33	ND	U	0.035	0.44
PCB 77	ND	Ui	0.085	0.49	ND	U	0.058	0.62	0.062	J	0.047	0.38	ND	Ui	0.053	0.40	ND	U	0.047	0.33	ND	U	0.047	0.44
PCB 87	ND	U	0.038	0.49	ND	U	0.047	0.62	ND	U	0.038	0.38	ND	U	0.038	0.40	ND	U	0.038	0.33	ND	U	0.038	0.44
PCB 101[NOAA]	ND	U	0.049	0.49	ND	U	0.061	0.62	0.062	J	0.049	0.38	ND	U	0.049	0.40	ND	U	0.049	0.33	ND	U	0.049	0.44
PCB 105[NOAA]	ND	U	0.033	0.49	ND	U	0.041	0.62	ND	U	0.033	0.38	ND	U	0.033	0.40	ND	U	0.033	0.33	ND	U	0.033	0.44
PCB 118[NOAA]	ND	U	0.031	0.49	ND	U	0.039	0.62	ND	U	0.031	0.38	ND	U	0.031	0.40	ND	U	0.031	0.33	ND	U	0.031	0.44
PCB 126	ND	U	0.043	0.49	ND	U	0.054	0.62	ND	U	0.043	0.38	ND	U	0.043	0.40	ND	U	0.043	0.33	ND	U	0.043	0.44
PCB 128[NOAA]	ND	U	0.031	0.49	ND	U	0.039	0.62	ND	U	0.031	0.38	ND	U	0.031	0.40	ND	U	0.031	0.33	ND	U	0.031	0.44
PCB 138[NOAA]	ND	U	0.064	0.49	ND	U	0.079	0.62	ND	U	0.064	0.38	ND	U	0.064	0.40	ND	U	0.064	0.33	ND	U	0.064	0.44
PCB 153[NOAA]	0.047	JP	0.038	0.49	ND	U	0.047	0.62	0.082	J	0.038	0.38	ND	U	0.038	0.40	ND	U	0.038	0.33	ND	U	0.038	0.44
PCB 156	ND	U	0.042	0.49	ND	U	0.052	0.62	ND	U	0.042	0.38	ND	U	0.042	0.40	ND	U	0.042	0.33	ND	U	0.042	0.44
PCB 169	ND	U	0.041	0.49	ND	U	0.051	0.62	ND	U	0.041	0.38	ND	U	0.041	0.40	ND	U	0.041	0.33	ND	U	0.041	0.44
PCB 170[NOAA]	ND	U	0.026	0.49	ND	U	0.033	0.62	ND	U	0.026	0.38	ND	U	0.026	0.40	ND	U	0.026	0.33	ND	U	0.026	0.44
PCB 180[NOAA]	ND	U	0.095	0.49	ND	U	0.12	0.62	ND	U	0.095	0.38	ND	U	0.095	0.40	ND	U	0.095	0.33	ND	U	0.095	0.44
PCB 183	ND	U	0.081	0.49	ND	U	0.10	0.62	ND	U	0.081	0.38	ND	U	0.081	0.40	ND	U	0.081	0.33	ND	U	0.081	0.44
PCB 184	ND	U	0.052	0.49	ND	U	0.065	0.62	ND	U	0.052	0.38	ND	U	0.052	0.40	ND	U	0.052	0.33	ND	U	0.052	0.44
PCB 187[NOAA]	ND	U	0.047	0.49	ND	U	0.058	0.62	ND	U	0.047	0.38	ND	U	0.047	0.40	ND	U	0.047	0.33	ND	U	0.047	0.44
PCB 195[NOAA]	ND	U	0.031	0.49	ND	U	0.039	0.62	ND	U	0.031	0.38	ND	U	0.031	0.40	ND	U	0.031	0.33	ND	U	0.031	0.44
PCB 206[NOAA]	ND	U	0.031	0.49	ND	U	0.039	0.62	ND	U	0.031	0.38	ND	U	0.031	0.40	ND	U	0.031	0.33	ND	U	0.031	0.44
PCB 209[NOAA]	ND	Ui	0.49	0.49	ND	U	0.051	0.62	ND	U	0.041	0.38	ND	U	0.041	0.40	ND	U	0.041	0.33	ND	U	0.041	0.44
Total EPA R4 PCBs	1.9				2.6				1.5				1.5				1.5				1.4			
Total NOAA PCBs	3.0				4.3				2.2				2.1				2.2				2.1			
Aroclor-1016	ND	U	2.1	9.7	ND	U	2.6	13	ND	U	2.1	7.5	ND	U	2.1	8.0	ND	U	2.1	6.6	ND	U	2.1	8.8
Aroclor-1221	ND	U	2.1	20	ND	U	2.6	25	ND	U	2.1	15	ND	U	2.1	16	ND	U	2.1	14	ND	U	2.1	18
Aroclor-1232	ND	U	2.1	9.7	ND	U	2.6	13	ND	U	2.1	7.5	ND	U	2.1	8.0	ND	U	2.1	6.6	ND	U	2.1	8.8
Aroclor-1242	ND	U	2.1	9.7	ND	U	2.6	13	ND	U	2.1	7.5	ND	U	2.1	8.0	ND	U	2.1	6.6	ND	U	2.1	8.8
Aroclor-1248	ND	U	2.1	9.7	ND	U	2.6	13	ND	U	2.1	7.5	ND	U	2.1	8.0	ND	U	2.1	6.6	ND	U	2.1	8.8
Aroclor-1254	ND	U	2.1	9.7	ND	U	2.6	13	ND	U	2.1	7.5	ND	U	2.1	8.0	ND	U	2.1	6.6	ND	U	2.1	8.8
Aroclor-1260	ND	U	2.1	9.7	ND	U	2.6	13	ND	U	2.1	7.5	ND	U	2.1	8.0	ND	U	2.1	6.6	ND	U	2.1	8.8

TABLE 9 *(continued)*
Analytical Results for Dry Weight PCBs and Aroclors in Sediment Samples

SAMPLE ID	SHEM CREEK				ENTRANCE CHANNEL															
	SHCR12				CHEC12-1				CHEC12-1 Field Split				CHEC12-2				MTPL12			
Analyte	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
PCB 8[NOAA]	ND	U	0.24	0.57	ND	Ui	0.93	0.93	ND	U	0.22	0.52	ND	U	0.21	0.43	ND	U	0.21	0.43
PCB 18[NOAA]	ND	U	0.11	0.57	ND	U	0.098	0.51	ND	U	0.099	0.52	ND	U	0.096	0.39	0.26	J	0.096	0.39
PCB 28[NOAA]	ND	U	0.073	0.57	ND	U	0.066	0.51	ND	U	0.066	0.52	ND	U	0.064	0.39	ND	U	0.064	0.39
PCB 44[NOAA]	ND	U	0.074	0.57	ND	U	0.067	0.51	ND	U	0.067	0.52	ND	U	0.065	0.39	ND	U	0.065	0.39
PCB 49	ND	U	0.066	0.57	ND	U	0.060	0.51	ND	U	0.060	0.52	ND	U	0.058	0.39	ND	U	0.058	0.39
PCB 52[NOAA]	ND	U	0.067	0.57	ND	U	0.061	0.51	ND	U	0.061	0.52	ND	U	0.059	0.39	ND	U	0.059	0.39
PCB 66[NOAA]	ND	U	0.040	0.57	ND	U	0.036	0.51	ND	U	0.036	0.52	ND	U	0.035	0.39	ND	U	0.035	0.39
PCB 77	0.28	J	0.053	0.57	ND	U	0.048	0.51	ND	U	0.049	0.52	ND	U	0.047	0.39	ND	U	0.047	0.39
PCB 87	ND	U	0.043	0.57	ND	U	0.039	0.51	ND	U	0.040	0.52	ND	U	0.038	0.39	ND	U	0.038	0.39
PCB 101[NOAA]	0.077	J	0.056	0.57	ND	U	0.050	0.51	ND	U	0.051	0.52	ND	U	0.049	0.39	ND	U	0.049	0.39
PCB 105[NOAA]	ND	U	0.038	0.57	ND	U	0.034	0.51	ND	U	0.034	0.52	ND	U	0.033	0.39	ND	U	0.033	0.39
PCB 118[NOAA]	ND	U	0.035	0.57	ND	U	0.032	0.51	ND	U	0.032	0.52	ND	U	0.031	0.39	ND	U	0.031	0.39
PCB 126	ND	U	0.049	0.57	ND	U	0.044	0.51	ND	U	0.045	0.52	ND	U	0.043	0.39	ND	U	0.043	0.39
PCB 128[NOAA]	ND	U	0.035	0.57	ND	U	0.032	0.51	ND	U	0.032	0.52	ND	U	0.031	0.39	ND	U	0.031	0.39
PCB 138[NOAA]	ND	U	0.073	0.57	ND	U	0.066	0.51	ND	U	0.066	0.52	ND	U	0.064	0.39	ND	U	0.064	0.39
PCB 153[NOAA]	0.057	J	0.043	0.57	ND	U	0.039	0.51	ND	U	0.040	0.52	ND	U	0.038	0.39	ND	U	0.038	0.39
PCB 156	ND	U	0.048	0.57	ND	U	0.043	0.51	ND	U	0.044	0.52	ND	U	0.042	0.39	ND	U	0.042	0.39
PCB 169	ND	U	0.047	0.57	ND	U	0.042	0.51	ND	U	0.043	0.52	ND	U	0.041	0.39	ND	U	0.041	0.39
PCB 170[NOAA]	ND	U	0.030	0.57	ND	U	0.027	0.51	ND	U	0.027	0.52	ND	U	0.026	0.39	ND	U	0.026	0.39
PCB 180[NOAA]	ND	U	0.11	0.57	ND	U	0.097	0.51	ND	U	0.098	0.52	ND	U	0.095	0.39	ND	U	0.095	0.39
PCB 183	ND	U	0.092	0.57	ND	U	0.083	0.51	ND	U	0.084	0.52	ND	U	0.081	0.39	ND	U	0.081	0.39
PCB 184	ND	U	0.059	0.57	ND	U	0.053	0.51	ND	U	0.054	0.52	ND	U	0.052	0.39	ND	U	0.052	0.39
PCB 187[NOAA]	ND	U	0.053	0.57	ND	U	0.048	0.51	ND	U	0.049	0.52	ND	U	0.047	0.39	ND	U	0.047	0.39
PCB 195[NOAA]	ND	U	0.035	0.57	ND	U	0.032	0.51	ND	U	0.032	0.52	ND	U	0.031	0.39	ND	U	0.031	0.39
PCB 206[NOAA]	ND	U	0.035	0.57	ND	U	0.032	0.51	ND	U	0.032	0.52	ND	U	0.031	0.39	ND	U	0.031	0.39
PCB 209[NOAA]	ND	U	0.047	0.57	ND	U	0.042	0.51	ND	U	0.043	0.52	ND	U	0.041	0.39	ND	U	0.041	0.39
Total EPA R4 PCBs	1.9				2.2				1.5				1.4				1.6			
Total NOAA PCBs	2.5				3.6				2.2				2.1				2.4			
Aroclor-1016	ND	U	2.4	12	ND	U	2.2	11	ND	U	2.2	11	ND	U	2.1	7.7	ND	U	2.1	7.8
Aroclor-1221	ND	U	2.4	23	ND	U	2.2	21	ND	U	2.2	21	ND	U	2.1	16	ND	U	2.1	16
Aroclor-1232	ND	U	2.4	12	ND	U	2.2	11	ND	U	2.2	11	ND	U	2.1	7.7	ND	U	2.1	7.8
Aroclor-1242	ND	U	2.4	12	ND	U	2.2	11	ND	U	2.2	11	ND	U	2.1	7.7	ND	U	2.1	7.8
Aroclor-1248	ND	U	2.4	12	ND	U	2.2	11	ND	U	2.2	11	ND	U	2.1	7.7	ND	U	2.1	7.8
Aroclor-1254	ND	U	2.4	12	ND	U	2.2	11	ND	U	2.2	11	ND	U	2.1	7.7	ND	U	2.1	7.8
Aroclor-1260	ND	U	2.4	12	ND	U	2.2	11	ND	U	2.2	11	ND	U	2.1	7.7	ND	U	2.1	7.8

Non-detect (ND) results use the MDL for calculating the Total EPA Region 4 and Total NOAA PCBs (See SERIM Section 7.3 for details).
[NOAA] National Oceanic and Atmospheric Administration PCB congeners (see SERIM Table 5-6 for list).
J = The result is an estimated value.
i = The MRL/MDL is elevated due to a matrix interference.
P = The GC or HPLC confirmation criteria were exceeded. The relative percent difference is greater than 40% between the two analytical results.
U = The analyte was analyzed but was not detected (ND) at or above the MDL.

Source: ALS Environmental Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 10
Analytical Results for Dry Weight PBDEs in Sediment Samples

				REFERENCE				UPPER HARBOR AND WIDENERS																	
			SAMPLE ID	RS-CH-A				DANI12				DANW12				NYNC12				NCW12				CCRK12			
Analyte	Max Conc. µg/kg	TEL µg/kg	ERL µg/kg	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
PBDE 17	ND	x	x	ND	U	0.011	0.063	ND	U	0.011	0.082	ND	U	0.011	0.097	ND	U	0.011	0.088	ND	U	0.011	0.085	ND	U	0.011	0.081
PBDE 28	ND	x	x	ND	U	0.015	0.063	ND	U	0.015	0.082	ND	U	0.015	0.097	ND	U	0.015	0.088	ND	U	0.015	0.085	ND	U	0.015	0.081
PBDE 47	0.30	x	x	ND	U	0.012	0.063	ND	U	0.012	0.082	ND	U	0.012	0.097	ND	U	0.012	0.088	ND	U	0.012	0.085	ND	U	0.012	0.081
PBDE 66	ND	x	x	ND	U	0.022	0.063	ND	U	0.022	0.082	ND	U	0.022	0.097	ND	U	0.022	0.088	ND	U	0.022	0.085	ND	U	0.022	0.081
PBDE 71	ND	x	x	ND	U	0.0087	0.063	ND	U	0.0087	0.082	ND	U	0.0087	0.097	ND	U	0.0087	0.088	ND	U	0.0087	0.085	ND	U	0.0087	0.081
PBDE 85	0.065	x	x	ND	U	0.0081	0.063	ND	U	0.0081	0.082	ND	U	0.0081	0.097	ND	U	0.0081	0.088	ND	U	0.0081	0.085	ND	U	0.0081	0.081
PBDE 99	0.56	x	x	ND	U	0.019	0.063	ND	U	0.019	0.082	ND	U	0.019	0.097	ND	U	0.019	0.088	ND	U	0.019	0.085	ND	U	0.019	0.081
PBDE 100	0.18	x	x	ND	U	0.014	0.063	ND	U	0.014	0.082	ND	U	0.014	0.097	ND	U	0.014	0.088	ND	U	0.014	0.085	ND	U	0.014	0.081
PBDE 128	ND	x	x	ND	U	0.013	0.063	ND	U	0.013	0.082	ND	U	0.013	0.097	ND	U	0.013	0.088	ND	U	0.013	0.085	ND	U	0.013	0.081
PBDE 138	ND	x	x	ND	U	0.0059	0.063	ND	U	0.0059	0.082	ND	U	0.0059	0.097	ND	U	0.0059	0.088	ND	U	0.0059	0.085	ND	U	0.0059	0.081
PBDE 153	0.095	x	x	ND	U	0.011	0.063	ND	U	0.011	0.082	ND	U	0.011	0.097	ND	U	0.011	0.088	ND	U	0.011	0.085	ND	U	0.011	0.081
PBDE 154	0.059	x	x	ND	U	0.0070	0.063	ND	U	0.0070	0.082	ND	U	0.0070	0.097	ND	U	0.0070	0.088	ND	U	0.0070	0.085	ND	U	0.0070	0.081
PBDE 183	0.032	x	x	ND	U	0.010	0.063	ND	U	0.010	0.082	ND	U	0.010	0.097	ND	U	0.010	0.088	ND	U	0.010	0.085	ND	U	0.010	0.081
PBDE 190	ND	x	x	ND	U	0.014	0.063	ND	U	0.014	0.082	ND	U	0.014	0.097	ND	U	0.014	0.088	ND	U	0.014	0.085	ND	U	0.014	0.081
PBDE 203	ND	x	x	ND	U	0.016	0.063	ND	U	0.016	0.082	ND	U	0.016	0.097	ND	U	0.016	0.088	ND	U	0.016	0.085	ND	U	0.016	0.081
PBDE 206	0.30	x	x	ND	U	0.018	0.63	ND	U	0.018	0.82	ND	U	0.018	0.97	ND	U	0.018	0.88	ND	U	0.018	0.85	ND	U	0.018	0.81
PBDE 209	6.5	x	x	ND	U	0.029	0.63	ND	U	0.029	0.82	1.2	--	0.029	0.97	1.4	--	0.029	0.88	ND	U	0.029	0.85	ND	U	0.029	0.81

TABLE 10 *(continued)*
Analytical Results for Dry Weight PBDEs in Sediment Samples

SAMPLE ID	UPPER HARBOR AND WIDENERS												LOWER HARBOR AND WIDENERS											
	PTFC12				ORDT12				ORDT Field Split				REHR12				BENW12				HGIS12				HGIW12			
Analyte	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
PBDE 17	ND	U	0.011	0.094	ND	U	0.011	0.088	ND	U	0.011	0.087	ND	U	0.011	0.068	ND	U	0.011	0.068	ND	U	0.011	0.074	ND	U	0.011	0.072
PBDE 28	ND	U	0.015	0.094	ND	U	0.015	0.088	ND	U	0.015	0.087	ND	U	0.015	0.068	ND	U	0.015	0.068	ND	U	0.015	0.074	ND	U	0.015	0.072
PBDE 47	ND	U	0.012	0.094	ND	U	0.012	0.088	ND	U	0.012	0.087	ND	U	0.012	0.068	ND	U	0.012	0.068	ND	U	0.012	0.074	ND	U	0.012	0.072
PBDE 66	ND	U	0.022	0.094	ND	U	0.022	0.088	ND	U	0.022	0.087	ND	U	0.022	0.068	ND	U	0.022	0.068	ND	U	0.022	0.074	ND	U	0.022	0.072
PBDE 71	ND	U	0.0087	0.094	ND	U	0.0087	0.088	ND	U	0.0087	0.087	ND	U	0.0087	0.068	ND	U	0.0087	0.068	ND	U	0.0087	0.074	ND	U	0.0087	0.072
PBDE 85	ND	U	0.0081	0.094	ND	U	0.0081	0.088	ND	U	0.0081	0.087	ND	U	0.0081	0.068	ND	U	0.0081	0.068	ND	U	0.0081	0.074	ND	U	0.0081	0.072
PBDE 99	ND	U	0.019	0.094	ND	U	0.019	0.088	ND	U	0.019	0.087	0.022	J	0.019	0.068	ND	U	0.019	0.068	ND	U	0.019	0.074	ND	U	0.019	0.072
PBDE 100	ND	U	0.014	0.094	ND	U	0.014	0.088	ND	U	0.014	0.087	ND	U	0.014	0.068	ND	U	0.014	0.068	ND	U	0.014	0.074	ND	U	0.014	0.072
PBDE 128	ND	U	0.013	0.094	ND	U	0.013	0.088	ND	U	0.013	0.087	ND	U	0.013	0.068	ND	U	0.013	0.068	ND	U	0.013	0.074	ND	U	0.013	0.072
PBDE 138	ND	U	0.0059	0.094	ND	U	0.0059	0.088	ND	U	0.0059	0.087	ND	U	0.0059	0.068	ND	U	0.0059	0.068	ND	U	0.0059	0.074	ND	U	0.0059	0.072
PBDE 153	ND	U	0.011	0.094	ND	U	0.011	0.088	ND	U	0.011	0.087	0.016	J	0.011	0.068	ND	U	0.011	0.068	ND	U	0.011	0.074	ND	U	0.011	0.072
PBDE 154	ND	U	0.0070	0.094	ND	U	0.0070	0.088	ND	U	0.0070	0.087	0.011	J	0.0070	0.068	ND	U	0.0070	0.068	ND	U	0.0070	0.074	ND	U	0.0070	0.072
PBDE 183	ND	U	0.010	0.094	ND	U	0.010	0.088	ND	U	0.010	0.087	0.013	U	0.010	0.068	ND	U	0.010	0.068	ND	U	0.010	0.074	ND	U	0.010	0.072
PBDE 190	ND	U	0.014	0.094	ND	U	0.014	0.088	ND	U	0.014	0.087	ND	J	0.014	0.068	ND	U	0.014	0.068	ND	U	0.014	0.074	ND	U	0.014	0.072
PBDE 203	ND	U	0.016	0.094	ND	U	0.016	0.088	ND	U	0.016	0.087	ND	U	0.016	0.068	ND	U	0.016	0.068	ND	U	0.016	0.074	ND	U	0.016	0.072
PBDE 206	ND	U	0.018	0.94	ND	U	0.018	0.88	ND	U	0.018	0.87	ND	U	0.018	0.68	0.30	J	0.018	0.68	ND	U	0.018	0.74	ND	U	0.018	0.72
PBDE 209	1.6	--	0.029	0.94	0.51	J	0.029	0.88	0.66	J	0.029	0.87	0.36	J	0.029	0.68	3.5	--	0.029	0.68	0.42	J	0.029	0.74	ND	U	0.029	0.72

TABLE 10 *(continued)*
Analytical Results for Dry Weight PBDEs in Sediment Samples

SAMPLE ID	LOWER HARBOR AND WIDENERS																				ANCHORAGE BASIN			
	DRMY12				WUTB12				WRTB12				WLR12				WLRW12				ABMA12			
Analyte	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
PBDE 17	ND	U	0.11	0.97	ND	U	0.14	1.3	ND	U	0.011	0.074	ND	U	0.011	0.080	ND	U	0.011	0.066	ND	U	0.011	0.088
PBDE 28	ND	U	0.15	0.97	ND	U	0.19	1.3	ND	U	0.015	0.074	ND	U	0.015	0.080	ND	U	0.015	0.066	ND	U	0.015	0.088
PBDE 47	ND	U	0.12	0.97	ND	U	0.15	1.3	ND	U	0.012	0.074	0.30	--	0.012	0.080	ND	U	0.012	0.066	ND	U	0.012	0.088
PBDE 66	ND	U	0.22	0.97	ND	U	0.28	1.3	ND	U	0.022	0.074	ND	U	0.022	0.080	ND	U	0.022	0.066	ND	U	0.022	0.088
PBDE 71	ND	U	0.087	0.97	ND	U	0.11	1.3	ND	U	0.0087	0.074	ND	U	0.0087	0.080	ND	U	0.0087	0.066	ND	U	0.0087	0.088
PBDE 85	ND	U	0.081	0.97	ND	U	0.10	1.3	ND	U	0.0081	0.074	0.065	J	0.0081	0.080	ND	U	0.0081	0.066	ND	U	0.0081	0.088
PBDE 99	ND	U	0.19	0.97	ND	U	0.24	1.3	ND	U	0.019	0.074	0.56	--	0.019	0.080	ND	U	0.019	0.066	ND	U	0.019	0.088
PBDE 100	ND	U	0.14	0.97	ND	U	0.18	1.3	ND	U	0.014	0.074	0.18	--	0.014	0.080	ND	U	0.014	0.066	ND	U	0.014	0.088
PBDE 128	ND	U	0.13	0.97	ND	U	0.17	1.3	ND	U	0.013	0.074	ND	U	0.013	0.080	ND	U	0.013	0.066	ND	U	0.013	0.088
PBDE 138	ND	U	0.059	0.97	ND	U	0.073	1.3	ND	U	0.0059	0.074	ND	U	0.0059	0.080	ND	U	0.0059	0.066	ND	U	0.0059	0.088
PBDE 153	ND	U	0.11	0.97	ND	U	0.14	1.3	ND	U	0.011	0.074	0.095	--	0.011	0.080	ND	U	0.011	0.066	ND	U	0.011	0.088
PBDE 154	ND	U	0.070	0.97	ND	U	0.087	1.3	0.019	J	0.0070	0.074	0.059	J	0.0070	0.080	ND	U	0.0070	0.066	ND	U	0.0070	0.088
PBDE 183	ND	U	0.010	0.97	ND	U	0.13	1.3	0.032	U	0.010	0.074	ND	U	0.010	0.080	ND	U	0.010	0.066	ND	U	0.010	0.088
PBDE 190	ND	U	0.014	0.97	ND	U	0.18	1.3	ND	J	0.014	0.074	ND	U	0.014	0.080	ND	U	0.014	0.066	ND	U	0.014	0.088
PBDE 203	ND	U	0.16	0.97	ND	U	0.20	1.3	ND	U	0.016	0.074	ND	U	0.016	0.080	ND	U	0.016	0.066	ND	U	0.016	0.088
PBDE 206	ND	U	0.18	9.7	ND	U	0.23	13	ND	U	0.018	0.74	ND	U	0.018	0.80	ND	U	0.018	0.66	ND	U	0.018	0.88
PBDE 209	4.8	JD	0.29	9.7	6.5	JD	0.36	13	ND	U	0.029	0.74	0.45	J	0.029	0.80	ND	U	0.029	0.66	0.83	J	0.029	0.88

TABLE 10 *(continued)*
Analytical Results for Dry Weight PBDEs in Sediment Samples

SAMPLE ID	SHEM CREEK				ENTRANCE CHANNEL															
	SHCR12				CHEC12-1				CHEC12-1 Field Split				CHEC12-2				MTPL12			
Analyte	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
PBDE 17	ND	U	0.13	1.2	ND	U	0.11	1.0	ND	U	0.12	1.1	ND	U	0.011	0.077	ND	U	0.011	0.076
PBDE 28	ND	U	0.17	1.2	ND	U	0.15	1.0	ND	U	0.16	1.1	ND	U	0.015	0.077	ND	U	0.015	0.076
PBDE 47	ND	U	0.14	1.2	ND	U	0.12	1.0	ND	U	0.13	1.1	ND	U	0.012	0.077	ND	Ui	0.076	0.076
PBDE 66	ND	U	0.25	1.2	ND	U	0.22	1.0	ND	U	0.23	1.1	ND	U	0.022	0.077	ND	U	0.022	0.076
PBDE 71	ND	U	0.099	1.2	ND	U	0.087	1.0	ND	U	0.089	1.1	ND	U	0.0087	0.077	ND	U	0.0087	0.076
PBDE 85	ND	U	0.092	1.2	ND	U	0.081	1.0	ND	U	0.083	1.1	ND	U	0.0081	0.077	ND	U	0.0081	0.076
PBDE 99	ND	U	0.22	1.2	ND	U	0.19	1.0	ND	U	0.20	1.1	ND	U	0.019	0.077	ND	U	0.019	0.076
PBDE 100	ND	U	0.16	1.2	ND	U	0.14	1.0	ND	U	0.15	1.1	ND	U	0.014	0.077	ND	U	0.014	0.076
PBDE 128	ND	U	0.15	1.2	ND	U	0.13	1.0	ND	U	0.14	1.1	ND	U	0.013	0.077	ND	U	0.013	0.076
PBDE 138	ND	U	0.067	1.2	ND	U	0.059	1.0	ND	U	0.061	1.1	ND	U	0.0059	0.077	ND	U	0.0059	0.076
PBDE 153	ND	U	0.13	1.2	ND	U	0.11	1.0	ND	U	0.12	1.1	ND	U	0.011	0.077	ND	U	0.011	0.076
PBDE 154	ND	U	0.080	1.2	ND	U	0.070	1.0	ND	U	0.072	1.1	ND	U	0.0070	0.077	ND	U	0.0070	0.076
PBDE 183	ND	U	0.12	1.2	ND	U	0.10	1.0	ND	U	0.15	1.1	ND	U	0.010	0.077	ND	U	0.010	0.076
PBDE 190	ND	U	0.16	1.2	ND	U	0.14	1.0	ND	U	0.11	1.1	ND	U	0.014	0.077	ND	U	0.014	0.076
PBDE 203	ND	U	0.19	1.2	ND	U	0.16	1.0	ND	U	0.17	1.1	ND	U	0.016	0.077	ND	U	0.016	0.076
PBDE 206	ND	U	0.21	12	ND	U	0.18	10	ND	U	0.19	11	ND	U	0.018	0.77	ND	U	0.018	0.76
PBDE 209	6.0	JD	0.33	12	4.9	JD	0.29	10	4.9	JD	0.30	11	0.49	J	0.029	0.77	0.47	J	0.029	0.76

D= The reported result is from a dilution.
i = The MRL/MDL is elevated due to a matrix interference.
J = The result is an estimated value.
U = The analyte was analyzed but was not detected (ND) at or above the MDL.

Source: ALS Environmental
Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 11
Analytical Results for Dry Weight Dioxin and Furan in Sediment Samples

ANAMAR Environmental Consulting, Inc.

					REFERENCE					UPPER HARBOR AND WIDENERS																					
				SAMPLE ID	RS-CH-A					DANI12					DANW12					NYNC12					NCW12					CCRK12				
Analyte	Max Conc. ng/kg	TEL ng/kg	AET ng/kg	TEF ng/kg	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ
Dioxins																																	
2,3,7,8-TCDD	0.128	x	x	1	ND	U	0.506	0.617	0.506	ND	U	0.625	0.770	0.625	ND	U	0.841	0.906	0.841	ND	U	0.663	0.876	0.663	ND	U	0.681	0.824	0.681	ND	U	0.671	0.812	0.671
1,2,3,7,8-PeCDD	1.47	x	x	1	ND	U	0.372	3.08	0.372	ND	U	0.772	3.85	0.772	1.47	J	0.721	4.53	1.47	ND	U	0.785	4.38	0.785	ND	U	0.864	4.12	0.864	ND	U	0.478	4.06	0.478
1,2,3,4,7,8-HxCDD	2.6	x	x	0.1	ND	U	0.474	3.08	0.0474	ND	U	0.687	3.85	0.0687	2.60	J	0.539	4.53	0.26	1.15	J	0.739	4.38	0.115	ND	U	0.811	4.12	0.0811	ND	U	0.792	4.06	0.0792
1,2,3,6,7,8-HxCDD	3.99	x	x	0.1	ND	U	0.515	3.08	0.0515	1.88	J	0.763	3.85	0.188	3.31	JK	0.579	4.53	0.331	1.71	J	0.785	4.38	0.171	ND	U	0.871	4.12	0.0871	1.27	J	0.874	4.06	0.127
1,2,3,7,8,9-HxCDD	11	x	x	0.1	ND	U	0.472	3.08	0.0472	2.70	J	0.693	3.85	0.27	11.0	--	0.534	4.53	1.1	4.61	--	0.728	4.38	0.461	2.19	J	0.804	4.12	0.219	2.07	JK	0.796	4.06	0.207
1,2,3,4,6,7,8-HpCDD	112	x	x	0.01	0.938	JK	0.753	3.08	0.00938	35.0	--	0.699	3.85	0.35	112	--	1.11	4.53	1.12	45.6	--	1.75	4.38	0.456	23.1	--	1.12	4.12	0.231	31.5	--	0.627	4.06	0.315
OCDD	1370	x	x	0.0003	12.9	--	1.56	6.17	0.00387	399	--	1.52	7.70	0.1197	1300	--	1.18	9.06	0.39	500	--	1.01	8.76	0.15	251	--	1.06	8.24	0.0753	349	--	0.904	8.12	0.1047
Furans																																	
2,3,7,8-TCDF	ND	x	x	0.1	ND	U	0.497	0.617	0.0497	ND	U	0.544	0.770	0.0544	ND	U	0.622	0.906	0.0622	ND	U	0.530	0.876	0.053	ND	U	0.729	0.824	0.0729	ND	U	0.507	0.812	0.0507
1,2,3,7,8-PeCDF	ND	x	x	0.03	ND	U	0.288	3.08	0.00864	ND	U	0.381	3.85	0.01143	ND	U	0.528	4.53	0.01584	ND	U	0.470	4.38	0.0141	ND	U	0.590	4.12	0.0177	ND	U	0.375	4.06	0.01125
2,3,4,7,8-PeCDF	ND	x	x	0.3	ND	U	0.304	3.08	0.0912	ND	U	0.388	3.85	0.1164	ND	U	0.527	4.53	0.1581	ND	U	0.479	4.38	0.1437	ND	U	0.631	4.12	0.1893	ND	U	0.385	4.06	0.1155
1,2,3,4,7,8-HxCDF	0.391	x	x	0.1	ND	U	0.237	3.08	0.0237	ND	U	0.500	3.85	0.05	ND	U	0.417	4.53	0.0417	ND	U	0.393	4.38	0.0393	ND	U	0.428	4.12	0.0428	ND	U	0.462	4.06	0.0462
1,2,3,6,7,8-HxCDF	0.205	x	x	0.1	ND	U	0.237	3.08	0.0237	ND	U	0.484	3.85	0.0484	ND	U	0.366	4.53	0.0366	ND	U	0.353	4.38	0.0353	ND	U	0.394	4.12	0.0394	ND	U	0.404	4.06	0.0404
1,2,3,7,8,9-HxCDF	ND	x	x	0.1	ND	U	0.315	3.08	0.0315	ND	U	0.632	3.85	0.0632	ND	U	0.606	4.53	0.0606	ND	U	0.565	4.38	0.0565	ND	U	0.519	4.12	0.0519	ND	U	0.617	4.06	0.0617
2,3,4,6,7,8-HxCDF	0.172	x	x	0.1	ND	U	0.237	3.08	0.0237	ND	U	0.459	3.85	0.0459	ND	U	0.430	4.53	0.043	ND	U	0.424	4.38	0.0424	ND	U	0.404	4.12	0.0404	ND	U	0.454	4.06	0.0454
1,2,3,4,6,7,8-HpCDF	3.49	x	x	0.01	ND	U	0.328	3.08	0.00328	1.19	J	0.513	3.85	0.0119	ND	U	0.555	4.53	0.00555	0.742	JK	0.405	4.38	0.00742	1.20	J	0.610	4.12	0.012	0.997	J	0.354	4.06	0.00997
1,2,3,4,7,8,9-HpCDF	ND	x	x	0.01	ND	U	0.412	3.08	0.00412	ND	U	0.627	3.85	0.00627	ND	U	0.680	4.53	0.0068	ND	U	0.496	4.38	0.00496	ND	U	0.746	4.12	0.00746	ND	U	0.410	4.06	0.0041
OCDF	14.4	x	x	0.0003	ND	U	1.03	6.17	0.000309	3.04	J	1.58	7.70	0.000912	ND	U	0.867	9.06	0.0002601	3.02	J	1.01	8.76	0.000906	4.80	J	1.35	8.24	0.00144	3.74	J	0.932	8.12	0.001122
Total TEQ	**5.943**	0.85	3.6		**1.2972**					**2.80221**					**5.94265**					**3.19859**					**2.7138**					**2.36824**				
Total Dioxins																																	
Total TCDD	43	x	x	--	ND	U	0.506	0.617		6.42	--	0.625	0.770		18.2	--	0.841	0.906		3.31	--	0.663	0.876		ND	U	0.681	0.824		11.1	--	0.671	0.812	
Total PeCDD	52.4	x	x	--	ND	U	0.372	3.08		12.2	--	0.772	3.85		52.4	--	0.721	4.53		22.9	--	0.785	4.38		2.95	J	0.864	4.12		12.0	--	0.478	4.06	
Total HxCDD	318	x	x	--	2.32	J	0.474	3.08		72.7	--	0.687	3.85		318	--	0.539	4.53		110	--	0.739	4.38		42.9	--	0.811	4.12		64.1	--	0.792	4.06	
Total HpCDD	468	x	x	--	ND	U	0.753	3.08		147	--	0.699	3.85		468	--	1.11	4.53		193	--	1.75	4.38		99.4	--	1.12	4.12		142	--	0.627	4.06	
Total Furans																																	
Total TCDF	0.559	x	x	--	ND	U	0.497	0.617		ND	U	0.544	0.770		ND	U	0.622	0.906		ND	U	0.530	0.876		ND	U	0.729	0.824		ND	U	0.507	0.812	
Total PeCDF	1.79	x	x	--	ND	U	0.304	3.08		ND	U	0.388	3.85		ND	U	0.527	4.53		ND	U	0.479	4.38		ND	U	0.631	4.12		ND	U	0.385	4.06	
Total HxCDF	4.59	x	x	--	ND	U	0.237	3.08		ND	U	0.500	3.85		ND	U	0.417	4.53		0.734	J	0.393	4.38		ND	U	0.428	4.12		ND	U	0.462	4.06	
Total HpCDF	12.6	x	x	--	ND	U	0.328	3.08		3.82	J	0.513	3.85		ND	U	0.555	4.53		ND	U	0.405	4.38		1.20	J	0.610	4.12		3.26	J	0.354	4.06	

TABLE 11 *(continued)*
Analytical Results for Dry Weight Dioxin and Furan in Sediment Samples

ANAMAR Environmental Consulting, Inc.

SAMPLE ID	UPPER HARBOR AND WIDENERS															LOWER HARBOR AND WIDENERS														
	PTFC12					ORDT12					ORDT12 Field Split					REHR12					BENW12					HGIS12					HGIW12				
Analyte	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ
Dioxins																																		
2,3,7,8-TCDD	ND	U	0.641	0.890	0.641	ND	U	0.788	0.814	0.788	ND	U	0.547	0.845	0.547	ND	U	0.560	0.670	0.56	0.0858	JK	0.0781	0.666	0.0858	ND	U	0.111	0.733	0.111	0.128	JK	0.0642	0.703	0.128
1,2,3,7,8-PeCDD	ND	U	0.875	4.45	0.875	0.672	JK	0.385	4.07	0.672	ND	U	0.398	4.22	0.398	ND	U	0.366	3.35	0.366	0.122	JK	0.0214	3.33	0.122	0.261	J	0.0304	3.66	0.261	0.451	JK	0.0119	3.52	0.451
1,2,3,4,7,8-HxCDD	ND	U	0.980	4.45	0.098	1.47	JK	0.538	4.07	0.147	0.796	JK	0.596	4.22	0.0796	ND	U	0.814	3.35	0.0814	0.212	J	0.0678	3.33	0.0212	0.491	J	0.114	3.66	0.0491	0.716	J	0.0622	3.52	0.0716
1,2,3,6,7,8-HxCDD	ND	U	1.07	4.45	0.107	1.86	J	0.582	4.07	0.186	1.45	J	0.629	4.22	0.145	ND	U	0.906	3.35	0.0906	0.413	J	0.0681	3.33	0.0413	0.631	J	0.114	3.66	0.0631	1.31	J	0.0618	3.52	0.131
1,2,3,7,8,9-HxCDD	1.49	J	0.976	4.45	0.149	6.70	--	0.535	4.07	0.67	3.81	JK	0.585	4.22	0.381	1.70	JK	0.821	3.35	0.17	0.110	JK	0.0644	3.33	0.011	1.64	J	0.108	3.66	0.164	3.79	--	0.0587	3.52	0.379
1,2,3,4,6,7,8-HpCDD	23.9	--	1.36	4.45	0.239	66.0	--	0.612	4.07	0.66	42.6	--	1.16	4.22	0.426	17.6	--	0.966	3.35	0.176	8.03	B	0.0729	3.33	0.0803	22.1	B	0.0965	3.66	0.221	44.1	B	0.0307	3.52	0.441
OCDD	271	--	1.76	8.90	0.0813	769	--	1.21	8.14	0.2307	536	--	1.15	8.45	0.1608	224	--	1.14	6.70	0.0672	93.5	B	0.0991	6.66	0.02805	303	B	0.128	7.33	0.0909	609	B	0.0677	7.03	0.1827
Furans																																		
2,3,7,8-TCDF	ND	U	0.662	0.890	0.0662	ND	U	0.639	0.814	0.0639	ND	U	0.706	0.845	0.0706	ND	U	0.484	0.670	0.0484	ND	U	0.0247	0.666	0.00247	ND	U	0.0291	0.733	0.00291	ND	U	0.125	0.703	0.0125
1,2,3,7,8-PeCDF	ND	U	0.787	4.45	0.02361	ND	U	0.302	4.07	0.00906	ND	U	0.390	4.22	0.0117	ND	U	0.339	3.35	0.01017	ND	U	0.0154	3.33	0.000462	ND	U	0.0257	3.66	0.000771	ND	U	0.0302	3.52	0.000906
2,3,4,7,8-PeCDF	ND	U	0.825	4.45	0.2475	ND	U	0.307	4.07	0.0921	ND	U	0.379	4.22	0.1137	ND	U	0.341	3.35	0.1023	ND	U	0.0163	3.33	0.00489	ND	U	0.0264	3.66	0.00792	ND	U	0.0325	3.52	0.00975
1,2,3,4,7,8-HxCDF	ND	U	0.520	4.45	0.052	ND	U	0.308	4.07	0.0308	ND	U	0.236	4.22	0.0236	ND	U	0.369	3.35	0.0369	ND	U	0.0321	3.33	0.00321	ND	U	0.0344	3.66	0.00344	ND	U	0.0328	3.52	0.00328
1,2,3,6,7,8-HxCDF	ND	U	0.459	4.45	0.0459	ND	U	0.272	4.07	0.0272	ND	U	0.219	4.22	0.0219	ND	U	0.351	3.35	0.0351	ND	U	0.0297	3.33	0.00297	ND	U	0.0320	3.66	0.0032	0.0971	J	0.0307	3.52	0.00971
1,2,3,7,8,9-HxCDF	ND	U	0.729	4.45	0.0729	ND	U	0.368	4.07	0.0368	ND	U	0.304	4.22	0.0304	ND	U	0.498	3.35	0.0498	ND	U	0.0436	3.33	0.00436	ND	U	0.0471	3.66	0.00471	ND	U	0.0453	3.52	0.00453
2,3,4,6,7,8-HxCDF	ND	U	0.515	4.45	0.0515	ND	U	0.306	4.07	0.0306	ND	U	0.241	4.22	0.0241	ND	U	0.370	3.35	0.037	ND	U	0.0297	3.33	0.00297	ND	U	0.0316	3.66	0.00316	0.0968	J	0.0323	3.52	0.00968
1,2,3,4,6,7,8-HpCDF	0.909	J	0.557	4.45	0.00909	0.860	JK	0.405	4.07	0.0086	0.662	JK	0.348	4.22	0.00662	ND	U	0.565	3.35	0.00565	ND	U	0.0496	3.33	0.000496	0.405	JK	0.0261	3.66	0.00405	0.628	J	0.0323	3.52	0.00628
1,2,3,4,7,8,9-HpCDF	ND	U	0.735	4.45	0.00735	ND	U	0.482	4.07	0.00482	ND	U	0.413	4.22	0.00413	ND	U	0.691	3.35	0.00691	ND	U	0.0728	3.33	0.000728	ND	U	0.0376	3.66	0.000376	ND	U	0.0475	3.52	0.000475
OCDF	ND	U	1.90	8.90	0.00057	2.39	JK	0.892	8.14	0.000717	2.25	J	1.42	8.45	0.000675	ND	U	1.55	6.70	0.000465	0.182	JK	0.132	6.66	0.0000546	1.40	J	0.175	7.33	0.00042	0.712	JK	0.124	7.03	0.0002136
Total TEQ	**2.76692**					**3.6583**					**2.44483**					**1.8439**					**0.41226**					**0.99106**					**1.91233**				
Total Dioxins																																		
Total TCDD	6.35	--	0.641	0.890		30.9	--	0.788	0.814		20.5	--	0.547	0.845		ND	U	0.560	0.670		3.59	--	0.0781	0.666		8.36	--	0.111	0.733		24.6	--	0.0642	0.703	
Total PeCDD	4.07	J	0.875	4.45		39.8	--	0.385	4.07		18.5	--	0.398	4.22		11.5	--	0.366	3.35		2.70	J	0.0214	3.33		9.43	--	0.0304	3.66		23.1	--	0.0119	3.52	
Total HxCDD	57.7	--	0.980	4.45		214	--	0.538	4.07		125	--	0.596	4.22		66.8	--	0.814	3.35		18.8	--	0.0678	3.33		55.8	--	0.114	3.66		141	--	0.0622	3.52	
Total HpCDD	118	--	1.36	4.45		284	--	0.612	4.07		184	--	1.16	4.22		92.8	--	0.966	3.35		32.7	--	0.0729	3.33		105	--	0.0965	3.66		207	--	0.0307	3.52	
Total Furans																																		
Total TCDF	ND	U	0.662	0.890		ND	U	0.639	0.814		ND	U	0.706	0.845		ND	U	0.484	0.670		ND	U	0.0247	0.666		ND	U	0.0291	0.733		0.0810	J	0.0262	0.703	
Total PeCDF	ND	U	0.825	4.45		ND	U	0.307	4.07		ND	U	0.379	4.22		ND	U	0.341	3.35		ND	U	0.0163	3.33		0.177	J	0.0264	3.66		0.318	J	0.0325	3.52	
Total HxCDF	ND	U	0.520	4.45		ND	U	0.308	4.07		ND	U	0.236	4.22		ND	U	0.369	3.35		ND	U	0.0321	3.33		0.530	J	0.0344	3.66		0.477	J	0.0328	3.52	
Total HpCDF	2.33	J	0.557	4.45		ND	U	0.405	4.07		1.21	J	0.348	4.22		ND	U	0.565	3.35		0.163	J	0.0496	3.33		0.856	J	0.0261	3.66		1.46	J	0.0323	3.52	

TABLE 11 *(continued)*
Analytical Results for Dry Weight Dioxin and Furan in Sediment Samples

SAMPLE ID	LOWER HARBOR AND WIDENERS																						ANCHORAGE BASIN				
	DRMY12					WUTB12					WRTB12					WLR12					WLRW12					ABMA12				
Analyte	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ
Dioxins																													
2,3,7,8-TCDD	ND	U	0.141	0.942	0.141	ND	U	1.07	1.19	1.07	ND	U	0.463	0.691	0.463	ND	U	0.588	0.780	0.588	ND	U	0.531	0.611	0.531	ND	U	0.791	0.831	0.791
1,2,3,7,8-PeCDD	0.485	JK	0.0294	4.71	0.485	ND	U	0.964	5.95	0.964	ND	U	0.443	3.45	0.443	ND	U	0.657	3.90	0.657	ND	U	0.399	3.05	0.399	ND	U	0.725	4.15	0.725
1,2,3,4,7,8-HxCDD	1.05	JK	0.306	4.71	0.105	ND	U	1.19	5.95	0.119	ND	U	0.663	3.45	0.0663	ND	U	0.793	3.90	0.0793	ND	U	0.437	3.05	0.0437	ND	U	0.734	4.15	0.0734
1,2,3,6,7,8-HxCDD	1.70	J	0.303	4.71	0.17	3.99	J	1.35	5.95	0.399	ND	U	0.712	3.45	0.0712	ND	U	0.899	3.90	0.0899	ND	U	0.507	3.05	0.0507	1.30	J	0.869	4.15	0.13
1,2,3,7,8,9-HxCDD	4.04	J	0.288	4.71	0.404	6.71	--	1.21	5.95	0.671	1.39	J	0.657	3.45	0.139	1.26	J	0.809	3.90	0.126	1.50	JK	0.451	3.05	0.15	2.29	JK	0.765	4.15	0.229
1,2,3,4,6,7,8-HpCDD	56.4	B	0.824	4.71	0.564	101	--	1.79	5.95	1.01	21.4	--	0.570	3.45	0.214	18.5	--	1.03	3.90	0.185	15.4	--	0.781	3.05	0.154	40.5	--	1.35	4.15	0.405
OCDD	773	B	0.0961	9.42	0.2319	1370	--	1.49	11.9	0.411	340	--	1.16	6.91	0.102	238	--	1.48	7.80	0.0714	196	--	0.942	6.11	0.0588	471	--	1.31	8.31	0.1413
Furans																													
2,3,7,8-TCDF	ND	U	0.368	0.942	0.0368	ND	U	0.752	1.19	0.0752	ND	U	0.458	0.691	0.0458	ND	U	0.621	0.780	0.0621	ND	U	0.414	0.611	0.0414	ND	U	0.713	0.831	0.0713
1,2,3,7,8-PeCDF	ND	U	0.0428	4.71	0.001284	ND	U	0.644	5.95	0.01932	ND	U	0.347	3.45	0.01041	ND	U	0.415	3.90	0.01245	ND	U	0.317	3.05	0.00951	ND	U	0.478	4.15	0.01434
2,3,4,7,8-PeCDF	ND	U	0.0468	4.71	0.01404	ND	U	0.697	5.95	0.2091	ND	U	0.377	3.45	0.1131	ND	U	0.447	3.90	0.1341	ND	U	0.330	3.05	0.099	ND	U	0.481	4.15	0.1443
1,2,3,4,7,8-HxCDF	0.166	JK	0.0419	4.71	0.0166	ND	U	0.875	5.95	0.0875	ND	U	0.338	3.45	0.0338	ND	U	0.718	3.90	0.0718	ND	U	0.185	3.05	0.0185	ND	U	0.400	4.15	0.04
1,2,3,6,7,8-HxCDF	0.115	JK	0.0392	4.71	0.0115	ND	U	0.850	5.95	0.085	ND	U	0.327	3.45	0.0327	ND	U	0.677	3.90	0.0677	ND	U	0.171	3.05	0.0171	ND	U	0.376	4.15	0.0376
1,2,3,7,8,9-HxCDF	ND	U	0.0607	4.71	0.00607	ND	U	1.09	5.95	0.1090	ND	U	0.428	3.45	0.0428	ND	U	0.922	3.90	0.0922	ND	U	0.238	3.05	0.0238	ND	U	0.538	4.15	0.0538
2,3,4,6,7,8-HxCDF	0.103	JK	0.0417	4.71	0.0103	ND	U	0.824	5.95	0.0824	ND	U	0.321	3.45	0.0321	ND	U	0.669	3.90	0.0669	ND	U	0.169	3.05	0.0169	ND	U	0.383	4.15	0.0383
1,2,3,4,6,7,8-HpCDF	0.868	J	0.0988	4.71	0.00868	3.43	JK	0.604	5.95	0.0343	0.713	J	0.375	3.45	0.00713	ND	U	0.435	3.90	0.00435	ND	U	0.233	3.05	0.00233	1.37	JK	0.455	4.15	0.0137
1,2,3,4,7,8,9-HpCDF	ND	U	0.145	4.71	0.00145	ND	U	0.721	5.95	0.00721	ND	U	0.469	3.45	0.00469	ND	U	0.595	3.90	0.00595	ND	U	0.309	3.05	0.00309	ND	U	0.611	4.15	0.00611
OCDF	3.80	J	0.214	9.42	0.00114	9.99	J	1.63	11.9		ND	U	1.30	6.91	0.00039	1.96	J	0.578	7.80	0.000588	ND	U	1.09	6.11	0.000327	5.81	J	1.34	8.31	0.001743
Total TEQ	**2.35198**					**5.35603**					**1.821**					**2.315**					**1.619**					**2.916**				
Total Dioxins																													
Total TCDD	15.6	--	0.141	0.942		9.94	--	1.07	1.19		4.12	--	0.463	0.691		ND	U	0.588	0.780		10.5	--	0.531	0.611		ND	U	0.791	0.831	
Total PeCDD	17.0	--	0.0294	4.71		22.9	--	0.964	5.95		8.32	--	0.443	3.45		7.26	--	0.657	3.90		8.36	--	0.399	3.05		ND	U	0.725	4.15	
Total HxCDD	129	--	0.306	4.71		181	--	1.19	5.95		46.7	--	0.663	3.45		45.1	--	0.793	3.90		34.8	--	0.437	3.05		75.1	--	0.734	4.15	
Total HpCDD	259	--	0.824	4.71		402	--	1.79	5.95		95.8	--	0.570	3.45		84.4	--	1.03	3.90		65.8	--	0.781	3.05		167	--	1.35	4.15	
Total Furans																													
Total TCDF	0.286	J	0.0343	0.942		ND	U	0.752	1.19		ND	U	0.458	0.691		ND	U	0.621	0.780		ND	U	0.414	0.611		ND	U	0.713	0.831	
Total PeCDF	ND	U	0.0468	4.71		1.41	J	0.697	5.95		ND	U	0.377	3.45		ND	U	0.447	3.90		ND	U	0.330	3.05		ND	U	0.481	4.15	
Total HxCDF	1.16	J	0.0419	4.71		1.66	J	0.875	5.95		0.415	J	0.338	3.45		ND	U	0.718	3.90		ND	U	0.185	3.05		1.98	J	0.400	4.15	
Total HpCDF	2.71	J	0.0988	4.71		ND	U	0.604	5.95		0.713	J	0.375	3.45		1.08	J	0.435	3.90		ND	U	0.233	3.05		2.50	J	0.455	4.15	

TABLE 11 *(continued)*
Analytical Results for Dry Weight Dioxin and Furan in Sediment Samples

SAMPLE ID	SHEM CREEK					ENTRNACE CHANNEL																
	SHCR12					CHEC12-1					CHEC12-1 Field Split					CHEC12-2					MTPL12				
Analyte	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ
Dioxins																									
2,3,7,8-TCDD	ND	U	0.175	1.10	0.175	ND	U	0.673	0.985	0.673	ND	U	0.871	0.980	0.871	ND	U	0.622	0.737	0.622	ND	U	0.473	0.725	0.473
1,2,3,7,8-PeCDD	0.425	JK	0.0354	5.52	0.425	ND	U	0.788	4.92	0.788	ND	U	0.899	4.90	0.899	ND	U	0.671	3.69	0.671	ND	U	0.532	3.63	0.532
1,2,3,4,7,8-HxCDD	1.22	J	0.155	5.52	0.122	ND	U	0.823	4.92	0.0823	ND	U	0.846	4.90	0.0846	ND	U	0.708	3.69	0.0708	ND	U	0.428	3.63	0.0428
1,2,3,6,7,8-HxCDD	2.32	J	0.155	5.52	0.232	ND	U	0.858	4.92	0.0858	ND	U	0.931	4.90	0.0931	ND	U	0.818	3.69	0.0818	ND	U	0.476	3.63	0.0476
1,2,3,7,8,9-HxCDD	3.35	J	0.147	5.52	0.335	3.38	JK	0.802	4.92	0.338	5.30	K	0.848	4.90	0.53	ND	U	0.730	3.69	0.073	ND	U	0.432	3.63	0.0432
1,2,3,4,6,7,8-HpCDD	71.7	B	0.700	5.52	0.717	46.5	--	1.92	4.92	0.465	70.1	--	1.30	4.90	0.701	9.48	--	0.746	3.69	0.0948	4.64	--	0.456	3.63	0.0464
OCDD	851	B	0.182	11.0	0.2553	463	--	1.68	9.85	0.1389	805	--	1.72	9.80	0.2415	99.9	--	1.08	7.37	0.02997	42.6	--	0.564	7.25	0.01278
Furans																									
2,3,7,8-TCDF	ND	U	0.277	1.10	0.0277	ND	U	0.707	0.985	0.0707	ND	U	0.648	0.980	0.0648	ND	U	0.471	0.737	0.0471	ND	U	0.456	0.725	0.0456
1,2,3,7,8-PeCDF	ND	U	0.0351	5.52	0.001053	ND	U	0.643	4.92	0.01929	ND	U	0.520	4.90	0.0156	ND	U	0.346	3.69	0.01038	ND	U	0.375	3.63	0.01125
2,3,4,7,8-PeCDF	ND	U	0.0376	5.52	0.01128	ND	U	0.706	4.92	0.2118	ND	U	0.564	4.90	0.1692	ND	U	0.364	3.69	0.1092	ND	U	0.406	3.63	0.1218
1,2,3,4,7,8-HxCDF	0.391	J	0.0462	5.52	0.0391	ND	U	0.496	4.92	0.0496	ND	U	0.469	4.90	0.0469	ND	U	0.440	3.69	0.044	ND	U	0.330	3.63	0.033
1,2,3,6,7,8-HxCDF	0.205	JK	0.0433	5.52	0.0205	ND	U	0.468	4.92	0.0468	ND	U	0.431	4.90	0.0431	ND	U	0.406	3.69	0.0406	ND	U	0.311	3.63	0.0311
1,2,3,7,8,9-HxCDF	ND	U	0.0645	5.52	0.00645	ND	U	0.673	4.92	0.0673	ND	U	0.651	4.90	0.0651	ND	U	0.578	3.69	0.0578	ND	U	0.391	3.63	0.0391
2,3,4,6,7,8-HxCDF	0.172	J	0.0422	5.52	0.0172	ND	U	0.482	4.92	0.0482	ND	U	0.460	4.90	0.046	ND	U	0.413	3.69	0.0413	ND	U	0.299	3.63	0.0299
1,2,3,4,6,7,8-HpCDF	3.49	J	0.182	5.52	0.0349	ND	U	0.759	4.92	0.00759	1.49	J	0.572	4.90	0.0149	ND	U	0.380	3.69	0.0038	ND	U	0.234	3.63	0.00234
1,2,3,4,7,8,9-HpCDF	ND	U	0.256	5.52	0.00256	ND	U	0.982	4.92	0.00982	ND	U	0.756	4.90	0.00756	ND	U	0.508	3.69	0.00508	ND	U	0.285	3.63	0.00285
OCDF	14.4	--	0.315	11.0	0.004320	ND	U	1.82	9.85	0.000546	ND	U	1.28	9.80	0.000384	ND	U	1.31	7.37	0.000393	ND	U	0.586	7.25	0.000176
Total TEQ	**2.953**					**3.103**					**3.894**					**2.003**					**1.515**				
Total Dioxins																									
Total TCDD	8.43	--	0.175	1.10		17.3	--	0.673	0.985		43.0	--	0.871	0.980		ND	U	0.622	0.737		6.05	--	0.473	0.725	
Total PeCDD	15.0	--	0.0354	5.52		17.2	--	0.788	4.92		34.2	--	0.899	4.90		ND	U	0.671	3.69		0.722	J	0.532	3.63	
Total HxCDD	113	--	0.155	5.52		118	--	0.823	4.92		202	--	0.846	4.90		16.3	--	0.708	3.69		9.85	--	0.428	3.63	
Total HpCDD	361	--	0.700	5.52		200	--	1.92	4.92		334	--	1.30	4.90		40.3	--	0.746	3.69		18.4	--	0.456	3.63	
Total Furans																									
Total TCDF	0.559	J	0.0396	1.10		ND	U	0.707	0.985		ND	U	0.648	0.980		ND	U	0.471	0.737		ND	U	0.456	0.725	
Total PeCDF	1.79	J	0.0376	5.52		ND	U	0.706	4.92		ND	U	0.564	4.90		ND	U	0.364	3.69		ND	U	0.406	3.63	
Total HxCDF	4.59	J	0.0462	5.52		ND	U	0.496	4.92		ND	U	0.469	4.90		ND	U	0.440	3.69		ND	U	0.330	3.63	
Total HpCDF	12.6	--	0.182	5.52		ND	U	0.759	4.92		3.50	J	0.572	4.90		ND	U	0.380	3.69		ND	U	0.234	3.63	

Non-detect (ND) results use the MDL for calculating the Total TEQ.
Bolded results exceed the TEL and/or AET.
B = Indicates the associated analyte is found in the method blank, as well as in the sample.
J = Indicates an estimated value - used when the analyte concentration is below the MRL and above the EDL.
K = An estimated maximum possible concentation for the associated compound.
U = Indicates the compound was analyzed and not detected.
-- = no qualifier needed

Source: ALS Environmental
Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 12
Results of Total Metal and Ammonia Analyses in Site Water and Elutriates

	SAMPLE ID		UPPER HARBOR SITE WATER				UPPER HARBOR AND WIDENERS																	
			UHSW12				DANI12				DANW12				NYNC12				NCW12				CCRK12			
Analyte	Maximum Detected Conc. µg/L	CMC µg/L	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL
Antimony	2.21	x	1.110	--	0.100	1.000	0.908	J	0.100	1.000	1.160	--	0.100	1.000	1.250	--	0.100	1.000	1.370	--	0.100	1.000	1.520	--	0.100	1.000
Arsenic	49.0	69	1.96	--	0.04	0.50	5.27	--	0.04	0.53	18.6	--	0.04	0.53	3.24	--	0.04	0.50	2.93	--	0.04	0.50	4.95	--	0.04	0.52
Beryllium	0.0348	x	0.0348	--	0.0003	0.0200	0.0007	J	0.0003	0.0211	0.0076	J	0.0003	0.0211	0.0014	J	0.0003	0.0200	0.0011	J	0.0003	0.0200	0.0031	J	0.0003	0.0207
Cadmium	0.070	40	0.036	--	0.002	0.020	0.019	J	0.002	0.021	0.023	--	0.002	0.021	0.025	--	0.002	0.020	0.018	J	0.002	0.020	0.031	--	0.002	0.021
Chromium	0.93	1100	0.93	--	0.03	0.20	0.25	--	0.03	0.21	0.16	J	0.03	0.21	0.35	--	0.03	0.20	0.33	--	0.03	0.20	0.29	--	0.03	0.21
Copper	0.984	4.8	0.984	--	0.004	0.100	0.055	J	0.004	0.105	0.177	--	0.004	0.105	0.136	--	0.004	0.100	0.083	J	0.004	0.100	0.142	--	0.004	0.104
Lead	0.744	210	0.744	--	0.009	0.020	0.019	J	0.009	0.021	0.050	--	0.009	0.021	0.011	J	0.009	0.020	0.021	--	0.009	0.020	0.131	--	0.009	0.021
Mercury	0.17	1.8	0.17	J	0.02	0.20	ND	U	0.02	0.20	ND	U	0.02	0.20	ND	U	0.02	0.20	ND	U	0.02	0.20	ND	U	0.02	0.20
Nickel	5.14	74	0.67	--	0.03	0.20	1.15	--	0.03	0.21	0.47	--	0.03	0.21	1.75	--	0.03	0.20	2.35	--	0.03	0.20	2.52	--	0.03	0.21
Selenium	0.5	290	0.3	J	0.2	1.0	ND	U	0.2	1.0	0.5	J	0.2	1.0	ND	U	0.2	1.0	0.5	J	0.2	1.0	0.3	J	0.2	1.0
Silver	0.027	1.9	0.027	--	0.004	0.020	ND	U	0.004	0.021	ND	U	0.004	0.021	0.004	J	0.004	0.020	ND	U	0.004	0.020	0.010	J	0.004	0.021
Thallium	0.032	x	0.032	--	0.002	0.020	ND	U	0.002	0.021	0.002	J	0.002	0.021	0.003	J	0.002	0.020	ND	U	0.002	0.020	0.004	J	0.002	0.021
Zinc	2.33	90	2.33	--	0.06	0.50	0.34	J	0.06	0.53	0.24	J	0.06	0.53	0.41	J	0.06	0.50	0.33	J	0.06	0.50	0.25	J	0.06	0.52
Analyte	**Maximum Detected Conc. mg/L**	**CMC mg/L**	**Result mg/L**	**Qualifier**	**MDL**	**MRL**	**Result mg/L**	**Qualifier**	**MDL**	**MRL**	**Result mg/L**	**Qualifier**	**MDL**	**MRL**	**Result mg/L**	**Qualifier**	**MDL**	**MRL**	**Result mg/L**	**Qualifier**	**MDL**	**MRL**	**Result mg/L**	**Qualifier**	**MDL**	**MRL**
Ammonia (as Nitrogen)	28.2	x	0.061	--	0.003	0.010	19.3	--	0.15	0.50	20.7	--	0.15	0.50	7.78	--	0.15	0.50	12.7	--	0.15	0.50	10.4	--	0.15	0.50

TABLE 12 *(continued)*
Results of Total Metal and Ammonia Analyses in Site Water and Elutriates

SAMPLE ID	UPPER HARBOR AND WIDENERS												LOWER HARBOR SITE WATER				LOWER HARBOR AND WIDENERS											
	PTFC12				ORDT12				ORDT12 (field split)				LHSW12				REHR12				BENW12				HGIS12			
Analyte	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL
Antimony	0.968	J	0.100	1.000	1.050	--	0.100	1.000	1.180	--	0.100	1.000	0.91	J	0.40	1.00	1.40	--	0.40	1.00	1.57	--	0.40	1.00	1.85	--	0.40	1.00
Arsenic	6.44	--	0.04	0.50	11.0	--	0.04	0.50	9.95	--	0.04	0.50	1.90	--	0.04	0.50	4.48	--	0.04	0.50	3.63	--	0.04	0.50	4.11	--	0.04	0.50
Beryllium	0.0023	J	0.0003	0.0200	0.0012	J	0.0003	0.0200	0.0017	J	0.0003	0.0200	0.0197	J	0.0003	0.0200	0.0043	J	0.0003	0.0200	0.0065	J	0.0003	0.0200	0.0061	J	0.0003	0.0200
Cadmium	0.019	J	0.002	0.020	0.018	J	0.002	0.020	0.016	J	0.002	0.020	0.026	--	0.002	0.020	0.023	--	0.002	0.020	0.026	--	0.002	0.020	0.018	J	0.002	0.020
Chromium	0.20	--	0.03	0.20	0.19	J	0.03	0.20	0.16	J	0.03	0.20	0.61	--	0.03	0.20	0.34	--	0.03	0.20	0.56	--	0.03	0.20	0.37	--	0.03	0.20
Copper	0.125	--	0.004	0.100	0.291	--	0.004	0.100	0.360	--	0.004	0.100	0.641	--	0.004	0.100	0.228	--	0.004	0.100	0.275	--	0.004	0.100	0.210	--	0.004	0.100
Lead	0.009	J	0.009	0.020	0.025	--	0.009	0.020	0.019	J	0.009	0.020	0.199	--	0.009	0.020	0.063	--	0.009	0.020	0.055	--	0.009	0.020	0.049	--	0.009	0.020
Mercury	ND	U	0.02	0.20	ND	U	0.02	0.20	ND	U	0.02	0.20	0.12	J	0.02	0.20	0.08	J	0.02	0.20	0.02	J	0.02	0.20	0.02	J	0.02	0.20
Nickel	0.72	--	0.03	0.20	0.38	--	0.03	0.20	0.28	--	0.03	0.20	0.60	--	0.03	0.20	1.23	--	0.03	0.20	2.69	--	0.03	0.20	0.87	--	0.03	0.20
Selenium	ND	U	0.2	1.0	ND	U	0.2	1.0	ND	U	0.2	1.0	ND	U	0.2	1.0	0.3	J	0.2	1.0	0.2	J	0.2	1.0	ND	U	0.2	1.0
Silver	0.005	J	0.004	0.020	ND	U	0.004	0.020	ND	U	0.004	0.020	0.019	J	0.004	0.020	0.011	J	0.004	0.020	0.008	J	0.004	0.020	0.005	J	0.004	0.020
Thallium	0.011	J	0.002	0.020	ND	U	0.002	0.020	0.004	J	0.002	0.020	0.023	--	0.002	0.020	0.005	J	0.002	0.020	0.009	J	0.002	0.020	ND	U	0.002	0.020
Zinc	0.33	J	0.06	0.50	0.78	--	0.06	0.50	0.78	--	0.06	0.50	1.10	--	0.06	0.50	0.28	J	0.06	0.50	0.69	--	0.06	0.50	0.47	J	0.06	0.50
Analyte	Result mg/L	Qualifier	MDL	MRL	Result mg/L	Qualifier	MDL	MRL	Result mg/L	Qualifier	MDL	MRL	Result mg/L	Qualifier	MDL	MRL	Result mg/L	Qualifier	MDL	MRL	Result mg/L	Qualifier	MDL	MRL	Result mg/L	Qualifier	MDL	MRL
Ammonia (as Nitrogen)	11.2	--	0.15	0.50	15.5	--	0.15	0.50	12.1	--	0.15	0.50	ND	U	0.003	0.010	14.3	--	0.15	0.50	6.19	--	0.08	0.25	5.11	--	0.08	0.25

TABLE 12 *(continued)*
Results of Total Metal and Ammonia Analyses in Site Water and Elutriates

SAMPLE ID	LOWER HARBOR AND WIDENERS																				ANCHORAGE BASIN			
	HGIW12				DRMY12				WUTB12				WRTB12				WLR12				WLRW12				ABMA12			
Analyte	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL
Antimony	1.65	--	0.40	1.00	0.98	J	0.40	1.00	0.78	J	0.40	1.00	1.99	--	0.40	1.00	1.26	--	0.40	1.00	2.21	--	0.40	1.00	1.78	--	0.40	1.00
Arsenic	5.19	--	0.04	0.50	18.9	--	0.04	0.50	49.0	--	0.04	0.50	4.32	--	0.04	0.50	3.26	--	0.04	0.50	4.34	--	0.04	0.50	19.1	--	0.04	0.50
Beryllium	0.0071	J	0.0003	0.0200	0.0070	J	0.0003	0.0200	0.0076	J	0.0003	0.0200	0.0042	J	0.0003	0.0200	0.0044	J	0.0003	0.0200	0.0194	J	0.0003	0.0200	0.0053	J	0.0003	0.0200
Cadmium	0.013	J	0.002	0.020	0.026	--	0.002	0.020	0.018	J	0.002	0.020	0.013	J	0.002	0.020	0.022	--	0.002	0.020	0.022	--	0.002	0.020	0.012	J	0.002	0.020
Chromium	0.29	--	0.03	0.20	0.27	--	0.03	0.20	0.32	--	0.03	0.20	0.41	--	0.03	0.20	0.31	--	0.03	0.20	0.62	--	0.03	0.20	0.43	--	0.03	0.20
Copper	0.217	--	0.004	0.100	0.461	--	0.004	0.100	0.136	--	0.004	0.100	0.189	--	0.004	0.100	0.147	--	0.004	0.100	0.248	--	0.004	0.100	0.188	--	0.004	0.100
Lead	0.076	--	0.009	0.020	0.044	--	0.009	0.020	0.028	--	0.009	0.020	0.048	--	0.009	0.020	0.022	--	0.009	0.020	0.022	--	0.009	0.020	0.052	--	0.009	0.020
Mercury	0.02	J	0.02	0.20	ND	U	0.02	0.20	0.03	J	0.02	0.20	0.03	J	0.02	0.20	ND	U	0.02	0.20	ND	U	0.02	0.20	0.03	J	0.02	0.20
Nickel	0.69	--	0.03	0.20	0.43	--	0.03	0.20	1.26	--	0.03	0.20	0.68	--	0.03	0.20	5.14	--	0.03	0.20	2.35	--	0.03	0.20	0.93	--	0.03	0.20
Selenium	0.3	J	0.2	1.0	0.5	J	0.2	1.0	ND	U	0.2	1.0	ND	U	0.2	1.0	ND	U	0.2	1.0	0.4	J	0.2	1.0	ND	U	0.2	1.0
Silver	0.005	J	0.004	0.020	0.005	J	0.004	0.020	0.005	J	0.004	0.020	0.004	J	0.004	0.020	0.004	J	0.004	0.020	0.006	J	0.004	0.020	0.006	J	0.004	0.020
Thallium	ND	U	0.002	0.020	ND	U	0.002	0.020	ND	U	0.002	0.020	ND	U	0.002	0.020	ND	U	0.002	0.020	0.003	J	0.002	0.020	0.003	J	0.002	0.020
Zinc	0.34	J	0.06	0.50	0.53	--	0.06	0.50	0.44	J	0.06	0.50	0.29	J	0.06	0.50	0.39	J	0.06	0.50	0.52	--	0.06	0.50	0.35	J	0.06	0.50
Analyte	**Result mg/L**	**Qualifier**	**MDL**	**MRL**	**Result mg/L**	**Qualifier**	**MDL**	**MRL**	**Result mg/L**	**Qualifier**	**MDL**	**MRL**	**Result mg/L**	**Qualifier**	**MDL**	**MRL**	**Result mg/L**	**Qualifier**	**MDL**	**MRL**	**Result mg/L**	**Qualifier**	**MDL**	**MRL**	**Result mg/L**	**Qualifier**	**MDL**	**MRL**
Ammonia (as Nitrogen)	9.87	--	0.15	0.50	28.2	--	0.3	1.0	22.0	--	0.15	0.50	15.0	--	0.15	0.50	10.2	--	0.15	0.50	4.35	--	0.03	0.10	27.2	--	0.3	1.0

TABLE 12 *(continued)*
Results of Total Metal and Ammonia Analyses in Site Water and Elutriates

SAMPLE ID	SHEM CREEK CHANNEL				ENTRANCE CHANNEL SITE WATER				ENTRANCE CHANNEL												ODMDS WATER			
	SHCR12				ECSW12				CHEC12-1				CHEC12-1 (field split)				CHEC12-2				MTPL12				ODMDS-SW12			
Analyte	**Result µg/L**	**Qualifier**	**MDL**	**MRL**	**Result µg/L**	**Qualifier**	**MDL**	**MRL**	**Result µg/L**	**Qualifier**	**MDL**	**MRL**	**Result µg/L**	**Qualifier**	**MDL**	**MRL**	**Result µg/L**	**Qualifier**	**MDL**	**MRL**	**Result µg/L**	**Qualifier**	**MDL**	**MRL**	**Result µg/L**	**Qualifier**	**MDL**	**MRL**
Antimony	1.22	--	0.40	1.00	0.56	J	0.40	1.00	1.26	--	0.40	1.00	1.01	--	0.40	1.00	0.65	J	0.40	1.00	0.88	J	0.40	1.00	ND	U	0.40	1.00
Arsenic	26.9	--	0.04	0.50	1.57	--	0.04	0.50	47.3	--	0.04	0.50	40.3	--	0.04	0.50	3.64	--	0.04	0.50	6.23	--	0.04	0.50	1.44	--	0.04	0.50
Beryllium	0.0083	J	0.0003	0.0200	0.0060	J	0.0003	0.0200	0.0062	J	0.0003	0.0200	0.0071	J	0.0003	0.0200	0.0074	J	0.0003	0.0200	0.0056	J	0.0003	0.0200	0.0051	J	0.0003	0.0200
Cadmium	0.012	J	0.002	0.020	0.024	--	0.002	0.020	0.014	J	0.002	0.020	0.015	J	0.002	0.020	0.033	--	0.002	0.020	0.070	--	0.002	0.020	0.025	--	0.002	0.020
Chromium	0.42	--	0.03	0.20	0.35	--	0.03	0.20	0.29	--	0.03	0.20	0.35	--	0.03	0.20	0.51	--	0.03	0.20	0.70	--	0.03	0.20	0.35	--	0.03	0.20
Copper	0.227	--	0.004	0.100	0.349	--	0.004	0.100	0.169	--	0.004	0.100	0.154	--	0.004	0.100	0.137	--	0.004	0.100	0.201	--	0.004	0.100	0.516	--	0.004	0.100
Lead	0.061	--	0.009	0.020	0.072	--	0.009	0.020	0.043	--	0.009	0.020	0.046	--	0.009	0.020	0.034	--	0.009	0.020	0.027	--	0.009	0.020	0.045	--	0.009	0.020
Mercury	ND	U	0.02	0.20	ND	U	0.02	0.20	0.03	J	0.02	0.20	ND	U	0.02	0.20	0.02	J	0.02	0.20	0.03	J	0.02	0.20	0.02	J	0.02	0.20
Nickel	0.46	--	0.03	0.20	0.38	--	0.03	0.20	0.64	--	0.03	0.20	0.62	--	0.03	0.20	2.09	--	0.03	0.20	4.29	--	0.03	0.20	0.40	--	0.03	0.20
Selenium	ND	U	0.2	1.0	ND	U	0.2	1.0	ND	U	0.2	1.0	ND	U	0.2	1.0	ND	U	0.2	1.0	ND	U	0.2	1.0	ND	U	0.2	1.0
Silver	0.005	J	0.004	0.020	0.011	J	0.004	0.020	0.006	J	0.004	0.020	ND	U	0.004	0.020	0.010	J	0.004	0.020	0.007	J	0.004	0.020	0.005	J	0.004	0.020
Thallium	ND	U	0.002	0.020	0.016	J	0.002	0.020	ND	U	0.002	0.020	ND	U	0.002	0.020	0.008	J	0.002	0.020	0.015	J	0.002	0.020	0.013	J	0.002	0.020
Zinc	0.44	J	0.06	0.50	0.45	J	0.06	0.50	0.49	J	0.06	0.50	0.45	J	0.06	0.50	0.39	J	0.06	0.50	1.24	--	0.06	0.50	0.55	--	0.06	0.50
Analyte	**Result mg/L**	**Qualifier**	**MDL**	**MRL**	**Result mg/L**	**Qualifier**	**MDL**	**MRL**	**Result mg/L**	**Qualifier**	**MDL**	**MRL**	**Result mg/L**	**Qualifier**	**MDL**	**MRL**	**Result mg/L**	**Qualifier**	**MDL**	**MRL**	**Result mg/L**	**Qualifier**	**MDL**	**MRL**	**Result mg/L**	**Qualifier**	**MDL**	**MRL**
Ammonia (as Nitrogen)	24.6	--	0.3	1.0	ND	U	0.003	0.010	19.3	--	0.15	0.50	19.1	--	0.15	0.50	16.0	--	0.15	0.50	1.60	--	0.015	0.050	ND	U	0.003	0.010

J = The result is an estimated value.
U = The analyte was analyzed but was not detected (ND) at or above the MDL.
-- = no qualifier needed

Source: ALS Environmental
Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 13
Results of Pesticide Analyses in Site Water and Elutriates

			UPPER HARBOR SITE WATER				UPPER HARBOR AND WIDENERS																	
	SAMPLE ID		UHSW12				DANI12				DANW12				NYNC12				NCW12				CCRK12			
Analyte	Maximum Detected Conc. µg/L	CMC µg/L	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL
Aldrin	0.0012	1.3	ND	Ui	0.00049	0.010	ND	U	0.00041	0.011	ND	Ui	0.00075	0.010	0.00040	J	0.00040	0.0098	ND	U	0.00040	0.0099	ND	U	0.00041	0.011
Chlordane & Derivatives																										
Chlordane (technical)	ND	0.09	ND	U	0.022	0.20	ND	U	0.023	0.21	ND	U	0.022	0.20	ND	U	0.022	0.20	ND	U	0.022	0.20	ND	U	0.023	0.21
α (cis)-Chlordane	ND	x	ND	U	0.0040	0.010	ND	U	0.0041	0.011	ND	U	0.0040	0.010	ND	U	0.0040	0.0098	ND	U	0.0040	0.0099	ND	U	0.0041	0.011
γ (trans)-Chlordane	0.00061	x	ND	Ui	0.0012	0.010	ND	Ui	0.00036	0.011	ND	U	0.00032	0.010	ND	U	0.00032	0.0098	ND	U	0.00032	0.0099	ND	U	0.00033	0.011
Oxychlordane	ND	x	ND	U	0.0010	0.010	ND	U	0.0011	0.011	ND	U	0.0010	0.010	ND	U	0.0010	0.0098	ND	U	0.0010	0.0099	ND	U	0.0011	0.011
cis-Nonachlor	0.0032	x	ND	Ui	0.00065	0.010	ND	U	0.00061	0.011	ND	U	0.00060	0.010	ND	U	0.00060	0.0098	ND	U	0.00060	0.0099	ND	U	0.00061	0.011
trans-Nonachlor	ND	x	ND	Ui	0.0012	0.010	ND	U	0.00093	0.011	ND	U	0.00092	0.010	ND	U	0.00092	0.0098	ND	U	0.00092	0.0099	ND	U	0.00093	0.011
DDT & Derivatives																										
o,p' (2,4')-DDD	ND	x	ND	Ui	0.010	0.010	ND	U	0.00058	0.011	ND	U	0.00057	0.010	ND	U	0.00057	0.0098	ND	U	0.00057	0.0099	ND	U	0.00058	0.011
p,p' (4,4')-DDD	ND	x	ND	U	0.0015	0.010	ND	U	0.0016	0.011	ND	Ui	0.0026	0.010	ND	U	0.0015	0.0098	ND	U	0.0015	0.0099	ND	U	0.0016	0.011
o,p' (2,4')-DDE	ND	x	ND	U	0.00050	0.010	ND	U	0.00051	0.011	ND	U	0.00050	0.010	ND	U	0.00050	0.0098	ND	U	0.00050	0.0099	ND	U	0.00051	0.011
p,p' (4,4')-DDE	0.00048	x	ND	Ui	0.00062	0.010	ND	U	0.00037	0.011	ND	U	0.00036	0.010	ND	Ui	0.00052	0.0098	ND	U	0.00036	0.0099	0.00048	J	0.00037	0.011
o,p' (2,4')-DDT	ND	x	ND	U	0.00059	0.010	ND	U	0.00060	0.011	ND	U	0.00059	0.010	ND	U	0.00059	0.0098	ND	U	0.00059	0.0099	ND	U	0.00060	0.011
p,p' (4,4')-DDT	0.00073	0.13	ND	U	0.00058	0.010	ND	U	0.00059	0.011	ND	U	0.00058	0.010	ND	U	0.00058	0.0098	ND	U	0.00058	0.0099	ND	U	0.00059	0.011
Dieldrin	0.0027	0.71	0.0027	JP	0.00035	0.010	ND	Ui	0.00051	0.011	ND	U	0.00035	0.010	ND	U	0.00035	0.0098	ND	Ui	0.00036	0.0099	ND	U	0.00036	0.011
Endosulfan & Derivatives																										
Endosulfan I	0.00057	0.034	ND	U	0.00044	0.010	ND	U	0.00045	0.011	ND	Ui	0.00053	0.010	ND	U	0.00044	0.0098	ND	U	0.00044	0.0099	ND	U	0.00045	0.011
Endosulfan II	0.0011	0.034	ND	Ui	0.00053	0.010	ND	U	0.00041	0.011	ND	U	0.00040	0.010	ND	U	0.00040	0.0098	ND	U	0.00040	0.0099	ND	U	0.00041	0.011
Endrin & Derivatives																										
Endrin	0.0018	0.037	ND	U	0.00068	0.010	ND	U	0.00069	0.011	ND	U	0.00068	0.010	ND	U	0.00068	0.0098	ND	U	0.00068	0.0099	ND	U	0.00069	0.011
Endrin Aldehyde	0.00089	x	ND	U	0.00046	0.010	ND	U	0.00047	0.011	ND	U	0.00046	0.010	ND	U	0.00046	0.0098	ND	U	0.00046	0.0099	ND	U	0.00047	0.011
Endrin Ketone	ND	x	ND	U	0.00066	0.010	ND	U	0.00067	0.011	ND	U	0.00066	0.010	ND	U	0.00066	0.0098	ND	U	0.00066	0.0099	ND	U	0.00067	0.011
Heptachlor & Derivatives																										
Heptachlor	ND	0.053	ND	U	0.00036	0.010	ND	U	0.00037	0.011	ND	U	0.00036	0.010	ND	U	0.00036	0.0098	ND	U	0.00036	0.0099	ND	U	0.00037	0.011
Heptachlor Epoxide	0.0014	0.053	0.0014	J	0.00032	0.010	ND	U	0.00033	0.011	ND	Ui	0.00038	0.010	ND	U	0.00032	0.0098	ND	U	0.00032	0.0099	ND	U	0.00033	0.011
Hexachlorocyclohexane (BHC)																										
α-BHC	ND	x	ND	U	0.00033	0.010	ND	U	0.00034	0.011	ND	U	0.00033	0.010	ND	U	0.00033	0.0098	ND	U	0.00033	0.0099	ND	U	0.00034	0.011
β-BHC	ND	x	ND	U	0.00083	0.010	ND	U	0.00084	0.011	ND	U	0.00083	0.010	ND	U	0.00083	0.0098	ND	U	0.00083	0.0099	ND	U	0.00084	0.011
δ-BHC	0.0010	x	0.0010	JP	0.00057	0.010	ND	U	0.00058	0.011	ND	U	0.00057	0.010	ND	U	0.00057	0.0098	ND	U	0.00057	0.0099	ND	U	0.00058	0.011
γ-BHC (Lindane)	0.00088	0.16	0.00073	JP	0.00044	0.010	ND	U	0.00045	0.011	ND	U	0.00044	0.010	ND	U	0.00044	0.0098	ND	U	0.00044	0.0099	ND	U	0.00045	0.011
Methoxychlor	ND	x	ND	U	0.00093	0.010	ND	U	0.00094	0.011	ND	Ui	0.0032	0.010	ND	U	0.00093	0.0098	ND	U	0.00093	0.0099	ND	U	0.00094	0.011
Mirex®	ND	x	ND	U	0.00081	0.010	ND	U	0.00082	0.011	ND	U	0.00081	0.010	ND	U	0.00081	0.0098	ND	U	0.00081	0.0099	ND	U	0.00082	0.011
Toxaphene	ND	0.21	ND	U	0.051	0.50	ND	Ui	0.053	0.51	ND	U	0.051	0.50	ND	U	0.051	0.49	ND	U	0.051	0.50	ND	U	0.052	0.51
Chlorinated Pesticides, Total	0.12	x	0.11				0.096				0.096				0.092				0.092				0.095			

TABLE 13 *(continued)*
Results of Pesticide Analyses in Site Water and Elutriates

SAMPLE ID	UPPER HARBOR AND WIDENERS												LOWER HARBOR SITE WATER				LOWER HARBOR AND WIDENERS											
	PTFC12				ORDT12				ORDT12 (field split)				LHSW12				REHR12				BENW12				HGIS12			
Analyte	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL
Aldrin	ND	U	0.00040	0.010	ND	Ui	0.00074	0.0099	ND	U	0.00040	0.0099	ND	U	0.00041	0.011	ND	U	0.00040	0.0099	ND	U	0.00040	0.0099	ND	U	0.00040	0.010
Chlordane & Derivatives																												
Chlordane (technical)	ND	U	0.022	0.20	ND	Ui	0.023	0.20	ND	U	0.022	0.20	ND	U	0.023	0.21	ND	U	0.022	0.20	ND	U	0.022	0.20	ND	U	0.022	0.20
α (cis)-Chlordane	ND	U	0.0040	0.010	ND	U	0.0040	0.0099	ND	U	0.0040	0.0099	ND	U	0.0041	0.011	ND	U	0.0040	0.0099	ND	U	0.0040	0.0099	ND	U	0.0040	0.010
γ (trans)-Chlordane	ND	U	0.00032	0.010	ND	U	0.00032	0.0099	ND	U	0.00032	0.0099	ND	Ui	0.0031	0.011	ND	Ui	0.00052	0.0099	ND	U	0.00032	0.0099	ND	U	0.00032	0.010
Oxychlordane	ND	U	0.0010	0.010	ND	U	0.0010	0.0099	ND	U	0.0010	0.0099	ND	U	0.0011	0.011	ND	U	0.0010	0.0099	ND	U	0.0010	0.0099	ND	U	0.0010	0.010
cis-Nonachlor	ND	U	0.00060	0.010	ND	U	0.00060	0.0099	ND	U	0.00060	0.0099	ND	U	0.00061	0.011	ND	U	0.00060	0.0099	ND	U	0.00060	0.0099	ND	U	0.00060	0.010
trans-Nonachlor	ND	U	0.00092	0.010	ND	U	0.00092	0.0099	ND	U	0.00092	0.0099	ND	U	0.00093	0.011	ND	U	0.00092	0.0099	ND	U	0.00092	0.0099	ND	U	0.00092	0.010
DDT & Derivatives																												
o,p' (2,4')-DDD	ND	U	0.00057	0.010	ND	U	0.00057	0.0099	ND	U	0.00057	0.0099	ND	U	0.00058	0.011	ND	U	0.00057	0.0099	ND	U	0.00057	0.0099	ND	Ui	0.00071	0.010
p,p' (4,4')-DDD	ND	U	0.0015	0.010	ND	U	0.0015	0.0099	ND	U	0.0015	0.0099	ND	U	0.0016	0.011	ND	U	0.0015	0.0099	ND	U	0.0015	0.0099	ND	U	0.0015	0.010
o,p' (2,4')-DDE	ND	Ui	0.00051	0.010	ND	U	0.00050	0.0099	ND	U	0.00050	0.0099	ND	U	0.00051	0.011	ND	U	0.00050	0.0099	ND	U	0.00050	0.0099	ND	U	0.00050	0.010
p,p' (4,4')-DDE	ND	U	0.00036	0.010	0.00046	J	0.00036	0.0099	ND	U	0.00036	0.0099	ND	U	0.00037	0.011	ND	U	0.00036	0.0099	ND	U	0.00036	0.0099	ND	U	0.00036	0.010
o,p' (2,4')-DDT	ND	U	0.00059	0.010	ND	U	0.00059	0.0099	ND	U	0.00059	0.0099	ND	U	0.00060	0.011	ND	U	0.00059	0.0099	ND	U	0.00059	0.0099	ND	U	0.00059	0.010
p,p' (4,4')-DDT	0.00073	JP	0.00058	0.010	ND	U	0.00058	0.0099	ND	U	0.00058	0.0099	ND	U	0.00059	0.011	ND	U	0.00058	0.0099	ND	U	0.00058	0.0099	ND	U	0.00058	0.010
Dieldrin	ND	U	0.00035	0.010	ND	U	0.00035	0.0099	ND	U	0.00035	0.0099	ND	U	0.00036	0.011	ND	Ui	0.00079	0.0099	ND	Ui	0.00059	0.0099	0.0016	J	0.00035	0.010
Endosulfan & Derivatives																												
Endosulfan I	ND	U	0.00044	0.010	ND	Ui	0.00053	0.0099	ND	U	0.00044	0.0099	ND	U	0.00045	0.011	ND	U	0.00044	0.0099	ND	U	0.00044	0.0099	ND	U	0.00044	0.010
Endosulfan II	ND	U	0.00040	0.010	ND	U	0.00040	0.0099	ND	U	0.00040	0.0099	ND	U	0.00041	0.011	ND	U	0.00040	0.0099	0.0011	JP	0.00040	0.0099	ND	Ui	0.00072	0.010
Endrin & Derivatives																												
Endrin	ND	U	0.00068	0.010	ND	U	0.00068	0.0099	ND	U	0.00068	0.0099	ND	U	0.00069	0.011	ND	U	0.00068	0.0099	0.0018	J	0.00068	0.0099	0.0018	J	0.00068	0.010
Endrin Aldehyde	ND	U	0.00046	0.010	ND	U	0.00046	0.0099	ND	U	0.00046	0.0099	ND	U	0.00047	0.011	ND	U	0.00046	0.0099	ND	U	0.00046	0.0099	ND	U	0.00046	0.010
Endrin Ketone	ND	U	0.00066	0.010	ND	U	0.00066	0.0099	ND	U	0.00066	0.0099	ND	U	0.00067	0.011	ND	U	0.00066	0.0099	ND	U	0.00066	0.0099	ND	U	0.00066	0.010
Heptachlor & Derivatives																												
Heptachlor	ND	U	0.00036	0.010	ND	U	0.00036	0.0099	ND	U	0.00036	0.0099	ND	U	0.00037	0.011	ND	U	0.00036	0.0099	ND	U	0.00036	0.0099	ND	U	0.00036	0.010
Heptachlor Epoxide	ND	U	0.00032	0.010	0.00045	J	0.00032	0.0099	ND	U	0.00032	0.0099	ND	Ui	0.011	0.011	ND	U	0.00032	0.0099	ND	U	0.00032	0.0099	ND	U	0.00032	0.010
Hexachlorocyclohexane (BHC)																												
α-BHC	ND	U	0.00033	0.010	ND	U	0.00033	0.0099	ND	U	0.00033	0.0099	ND	U	0.00034	0.011	ND	U	0.00033	0.0099	ND	U	0.00033	0.0099	ND	Ui	0.00050	0.010
β-BHC	ND	U	0.00083	0.010	ND	U	0.00083	0.0099	ND	U	0.00083	0.0099	ND	U	0.00084	0.011	ND	U	0.00083	0.0099	ND	U	0.00083	0.0099	ND	U	0.00083	0.010
δ-BHC	ND	U	0.00057	0.010	ND	Ui	0.00062	0.0099	ND	Ui	0.00068	0.0099	ND	U	0.00058	0.011	ND	U	0.00057	0.0099	ND	U	0.00057	0.0099	ND	Ui	0.00067	0.010
γ-BHC (Lindane)	ND	U	0.00044	0.010	ND	U	0.00044	0.0099	ND	U	0.00044	0.0099	ND	U	0.00045	0.011	ND	U	0.00044	0.0099	ND	U	0.00044	0.0099	ND	U	0.00044	0.010
Methoxychlor	ND	U	0.00093	0.010	ND	U	0.00093	0.0099	ND	Ui	0.0018	0.0099	ND	U	0.00094	0.011	ND	U	0.00093	0.0099	ND	U	0.00093	0.0099	ND	U	0.00093	0.010
Mirex®	ND	U	0.00081	0.010	ND	U	0.00081	0.0099	ND	U	0.00081	0.0099	ND	U	0.00082	0.011	ND	U	0.00081	0.0099	ND	U	0.00081	0.0099	ND	U	0.00081	0.010
Toxaphene	ND	U	0.051	0.50	ND	U	0.051	0.50	ND	U	0.051	0.50	ND	U	0.052	0.51	ND	U	0.051	0.50	ND	U	0.051	0.50	ND	U	0.051	0.50
Chlorinated Pesticides, Total	0.092				0.094				0.093				0.11				0.093				0.094				0.095			

TABLE 13 *(continued)*
Results of Pesticide Analyses in Site Water and Elutriates

Sample ID	LOWER HARBOR AND WIDENERS																				ANCHORAGE BASIN			
	HGIW12				DRMY12				WUTB12				WRTB12				WLR12				WLRW12				ABMA12			
Analyte	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL
Aldrin	ND	U	0.00040	0.0099	ND	U	0.00050	0.013	ND	U	0.00040	0.010	ND	U	0.00040	0.010	0.00045	J	0.00041	0.011	ND	U	0.00040	0.0099	ND	U	0.00041	0.011
Chlordane & Derivatives																												
Chlordane (technical)	ND	U	0.022	0.20	ND	U	0.028	0.25	ND	U	0.022	0.20	ND	U	0.022	0.20	ND	U	0.023	0.21	ND	U	0.022	0.20	ND	U	0.023	0.21
α (cis)-Chlordane	ND	U	0.0040	0.0099	ND	U	0.0050	0.013	ND	U	0.0040	0.010	ND	U	0.0040	0.010	ND	U	0.0041	0.011	ND	U	0.0040	0.0099	ND	U	0.0041	0.011
γ (trans)-Chlordane	ND	Ui	0.00033	0.0099	ND	U	0.00040	0.013	0.00053	JP	0.00032	0.010	ND	U	0.00032	0.010	ND	Ui	0.00070	0.011	0.00061	JP	0.00032	0.0099	ND	Ui	0.0013	0.011
Oxychlordane	ND	U	0.0010	0.0099	ND	U	0.0013	0.013	ND	U	0.0010	0.010	ND	U	0.0010	0.010	ND	U	0.0011	0.011	ND	U	0.0010	0.0099	ND	U	0.0011	0.011
cis-Nonachlor	ND	U	0.00060	0.0099	ND	U	0.00075	0.013	0.0032	JP	0.00060	0.010	ND	U	0.00060	0.010	ND	U	0.00062	0.011	ND	U	0.00060	0.0099	ND	U	0.00061	0.011
trans-Nonachlor	ND	U	0.00092	0.0099	ND	U	0.0012	0.013	ND	U	0.00092	0.010	ND	U	0.00092	0.010	ND	U	0.00094	0.011	ND	U	0.00092	0.0099	ND	U	0.00093	0.011
DDT & Derivatives																												
o,p' (2,4')-DDD	ND	Ui	0.00085	0.0099	ND	U	0.00072	0.013	ND	U	0.00057	0.010	ND	U	0.00057	0.010	ND	U	0.00059	0.011	ND	U	0.00057	0.0099	ND	U	0.00058	0.011
p,p' (4,4')-DDD	ND	U	0.0015	0.0099	ND	U	0.0019	0.013	ND	U	0.0015	0.010	ND	U	0.0015	0.010	ND	U	0.0016	0.011	ND	U	0.0015	0.0099	ND	U	0.0016	0.011
o,p' (2,4')-DDE	ND	U	0.00050	0.0099	ND	U	0.00063	0.013	ND	U	0.00050	0.010	ND	U	0.00050	0.010	ND	U	0.00052	0.011	ND	U	0.00050	0.0099	ND	U	0.00051	0.011
p,p' (4,4')-DDE	ND	U	0.00036	0.0099	ND	U	0.00045	0.013	ND	U	0.00036	0.010	ND	U	0.00036	0.010	ND	U	0.00037	0.011	ND	U	0.00036	0.0099	ND	U	0.00037	0.011
o,p' (2,4')-DDT	ND	U	0.00059	0.0099	ND	Ui	0.0011	0.013	ND	Ui	0.0024	0.010	ND	U	0.00059	0.010	ND	U	0.00061	0.011	ND	U	0.00059	0.0099	ND	U	0.00060	0.011
p,p' (4,4')-DDT	ND	U	0.00058	0.0099	ND	U	0.00073	0.013	ND	U	0.00058	0.010	ND	U	0.00058	0.010	ND	U	0.00060	0.011	ND	U	0.00058	0.0099	ND	U	0.00059	0.011
Dieldrin	0.0017	J	0.00035	0.0099	0.0020	J	0.00044	0.013	ND	Ui	0.00037	0.010	ND	U	0.00035	0.010	0.0013	J	0.00036	0.011	ND	U	0.00035	0.0099	ND	Ui	0.00094	0.011
Endosulfan & Derivatives																												
Endosulfan I	ND	U	0.00044	0.0099	ND	U	0.00055	0.013	ND	U	0.00044	0.010	ND	U	0.00044	0.010	ND	U	0.00045	0.011	ND	U	0.00044	0.0099	ND	U	0.00045	0.011
Endosulfan II	0.00097	JP	0.00040	0.0099	ND	Ui	0.0013	0.013	ND	Ui	0.00087	0.010	ND	U	0.00040	0.010	ND	Ui	0.00055	0.011	ND	U	0.00040	0.0099	ND	U	0.00041	0.011
Endrin & Derivatives																												
Endrin	0.0015	J	0.00068	0.0099	0.0017	J	0.00085	0.013	0.0014	J	0.00068	0.010	ND	U	0.00068	0.010	0.0013	J	0.00070	0.011	ND	U	0.00068	0.0099	ND	U	0.00069	0.011
Endrin Aldehyde	ND	U	0.00046	0.0099	ND	U	0.00058	0.013	ND	U	0.00046	0.010	ND	U	0.00046	0.010	ND	U	0.00047	0.011	ND	U	0.00046	0.0099	ND	U	0.00047	0.011
Endrin Ketone	ND	U	0.00066	0.0099	ND	U	0.00083	0.013	ND	U	0.00066	0.010	ND	U	0.00066	0.010	ND	U	0.00068	0.011	ND	U	0.00066	0.0099	ND	U	0.00067	0.011
Heptachlor & Derivatives																												
Heptachlor	ND	U	0.00036	0.0099	ND	U	0.00045	0.013	ND	U	0.00036	0.010	ND	U	0.00036	0.010	ND	U	0.00037	0.011	ND	U	0.00036	0.0099	ND	U	0.00037	0.011
Heptachlor Epoxide	ND	Ui	0.00049	0.0099	ND	U	0.00040	0.013	ND	U	0.00032	0.010	ND	U	0.00032	0.010	ND	Ui	0.00037	0.011	ND	U	0.00032	0.0099	ND	U	0.00033	0.011
Hexachlorocyclohexane (BHC)																												
α-BHC	ND	Ui	0.00055	0.0099	ND	U	0.00042	0.013	ND	Ui	0.00050	0.010	ND	Ui	0.00071	0.010	ND	U	0.00034	0.011	ND	U	0.00033	0.0099	ND	U	0.00034	0.011
β-BHC	ND	U	0.00083	0.0099	ND	Ui	0.0024	0.013	ND	U	0.00083	0.010	ND	U	0.00083	0.010	ND	Ui	0.0014	0.011	ND	U	0.00083	0.0099	ND	U	0.00084	0.011
δ-BHC	ND	U	0.00057	0.0099	ND	U	0.00072	0.013	ND	Ui	0.0015	0.010	ND	U	0.00057	0.010	ND	U	0.00059	0.011	ND	U	0.00057	0.0099	ND	U	0.00058	0.011
γ-BHC (Lindane)	ND	U	0.00044	0.0099	0.00088	JP	0.00055	0.013	ND	U	0.00044	0.010	ND	U	0.00044	0.010	ND	U	0.00045	0.011	ND	U	0.00044	0.0099	ND	U	0.00045	0.011
Methoxychlor	ND	U	0.00093	0.0099	ND	U	0.0012	0.013	ND	U	0.00093	0.010	ND	U	0.00093	0.010	ND	U	0.00095	0.011	ND	U	0.00093	0.0099	ND	U	0.00094	0.011
Mirex®	ND	U	0.00081	0.0099	ND	U	0.0011	0.013	ND	U	0.00081	0.010	ND	U	0.00081	0.010	ND	U	0.00083	0.011	ND	U	0.00081	0.0099	ND	U	0.00082	0.011
Toxaphene	ND	U	0.051	0.50	ND	Ui	0.067	0.63	ND	U	0.051	0.50	ND	U	0.051	0.50	ND	U	0.053	0.52	ND	U	0.051	0.50	ND	U	0.052	0.51
Chlorinated Pesticides, Total	0.095				0.12				0.099				0.092				0.098				0.092				0.096			

TABLE 13 *(continued)*
Results of Pesticide Analyses in Site Water and Elutriates

	SHEM CREEK CHANNEL				ENTRANCE CHANNEL SITE WATER				ENTRANCE CHANNEL												ODMDS WATER			
Sample ID	SHCR12				ECSW12				CHEC12-1				CHEC12-1 (field split)				CHEC12-2				MTPL12				ODMDSSW12			
Analyte	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL
Aldrin	0.0012	JP	0.00040	0.0099	ND	U	0.00040	0.010	ND	U	0.00040	0.010	ND	Ui	0.0013	0.0099	ND	U	0.00040	0.010	ND	U	0.00040	0.010	ND	U	0.00040	0.010
Chlordane & Derivatives																												
Chlordane (technical)	ND	Ui	0.024	0.20	ND	U	0.022	0.20	ND	U	0.022	0.20	ND	U	0.022	0.20	ND	U	0.022	0.20	ND	U	0.022	0.20	ND	U	0.022	0.20
α (cis)-Chlordane	ND	U	0.0040	0.0099	ND	U	0.0040	0.010	ND	U	0.0040	0.010	ND	U	0.0040	0.0099	ND	U	0.0040	0.010	ND	U	0.0040	0.010	ND	U	0.0040	0.010
γ (trans)-Chlordane	ND	U	0.00032	0.0099	ND	Ui	0.0036	0.010	ND	Ui	0.0011	0.010	ND	Ui	0.0012	0.0099	ND	U	0.00032	0.010	ND	U	0.00032	0.010	ND	Ui	0.00037	0.010
Oxychlordane	ND	U	0.0010	0.0099	ND	U	0.0010	0.010	ND	U	0.0010	0.010	ND	U	0.0010	0.0099	ND	U	0.0010	0.010	ND	U	0.0010	0.010	ND	U	0.0010	0.010
cis-Nonachlor	ND	Ui	0.00082	0.0099	ND	U	0.00060	0.010	0.00085	J	0.00060	0.010	0.0013	JP	0.00060	0.0099	ND	U	0.00060	0.010	ND	U	0.00060	0.010	ND	U	0.0060	0.010
trans-Nonachlor	ND	U	0.00092	0.0099	ND	U	0.00092	0.010	ND	U	0.00092	0.010	ND	Ui	0.0010	0.0099	ND	U	0.00092	0.010	ND	U	0.00092	0.010	ND	U	0.00092	0.010
DDT & Derivatives																												
o,p' (2,4')-DDD	ND	Ui	0.00069	0.0099	ND	U	0.00057	0.010	ND	U	0.00057	0.010	ND	U	0.00057	0.0099	ND	U	0.00057	0.010	ND	U	0.00057	0.010	ND	U	0.00057	0.010
p,p' (4,4')-DDD	ND	U	0.0015	0.0099	ND	U	0.0015	0.010	ND	U	0.0015	0.010	ND	Ui	0.0017	0.0099	ND	U	0.0015	0.010	ND	U	0.0015	0.010	ND	U	0.0015	0.010
o,p' (2,4')-DDE	ND	U	0.00050	0.0099	ND	U	0.00050	0.010	ND	U	0.00050	0.010	ND	Ui	0.0014	0.0099	ND	U	0.00050	0.010	ND	U	0.00050	0.010	ND	U	0.00050	0.010
p,p' (4,4')-DDE	0.00040	JP	0.00036	0.0099	ND	U	0.00036	0.010	ND	U	0.00036	0.010	ND	U	0.00036	0.0099	ND	U	0.00036	0.010	ND	U	0.00036	0.010	ND	U	0.00036	0.010
o,p' (2,4')-DDT	ND	Ui	0.0015	0.0099	ND	U	0.00059	0.010	ND	U	0.00059	0.010	ND	U	0.00059	0.0099	ND	U	0.00059	0.010	ND	U	0.00059	0.010	ND	U	0.00059	0.010
p,p' (4,4')-DDT	ND	U	0.00058	0.0099	ND	U	0.00058	0.010	ND	U	0.00058	0.010	ND	U	0.00058	0.0099	ND	U	0.00058	0.010	ND	U	0.00058	0.010	ND	U	0.00058	0.010
Dieldrin	0.0015	J	0.00035	0.0099	ND	U	0.00035	0.010	ND	U	0.00035	0.010	ND	Ui	0.00038	0.0099	ND	U	0.00035	0.010	ND	U	0.00035	0.010	ND	U	0.00035	0.010
Endosulfan & Derivatives																												
Endosulfan I	ND	U	0.00044	0.0099	ND	U	0.00044	0.010	ND	Ui	0.00049	0.010	0.00057	JP	0.00044	0.0099	ND	U	0.00044	0.010	ND	U	0.00044	0.010	ND	Ui	0.00046	0.010
Endosulfan II	ND	Ui	0.00068	0.0099	ND	U	0.00040	0.010	ND	Ui	0.00093	0.010	ND	Ui	0.00047	0.0099	ND	U	0.00040	0.010	ND	U	0.00040	0.010	ND	U	0.00040	0.010
Endrin & Derivatives																												
Endrin	0.0013	J	0.00068	0.0099	ND	U	0.00068	0.010	ND	U	0.00068	0.010	ND	U	0.00068	0.0099	ND	U	0.00068	0.010	ND	U	0.00068	0.010	ND	U	0.00068	0.010
Endrin Aldehyde	ND	U	0.00046	0.0099	ND	U	0.00046	0.010	0.00057	JP	0.00046	0.010	0.00089	JP	0.00046	0.0099	ND	U	0.00046	0.010	0.00050	J	0.00046	0.010	ND	U	0.00046	0.010
Endrin Ketone	ND	U	0.00066	0.0099	ND	U	0.00066	0.010	ND	U	0.00066	0.010	ND	U	0.00066	0.0099	ND	U	0.00066	0.010	ND	U	0.00066	0.010	ND	U	0.00066	0.010
Heptachlor & Derivatives																												
Heptachlor	ND	Ui	0.00068	0.0099	ND	U	0.00036	0.010	ND	U	0.00036	0.010	ND	U	0.00036	0.0099	ND	U	0.00036	0.010	ND	U	0.00036	0.010	ND	U	0.00036	0.010
Heptachlor Epoxide	ND	U	0.00032	0.0099	ND	U	0.00032	0.010	ND	U	0.00032	0.010	ND	Ui	0.0099	0.0099	ND	U	0.00032	0.010	ND	U	0.00032	0.010	ND	U	0.00032	0.010
Hexachlorocyclohexane (BHC)																												
α-BHC	ND	U	0.00033	0.0099	ND	U	0.00033	0.010	ND	U	0.00033	0.010	ND	U	0.00033	0.0099	ND	Ui	0.00044	0.010	ND	U	0.00033	0.010	ND	U	0.00033	0.010
β-BHC	ND	U	0.00083	0.0099	ND	U	0.00083	0.010	ND	Ui	0.0011	0.010	ND	U	0.00083	0.0099	ND	U	0.00083	0.010	ND	U	0.00083	0.010	ND	U	0.00083	0.010
δ-BHC	ND	U	0.00057	0.0099	ND	U	0.00057	0.010	ND	Ui	0.00080	0.010	ND	Ui	0.00065	0.0099	ND	U	0.00057	0.010	ND	U	0.00057	0.010	ND	U	0.00057	0.010
γ-BHC (Lindane)	ND	U	0.00044	0.0099	ND	U	0.00044	0.010	ND	U	0.00044	0.010	ND	U	0.00044	0.0099	ND	U	0.00044	0.010	ND	U	0.00044	0.010	ND	U	0.00044	0.010
Methoxychlor	ND	U	0.00093	0.0099	ND	Ui	0.00097	0.010	ND	U	0.00093	0.010	ND	U	0.00093	0.0099	ND	U	0.00093	0.010	ND	U	0.00093	0.010	ND	U	0.00093	0.010
Mirex®	ND	U	0.00081	0.0099	ND	U	0.00081	0.010	ND	U	0.00081	0.010	ND	U	0.00081	0.0099	ND	U	0.00081	0.010	ND	U	0.00081	0.010	ND	U	0.00081	0.010
Toxaphene	ND	U	0.051	0.50	ND	U	0.051	0.50	ND	U	0.051	0.50	ND	U	0.051	0.50	ND	U	0.051	0.50	ND	U	0.051	0.50	ND	U	0.051	0.50
Chlorinated Pesticides, Total	0.098				0.095				0.094				0.11				0.092				0.092				0.092			

i = The MRL/MDL is elevated due to a matrix interference.
J = The result is an estimated value.
P = The GC or HPLC confirmation criteria were exceeded and the relative percent difference is greater than 40% between the two analytical results.
U = The analyte was analyzed but was not detected (ND) at or above the MDL.
Non-detect (ND) results use the MDL for calculating Total Pesticides.

Source: ALS Environmental
Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 14
Results of PAH Analysis in Site Water and Elutriates

	SAMPLE ID		UPPER HARBOR SITE WATER				UPPER HARBOR AND WIDENERS																	
			UHSW12				DANI12				DANW12				NYNC12				NCW12				CCRK12			
Analyte	**Maximum Detected Conc. µg/L**	**CMC µg/L**	**Result µg/L**	**Qualifier**	**MDL**	**MRL**	**Result µg/L**	**Qualifier**	**MDL**	**MRL**	**Result µg/L**	**Qualifier**	**MDL**	**MRL**	**Result µg/L**	**Qualifier**	**MDL**	**MRL**	**Result µg/L**	**Qualifier**	**MDL**	**MRL**	**Result µg/L**	**Qualifier**	**MDL**	**MRL**
1-Methylnaphthalene[LMW]	0.0066	x	0.0015	J	0.00045	0.0048	0.0066	X	0.00049	0.0054	0.0016	J	0.00045	0.0050	0.0039	JX	0.00045	0.0048	0.0058	X	0.00045	0.0050	0.0019	J	0.00045	0.0050
2-Methylnaphthalene[LMW]	0.0028	x	0.0013	J	0.00065	0.0048	0.0019	J	0.00070	0.0054	0.0012	J	0.00065	0.0050	0.0013	J	0.00065	0.0048	0.0021	J	0.00065	0.0050	0.0015	J	0.00065	0.0050
Acenaphthene[LMW]	0.0083	x	0.0061	--	0.00027	0.0048	0.0074	--	0.00030	0.0054	0.0017	J	0.00027	0.0050	0.0048	J	0.00027	0.0048	0.0060	--	0.00027	0.0050	0.0030	J	0.00027	0.0050
Acenaphthylene	0.0017	x	0.0012	J	0.00024	0.0048	ND	U	0.00026	0.0054	ND	U	0.00024	0.0050	ND	U	0.00024	0.0048	ND	U	0.00024	0.0050	ND	U	0.00024	0.0050
Anthracene[LMW]	0.010	x	0.0043	J	0.00020	0.0048	0.0036	J	0.00022	0.0054	ND	U	0.00020	0.0050	0.0023	J	0.00020	0.0048	0.0044	J	0.00020	0.0050	ND	U	0.00020	0.0050
Benzo(a)anthracene[HMW]	0.0032	x	0.0032	J	0.00025	0.0048	ND	U	0.00027	0.0054	ND	U	0.00025	0.0050	ND	U	0.00025	0.0048	0.0020	J	0.00025	0.0050	ND	U	0.00025	0.0050
Benzo(a)pyrene[HMW]	0.0021	x	0.0021	J	0.00027	0.0048	ND	U	0.00030	0.0054	ND	U	0.00027	0.0050	ND	U	0.00027	0.0048	ND	U	0.00027	0.0050	ND	U	0.00027	0.0050
Benzo(b)fluoranthene	0.0032	x	0.0030	J	0.00024	0.0048	ND	U	0.00026	0.0054	ND	U	0.00024	0.0050	ND	U	0.00024	0.0048	0.0012	J	0.00024	0.0050	ND	U	0.00024	0.0050
Benzo(g,h,i)perylene	ND	x	ND	U	0.0036	0.0048	ND	U	0.0039	0.0054	ND	U	0.0036	0.0050	ND	U	0.0036	0.0048	ND	U	0.0036	0.0050	ND	U	0.0036	0.0050
Benzo(k)fluoranthene	0.0012	x	0.0012	J	0.00019	0.0048	ND	U	0.00021	0.0054	ND	U	0.00019	0.0050	ND	U	0.00019	0.0048	ND	U	0.00019	0.0050	ND	U	0.00019	0.0050
Chrysene[HMW]	0.023	x	0.0023	J	0.00029	0.0048	ND	U	0.00032	0.0054	ND	U	0.00029	0.0050	ND	U	0.00029	0.0048	0.0015	J	0.00029	0.0050	ND	U	0.00029	0.0050
Dibenzo(a,h)anthracene[HMW]	0.0016	x	0.00047	J	0.00025	0.0048	ND	U	0.00027	0.0054	ND	U	0.00025	0.0050	ND	U	0.00025	0.0048	ND	U	0.00025	0.0050	ND	U	0.00025	0.0050
Fluoranthene[HMW]	0.018	x	0.018	--	0.00024	0.0048	0.0025	J	0.00026	0.0054	0.00067	J	0.00024	0.0050	0.0031	J	0.00024	0.0048	0.0051	--	0.00024	0.0050	0.0023	J	0.00024	0.0050
Fluorene[LMW]	0.0051	x	0.0051	--	0.00021	0.0048	0.0024	J	0.00023	0.0054	0.0025	J	0.00021	0.0050	0.0019	J	0.00021	0.0048	0.0029	J	0.00021	0.0050	0.0018	J	0.00021	0.0050
Indeno(1,2,3-cd)pyrene	0.0018	x	0.0014	J	0.00028	0.0048	ND	U	0.00031	0.0054	ND	U	0.00028	0.0050	ND	U	0.00028	0.0048	ND	U	0.00028	0.0050	ND	U	0.00028	0.0050
Naphthalene[LMW]	0.031	x	0.0062	--	0.00076	0.0048	0.031	B	0.00082	0.0054	0.011	--	0.00076	0.0050	0.0086	--	0.00076	0.0048	0.011	B	0.00076	0.0050	0.012	--	0.00076	0.0050
Phenanthrene[LMW]	0.011	x	0.011	--	0.0018	0.0048	0.0053	BJ	0.0020	0.0054	0.0059	--	0.0018	0.0050	0.011	--	0.0018	0.0048	0.0057	B	0.0018	0.0050	0.0079	--	0.0018	0.0050
Pyrene[HMW]	0.012	x	0.012	--	0.00025	0.0048	0.0024	J	0.00027	0.0054	0.0011	J	0.00025	0.0050	0.0042	J	0.00025	0.0048	0.0065	--	0.00025	0.0050	0.0035	J	0.00025	0.0050
Total LMW PAHs	0.058	x	0.036				0.058				0.024				0.034				0.038				0.028			
Total HMW PAHs	0.039	x	0.038				0.0061				0.0028				0.0084				0.016				0.0069			
Total PAHs	0.084	x	0.084				0.069				0.031				0.047				0.059				0.040			

TABLE 14 *(continued)*
Results of PAH Analysis in Site Water and Elutriates

SAMPLE ID	UPPER HARBOR AND WIDENERS												LOWER HARBOR SITE WATER				LOWER HARBOR AND WIDENERS											
	PTFC12				ORDT12				ORDT12 (field split)				LHSW12				REHR12				BENW12				HGIS12			
Analyte	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL	Result µg/L	Qualifier	MDL	MRL
1-Methylnaphthalene[LMW]	0.0055	--	0.00045	0.0050	0.0022	J	0.00047	0.0053	0.0041	JX	0.00046	0.0052	0.0012	J	0.00045	0.0048	0.0032	JX	0.00045	0.0050	0.0018	J	0.00045	0.0048	0.00092	J	0.00045	0.0048
2-Methylnaphthalene[LMW]	0.0021	J	0.00065	0.0050	0.0019	J	0.00068	0.0053	0.0017	J	0.00067	0.0052	0.0012	J	0.00065	0.0048	0.0013	J	0.00065	0.0050	0.0014	J	0.00065	0.0048	0.0011	J	0.00065	0.0048
Acenaphthene[LMW]	0.0067	--	0.00027	0.0050	0.0083	--	0.00029	0.0053	0.0065	--	0.00028	0.0052	ND	U	0.00027	0.0048	0.0015	J	0.00027	0.0050	0.00054	J	0.00027	0.0048	0.0010	J	0.00027	0.0048
Acenaphthylene	0.00056	J	0.00024	0.0050	0.0014	J	0.00025	0.0053	0.0015	J	0.00025	0.0052	0.0016	J	0.00024	0.0048	ND	U	0.00024	0.0050	0.00073	J	0.00024	0.0048	0.00089	J	0.00024	0.0048
Anthracene[LMW]	0.0038	J	0.00020	0.0050	0.0041	J	0.00021	0.0053	0.0052	J	0.00021	0.0052	0.0015	J	0.00020	0.0048	0.0017	J	0.00020	0.0050	0.00025	J	0.00020	0.0048	0.00058	J	0.00020	0.0048
Benzo(a)anthracene[HMW]	ND	U	0.00025	0.0050	0.0020	J	0.00027	0.0053	0.0022	J	0.00026	0.0052	0.0016	J	0.00025	0.0048	ND	U	0.00025	0.0050	0.00071	J	0.00025	0.0048	0.00068	J	0.00025	0.0048
Benzo(a)pyrene[HMW]	ND	U	0.00027	0.0050	ND	U	0.00029	0.0053	ND	U	0.00028	0.0052	0.00086	J	0.00027	0.0048	ND	U	0.00027	0.0050	ND	U	0.00027	0.0048	ND	U	0.00027	0.0048
Benzo(b)fluoranthene	ND	U	0.00024	0.0050	0.0017	J	0.00025	0.0053	0.0016	J	0.00025	0.0052	0.0013	J	0.00024	0.0048	ND	U	0.00024	0.0050	ND	U	0.00024	0.0048	0.00033	J	0.00024	0.0048
Benzo(g,h,i)perylene	ND	U	0.0036	0.0050	ND	U	0.0038	0.0053	ND	U	0.0037	0.0052	ND	U	0.0036	0.0048	ND	U	0.0036	0.0050	ND	U	0.0036	0.0048	ND	U	0.0036	0.0048
Benzo(k)fluoranthene	ND	U	0.00019	0.0050	ND	U	0.00020	0.0053	ND	U	0.00020	0.0052	0.00098	J	0.00019	0.0048	ND	U	0.00019	0.0050	ND	U	0.00019	0.0048	0.00020	J	0.00019	0.0048
Chrysene[HMW]	ND	U	0.00029	0.0050	0.0026	J	0.00031	0.0053	0.023	--	0.00030	0.0052	0.0014	J	0.00029	0.0048	ND	U	0.00029	0.0050	ND	U	0.00029	0.0048	0.00047	J	0.00029	0.0048
Dibenzo(a,h)anthracene[HMW]	ND	U	0.00025	0.0050	ND	U	0.00027	0.0053	ND	U	0.00026	0.0052	0.0016	J	0.00025	0.0048	0.00055	J	0.00025	0.0050	ND	U	0.00025	0.0048	ND	U	0.00025	0.0048
Fluoranthene[HMW]	0.0041	J	0.00024	0.0050	0.0061	--	0.00025	0.0053	0.0064	--	0.00025	0.0052	0.0052	--	0.00024	0.0048	0.00057	J	0.00024	0.0050	0.00056	J	0.00024	0.0048	0.00092	J	0.00024	0.0048
Fluorene[LMW]	0.0027	J	0.00021	0.0050	0.0050	J	0.00022	0.0053	0.0050	J	0.00022	0.0052	0.0019	J	0.00021	0.0048	0.00084	J	0.00021	0.0050	0.00061	J	0.00021	0.0048	0.00091	J	0.00021	0.0048
Indeno(1,2,3-cd)pyrene	0.00052	J	0.00028	0.0050	0.00070	J	0.00030	0.0053	0.00078	J	0.00029	0.0052	0.0011	J	0.00028	0.0048	0.00088	J	0.00028	0.0050	ND	U	0.00028	0.0048	ND	U	0.00028	0.0048
Naphthalene[LMW]	0.014	--	0.00076	0.0050	0.026	--	0.00080	0.0053	0.0070	--	0.00078	0.0052	0.0047	BJ	0.00076	0.0048	0.0083	B	0.00076	0.0050	0.0067	--	0.00076	0.0048	0.0069	--	0.00076	0.0048
Phenanthrene[LMW]	0.0095	--	0.0018	0.0050	0.0054	--	0.0019	0.0053	0.0068	--	0.0019	0.0052	0.0040	BJ	0.0018	0.0048	0.0031	BJ	0.0018	0.0050	ND	U	0.0018	0.0048	0.0025	BJ	0.0018	0.0048
Pyrene[HMW]	0.0047	J	0.00025	0.0050	0.0068	--	0.00027	0.0053	0.0070	--	0.00026	0.0052	0.0027	J	0.00025	0.0048	0.00079	J	0.00025	0.0050	0.00044	J	0.00025	0.0048	0.0012	J	0.00025	0.0048
Total LMW PAHs	0.044				0.053				0.036				0.015				0.020				0.013				0.014			
Total HMW PAHs	0.0099				0.018				0.039				0.013				0.0027				0.0025				0.0038			
Total PAHs	0.059				0.079				0.083				0.037				0.028				0.021				0.023			

TABLE 14 *(continued)*
Results of PAH Analysis in Site Water and Elutriates

	LOWER HARBOR AND WIDENERS																				ANCHORAGE BASIN			
Sample ID	**HGIW12**				**DRMY12**				**WUTB12**				**WRTB12**				**WLR12**				**WLRW12**				**ABMA12**			
Analyte	**Result µg/L**	**Qualifier**	**MDL**	**MRL**	**Result µg/L**	**Qualifier**	**MDL**	**MRL**	**Result µg/L**	**Qualifier**	**MDL**	**MRL**	**Result µg/L**	**Qualifier**	**MDL**	**MRL**	**Result µg/L**	**Qualifier**	**MDL**	**MRL**	**Result µg/L**	**Qualifier**	**MDL**	**MRL**	**Result µg/L**	**Qualifier**	**MDL**	**MRL**
1-Methylnaphthalene[LMW]	0.0011	J	0.00045	0.0048	0.0013	J	0.00045	0.0048	0.0042	J	0.00045	0.0050	0.0023	J	0.00045	0.0050	0.0046	J	0.00045	0.0050	0.0027	J	0.00052	0.0058	0.0036	J	0.00046	0.0051
2-Methylnaphthalene[LMW]	0.0013	J	0.00065	0.0048	0.0014	J	0.00065	0.0048	0.0015	J	0.00065	0.0050	0.0015	J	0.00065	0.0050	0.0012	J	0.00065	0.0050	0.0018	J	0.00075	0.0058	0.0019	J	0.00066	0.0051
Acenaphthene[LMW]	0.0021	J	0.00027	0.0048	0.0070	--	0.00027	0.0048	0.0032	J	0.00027	0.0050	0.0059	--	0.00027	0.0050	0.0041	J	0.00027	0.0050	0.0016	J	0.00032	0.0058	0.0031	J	0.00028	0.0051
Acenaphthylene	0.0017	J	0.00024	0.0048	0.0012	J	0.00024	0.0048	ND	U	0.00024	0.0050	0.0012	J	0.00024	0.0050	ND	U	0.00024	0.0050	ND	U	0.00028	0.0058	0.00094	J	0.00025	0.0051
Anthracene[LMW]	0.0016	J	0.00020	0.0048	0.0027	J	0.00020	0.0048	0.0024	J	0.00020	0.0050	0.0054	--	0.00020	0.0050	ND	U	0.00020	0.0050	0.0017	J	0.00023	0.0058	0.0064	--	0.00021	0.0051
Benzo(a)anthracene[HMW]	0.0014	J	0.00025	0.0048	0.0011	J	0.00025	0.0048	ND	U	0.00025	0.0050	0.0016	J	0.00025	0.0050	ND	U	0.00025	0.0050	0.0013	J	0.00029	0.0058	0.0013	J	0.00026	0.0051
Benzo(a)pyrene[HMW]	0.00073	J	0.00027	0.0048	0.00034	J	0.00027	0.0048	ND	U	0.00027	0.0050	ND	U	0.00027	0.0050	ND	U	0.00027	0.0050	ND	U	0.00032	0.0058	ND	U	0.00028	0.0051
Benzo(b)fluoranthene	0.0012	J	0.00024	0.0048	0.00083	J	0.00024	0.0048	ND	U	0.00024	0.0050	ND	U	0.00024	0.0050	ND	U	0.00024	0.0050	0.0016	J	0.00028	0.0058	0.0014	J	0.00025	0.0051
Benzo(g,h,i)perylene	ND	U	0.0036	0.0048	ND	U	0.0036	0.0048	ND	U	0.0036	0.0050	ND	U	0.0036	0.0050	ND	U	0.0036	0.0050	ND	U	0.0042	0.0058	ND	U	0.0037	0.0051
Benzo(k)fluoranthene	0.00051	J	0.00019	0.0048	0.00031	J	0.00019	0.0048	ND	U	0.00019	0.0050	ND	U	0.00019	0.0050	ND	U	0.00019	0.0050	0.00080	J	0.00022	0.0058	ND	U	0.00020	0.0051
Chrysene[HMW]	0.0011	J	0.00029	0.0048	0.00062	J	0.00029	0.0048	ND	U	0.00029	0.0050	0.0022	J	0.00029	0.0050	ND	U	0.00029	0.0050	0.0011	J	0.00034	0.0058	0.0031	J	0.00030	0.0051
Dibenzo(a,h)anthracene[HMW]	0.00037	J	0.00025	0.0048	ND	U	0.00025	0.0048	ND	U	0.00025	0.0050	ND	U	0.00025	0.0050	ND	U	0.00025	0.0050	0.0011	J	0.00029	0.0058	ND	U	0.00026	0.0051
Fluoranthene[HMW]	0.0032	J	0.00024	0.0048	0.0058	--	0.00024	0.0048	0.0040	J	0.00024	0.0050	0.0032	J	0.00024	0.0050	0.0012	J	0.00024	0.0050	0.00068	J	0.00028	0.0058	0.0035	J	0.00025	0.0051
Fluorene[LMW]	0.0018	J	0.00021	0.0048	0.0043	J	0.00021	0.0048	0.0030	J	0.00021	0.0050	0.0022	J	0.00021	0.0050	0.0022	J	0.00021	0.0050	ND	U	0.00025	0.0058	0.0021	J	0.00022	0.0051
Indeno(1,2,3-cd)pyrene	0.00094	J	0.00028	0.0048	0.00047	J	0.00028	0.0048	ND	U	0.00028	0.0050	ND	U	0.00028	0.0050	ND	U	0.00028	0.0050	0.0015	J	0.00033	0.0058	0.00053	J	0.00029	0.0051
Naphthalene[LMW]	0.012	--	0.00076	0.0048	0.011	--	0.00076	0.0048	0.016	B	0.00076	0.0050	0.013	B	0.00076	0.0050	0.015	B	0.00076	0.0050	0.012	B	0.00088	0.0058	0.011	B	0.00077	0.0051
Phenanthrene[LMW]	0.0033	BJ	0.0018	0.0048	0.0037	BJ	0.0018	0.0048	0.0035	J	0.0018	0.0050	0.0064	--	0.0018	0.0050	0.0033	J	0.0018	0.0050	0.0042	J	0.0021	0.0058	0.0095	B	0.0019	0.0051
Pyrene[HMW]	0.0020	J	0.00025	0.0048	0.0044	J	0.00025	0.0048	0.0027	J	0.00025	0.0050	0.0042	J	0.00025	0.0050	0.0011	J	0.00025	0.0050	0.0010	J	0.00029	0.0058	0.0042	J	0.00026	0.0051
Total LMW PAHs	0.023				0.031				0.034				0.037				0.031				0.024				0.038			
Total HMW PAHs	0.0088				0.013				0.0078				0.012				0.0034				0.0055				0.013			
Total PAHs	0.040				0.050				0.046				0.054				0.039				0.038				0.057			

TABLE 14 *(continued)*
Results of PAH Analysis in Site Water and Elutriates

	SHEM CREEK				ENTRANCE CHANNEL SITE WATER				ENTRANCE CHANNEL				ENTRANCE CHANNEL								ENTRANCE CHANNEL				ODMDS WATER			
Sample ID	**SHCR12**				**ECSW12**				**CHEC12-1**				**CHEC12-1(field split)**				**CHEC12-2**				**MTPL12**				**ODMDS-SW12**			
Analyte	**Result µg/L**	**Qualifier**	**MDL**	**MRL**	**Result µg/L**	**Qualifier**	**MDL**	**MRL**	**Result µg/L**	**Qualifier**	**MDL**	**MRL**	**Result µg/L**	**Qualifier**	**MDL**	**MRL**	**Result µg/L**	**Qualifier**	**MDL**	**MRL**	**Result µg/L**	**Qualifier**	**MDL**	**MRL**	**Result µg/L**	**Qualifier**	**MDL**	**MRL**
1-Methylnaphthalene[LMW]	0.0019	J	0.00045	0.0048	0.0012	J	0.00045	0.0048	0.0039	J	0.00045	0.0049	0.0046	J	0.00045	0.0049	0.0048	J	0.00045	0.0050	0.0035	J	0.00046	0.0051	0.0015	J	0.00045	0.0048
2-Methylnaphthalene[LMW]	0.0015	J	0.00065	0.0048	0.0012	J	0.00065	0.0048	0.0016	J	0.00065	0.0049	0.0028	J	0.00065	0.0049	0.0020	J	0.00065	0.0050	0.0012	J	0.00066	0.0051	0.0014	J	0.00065	0.0048
Acenaphthene[LMW]	0.0051	--	0.00027	0.0048	ND	U	0.00027	0.0048	0.0021	J	0.00027	0.0049	0.0023	J	0.00027	0.0049	0.0019	J	0.00027	0.0050	ND	U	0.00028	0.0051	0.0014	J	0.00027	0.0048
Acenaphthylene	0.0015	J	0.00024	0.0048	0.0013	J	0.00024	0.0048	ND	U	0.00024	0.0049	ND	U	0.00024	0.0049	ND	U	0.00024	0.0050	ND	U	0.00025	0.0051	0.0013	J	0.00024	0.0048
Anthracene[LMW]	0.0020	J	0.00020	0.0048	0.00045	J	0.00020	0.0048	0.0057	--	0.00020	0.0049	0.0069	--	0.00020	0.0049	0.010	--	0.00020	0.0050	0.0039	J	0.00021	0.0051	ND	U	0.00020	0.0048
Benzo(a)anthracene[HMW]	0.0020	J	0.00025	0.0048	ND	U	0.00025	0.0048	ND	U	0.00025	0.0049	ND	U	0.00025	0.0049	0.0012	J	0.00025	0.0050	ND	U	0.00026	0.0051	ND	U	0.00025	0.0048
Benzo(a)pyrene[HMW]	0.0017	J	0.00027	0.0048	ND	U	0.00027	0.0048	ND	U	0.00027	0.0049	ND	U	0.00027	0.0049	ND	U	0.00027	0.0050	ND	U	0.00028	0.0051	ND	U	0.00027	0.0048
Benzo(b)fluoranthene	0.0032	J	0.00024	0.0048	ND	U	0.00024	0.0048	ND	U	0.00024	0.0049	ND	U	0.00024	0.0049	0.0023	J	0.00024	0.0050	ND	U	0.00025	0.0051	ND	U	0.00024	0.0048
Benzo(g,h,i)perylene	ND	U	0.0036	0.0048	ND	U	0.0036	0.0048	ND	U	0.0036	0.0049	ND	U	0.0036	0.0049	ND	U	0.0036	0.0050	ND	U	0.0037	0.0051	ND	U	0.0036	0.0048
Benzo(k)fluoranthene	0.00099	J	0.00019	0.0048	ND	U	0.00019	0.0048	ND	U	0.00019	0.0049	ND	U	0.00019	0.0049	0.00065	J	0.00019	0.0050	ND	U	0.00020	0.0051	ND	U	0.00019	0.0048
Chrysene[HMW]	0.0025	J	0.00029	0.0048	ND	U	0.00029	0.0048	ND	U	0.00029	0.0049	ND	U	0.00029	0.0049	0.0014	J	0.00029	0.0050	ND	U	0.00030	0.0051	ND	U	0.00029	0.0048
Dibenzo(a,h)anthracene[HMW]	0.00033	J	0.00025	0.0048	ND	U	0.00025	0.0048	ND	U	0.00025	0.0049	ND	U	0.00025	0.0049	0.0012	J	0.00025	0.0050	ND	U	0.00026	0.0051	ND	U	0.00025	0.0048
Fluoranthene[HMW]	0.0071	--	0.00024	0.0048	0.00071	J	0.00024	0.0048	0.0010	J	0.00024	0.0049	0.0015	J	0.00024	0.0049	0.00073	J	0.00024	0.0050	ND	U	0.00025	0.0051	0.0022	J	0.00024	0.0048
Fluorene[LMW]	0.0027	J	0.00021	0.0048	0.00072	J	0.00021	0.0048	0.0013	J	0.00021	0.0049	0.0017	J	0.00021	0.0049	0.0014	J	0.00021	0.0050	ND	U	0.00022	0.0051	0.00097	J	0.00021	0.0048
Indeno(1,2,3-cd)pyrene	0.0014	J	0.00028	0.0048	ND	U	0.00028	0.0048	ND	U	0.00028	0.0049	ND	U	0.00028	0.0049	0.0018	J	0.00028	0.0050	ND	U	0.00029	0.0051	ND	U	0.00028	0.0048
Naphthalene[LMW]	0.0055	--	0.00076	0.0048	0.015	B	0.00076	0.0048	0.015	B	0.00076	0.0049	0.015	B	0.00076	0.0049	0.016	B	0.00076	0.0050	0.026	B	0.00077	0.0051	0.013	B	0.00076	0.0048
Phenanthrene[LMW]	0.0030	BJ	0.0018	0.0048	0.0018	BJ	0.0018	0.0048	0.0025	J	0.0018	0.0049	0.0043	J	0.0018	0.0049	0.0086	--	0.0018	0.0050	0.0023	J	0.0019	0.0051	0.0029	J	0.0018	0.0048
Pyrene[HMW]	0.0092	--	0.00025	0.0048	0.00067	J	0.00025	0.0048	0.0012	J	0.00025	0.0049	0.0012	J	0.00025	0.0049	0.00083	J	0.00025	0.0050	0.00057	J	0.00026	0.0051	0.0012	J	0.00025	0.0048
Total LMW PAHs	0.022				0.021				0.032				0.038				0.045				0.037				0.022			
Total HMW PAHs	0.023				0.0024				0.0033				0.0038				0.0056				0.0019				0.0045			
Total PAHs	0.055				0.029				0.040				0.046				0.059				0.044				0.031			

[LMW] Low Molecular Weight PAHs (NOAA 1989)
[HMW] High Molecular Weight PAHs (NOAA 1989)
Non-detect (ND) results use the MDL for calculating total PAHs.
B = The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
J = The result is an estimated value.
U = The analyte was analyzed but was not detected (ND) at or above the MDL.
X = See case narrative or Section 4.
-- = no qualifier needed

Source: ALS Environmental
Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 15
Summary of Ammonia and Survival Data for *Americamysis bahia* (Water Column Test)

Sample ID	Concentration (%)	Total Ammonia (mg/L)			Un-ionized Ammonia (mg/L)			Mean Survival (%)	Standard Deviation	Statistically Less Than Control* (yes/no)	Statistically Less Than Site Water (yes/no)	LC_{50}[1] (%)
		Day 0	Day 2	Day 4	Day 0	Day 2	Day 4					
Batch 1 (November 9-13, 2012)												
Control*		<0.5	<0.5	<0.5	<0.009	<0.009	<0.003	100	0	--	--	
UHSW12 (Site Water)		<0.5	<0.5	<0.5	<0.007	<0.010	<0.003	100	0	No	--	
ORDT12	10	<0.5	0.656	<0.5	<0.004	0.014	<0.003	100	0	--	--	>100
	50	2.17	3.51	2.88	0.018	0.078	0.037	98	5	--	--	
	100	4.78	7.63	5.78	0.084	0.171	0.119	100	0	No	No	
PTFC12	10	<0.5	<0.5	<0.5	<0.006	<0.010	<0.004	98	5	--	--	>100
	50	1.45	2.49	2.06	0.012	0.048	0.027	97	5	--	--	
	100	3.02	5.04	4.32	0.017	0.097	0.072	100	0	No	No	
NYNC12	10	<0.5	<0.5	<0.5	0.005	<0.009	<0.004	100	0	--	--	>100
	50	1.15	2.12	1.62	0.009	0.037	0.017	100	0	--	--	
	100	2.55	4.62	3.34	0.023	0.082	0.044	98	5	No	No	
CCRK12	10	<0.5	<0.5	0.513	<0.005	<0.011	0.005	100	0	--	--	>100
	50	1.47	2.25	2.18	0.012	0.050	0.028	98	5	--	--	
	100	3.11	4.66	3.94	0.043	0.128	0.064	98	5	No	No	
DANW12	10	0.572	0.811	0.684	0.007	0.017	0.007	96	6	--	--	>100
	50	2.40	4.36	3.13	0.025	0.094	0.041	96	6	--	--	
	100	5.35	8.79	5.81	0.075	0.190	0.119	98	5	No	No	
DANI12	10	<0.5	0.669	0.825	<0.006	0.014	0.007	95	10	--	--	>100
	50	1.89	3.07	2.37	0.016	0.064	0.025	98	5	--	--	
	100	3.51	7.03	5.01	0.039	0.156	0.082	98	5	No	No	
NCW12	10	<0.5	<0.5	<0.5	<0.006	<0.006	<0.005	98	5	--	--	>100
	50	0.839	1.93	1.37	0.007	0.034	0.018	100	0	--	--	
	100	1.72	3.92	2.87	0.023	0.082	0.038	99	2	No	No	

TABLE 15 ***(continued)***
Summary of Ammonia and Survival Data for *Americamysis bahia* (Water Column Test)

Sample ID	Concentration (%)	Total Ammonia (mg/L)			Un-ionized Ammonia (mg/L)			Mean Survival (%)	Standard Deviation	Statistically Less Than Control* (yes/no)	Statistically Less Than Site Water (yes/no)	LC_{50} [1] (%)
		Day 0	Day 2	Day 4	Day 0	Day 2	Day 4					
Batch 2 (November 21-25, 2012)												
Control*		<0.5	<0.5	<0.5	<0.008	<0.008	<0.005	100	0	--	--	
ECSW12 (Site Water)		<0.5	<0.5	<0.5	<0.012	<0.013	<0.008	96	6	No	--	
CHEC12-1	10	1.50	<0.5	<0.5	0.023	<0.008	<0.004	96	9	--	--	>100
	50	8.63	1.77	0.814	0.171	0.036	0.011	94	6	--	--	
	100	15.9	3.51	1.51	**0.390**	0.111	0.020	94	9	No	No	
CHEC12-2	10	1.28	<0.5	0.909	0.020	<0.010	0.012	100	0	--	--	>100
	50	6.06	0.950	3.67	0.121	0.026	0.116	98	5	--	--	
	100	8.30	2.06	7.92	0.164	0.065	**0.397**	100	0	No	No	
MTPL12	10	<0.5	<0.5	0.616	0.008	<0.010	0.006	98	5	--	--	>100
	50	<0.5	<0.5	1.36	<0.010	<0.010	0.022	98	5	--	--	
	100	<0.5	<0.5	2.27	<0.010	<0.013	0.048	100	0	No	No	
LHSW12 (Site Water)		<0.5	<0.5	0.502	<0.010	<0.013	0.010	100	0	No	--	
REHR12	10	0.689	<0.5	1.12	<0.011	<0.013	0.012	96	6	--	--	>100
	50	3.08	1.06	1.99	0.061	0.027	0.033	98	5	--	--	
	100	6.08	2.13	0.789	0.148	0.071	0.008	100	0	No	No	
WUTB12	10	1.42	<0.5	1.75	0.022	<0.013	0.023	98	5	--	--	>100
	50	4.85	1.84	3.24	0.061	0.047	0.068	100	0	--	--	
	100	9.49	3.68	1.05	0.148	0.181	0.017	98	5	No	No	
WRTB12	10	1.42	<0.5	3.22	0.022	<0.013	0.129	100	0	--	--	>100
	50	3.49	1.32	5.95	0.069	0.027	**0.376**	96	6	--	--	
	100	6.41	2.55	<0.5	0.158	0.065	<0.005	96	6	No	No	
WLRW12	10	0.898	<0.5	<0.5	0.014	<0.010	<0.008	94	6	--	--	>100
	50	1.06	<0.5	<0.5	0.021	<0.013	<0.004	100	0	--	--	
	100	1.97	0.888	0.814	0.039	0.028	0.011	96	6	No	No	
ABMA12	10	1.52	0.530	1.51	0.024	0.014	0.020	98	5	--	--	>100
	50	6.61	2.63	0.909	0.129	0.067	0.012	100	0	--	--	
	100	14.4	5.36	3.67	**0.343**	**0.325**	0.116	56	23	Yes	Yes	

TABLE 15 ***(continued)***
Summary of Ammonia and Survival Data for *Americamysis bahia* (Water Column Test)

Sample ID	Concentration (%)	Total Ammonia (mg/L)			Un-ionized Ammonia (mg/L)			Mean Survival (%)	Standard Deviation	Statistically Less Than Control* (yes/no)	Statistically Less Than Site Water (yes/no)	LC_{50}[1] (%)
		Day 0	Day 2	Day 4	Day 0	Day 2	Day 4					
Batch 3 (December 3-7, 2012)												
Control*		<0.5	<0.5	<0.5	<0.003	<0.005	<0.005	96	6	--	--	
LHSW12 (Site Water)		<0.5	<0.5	<0.5	<0.010	<0.008	<0.008	98	5	No	--	
HGIS12	10	<0.5	<0.5	<0.5	<0.006	<0.004	<0.004	98	5	--	--	>100
	50	0.797	1.98	0.814	0.012	0.022	0.011	98	5	--	--	
	100	1.61	4.80	1.51	0.024	0.100	0.020	100	0	No	No	
DRMY12	10	0.76	1.94	0.909	0.011	0.027	0.012	96	6	--	--	71.3
	50	3.46	10.3	3.67	0.053	0.144	0.116	94	9	--	--	
	100	7.94	20.1	7.92	0.126	**0.652**	**0.397**	4	6	Yes	Yes	
WLR12	10	<0.5	<0.5	0.616	<0.006	<0.009	0.006	100	0	--	--	>100
	50	1.02	2.75	1.36	0.016	0.048	0.022	98	5	--	--	
	100	1.89	5.67	2.27	0.029	0.193	0.048	98	5	No	No	
BENW12	10	0.500	<0.5	0.502	<0.008	<0.009	0.010	100	0	--	--	>100
	50	0.826	2.51	1.12	0.013	0.054	0.012	100	0	--	--	
	100	1.64	5.82	1.99	0.026	0.193	0.033	94	9	No	No	
HGIW12	10	<0.5	0.584	0.789	<0.005	0.013	0.008	98	5	--	--	>100
	50	1.41	3.32	1.75	0.017	0.072	0.023	100	0	--	--	
	100	2.79	6.84	3.24	0.068	**0.281**	0.068	100	0	No	No	
SHCR12	10	0.657	1.93	1.05	0.010	0.042	0.017	98	5	--	--	73.6
	50	3.23	9.87	3.22	0.050	**0.265**	0.129	100	0	--	--	
	100	6.39	19.5	5.95	0.123	**0.998**	**0.376**	10	14	Yes	Yes	

[1] LC_{50} = Lethal concentration affecting 50% of a population
***** Water for control and dilution originated from the northern portion of Hood Canal (part of Puget Sound) at Port Gamble, Washington.
Bold = Value exceeds minimum reference-toxicant test derived NOEC: 25.5 mg/L (total ammonia) or 0.251 mg/L (un-ionized ammonia)

Source: NewFields
Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 16
Survival Data for *Americamysis bahia* (Water Column Test)

Sample ID	Replicate	Concentration (%)	# of Organisms		% Survival	Mean Survival (%)
			Initial	Final		
Batch 1 (November 9-13, 2012)						
Control*	1	0	10	10	100	100
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
UHSW12 (Site Water)	1	0	10	10	100	100
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
ORDT12	1	10	10	10	100	100
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
	1	50	10	9	90	98
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
	1	100	10	10	100	100
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
PTFC12	1	10	10	10	100	98
	2		10	9	90	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
	1	50	10	9	90	97
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5[1]		20	19	95	
	1	100	10	10	100	100
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	

TABLE 16 (*continued*)
Survival Data for *Americamysis bahia* (Water Column Test)

Sample ID	Replicate	Concentration (%)	# of Organisms		% Survival	Mean Survival (%)
			Initial	Final		
NYNC12	1	10	10	10	100	100
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
	1	50	10	10	100	100
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
	1	100	10	10	100	98
	2		10	10	100	
	3		10	10	100	
	4		10	9	90	
	5		10	10	100	
CCRK12	1	10	10	10	100	100
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
	1	50	10	10	100	98
	2		10	9	90	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
	1	100	10	10	100	98
	2		10	9	90	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
DANW12	1	10	10	10	100	96
	2		10	10	100	
	3		10	10	100	
	4		10	9	90	
	5		10	9	90	
	1	50	10	10	100	96
	2		10	9	90	
	3		10	9	90	
	4		10	10	100	
	5		10	10	100	
	1	100	10	10	100	98
	2		10	10	100	
	3		10	9	90	
	4		10	10	100	
	5		10	10	100	

TABLE 16 (*continued*)
Survival Data for *Americamysis bahia* (Water Column Test)

Sample ID	Replicate	Concentration (%)	# of Organisms		% Survival	Mean Survival (%)
			Initial	Final		
DANI12	1[2]	10	10	NA	NA	95
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	8	80	
	1	50	10	10	100	98
	2		10	10	100	
	3		10	10	100	
	4		10	9	90	
	5		10	10	100	
	1	100	10	10	100	98
	2		10	9	90	
	3[2]		10	NA	NA	
	4		10	10	100	
	5		10	10	100	
NCW12	1	10	10	10	100	98
	2		10	10	100	
	3		10	10	100	
	4		10	9	90	
	5		10	10	100	
	1	50	10	10	100	100
	2		10	10	100	
	3		10	10	100	
	4[1]		20	20	100	
	5		10	10	100	
	1	100	10	10	100	99
	2[1]		20	19	95	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
Batch 2 (November 21-25, 2012)						
Control*	1	0	10	10	100	100
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
ECSW12 (Site Water)	1	0	10	9	90	96
	2		10	10	100	
	3		10	10	100	
	4		10	9	90	
	5		10	10	100	

TABLE 16 (*continued*)
Survival Data for *Americamysis bahia* (Water Column Test)

Sample ID	Replicate	Concentration (%)	# of Organisms		% Survival	Mean Survival (%)
			Initial	Final		
CHEC12-1	1	10	10	10	100	96
	2		10	8	80	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
	1	50	10	9	90	94
	2		10	9	90	
	3		10	10	100	
	4		10	9	90	
	5		10	10	100	
	1	100	10	10	100	94
	2		10	8	80	
	3		10	10	100	
	4		10	10	100	
	5		10	9	90	
CHEC12-2	1	10	10	10	100	100
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
	1	50	10	10	100	98
	2		10	9	90	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
	1	100	10	10	100	100
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
MTPL12	1	10	10	9	90	98
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
	1	50	10	10	100	98
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	9	90	
	1	100	10	10	100	100
	2		10	10	100	
	3		10	10	100	
	4		11	11	100	
	5		10	10	100	

TABLE 16 (*continued*)
Survival Data for *Americamysis bahia* (Water Column Test)

Sample ID	Replicate	Concentration (%)	# of Organisms		% Survival	Mean Survival (%)
			Initial	Final		
LHSW12 (Site Water)	1	0	10	10	100	100
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
REHR12	1	10	10	10	100	96
	2		10	9	90	
	3		10	10	100	
	4		10	10	100	
	5		10	9	90	
	1	50	10	10	100	98
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	9	90	
	1	100	10	10	100	100
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
WUTB12	1	10	10	10	100	98
	2		10	10	100	
	3		10	10	100	
	4		10	9	90	
	5		10	10	100	
	1	50	10	10	100	100
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
	1	100	10	10	100	98
	2		10	10	100	
	3		10	9	90	
	4		10	10	100	
	5		10	10	100	
WRTB12	1	10	10	10	100	100
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
	1	50	10	10	100	96
	2		10	10	100	
	3		10	9	90	
	4		10	9	90	
	5		10	10	100	
	1	100	10	10	100	96
	2		10	9	90	
	3		10	9	90	
	4		10	10	100	
	5		10	10	100	

TABLE 16 (*continued*)
Survival Data for *Americamysis bahia* (Water Column Test)

Sample ID	Replicate	Concentration (%)	# of Organisms		% Survival	Mean Survival (%)
			Initial	Final		
WLRW12	1	10	10	9	90	94
	2		10	9	90	
	3		10	9	90	
	4		10	10	100	
	5		10	10	100	
	1	50	10	10	100	100
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
	1	100	10	9	90	96
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	9	90	
ABMA12	1	10	10	10	100	98
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	9	90	
	1	50	10	10	100	100
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
	1	100	10	7	70	56
	2		10	6	60	
	3		10	5	50	
	4		10	8	80	
	5		10	2	20	
Batch 3 (December 3-7, 2012)						
Control*	1	0	10	10	100	96
	2		10	9	90	
	3		10	10	100	
	4		10	9	90	
	5		10	10	100	
LHSW12 (Site Water)	1	0	10	10	100	98
	2		10	10	100	
	3		10	9	90	
	4		10	10	100	
	5		10	10	100	

TABLE 16 (*continued*)
Survival Data for *Americamysis bahia* (Water Column Test)

Sample ID	Replicate	Concentration (%)	# of Organisms		% Survival	Mean Survival (%)
			Initial	Final		
HGIS12	1	10	10	10	100	98
	2		10	9	90	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
	1	50	10	10	100	98
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	9	90	
	1	100	10	10	100	100
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
DRMY12	1	10	10	10	100	96
	2		10	10	100	
	3		10	10	100	
	4		10	9	90	
	5		10	9	90	
	1	50	10	10	100	94
	2		10	10	100	
	3		10	8	80	
	4		10	10	100	
	5		10	9	90	
	1	100	10	0	0	4
	2		10	0	0	
	3		10	1	10	
	4		10	0	0	
	5		10	1	10	
WLR12	1	10	10	10	100	100
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
	1	50	10	10	100	98
	2		10	9	90	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
	1	100	10	10	100	98
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	9	90	

TABLE 16 (*continued*)
Survival Data for *Americamysis bahia* (Water Column Test)

Sample ID	Replicate	Concentration (%)	# of Organisms		% Survival	Mean Survival (%)
			Initial	Final		
BENW12	1	10	10	10	100	100
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
	1	50	10	10	100	100
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
	1	100	10	9	90	94
	2		10	8	80	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
HGIW12	1	10	10	10	100	98
	2		10	9	90	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
	1	50	10	10	100	100
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
	1	100	10	10	100	100
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
SHCR12	1	10	10	10	100	98
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	9	90	
	1	50	10	10	100	100
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
	1	100	10	2	20	10
	2		10	0	0	
	3		10	0	0	
	4		10	0	0	
	5		10	3	30	

* Water for control and dilution originated from the northern portion of Hood Canal (part of Puget Sound) at Port Gamble, Washington.

[1] Accidentally added 20 organisms to jars. [2] Chambers broke, not included in calculation.
Source: NewFields Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 17
Summary of Ammonia and Survival Data for *Menidia beryllina* (Water Column Test)

Sample ID	Concentration (%)	Total Ammonia (mg/L)		Un-ionized Ammonia (mg/L)		Mean Survival (%)	Standard Deviation	Statistically Less Than Control (yes/no)	Statistically Less Than Site Water (yes/no)	LC_{50}[1] (%)
		Day 0	Day 4	Day 0	Day 4					
Batch 1 (November 9-13, 2012)										
Control*		<0.5	<0.5	<0.009	<0.005	94	5.5	--	--	
UHSW12 (Site Water)		<0.5	<0.5	<0.007	<0.005	90	14.1	No	--	
ORDT12	10	<0.5	<0.5	<0.004	<0.005	80	12.2	--	--	94.8%
	50	2.17	2.20	0.018	0.044	86	16.7	--	--	
	100	4.78	4.21	0.084	0.105	44	15.2	Yes	Yes	
PTFC12	10	<0.5	0.513	<0.006	0.004	84	5.5	--	--	>100%
	50	1.45	1.63	0.012	0.026	82	8.4	--	--	
	100	3.02	2.83	0.017	0.057	74	8.9	Yes	Yes	
NYNC12	10	<0.5	0.815	<0.005	0.010	76	5.5	--	--	>100%
	50	1.15	1.47	0.009	0.015	84	8.9	--	--	
	100	2.55	2.29	0.023	0.037	82	14.8	No	No	
CCRK12	10	<0.5	<0.5	<0.005	<0.005	78	11.0	--	--	>100%
	50	1.47	1.49	0.012	0.015	78	8.4	--	--	
	100	3.11	2.92	0.043	0.039	76	15.2	Yes	No	
DANW12	10	0.572	0.734	0.007	0.008	80	10.0	--	--	>100%
	50	2.40	2.67	0.025	0.044	70	27.4	--	--	
	100	5.35	4.60	0.075	0.094	52	8.4	Yes	Yes	
DANI12	10	<0.5	0.551	<0.006	0.006	74	11.4	--	--	>100%
	50	1.89	2.29	0.016	0.030	88	4.5	--	--	
	100	3.51	4.43	0.039	0.088	68	13.0	Yes	Yes	
NCW12	10	<0.5	<0.5	<0.006	<0.005	86	20.7	--	--	>100%
	50	0.839	1.35	0.007	0.014	84	18.2	--	--	
	100	1.72	2.43	0.019	0.032	74	8.9	Yes	Yes	

TABLE 17 ***(continued)***
Summary of Ammonia and Survival Data for *Menidia beryllina* (Water Column Test)

Sample ID	Concentration (%)	Total Ammonia (mg/L)		Un-ionized Ammonia (mg/L)		Mean Survival (%)	Standard Deviation	Statistically Less Than Control* (yes/no)	Statistically Less Than Site Water (yes/no)	LC_{50}[1] (%)
		Day 0	Day 4	Day 0	Day 4					
Batch 4 (December 3 - 7, 2012)										
Control*		<0.5	<0.5	<0.003	<0.010	94	5.5	--	--	
LHSW12 (Site Water)		<0.5	<0.5	<0.010	<0.004	90	10.0	No	--	
REHR12	10	<0.5	0.814	<0.008	0.020	90	0.0	--	--	>100%
	50	1.36	3.08	0.017	0.076	94	5.5	--	--	
	100	2.76	6.42	0.052	0.168	80	14.1	Yes	No	
HGIS12	10	<0.5	0.644	<0.006	0.011	90	10.0	--	--	>100%
	50	0.797	1.61	0.012	0.027	90	14.1	--	--	
	100	1.61	2.98	0.024	0.050	96	5.5	No	No	
DRMY12	10	0.76	1.37	0.011	0.027	92	8.4	--	--	51.6%
	50	3.46	6.66	0.053	0.262	68	16.4	--	--	
	100	7.94	ND	0.126	ND	0	0.0	Yes	Yes	
WLR12	10	<0.5	0.693	<0.006	0.014	92	8.4	--	--	>100%
	50	1.02	1.73	0.016	0.044	96	5.5	--	--	
	100	1.89	3.03	0.029	0.079	92	8.4	No	No	
WUTB12	10	0.509	1.10	0.006	0.028	92	4.5	--	--	75.0%
	50	2.39	4.18	0.029	0.106	88	13.0	--	--	
	100	4.76	7.61	0.059	0.303	18	19.2	Yes	Yes	
BENW12	10	<0.5	0.599	<0.008	0.012	92	4.5	--	--	>100%
	50	0.826	1.10	0.013	0.023	94	5.5	--	--	
	100	1.64	2.06	0.026	0.043	88	4.5	No	No	
HGIW12	10	<0.5	0.529	<0.005	0.009	88	11.0	--	--	>100%
	50	1.41	1.55	0.017	0.026	98	4.5	--	--	
	100	2.79	3.45	0.068	0.090	94	5.5	No	No	
WRTB12	10	<0.5	0.569	<0.008	0.012	92	8.4	--	--	>100%
	50	1.58	1.95	0.031	0.049	92	13.0	--	--	
	100	3.09	4.00	0.062	0.104	82	13.0	No	No	

TABLE 17 ***(continued)***
Summary of Ammonia and Survival Data for *Menidia beryllina* (Water Column Test)

Sample ID	Concentration (%)	Total Ammonia (mg/L)		Un-ionized Ammonia (mg/L)		Mean Survival (%)	Standard Deviation	Statistically Less Than Control* (yes/no)	Statistically Less Than Site Water (yes/no)	LC_{50}[1] (%)
		Day 0	Day 4	Day 0	Day 4					
Batch 4 (December 3 - 7, 2012)										
WLRW12	10	<0.5	<0.5	<0.008	<0.006	90	7.1	--	--	>100%
	50	<0.5	0.668	<0.008	0.014	92	8.4	--	--	
	100	0.957	1.15	0.015	0.024	90	7.1	No	No	
ABMA12	10	0.604	0.768	0.010	0.020	84	11.4	--	--	49.8%
	50	2.77	3.52	0.087	0.170	64	11.4	--	--	
	100	5.69	ND	0.142	ND	0	0.0	Yes	Yes	
SHCR12	10	0.657	0.744	0.002	0.018	96	8.9	--	--	51.0%
	50	3.23	3.24	0.012	0.159	68	26.8	--	--	
	100	6.39	ND	0.030	ND	0	0.0	Yes	Yes	
Batch 5 (December 7 – 11, 2012)										
Control*		<0.5	0.632	<0.010	0.011	100	0.0	--	--	
ECSW12 (Site Water)		**	**	**	**	**	**	**	--	
CHEC12-1	10	0.588	1.280	0.010	0.034	100	0.0	--	--	75.8%
	50	3.200	5.450	0.126	0.227	98	4.5	--	--	
	100	6.050	9.710	**0.361**	**0.486**	18	8.4	Yes	**	
CHEC12-2	10	0.500	1.570	0.012	0.027	100	0.0	--	--	>100%
	50	2.010	3.930	0.063	0.104	100	0.0	--	--	
	100	4.110	6.670	0.200	**0.277**	96	5.5	No	**	
MTPL12	10	<0.5	<0.5	< 0.010	0.009	98	4.5	--	--	>100%
	50	<0.5	<0.5	< 0.013	0.008	100	0.0	--	--	
	100	<0.5	0.877	< 0.020	0.018	100	0.0	No	**	

[1] LC_{50} = Lethal concentration affecting 50% of a population

* Water for control and dilution originated from the northern portion of Hood Canal (part of Puget Sound) at Port Gamble, Washington.

** Site water was not run with this set of tests.

Bold = Value exceeds batch minimum reference-toxicant test derived NOEC: 17.6 mg/L (total ammonia) or 0.268 mg/L (un-ionized ammonia)

ND = No data, test chambers terminated due to complete mortality.

Source: NewFields
Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 18
Survival Data for *Menidia beryllina* (Water Column Test)

Sample ID	Replicate	Concentration (%)	# of Organisms		% Survival	Mean Survival (%)
			Initial	Final		
Batch 1 (November 9-13, 2012)						
Control*	1	0	10	9	90	94
	2		10	9	90	
	3		10	10	100	
	4		10	10	100	
	5		10	9	90	
UHSW12 (Site Water)	1	0	10	10	100	90
	2		10	10	100	
	3		10	8	80	
	4		10	7	70	
	5		10	10	100	
ORDT12	1	10	10	6	60	80
	2		10	8	80	
	3		10	9	90	
	4		10	9	90	
	5		10	8	80	
	1	50	10	10	100	86
	2		10	10	100	
	3		10	9	90	
	4		10	6	60	
	5		10	8	80	
	1	100	10	4	40	44
	2		10	6	60	
	3		10	3	30	
	4		10	6	60	
	5		10	3	30	
PTFC12	1	10	10	8	80	84
	2		10	9	90	
	3		10	9	90	
	4		10	8	80	
	5		10	8	80	
	1	50	10	9	90	82
	2		10	8	80	
	3		10	9	90	
	4		10	8	80	
	5		10	7	70	
	1	100	10	7	70	74
	2		10	9	90	
	3		10	7	70	
	4		10	7	70	
	5		10	7	70	

TABLE 18 (*continued*)
Survival Data for *Menidia beryllina* (Water Column Test)

Sample ID	Replicate	Concentration (%)	# of Organisms		% Survival	Mean Survival (%)
			Initial	Final		
NYNC12	1	10	10	8	80	76
	2		10	7	70	
	3		10	7	70	
	4		10	8	80	
	5		10	8	80	
	1	50	10	8	80	84
	2		10	9	90	
	3		10	9	90	
	4		10	7	70	
	5		10	9	90	
	1	100	10	8	80	82
	2		10	6	60	
	3		10	9	90	
	4		10	10	100	
	5		10	8	80	
CCRK12	1	10	10	7	70	78
	2		10	9	90	
	3		10	7	70	
	4		10	7	70	
	5		10	9	90	
	1	50	10	8	80	78
	2		10	9	90	
	3		10	7	70	
	4		10	8	80	
	5		10	7	70	
	1	100	10	9	90	76
	2		10	6	60	
	3		10	9	90	
	4		10	6	60	
	5		10	8	80	
DANW12	1	10	10	9	90	80
	2		10	7	70	
	3		10	7	70	
	4		10	8	80	
	5		10	9	90	
	1	50	10	6	60	70
	2		10	7	70	
	3		10	9	90	
	4		10	10	100	
	5		10	3	30	
	1	100	10	6	60	52
	2		10	5	50	
	3		10	6	60	
	4		10	5	50	
	5		10	4	40	

TABLE 18 (*continued*)
Survival Data for *Menidia beryllina* (Water Column Test)

Sample ID	Replicate	Concentration (%)	# of Organisms		% Survival	Mean Survival (%)
			Initial	Final		
DANI12	1	10	10	7	70	74
	2		10	8	80	
	3		10	9	90	
	4		10	7	70	
	5		10	6	60	
	1	50	10	9	90	88
	2		10	8	80	
	3		10	9	90	
	4		10	9	90	
	5		10	9	90	
	1	100	10	8	80	68
	2		10	6	60	
	3		10	7	70	
	4		10	5	50	
	5		10	8	80	
NCW12	1	10	10	10	100	86
	2		10	5	50	
	3		10	9	90	
	4		10	10	100	
	5		10	9	90	
	1	50	10	10	100	84
	2		10	7	70	
	3		10	9	90	
	4		10	10	100	
	5		10	6	60	
	1	100	10	7	70	74
	2		10	7	70	
	3		10	7	70	
	4		10	9	90	
	5		10	7	70	
Batch 4 (December 3 - 7, 2012)						
Control*	1	0	10	9	90	94
	2		10	9	90	
	3		10	10	100	
	4		10	9	90	
	5		10	10	100	
LHSW12 (Site Water)	1	0	10	9	90	90
	2		10	10	100	
	3		10	8	80	
	4		10	10	100	
	5		10	8	80	

TABLE 18 (*continued*)
Survival Data for *Menidia beryllina* (Water Column Test)

Sample ID	Replicate	Concentration (%)	# of Organisms		% Survival	Mean Survival (%)
			Initial	Final		
REHR12	1	10	10	9	90	90
	2		10	9	90	
	3		10	9	90	
	4		10	9	90	
	5		10	9	90	
	1	50	10	10	100	94
	2		10	9	90	
	3		10	9	90	
	4		10	10	100	
	5		10	9	90	
	1	100	10	7	70	80
	2		10	7	70	
	3		10	10	100	
	4		10	9	90	
	5		10	7	70	
HGIS12	1	10	10	10	100	90
	2		10	8	80	
	3		10	10	100	
	4		10	8	80	
	5		10	9	90	
	1	50	10	10	100	90
	2		10	10	100	
	3		10	7	70	
	4		10	8	80	
	5		10	10	100	
	1	100	10	10	100	96
	2		10	9	90	
	3		10	9	90	
	4		10	10	100	
	5		10	10	100	
DRMY12	1	10	10	9	90	92
	2		10	9	90	
	3		10	10	100	
	4		10	8	80	
	5		10	10	100	
	1	50	10	6	60	68
	2		10	8	80	
	3		10	9	90	
	4		10	5	50	
	5		10	6	60	
	1	100	10	0	0	0
	2		10	0	0	
	3		10	0	0	
	4		10	0	0	
	5		10	0	0	

TABLE 18 (*continued*)
Survival Data for *Menidia beryllina* (Water Column Test)

Sample ID	Replicate	Concentration (%)	# of Organisms		% Survival	Mean Survival (%)
			Initial	Final		
WLR12	1	10	10	10	100	92
	2		10	10	100	
	3		10	8	80	
	4		10	9	90	
	5		10	9	90	
	1	50	10	10	100	96
	2		10	10	100	
	3		10	9	90	
	4		10	9	90	
	5		10	10	100	
	1	100	10	10	100	92
	2		10	9	90	
	3		10	10	100	
	4		10	9	90	
	5		10	8	80	
WUTB12	1	10	10	9	90	92
	2		10	10	100	
	3		10	9	90	
	4		10	9	90	
	5		10	9	90	
	1	50	10	10	100	88
	2		10	7	70	
	3		10	8	80	
	4		10	9	90	
	5		10	10	100	
	1	100	10	0	0	18
	2		10	2	20	
	3		10	1	10	
	4		10	1	10	
	5		10	5	50	
BENW12	1	10	10	9	90	92
	2		10	9	90	
	3		10	10	100	
	4		10	9	90	
	5		10	9	90	
	1	50	10	9	90	94
	2		10	9	90	
	3		10	9	90	
	4		10	10	100	
	5		10	10	100	
	1	100	10	9	90	88
	2		10	9	90	
	3		10	8	80	
	4		10	9	90	
	5		10	9	90	

TABLE 18 (*continued*)
Survival Data for *Menidia beryllina* (Water Column Test)

Sample ID	Replicate	Concentration (%)	# of Organisms		% Survival	Mean Survival (%)
			Initial	Final		
HGIW12	1	10	10	10	100	88
	2		10	7	70	
	3		10	9	90	
	4		10	9	90	
	5		10	9	90	
	1	50	10	9	90	98
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
	1	100	10	9	90	94
	2		10	9	90	
	3		10	10	100	
	4		10	9	90	
	5		10	10	100	
WRTB12	1	10	10	9	90	92
	2		10	9	90	
	3		10	10	100	
	4		10	10	100	
	5		10	8	80	
	1	50	10	9	90	92
	2		10	7	70	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
	1	100	10	9	90	82
	2		10	9	90	
	3		10	9	90	
	4		10	8	80	
	5		10	6	60	
WLRW12	1	10	10	9	90	90
	2		10	9	90	
	3		10	8	80	
	4		10	9	90	
	5		10	10	100	
	1	50	10	10	100	92
	2		10	9	90	
	3		10	8	80	
	4		10	10	100	
	5		10	9	90	
	1	100	10	9	90	90
	2		10	8	80	
	3		10	10	100	
	4		10	9	90	
	5		10	9	90	

TABLE 18 (*continued*)
Survival Data for *Menidia beryllina* (Water Column Test)

Sample ID	Replicate	Concentration (%)	# of Organisms		% Survival	Mean Survival (%)
			Initial	Final		
ABMA12	1	10	10	8	80	84
	2		10	8	80	
	3		10	7	70	
	4		10	10	100	
	5		10	9	90	
	1	50	10	6	60	64
	2		10	7	70	
	3		10	6	60	
	4		10	8	80	
	5		10	5	50	
	1	100	10	0	0	0
	2		10	0	0	
	3		10	0	0	
	4		10	0	0	
	5		10	0	0	
SHCR12	1	10	10	8	80	96
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
	1	50	10	3	30	68
	2		10	5	50	
	3		10	8	80	
	4		10	9	90	
	5		10	9	90	
	1	100	10	0	0	0
	2		10	0	0	
	3		10	0	0	
	4		10	0	0	
	5		10	0	0	
Batch 5 (December 7 – 11, 2012)						
Control*	1	0	10	10	100	100
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
ECSW12 (Site Water)	1	Site water not run with this set of tests.				
	2					
	3					
	4					
	5					

TABLE 18 (*continued*)
Survival Data for *Menidia beryllina* (Water Column Test)

Sample ID	Replicate	Concentration (%)	# of Organisms		% Survival	Mean Survival (%)
			Initial	Final		
CHEC12-1	1	10	10	10	100	100
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
	1	50	10	10	100	98
	2		10	9	90	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
	1	100	10	1	10	18
	2		10	2	20	
	3		10	1	10	
	4		10	3	30	
	5		10	2	20	
CHEC12-2	1	10	10	10	100	100
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
	1	50	10	10	100	100
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
	1	100	10	9	90	96
	2		10	10	100	
	3		10	9	90	
	4		10	10	100	
	5		10	10	100	
MTPL12	1	10	10	10	100	98
	2		10	10	100	
	3		10	10	100	
	4		10	9	90	
	5		10	10	100	
	1	50	10	10	100	100
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	
	1	100	10	10	100	100
	2		10	10	100	
	3		10	10	100	
	4		10	10	100	
	5		10	10	100	

* Water for control and dilution originated from the northern portion of Hood Canal (part of Puget Sound) at Port Gamble, Washington.
Source: NewFields Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 19
Summary of Ammonia and Survival Data for *Mytilus galloprovincialis* (Water Column Test)

Sample ID	Concentration (%)	Total Ammonia (mg/L)		Un-ionized Ammonia (mg/L)		Mean Normal Survivorship[1,2] (%)	Standard Deviation	Statistically Less Than Control (yes/no)	Statistically Less Than Site Water (yes/no)	EC_{50}[2,3] (%)
		Day 0	Day 2	Day 0	Day 2					
Batch 1 (November 29 - December 1, 2012)										
Control*		<0.5	<0.5	<0.004	<0.010	94.2	2.9	--	--	
UHSW12 (Site Water)		<0.5	<0.5	<0.008	<0.008	94.2	2.0	No	--	
DANI12	1	<0.5	<0.5	<0.006	<0.007	89.7	2.9	--	--	57.0%
	10	1.21	<0.5	**0.015**	<0.007	86.8	2.3	--	--	
	25	**3.72**	0.81	**0.047**	**0.011**	88.9	3.2	--	--	
	50	**7.46**	1.66	**0.118**	**0.028**	50.8	5.4	--	--	
	100	**15.1**	3.21	**0.302**	**0.067**	0.0	0.0	Yes	Yes	
DANI12 AR	1	<0.5	<0.5	<0.006	<0.007	95.3	1.5	--	--	>100%
	10	<0.5	<0.5	<0.006	<0.008	98.0	1.1	--	--	
	25	<0.5	<0.5	<0.008	<0.008	96.2	2.7	--	--	
	50	<0.5	<0.5	<0.008	<0.008	95.2	2.6	--	--	
	100	<0.5	<0.5	<0.010	<0.010	83.6	4.2	No	Yes	
CCRK12	1	<0.5	<0.5	<0.006	<0.008	98.3	1.7	--	--	68.8%
	10	0.545	<0.5	0.007	<0.008	100	0.0	--	--	
	25	1.88	0.524	**0.030**	0.009	98.6	0.9	--	--	
	50	**4.24**	1.13	**0.084**	**0.024**	93.6	3.0	--	--	
	100	**8.57**	2.21	**0.269**	**0.058**	0.1	0.1	Yes	Yes	
CCRK12 AR	1	<0.5	<0.5	<0.006	<0.008	99.1	0.9	--	--	>100%
	10	<0.5	<0.5	<0.006	<0.008	95.6	3.4	--	--	
	25	<0.5	<0.5	<0.008	<0.008	90.3	1.4	--	--	
	50	<0.5	<0.5	<0.008	<0.008	95.2	4.1	--	--	
	100	<0.5	<0.5	<0.010	<0.010	98.5	0.6	No	No	
NYNC12	1	<0.5	<0.5	<0.006	<0.008	96.3	1.9	--	--	69.6%
	10	<0.5	<0.5	<0.006	<0.008	97.6	1.8	--	--	
	25	1.38	0.503	**0.017**	0.008	99.0	1.0	--	--	
	50	3.06	1.00	**0.049**	**0.021**	94.5	2.9	--	--	
	100	**6.43**	1.93	**0.129**	**0.051**	0.0	0.0	Yes	Yes	
NYNC12 AR	1	<0.5	<0.5	<0.006	<0.007	98.2	1.4	--	--	>100%
	10	<0.5	<0.5	<0.006	<0.007	97.5	2.3	--	--	
	25	<0.5	<0.5	<0.006	<0.008	99.6	0.4	--	--	
	50	<0.5	<0.5	<0.008	<0.008	98.8	1.2	--	--	
	100	<0.5	<0.5	**<0.012**	<0.010	97.6	1.5	No	No	
PTFC12	1	<0.5	<0.5	<0.005	<0.007	99.3	0.5	--	--	63.1%
	10	<0.5	<0.5	<0.006	<0.008	95.2	2.0	--	--	
	25	1.28	0.59	**0.020**	**0.015**	96.0	1.8	--	--	
	50	3.01	1.64	**0.060**	**0.034**	84.6	2.6	--	--	
	100	**6.14**	3.04	**0.193**	**0.100**	0.0	0.0	Yes	Yes	
PTFC12 AR	1	<0.5	<0.5	<0.006	<0.008	98.6	0.9	--	--	>100%
	10	<0.5	<0.5	<0.006	<0.007	94.1	1.3	--	--	
	25	<0.5	<0.5	<0.006	<0.008	96.1	3.5	--	--	
	50	<0.5	<0.5	<0.008	<0.008	95.1	2.8	--	--	
	100	<0.5	<0.5	<0.010	<0.010	97.9	1.3	No	No	
ORDT12	1	<0.5	<0.5	<0.006	<0.008	95.2	2.9	--	--	35.2%
	10	<0.5	<0.5	<0.006	<0.008	96.8	3.2	--	--	
	25	1.56	1.01	**0.025**	**0.021**	93.0	3.1	--	--	
	50	3.15	2.00	**0.063**	**0.052**	2.2	0.6	--	--	
	100	**6.73**	**4.03**	**0.211**	**0.132**	0.0	0.0	Yes	Yes	
ORDT12 AR	1	<0.5	<0.5	<0.006	<0.007	100.0	0.0	--	--	>100%
	10	<0.5	<0.5	<0.006	<0.008	95.7	2.5	--	--	
	25	<0.5	<0.5	<0.006	<0.008	99.0	0.7	--	--	
	50	<0.5	<0.5	<0.008	<0.008	98.6	1.5	--	--	
	100	<0.5	<0.5	**<0.012**	<0.010	98.1	1.9	No	No	

TABLE 19 ***(continued)***

Summary of Ammonia and Survival Data for *Mytilus galloprovincialis* (Water Column Test)

Sample ID	Concentration (%)	Total Ammonia (mg/L)		Un-ionized Ammonia (mg/L)		Mean Normal Survivorship[1,2] (%)	Standard Deviation	Statistically Less Than Control (yes/no)	Statistically Less Than Site Water (yes/no)	EC_{50}[2,3] (%)
		Day 0	Day 2	Day 0	Day 2					
Batch 1 (November 29 - December 1, 2012)										
DANW12	1	<0.5	<0.5	<0.006	<0.008	98.9	0.7	--	--	42.0%
	10	<0.5	0.728	<0.006	**0.012**	97.6	1.8	--	--	
	25	1.21	1.57	**0.015**	**0.032**	98.7	0.8	--	--	
	50	3.03	3.05	**0.048**	**0.063**	24.1	0.6	--	--	
	100	**5.99**	**5.60**	**0.150**	**0.147**	0.0	0.0	Yes	Yes	
DANW12 AR	1	<0.5	<0.5	<0.006	<0.008	90.8	5.4	--	--	>100%
	10	<0.5	<0.5	<0.006	<0.008	96.5	1.7	--	--	
	25	<0.5	<0.5	<0.006	<0.008	96.5	2.3	--	--	
	50	<0.5	<0.5	<0.008	<0.008	96.9	2.3	--	--	
	100	<0.5	<0.5	<0.010	<0.008	93.2	2.2	No	No	
NCW12	1	<0.5	<0.5	<0.006	<0.008	98.2	0.5	--	--	67.9%
	10	<0.5	<0.5	<0.006	<0.008	98.8	0.9	--	--	
	25	0.69	0.823	0.009	**0.014**	96.0	2.4	--	--	
	50	1.63	1.57	**0.026**	**0.026**	92.7	9.7	--	--	
	100	**3.68**	3.11	**0.074**	**0.081**	0.0	0.0	Yes	Yes	
NCW12 AR	1	<0.5	<0.5	<0.006	<0.008	92.6	3.8	--	--	>100%
	10	<0.5	<0.5	<0.006	<0.008	97.0	1.6	--	--	
	25	<0.5	<0.5	<0.006	<0.010	96.7	2.9	--	--	
	50	<0.5	<0.5	<0.008	<0.010	98.5	1.5	--	--	
	100	<0.5	<0.5	<0.010	<0.010	96.3	2.3	No	No	
ECSW12 (Site Water)		<0.5	<0.5	**<0.015**	**<0.016**	94.3	3.7	No	--	
CHEC12-2	1	<0.5	<0.5	<0.006	<0.007	98.7	1.0	--	--	51.2%
	10	<0.5	<0.5	<0.006	<0.007	94.2	2.3	--	--	
	25	0.635	0.817	0.010	**0.013**	90.5	3.3	--	--	
	50	1.84	1.66	**0.036**	**0.034**	63.8	5.7	--	--	
	100	**3.99**	3.29	**0.098**	**0.085**	0.0	0.0	Yes	Yes	
CHEC12-2 AR	1	<0.5	<0.5	<0.006	<0.008	97.8	1.1	--	--	>100%
	10	<0.5	<0.5	<0.006	<0.007	92.1	3.8	--	--	
	25	<0.5	<0.5	<0.006	<0.007	94.2	1.8	--	--	
	50	<0.5	<0.5	<0.008	<0.008	91.1	3.2	--	--	
	100	<0.5	<0.5	<0.010	<0.008	93.4	2.6	No	No	
MTPL12	1	<0.5	<0.5	<0.006	<0.008	98.0	1.0	--	--	>100%
	10	<0.5	<0.5	<0.006	<0.007	94.0	3.8	--	--	
	25	<0.5	<0.5	<0.008	<0.007	88.8	4.6	--	--	
	50	<0.5	<0.5	<0.008	<0.007	98.1	1.1	--	--	
	100	<0.5	<0.5	**<0.012**	<0.007	83.2	3.8	No	Yes	
MTPL12 AR	1 10 25 50 100	Ammonia reduction not performed on this sample.								

TABLE 19 ***(continued)***

Summary of Ammonia and Survival Data for *Mytilus galloprovincialis* (Water Column Test)

Sample ID	Concentration (%)	Total Ammonia (mg/L)		Un-ionized Ammonia (mg/L)		Mean Normal Survivorship[1,2] (%)	Standard Deviation	Statistically Less Than Control (yes/no)	Statistically Less Than Site Water (yes/no)	EC_{50}[2,3] (%)
		Day 0	Day 2	Day 0	Day 2					
Batch 2 (December 7-9, 2012)										
Control*		<0.5	<0.5	<0.004	<0.010	92.7	4.8	--	--	
ECSW12 (Site Water)		<0.5	<0.5	<0.006	<0.012	90.8	6.9	No	--	
CHEC12-1	1	<0.5	<0.5	<0.006	<0.013	91.2	3.4	--	--	29.5%
	10	<0.5	<0.5	<0.006	<0.013	87.1	1.7	--	--	
	25	0.909	1.06	0.018	0.034	79.7	4.2	--	--	
	50	**1.97**	**1.94**	0.049	**0.076**	0.0	0.0	--	--	
	100	**4.13**	**4.41**	**0.127**	**0.215**	0.0	0.0	Yes	Yes	
CHEC12-1 AR	1	<0.5	<0.5	<0.010	<0.010	95.3	1.1	--	--	>100%
	10	<0.5	<0.5	<0.008	<0.010	99.0	0.6	--	--	
	25	<0.5	<0.5	<0.008	<0.010	97.0	1.6	--	--	
	50	0.595	<0.5	0.012	<0.013	91.4	2.2	--	--	
	100	1.23	0.959	0.031	0.030	89.4	2.3	No	No	
LHSW12 (Site Water)		<0.5	<0.5	<0.006	<0.012	93.5	2.4	No	--	
REHR12	1	<0.5	<0.5	<0.008	<0.010	94.5	2.3	--	--	55.3%
	10	<0.5	<0.5	<0.008	<0.010	96.0	2.4	--	--	
	25	0.519	0.647	0.010	0.016	86.9	1.3	--	--	
	50	1.21	1.29	0.030	0.032	69.7	3.3	--	--	
	100	**2.66**	**3.08**	**0.082**	**0.096**	0.0	0.0	Yes	Yes	
REHR12 AR	1	<0.5	<0.5	<0.008	<0.010	96.1	2.3	--	--	>100%
	10	<0.5	<0.5	<0.008	<0.010	96.0	1.7	--	--	
	25	<0.5	<0.5	<0.010	<0.010	95.7	2.7	--	--	
	50	<0.5	<0.5	<0.010	<0.010	94.3	2.4	--	--	
	100	<0.5	<0.5	<0.012	<0.010	96.7	2.0	No	No	
HGIS12	1	<0.5	<0.5	<0.008	<0.010	95.6	1.7	--	--	>100%
	10	<0.5	<0.5	<0.008	<0.010	89.4	1.8	--	--	
	25	<0.5	<0.5	<0.010	<0.010	92.7	3.3	--	--	
	50	0.521	0.531	0.010	0.013	93.5	2.8	--	--	
	100	1.19	1.50	0.029	0.037	71.4	5.2	Yes	Yes	
HGIS12 AR	1	<0.5	<0.5	<0.008	<0.008	91.2	1.4	--	--	>100%
	10	<0.5	<0.5	<0.008	<0.010	96.2	1.7	--	--	
	25	<0.5	<0.5	<0.010	<0.010	88.9	0.6	--	--	
	50	<0.5	<0.5	<0.010	<0.010	89.7	1.1	--	--	
	100	<0.5	<0.5	<0.012	<0.012	91.8	2.1	No	No	
DRMY12	1	<0.5	<0.5	<0.010	<0.010	98.2	1.1	--	--	22.0%
	10	0.502	0.511	0.010	0.013	96.0	3.3	--	--	
	25	1.38	1.65	0.043	0.052	39.0	1.7	--	--	
	50	**2.93**	**2.79**	**0.113**	**0.110**	0.0	0.0	--	--	
	100	**5.97**	**6.44**	**0.286**	**0.313**	0.0	0.0	Yes	Yes	
DRMY12 AR	1	<0.5	<0.5	<0.008	<0.010	96.9	1.7	--	--	>100%
	10	<0.5	<0.5	<0.008	<0.010	93.7	1.0	--	--	
	25	<0.5	<0.5	<0.010	<0.010	88.5	3.4	--	--	
	50	<0.5	<0.5	<0.010	<0.010	91.6	3.8	--	--	
	100	0.913	0.527	0.022	0.013	93.7	2.9	No	No	

TABLE 19 ***(continued)***

Summary of Ammonia and Survival Data for *Mytilus galloprovincialis* (Water Column Test)

Sample ID	Concentration (%)	Total Ammonia (mg/L) Day 0	Total Ammonia (mg/L) Day 2	Un-ionized Ammonia (mg/L) Day 0	Un-ionized Ammonia (mg/L) Day 2	Mean Normal Survivorship[1,2] (%)	Standard Deviation	Statistically Less Than Control (yes/no)	Statistically Less Than Site Water (yes/no)	EC_{50}[2,3] (%)
Batch 2 (December 7-9, 2012)										
WLR12	1	<0.5	<0.5	<0.010	<0.010	95.9	2.2	--	--	92.3%
	10	<0.5	<0.5	<0.010	<0.013	95.0	3.1	--	--	
	25	<0.5	<0.5	<0.010	<0.013	94.7	3.2	--	--	
	50	0.751	0.84	0.015	**0.021**	92.0	2.7	--	--	
	100	1.53	1.55	**0.059**	**0.048**	41.4	4.3	Yes	Yes	
WLR12 AR	1	<0.5	<0.5	<0.008	<0.010	91.2	4.5	--	--	>100%
	10	<0.5	<0.5	<0.010	<0.010	93.0	2.4	--	--	
	25	<0.5	<0.5	<0.010	<0.010	95.8	0.8	--	--	
	50	<0.5	<0.5	<0.012	<0.010	95.7	2.8	--	--	
	100	<0.5	0.538	<0.015	0.013	96.5	2.1	No	No	
WUTB12	1	<0.5	<0.5	<0.010	<0.013	94.5	1.7	--	--	29.9%
	10	<0.5	<0.5	<0.010	<0.013	92.0	3.0	--	--	
	25	1.01	0.97	**0.025**	**0.031**	77.3	2.5	--	--	
	50	**2.18**	**2.58**	**0.068**	**0.101**	0.0	0.0	--	--	
	100	**4.59**	**4.74**	**0.178**	**0.232**	0.0	0.0	Yes	Yes	
WUTB12 AR	1	<0.5	<0.5	<0.010	<0.010	96.5	2.7	--	--	>100%
	10	<0.5	<0.5	<0.010	<0.010	95.6	1.6	--	--	
	25	<0.5	<0.5	<0.010	<0.010	95.8	2.7	--	--	
	50	<0.5	<0.5	<0.012	<0.012	95.6	1.8	--	--	
	100	0.858	0.737	**0.026**	**0.018**	86.9	2.8	No	No	
BENW12	1	<0.5	<0.5	<0.010	<0.010	93.9	2.7	--	--	73.1%
	10	<0.5	<0.5	<0.010	<0.010	92.6	3.1	--	--	
	25	<0.5	<0.5	<0.010	<0.013	92.5	2.0	--	--	
	50	0.970	0.759	**0.024**	**0.019**	89.9	2.0	--	--	
	100	**2.06**	1.65	**0.079**	**0.052**	11.0	0.8	Yes	Yes	
BENW12 AR	1	<0.5	<0.5	<0.008	<0.010	95.8	1.9	--	--	>100%
	10	<0.5	<0.5	<0.008	<0.010	93.6	3.4	--	--	
	25	<0.5	<0.5	<0.010	<0.010	93.2	3.0	--	--	
	50	<0.5	<0.5	<0.010	<0.010	91.9	3.7	--	--	
	100	<0.5	<0.5	<0.012	<0.012	95.5	2.0	No	No	
HGIW12	1	<0.5	<0.5	<0.010	<0.010	94.1	6.9	--	--	64.8%
	10	<0.5	<0.5	<0.010	<0.010	90.8	9.2	--	--	
	25	0.559	0.609	0.014	0.015	94.0	4.7	--	--	
	50	1.15	1.34	**0.028**	**0.034**	81.9	5.2	--	--	
	100	**2.21**	**2.16**	**0.085**	**0.068**	0.0	0.0	Yes	Yes	
HGIW12 AR	1	<0.5	<0.5	<0.010	<0.005	94.8	1.4	--	--	>100%
	10	<0.5	<0.5	<0.010	<0.008	94.9	2.6	--	--	
	25	<0.5	<0.5	<0.010	<0.010	94.1	3.5	--	--	
	50	0.516	1.29	0.013	**0.026**	97.0	2.4	--	--	
	100	1.06	**2.64**	**0.032**	**0.064**	92.4	3.3	No	No	
WRTB12	1	<0.5	<0.5	<0.010	<0.010	94.3	2.8	--	--	56.3%
	10	<0.5	<0.5	<0.010	<0.010	96.0	2.9	--	--	
	25	0.772	0.872	**0.019**	**0.022**	93.6	2.4	--	--	
	50	1.61	1.64	**0.050**	**0.052**	64.4	4.2	--	--	
	100	**3.33**	**3.46**	**0.129**	**0.136**	0.0	0.0	Yes	Yes	
WRTB12 AR	1	<0.5	<0.5	<0.010	<0.010	94.0	4.2	--	--	>100%
	10	<0.5	<0.5	<0.010	<0.010	95.6	2.8	--	--	
	25	<0.5	<0.5	<0.010	<0.010	91.6	2.2	--	--	
	50	<0.5	0.554	<0.012	0.014	96.0	1.4	--	--	
	100	1.03	1.22	**0.031**	**0.030**	93.2	2.5	No	No	

TABLE 19 ***(continued)***
Summary of Ammonia and Survival Data for *Mytilus galloprovincialis* (Water Column Test)

Sample ID	Concentration (%)	Total Ammonia (mg/L) Day 0	Total Ammonia (mg/L) Day 2	Un-ionized Ammonia (mg/L) Day 0	Un-ionized Ammonia (mg/L) Day 2	Mean Normal Survivorship[1,2] (%)	Standard Deviation	Statistically Less Than Control (yes/no)	Statistically Less Than Site Water (yes/no)	EC_{50}[2,3] (%)
Batch 2 (December 7-9, 2012)										
WLRW12	1	<0.5	<0.5	<0.010	<0.013	92.5	3.2	--	--	>100%
	10	<0.5	<0.5	<0.010	<0.010	93.9	2.9	--	--	
	25	<0.5	<0.5	<0.010	<0.013	92.9	1.3	--	--	
	50	<0.5	<0.5	<0.012	<0.013	94.8	2.3	--	--	
	100	0.765	1.05	**0.024**	**0.033**	81.9	2.4	No	No	
WLRW12 AR	1	<0.5	<0.5	<0.010	<0.010	92.7	3.1	--	--	>100%
	10	<0.5	<0.5	<0.008	<0.010	94.7	0.7	--	--	
	25	<0.5	<0.5	<0.010	<0.010	96.0	2.1	--	--	
	50	<0.5	<0.5	<0.010	<0.010	90.8	3.7	--	--	
	100	<0.5	<0.5	<0.012	<0.012	92.4	2.5	No	No	
ABMA12	1	<0.5	<0.5	<0.010	<0.013	94.0	2.5	--	--	20.0%
	10	0.511	0.554	0.013	0.014	90.1	0.8	--	--	
	25	1.45	1.52	**0.045**	**0.048**	33.6	3.0	--	--	
	50	**2.77**	**2.45**	**0.107**	**0.096**	0.0	0.0	--	--	
	100	**5.93**	**6.14**	**0.284**	**0.299**	0.0	0.0	Yes	Yes	
ABMA12 AR	1	<0.5	<0.5	<0.010	<0.010	95.0	2.7	--	--	>100%
	10	<0.5	<0.5	<0.010	<0.010	91.8	3.1	--	--	
	25	<0.5	<0.5	<0.010	<0.010	92.5	2.1	--	--	
	50	<0.5	<0.5	<0.010	<0.012	96.8	3.1	--	--	
	100	<0.5	<0.5	<0.012	<0.012	94.4	3.0	No	No	
SHCR12	1	<0.5	<0.5	<0.010	<0.013	92.1	2.7	--	--	17.5%
	10	0.541	0.734	0.013	**0.019**	85.3	1.7	--	--	
	25	1.31	1.66	**0.051**	**0.066**	25.8	2.3	--	--	
	50	**2.54**	**2.80**	**0.152**	**0.137**	0.0	0.0	--	--	
	100	**5.58**	**6.55**	**0.413**	**0.491**	0.0	0.0	Yes	Yes	
SHCR12 AR	1	<0.5	<0.5	<0.008	<0.010	96.9	1.9	--	--	>100%
	10	<0.5	<0.5	<0.008	<0.010	96.4	1.9	--	--	
	25	<0.5	<0.5	<0.010	<0.013	91.2	2.0	--	--	
	50	<0.5	<0.5	<0.012	0.013	95.2	1.4	--	--	
	100	0.895	0.746	**0.028**	**0.023**	94.2	2.9	No	No	

* Water for control and dilution originated from the northern portion of Hood Canal (part of Puget Sound) at Port Gamble, Washington.
[1] Calculated as the number of normally developed embryos + number of embryos stocked (stocking density).
[2] Values derived from CETIS statistical output.
[3] EC_{50} = effective concentration affecting 50% of the population
Bold = Value exceeds respective concurrent reference-toxicant test derived NOEC:
Nov. 29, 2012: 3.6 mg/L (total ammonia) or 0.011 mg/L (un-ionized ammonia)
Dec. 7, 2012: 1.7 mg/L (total ammonia) or 0.016 mg/L (un-ionized ammonia)
AR = Ammonia reduced

Source: NewFields
Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 20

Normality Data for *Mytilus galloprovincialis* (Water Column Test)

Sample ID	Replicate	Concentration (%)	Initial Embryo Stocking Density[1]	# of Organisms Normal	# of Organisms Abnormal	Combined Proportion Normal[1] (%)	Mean % Combined Proportion Normal
Batch 1 (November 29 - December 1, 2012)							
Control[2]	1	0	214	213	7	100	94
	2			184	8	86	
	3			207	11	97	
	4			190	11	89	
	5			223	10	100	
UHSW12 (Site Water)	1	0	214	194	2	91	94
	2			195	12	91	
	3			210	8	98	
	4			195	14	91	
	5			217	4	100	
DANI12	1	1	214	211	10	99	100
	2			245	11	100	
	3			200	7	100	
	4			219	9	100	
	5			189	10	100	
	1	10	214	216	14	100	100
	2			202	6	100	
	3			238	4	100	
	4			179	11	100	
	5			216	8	100	
	1	25	214	224	9	100	99
	2			185	8	100	
	3			217	17	100	
	4			217	12	100	
	5			203	7	95	
	1	50	214	105	122	49	66
	2			126	87	59	
	3			147	79	69	
	4			172	50	80	
	5			155	45	72	
	1	100	214	0	214	0	0
	2			0	213	0	
	3			0	191	0	
	4			0	217	0	
	5			0	180	0	
DANI12 AR	1	1	214	216	14	100	95
	2			199	9	93	
	3			209	9	98	
	4			196	13	92	
	5			202	9	94	
	1	10	214	218	5	100	98
	2			228	11	100	
	3			205	7	96	
	4			203	12	95	
	5			213	11	100	
	1	25	214	215	12	100	96
	2			218	11	100	
	3			202	11	94	
	4			214	12	100	
	5			185	9	86	
	1	50	214	230	7	100	95
	2			199	26	93	
	3			209	13	98	
	4			184	12	86	
	5			213	7	100	
	1	100	214	198	6	93	84
	2			203	6	95	
	3			159	15	74	
	4			164	12	77	
	5			170	17	79	

TABLE 20 (*continued*)

Normality Data for *Mytilus galloprovincialis* (Water Column Test)

Sample ID	Replicate	Concentration (%)	Initial Embryo Stocking Density[1]	# of Organisms Normal	# of Organisms Abnormal	Combined Proportion Normal[1] (%)	Mean % Combined Proportion Normal
CCRK12	1	1	214	196	10	92	98
	2			223	8	100	
	3			229	8	100	
	4			218	7	100	
	5			237	8	100	
	1	10	214	239	7	100	100
	2			234	10	100	
	3			224	11	100	
	4			234	3	100	
	5			225	8	100	
	1	25	214	216	10	100	99
	2			230	7	100	
	3			226	10	100	
	4			207	10	97	
	5			206	9	96	
	1	50	214	206	19	96	94
	2			206	14	96	
	3			199	27	93	
	4			227	16	100	
	5			177	21	83	
	1	100	214	1	242	0	0
	2			0	219	0	
	3			0	214	0	
	4			1	175	0	
	5			0	158	0	
CCRK12 AR	1	1	214	238	12	100	99
	2			204	5	95	
	3			227	16	100	
	4			223	13	100	
	5			247	7	100	
	1	10	214	207	5	97	96
	2			176	11	82	
	3			221	11	100	
	4			219	8	100	
	5			212	9	99	
	1	25	214	187	10	87	90
	2			188	17	88	
	3			197	4	92	
	4			191	16	89	
	5			203	8	95	
	1	50	214	169	4	79	95
	2			228	7	100	
	3			241	9	100	
	4			208	9	97	
	5			220	9	100	
	1	100	214	208	10	97	99
	2			209	5	98	
	3			218	4	100	
	4			225	5	100	
	5			209	10	98	

TABLE 20 (*continued*)

Normality Data for *Mytilus galloprovincialis* (Water Column Test)

Sample ID	Replicate	Concentration (%)	Initial Embryo Stocking Density[1]	# of Organisms Normal	# of Organisms Abnormal	Combined Proportion Normal[1] (%)	Mean % Combined Proportion Normal
NYNC12	1	1	214	205	8	96	96
	2			205	4	96	
	3			231	6	100	
	4			223	4	100	
	5			192	7	90	
	1	10	214	194	7	91	98
	2			238	4	100	
	3			240	7	100	
	4			208	8	97	
	5			228	8	100	
	1	25	214	203	8	95	99
	2			215	5	100	
	3			218	5	100	
	4			222	10	100	
	5			225	8	100	
	1	50	214	221	20	100	94
	2			185	17	86	
	3			190	13	89	
	4			209	16	98	
	5			213	13	100	
	1	100	214	0	227	0	0
	2			0	218	0	
	3			0	201	0	
	4			0	214	0	
	5			0	239	0	
NYNC12 AR	1	1	214	214	11	100	98
	2			224	7	100	
	3			210	5	98	
	4			227	7	100	
	5			199	2	93	
	1	10	214	220	7	100	97
	2			219	8	100	
	3			189	6	88	
	4			230	3	100	
	5			212	6	99	
	1	25	214	216	10	100	100
	2			216	6	100	
	3			210	6	98	
	4			248	11	100	
	5			215	5	100	
	1	50	214	245	5	100	99
	2			222	6	100	
	3			218	6	100	
	4			244	8	100	
	5			201	4	94	
	1	100	214	197	4	92	98
	2			221	4	100	
	3			207	7	97	
	4			212	12	99	
	5			225	9	100	

TABLE 20 (*continued*)

Normality Data for *Mytilus galloprovincialis* (Water Column Test)

Sample ID	Replicate	Concentration (%)	Initial Embryo Stocking Density[1]	# of Organisms Normal	# of Organisms Abnormal	Combined Proportion Normal[1] (%)	Mean % Combined Proportion Normal
PTFC12	1	1	214	211	5	99	99
	2			209	9	98	
	3			222	15	100	
	4			215	4	100	
	5			233	13	100	
	1	10	214	191	15	89	95
	2			210	9	98	
	3			249	8	100	
	4			197	7	92	
	5			207	6	97	
	1	25	214	232	7	100	96
	2			217	7	100	
	3			206	8	96	
	4			197	10	92	
	5			196	11	92	
	1	50	214	195	23	91	85
	2			163	30	76	
	3			174	39	81	
	4			185	22	86	
	5			188	49	88	
	1	100	214	0	131	0	0
	2			0	217	0	
	3			0	177	0	
	4			0	193	0	
	5			0	175	0	
PTFC12 AR	1	1	214	225	7	100	99
	2			204	2	95	
	3			219	6	100	
	4			209	3	98	
	5			221	7	100	
	1	10	214	196	11	92	94
	2			211	13	99	
	3			203	5	95	
	4			201	1	94	
	5			196	13	92	
	1	25	214	246	8	100	96
	2			219	7	100	
	3			211	5	99	
	4			176	8	82	
	5			213	8	100	
	1	50	214	182	6	85	95
	2			212	8	99	
	3			229	6	100	
	4			210	4	98	
	5			200	2	93	
	1	100	214	199	6	93	98
	2			210	2	98	
	3			211	1	99	
	4			225	8	100	
	5			214	12	100	

TABLE 20 (*continued*)

Normality Data for *Mytilus galloprovincialis* (Water Column Test)

Sample ID	Replicate	Concentration (%)	Initial Embryo Stocking Density[1]	# of Organisms Normal	# of Organisms Abnormal	Combined Proportion Normal[1] (%)	Mean % Combined Proportion Normal
ORDT12	1	1	214	213	10	100	95
	2			185	3	86	
	3			193	10	90	
	4			227	5	100	
	5			214	8	100	
	1	10	214	221	15	100	97
	2			216	6	100	
	3			255	16	100	
	4			180	6	84	
	5			245	8	100	
	1	25	214	222	8	100	93
	2			183	9	86	
	3			184	9	86	
	4			204	12	95	
	5			210	15	98	
	1	50	214	7	206	3	2
	2			7	175	3	
	3			5	240	2	
	4			0	233	0	
	5			4	219	2	
	1	100	214	0	221	0	0
	2			0	189	0	
	3			0	214	0	
	4			0	240	0	
	5			0	224	0	
ORDT12 AR	1	1	214	218	11	100	100
	2			223	8	100	
	3			221	4	100	
	4			216	5	100	
	5			225	3	100	
	1	10	214	224	5	100	96
	2			193	8	90	
	3			212	7	99	
	4			191	3	89	
	5			215	6	100	
	1	25	214	207	4	97	99
	2			222	1	100	
	3			233	10	100	
	4			229	9	100	
	5			210	10	98	
	1	50	214	212	6	99	98
	2			211	6	99	
	3			196	2	92	
	4			240	11	100	
	5			211	9	99	
	1	100	214	218	5	100	98
	2			231	8	100	
	3			224	2	100	
	4			194	11	91	
	5			216	3	100	

TABLE 20 (*continued*)

Normality Data for *Mytilus galloprovincialis* (Water Column Test)

Sample ID	Replicate	Concentration (%)	Initial Embryo Stocking Density[1]	# of Organisms Normal	# of Organisms Abnormal	Combined Proportion Normal[1] (%)	Mean % Combined Proportion Normal
DANW12	1	1	214	227	8	100	99
	2			233	7	100	
	3			206	14	96	
	4			228	7	100	
	5			210	6	98	
	1	10	214	233	11	100	98
	2			222	8	100	
	3			249	11	100	
	4			194	8	91	
	5			208	16	97	
	1	25	214	208	16	97	99
	2			214	11	100	
	3			216	10	100	
	4			206	12	96	
	5			246	13	100	
	1	50	214	54	168	25	24
	2			49	181	23	
	3			55	165	26	
	4			48	172	22	
	5			52	190	24	
	1	100	214	0	237	0	0
	2			0	161	0	
	3			0	231	0	
	4			0	237	0	
	5			0	215	0	
DANW12 AR	1	1	214	159	8	74	91
	2			210	6	98	
	3			175	5	82	
	4			216	3	100	
	5			233	14	100	
	1	10	214	194	6	91	97
	2			207	8	97	
	3			204	9	95	
	4			217	7	100	
	5			216	12	100	
	1	25	214	227	5	100	96
	2			216	4	100	
	3			226	9	100	
	4			199	7	93	
	5			191	8	89	
	1	50	214	189	8	88	97
	2			223	8	100	
	3			228	4	100	
	4			220	6	100	
	5			206	5	96	
	1	100	214	206	6	96	93
	2			202	3	94	
	3			181	9	85	
	4			204	6	95	
	5			204	6	95	

TABLE 20 (*continued*)

Normality Data for *Mytilus galloprovincialis* (Water Column Test)

Sample ID	Replicate	Concentration (%)	Initial Embryo Stocking Density[1]	# of Organisms Normal	# of Organisms Abnormal	Combined Proportion Normal[1] (%)	Mean % Combined Proportion Normal
NCW12	1	1	214	206	11	96	98
	2			212	6	99	
	3			211	12	99	
	4			212	11	99	
	5			210	12	98	
	1	10	214	229	9	100	99
	2			239	10	100	
	3			204	7	95	
	4			211	12	99	
	5			262	11	100	
	1	25	214	216	14	100	96
	2			186	15	87	
	3			225	16	100	
	4			208	11	97	
	5			205	12	96	
	1	50	214	192	12	90	93
	2			199	40	93	
	3			201	8	94	
	4			204	15	95	
	5			196	15	92	
	1	100	214	0	150	0	0
	2			0	151	0	
	3			0	139	0	
	4			0	233	0	
	5			0	167	0	
NCW12 AR	1	1	214	234	11	100	93
	2			201	10	94	
	3			170	5	79	
	4			192	10	90	
	5			253	6	100	
	1	10	214	195	5	91	97
	2			207	10	97	
	3			212	10	99	
	4			210	7	98	
	5			223	7	100	
	1	25	214	236	5	100	97
	2			211	7	99	
	3			222	14	100	
	4			182	6	85	
	5			223	4	100	
	1	50	214	219	5	100	99
	2			198	11	93	
	3			225	11	100	
	4			230	9	100	
	5			241	4	100	
	1	100	214	223	12	100	96
	2			217	6	100	
	3			235	10	100	
	4			195	11	91	
	5			193	7	90	

TABLE 20 (*continued*)

Normality Data for *Mytilus galloprovincialis* (Water Column Test)

Sample ID	Replicate	Concentration (%)	Initial Embryo Stocking Density[1]	# of Organisms Normal	# of Organisms Abnormal	Combined Proportion Normal[1] (%)	Mean % Combined Proportion Normal
ECSW12 (Site Water)	1	0	214	175	4	82	94
	2			192	9	90	
	3			214	11	100	
	4			221	4	100	
	5			219	6	100	
CHEC12-2	1	1	214	211	10	99	99
	2			203	4	95	
	3			225	13	100	
	4			224	10	100	
	5			214	11	100	
	1	10	214	203	11	95	94
	2			210	16	98	
	3			190	6	89	
	4			217	13	100	
	5			191	13	89	
	1	25	214	173	15	81	90
	2			199	2	93	
	3			198	5	93	
	4			184	13	86	
	5			219	10	100	
	1	50	214	102	49	48	64
	2			114	101	53	
	3			146	57	68	
	4			167	52	78	
	5			154	31	72	
	1	100	214	0	168	0	0
	2			0	152	0	
	3			0	196	0	
	4			0	178	0	
	5			0	170	0	
CHEC12-2 AR	1	1	214	205	5	96	98
	2			203	8	95	
	3			218	3	100	
	4			217	5	100	
	5			210	6	98	
	1	10	214	193	13	90	92
	2			216	8	100	
	3			193	11	90	
	4			171	8	80	
	5			216	18	100	
	1	25	214	197	10	92	94
	2			215	9	100	
	3			193	10	90	
	4			198	9	93	
	5			206	7	96	
	1	50	214	176	7	82	91
	2			188	11	88	
	3			231	7	100	
	4			191	6	89	
	5			206	19	96	
	1	100	214	186	6	87	93
	2			218	7	100	
	3			211	3	99	
	4			190	10	89	
	5			198	5	93	

TABLE 20 (*continued*)
Normality Data for *Mytilus galloprovincialis* (Water Column Test)

Sample ID	Replicate	Concentration (%)	Initial Embryo Stocking Density[1]	# of Organisms Normal	# of Organisms Abnormal	Combined Proportion Normal[1] (%)	Mean % Combined Proportion Normal
MTPL12	1	1	214	210	11	98	98
	2			223	11	100	
	3			202	17	94	
	4			209	18	98	
	5			239	12	100	
	1	10	214	189	7	88	94
	2			220	7	100	
	3			227	7	100	
	4			175	14	82	
	5			225	7	100	
	1	25	214	164	20	77	89
	2			212	13	99	
	3			183	12	86	
	4			218	11	100	
	5			177	20	83	
	1	50	214	201	10	94	98
	2			213	8	100	
	3			211	7	99	
	4			222	10	100	
	5			211	9	99	
	1	100	214	163	18	76	83
	2			184	8	86	
	3			172	21	80	
	4			164	6	77	
	5			207	12	97	
MTPL12 AR	1	1	214	Ammonia reduction was not run on this sample.			
	2						
	3						
	4						
	5						
	1	10	214				
	2						
	3						
	4						
	5						
	1	25	214				
	2						
	3						
	4						
	5						
	1	50	214				
	2						
	3						
	4						
	5						
	1	100	214				
	2						
	3						
	4						
	5						

TABLE 20 (*continued*)

Normality Data for *Mytilus galloprovincialis* (Water Column Test)

Sample ID	Replicate	Concentration (%)	Initial Embryo Stocking Density[1]	# of Organisms Normal	# of Organisms Abnormal	Combined Proportion Normal[1] (%)	Mean % Combined Proportion Normal
Batch 2 (December 7-9, 2012)							
Control[2]	1	0	292	256	4	88	93
	2			275	15	94	
	3			258	15	88	
	4			275	11	94	
	5			290	8	99	
ECSW12 (Site Water)	1	0	292	245	6	84	91
	2			268	8	92	
	3			275	9	94	
	4			310	10	100	
	5			245	14	84	
CHEC12-1	1	1	292	276	10	95	91
	2			234	8	80	
	3			298	9	100	
	4			255	8	87	
	5			274	8	94	
	1	10	292	245	7	84	87
	2			271	7	93	
	3			248	4	85	
	4			261	4	89	
	5			247	8	85	
	1	25	292	233	43	80	80
	2			187	29	64	
	3			253	38	87	
	4			236	56	81	
	5			254	49	87	
	1	50	292	0	273	0	0
	2			0	224	0	
	3			0	239	0	
	4			0	261	0	
	5			0	202	0	
	1	100	292	0	186	0	0
	2			0	156	0	
	3			0	176	0	
	4			0	186	0	
	5			0	120	0	
CHEC12-1 AR	1	1	292	276	22	95	95
	2			272	7	93	
	3			290	10	99	
	4			273	5	93	
	5			281	6	96	
	1	10	292	292	10	100	99
	2			283	11	97	
	3			291	5	100	
	4			287	12	98	
	5			294	14	100	
	1	25	292	302	15	100	97
	2			276	8	95	
	3			295	13	100	
	4			288	6	99	
	5			268	10	92	
	1	50	292	257	10	88	91
	2			255	7	87	
	3			291	12	100	
	4			268	14	92	
	5			264	13	90	
	1	100	292	250	14	86	89
	2			287	11	98	
	3			260	20	89	
	4			254	20	87	
	5			254	14	87	

TABLE 20 (*continued*)

Normality Data for *Mytilus galloprovincialis* (Water Column Test)

Sample ID	Replicate	Concentration (%)	Initial Embryo Stocking Density[1]	# of Organisms Normal	# of Organisms Abnormal	Combined Proportion Normal[1] (%)	Mean % Combined Proportion Normal
LHSW12 (Site Water)	1	0	292	265	6	91	92
	2			241	8	83	
	3			266	7	91	
	4			276	4	95	
	5			293	12	100	
REHR12	1	1	292	272	8	93	95
	2			254	13	87	
	3			294	11	100	
	4			274	8	94	
	5			288	1	99	
	1	10	292	270	12	92	96
	2			300	7	100	
	3			301	8	100	
	4			258	12	88	
	5			289	7	99	
	1	25	292	260	8	89	87
	2			241	7	83	
	3			263	9	90	
	4			252	10	86	
	5			253	7	87	
	1	50	292	233	71	80	70
	2			208	62	71	
	3			176	70	60	
	4			191	76	65	
	5			209	42	72	
	1	100	292	0	256	0	0
	2			0	230	0	
	3			0	295	0	
	4			0	273	0	
	5			0	237	0	
REHR12 AR	1	1	292	251	5	86	94
	2			273	10	93	
	3			293	15	100	
	4			272	8	93	
	5			283	10	97	
	1	10	292	254	10	87	93
	2			278	11	95	
	3			268	10	92	
	4			267	11	91	
	5			305	11	100	
	1	25	292	309	8	100	93
	2			296	10	100	
	3			269	23	92	
	4			256	7	88	
	5			250	8	86	
	1	50	292	257	13	88	93
	2			305	12	100	
	3			260	6	89	
	4			250	7	86	
	5			297	8	100	
	1	100	292	303	13	100	95
	2			257	8	88	
	3			263	8	90	
	4			296	8	100	
	5			286	10	98	

TABLE 20 (*continued*)

Normality Data for *Mytilus galloprovincialis* (Water Column Test)

Sample ID	Replicate	Concentration (%)	Initial Embryo Stocking Density[1]	# of Organisms Normal	# of Organisms Abnormal	Combined Proportion Normal[1] (%)	Mean % Combined Proportion Normal
HGIS12	1	1	292	304	4	100	96
	2			279	6	96	
	3			269	3	92	
	4			288	8	99	
	5			268	8	92	
	1	10	292	260	8	89	89
	2			247	9	85	
	3			253	10	87	
	4			269	2	92	
	5			276	9	95	
	1	25	292	306	3	100	93
	2			247	6	85	
	3			248	10	85	
	4			285	4	98	
	5			281	4	96	
	1	50	292	256	7	88	93
	2			257	6	88	
	3			293	9	100	
	4			294	16	100	
	5			268	18	92	
	1	100	292	219	69	75	71
	2			148	64	51	
	3			221	60	76	
	4			223	52	76	
	5			231	49	79	
HGIS12 AR	1	1	292	255	13	87	91
	2			265	14	91	
	3			267	6	91	
	4			264	10	90	
	5			281	10	96	
	1	10	292	297	15	100	96
	2			283	6	97	
	3			284	4	97	
	4			283	3	97	
	5			263	7	90	
	1	25	292	266	8	91	89
	2			258	9	88	
	3			258	11	88	
	4			261	11	89	
	5			255	8	87	
	1	50	292	258	14	88	90
	2			261	12	89	
	3			264	5	90	
	4			273	10	93	
	5			253	13	87	
	1	100	292	263	9	90	92
	2			267	9	91	
	3			277	13	95	
	4			284	7	97	
	5			249	8	85	

TABLE 20 (*continued*)

Normality Data for *Mytilus galloprovincialis* (Water Column Test)

Sample ID	Replicate	Concentration (%)	Initial Embryo Stocking Density[1]	# of Organisms Normal	# of Organisms Abnormal	Combined Proportion Normal[1] (%)	Mean % Combined Proportion Normal
DRMY12	1	1	292	277	11	95	98
	2			301	3	100	
	3			292	10	100	
	4			302	7	100	
	5			281	13	96	
	1	10	292	242	12	83	96
	2			308	5	100	
	3			283	8	97	
	4			303	15	100	
	5			308	7	100	
	1	25	292	118	150	40	39
	2			98	161	34	
	3			119	146	41	
	4			126	136	43	
	5			109	156	37	
	1	50	292	0	211	0	0
	2			0	255	0	
	3			0	264	0	
	4			0	263	0	
	5			0	220	0	
	1	100	292	0	21	0	0
	2			0	14	0	
	3			0	27	0	
	4			0	33	0	
	5			0	18	0	
DRMY12 AR	1	1	292	265	6	91	94
	2			281	9	96	
	3			285	11	98	
	4			252	9	86	
	5			291	9	100	
	1	10	292	268	9	92	94
	2			271	6	93	
	3			285	3	98	
	4			272	6	93	
	5			272	5	93	
	1	25	292	296	7	100	88
	2			268	6	92	
	3			236	6	81	
	4			251	9	86	
	5			245	10	84	
	1	50	292	286	8	98	92
	2			235	10	80	
	3			277	7	95	
	4			296	3	100	
	5			248	6	85	
	1	100	292	243	10	83	94
	2			270	8	92	
	3			283	7	97	
	4			280	16	96	
	5			304	9	100	

TABLE 20 (*continued*)

Normality Data for *Mytilus galloprovincialis* (Water Column Test)

Sample ID	Replicate	Concentration (%)	Initial Embryo Stocking Density[1]	# of Organisms Normal	# of Organisms Abnormal	Combined Proportion Normal[1] (%)	Mean % Combined Proportion Normal
WLR12	1	1	292	295	9	100	96
	2			267	7	91	
	3			262	6	90	
	4			287	11	98	
	5			326	9	100	
	1	10	292	250	8	86	95
	2			261	5	89	
	3			292	6	100	
	4			292	9	100	
	5			306	6	100	
	1	25	292	243	10	83	95
	2			286	10	98	
	3			298	3	100	
	4			291	9	100	
	5			271	9	93	
	1	50	292	271	18	93	92
	2			243	13	83	
	3			263	7	90	
	4			274	9	94	
	5			300	10	100	
	1	100	292	161	155	55	41
	2			110	156	38	
	3			130	149	45	
	4			119	163	41	
	5			85	153	29	
WLR12 AR	1	1	292	227	4	78	91
	2			276	9	95	
	3			245	11	84	
	4			295	6	100	
	5			307	7	100	
	1	10	292	280	7	96	93
	2			277	14	95	
	3			274	11	94	
	4			283	11	97	
	5			244	16	84	
	1	25	292	278	17	95	96
	2			281	21	96	
	3			277	16	95	
	4			275	8	94	
	5			288	11	99	
	1	50	292	293	3	100	96
	2			252	11	86	
	3			308	10	100	
	4			311	14	100	
	5			269	8	92	
	1	100	292	300	7	100	97
	2			307	10	100	
	3			277	5	95	
	4			260	15	89	
	5			288	15	99	

TABLE 20 (*continued*)

Normality Data for *Mytilus galloprovincialis* (Water Column Test)

Sample ID	Replicate	Concentration (%)	Initial Embryo Stocking Density[1]	# of Organisms Normal	# of Organisms Abnormal	Combined Proportion Normal[1] (%)	Mean % Combined Proportion Normal
WUTB12	1	1	292	284	18	97	94
	2			286	10	98	
	3			273	9	93	
	4			259	17	89	
	5			277	9	95	
	1	10	292	270	9	92	92
	2			295	6	100	
	3			240	13	82	
	4			261	7	89	
	5			280	8	96	
	1	25	292	230	43	79	77
	2			226	38	77	
	3			209	42	72	
	4			213	43	73	
	5			250	45	86	
	1	50	292	0	243	0	0
	2			0	179	0	
	3			0	201	0	
	4			0	236	0	
	5			0	225	0	
	1	100	292	0	127	0	0
	2			0	149	0	
	3			0	170	0	
	4			0	139	0	
	5			0	165	0	
WUTB12 AR	1	1	292	257	6	88	97
	2			293	7	100	
	3			276	13	95	
	4			295	13	100	
	5			302	13	100	
	1	10	292	304	12	100	96
	2			287	9	98	
	3			267	13	91	
	4			278	6	95	
	5			272	11	93	
	1	25	292	311	12	100	96
	2			278	13	95	
	3			306	14	100	
	4			287	11	98	
	5			250	11	86	
	1	50	292	302	8	100	96
	2			260	19	89	
	3			283	6	97	
	4			276	8	95	
	5			284	6	97	
	1	100	292	229	36	78	87
	2			255	13	87	
	3			269	17	92	
	4			243	8	83	
	5			272	17	93	

TABLE 20 (*continued*)

Normality Data for *Mytilus galloprovincialis* (Water Column Test)

Sample ID	Replicate	Concentration (%)	Initial Embryo Stocking Density[1]	# of Organisms Normal	# of Organisms Abnormal	Combined Proportion Normal[1] (%)	Mean % Combined Proportion Normal
BENW12	1	1	292	265	11	91	94
	2			302	7	100	
	3			287	8	98	
	4			249	7	85	
	5			278	12	95	
	1	10	292	289	8	99	93
	2			253	8	87	
	3			295	7	100	
	4			248	17	85	
	5			270	13	92	
	1	25	292	269	7	92	93
	2			284	4	97	
	3			250	8	86	
	4			280	9	96	
	5			268	6	92	
	1	50	292	259	12	89	91
	2			281	18	96	
	3			250	19	86	
	4			270	17	92	
	5			272	9	93	
	1	100	292	27	227	9	11
	2			39	176	13	
	3			30	187	10	
	4			35	172	12	
	5			29	193	10	
BENW12 AR	1	1	292	305	11	100	96
	2			272	9	93	
	3			312	6	100	
	4			265	10	91	
	5			278	9	95	
	1	10	292	278	20	95	93
	2			311	27	100	
	3			312	14	100	
	4			265	7	91	
	5			236	14	81	
	1	25	292	301	17	100	93
	2			272	10	93	
	3			290	10	99	
	4			245	8	84	
	5			262	15	90	
	1	50	292	319	15	100	92
	2			248	11	85	
	3			239	13	82	
	4			289	10	99	
	5			273	19	93	
	1	100	292	295	17	100	95
	2			261	16	89	
	3			272	12	93	
	4			290	10	99	
	5			279	18	96	

TABLE 20 (*continued*)

Normality Data for *Mytilus galloprovincialis* (Water Column Test)

Sample ID	Replicate	Concentration (%)	Initial Embryo Stocking Density[1]	# of Organisms Normal	# of Organisms Abnormal	Combined Proportion Normal[1] (%)	Mean % Combined Proportion Normal
HGIW12	1	1	292	243	10	83	94
	2			269	7	92	
	3			292	5	100	
	4			278	3	95	
	5			296	9	100	
	1	10	292	276	5	95	91
	2			290	10	99	
	3			245	8	84	
	4			286	12	98	
	5			229	5	78	
	1	25	292	287	6	98	94
	2			262	7	90	
	3			295	9	100	
	4			267	11	91	
	5			265	17	91	
	1	50	292	263	29	90	82
	2			245	52	84	
	3			229	39	78	
	4			230	41	79	
	5			228	35	78	
	1	100	292	0	251	0	1
	2			1	257	0	
	3			0	261	0	
	4			5	254	2	
	5			4	267	1	
HGIW12 AR	1	1	292	278	3	95	95
	2			269	11	92	
	3			288	4	99	
	4			267	12	91	
	5			282	8	97	
	1	10	292	295	8	100	95
	2			252	8	86	
	3			294	6	100	
	4			281	11	96	
	5			269	6	92	
	1	25	292	307	6	100	94
	2			268	11	92	
	3			238	11	82	
	4			284	15	97	
	5			297	5	100	
	1	50	292	302	16	100	97
	2			256	18	88	
	3			283	14	97	
	4			298	8	100	
	5			295	20	100	
	1	100	292	292	15	100	92
	2			243	18	83	
	3			258	10	88	
	4			298	11	100	
	5			264	22	90	

TABLE 20 (*continued*)

Normality Data for *Mytilus galloprovincialis* (Water Column Test)

Sample ID	Replicate	Concentration (%)	Initial Embryo Stocking Density[1]	# of Organisms Normal	# of Organisms Abnormal	Combined Proportion Normal[1] (%)	Mean % Combined Proportion Normal
WRTB12	1	1	292	298	4	100	94
	2			252	6	86	
	3			281	7	96	
	4			260	12	89	
	5			310	4	100	
	1	10	292	308	6	100	96
	2			279	6	96	
	3			303	11	100	
	4			248	5	85	
	5			290	7	99	
	1	25	292	274	12	94	94
	2			267	8	91	
	3			300	12	100	
	4			251	7	86	
	5			282	4	97	
	1	50	292	182	90	62	64
	2			154	113	53	
	3			194	104	66	
	4			180	112	62	
	5			230	87	79	
	1	100	292	0	259	0	0
	2			0	274	0	
	3			0	269	0	
	4			0	291	0	
	5			0	286	0	
WRTB12 AR	1	1	292	306	18	100	94
	2			266	6	91	
	3			312	5	100	
	4			533*	16	100	
	5			229	5	78	
	1	10	292	290	13	99	96
	2			294	7	100	
	3			303	7	100	
	4			250	7	86	
	5			271	9	93	
	1	25	292	252	3	86	92
	2			266	13	91	
	3			286	4	98	
	4			278	7	95	
	5			256	4	88	
	1	50	292	332	8	100	96
	2			287	6	98	
	3			271	13	93	
	4			274	9	94	
	5			277	12	95	
	1	100	292	288	22	99	93
	2			248	10	85	
	3			267	21	91	
	4			271	19	93	
	5			287	10	98	

TABLE 20 (*continued*)

Normality Data for *Mytilus galloprovincialis* (Water Column Test)

Sample ID	Replicate	Concentration (%)	Initial Embryo Stocking Density[1]	# of Organisms Normal	# of Organisms Abnormal	Combined Proportion Normal[1] (%)	Mean % Combined Proportion Normal
WLRW12	1	1	292	239	10	82	93
	2			284	12	97	
	3			275	4	94	
	4			261	10	89	
	5			297	8	100	
	1	10	292	270	7	92	94
	2			307	8	100	
	3			270	7	92	
	4			293	11	100	
	5			247	10	85	
	1	25	292	271	10	93	93
	2			258	6	88	
	3			269	8	92	
	4			280	7	96	
	5			278	9	95	
	1	50	292	272	11	93	95
	2			253	9	87	
	3			283	6	97	
	4			284	9	97	
	5			296	10	100	
	1	100	292	231	17	79	82
	2			246	25	84	
	3			244	26	84	
	4			257	31	88	
	5			217	24	74	
WLRW12 AR	1	1	292	324	9	100	93
	2			297	10	100	
	3			261	8	89	
	4			260	9	89	
	5			248	9	85	
	1	10	292	275	10	94	95
	2			277	13	95	
	3			271	6	93	
	4			283	9	97	
	5			276	4	95	
	1	25	292	288	9	99	96
	2			312	9	100	
	3			291	13	100	
	4			266	5	91	
	5			265	11	91	
	1	50	292	314	8	100	91
	2			261	8	89	
	3			236	10	81	
	4			249	8	85	
	5			288	13	99	
	1	100	292	315	9	100	92
	2			281	8	96	
	3			262	14	90	
	4			252	5	86	
	5			262	9	90	

TABLE 20 (*continued*)

Normality Data for *Mytilus galloprovincialis* (Water Column Test)

Sample ID	Replicate	Concentration (%)	Initial Embryo Stocking Density[1]	# of Organisms Normal	# of Organisms Abnormal	Combined Proportion Normal[1] (%)	Mean % Combined Proportion Normal
ABMA12	1	1	292	283	8	97	94
	2			260	4	89	
	3			282	7	97	
	4			293	7	100	
	5			255	8	87	
	1	10	292	261	6	89	90
	2			263	11	90	
	3			263	7	90	
	4			257	9	88	
	5			271	8	93	
	1	25	292	65	174	22	34
	2			101	137	35	
	3			116	160	40	
	4			109	199	37	
	5			99	186	34	
	1	50	292	0	252	0	0
	2			0	270	0	
	3			0	275	0	
	4			0	266	0	
	5			0	294	0	
	1	100	292	0	92	0	0
	2			0	61	0	
	3			0	72	0	
	4			0	70	0	
	5			0	72	0	
ABMA12 AR	1	1	292	287	3	98	95
	2			289	12	99	
	3			252	5	86	
	4			267	5	91	
	5			296	11	100	
	1	10	292	297	5	100	92
	2			281	7	96	
	3			257	8	88	
	4			269	2	92	
	5			241	3	83	
	1	25	292	296	8	100	93
	2			270	6	92	
	3			268	2	92	
	4			255	7	87	
	5			266	10	91	
	1	50	292	307	4	100	97
	2			297	7	100	
	3			299	4	100	
	4			290	7	99	
	5			247	8	85	
	1	100	292	312	12	100	94
	2			303	9	100	
	3			244	7	84	
	4			273	5	93	
	5			277	6	95	

TABLE 20 (*continued*)

Normality Data for *Mytilus galloprovincialis* (Water Column Test)

Sample ID	Replicate	Concentration (%)	Initial Embryo Stocking Density[1]	# of Organisms Normal	# of Organisms Abnormal	Combined Proportion Normal[1] (%)	Mean % Combined Proportion Normal
SHCR12	1	1	292	249	5	85	92
	2			279	8	96	
	3			300	12	100	
	4			269	8	92	
	5			255	9	87	
	1	10	292	245	9	84	85
	2			235	11	80	
	3			254	12	87	
	4			265	6	91	
	5			246	8	84	
	1	25	292	83	203	28	26
	2			90	206	31	
	3			59	186	20	
	4			59	215	20	
	5			85	187	29	
	1	50	292	0	270	0	0
	2			0	257	0	
	3			0	252	0	
	4			0	252	0	
	5			0	268	0	
	1	100	292	0	69	0	0
	2			0	56	0	
	3			0	49	0	
	4			0	68	0	
	5			0	37	0	
SHCR12 AR	1	1	292	322	5	100	97
	2			267	5	91	
	3			303	6	100	
	4			271	7	93	
	5			305	4	100	
	1	10	292	300	5	100	96
	2			287	4	98	
	3			299	7	100	
	4			269	6	92	
	5			268	3	92	
	1	25	292	269	8	92	91
	2			267	10	91	
	3			278	8	95	
	4			274	7	94	
	5			244	8	84	
	1	50	292	315	11	100	95
	2			278	6	95	
	3			268	6	92	
	4			278	8	95	
	5			274	10	94	
	1	100	292	275	14	94	94
	2			287	15	98	
	3			293	13	100	
	4			277	14	95	
	5			244	13	84	

[1] Initial stocking density is an estimated value as the organisms were measured by volume. Combined proportional values greater than 100% were adjusted to 100%.

[2] Water for control and dilution originated from the northern portion of Hood Canal (part of Puget Sound) at Port Gamble, Washington.

*Vial accidentally double stocked with larvae at test initiation.

Source: NewFields

Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 21

Summary of Ammonia and Survival Data for *Ampelisca abdita* (Benthic Test)

Sample ID	Overlying Ammonia (mg/L)				Interstitial Ammonia (mg/L)				Mean Survival (%)	Std. Dev.	Significant Biological Effect R - T ≥ 20? (yes/no)	Significantly Less Than Reference? (yes/no)	Exceeds LPC? (yes/no)
	Day 0		Day 10		Day 0		Day 10						
	Total	Un-ionized	Total	Un-ionized	Total	Un-ionized	Total	Un-ionized					
Batch 1 (December 7-17, 2012)													
Control*	0.575	0.011	<0.5	0.012	4.52	0.128	<0.5	<0.004	92	6			
RS-CH-A	<0.5	<0.020	<0.5	0.020	<0.5	<0.017	<0.5	<0.009	91	7			
DANI12	<0.5	<0.020	<0.5	0.016	0.738	0.021	<0.5	<0.007	94	5	-3; No	No	No
CCRK12	4.82	0.193	6.65	0.209	10.3	0.370	6.86	0.124	94	5	-3; No	No	No
NYNC12	3.22	0.130	4.65	0.184	8.55	0.249	6.67	0.121	90	8	1; No	No	No
PTFC12	4.22	0.169	3.99	0.127	9.96	0.358	3.71	0.067	94	5	-3; No	No	No
ORDT12	4.74	0.150	6.44	0.317	12.1	**0.542**	8.2	0.148	88	10	3; No	No	No
DANW12	0.569	0.018	<0.5	0.016	1.25	0.044	<0.5	<0.009	86	14	5; No	No	No
NCW12	3.63	0.147	6.21	0.245	7.10	0.203	9.13	0.165	94	5	-3; No	No	No
CHEC12-1	6.45	0.309	9.13	**0.688**	16.1	**0.561**	9.16	0.207	89	8	2; No	No	No
CHEC12-2	4.07	0.158	7.55	0.372	10.3	**0.453**	9.69	0.219	91	2	0; No	No	No
MTPL12	0.549	0.018	1.16	0.036	1.15	0.063	1.51	0.043	82	4	9; No	No	No
ABMA12	<0.5	<0.020	<0.5	0.025	1.65	0.058	<0.5	<0.009	95	4	-4; No	No	No

TABLE 21 *(continued)*
Summary of Ammonia and Survival Data for *Ampelisca abdita* (Benthic Test)

Sample ID	Overlying Ammonia (mg/L)				Interstitial Ammonia (mg/L)				Mean Survival (%)	Std. Dev.	Significant Biological Effect R - T ≥ 20? (yes/no)	Significantly Less Than Reference? (yes/no)	Exceeds LPC? (yes/no)
	Day 0		Day 10		Day 0		Day 10						
	Total	Un-ionized	Total	Un-ionized	Total	Un-ionized	Total	Un-ionized					
Batch 2 (December 11-21, 2012)													
Control*	<0.5	<0.017	<0.5	<0.021	1.34	0.004	1.09	0.008	93	4			
RS-CH-A	<0.5	<0.020	<0.5	<0.038	<0.5	<0.006	<0.5	<0.022	86	5			
REHR12	3.65	0.150	9.09	**0.696**	13.2	0.184	11.1	0.160	89	2	-3; No	No	No
HGIS12	1.29	0.042	1.15	0.038	8.92	0.125	3.14	0.057	91	7	-5; No	No	No
DRMY12	4.17	0.173	<0.5	<0.021	13.0	0.146	4.12	0.030	87	9	-1; No	No	No
WLR12	1.69	0.055	2.34	0.097	13.0	0.116	3.06	0.028	89	5	-3; No	No	No
WUTB12	7.21	0.371	5.29	0.272	23.5	0.133	11.5	0.105	84	7	2; No	No	No
BENW12	2.01	0.066	6.42	0.265	11.4	0.127	5.81	0.084	85	4	1; No	No	No
HGIW12	2.25	0.074	7.44	0.307	12.8	0.144	7.81	0.112	84	11	2; No	No	No
WRTB12	3.26	0.106	10.4	0.346	17.7	0.158	12.6	0.185	88	4	-2; No	No	No
WLRW12	0.774	0.032	3.45	0.142	6.25	0.070	3.76	0.086	91	2	-5; No	No	No
SHCR12	4.79	0.248	<0.5	<0.026	11.3	0.160	2.21	0.016	86	5	0; No	No	No

*Control sediment originated from San Rafael, California; control water originated from the northern portion of Hood Canal (part of Puget Sound) at Port Gamble, WA.
R = Mean survival of reference RS-CH-A; T = Mean survival of sediment composite treatments; LPC = limiting permissible concentration
Bold = Value exceeds respective concurrent reference-toxicant test derived NOEC:
Dec. 7, 2012: 26.3 mg/L (total ammonia) or 0.422 mg/L (un-ionized ammonia)
Dec. 12, 2012: 50.8 mg/L (total ammonia) or 0.491 mg/L (un-ionized ammonia)

Source: NewFields
Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 22
Survival Data for *Ampelisca abdita* (Benthic Test)

Sample ID	Replicate	# of Organisms		% Survival	Mean % Survival
		Initial	Final		
Batch 1 (December 7-17, 2012)					
Control*	1	20	17	85	92
	2	20	20	100	
	3	20	18	90	
	4	20	19	95	
	5	20	18	90	
RS-CH12-A	1	20	18	90	91
	2	20	17	85	
	3	20	17	85	
	4	20	20	100	
	5	20	19	95	
DANI12	1	20	20	100	94
	2	20	17	85	
	3	20	19	95	
	4	20	19	95	
	5	20	19	95	
CCRK12	1	20	20	100	94
	2	20	19	95	
	3	20	19	95	
	4	20	17	85	
	5	20	19	95	
NYNC12	1	20	20	100	90
	2	20	19	95	
	3	20	16	80	
	4	20	17	85	
	5	20	18	90	
PTFC12	1	20	19	95	94
	2	20	19	95	
	3	20	19	95	
	4	20	20	100	
	5	20	17	85	
ORDT12	1	20	16	80	88
	2	20	19	95	
	3	20	19	95	
	4	20	15	75	
	5	20	19	95	

TABLE 22 *(continued)*
Survival Data for *Ampelisca abdita* (Benthic Test)

Sample ID	Replicate	# of Organisms		% Survival	Mean % Survival
		Initial	Final		
DANW12	1	20	20	100	86
	2	20	18	90	
	3	20	13	65	
	4	20	19	95	
	5	20	16	80	
NCW12	1	20	19	95	94
	2	20	17	85	
	3	20	19	95	
	4	20	20	100	
	5	20	19	95	
CHEC12-1	1	20	20	100	89
	2	20	16	80	
	3	20	19	95	
	4	20	17	85	
	5	20	17	85	
CHEC12-2	1	20	18	90	91
	2	20	18	90	
	3	20	18	90	
	4	20	19	95	
	5	20	18	90	
MTPL12	1	20	17	85	82
	2	20	17	85	
	3	20	17	85	
	4	20	15	75	
	5	20	16	80	
ABMA12	1	20	18	90	95
	2	20	19	95	
	3	20	19	95	
	4	20	20	100	
	5	20	19	95	

TABLE 22 *(continued)*
Survival Data for *Ampelisca abdita* (Benthic Test)

Sample ID	Replicate	# of Organisms		% Survival	Mean % Survival
		Initial	Final		
Batch 2 (December 11-21, 2012)					
Control*	1	20	18	90	93
	2	20	18	90	
	3	20	19	95	
	4	20	20	100	
	5	20	18	90	
RS-CH12-A	1	20	16	80	86
	2	20	18	90	
	3	20	16	80	
	4	20	18	90	
	5	20	18	90	
REHR12	1	20	18	90	89
	2	20	17	85	
	3	20	18	90	
	4	20	18	90	
	5	20	18	90	
HGIS12	1	20	17	85	91
	2	20	19	95	
	3	20	18	90	
	4	20	17	85	
	5	20	20	100	
DRMY12	1	20	19	95	87
	2	20	18	90	
	3	20	15	75	
	4	20	19	95	
	5	20	16	80	
WLR12	1	20	19	95	89
	2	20	17	85	
	3	20	17	85	
	4	20	17	85	
	5	20	19	95	

TABLE 22 *(continued)*
Survival Data for *Ampelisca abdita* (Benthic Test)

Sample ID	Replicate	# of Organisms		% Survival	Mean % Survival
		Initial	Final		
WUTB12	1	20	15	75	84
	2	20	17	85	
	3	20	16	80	
	4	20	18	90	
	5	20	18	90	
BENW12	1	20	17	85	85
	2	20	18	90	
	3	20	17	85	
	4	20	17	85	
	5	20	16	80	
HGIW12	1	20	14	70	84
	2	20	15	75	
	3	20	17	85	
	4	20	19	95	
	5	20	19	95	
WRTB12	1	20	19	95	88
	2	20	17	85	
	3	20	17	85	
	4	20	18	90	
	5	20	17	85	
WLRW12	1	20	19	95	91
	2	20	18	90	
	3	20	18	90	
	4	20	18	90	
	5	20	18	90	
SHCR12	1	20	16	80	86
	2	20	18	90	
	3	20	18	90	
	4	20	16	80	
	5	20	18	90	

*****Control sediment originated from San Rafael, California; control water originated from the northern portion of Hood Canal (part of Puget Sound) at Port Gamble, Washington.

Source: NewFields
Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 23
Summary of Ammonia and Survival Data for *Neanthes arenaceodentata* (Benthic Test)

Sample ID	Overlying Ammonia (mg/L)				Interstitial Ammonia (mg/L)				Mean Survival (%)	Std. Dev.	Significant Biological Effect R - T ≥ 10? (yes/no)	Significantly Less Than Reference? (yes/no)	Exceeds LPC? (yes/no)
	Day 0		Day 10		Day 0		Day 10						
	Total	Un-ionized	Total	Un-ionized	Total	Un-ionized	Total	Un-ionized					
Batch 1 (November 27 - December 7, 2012)													
Control*	3.180	0.128	2.75	0.088	22.6	0.293	NA	NA	100	0			
RS-CH-A	<0.5	<0.013	<0.5	<0.020	2.41	0.031	<0.5	<0.008	98	4			
DANI12	12.4	0.502	11.4	0.359	21.8	0.360	10.2	0.131	100	0	-2; No	No	No
CCRK12	5.52	0.116	4.36	0.143	23.3	0.393	4.67	0.078	100	0	-2; No	No	No
NYNC12	5.68	0.185	4.10	0.134	18.3	0.310	3.95	0.053	98	4	0; No	No	No
PTFC12	5.33	0.174	1.92	0.079	24.2	0.514	2.45	0.033	98	4	0; No	No	No
ORDT12	3.99	0.064	4.43	0.227	23.9	0.767	4.84	0.082	98	4	0; No	No	No
DANW12	9.31	0.379	10.7	0.350	13.9	0.456	9.34	0.196	98	4	0; No	No	No
NCW12	3.94	0.161	3.81	0.123	13.8	0.291	3.30	0.069	100	0	-2; No	No	No
REHR12	3.05	0.123	3.98	0.159	18.1	0.372	4.48	0.115	100	0	-2; No	No	No
ABMA12	6.03	0.194	8.62	0.537	22.8	0.466	8.18	0.212	98	4	0; No	No	No

TABLE 23 *(continued)*

Summary of Ammonia and Survival Data for *Neanthes arenaceodentata* (Benthic Test)

Sample ID	Overlying Ammonia (mg/L)				Interstitial Ammonia (mg/L)				Mean Survival (%)	Std. Dev.	Significant Biological Effect R - T ≥ 10? (yes/no)	Significantly Less Than Reference? (yes/no)	Exceeds LPC? (yes/no)
	Day 0		Day 10		Day 0		Day 10						
	Total	Un-ionized	Total	Un-ionized	Total	Un-ionized	Total	Un-ionized					
Batch 2 (December 11-21, 2012)													
Control*	<0.5	<0.021	<0.5	<0.020	4.53	0.119	0.772	0.004	94	9			
RS-CH-A	<0.5	<0.020	<0.5	<0.020	1.40	0.023	<0.5	<0.006	98	4			
CHEC12-1	4.49	0.231	15.1	**1.149**	28.5	0.240	22.2	0.072	92	11	6; No	No	No
CHEC12-2	3.36	0.139	10.2	0.631	20.1	0.214	17.1	0.112	90	10	8; No	No	No
MTPL12	<0.5	<0.013	1.31	0.042	2.88	0.039	3.87	0.040	92	8	6; No	No	No
HGIS12	1.71	0.057	4.59	0.184	11.9	0.202	7.21	0.059	92	11	6; No	No	No
DRMY12	8.96	0.370	21.5	**1.337**	41.1	0.279	27.6	0.091	100	0	-2; No	No	No
WLR12	3.31	0.138	5.00	0.199	15.7	0.136	6.02	0.040	96	5	2; No	No	No
WUTB12	8.41	0.352	10.8	0.431	23.7	0.130	16.3	0.085	98	4	0; No	No	No
BENW12	1.90	0.078	4.84	0.193	11.0	0.147	5.76	0.059	92	8	6; No	No	No
HGIW12	2.52	0.104	7.69	0.309	16.6	0.440	9.05	0.094	100	0	-2; No	No	No
WRTB12	3.31	0.111	8.73	0.350	22.3	0.478	10.1	0.085	100	0	-2; No	No	No
WLRW12	0.787	0.033	3.47	0.138	7.63	0.162	4.50	0.037	94	5	4; No	No	No
SHCR12	8.13	0.424	16.4	1.000	29.5	0.620	19.6	0.200	100	0	-2; No	No	No

*Control sediment originated from San Rafael, California; control water originated from the northern portion of Hood Canal (part of Puget Sound) at Port Gamble, WA.

R = Mean survival of reference RS-CH-A; T = Mean survival of sediment composite treatments; NA = Not analyzed; LPC = limiting permissible concentration

Bold = Value exceeds 4-day concurrent reference-toxicant test derived NOEC:

Batch 1: 165.0 mg/L (total ammonia) or 1.693 mg/L (un-ionized ammonia)

Batch 2: 148.0 mg/L (total ammonia) or 1.138 mg/L (un-ionized ammonia)

Source: NewFields Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 24
Survival Data for *Neanthes arenaceodentata* (Benthic Test)

Sample ID	Replicate	# of Organisms		% Survival	Mean % Survival
		Initial	Final		
Batch 1 (December 7-17, 2012)					
Control*	1	10	10	100	100
	2	10	10	100	
	3	10	10	100	
	4	10	10	100	
	5	10	10	100	
RS-CH12-A	1	10	10	100	98
	2	10	9	90	
	3	10	10	100	
	4	10	10	100	
	5	10	10	100	
DANI12	1	10	10	100	100
	2	10	10	100	
	3	10	10	100	
	4	10	10	100	
	5	10	10	100	
CCRK12	1	10	10	100	100
	2	10	10	100	
	3	10	10	100	
	4	10	10	100	
	5	10	10	100	
NYNC12	1	10	9	90	98
	2	10	10	100	
	3	10	10	100	
	4	10	10	100	
	5	10	10	100	
PTFC12	1	10	10	100	98
	2	10	10	100	
	3	10	10	100	
	4	10	10	100	
	5	10	9	90	
ORDT12	1	10	10	100	98
	2	10	10	100	
	3	10	9	90	
	4	10	10	100	
	5	10	10	100	

TABLE 24 *(continued)*
Survival Data for *Neanthes arenaceodentata* (Benthic Test)

Sample ID	Replicate	# of Organisms		% Survival	Mean % Survival
		Initial	Final		
DANW12	1	10	10	100	98
	2	10	10	100	
	3	10	10	100	
	4	10	10	100	
	5	10	9	90	
NCW12	1	10	10	100	100
	2	10	10	100	
	3	10	10	100	
	4	10	10	100	
	5	10	10	100	
REHR12	1	10	10	100	100
	2	10	10	100	
	3	10	10	100	
	4	10	10	100	
	5	10	10	100	
ABMA12	1	10	10	100	98
	2	10	10	100	
	3	10	10	100	
	4	10	9	90	
	5	10	10	100	
Batch 2 (December 11-21, 2012)					
Control*	1	10	10	100	94
	2	10	9	90	
	3	10	10	100	
	4	10	10	100	
	5	10	8	80	
RS-CH12-A	1	10	10	100	98
	2	10	9	90	
	3	10	10	100	
	4	10	10	100	
	5	10	10	100	
CHEC12-1	1	10	10	100	92
	2	10	8	80	
	3	10	10	100	
	4	10	10	100	
	5	10	8	80	

TABLE 24 *(continued)*
Survival Data for *Neanthes arenaceodentata* (Benthic Test)

Sample ID	Replicate	# of Organisms		% Survival	Mean % Survival
		Initial	Final		
CHEC12-2	1	10	10	100	90
	2	10	10	100	
	3	10	8	80	
	4	10	9	90	
	5	10	8	80	
MTPL12	1	10	8	80	92
	2	10	9	90	
	3	10	9	90	
	4	10	10	100	
	5	10	10	100	
HGIS12	1	10	10	100	92
	2	10	10	100	
	3	10	10	100	
	4	10	8	80	
	5	10	8	80	
DRMY12	1	10	10	100	100
	2	10	10	100	
	3	10	10	100	
	4	10	10	100	
	5	10	10	100	
WLR12	1	10	10	100	96
	2	10	10	100	
	3	10	9	90	
	4	10	9	90	
	5	10	11	100	
WUTB12	1	10	10	100	98
	2	10	9	90	
	3	10	10	100	
	4	10	10	100	
	5	10	10	100	

TABLE 24 *(continued)*
Survival Data for *Neanthes arenaceodentata* (Benthic Test)

Sample ID	Replicate	# of Organisms		% Survival	Mean % Survival
		Initial	Final		
BENW12	1	10	9	90	92
	2	10	9	90	
	3	10	8	80	
	4	10	10	100	
	5	10	10	100	
HGIW12	1	10	10	100	100
	2	10	10	100	
	3	10	10	100	
	4	10	10	100	
	5	10	10	100	
WRTB12	1	10	10	100	100
	2	10	10	100	
	3	10	10	100	
	4	10	10	100	
	5	10	10	100	
WLRW12	1	10	9	90	94
	2	10	9	90	
	3	10	10	100	
	4	10	9	90	
	5	10	10	100	
SHCR12	1	10	10	100	100
	2	10	10	100	
	3	10	10	100	
	4	10	10	100	
	5	10	10	100	

*****Control sediment originated from San Rafael, California; control water originated from the northern portion of Hood Canal (part of Puget Sound) at Port Gamble, Washington.

Source: NewFields
Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 25
Survival Data for *Nereis virens* (Bioaccumulation Test)

Sample ID	Replicate	# of Organisms		% Survival	Mean % Survival	Std. Dev.
		Initial	Final			
Batch 1 (November 20, 2012)						
Control*	1	20	19	95	97.0	5.0
	2	20	20	100		
	3	20	18	90		
	4	20	18	90		
	5	20	20	100		
RS-CH-A	1	20	20	100	97.0	3.0
	2	20	20	100		
	3	20	19	95		
	4	20	19	95		
	5	20	17	85		
ORDT12	1	20	19	95	97.0	3.0
	2	20	20	100		
	3	20	20	100		
	4	20	19	95		
	5	20	19	95		
PTFC12	1	20	19	95	95.0	5.0
	2	20	19	95		
	3	20	18	90		
	4	20	20	100		
	5	20	19	95		
NYNC12	1	20	16	80	94.0	8.0
	2	20	19	95		
	3	20	20	100		
	4	20	20	100		
	5	20	19	95		
CCRK12	1	20	18	90	95.0	4.0
	2	20	19	95		
	3	20	19	95		
	4	20	20	100		
	5	20	19	95		
DANW12	1	20	20	100	98.0	5.0
	2	20	20	100		
	3	20	18	90		
	4	20	20	100		
	5	20	20	100		
DANI12	1	20	20	100	98.0	3.0
	2	20	25	100		
	3	20	19	95		
	4	20	20	100		
	5	20	19	95		

TABLE 25 *(continued)*
Survival Data for *Nereis virens* (Bioaccumulation Test)

Sample ID	Replicate	# of Organisms		% Survival	Mean % Survival	Std. Dev.
		Initial	Final			
Batch 1 (November 20, 2012)						
NCW12	1	20	20	100	99.0	2.0
	2	20	20	100		
	3	20	20	100		
	4	20	20	100		
	5	20	19	95		
REHR12	1	20	20	100	94.0	7.0
	2	20	19	95		
	3	20	18	90		
	4	20	20	100		
	5	20	17	85		
Batch 2 (December 28, 2012)						
Control*	1	20	18	90	97.0	5.0
	2	20	20	100		
	3	20	20	100		
	4	20	20	100		
	5	20	19	95		
RS-CH-A	1	20	20	100	99.0	2.0
	2	20	19	95		
	3	20	20	100		
	4	20	20	100		
	5	20	20	100		
CHEC12-1	1	20	20	100	99.0	2.0
	2	20	20	100		
	3	20	20	100		
	4	20	20	100		
	5	20	19	95		
CHEC12-2	1	20	20	100	100.0	0.0
	2	20	20	100		
	3	20	20	100		
	4	20	20	100		
	5	20	20	100		
MTPL12	1	20	20	100	100.0	0.0
	2	20	20	100		
	3	20	20	100		
	4	20	20	100		
	5	20	20	100		
HGIS12	1	20	20	100	98.0	5.0
	2	20	18	90		
	3	20	20	100		
	4	20	20	100		
	5	20	20	100		

TABLE 25 *(continued)*
Survival Data for *Nereis virens* (Bioaccumulation Test)

Sample ID	Replicate	# of Organisms		% Survival	Mean % Survival	Std. Dev.
		Initial	Final			
Batch 2 (December 28, 2012)						
DRMY12	1	20	19	95	97.0	3.0
	2	20	19	95		
	3	20	20	100		
	4	20	20	100		
	5	20	19	95		
WLR12	1	20	20	100	95.0	6.0
	2	20	20	100		
	3	20	19	95		
	4	20	17	85		
	5	20	19	95		
WUTB12	1	20	20	100	99.0	2.0
	2	20	19	95		
	3	20	20	100		
	4	20	20	100		
	5	20	20	100		
BENW12	1	20	20	100	100.0	0.0
	2	20	20	100		
	3	20	20	100		
	4	20	20	100		
	5	20	20	100		
HGIW12	1	20	19	95	98.0	3.0
	2	20	19	95		
	3	20	20	100		
	4	20	20	100		
	5	20	20	100		
WRTB12	1	20	20	100	95.0	6.0
	2	20	19	95		
	3	20	17	85		
	4	20	20	100		
	5	20	19	95		
WLRW12	1	20	20	100	100.0	0.0
	2	20	20	100		
	3	20	20	100		
	4	20	20	100		
	5	20	20	100		
SHCR12	1	20	19	95	97.0	5.0
	2	20	20	100		
	3	20	18	90		
	4	20	21	100		
	5	20	20	100		

TABLE 25 *(continued)*
Survival Data for *Nereis virens* (Bioaccumulation Test)

Sample ID	Replicate	# of Organisms		% Survival	Mean % Survival	Std. Dev.
		Initial	Final			
Supplemental Testing[1] (March 28, 2013)						
Control*	1	25	24	96	99.2	1.8
	2	25	25	100		
	3	25	25	100		
	4	25	25	100		
	5	25	25	100		
RS-CH-A	1	25	25	100	100.0	0.0
	2	25	25	100		
	3	25	25	100		
	4	25	25	100		
	5	25	25	100		
ABMA12	1	25	24	96	99.2	1.8
	2	25	25	100		
	3	25	25	100		
	4	25	25	100		
	5	25	25	100		

***Control sediment originated from the Damariscotta River (Boothbay Harbor, Maine); control water originated from the northern portion of Hood Canal (part of Puget Sound) at Port Gamble, Washington.

[1] See Section 4 for explanation on supplemental testing.

Source: NewFields Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 26
Survival Data for *Macoma nasuta* (Bioaccumulation Test)

Sample ID	Replicate	# of Organisms		% Survival	Mean % Survival	Std. Dev.
		Initial	Final			
Batch 1 (November 20, 2012)						
Control*	1	30	28	93	95.3	3.8
	2	30	29	97		
	3	30	30	100		
	4	30	29	97		
	5	30	27	90		
RS-CH-A	1	30	30	100	98.0	3.0
	2	30	30	100		
	3	30	29	97		
	4	30	30	100		
	5	30	28	93		
ORDT12	1	30	29	97	99.3	1.5
	2	30	30	100		
	3	30	30	100		
	4	30	30	100		
	5	30	30	100		
PTFC12	1	30	29	97	96.7	0.0
	2	30	29	97		
	3	30	29	97		
	4	30	29	97		
	5	30	29	97		
NYNC12	1	30	29	97	96.7	2.4
	2	30	28	93		
	3	30	30	100		
	4	30	29	97		
	5	30	29	97		
CCRK12	1	30	27	90	97.3	4.3
	2	30	29	97		
	3	30	30	100		
	4	30	30	100		
	5	30	30	100		
DANW12	1	30	28	93	97.3	2.8
	2	30	29	97		
	3	30	29	97		
	4	30	30	100		
	5	30	30	100		
DANI12	1	30	29	97	96.0	3.7
	2	30	30	100		
	3	30	29	97		
	4	30	27	90		
	5	30	29	97		

TABLE 26 *(continued)*
Survival Data for *Macoma nasuta* (Bioaccumulation Test)

Sample ID	Replicate	# of Organisms		% Survival	Mean % Survival	Std. Dev.
		Initial	Final			
Batch 1 (November 20, 2012)						
NCW12	1	30	30	100	96.7	2.4
	2	30	29	97		
	3	30	29	97		
	4	30	28	93		
	5	30	29	97		
REHR12	1	30	28	93	97.3	2.8
	2	30	29	97		
	3	30	30	100		
	4	30	29	97		
	5	30	32	107		
Batch 2 (December 27, 2012)						
Control*	1	30	30	100	92.7	8.3
	2	30	30	100		
	3	30	28	93		
	4	30	24	80		
	5	30	27	90		
RS-CH-A	1	30	29	97	96.0	2.8
	2	30	28	93		
	3	30	28	93		
	4	30	29	97		
	5	30	30	100		
CHEC12-1	1	30	29	97	94.0	3.7
	2	30	27	90		
	3	30	29	97		
	4	30	29	97		
	5	30	27	90		
CHEC12-2	1	30	28	93	96.7	4.7
	2	30	30	100		
	3	30	30	100		
	4	30	27	90		
	5	30	30	100		
MTPL12	1	30	27	90	91.3	7.7
	2	30	27	90		
	3	30	30	100		
	4	30	24	80		
	5	30	29	97		
HGIS12	1	30	29	97	91.3	7.7
	2	30	25	83		
	3	30	27	90		
	4	30	28	93		
	5	30	25	83		

TABLE 26 *(continued)*
Survival Data for *Macoma nasuta* (Bioaccumulation Test)

Sample ID	Replicate	# of Organisms		% Survival	Mean % Survival	Std. Dev.
		Initial	Final			
Batch 2 (December 27, 2012)						
DRMY12	1	30	28	93	96.7	2.4
	2	30	29	97		
	3	30	30	100		
	4	30	29	97		
	5	30	29	97		
WLR12	1	30	30	100	98.0	1.8
	2	30	29	97		
	3	30	29	97		
	4	30	29	97		
	5	30	30	100		
WUTB12	1	30	30	100	93.3	6.2
	2	30	28	93		
	3	30	25	83		
	4	30	29	97		
	5	30	28	93		
BENW12	1	30	26	87	90.0	6.7
	2	30	24	80		
	3	30	28	93		
	4	30	28	93		
	5	30	29	97		
HGIW12	1	30	30	100	96.0	4.3
	2	30	28	93		
	3	30	27	90		
	4	30	129	430		
	5	30	30	100		
WRTB12	1	30	29	97	94.7	6.5
	2	30	29	97		
	3	30	29	97		
	4	30	30	100		
	5	30	25	83		
WLRW12	1	30	24	80	91.3	7.3
	2	30	28	93		
	3	30	28	93		
	4	30	30	100		
	5	30	27	90		
SHCR12	1	30	29	97	94.0	8.3
	2	30	30	100		
	3	30	20	67		
	4	30	30	100		
	5	30	28	93		

TABLE 26 *(continued)*
Survival Data for *Macoma nasuta* (Bioaccumulation Test)

Sample ID	Replicate	# of Organisms		% Survival	Mean % Survival	Std. Dev.
		Initial	Final			
Supplemental Testing[1] (April 2, 2012)						
Control*	1	30	29	97	98.0	3.0
	2	30	28	93		
	3	30	30	100		
	4	30	30	100		
	5	30	30	100		
RS-CH-A	1	30	28	93	98.0	3.0
	2	30	30	100		
	3	30	29	97		
	4	30	30	100		
	5	30	30	100		
ABMA12	1	30	29	97	98.0	3.0
	2	30	31	100		
	3	30	28	93		
	4	30	30	100		
	5	30	30	100		

*Control sediment originated from Discovery Bay, Washington; control water originated from the northern portion of Hood Canal (part of Puget Sound) at Port Gamble, Washington.

[1] See Section 4 for explanation on supplemental testing.

Source: NewFields Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 27
Analytical Results for Wet Weight Lipids and Total Solids in *Neanthes virens* Tissues

Analyte:	Total Solids		Lipids		
Sample-Replicate #	Result %	Qualifier	Result %	Qualifier	MRL
CHEC12-1 Comp Rep 1	14.9	--			
CHEC12-1 Comp Rep 2	15.1	--			
CHEC12-1 Comp Rep 3	15.4	--			
CHEC12-1 Comp Rep 4	15.1	--			
CHEC12-1 Comp Rep 5	15.5	--			
CHEC12-2 Comp Rep 1	15.6	--			
CHEC12-2 Comp Rep 2	15.6	--			
CHEC12-2 Comp Rep 3	15.7	--			
CHEC12-2 Comp Rep 4	15.3	--			
CHEC12-2 Comp Rep 5	15.8	--			
MTPL12 Comp Rep 1	15.1	--			
MTPL12 Comp Rep 2	15.6	--			
MTPL12 Comp Rep 3	15.9	--			
MTPL12 Comp Rep 4	15.6	--			
MTPL12 Comp Rep 5	15.1	--			
REHR12 Comp Rep 1	15.4	--			
REHR12 Comp Rep 2	15.1	--			
REHR12 Comp Rep 3	15.6	--			
REHR12 Comp Rep 4	15.5	--			
REHR12 Comp Rep 5	16.1	--			
UH12 Comp Rep 1	15.3	--			
UH12 Comp Rep 2	16.0	--			
UH12 Comp Rep 3	15.2	--			
UH12 Comp Rep 4	15.2	--			
UH12 Comp Rep 5	14.8	--			
NCW12 Comp Rep 1	16.1	--			
NCW12 Comp Rep 2	15.8	--			
NCW12 Comp Rep 3	16.4	--			
NCW12 Comp Rep 4	15.5	--			
NCW12 Comp Rep 5	15.7	--			
SHCR12 Comp Rep 1	15.2	--			
SHCR12 Comp Rep 2	14.9	--			
SHCR12 Comp Rep 3	15.3	--			
SHCR12 Comp Rep 4	15.0	--			
SHCR12 Comp Rep 5	15.1	--			

TABLE 27
Analytical Results for Wet Weight Lipids and Total Solids in *Neanthes virens* Tissues

Analyte:	Total Solids		Lipids		
Sample-Replicate #	Result %	Qualifier	Result %	Qualifier	MRL
ORDT12 Comp Rep 1	15.4	--			
ORDT12 Comp Rep 2	15.6	--			
ORDT12 Comp Rep 3	16.1	--			
ORDT12 Comp Rep 4	14.9	--			
ORDT12 Comp Rep 5	15.2	--			
CCRK12 Comp Rep 1	16.0	--			
CCRK12 Comp Rep 2	15.9	--			
CCRK12 Comp Rep 3	15.4	--			
CCRK12 Comp Rep 4	16.0	--			
CCRK12 Comp Rep 5	15.8	--			
DANI12 Comp Rep 1	16.1	--			
DANI12 Comp Rep 2	16.0	--			
DANI12 Comp Rep 3	15.5	--			
DANI12 Comp Rep 4	15.4	--			
DANI12 Comp Rep 5	15.3	--			
BENW12 Comp Rep 1	15.4	--			
BENW12 Comp Rep 2	15.4	--			
BENW12 Comp Rep 3	15.4	--			
BENW12 Comp Rep 4	14.7	--			
BENW12 Comp Rep 5	15.2	--			
HGIS12 Comp Rep 1	15.2	--			
HGIS12 Comp Rep 2	15.3	--			
HGIS12 Comp Rep 3	15.5	--			
HGIS12 Comp Rep 4	15.0	--			
HGIS12 Comp Rep 5	14.3	--			
DRMY12 Comp Rep 1	15.5	--			
DRMY12 Comp Rep 2	15.5	--			
DRMY12 Comp Rep 3	14.7	--			
DRMY12 Comp Rep 4	15.2	--			
DRMY12 Comp Rep 5	14.7	--			
WLR12 Comp Rep 1	14.9	--			
WLR12 Comp Rep 2	15.1	--			
WLR12 Comp Rep 3	14.5	--			
WLR12 Comp Rep 4	14.7	--			
WLR12 Comp Rep 5	15.1	--			
WUTB12 Comp Rep 1	14.5	--			
WUTB12 Comp Rep 2	14.1	--			
WUTB12 Comp Rep 3	15.5	--			
WUTB12 Comp Rep 4	14.8	--			
WUTB12 Comp Rep 5	15.2	--			

TABLE 27
Analytical Results for Wet Weight Lipids and Total Solids in *Neanthes virens* Tissues

Analyte:	Total Solids		Lipids		
Sample-Replicate #	Result %	Qualifier	Result %	Qualifier	MRL
HGIW12 Comp Rep 1	15.7	--			
HGIW12 Comp Rep 2	15.4	--			
HGIW12 Comp Rep 3	15.1	--			
HGIW12 Comp Rep 4	15.0	--			
HGIW12 Comp Rep 5	14.7	--			
WRTB12 Comp Rep 1	14.6	--			
WRTB12 Comp Rep 2	15.4	--			
WRTB12 Comp Rep 3	15.1	--			
WRTB12 Comp Rep 4	15.2	--			
WRTB12 Comp Rep 5	15.6	--			
DANW12 Comp Rep 1	15.0	--			
DANW12 Comp Rep 2	15.2	--			
DANW12 Comp Rep 3	15.2	--			
DANW12 Comp Rep 4	15.3	--			
DANW12 Comp Rep 5	15.3	--			
WLRW12 Comp Rep 1	15.6	--			
WLRW12 Comp Rep 2	15.7	--			
WLRW12 Comp Rep 3	15.6	--			
WLRW12 Comp Rep 4	15.2	--			
WLRW12 Comp Rep 5	15.3	--			
ABMA12 Comp Rep 1	17.1	--			
ABMA12 Comp Rep 2	15.6	--			
ABMA12 Comp Rep 3	17.5	--			
ABMA12 Comp Rep 4	16.8	--			
ABMA12 Comp Rep 5	16.6	--			
RS-CH-A Rep 1	15.5	--			
RS-CH-A Rep 2	15.3	--			
RS-CH-A Rep 3	15.5	--			
RS-CH-A Rep 4	15.6	--			
RS-CH-A Rep 5	15.2	--			
Pre-exposure Rep 1	16.9	--	1.20	--	0.05
Pre-exposure Rep 2	16.0	--	1.20	--	0.05
Pre-exposure Rep 3	16.0	--	1.20	--	0.05

Source: ALS Environmental
Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 28

Analytical Results for Wet Weight Lipids and Total Solids in *Macoma nasuta* Tissues

Analyte:	Total Solids		Lipids		
Sample-Replicate #	Result %	Qualifier	Result %	Qualifier	MRL
CHEC12-1 Comp Rep 1	19.3	--			
CHEC12-1 Comp Rep 2	18.8	--			
CHEC12-1 Comp Rep 3	18.1	--			
CHEC12-1 Comp Rep 4	19.1	--			
CHEC12-1 Comp Rep 5	18.8	--			
CHEC12-2 Comp Rep 1	18.6	--			
CHEC12-2 Comp Rep 2	18.3	--			
CHEC12-2 Comp Rep 3	19.3	--			
CHEC12-2 Comp Rep 4	17.3	--			
CHEC12-2 Comp Rep 5	18.8	--			
MTPL12 Comp Rep 1	18.5	--			
MTPL12 Comp Rep 2	17.8	--			
MTPL12 Comp Rep 3	17.7	--			
MTPL12 Comp Rep 4	17.3	--			
MTPL12 Comp Rep 5	18.0	--			
REHR12 Comp Rep 1	16.8	--			
REHR12 Comp Rep 2	17.0	--			
REHR12 Comp Rep 3	17.3	--			
REHR12 Comp Rep 4	16.5	--			
REHR12 Comp Rep 5	16.7	--			
UH12 Comp Rep 1	16.5	--			
UH12 Comp Rep 2	16.6	--			
UH12 Comp Rep 3	16.8	--			
UH12 Comp Rep 4	17.2	--			
UH12 Comp Rep 5	16.8	--			
NCW12 Comp Rep 1	17.9	--			
NCW12 Comp Rep 2	17.6	--			
NCW12 Comp Rep 3	17.7	--			
NCW12 Comp Rep 4	16.9	--			
NCW12 Comp Rep 5	17.7	--			
SHCR12 Comp Rep 1	19.7	--			
SHCR12 Comp Rep 2	19.2	--			
SHCR12 Comp Rep 3	19.7	--			
SHCR12 Comp Rep 4	18.7	--			
SHCR12 Comp Rep 5	18.4	--			
ORDT12 Comp Rep 1	17.2	--			
ORDT12 Comp Rep 2	16.7	--			
ORDT12 Comp Rep 3	16.7	--			
ORDT12 Comp Rep 4	16.6	--			
ORDT12 Comp Rep 5	16.5	--			

TABLE 28
Analytical Results for Wet Weight Lipids and Total Solids in *Macoma nasuta* Tissues

Analyte:	Total Solids		Lipids		
Sample-Replicate #	Result %	Qualifier	Result %	Qualifier	MRL
CCRK12 Comp Rep 1	17.5	--			
CCRK12 Comp Rep 2	17.8	--			
CCRK12 Comp Rep 3	17.9	--			
CCRK12 Comp Rep 4	18.1	--			
CCRK12 Comp Rep 5	17.6	--			
DANI12 Comp Rep 1	17.8	--			
DANI12 Comp Rep 2	18.0	--			
DANI12 Comp Rep 3	18.1	--			
DANI12 Comp Rep 4	17.9	--			
DANI12 Comp Rep 5	18.6	--			
BENW12 Comp Rep 1	17.7	--			
BENW12 Comp Rep 2	18.3	--			
BENW12 Comp Rep 3	17.8	--			
BENW12 Comp Rep 4	19.2	--			
BENW12 Comp Rep 5	18.1	--			
HGIS12 Comp Rep 1	18.6	--			
HGIS12 Comp Rep 2	18.7	--			
HGIS12 Comp Rep 3	19.2	--			
HGIS12 Comp Rep 4	19.0	--			
HGIS12 Comp Rep 5	17.7	--			
DRMY12 Comp Rep 1	18.6	--			
DRMY12 Comp Rep 2	18.6	--			
DRMY12 Comp Rep 3	18.5	--			
DRMY12 Comp Rep 4	18.8	--			
DRMY12 Comp Rep 5	17.4	--			
WLR12 Comp Rep 1	18.2	--			
WLR12 Comp Rep 2	18.9	--			
WLR12 Comp Rep 3	19.1	--			
WLR12 Comp Rep 4	18.7	--			
WLR12 Comp Rep 5	18.9	--			
WUTB12 Comp Rep 1	19.2	--			
WUTB12 Comp Rep 2	18.7	--			
WUTB12 Comp Rep 3	18.2	--			
WUTB12 Comp Rep 4	18.5	--			
WUTB12 Comp Rep 5	18.1	--			
HGIW12 Comp Rep 1	20.2	--			
HGIW12 Comp Rep 2	18.6	--			
HGIW12 Comp Rep 3	19.1	--			
HGIW12 Comp Rep 4	19.5	--			
HGIW12 Comp Rep 5	19.2	--			

TABLE 28

Analytical Results for Wet Weight Lipids and Total Solids in *Macoma nasuta* Tissues

Analyte:	Total Solids		Lipids		
Sample-Replicate #	Result %	Qualifier	Result %	Qualifier	MRL
WRTB12 Comp Rep 1	18.6	--			
WRTB12 Comp Rep 2	19.0	--			
WRTB12 Comp Rep 3	19.7	--			
WRTB12 Comp Rep 4	18.9	--			
WRTB12 Comp Rep 5	19.2	--			
DANW12 Comp Rep 1	18.0	--			
DANW12 Comp Rep 2	18.5	--			
DANW12 Comp Rep 3	17.6	--			
DANW12 Comp Rep 4	18.2	--			
DANW12 Comp Rep 5	18.3	--			
WLRW12 Comp Rep 1	19.1	--			
WLRW12 Comp Rep 2	19.7	--			
WLRW12 Comp Rep 3	18.9	--			
WLRW12 Comp Rep 4	18.9	--			
WLRW12 Comp Rep 5	18.7	--			
ABMA12 Comp Rep 1	17.7	--			
ABMA12 Comp Rep 2	18.9	--			
ABMA12 Comp Rep 3	18.0	--			
ABMA12 Comp Rep 4	18.6	--			
ABMA12 Comp Rep 5	17.9	--			
RS-CH-A Rep 1	17.7	--			
RS-CH-A Rep 2	17.6	--			
RS-CH-A Rep 3	18.1	--			
RS-CH-A Rep 4	17.3	--			
RS-CH-A Rep 5	17.4	--			
Pre-exposure Rep 1	18.8	--	0.84	--	0.05
Pre-exposure Rep 2	18.6	--	0.82	--	0.05
Pre-exposure Rep 3	18.6	--	0.81	--	0.04

Source: ALS Environmental

Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 29
Analytical Results for Wet Weight Metals in *Neanthes virens* Tissues

Analyte:	Antimony				Arsenic				Beryllium				Cadmium				Chromium				Copper			
Sample-Replicate #	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**
CHEC12-1 Comp Rep 1	0.0029	J	0.0003	0.0073	2.410	--	0.003	0.073	ND	U	0.0004	0.0029	0.0417	--	0.0003	0.0029	0.0829	--	0.0029	0.0291	0.915	--	0.003	0.015
CHEC12-1 Comp Rep 2	0.0021	J	0.0003	0.0075	2.410	--	0.003	0.075	ND	U	0.0005	0.0030	0.0410	--	0.0003	0.0030	0.0971	--	0.0030	0.0301	0.942	--	0.003	0.015
CHEC12-1 Comp Rep 3	0.0022	J	0.0003	0.0077	2.170	--	0.003	0.077	0.0006	J	0.0005	0.0031	0.0384	--	0.0003	0.0031	0.102	--	0.0031	0.0307	0.954	--	0.003	0.015
CHEC12-1 Comp Rep 4	0.0042	J	0.0003	0.0074	2.360	--	0.003	0.074	0.0005	J	0.0004	0.0030	0.0403	--	0.0003	0.0030	0.0954	--	0.0030	0.0296	0.973	--	0.003	0.015
CHEC12-1 Comp Rep 5	0.0043	J	0.0003	0.0077	2.300	--	0.003	0.077	0.0005	J	0.0005	0.0031	0.0364	--	0.0003	0.0031	0.0865	--	0.0031	0.0307	0.980	--	0.003	0.015
CHEC12-1 Comp Mean[1]	0.0031				2.330				0.0005				**0.0396**				**0.0928**				0.953			
% of reference tissue	122				100				104				113				115				55			
CHEC12-2 Comp Rep 1	0.0027	J	0.0003	0.0076	2.590	--	0.003	0.076	0.0005	J	0.0005	0.0030	0.0419	--	0.0003	0.0030	0.0975	--	0.0030	0.0303	0.945	--	0.003	0.015
CHEC12-2 Comp Rep 2	0.0035	J	0.0003	0.0077	2.480	--	0.003	0.077	ND	U	0.0005	0.0031	0.0408	--	0.0003	0.0031	0.0938	--	0.0031	0.0309	0.986	--	0.003	0.015
CHEC12-2 Comp Rep 3	0.0025	J	0.0003	0.0077	2.580	--	0.003	0.077	0.0006	J	0.0005	0.0031	0.0403	--	0.0003	0.0031	0.103	--	0.0031	0.0309	0.981	--	0.003	0.015
CHEC12-2 Comp Rep 4	0.0029	J	0.0003	0.0076	2.410	--	0.003	0.076	ND	U	0.0005	0.0031	0.0402	--	0.0003	0.0031	0.105	--	0.0031	0.0305	1.000	--	0.003	0.015
CHEC12-2 Comp Rep 5	0.0026	J	0.0003	0.0079	2.390	--	0.003	0.079	0.0006	J	0.0005	0.0031	0.0374	--	0.0003	0.0031	0.0838	--	0.0031	0.0314	0.931	--	0.003	0.016
CHEC12-2 Comp Mean[1]	0.0028				2.490				0.0005				**0.0401**				**0.0966**				0.969			
% of reference tissue	110				107				113				114				120				56			
MTPL12 Comp Rep 1	0.0036	J	0.0003	0.0075	2.340	--	0.003	0.075	ND	U	0.0005	0.0030	0.0356	--	0.0003	0.0030	0.0924	--	0.0030	0.0300	0.956	--	0.003	0.015
MTPL12 Comp Rep 2	0.0043	J	0.0003	0.0077	2.320	--	0.003	0.077	ND	U	0.0005	0.0031	0.0359	--	0.0003	0.0031	0.0929	--	0.0031	0.0307	0.964	--	0.003	0.015
MTPL12 Comp Rep 3	0.0031	J	0.0003	0.0079	2.500	--	0.003	0.079	ND	U	0.0005	0.0032	0.0429	--	0.0003	0.0032	0.115	--	0.0032	0.0318	0.923	--	0.003	0.016
MTPL12 Comp Rep 4	0.0025	J	0.0003	0.0076	2.500	--	0.003	0.076	ND	U	0.0005	0.0030	0.0392	--	0.0003	0.0030	0.0778	--	0.0030	0.0303	0.938	--	0.003	0.015
MTPL12 Comp Rep 5	0.0023	J	0.0003	0.0076	2.640	--	0.003	0.076	0.0005	J	0.0005	0.0030	0.0448	--	0.0003	0.0030	0.0847	--	0.0030	0.0303	0.806	--	0.003	0.015
MTPL12 Comp Mean[1]	0.0032				2.460				0.0005				**0.0397**				**0.0926**				0.917			
% of reference tissue	122				106				104				113				115				53			
REHR12 Comp Rep 1	0.0028	J	0.0003	0.0077	2.130	--	0.003	0.077	ND	U	0.0005	0.0031	0.0347	--	0.0003	0.0031	0.110	--	0.0031	0.0309	2.380	--	0.003	0.015
REHR12 Comp Rep 2	0.0084	--	0.0003	0.0074	2.190	--	0.003	0.074	ND	U	0.0004	0.0030	0.0319	--	0.0003	0.0030	0.112	--	0.0030	0.0297	2.180	--	0.003	0.015
REHR12 Comp Rep 3	0.0144	--	0.0003	0.0077	2.300	--	0.003	0.077	ND	U	0.0005	0.0031	0.0315	--	0.0003	0.0031	0.126	--	0.0031	0.0309	2.540	--	0.003	0.015
REHR12 Comp Rep 4	0.0027	J	0.0003	0.0077	2.350	--	0.003	0.077	0.0008	J	0.0005	0.0031	0.0347	--	0.0003	0.0031	0.121	--	0.0031	0.0308	2.300	--	0.003	0.015
REHR12 Comp Rep 5	0.0021	J	0.0003	0.0080	2.400	--	0.003	0.080	ND	U	0.0005	0.0032	0.0356	--	0.0003	0.0032	0.0878	--	0.0032	0.0319	2.480	--	0.003	0.016
REHR12 Comp Mean[1]	0.0061				2.274				0.0005				0.0337				**0.1114**				***2.376***			
% of reference tissue	236				98				113				96				138				138			
HGIS12 Comp Rep 1	0.0030	J	0.0003	0.0074	2.410	--	0.003	0.074	0.0006	J	0.0004	0.0030	0.0380	--	0.0003	0.0030	0.109	--	0.0030	0.0297	1.030	--	0.003	0.015
HGIS12 Comp Rep 2	0.0049	J	0.0003	0.0076	2.590	--	0.003	0.076	0.0007	J	0.0005	0.0030	0.0397	--	0.0003	0.0030	0.124	--	0.0030	0.0303	0.951	--	0.003	0.015
HGIS12 Comp Rep 3	0.0032	J	0.0003	0.0076	2.630	--	0.003	0.076	ND	U	0.0005	0.0030	0.0378	--	0.0003	0.0030	0.109	--	0.0030	0.0304	0.968	--	0.003	0.015
HGIS12 Comp Rep 4	0.0029	J	0.0003	0.0075	2.530	--	0.003	0.075	ND	U	0.0004	0.0030	0.0352	--	0.0003	0.0030	0.106	--	0.0030	0.0299	1.040	--	0.003	0.015
HGIS12 Comp Rep 5	0.0033	J	0.0003	0.0071	2.170	--	0.003	0.071	0.0010	J	0.0004	0.0028	0.0340	--	0.0003	0.0028	0.145	--	0.0028	0.0284	0.954	--	0.003	0.014
HGIS Comp Mean[1]	0.0035				2.466				0.0006				0.0369				**0.119**				0.989			
% of reference tissue	134				106				133				105				147				57			
DRMY12 Comp Rep 1	0.0033	J	0.0003	0.0076	2.370	--	0.003	0.076	0.0005	J	0.0005	0.0030	0.0415	--	0.0003	0.0030	0.0736	--	0.0030	0.0303	0.836	--	0.003	0.015
DRMY12 Comp Rep 2	0.0021	J	0.0003	0.0076	2.280	--	0.003	0.076	ND	U	0.0005	0.0030	0.0357	--	0.0003	0.0030	0.0998	--	0.0030	0.0304	0.961	--	0.003	0.015
DRMY12 Comp Rep 3	0.0026	J	0.0003	0.0072	2.310	--	0.003	0.072	0.0006	J	0.0004	0.0029	0.0389	--	0.0003	0.0029	0.102	--	0.0029	0.0289	0.885	--	0.003	0.014
DRMY12 Comp Rep 4	0.0028	J	0.0003	0.0075	2.250	--	0.003	0.075	ND	U	0.0005	0.0030	0.0329	--	0.0003	0.0030	0.101	--	0.0030	0.0300	0.927	--	0.003	0.015
DRMY12 Comp Rep 5	0.0023	J	0.0003	0.0074	2.000	--	0.003	0.074	ND	U	0.0004	0.0029	0.0314	--	0.0003	0.0029	0.0972	--	0.0029	0.0294	0.931	--	0.003	0.015
DRMY12 Comp Mean[1]	0.0026				2.242				0.0005				0.0361				**0.0947**				0.908			
% of reference tissue	102				96				104				103				117				53			

TABLE 29
Analytical Results for Wet Weight Metals in *Neanthes virens* Tissues

Analyte:	Antimony				Arsenic				Beryllium				Cadmium				Chromium				Copper			
Sample-Replicate #	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL
WLR12 Comp Rep 1	0.0027	J	0.0003	0.0074	2.300	--	0.003	0.074	0.0005	J	0.0004	0.0029	0.0327	--	0.0003	0.0029	0.0962	--	0.0029	0.0294	0.970	--	0.003	0.015
WLR12 Comp Rep 2	0.0030	J	0.0003	0.0075	2.220	--	0.003	0.075	ND	U	0.0004	0.0030	0.0343	--	0.0003	0.0030	0.110	--	0.0030	0.0299	1.110	--	0.003	0.015
WLR12 Comp Rep 3	0.0022	J	0.0003	0.0071	2.210	--	0.003	0.071	ND	U	0.0004	0.0029	0.0311	--	0.0003	0.0029	0.0976	--	0.0029	0.0285	0.924	--	0.003	0.014
WLR12 Comp Rep 4	0.0652	--	0.0003	0.0072	2.380	--	0.003	0.072	ND	U	0.0004	0.0029	0.0359	--	0.0003	0.0029	0.0922	--	0.0029	0.0288	0.883	--	0.003	0.014
WLR12 Comp Rep 5	0.0021	J	0.0003	0.0074	2.320	--	0.003	0.074	0.0006	J	0.0004	0.0030	0.0396	--	0.0003	0.0030	0.0887	--	0.0030	0.0295	0.880	--	0.003	0.015
WLR12 Comp Mean[1]	0.0150				2.286				0.0005				0.0347				**0.0969**				0.953			
% of reference tissue	583				98				96				99				120				55			
WUTB12 Comp Rep 1	0.0023	J	0.0003	0.0071	2.190	--	0.003	0.071	ND	U	0.0004	0.0028	0.0338	--	0.0003	0.0028	0.0695	--	0.0028	0.0284	0.940	--	0.003	0.014
WUTB12 Comp Rep 2	0.0023	J	0.0003	0.0070	2.080	--	0.003	0.070	0.0008	J	0.0004	0.0028	0.0307	--	0.0003	0.0028	0.0890	--	0.0028	0.0282	0.965	--	0.003	0.014
WUTB12 Comp Rep 3	0.0025	J	0.0003	0.0076	2.490	--	0.003	0.076	ND	U	0.0005	0.0030	0.0360	--	0.0003	0.0030	0.0723	--	0.0030	0.0304	0.978	--	0.003	0.015
WUTB12 Comp Rep 4	0.0024	J	0.0003	0.0073	2.340	--	0.003	0.073	0.0007	J	0.0004	0.0029	0.0401	--	0.0003	0.0029	0.0728	--	0.0029	0.0293	0.909	--	0.003	0.015
WUTB12 Comp Rep 5	0.0022	J	0.0003	0.0076	2.470	--	0.003	0.076	ND	U	0.0005	0.0030	0.0388	--	0.0003	0.0030	0.0814	--	0.0030	0.0303	0.909	--	0.003	0.015
WUTB12 Comp Mean[1]	0.0023				2.314				0.0006				0.0359				0.0770				0.940			
% of reference tissue	91				99				121				102				95				55			
DANI12 Comp Rep 1	0.0027	J	0.0003	0.0078	2.200	--	0.003	0.078	ND	U	0.0005	0.0031	0.0347	--	0.0003	0.0031	0.0769	--	0.0031	0.0314	2.570	--	0.003	0.016
DANI12 Comp Rep 2	0.0018	J	0.0003	0.0079	2.400	--	0.003	0.079	ND	U	0.0005	0.0032	0.0338	--	0.0003	0.0032	0.0554	--	0.0032	0.0318	2.450	--	0.003	0.016
DANI12 Comp Rep 3	0.0021	J	0.0003	0.0077	2.180	--	0.003	0.077	ND	U	0.0005	0.0031	0.0297	--	0.0003	0.0031	0.0506	--	0.0031	0.0308	2.520	--	0.003	0.015
DANI12 Comp Rep 4	0.0021	J	0.0003	0.0076	2.230	--	0.003	0.076	ND	U	0.0005	0.0030	0.0342	--	0.0003	0.0030	0.0605	--	0.0030	0.0304	2.710	--	0.003	0.015
DANI12 Comp Rep 5	0.0022	J	0.0003	0.0075	2.270	--	0.003	0.075	ND	U	0.0005	0.0030	0.0386	--	0.0003	0.0030	0.0507	--	0.0030	0.0301	2.540	--	0.003	0.015
DANI12 Comp Mean[1]	0.0022				2.256				0.0005				0.0342				0.0588				***2.558***			
% of reference tissue	84				97				104				98				73				149			
CCRK12 Comp Rep 1	0.0020	J	0.0003	0.0079	2.170	--	0.003	0.079	ND	U	0.0005	0.0032	0.0311	--	0.0003	0.0032	0.0517	--	0.0032	0.0316	2.260	--	0.003	0.016
CCRK12 Comp Rep 2	0.0014	J	0.0003	0.0078	2.120	--	0.003	0.078	ND	U	0.0005	0.0031	0.0327	--	0.0003	0.0031	0.0490	--	0.0031	0.0314	2.340	--	0.003	0.016
CCRK12 Comp Rep 3	0.0033	J	0.0003	0.0076	2.230	--	0.003	0.076	ND	U	0.0005	0.0030	0.0337	--	0.0003	0.0030	0.0695	--	0.0030	0.0303	2.300	--	0.003	0.015
CCRK12 Comp Rep 4	0.0022	J	0.0003	0.0078	2.240	--	0.003	0.078	ND	U	0.0005	0.0031	0.0320	--	0.0003	0.0031	0.0563	--	0.0031	0.0312	1.960	--	0.003	0.016
CCRK12 Comp Rep 5	0.0042	J	0.0003	0.0079	2.280	--	0.003	0.079	ND	U	0.0005	0.0031	0.0336	--	0.0003	0.0031	0.0649	--	0.0031	0.0315	2.710	--	0.003	0.016
CCRK12 Comp Mean[1]	0.0026				2.208				0.0005				0.0326				0.0583				***2.314***			
% of reference tissue	102				95				104				93				72				135			
UH12 Comp Rep 1	0.0022	J	0.0003	0.0076	2.040	--	0.003	0.076	ND	U	0.0005	0.0030	0.0304	--	0.0003	0.0030	0.0611	--	0.0030	0.0305	2.170	--	0.003	0.015
UH12 Comp Rep 2	0.0032	J	0.0003	0.0078	2.170	--	0.003	0.078	ND	U	0.0005	0.0031	0.0320	--	0.0003	0.0031	0.0642	--	0.0031	0.0311	2.460	--	0.003	0.016
UH12 Comp Rep 3	0.0026	J	0.0003	0.0076	2.100	--	0.003	0.076	ND	U	0.0005	0.0030	0.0317	--	0.0003	0.0030	0.0771	--	0.0030	0.0303	2.190	--	0.003	0.015
UH12 Comp Rep 4	0.0019	J	0.0003	0.0074	2.010	--	0.003	0.074	0.0005	J	0.0004	0.0030	0.0289	--	0.0003	0.0030	0.0598	--	0.0030	0.0296	2.250	--	0.003	0.015
UH12 Comp Rep 5	0.0023	J	0.0003	0.0072	1.890	--	0.003	0.072	ND	U	0.0004	0.0029	0.0306	--	0.0003	0.0029	0.0620	--	0.0029	0.0287	2.120	--	0.003	0.014
UH12 Comp Mean[1]	0.0024				2.042				0.0005				0.0307				0.0648				***2.238***			
% of reference tissue	95				88				100				88				80				130			
ORDT12 Comp Rep 1	0.0019	J	0.0003	0.0076	2.050	--	0.003	0.076	ND	U	0.0005	0.0030	0.0342	--	0.0003	0.0030	0.0575	--	0.0030	0.0303	2.710	--	0.003	0.015
ORDT12 Comp Rep 2	0.0097	--	0.0003	0.0077	2.210	--	0.003	0.077	0.0010	J	0.0005	0.0031	0.0300	--	0.0003	0.0031	0.0594	--	0.0031	0.0309	2.160	--	0.003	0.015
ORDT12 Comp Rep 3	0.0039	J	0.0003	0.0079	2.260	--	0.003	0.079	ND	U	0.0005	0.0032	0.0316	--	0.0003	0.0032	0.0683	--	0.0032	0.0318	2.510	--	0.003	0.016
ORDT12 Comp Rep 4	0.0018	J	0.0003	0.0074	1.960	--	0.003	0.074	ND	U	0.0004	0.0030	0.0326	--	0.0003	0.0030	0.0710	--	0.0030	0.0296	2.470	--	0.003	0.015
ORDT12 Comp Rep 5	0.0014	J	0.0003	0.0074	2.050	--	0.003	0.074	ND	U	0.0004	0.0030	0.0289	--	0.0003	0.0030	0.0607	--	0.0030	0.0297	2.280	--	0.003	0.015
ORDT12 Comp Mean[1]	0.0037				2.106				0.0006				0.0315				0.0634				***2.426***			
% of reference tissue	145				91				117				90				78				141			

TABLE 29
Analytical Results for Wet Weight Metals in *Neanthes virens* Tissues

Analyte:	Antimony				Arsenic				Beryllium				Cadmium				Chromium				Copper			
Sample-Replicate #	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**
BENW12 Comp Rep 1	0.0033	J	0.0003	0.0075	2.460	--	0.003	0.075	ND	U	0.0005	0.0030	0.0363	--	0.0003	0.0030	0.0823	--	0.0030	0.0301	0.984	--	0.003	0.015
BENW12 Comp Rep 2	0.0024	J	0.0003	0.0075	2.400	--	0.003	0.075	ND	U	0.0004	0.0030	0.0378	--	0.0003	0.0030	0.0846	--	0.0030	0.0299	0.906	--	0.003	0.015
BENW12 Comp Rep 3	0.0030	J	0.0003	0.0077	2.350	--	0.003	0.077	ND	U	0.0005	0.0031	0.0363	--	0.0003	0.0031	0.101	--	0.0031	0.0307	0.961	--	0.003	0.015
BENW12 Comp Rep 4	0.0033	J	0.0003	0.0072	2.480	--	0.003	0.072	ND	U	0.0004	0.0029	0.0346	--	0.0003	0.0029	0.0996	--	0.0029	0.0287	0.987	--	0.003	0.014
BENW12 Comp Rep 5	0.0030	J	0.0003	0.0074	2.380	--	0.003	0.074	ND	U	0.0004	0.0029	0.0383	--	0.0003	0.0029	0.0860	--	0.0029	0.0294	0.977	--	0.003	0.015
BENW12 Comp Mean[1]	0.0030				2.414				0.0004				0.0367				**0.0907**				0.963			
% of reference tissue	116				104				92				105				112				56			
HGIW12 Comp Rep 1	0.0020	J	0.0003	0.0078	2.040	--	0.003	0.078	ND	U	0.0005	0.0031	0.0307	--	0.0003	0.0031	0.0892	--	0.0031	0.0312	0.965	--	0.003	0.016
HGIW12 Comp Rep 2	0.0021	J	0.0003	0.0077	2.230	--	0.003	0.077	ND	U	0.0005	0.0031	0.0354	--	0.0003	0.0031	0.0673	--	0.0031	0.0309	0.772	--	0.003	0.015
HGIW12 Comp Rep 3	0.0029	J	0.0003	0.0075	2.210	--	0.003	0.075	ND	U	0.0004	0.0030	0.0357	--	0.0003	0.0030	0.0805	--	0.0030	0.0299	0.981	--	0.003	0.015
HGIW12 Comp Rep 4	0.0019	J	0.0003	0.0074	2.210	--	0.003	0.074	ND	U	0.0004	0.0030	0.0327	--	0.0003	0.0030	0.157	--	0.0030	0.0296	0.816	--	0.003	0.015
HGIW12 Comp Rep 5	0.0020	J	0.0003	0.0072	2.200	--	0.003	0.072	ND	U	0.0004	0.0029	0.0367	--	0.0003	0.0029	0.0649	--	0.0029	0.0290	0.831	--	0.003	0.014
HGIW12 Comp Mean[1]	0.0022				2.178				0.0004				0.0342				**0.0918**				0.873			
% of reference tissue	84				94				92				98				114				51			
WRTB12 Comp Rep 1	0.0025	J	0.0003	0.0073	1.980	--	0.003	0.073	ND	U	0.0004	0.0029	0.0310	--	0.0003	0.0029	0.0730	--	0.0029	0.0290	1.060	--	0.003	0.015
WRTB12 Comp Rep 2	0.0020	J	0.0003	0.0075	2.330	--	0.003	0.075	ND	U	0.0005	0.0030	0.0383	--	0.0003	0.0030	0.0978	--	0.0030	0.0300	1.130	--	0.003	0.015
WRTB12 Comp Rep 3	0.0044	J	0.0003	0.0074	2.220	--	0.003	0.074	ND	U	0.0004	0.0030	0.0348	--	0.0003	0.0030	0.0772	--	0.0030	0.0297	0.895	--	0.003	0.015
WRTB12 Comp Rep 4	0.0028	J	0.0003	0.0076	2.110	--	0.003	0.076	ND	U	0.0005	0.0030	0.0369	--	0.0003	0.0030	0.0769	--	0.0030	0.0305	0.868	--	0.003	0.015
WRTB12 Comp Rep 5	0.0019	J	0.0003	0.0077	2.210	--	0.003	0.077	ND	U	0.0005	0.0031	0.0329	--	0.0003	0.0031	0.0720	--	0.0031	0.0310	0.957	--	0.003	0.015
WRTB12 Comp Mean[1]	0.0027				2.170				0.0005				0.0348				0.0794				0.982			
% of reference tissue	105				93				96				99				98				57			
DANW12 Comp Rep 1	0.0024	J	0.0003	0.0074	2.070	--	0.003	0.074	ND	U	0.0004	0.0030	0.0289	--	0.0003	0.0030	0.0871	--	0.0030	0.0298	2.680	--	0.003	0.015
DANW12 Comp Rep 2	0.0025	J	0.0003	0.0075	2.040	--	0.003	0.075	ND	U	0.0005	0.0030	0.0303	--	0.0003	0.0030	0.0833	--	0.0030	0.0301	2.390	--	0.003	0.015
DANW12 Comp Rep 3	0.0027	J	0.0003	0.0076	1.840	--	0.003	0.076	0.0007	J	0.0005	0.0030	0.0283	--	0.0003	0.0030	0.0829	--	0.0030	0.0304	2.360	--	0.003	0.015
DANW12 Comp Rep 4	0.0018	J	0.0003	0.0075	2.040	--	0.003	0.075	ND	U	0.0005	0.0030	0.0291	--	0.0003	0.0030	0.0788	--	0.0030	0.0301	2.110	--	0.003	0.015
DANW12 Comp Rep 5	0.0017	J	0.0003	0.0076	1.980	--	0.003	0.076	ND	U	0.0005	0.0031	0.0283	--	0.0003	0.0031	0.0540	--	0.0031	0.0305	1.900	--	0.003	0.015
DANW12 Comp Mean[1]	0.0022				1.994				0.0005				0.0290				0.0772				***2.288***			
% of reference tissue	86				86				108				83				96				133			
WLRW12 Comp Rep 1	0.0028	J	0.0003	0.0077	2.280	--	0.003	0.077	ND	U	0.0005	0.0031	0.0336	--	0.0003	0.0031	0.0646	--	0.0031	0.0307	0.948	--	0.003	0.015
WLRW12 Comp Rep 2	0.0022	J	0.0003	0.0079	2.390	--	0.003	0.079	ND	U	0.0005	0.0031	0.0336	--	0.0003	0.0031	0.0789	--	0.0031	0.0315	1.060	--	0.003	0.016
WLRW12 Comp Rep 3	0.0017	J	0.0003	0.0077	2.530	--	0.003	0.077	ND	U	0.0005	0.0031	0.0360	--	0.0003	0.0031	0.0660	--	0.0031	0.0310	0.883	--	0.003	0.015
WLRW12 Comp Rep 4	0.0022	J	0.0003	0.0075	2.580	--	0.003	0.075	ND	U	0.0005	0.0030	0.0373	--	0.0003	0.0030	0.0910	--	0.0030	0.0300	0.844	--	0.003	0.015
WLRW12 Comp Rep 5	0.0024	J	0.0003	0.0076	2.280	--	0.003	0.076	ND	U	0.0005	0.0030	0.0383	--	0.0003	0.0030	0.0772	--	0.0030	0.0304	0.852	--	0.003	0.015
WLRW12 Comp Mean[1]	0.0023				2.412				0.0005				0.0358				0.0755				0.917			
% of reference tissue	88				104				104				102				93				53			
NCW12 Comp Rep 1	0.0028	J	0.0003	0.0078	2.340	--	0.003	0.078	ND	U	0.0005	0.0031	0.0305	--	0.0003	0.0031	0.0567	--	0.0031	0.0313	2.540	--	0.003	0.016
NCW12 Comp Rep 2	0.0035	J	0.0003	0.0078	2.310	--	0.003	0.078	ND	U	0.0005	0.0031	0.0305	--	0.0003	0.0031	0.0652	--	0.0031	0.0311	1.990	--	0.003	0.016
NCW12 Comp Rep 3	0.0029	J	0.0003	0.0080	2.250	--	0.003	0.080	ND	U	0.0005	0.0032	0.0305	--	0.0003	0.0032	0.0470	--	0.0032	0.0321	2.370	--	0.003	0.016
NCW12 Comp Rep 4	0.0024	J	0.0003	0.0076	2.210	--	0.003	0.076	ND	U	0.0005	0.0030	0.0317	--	0.0003	0.0030	0.0704	--	0.0030	0.0304	2.440	--	0.003	0.015
NCW12 Comp Rep 5	0.0080	--	0.0003	0.0078	2.310	--	0.003	0.078	0.0006	J	0.0005	0.0031	0.0326	--	0.0003	0.0031	0.0558	--	0.0031	0.0312	2.140	--	0.003	0.016
NCW12 Comp Mean[1]	0.0039				2.284				0.0005				0.0312				0.0590				***2.296***			
% of reference tissue	152				98				108				89				73				133			

TABLE 29
Analytical Results for Wet Weight Metals in *Neanthes virens* Tissues

Analyte:	Antimony				Arsenic				Beryllium				Cadmium				Chromium				Copper			
Sample-Replicate #	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**
ABMA12 Comp Rep 1	0.0028	J	0.0003	0.0084	2.21	--	0.003	0.084	0.0006	J	0.0005	0.0034	0.0316	--	0.0003	0.0034	0.061	--	0.003	0.034	1.80	--	0.003	0.017
ABMA12 Comp Rep 2	0.0028	J	0.0003	0.0078	2.19	--	0.003	0.078	ND	U	0.0005	0.0031	0.0312	--	0.0003	0.0031	0.064	--	0.003	0.031	1.67	--	0.003	0.016
ABMA12 Comp Rep 3	0.0027	J	0.0003	0.0087	2.48	--	0.003	0.087	0.0006	J	0.0005	0.0035	0.0325	--	0.0003	0.0035	0.093	--	0.003	0.035	1.68	--	0.003	0.017
ABMA12 Comp Rep 4	0.0032	J	0.0003	0.0083	2.37	--	0.003	0.083	0.0006	J	0.0005	0.0033	0.029	--	0.0003	0.0033	0.074	--	0.003	0.033	1.74	--	0.003	0.017
ABMA12 Comp Rep 5	0.0041	J	0.0003	0.0081	2.19	--	0.003	0.081	0.0006	J	0.0005	0.0032	0.0323	--	0.0003	0.0032	0.071	--	0.003	0.032	1.80	--	0.003	0.016
ABMA12 Comp Mean[1]	0.0031				2.288				0.0006				0.0313				0.073				1.74			
% of reference tissue	121				98				121				89				90				101			
SHCR12 Comp Rep 1	0.0043	J	0.0003	0.0074	2.110	--	0.003	0.074	0.0010	J	0.0004	0.0029	0.0329	--	0.0003	0.0029	0.0821	--	0.0029	0.0294	0.972	--	0.003	0.015
SHCR12 Comp Rep 2	0.0030	J	0.0003	0.0074	2.060	--	0.003	0.074	0.0004	J	0.0004	0.0029	0.0307	--	0.0003	0.0029	0.0640	--	0.0029	0.0294	1.100	--	0.003	0.015
SHCR12 Comp Rep 3	0.0027	J	0.0003	0.0075	2.160	--	0.003	0.075	0.0005	J	0.0005	0.0030	0.0304	--	0.0003	0.0030	0.0733	--	0.0030	0.0301	1.070	--	0.003	0.015
SHCR12 Comp Rep 4	0.0024	J	0.0003	0.0073	2.220	--	0.003	0.073	ND	U	0.0004	0.0029	0.0356	--	0.0003	0.0029	0.0602	--	0.0029	0.0290	0.948	--	0.003	0.015
SHCR12 Comp Rep 5	0.0031	J	0.0003	0.0074	2.120	--	0.003	0.074	0.0005	J	0.0004	0.0030	0.0285	--	0.0003	0.0030	0.0742	--	0.0030	0.0295	1.050	--	0.003	0.015
SHCR12 Comp Mean[1]	0.0031				2.134				0.0006				0.0316				0.0708				1.028			
% of reference tissue	120				92				117				90				88				60			
RS-CH-A Rep 1	0.0023	J	0.0003	0.0075	2.38	--	0.003	0.075	ND	U	0.0005	0.0030	0.0363	--	0.0003	0.0030	0.074	--	0.003	0.030	1.72	--	0.003	0.015
RS-CH-A Rep 2	0.0025	J	0.0003	0.0076	2.21	--	0.003	0.076	ND	U	0.0005	0.0030	0.0343	--	0.0003	0.0030	0.087	--	0.003	0.030	1.68	--	0.003	0.015
RS-CH-A Rep 3	0.0023	J	0.0003	0.0077	2.29	--	0.003	0.077	ND	U	0.0005	0.0031	0.0347	--	0.0003	0.0031	0.080	--	0.003	0.031	1.75	--	0.003	0.015
RS-CH-A Rep 4	0.0036	J	0.0003	0.0076	2.48	--	0.003	0.076	ND	U	0.0005	0.0031	0.0330	--	0.0003	0.0031	0.091	--	0.003	0.031	1.67	--	0.003	0.015
RS-CH-A Rep 5	0.0022	J	0.0003	0.0073	2.27	--	0.003	0.073	ND	U	0.0004	0.0029	0.0369	--	0.0003	0.0029	0.072	--	0.003	0.029	1.78	--	0.003	0.015
RS-CH-A Mean	0.0026				2.326				0.0005				0.0350				0.081				1.72			
Pre-exposure Rep 1	0.0028	J	0.0003	0.0075	2.21	--	0.003	0.075	0.0006	J	0.0004	0.0030	0.0274	--	0.0003	0.0030	0.106	--	0.003	0.030	1.20	--	0.003	0.015
Pre-exposure Rep 2	0.0029	J	0.0003	0.0075	2.35	--	0.003	0.075	0.0005	J	0.0004	0.0030	0.0315	--	0.0003	0.0030	0.091	--	0.003	0.030	1.08	--	0.003	0.015
Pre-exposure Rep 3	0.0033	J	0.0003	0.0077	2.53	--	0.003	0.077	ND	U	0.0005	0.0031	0.0262	--	0.0003	0.0031	0.102	--	0.003	0.031	1.09	--	0.003	0.015
Pre-exposure Mean	0.0030				2.363				0.0005				0.0284				0.100				1.12			
FDA Action Levels[1]	x				76				x				3				12				x			
Eco. Effects Threshold[1]	x				12.6				x				27.8				10.0				0.4			
South Atlantic Bight Background[1]	<0.22				6.2-46				<0.22				0.26-1.8				2.8-7.1				2.5-3.5			

TABLE 29
Analytical Results for Wet Weight Metals in *Neanthes virens* Tissues

Analyte:	Lead				Mercury				Nickel				Selenium				Silver				Thallium				Zinc			
Sample-Replicate #	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL
CHEC12-1 Comp Rep 1	0.0980	--	0.0001	0.0029	0.0214	--	0.0006	0.0030	0.114	--	0.003	0.029	0.28	--	0.03	0.15	0.022	--	0.001	0.003	0.0002	J	0.0001	0.0029	19.9	N*	0.01	0.07
CHEC12-1 Comp Rep 2	0.0767	--	0.0001	0.0030	0.0199	--	0.0006	0.0030	0.163	--	0.003	0.030	0.33	--	0.03	0.15	0.022	--	0.001	0.003	0.0003	J	0.0001	0.0030	37.9	N*	0.01	0.08
CHEC12-1 Comp Rep 3	0.0910	--	0.0001	0.0031	0.0173	--	0.0006	0.0031	0.122	--	0.003	0.031	0.31	--	0.03	0.15	0.022	--	0.001	0.003	0.0003	J	0.0001	0.0031	36.0	N*	0.01	0.08
CHEC12-1 Comp Rep 4	0.0838	--	0.0001	0.0030	0.0202	--	0.0006	0.0030	0.128	--	0.003	0.030	0.33	--	0.03	0.15	0.027	--	0.001	0.003	0.0004	J	0.0001	0.0030	18.2	N*	0.01	0.07
CHEC12-1 Comp Rep 5	0.0762	--	0.0001	0.0031	0.0199	--	0.0006	0.0031	0.140	--	0.003	0.031	0.34	--	0.03	0.15	0.021	--	0.001	0.003	0.0003	J	0.0001	0.0031	22.6	N*	0.01	0.08
CHEC12-1 Comp Mean[1]	0.0851				0.0197				**0.133**				0.32				0.023				0.0003				26.9			
% of reference tissue	108				110				117				114				121				217				142			
CHEC12-2 Comp Rep 1	0.0913	--	0.0001	0.0030	0.0177	--	0.0006	0.0031	0.159	--	0.003	0.030	0.31	--	0.03	0.15	0.022	--	0.001	0.003	0.0005	J	0.0001	0.0030	13.4	N*	0.01	0.08
CHEC12-2 Comp Rep 2	0.0830	--	0.0001	0.0031	0.0202	--	0.0006	0.0031	0.141	--	0.003	0.031	0.35	--	0.03	0.15	0.022	--	0.001	0.003	0.0005	J	0.0001	0.0031	23.3	N*	0.01	0.08
CHEC12-2 Comp Rep 3	0.0949	--	0.0001	0.0031	0.0223	--	0.0006	0.0031	0.151	--	0.003	0.031	0.36	--	0.03	0.16	0.022	--	0.001	0.003	0.0003	J	0.0001	0.0031	14.3	N*	0.01	0.08
CHEC12-2 Comp Rep 4	0.0879	--	0.0001	0.0031	0.0223	--	0.0006	0.0030	0.209	--	0.003	0.031	0.32	--	0.03	0.15	0.022	--	0.001	0.003	0.0006	J	0.0001	0.0031	14.2	N*	0.01	0.08
CHEC12-2 Comp Rep 5	0.0850	--	0.0001	0.0031	0.0195	--	0.0006	0.0032	0.160	--	0.003	0.031	0.33	--	0.03	0.16	0.023	--	0.001	0.003	0.0005	J	0.0001	0.0031	22.5	N*	0.01	0.08
CHEC12-2 Comp Mean[1]	0.0884				0.0204				**0.164**				**0.33**				0.022				0.0005				17.5			
% of reference tissue	112				114				144				119				118				348				93			
MTPL12 Comp Rep 1	0.0681	--	0.0001	0.0030	0.0201	--	0.0006	0.0030	0.221	--	0.003	0.030	0.29	--	0.03	0.15	0.019	--	0.001	0.003	0.0015	J	0.0001	0.0030	18.4	N*	0.01	0.08
MTPL12 Comp Rep 2	0.0800	--	0.0001	0.0031	0.0201	--	0.0006	0.0031	0.225	--	0.003	0.031	0.33	--	0.03	0.15	0.019	--	0.001	0.003	0.0014	J	0.0001	0.0031	22.5	N*	0.01	0.08
MTPL12 Comp Rep 3	0.0896	--	0.0001	0.0032	0.0172	--	0.0006	0.0032	0.275	--	0.003	0.032	0.31	--	0.03	0.16	0.020	--	0.001	0.003	0.0012	J	0.0001	0.0032	18.6	N*	0.01	0.08
MTPL12 Comp Rep 4	0.0797	--	0.0001	0.0030	0.0242	--	0.0006	0.0031	0.261	--	0.003	0.030	0.32	--	0.03	0.15	0.018	--	0.001	0.003	0.0014	J	0.0001	0.0030	18.5	N*	0.01	0.08
MTPL12 Comp Rep 5	0.0860	--	0.0001	0.0030	0.0145	--	0.0006	0.0030	0.293	--	0.003	0.030	0.26	--	0.03	0.15	0.018	--	0.001	0.003	0.0016	J	0.0001	0.0030	12.7	N*	0.01	0.08
MTPL12 Comp Mean[1]	0.0807				0.0192				**0.255**				0.30				0.019				0.0014				18.1			
% of reference tissue	102				107				224				108				100				1029				96			
REHR12 Comp Rep 1	0.0780	--	0.0001	0.0031	0.0142	--	0.0006	0.0031	0.167	--	0.003	0.031	0.30	--	0.03	0.15	0.011	--	0.001	0.003	0.0005	J	0.0001	0.0031	20.9	N*	0.01	0.08
REHR12 Comp Rep 2	0.0844	--	0.0001	0.0030	0.0143	--	0.0006	0.0030	0.140	--	0.003	0.030	0.28	--	0.03	0.15	0.013	--	0.001	0.003	0.0004	J	0.0001	0.0030	10.6	N*	0.01	0.07
REHR12 Comp Rep 3	0.0727	--	0.0001	0.0031	0.0149	--	0.0006	0.0031	0.167	--	0.003	0.031	0.32	--	0.03	0.16	0.009	--	0.001	0.003	0.0005	J	0.0001	0.0031	33.7	N*	0.01	0.08
REHR12 Comp Rep 4	0.0869	--	0.0001	0.0031	0.0163	--	0.0006	0.0030	0.150	--	0.003	0.031	0.31	--	0.03	0.15	0.011	--	0.001	0.003	0.0004	J	0.0001	0.0031	14.5	N*	0.01	0.08
REHR12 Comp Rep 5	0.0846	--	0.0001	0.0032	0.0166	--	0.0006	0.0032	0.130	--	0.003	0.032	0.33	--	0.03	0.16	0.013	--	0.001	0.003	0.0004	J	0.0001	0.0032	10.3	N*	0.01	0.08
REHR12 Comp Mean[1]	0.0813				0.0153				**0.151**				0.31				0.011				0.0004				18.0			
% of reference tissue	103				85				133				110				61				319				95			
HGIS12 Comp Rep 1	0.0878	--	0.0001	0.0030	0.0191	--	0.0006	0.0030	0.270	--	0.003	0.030	0.30	--	0.03	0.15	0.026	--	0.001	0.003	0.0004	J	0.0001	0.0030	26.9	N*	0.01	0.07
HGIS12 Comp Rep 2	0.0900	--	0.0001	0.0030	0.0220	--	0.0006	0.0031	0.292	--	0.003	0.030	0.30	--	0.03	0.15	0.021	--	0.001	0.003	0.0006	J	0.0001	0.0030	17.4	N*	0.01	0.08
HGIS12 Comp Rep 3	0.0844	--	0.0001	0.0030	0.0195	--	0.0006	0.0031	0.324	--	0.003	0.030	0.37	--	0.03	0.15	0.017	--	0.001	0.003	0.0004	J	0.0001	0.0030	36.1	N*	0.01	0.08
HGIS12 Comp Rep 4	0.0793	--	0.0001	0.0030	0.0200	--	0.0006	0.0030	0.257	--	0.003	0.030	0.29	--	0.03	0.15	0.027	--	0.001	0.003	0.0005	J	0.0001	0.0030	11.9	N*	0.01	0.08
HGIS12 Comp Rep 5	0.0993	--	0.0001	0.0028	0.0183	--	0.0006	0.0029	0.332	--	0.003	0.028	0.30	--	0.03	0.14	0.019	--	0.001	0.003	0.0006	J	0.0001	0.0028	32.4	N*	0.01	0.07
HGIS Comp Mean[1]	0.0882				0.0198				**0.295**				0.31				0.022				0.0005				24.9			
% of reference tissue	112				110				259				111				117				362				132			
DRMY12 Comp Rep 1	0.0799	--	0.0001	0.0030	0.0169	--	0.0006	0.0030	0.163	--	0.003	0.030	0.26	--	0.03	0.15	0.019	--	0.001	0.003	0.0002	J	0.0001	0.0030	35.7	N*	0.01	0.08
DRMY12 Comp Rep 2	0.0875	--	0.0001	0.0030	0.0187	--	0.0006	0.0031	0.186	--	0.003	0.030	0.28	--	0.03	0.15	0.020	--	0.001	0.003	0.0002	J	0.0001	0.0030	10.5	N*	0.01	0.08
DRMY12 Comp Rep 3	0.0981	--	0.0001	0.0029	0.0155	--	0.0006	0.0029	0.138	--	0.003	0.029	0.26	--	0.03	0.15	0.017	--	0.001	0.003	0.0002	J	0.0001	0.0029	9.42	N*	0.01	0.07
DRMY12 Comp Rep 4	0.0790	--	0.0001	0.0030	0.0212	--	0.0006	0.0030	0.179	--	0.003	0.030	0.32	--	0.03	0.15	0.018	--	0.001	0.003	0.0002	J	0.0001	0.0030	16.1	N*	0.01	0.08
DRMY12 Comp Rep 5	0.0831	--	0.0001	0.0029	0.0203	--	0.0006	0.0029	0.163	--	0.003	0.029	0.31	--	0.03	0.15	0.015	--	0.001	0.003	0.0002	J	0.0001	0.0029	9.81	N*	0.01	0.07
DRMY12 Comp Mean[1]	0.0855				0.0185				**0.166**				0.29				0.018				0.0002				16.3			
% of reference tissue	109				103				146				102				95				145				86			

TABLE 29
Analytical Results for Wet Weight Metals in *Neanthes virens* Tissues

Analyte:	Lead				Mercury				Nickel				Selenium				Silver				Thallium				Zinc			
Sample-Replicate #	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL
WLR12 Comp Rep 1	0.0779	--	0.0001	0.0029	0.0200	--	0.0006	0.0029	0.325	--	0.003	0.029	0.33	--	0.03	0.15	0.023	--	0.001	0.003	0.0005	J	0.0001	0.0029	30.9	N*	0.01	0.07
WLR12 Comp Rep 2	0.0663	--	0.0001	0.0030	0.0229	--	0.0006	0.0030	0.468	--	0.003	0.030	0.35	--	0.03	0.15	0.019	--	0.001	0.003	0.0003	J	0.0001	0.0030	9.74	N*	0.01	0.08
WLR12 Comp Rep 3	0.0688	--	0.0001	0.0029	0.0212	--	0.0006	0.0029	0.299	--	0.003	0.029	0.32	--	0.03	0.14	0.015	--	0.001	0.003	0.0003	J	0.0001	0.0029	26.8	N*	0.01	0.07
WLR12 Comp Rep 4	0.0944	--	0.0001	0.0029	0.0132	--	0.0006	0.0029	0.350	--	0.003	0.029	0.27	--	0.03	0.14	0.017	--	0.001	0.003	0.0003	J	0.0001	0.0029	20.5	N*	0.01	0.07
WLR12 Comp Rep 5	0.0763	--	0.0001	0.0030	0.0167	--	0.0006	0.0030	0.303	--	0.003	0.030	0.28	--	0.03	0.15	0.014	--	0.001	0.003	0.0003	J	0.0001	0.0030	35.6	N*	0.01	0.07
WLR12 Comp Mean[1]	0.0767				0.0188				**0.349**				0.31				0.018				0.0003				24.7			
% of reference tissue	97				105				307				111				94				246				130			
WUTB12 Comp Rep 1	0.0948	--	0.0001	0.0028	0.0175	--	0.0006	0.0029	0.210	--	0.003	0.028	0.28	--	0.03	0.14	0.018	--	0.001	0.003	0.0002	J	0.0001	0.0028	17.0	N*	0.01	0.07
WUTB12 Comp Rep 2	0.0705	--	0.0001	0.0028	0.0197	--	0.0006	0.0028	0.214	--	0.003	0.028	0.31	--	0.03	0.14	0.022	--	0.001	0.003	0.0004	J	0.0001	0.0028	15.6	N*	0.01	0.07
WUTB12 Comp Rep 3	0.0997	--	0.0001	0.0030	0.0176	--	0.0006	0.0031	0.219	--	0.003	0.030	0.32	--	0.03	0.15	0.019	--	0.001	0.003	0.0002	J	0.0001	0.0030	34.5	N*	0.01	0.08
WUTB12 Comp Rep 4	0.0832	--	0.0001	0.0029	0.0248	--	0.0006	0.0029	0.193	--	0.003	0.029	0.31	--	0.03	0.15	0.021	--	0.001	0.003	0.0002	J	0.0001	0.0029	17.4	N*	0.01	0.07
WUTB12 Comp Rep 5	0.0841	--	0.0001	0.0030	0.0185	--	0.0006	0.0030	0.208	--	0.003	0.030	0.30	--	0.03	0.15	0.026	--	0.001	0.003	0.0002	J	0.0001	0.0030	9.56	N*	0.01	0.08
WUTB12 Comp Mean[1]	0.0865				0.0196				**0.209**				0.30				0.021				0.0002				18.8			
% of reference tissue	110				109				183				109				113				174				99			
DANI12 Comp Rep 1	0.0796	--	0.0001	0.0031	0.0157	--	0.0006	0.0032	0.268	--	0.003	0.031	0.27	--	0.03	0.16	0.012	--	0.001	0.003	ND	U	0.0001	0.0031	14.2	N*	0.01	0.08
DANI12 Comp Rep 2	0.0740	--	0.0001	0.0032	0.0184	--	0.0006	0.0031	0.250	--	0.003	0.032	0.30	--	0.03	0.16	0.011	--	0.001	0.003	ND	U	0.0001	0.0032	28.7	N*	0.01	0.08
DANI12 Comp Rep 3	0.0729	--	0.0001	0.0031	0.0139	--	0.0006	0.0030	0.216	--	0.003	0.031	0.25	--	0.03	0.15	0.011	--	0.001	0.003	ND	U	0.0001	0.0031	25.4	N*	0.01	0.08
DANI12 Comp Rep 4	0.0799	--	0.0001	0.0030	0.0172	--	0.0006	0.0031	0.261	--	0.003	0.030	0.28	--	0.03	0.15	0.016	--	0.001	0.003	ND	U	0.0001	0.0030	18.2	N*	0.01	0.08
DANI12 Comp Rep 5	0.0874	--	0.0001	0.0030	0.0148	--	0.0006	0.0030	0.290	--	0.003	0.030	0.26	--	0.03	0.15	0.013	--	0.001	0.003	ND	U	0.0001	0.0030	9.21	N*	0.01	0.08
DANI12 Comp Mean[1]	0.0788				0.0160				**0.257**				0.27				0.013				0.0001				19.1			
% of reference tissue	100				89				226				97				67				72				101			
CCRK12 Comp Rep 1	0.0753	--	0.0001	0.0032	0.0141	--	0.0006	0.0031	0.195	--	0.003	0.032	0.25	--	0.03	0.16	0.014	--	0.001	0.003	0.0003	J	0.0001	0.0032	12.0	N*	0.01	0.08
CCRK12 Comp Rep 2	0.0783	--	0.0001	0.0031	0.0165	--	0.0006	0.0032	0.209	--	0.003	0.031	0.27	--	0.03	0.16	0.012	--	0.001	0.003	ND	U	0.0001	0.0031	9.69	N*	0.01	0.08
CCRK12 Comp Rep 3	0.0774	--	0.0001	0.0030	0.0157	--	0.0006	0.0031	0.234	--	0.003	0.030	0.26	--	0.03	0.15	0.014	--	0.001	0.003	ND	U	0.0001	0.0030	21.8	N*	0.01	0.08
CCRK12 Comp Rep 4	0.0780	--	0.0001	0.0031	0.0150	--	0.0006	0.0032	0.178	--	0.003	0.031	0.29	--	0.03	0.16	0.011	--	0.001	0.003	ND	U	0.0001	0.0031	13.5	N*	0.01	0.08
CCRK12 Comp Rep 5	0.0741	--	0.0001	0.0031	0.0150	--	0.0006	0.0031	0.282	--	0.003	0.031	0.29	--	0.03	0.16	0.014	--	0.001	0.003	0.0001	J	0.0001	0.0031	31.1	N*	0.01	0.08
CCRK12 Comp Mean[1]	0.0766				0.0153				**0.220**				0.27				0.013				0.0001				17.6			
% of reference tissue	97				85				193				97				69				101				93			
UH12 Comp Rep 1	0.0694	--	0.0001	0.0030	0.0155	--	0.0006	0.0030	0.205	--	0.003	0.030	0.25	--	0.03	0.15	0.010	--	0.001	0.003	0.0002	J	0.0001	0.0030	19.7	N*	0.01	0.08
UH12 Comp Rep 2	0.0706	--	0.0001	0.0031	0.0137	--	0.0006	0.0032	0.280	--	0.003	0.031	0.26	--	0.03	0.16	0.011	--	0.001	0.003	0.0002	J	0.0001	0.0031	10.1	N*	0.01	0.08
UH12 Comp Rep 3	0.0727	--	0.0001	0.0030	0.0164	--	0.0006	0.0030	0.269	--	0.003	0.030	0.26	--	0.03	0.15	0.011	--	0.001	0.003	0.0003	J	0.0001	0.0030	28.0	N*	0.01	0.08
UH12 Comp Rep 4	0.0677	--	0.0001	0.0030	0.0137	--	0.0006	0.0030	0.228	--	0.003	0.030	0.24	--	0.03	0.15	0.009	--	0.001	0.003	0.0002	J	0.0001	0.0030	13.3	N*	0.01	0.07
UH12 Comp Rep 5	0.0722	--	0.0001	0.0029	0.0151	--	0.0006	0.0030	0.244	--	0.003	0.029	0.24	--	0.03	0.14	0.011	--	0.001	0.003	0.0002	J	0.0001	0.0029	17.0	N*	0.01	0.07
UH12 Comp Mean[1]	0.0705				0.0149				**0.245**				0.25				0.010				0.0002				17.6			
% of reference tissue	90				83				215				89				55				159				93			
ORDT12 Comp Rep 1	0.0834	--	0.0001	0.0030	0.0163	--	0.0006	0.0031	0.090	--	0.003	0.030	0.28	--	0.03	0.15	0.016	--	0.001	0.003	ND	U	0.0001	0.0030	9.99	N*	0.01	0.08
ORDT12 Comp Rep 2	0.0804	--	0.0001	0.0031	0.0160	--	0.0006	0.0031	0.126	--	0.003	0.031	0.28	--	0.03	0.15	0.010	--	0.001	0.003	0.0020	J	0.0001	0.0031	8.89	N*	0.01	0.08
ORDT12 Comp Rep 3	0.0793	--	0.0001	0.0032	0.0190	--	0.0006	0.0032	0.110	--	0.003	0.032	0.30	--	0.03	0.16	0.010	--	0.001	0.003	0.0003	J	0.0001	0.0032	38.6	N*	0.01	0.08
ORDT12 Comp Rep 4	0.0722	--	0.0001	0.0030	0.0185	--	0.0006	0.0030	0.097	--	0.003	0.030	0.26	--	0.03	0.15	0.011	--	0.001	0.003	ND	U	0.0001	0.0030	20.7	N*	0.01	0.07
ORDT12 Comp Rep 5	0.0713	--	0.0001	0.0030	0.0129	--	0.0006	0.0030	0.096	--	0.003	0.030	0.27	--	0.03	0.15	0.009	--	0.001	0.003	ND	U	0.0001	0.0030	9.41	N*	0.01	0.07
ORDT12 Comp Mean[1]	0.0773				0.0165				0.104				0.28				0.011				0.0005				17.5			
% of reference tissue	98				92				91				99				60				377				93			

TABLE 29
Analytical Results for Wet Weight Metals in *Neanthes virens* Tissues

Analyte:	Lead				Mercury				Nickel				Selenium				Silver				Thallium				Zinc			
Sample-Replicate #	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL
BENW12 Comp Rep 1	0.1114	--	0.0001	0.0030	0.0227	--	0.0006	0.0031	0.258	--	0.003	0.030	0.31	--	0.03	0.15	0.021	--	0.001	0.003	0.0007	J	0.0001	0.0030	9.32	N*	0.01	0.08
BENW12 Comp Rep 2	0.0997	--	0.0001	0.0030	0.0224	--	0.0006	0.0031	0.267	--	0.003	0.030	0.25	--	0.03	0.15	0.019	--	0.001	0.003	0.0006	J	0.0001	0.0030	17.0	N*	0.01	0.08
BENW12 Comp Rep 3	0.0788	--	0.0001	0.0031	0.0253	--	0.0006	0.0031	0.281	--	0.003	0.031	0.30	--	0.03	0.15	0.020	--	0.001	0.003	0.0010	J	0.0001	0.0031	15.8	N*	0.01	0.08
BENW12 Comp Rep 4	0.0680	--	0.0001	0.0029	0.0249	--	0.0006	0.0029	0.340	--	0.003	0.029	0.33	--	0.03	0.14	0.022	--	0.001	0.003	0.0008	J	0.0001	0.0029	12.5	N*	0.01	0.07
BENW12 Comp Rep 5	0.0894	--	0.0001	0.0029	0.0186	--	0.0006	0.0030	0.299	--	0.003	0.029	0.27	--	0.03	0.15	0.022	--	0.001	0.003	0.0009	J	0.0001	0.0029	30.9	N*	0.01	0.07
BENW12 Comp Mean[1]	0.0895				**0.0228**				**0.289**				0.29				0.021				0.0008				17.1			
% of reference tissue	114				127				254				104				111				580				90			
HGIW12 Comp Rep 1	0.0808	--	0.0001	0.0031	0.0221	--	0.0006	0.0031	0.134	--	0.003	0.031	0.29	--	0.03	0.16	0.017	--	0.001	0.003	0.0002	J	0.0001	0.0031	10.4	N*	0.01	0.08
HGIW12 Comp Rep 2	0.0827	--	0.0001	0.0031	0.0157	--	0.0006	0.0031	0.125	--	0.003	0.031	0.24	--	0.03	0.15	0.018	--	0.001	0.003	0.0002	J	0.0001	0.0031	10.5	N*	0.01	0.08
HGIW12 Comp Rep 3	0.0785	--	0.0001	0.0030	0.0205	--	0.0006	0.0030	0.138	--	0.003	0.030	0.29	--	0.03	0.15	0.018	--	0.001	0.003	0.0002	J	0.0001	0.0030	9.01	N*	0.01	0.08
HGIW12 Comp Rep 4	0.0824	--	0.0001	0.0030	0.0188	--	0.0006	0.0030	0.177	--	0.003	0.030	0.24	--	0.03	0.15	0.018	--	0.001	0.003	0.0002	J	0.0001	0.0030	12.5	N*	0.01	0.07
HGIW12 Comp Rep 5	0.0897	--	0.0001	0.0029	0.0177	--	0.0006	0.0029	0.154	--	0.003	0.029	0.25	--	0.03	0.15	0.016	--	0.001	0.003	0.0002	J	0.0001	0.0029	37.3	N*	0.01	0.07
HGIW12 Comp Mean[1]	0.0828				0.0190				**0.146**				0.26				0.017				0.0002				15.9			
% of reference tissue	105				106				128				94				92				145				84			
WRTB12 Comp Rep 1	0.0618	--	0.0001	0.0029	0.0210	--	0.0006	0.0029	0.168	--	0.003	0.029	0.28	--	0.03	0.15	0.022	--	0.001	0.003	ND	U	0.0001	0.0029	8.77	N*	0.01	0.07
WRTB12 Comp Rep 2	0.0842	--	0.0001	0.0030	0.0193	--	0.0006	0.0031	0.169	--	0.003	0.030	0.33	--	0.03	0.15	0.020	--	0.001	0.003	ND	U	0.0001	0.0030	9.19	N*	0.01	0.08
WRTB12 Comp Rep 3	0.0738	--	0.0001	0.0030	0.0224	--	0.0006	0.0030	0.162	--	0.003	0.030	0.28	--	0.03	0.15	0.017	--	0.001	0.003	0.0002	J	0.0001	0.0030	9.19	N*	0.01	0.07
WRTB12 Comp Rep 4	0.0820	--	0.0001	0.0030	0.0185	--	0.0006	0.0030	0.159	--	0.003	0.030	0.25	--	0.03	0.15	0.019	--	0.001	0.003	ND	U	0.0001	0.0030	20.0	N*	0.01	0.08
WRTB12 Comp Rep 5	0.0686	--	0.0001	0.0031	0.0205	--	0.0006	0.0031	0.143	--	0.003	0.031	0.32	--	0.03	0.16	0.024	--	0.001	0.003	ND	U	0.0001	0.0031	8.78	N*	0.01	0.08
WRTB12 Comp Mean[1]	0.0741				0.0203				**0.160**				0.29				0.020				0.0001				11.2			
% of reference tissue	94				113				141				104				108				87				59			
DANW12 Comp Rep 1	0.0721	--	0.0001	0.0030	0.0186	--	0.0006	0.0030	0.157	--	0.003	0.030	0.28	--	0.03	0.15	0.014	--	0.001	0.003	ND	U	0.0001	0.0030	24.1	N*	0.01	0.07
DANW12 Comp Rep 2	0.0644	--	0.0001	0.0030	0.0143	--	0.0006	0.0030	0.111	--	0.003	0.030	0.27	--	0.03	0.15	0.009	--	0.001	0.003	ND	U	0.0001	0.0030	13.4	N*	0.01	0.08
DANW12 Comp Rep 3	0.0635	--	0.0001	0.0030	0.0151	--	0.0006	0.0030	0.117	--	0.003	0.030	0.25	--	0.03	0.15	0.010	--	0.001	0.003	0.0013	J	0.0001	0.0030	34.0	N*	0.01	0.08
DANW12 Comp Rep 4	0.0713	--	0.0001	0.0030	0.0149	--	0.0006	0.0030	0.122	--	0.003	0.030	0.28	--	0.03	0.15	0.011	--	0.001	0.003	ND	U	0.0001	0.0030	46.2	N*	0.01	0.08
DANW12 Comp Rep 5	0.0674	--	0.0001	0.0031	0.0140	--	0.0006	0.0030	0.088	--	0.003	0.031	0.25	--	0.03	0.15	0.012	--	0.001	0.003	ND	U	0.0001	0.0031	21.6	N*	0.01	0.08
DANW12 Comp Mean[1]	0.0677				0.0154				**0.119**				0.27				0.011				0.0003				27.9			
% of reference tissue	86				86				105				95				60				246				147			
WLRW12 Comp Rep 1	0.0725	--	0.0001	0.0031	0.0191	--	0.0006	0.0031	0.273	--	0.003	0.031	0.28	--	0.03	0.15	0.015	--	0.001	0.003	0.0002	J	0.0001	0.0031	24.7	N*	0.01	0.08
WLRW12 Comp Rep 2	0.0662	--	0.0001	0.0031	0.0237	--	0.0006	0.0031	0.263	--	0.003	0.031	0.32	--	0.03	0.16	0.016	--	0.001	0.003	ND	U	0.0001	0.0031	9.99	N*	0.01	0.08
WLRW12 Comp Rep 3	0.0681	--	0.0001	0.0031	0.0187	--	0.0006	0.0031	0.251	--	0.003	0.031	0.29	--	0.03	0.16	0.018	--	0.001	0.003	0.0002	J	0.0001	0.0031	23.0	N*	0.01	0.08
WLRW12 Comp Rep 4	0.0747	--	0.0001	0.0030	0.0221	--	0.0006	0.0030	0.326	--	0.003	0.030	0.30	--	0.03	0.15	0.019	--	0.001	0.003	0.0001	J	0.0001	0.0030	34.6	N*	0.01	0.08
WLRW12 Comp Rep 5	0.0802	--	0.0001	0.0030	0.0156	--	0.0006	0.0031	0.255	--	0.003	0.030	0.25	--	0.03	0.15	0.014	--	0.001	0.003	0.0002	J	0.0001	0.0030	9.38	N*	0.01	0.08
WLRW12 Comp Mean[1]	0.0723				0.0198				**0.274**				0.29				0.016				0.0002				20.3			
% of reference tissue	92				111				240				103				87				116				107			
NCW12 Comp Rep 1	0.0661	--	0.0001	0.0031	0.0146	--	0.0006	0.0032	0.345	--	0.003	0.031	0.27	--	0.03	0.16	0.010	--	0.001	0.003	0.0004	J	0.0001	0.0031	10.9	N*	0.01	0.08
NCW12 Comp Rep 2	0.0720	--	0.0001	0.0031	0.0142	--	0.0006	0.0031	0.325	--	0.003	0.031	0.25	--	0.03	0.16	0.014	--	0.001	0.003	0.0002	J	0.0001	0.0031	9.90	N*	0.01	0.08
NCW12 Comp Rep 3	0.0727	--	0.0001	0.0032	0.0143	--	0.0007	0.0033	0.267	--	0.003	0.032	0.28	--	0.03	0.16	0.010	--	0.001	0.003	0.0002	J	0.0001	0.0032	17.1	N*	0.01	0.08
NCW12 Comp Rep 4	0.0756	--	0.0001	0.0030	0.0133	--	0.0006	0.0031	0.411	--	0.003	0.030	0.26	--	0.03	0.15	0.014	--	0.001	0.003	0.0005	J	0.0001	0.0030	17.7	N*	0.01	0.08
NCW12 Comp Rep 5	0.0776	--	0.0001	0.0031	0.0125	--	0.0006	0.0031	0.326	--	0.003	0.031	0.28	--	0.03	0.16	0.011	--	0.001	0.003	0.0012	J	0.0001	0.0031	25.2	N*	0.01	0.08
NCW12 Comp Mean[1]	0.0728				0.0138				**0.335**				0.27				0.012				0.0005				16.2			
% of reference tissue	92				77				294				96				63				362				85			

TABLE 29
Analytical Results for Wet Weight Metals in *Neanthes virens* Tissues

Analyte:	Lead				Mercury				Nickel				Selenium				Silver				Thallium				Zinc			
Sample-Replicate #	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**
ABMA12 Comp Rep 1	0.0966	--	0.00008	0.0034	0.0208	--	0.0007	0.0034	0.123	--	0.003	0.034	0.27	--	0.03	0.17	0.0095	--	0.0010	0.0034	ND	U	0.00015	0.0034	11.5	--	0.010	0.084
ABMA12 Comp Rep 2	0.105	--	0.00008	0.0031	0.0180	--	0.0006	0.0029	0.127	--	0.003	0.031	0.26	--	0.03	0.16	0.0094	--	0.0009	0.0031	ND	U	0.00014	0.0031	10.1	--	0.009	0.078
ABMA12 Comp Rep 3	0.108	--	0.00009	0.0035	0.0215	--	0.0007	0.0035	0.130	--	0.003	0.035	0.31	--	0.04	0.17	0.0087	--	0.0010	0.0035	ND	U	0.00016	0.0035	26.7	--	0.010	0.087
ABMA12 Comp Rep 4	0.105	--	0.00008	0.0033	0.0200	--	0.0007	0.0033	0.129	--	0.003	0.033	0.27	--	0.03	0.17	0.0110	--	0.0010	0.0033	ND	U	0.00015	0.0033	10.9	--	0.010	0.083
ABMA12 Comp Rep 5	0.138	--	0.00008	0.0032	0.0232	--	0.0007	0.0033	0.115	--	0.003	0.032	0.29	--	0.03	0.16	0.0134	--	0.0010	0.0032	ND	U	0.00015	0.0032	11.5	--	0.010	0.081
ABMA12 Comp Mean[1]	***0.111***				0.0207				0.125				0.28				0.0104				0.00015				14.1			
% of reference tissue	140				115				110				100				55				109				75			
SHCR12 Comp Rep 1	0.0780	--	0.0001	0.0029	0.0205	--	0.0006	0.0030	0.136	--	0.003	0.029	0.30	--	0.03	0.15	0.021	--	0.001	0.003	0.0004	J	0.0001	0.0029	9.41	N*	0.01	0.07
SHCR12 Comp Rep 2	0.0659	--	0.0001	0.0029	0.0207	--	0.0006	0.0030	0.144	--	0.003	0.029	0.27	--	0.03	0.15	0.022	--	0.001	0.003	ND	U	0.0001	0.0029	9.85	N*	0.01	0.07
SHCR12 Comp Rep 3	0.0722	--	0.0001	0.0030	0.0191	--	0.0006	0.0030	0.140	--	0.003	0.030	0.30	--	0.03	0.15	0.019	--	0.001	0.003	0.0002	J	0.0001	0.0030	9.65	N*	0.01	0.08
SHCR12 Comp Rep 4	0.0834	--	0.0001	0.0029	0.0183	--	0.0006	0.0030	0.125	--	0.003	0.029	0.29	--	0.03	0.15	0.022	--	0.001	0.003	0.0001	J	0.0001	0.0029	23.2	N*	0.01	0.07
SHCR12 Comp Rep 5	0.0636	--	0.0001	0.0030	0.0230	--	0.0006	0.0029	0.131	--	0.003	0.030	0.30	--	0.03	0.15	0.019	--	0.001	0.003	ND	U	0.0001	0.0030	30.6	N*	0.01	0.07
SHCR12 Comp Mean[1]	0.0726				0.0203				**0.135**				0.29				0.021				0.0002				16.5			
% of reference tissue	92				113				119				104				109				130				87			
RS-CH-A Rep 1	0.0796	--	0.00008	0.0030	0.0175	--	0.0006	0.0031	0.106	--	0.003	0.030	0.28	--	0.03	0.15	0.0172	--	0.0009	0.0030	ND	U	0.00014	0.0030	26.3	N*	0.009	0.075
RS-CH-A Rep 2	0.0701	--	0.00008	0.0030	0.0174	--	0.0006	0.0031	0.101	--	0.003	0.030	0.28	--	0.03	0.15	0.0178	--	0.0009	0.0030	ND	U	0.00014	0.0030	24.2	N*	0.009	0.076
RS-CH-A Rep 3	0.0801	--	0.00008	0.0031	0.0198	--	0.0006	0.0031	0.121	--	0.003	0.031	0.28	--	0.03	0.15	0.0183	--	0.0009	0.0031	ND	U	0.00014	0.0031	23.4	N*	0.009	0.077
RS-CH-A Rep 4	0.0805	--	0.00008	0.0031	0.0165	--	0.0006	0.0031	0.130	--	0.003	0.031	0.26	--	0.03	0.15	0.0158	--	0.0009	0.0031	ND	U	0.00014	0.0031	9.48	N*	0.009	0.076
RS-CH-A Rep 5	0.0835	--	0.00007	0.0029	0.0185	--	0.0006	0.0030	0.111	--	0.003	0.029	0.30	--	0.03	0.15	0.0250	--	0.0009	0.0029	ND	U	0.00013	0.0029	11.3	N*	0.009	0.073
RS-CH-A Mean	0.0788				0.0179				0.114				0.28				0.0188				0.00014				18.9			
Pre-exposure Rep 1	0.0755	--	0.00007	0.0030	0.0185	--	0.0006	0.0031	0.170	--	0.003	0.030	0.30	--	0.03	0.15	0.0207	--	0.0009	0.0030	ND	U	0.00013	0.0030	39.0	*	0.009	0.075
Pre-exposure Rep 2	0.0743	--	0.00007	0.0030	0.0147	--	0.0006	0.0031	0.149	--	0.003	0.030	0.25	--	0.03	0.15	0.0228	--	0.0009	0.0030	ND	U	0.00013	0.0030	8.54	N*	0.009	0.075
Pre-exposure Rep 3	0.0747	--	0.00008	0.0031	0.0172	--	0.0006	0.0031	0.170	--	0.003	0.031	0.27	--	0.03	0.15	0.0241	--	0.0009	0.0031	ND	U	0.00014	0.0031	8.14	N*	0.009	0.077
Pre-exposure Mean	0.0748				0.0168				0.163				0.27				0.0225				0.00013				18.6			
FDA Action Levels[1]	1.5				1				70				x				x				x				x			
Eco. Effects Threshold[1]	0.1				0.3				2.2				14.2				1.0				0.3				0.3			
South Atlantic Bight Background[1]	0.36-0.60				0.02-0.05				1.6-3.5				1.2-1.9				<0.95				<0.22				20-27			

Bolded Values = The mean concentration of project tissues is statistically significantly greater than the reference tissues.
Italicized Values = Indicate significantly different results that are greater than the Ecological Effects Threshold.
[1] = Levels/Limits from FDA (2001) and Appendix H of SERIM (EPA/USACE 2008)
J = The result is an estimated value.
U = The analyte was analyzed for, but was not detected at or above the MRL/MDL
* = The result is an outlier
N = The Matrix Spike sample recovery is not within control limits. See Section 4 or laboratory case narrative.
-- = No Qualifier needed

Source: ALS Environmental Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 30
Analytical Results for Wet Weight Metals in *Macoma nasuta* Tissues

Analyte:	Antimony				Arsenic				Beryllium				Cadmium				Chromium				Copper			
Sample-Replicate #	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**
CHEC12-1 Comp Rep 1	0.0115	--	0.0004	0.0095	7.100	--	0.004	0.095	0.0095	--	0.0006	0.0038	0.0458	--	0.0004	0.0038	0.588	--	0.0038	0.0381	2.820	--	0.004	0.019
CHEC12-1 Comp Rep 2	0.0120	--	0.0004	0.0092	6.250	--	0.004	0.092	0.0082	--	0.0006	0.0037	0.0354	--	0.0004	0.0037	0.593	--	0.0037	0.0370	2.700	--	0.004	0.018
CHEC12-1 Comp Rep 3	0.0134	--	0.0004	0.0088	5.550	--	0.004	0.088	0.0086	--	0.0005	0.0035	0.0385	--	0.0004	0.0035	0.599	--	0.0035	0.0351	2.390	--	0.004	0.018
CHEC12-1 Comp Rep 4	0.0124	--	0.0004	0.0094	7.370	--	0.004	0.094	0.0091	--	0.0006	0.0038	0.0380	--	0.0004	0.0038	0.633	--	0.0038	0.0376	2.620	--	0.004	0.019
CHEC12-1 Comp Rep 5	0.0117	--	0.0004	0.0093	6.680	--	0.004	0.093	0.0079	--	0.0006	0.0037	0.0340	--	0.0004	0.0037	0.555	--	0.0037	0.0372	2.120	--	0.004	0.019
CHEC12-1 Comp Mean[1]	0.0122				**6.590**				**0.0087**				**0.0383**				**0.594**				2.530			
% of reference tissue	82				159				637				113				235				114			
CHEC12-2 Comp Rep 1	0.0211	--	0.0004	0.0091	6.790	--	0.004	0.091	0.0056	--	0.0005	0.0036	0.0848	--	0.0004	0.0036	0.790	--	0.0036	0.0364	2.470	--	0.004	0.018
CHEC12-2 Comp Rep 2	0.0169	--	0.0004	0.0091	5.620	--	0.004	0.091	0.0047	--	0.0005	0.0036	0.0546	--	0.0004	0.0036	0.608	--	0.0036	0.0362	2.320	--	0.004	0.018
CHEC12-2 Comp Rep 3	0.0223	--	0.0004	0.0094	5.720	--	0.004	0.094	0.0068	--	0.0006	0.0038	0.0821	--	0.0004	0.0038	0.845	--	0.0038	0.0376	2.300	--	0.004	0.019
CHEC12-2 Comp Rep 4	0.0191	--	0.0003	0.0086	4.480	--	0.003	0.086	0.0051	--	0.0005	0.0034	0.0684	--	0.0003	0.0034	0.676	--	0.0034	0.0345	2.360	--	0.003	0.017
CHEC12-2 Comp Rep 5	0.0206	--	0.0004	0.0093	6.910	--	0.004	0.093	0.0045	--	0.0006	0.0037	0.0637	--	0.0004	0.0037	0.531	--	0.0037	0.0371	2.110	--	0.004	0.019
CHEC12-2 Comp Mean[1]	**0.0200**				**5.904**				**0.0053**				**0.0707**				**0.690**				2.312			
% of reference tissue	135				143				393				209				273				105			
MTPL12 Comp Rep 1	0.0326	--	0.0004	0.0090	6.320	--	0.004	0.090	0.0029	J	0.0005	0.0036	0.0467	--	0.0004	0.0036	0.403	--	0.0036	0.0358	1.970	--	0.004	0.018
MTPL12 Comp Rep 2	0.0193	--	0.0004	0.0088	4.840	--	0.004	0.088	0.0030	J	0.0005	0.0035	0.0506	--	0.0004	0.0035	0.445	--	0.0035	0.0350	2.030	--	0.004	0.018
MTPL12 Comp Rep 3	0.0221	--	0.0003	0.0087	5.570	--	0.003	0.087	0.0042	--	0.0005	0.0035	0.0591	--	0.0003	0.0035	0.571	--	0.0035	0.0347	2.000	--	0.003	0.017
MTPL12 Comp Rep 4	0.0171	--	0.0003	0.0085	6.060	--	0.003	0.085	0.0018	J	0.0005	0.0034	0.0431	--	0.0003	0.0034	0.317	--	0.0034	0.0341	1.900	--	0.003	0.017
MTPL12 Comp Rep 5	0.0242	--	0.0004	0.0089	5.550	--	0.004	0.089	0.0074	--	0.0005	0.0036	0.0681	--	0.0004	0.0036	0.826	--	0.0036	0.0358	2.020	--	0.004	0.018
MTPL12 Comp Mean[1]	**0.0231**				**5.668**				0.0039				**0.0535**				**0.512**				1.984			
% of reference tissue	155				137				284				158				203				90			
REHR12 Comp Rep 1	0.0146	--	0.0003	0.0082	3.900	--	0.003	0.082	0.0065	--	0.0005	0.0033	0.0462	--	0.0003	0.0033	0.564	--	0.0033	0.0329	2.560	--	0.003	0.016
REHR12 Comp Rep 2	0.0157	--	0.0003	0.0084	3.910	--	0.003	0.084	0.0078	--	0.0005	0.0034	0.0483	--	0.0003	0.0034	0.621	--	0.0034	0.0338	2.690	--	0.003	0.017
REHR12 Comp Rep 3	0.0131	--	0.0003	0.0086	4.220	--	0.003	0.086	0.0084	--	0.0005	0.0034	0.0383	--	0.0003	0.0034	0.607	--	0.0034	0.0344	2.520	--	0.003	0.017
REHR12 Comp Rep 4	0.0125	--	0.0003	0.0080	3.320	--	0.003	0.080	0.0072	--	0.0005	0.0032	0.0419	--	0.0003	0.0032	0.525	--	0.0032	0.0321	2.570	--	0.003	0.016
REHR12 Comp Rep 5	0.0120	--	0.0003	0.0083	3.670	--	0.003	0.083	0.0041	--	0.0005	0.0033	0.0419	--	0.0003	0.0033	0.348	--	0.0033	0.0332	2.700	--	0.003	0.017
REHR12 Comp Mean[1]	0.0136				3.804				**0.0068**				**0.0433**				**0.533**				***2.608***			
% of reference tissue	92				92				500				128				211				118			
HGIS12 Comp Rep 1	0.0236	--	0.0004	0.0091	5.550	--	0.004	0.091	0.0063	--	0.0005	0.0036	0.0503	--	0.0004	0.0036	0.603	--	0.0036	0.0365	2.010	--	0.004	0.018
HGIS12 Comp Rep 2	0.0179	--	0.0004	0.0092	7.200	--	0.004	0.092	0.0054	--	0.0006	0.0037	0.0373	--	0.0004	0.0037	0.510	--	0.0037	0.0368	2.370	--	0.004	0.018
HGIS12 Comp Rep 3	0.0211	--	0.0004	0.0094	6.210	--	0.004	0.094	0.0060	--	0.0006	0.0037	0.0370	--	0.0004	0.0037	0.572	--	0.0037	0.0374	2.220	--	0.004	0.019
HGIS12 Comp Rep 4	0.0159	--	0.0004	0.0095	6.220	--	0.004	0.095	0.0035	J	0.0006	0.0038	0.0357	--	0.0004	0.0038	0.617	--	0.0038	0.0379	2.590	--	0.004	0.019
HGIS12 Comp Rep 5	0.0160	--	0.0003	0.0086	5.280	--	0.003	0.086	0.0031	J	0.0005	0.0034	0.0393	--	0.0003	0.0034	0.440	--	0.0034	0.0343	2.020	--	0.003	0.017
HGIS Comp Mean[1]	**0.0189**				**6.092**				**0.0049**				**0.0399**				**0.548**				2.242			
% of reference tissue	127				147				357				118				217				101			
DRMY12 Comp Rep 1	0.0140	--	0.0004	0.0093	6.920	--	0.004	0.093	0.0082	--	0.0006	0.0037	0.0403	--	0.0004	0.0037	0.547	--	0.0037	0.0371	2.230	--	0.004	0.019
DRMY12 Comp Rep 2	0.0139	--	0.0004	0.0091	6.780	--	0.004	0.091	0.0075	--	0.0005	0.0036	0.0335	--	0.0004	0.0036	0.510	--	0.0036	0.0365	2.270	--	0.004	0.018
DRMY12 Comp Rep 3	0.0147	--	0.0004	0.0091	5.500	--	0.004	0.091	0.0045	--	0.0005	0.0036	0.0397	--	0.0004	0.0036	0.377	--	0.0036	0.0364	2.410	--	0.004	0.018
DRMY12 Comp Rep 4	0.0168	--	0.0004	0.0091	6.190	--	0.004	0.091	0.0063	--	0.0005	0.0037	0.0419	--	0.0004	0.0037	0.507	--	0.0037	0.0365	2.740	--	0.004	0.018
DRMY12 Comp Rep 5	0.0134	--	0.0003	0.0085	4.830	--	0.003	0.085	0.0065	--	0.0005	0.0034	0.0322	--	0.0003	0.0034	0.507	--	0.0034	0.0339	2.210	--	0.003	0.017
DRMY12 Comp Mean[1]	0.0146				**6.044**				**0.0066**				0.0375				**0.490**				2.372			
% of reference tissue	98				146				485				111				194				107			

TABLE 30
Analytical Results for Wet Weight Metals in *Macoma nasuta* Tissues

Analyte:	Antimony				Arsenic				Beryllium				Cadmium				Chromium				Copper			
Sample-Replicate #	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL
WLR12 Comp Rep 1	0.0408	--	0.0004	0.0088	5.480	--	0.004	0.088	0.0037	--	0.0005	0.0035	0.0387	--	0.0004	0.0035	0.421	--	0.0035	0.0352	2.370	--	0.004	0.018
WLR12 Comp Rep 2	0.0188	--	0.0004	0.0094	5.750	--	0.004	0.094	0.0043	--	0.0006	0.0037	0.0383	--	0.0004	0.0037	0.588	--	0.0037	0.0374	2.210	--	0.004	0.019
WLR12 Comp Rep 3	0.0242	--	0.0004	0.0095	6.450	--	0.004	0.095	0.0046	--	0.0006	0.0038	0.0377	--	0.0004	0.0038	0.499	--	0.0038	0.0382	2.310	--	0.004	0.019
WLR12 Comp Rep 4	0.0204	--	0.0004	0.0092	6.070	--	0.004	0.092	0.0037	J	0.0006	0.0037	0.0370	--	0.0004	0.0037	0.535	--	0.0037	0.0369	2.110	--	0.004	0.018
WLR12 Comp Rep 5	0.0215	--	0.0004	0.0092	6.520	--	0.004	0.092	0.0044	--	0.0006	0.0037	0.0357	--	0.0004	0.0037	0.598	--	0.0037	0.0368	2.480	--	0.004	0.018
WLR12 Comp Mean[1]	**0.0251**				**6.054**				**0.0041**				**0.0375**				**0.528**				2.296			
% of reference tissue	169				146				304				111				209				104			
WUTB12 Comp Rep 1	0.0202	--	0.0004	0.0094	6.160	--	0.004	0.094	0.0056	--	0.0006	0.0038	0.0422	--	0.0004	0.0038	0.473	--	0.0038	0.0378	2.190	--	0.004	0.019
WUTB12 Comp Rep 2	0.0156	--	0.0004	0.0091	4.680	--	0.004	0.091	0.0054	--	0.0005	0.0036	0.0345	--	0.0004	0.0036	0.589	--	0.0036	0.0364	2.550	--	0.004	0.018
WUTB12 Comp Rep 3	0.0184	--	0.0004	0.0088	5.530	--	0.004	0.088	0.0058	--	0.0005	0.0035	0.0439	--	0.0004	0.0035	0.441	--	0.0035	0.0353	2.010	--	0.004	0.018
WUTB12 Comp Rep 4	0.0180	--	0.0004	0.0091	5.770	--	0.004	0.091	0.0043	--	0.0005	0.0037	0.0363	--	0.0004	0.0037	0.384	--	0.0037	0.0365	2.170	--	0.004	0.018
WUTB12 Comp Rep 5	0.0193	--	0.0004	0.0090	4.750	--	0.004	0.090	0.0060	--	0.0005	0.0036	0.0431	--	0.0004	0.0036	0.632	--	0.0036	0.0360	2.340	--	0.004	0.018
WUTB12 Comp Mean[1]	**0.0183**				**5.378**				**0.0054**				**0.0400**				**0.504**				2.252			
% of reference tissue	123				130				399				118				199				102			
DANI12 Comp Rep 1	0.0140	--	0.0003	0.0087	3.890	--	0.003	0.087	0.0046	--	0.0005	0.0035	0.0434	--	0.0003	0.0035	0.548	--	0.0035	0.0348	2.720	--	0.003	0.017
DANI12 Comp Rep 2	0.0145	--	0.0004	0.0089	4.000	--	0.004	0.089	0.0042	--	0.0005	0.0035	0.0386	--	0.0004	0.0035	0.493	--	0.0035	0.0354	3.030	--	0.004	0.018
DANI12 Comp Rep 3	0.0142	--	0.0004	0.0090	3.620	--	0.004	0.090	0.0057	--	0.0005	0.0036	0.0427	--	0.0004	0.0036	0.671	--	0.0036	0.0362	2.940	--	0.004	0.018
DANI12 Comp Rep 4	0.0137	--	0.0004	0.0088	3.640	--	0.004	0.088	0.0071	--	0.0005	0.0035	0.0360	--	0.0004	0.0035	0.708	--	0.0035	0.0351	2.700	--	0.004	0.018
DANI12 Comp Rep 5	0.0140	--	0.0004	0.0091	3.930	--	0.004	0.091	0.0045	--	0.0005	0.0036	0.0390	--	0.0004	0.0036	0.685	--	0.0036	0.0363	2.810	--	0.004	0.018
DANI12 Comp Mean[1]	0.0141				3.816				**0.0052**				**0.0399**				**0.621**				***2.840***			
% of reference tissue	95				92				384				118				246				129			
CCRK12 Comp Rep 1	0.0160	--	0.0003	0.0086	3.490	--	0.003	0.086	0.0071	--	0.0005	0.0035	0.0406	--	0.0003	0.0035	0.778	--	0.0035	0.0345	3.060	--	0.003	0.017
CCRK12 Comp Rep 2	0.0156	--	0.0003	0.0087	3.680	--	0.003	0.087	0.0087	--	0.0005	0.0035	0.0577	--	0.0003	0.0035	0.943	--	0.0035	0.0348	2.780	--	0.003	0.017
CCRK12 Comp Rep 3	0.0151	--	0.0004	0.0088	3.890	--	0.004	0.088	0.0059	--	0.0005	0.0035	0.0466	--	0.0004	0.0035	0.724	--	0.0035	0.0350	2.630	--	0.004	0.018
CCRK12 Comp Rep 4	0.0147	--	0.0004	0.0088	3.130	--	0.004	0.088	0.0058	--	0.0005	0.0035	0.0461	--	0.0004	0.0035	0.571	--	0.0035	0.0352	2.590	--	0.004	0.018
CCRK12 Comp Rep 5	0.0152	--	0.0003	0.0085	3.810	--	0.003	0.085	0.0048	--	0.0005	0.0034	0.0511	--	0.0003	0.0034	0.542	--	0.0034	0.0341	2.640	--	0.003	0.017
CCRK12 Comp Mean[1]	0.0153				3.600				**0.0065**				**0.0484**				**0.712**				***2.740***			
% of reference tissue	103				87				475				143				281				124			
UH12 Comp Rep 1	0.0177	--	0.0003	0.0080	3.590	--	0.003	0.080	0.0065	--	0.0005	0.0032	0.0345	--	0.0003	0.0032	0.573	--	0.0032	0.0319	2.900	--	0.003	0.016
UH12 Comp Rep 2	0.0181	--	0.0003	0.0081	3.250	--	0.003	0.081	0.0053	--	0.0005	0.0033	0.0340	--	0.0003	0.0033	0.539	--	0.0033	0.0325	2.510	--	0.003	0.016
UH12 Comp Rep 3	0.0158	--	0.0003	0.0082	3.520	--	0.003	0.082	0.0045	--	0.0005	0.0033	0.0380	--	0.0003	0.0033	0.477	--	0.0033	0.0328	2.620	--	0.003	0.016
UH12 Comp Rep 4	0.0181	--	0.0003	0.0086	3.520	--	0.003	0.086	0.0043	--	0.0005	0.0034	0.0421	--	0.0003	0.0034	0.491	--	0.0034	0.0343	2.920	--	0.003	0.017
UH12 Comp Rep 5	0.0169	--	0.0003	0.0082	3.270	--	0.003	0.082	0.0048	--	0.0005	0.0033	0.0350	--	0.0003	0.0033	0.551	--	0.0033	0.0327	2.400	--	0.003	0.016
UH12 Comp Mean[1]	**0.0173**				3.430				**0.0051**				0.0367				**0.526**				***2.670***			
% of reference tissue	117				83				374				109				208				121			
ORDT12 Comp Rep 1	0.0108	--	0.0003	0.0084	3.580	--	0.003	0.084	0.0058	--	0.0005	0.0034	0.0338	--	0.0003	0.0034	0.495	--	0.0034	0.0336	2.760	--	0.003	0.017
ORDT12 Comp Rep 2	0.0095	--	0.0003	0.0082	3.630	--	0.003	0.082	0.0063	--	0.0005	0.0033	0.0419	--	0.0003	0.0033	0.579	--	0.0033	0.0327	2.510	--	0.003	0.016
ORDT12 Comp Rep 3	0.0109	--	0.0003	0.0082	3.470	--	0.003	0.082	0.0075	--	0.0005	0.0033	0.0334	--	0.0003	0.0033	0.731	--	0.0033	0.0328	2.950	--	0.003	0.016
ORDT12 Comp Rep 4	0.0112	--	0.0003	0.0083	3.450	--	0.003	0.083	0.0076	--	0.0005	0.0033	0.0346	--	0.0003	0.0033	0.582	--	0.0033	0.0331	2.750	--	0.003	0.017
ORDT12 Comp Rep 5	0.0088	--	0.0003	0.0082	3.550	--	0.003	0.082	0.0082	--	0.0005	0.0033	0.0318	--	0.0003	0.0033	0.649	--	0.0033	0.0327	2.600	--	0.003	0.016
ORDT12 Comp Mean[1]	0.0102				3.536				**0.0071**				0.0351				**0.607**				***2.714***			
% of reference tissue	69				86				521				104				240				123			

TABLE 30
Analytical Results for Wet Weight Metals in *Macoma nasuta* Tissues

Analyte:	Antimony				Arsenic				Beryllium				Cadmium				Chromium				Copper			
Sample-Replicate #	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL
BENW12 Comp Rep 1	0.0190	--	0.0003	0.0087	6.070	--	0.003	0.087	0.0049	--	0.0005	0.0035	0.0473	--	0.0003	0.0035	0.659	--	0.0035	0.0348	1.890	--	0.003	0.017
BENW12 Comp Rep 2	0.0199	--	0.0004	0.0089	6.050	--	0.004	0.089	0.0041	--	0.0005	0.0035	0.0455	--	0.0004	0.0035	0.522	--	0.0035	0.0355	2.300	--	0.004	0.018
BENW12 Comp Rep 3	0.0195	--	0.0004	0.0089	5.660	--	0.004	0.089	0.0053	--	0.0005	0.0036	0.0513	--	0.0004	0.0036	0.965	--	0.0036	0.0356	2.050	--	0.004	0.018
BENW12 Comp Rep 4	0.0217	--	0.0004	0.0093	6.850	--	0.004	0.093	0.0052	--	0.0006	0.0037	0.0474	--	0.0004	0.0037	0.534	--	0.0037	0.0372	2.210	--	0.004	0.019
BENW12 Comp Rep 5	0.0213	--	0.0004	0.0089	5.430	--	0.004	0.089	0.0053	--	0.0005	0.0035	0.0472	--	0.0004	0.0035	0.742	--	0.0035	0.0355	2.120	--	0.004	0.018
BENW12 Comp Mean[1]	**0.0203**				**6.012**				**0.0050**				**0.0477**				**0.684**				2.114			
% of reference tissue	137				145				365				141				271				96			
HGIW12 Comp Rep 1	0.0157	--	0.0004	0.0099	6.070	--	0.004	0.099	0.0098	--	0.0006	0.0040	0.0349	--	0.0004	0.0040	0.628	--	0.0040	0.0396	2.180	--	0.004	0.020
HGIW12 Comp Rep 2	0.0160	--	0.0004	0.0092	6.270	--	0.004	0.092	0.0097	--	0.0006	0.0037	0.0366	--	0.0004	0.0037	0.628	--	0.0037	0.0367	2.380	--	0.004	0.018
HGIW12 Comp Rep 3	0.0140	--	0.0004	0.0094	6.460	--	0.004	0.094	0.0080	--	0.0006	0.0038	0.0401	--	0.0004	0.0038	0.597	--	0.0038	0.0376	2.570	--	0.004	0.019
HGIW12 Comp Rep 4	0.0167	--	0.0004	0.0097	6.210	--	0.004	0.097	0.0124	--	0.0006	0.0039	0.0439	--	0.0004	0.0039	0.871	--	0.0039	0.0386	2.310	--	0.004	0.019
HGIW12 Comp Rep 5	0.0136	--	0.0004	0.0095	6.970	--	0.004	0.095	0.0093	--	0.0006	0.0038	0.0431	--	0.0004	0.0038	0.725	--	0.0038	0.0379	2.660	--	0.004	0.019
HGIW12 Comp Mean[1]	0.0152				**6.396**				**0.0098**				**0.0397**				**0.690**				2.420			
% of reference tissue	102				155				724				118				273				110			
WRTB12 Comp Rep 1	0.0139	--	0.0004	0.0090	4.720	--	0.004	0.090	0.0075	--	0.0005	0.0036	0.0319	--	0.0004	0.0036	0.621	--	0.0036	0.0361	2.420	--	0.004	0.018
WRTB12 Comp Rep 2	0.0184	--	0.0004	0.0094	6.270	--	0.004	0.094	0.0057	--	0.0006	0.0038	0.0485	--	0.0004	0.0038	0.503	--	0.0038	0.0376	2.310	--	0.004	0.019
WRTB12 Comp Rep 3	0.0138	--	0.0004	0.0096	6.900	--	0.004	0.096	0.0055	--	0.0006	0.0039	0.0353	--	0.0004	0.0039	0.583	--	0.0039	0.0385	2.140	--	0.004	0.019
WRTB12 Comp Rep 4	0.0144	--	0.0004	0.0093	5.540	--	0.004	0.093	0.0057	--	0.0006	0.0037	0.0360	--	0.0004	0.0037	0.504	--	0.0037	0.0373	2.300	--	0.004	0.019
WRTB12 Comp Rep 5	0.0183	--	0.0004	0.0094	7.080	--	0.004	0.094	0.0056	--	0.0006	0.0038	0.0444	--	0.0004	0.0038	0.414	--	0.0038	0.0376	2.260	--	0.004	0.019
WRTB12 Comp Mean[1]	0.0158				**6.102**	--			**0.0060**				0.0392				**0.525**				2.286			
% of reference tissue	106				148				441				116				208				103			
DANW12 Comp Rep 1	0.0135	--	0.0004	0.0088	3.700	--	0.004	0.088	0.0100	--	0.0005	0.0035	0.0443	--	0.0004	0.0035	1.1100	--	0.0035	0.0353	2.970	--	0.004	0.018
DANW12 Comp Rep 2	0.0140	--	0.0004	0.0092	3.830	--	0.004	0.092	0.0055	--	0.0005	0.0037	0.0456	--	0.0004	0.0037	0.736	--	0.0037	0.0366	2.460	--	0.004	0.018
DANW12 Comp Rep 3	0.0107	--	0.0003	0.0087	3.650	--	0.003	0.087	0.0078	--	0.0005	0.0035	0.0369	--	0.0003	0.0035	0.780	--	0.0035	0.0346	2.580	--	0.003	0.017
DANW12 Comp Rep 4	0.0110	--	0.0004	0.0088	3.570	--	0.004	0.088	0.0086	--	0.0005	0.0035	0.0396	--	0.0004	0.0035	0.709	--	0.0035	0.0352	2.650	--	0.004	0.018
DANW12 Comp Rep 5	0.0145	--	0.0004	0.0091	3.690	--	0.004	0.091	0.0049	--	0.0005	0.0036	0.0406	--	0.0004	0.0036	0.439	--	0.0036	0.0362	2.380	--	0.004	0.018
DANW12 Comp Mean[1]	0.0127				3.688				**0.0074**				**0.0414**				**0.755**				***2.608***			
% of reference tissue	86				89				541				122				299				118			
WLRW12 Comp Rep 1	0.0235	--	0.0004	0.0093	6.980	--	0.004	0.093	0.0035	J	0.0006	0.0037	0.0416	--	0.0004	0.0037	0.467	--	0.0037	0.0371	2.340	--	0.004	0.019
WLRW12 Comp Rep 2	0.0184	--	0.0004	0.0096	6.640	--	0.004	0.096	0.0039	--	0.0006	0.0039	0.0358	--	0.0004	0.0039	0.492	--	0.0039	0.0385	2.080	--	0.004	0.019
WLRW12 Comp Rep 3	0.0186	--	0.0004	0.0092	6.280	--	0.004	0.092	0.0045	--	0.0006	0.0037	0.0365	--	0.0004	0.0037	0.475	--	0.0037	0.0368	2.260	--	0.004	0.018
WLRW12 Comp Rep 4	0.0222	--	0.0004	0.0092	6.690	--	0.004	0.092	0.0051	--	0.0006	0.0037	0.0411	--	0.0004	0.0037	0.501	--	0.0037	0.0367	2.220	--	0.004	0.018
WLRW12 Comp Rep 5	0.0210	--	0.0004	0.0091	6.540	--	0.004	0.091	0.0040	--	0.0005	0.0037	0.0558	--	0.0004	0.0037	0.491	--	0.0037	0.0365	2.280	--	0.004	0.018
WLRW12 Comp Mean[1]	**0.0207**				**6.626**				**0.0042**				**0.0422**				**0.485**				2.236			
% of reference tissue	140				160				309				125				192				101			
NCW12 Comp Rep 1	0.0592	--	0.0004	0.0089	3.860	--	0.004	0.089	0.0077	--	0.0005	0.0035	0.0414	--	0.0004	0.0035	0.557	--	0.0035	0.0354	3.140	--	0.004	0.018
NCW12 Comp Rep 2	0.0415	--	0.0003	0.0086	3.670	--	0.003	0.086	0.0042	--	0.0005	0.0034	0.0497	--	0.0003	0.0034	0.500	--	0.0034	0.0343	2.830	--	0.003	0.017
NCW12 Comp Rep 3	0.0446	--	0.0003	0.0087	3.700	--	0.003	0.087	0.0049	--	0.0005	0.0035	0.0395	--	0.0003	0.0035	0.625	--	0.0035	0.0348	2.430	--	0.003	0.017
NCW12 Comp Rep 4	0.0381	--	0.0003	0.0084	3.640	--	0.003	0.084	0.0049	--	0.0005	0.0034	0.0435	--	0.0003	0.0034	0.584	--	0.0034	0.0337	2.430	--	0.003	0.017
NCW12 Comp Rep 5	0.0362	--	0.0003	0.0086	3.670	--	0.003	0.086	0.0056	--	0.0005	0.0034	0.0491	--	0.0003	0.0034	0.605	--	0.0034	0.0345	2.640	--	0.003	0.017
NCW12 Comp Mean[1]	**0.0439**				3.708				**0.0055**				**0.0446**				**0.574**				***2.694***			
% of reference tissue	296				90				401				132				227				122			

TABLE 30
Analytical Results for Wet Weight Metals in *Macoma nasuta* Tissues

Analyte:	Antimony				Arsenic				Beryllium				Cadmium				Chromium				Copper			
Sample-Replicate #	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**
ABMA12 Comp Rep 1	0.0100	--	0.0004	0.0088	4.63	--	0.004	0.088	0.0040	--	0.0005	0.0035	0.0485	--	0.0004	0.0035	0.346	--	0.004	0.035	2.29	--	0.004	0.018
ABMA12 Comp Rep 2	0.0114	--	0.0004	0.0092	4.32	--	0.004	0.092	0.0061	--	0.0006	0.0037	0.0462	--	0.0004	0.0037	0.467	--	0.004	0.037	2.68	--	0.004	0.018
ABMA12 Comp Rep 3	0.0113	--	0.0003	0.0087	4.27	--	0.003	0.087	0.0044	--	0.0005	0.0035	0.0485	--	0.0003	0.0035	0.444	--	0.003	0.035	2.60	--	0.003	0.017
ABMA12 Comp Rep 4	0.0092	J	0.0004	0.0093	4.60	--	0.004	0.093	0.0063	--	0.0006	0.0037	0.0489	--	0.0004	0.0037	0.489	--	0.004	0.037	2.71	--	0.004	0.019
ABMA12 Comp Rep 5	0.0111	--	0.0004	0.0088	4.20	--	0.004	0.088	0.0052	--	0.0005	0.0035	0.0439	--	0.0004	0.0035	0.413	--	0.004	0.035	2.73	--	0.004	0.018
ABMA12 Comp Mean[1]	0.0106				**4.40**				**0.0052**				**0.0472**				**0.432**				***2.60***			
% of reference tissue	71				107				382				140				171				118			
SHCR12 Comp Rep 1	0.0472	--	0.0004	0.0096	7.090	--	0.004	0.096	0.0065	--	0.0006	0.0039	0.0353	--	0.0004	0.0039	0.430	--	0.0039	0.0385	2.660	--	0.004	0.019
SHCR12 Comp Rep 2	0.0353	--	0.0004	0.0094	6.990	--	0.004	0.094	0.0073	--	0.0006	0.0038	0.0340	--	0.0004	0.0038	0.420	--	0.0038	0.0378	2.570	--	0.004	0.019
SHCR12 Comp Rep 3	0.0219	--	0.0004	0.0095	6.580	--	0.004	0.095	0.0075	--	0.0006	0.0038	0.0351	--	0.0004	0.0038	0.536	--	0.0038	0.0381	2.090	--	0.004	0.019
SHCR12 Comp Rep 4	0.0272	--	0.0004	0.0092	5.980	--	0.004	0.092	0.0071	--	0.0006	0.0037	0.0417	--	0.0004	0.0037	0.535	--	0.0037	0.0369	2.290	--	0.004	0.018
SHCR12 Comp Rep 5	0.0197	--	0.0004	0.0091	5.970	--	0.004	0.091	0.0090	--	0.0005	0.0036	0.0429	--	0.0004	0.0036	0.500	--	0.0036	0.0363	2.480	--	0.004	0.018
SHCR12 Comp Mean[1]	**0.0303**				**6.522**				**0.0075**				0.0378				**0.484**				2.418			
% of reference tissue	204				158				550				112				192				109			
RS-CH-A Rep 1	0.0137	--	0.0003	0.0086	4.19	--	0.003	0.086	0.0012	J	0.0005	0.0034	0.0352	--	0.0003	0.0034	0.243	--	0.003	0.034	2.27	--	0.003	0.017
RS-CH-A Rep 2	0.0145	--	0.0003	0.0087	4.36	--	0.003	0.087	0.0010	J	0.0005	0.0035	0.0307	--	0.0003	0.0035	0.222	--	0.003	0.035	2.04	--	0.003	0.017
RS-CH-A Rep 3	0.0156	--	0.0003	0.0087	4.15	--	0.003	0.087	0.0017	J	0.0005	0.0035	0.0376	--	0.0003	0.0035	0.262	--	0.003	0.035	2.17	--	0.003	0.017
RS-CH-A Rep 4	0.0154	--	0.0003	0.0085	3.99	--	0.003	0.085	0.0014	J	0.0005	0.0034	0.0337	--	0.0003	0.0034	0.220	--	0.003	0.034	2.30	--	0.003	0.017
RS-CH-A Rep 5	0.0150	--	0.0003	0.0085	3.98	--	0.003	0.085	0.0015	J	0.0005	0.0034	0.0318	--	0.0003	0.0034	0.317	--	0.003	0.034	2.27	--	0.003	0.017
RS-CH-A Mean	0.0148				4.13				0.0014				0.0338				0.253				2.21			
Pre-exposure Rep 1	0.0174	--	0.0004	0.0091	5.17	--	0.004	0.091	0.0009	J	0.0005	0.0036	0.0356	--	0.0004	0.0036	0.177	--	0.004	0.036	3.36	--	0.004	0.018
Pre-exposure Rep 2	0.0167	--	0.0004	0.0092	4.87	--	0.004	0.092	0.0008	J	0.0006	0.0037	0.0453	--	0.0004	0.0037	0.218	--	0.004	0.037	3.14	--	0.004	0.018
Pre-exposure Rep 3	0.0152	--	0.0004	0.0090	4.79	--	0.004	0.090	ND	U	0.0005	0.0036	0.0417	--	0.0004	0.0036	0.172	--	0.004	0.036	2.87	--	0.004	0.018
Pre-exposure Mean	0.0164				4.94				0.0007				0.0409				0.189				3.12			
FDA Action Levels[1]	x				86				x				4				13				x			
Eco. Effects Threshold[1]	x				12.6				x				1.0				6.3				0.2			
South Atlantic Bight Background[1]	<0.16				4.4-8.6				<0.19				0.68-2.7				0.4-4.6				1.2-2.9			

TABLE 30
Analytical Results for Wet Weight Metals in *Macoma nasuta* Tissues

Analyte:	Lead				Mercury				Nickel				Selenium				Silver				Thallium				Zinc			
Sample-Replicate #	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**
CHEC12-1 Comp Rep 1	0.2862	--	0.0001	0.0038	0.0118	--	0.0008	0.0038	0.583	--	0.004	0.038	0.51	--	0.04	0.19	0.081	N	0.001	0.004	0.0026	J	0.0002	0.0038	18.0	--	0.01	0.10
CHEC12-1 Comp Rep 2	0.2299	--	0.0001	0.0037	0.0108	--	0.0007	0.0037	0.512	--	0.004	0.037	0.48	--	0.04	0.19	0.061	N	0.001	0.004	0.0026	J	0.0002	0.0037	19.4	--	0.01	0.09
CHEC12-1 Comp Rep 3	0.2213	--	0.0001	0.0035	0.0134	--	0.0007	0.0036	0.506	--	0.004	0.035	0.48	--	0.04	0.18	0.048	N	0.001	0.004	0.0025	J	0.0002	0.0035	17.8	--	0.01	0.09
CHEC12-1 Comp Rep 4	0.2612	--	0.0001	0.0038	0.0114	--	0.0008	0.0038	0.590	--	0.004	0.038	0.51	--	0.04	0.19	0.061	N	0.001	0.004	0.0029	J	0.0002	0.0038	19.7	--	0.01	0.09
CHEC12-1 Comp Rep 5	0.2300	--	0.0001	0.0037	0.0109	--	0.0008	0.0038	0.526	--	0.004	0.037	0.49	--	0.04	0.19	0.072	N	0.001	0.004	0.0023	J	0.0002	0.0037	16.0	--	0.01	0.09
CHEC12-1 Comp Mean[1]	***0.2457***				0.0117				**0.543**				**0.49**				**0.065**				0.0026				18.2			
% of reference tissue	218				100				183				131				173				464				104			
CHEC12-2 Comp Rep 1	0.1757	--	0.0001	0.0036	0.0108	--	0.0007	0.0037	0.773	--	0.004	0.036	0.50	--	0.04	0.18	0.061	N	0.001	0.004	0.0093	--	0.0002	0.0036	22.6	--	0.01	0.09
CHEC12-2 Comp Rep 2	0.1328	--	0.0001	0.0036	0.0095	--	0.0007	0.0037	0.562	--	0.004	0.036	0.47	--	0.04	0.18	0.057	N	0.001	0.004	0.0075	--	0.0002	0.0036	17.0	--	0.01	0.09
CHEC12-2 Comp Rep 3	0.1481	--	0.0001	0.0038	0.0115	--	0.0008	0.0038	0.749	--	0.004	0.038	0.50	--	0.04	0.19	0.064	N	0.001	0.004	0.0116	--	0.0002	0.0038	19.5	--	0.01	0.09
CHEC12-2 Comp Rep 4	0.1260	--	0.0001	0.0034	0.0131	--	0.0007	0.0034	0.556	--	0.003	0.034	0.44	--	0.03	0.17	0.053	N	0.001	0.003	0.0080	--	0.0002	0.0034	17.6	--	0.01	0.09
CHEC12-2 Comp Rep 5	0.1548	--	0.0001	0.0037	0.0090	--	0.0007	0.0037	0.577	--	0.004	0.037	0.53	--	0.04	0.19	0.060	N	0.001	0.004	0.0084	--	0.0002	0.0037	18.8	--	0.01	0.09
CHEC12-2 Comp Mean[1]	***0.1475***				0.0108				**0.643**				**0.49**				0.059				**0.0090**				19.1			
% of reference tissue	131				92				217				129				158				1612				110			
MTPL12 Comp Rep 1	0.1124	--	0.0001	0.0036	0.0096	--	0.0007	0.0037	0.426	--	0.004	0.036	0.45	--	0.04	0.18	0.041	N	0.001	0.004	0.0055	--	0.0002	0.0036	22.4	--	0.01	0.09
MTPL12 Comp Rep 2	0.0949	--	0.0001	0.0035	0.0103	--	0.0007	0.0035	0.450	--	0.004	0.035	0.40	--	0.04	0.18	0.052	N	0.001	0.004	0.0057	--	0.0002	0.0035	20.2	--	0.01	0.09
MTPL12 Comp Rep 3	0.1277	--	0.0001	0.0035	0.0106	--	0.0007	0.0035	0.525	--	0.003	0.035	0.44	--	0.04	0.17	0.054	N	0.001	0.003	0.0081	--	0.0002	0.0035	18.5	--	0.01	0.09
MTPL12 Comp Rep 4	0.1242	--	0.0001	0.0034	0.0086	--	0.0007	0.0035	0.440	--	0.003	0.034	0.42	--	0.03	0.17	0.051	N	0.001	0.003	0.0038	--	0.0002	0.0034	16.8	--	0.01	0.09
MTPL12 Comp Rep 5	0.1154	--	0.0001	0.0036	0.0137	--	0.0007	0.0036	0.609	--	0.004	0.036	0.46	--	0.04	0.18	0.041	N	0.001	0.004	0.0105	--	0.0002	0.0036	19.6	--	0.01	0.09
MTPL12 Comp Mean[1]	0.1149				0.0106				**0.490**				**0.43**				0.048				**0.0067**				19.5			
% of reference tissue	102				90				165				115				128				1209				112			
REHR12 Comp Rep 1	0.1847	--	0.0001	0.0033	0.0161	--	0.0007	0.0033	0.477	--	0.003	0.033	0.44	--	0.03	0.17	0.025	N	0.001	0.003	0.0050	--	0.0001	0.0033	16.6	--	0.01	0.08
REHR12 Comp Rep 2	0.2322	--	0.0001	0.0034	0.0169	--	0.0007	0.0034	0.566	--	0.003	0.034	0.44	--	0.03	0.17	0.028	N	0.001	0.003	0.0066	--	0.0002	0.0034	18.5	--	0.01	0.08
REHR12 Comp Rep 3	0.2237	--	0.0001	0.0034	0.0176	--	0.0007	0.0035	0.601	--	0.003	0.034	0.45	--	0.03	0.17	0.025	N	0.001	0.003	0.0073	--	0.0002	0.0034	15.6	--	0.01	0.09
REHR12 Comp Rep 4	0.2004	--	0.0001	0.0032	0.0158	--	0.0007	0.0033	0.491	--	0.003	0.032	0.39	--	0.03	0.16	0.023	N	0.001	0.003	0.0061	--	0.0001	0.0032	17.8	--	0.01	0.08
REHR12 Comp Rep 5	0.1560	--	0.0001	0.0033	0.0176	--	0.0007	0.0033	0.441	--	0.003	0.033	0.40	--	0.03	0.17	0.024	N	0.001	0.003	0.0028	J	0.0001	0.0033	16.8	--	0.01	0.08
REHR12 Comp Mean[1]	***0.1994***				**0.0168**				**0.515**				**0.42**				0.025				**0.0056**				17.1			
% of reference tissue	177				144				174				112				67				1000				98			
HGIS12 Comp Rep 1	0.1562	--	0.0001	0.0036	0.0089	--	0.0007	0.0037	0.563	--	0.004	0.036	0.48	--	0.04	0.18	0.038	--	0.001	0.004	0.0029	J	0.0002	0.0036	22.0	--	0.01	0.09
HGIS12 Comp Rep 2	0.2100	--	0.0001	0.0037	0.0075	--	0.0007	0.0037	0.541	--	0.004	0.037	0.44	--	0.04	0.18	0.058	--	0.001	0.004	0.0029	J	0.0002	0.0037	20.4	--	0.01	0.09
HGIS12 Comp Rep 3	0.1787	--	0.0001	0.0037	0.0073	--	0.0008	0.0038	0.565	--	0.004	0.037	0.51	--	0.04	0.19	0.068	--	0.001	0.004	0.0035	J	0.0002	0.0037	18.3	--	0.01	0.09
HGIS12 Comp Rep 4	0.1878	--	0.0001	0.0038	0.0076	--	0.0008	0.0038	0.609	--	0.004	0.038	0.41	--	0.04	0.19	0.063	--	0.001	0.004	0.0031	J	0.0002	0.0038	16.8	--	0.01	0.10
HGIS12 Comp Rep 5	0.1409	--	0.0001	0.0034	0.0106	--	0.0007	0.0035	0.467	--	0.003	0.034	0.42	--	0.03	0.17	0.038	--	0.001	0.003	0.0021	J	0.0002	0.0034	17.8	--	0.01	0.09
HGIS Comp Mean[1]	***0.1747***				0.0084				**0.549**				**0.45**				0.053				0.0029				19.1			
% of reference tissue	155				72				185				120				142				522				109			
DRMY12 Comp Rep 1	0.2218	--	0.0001	0.0037	0.0096	--	0.0007	0.0037	0.482	--	0.004	0.037	0.51	--	0.04	0.19	0.050	--	0.001	0.004	0.0027	J	0.0002	0.0037	18.6	--	0.01	0.09
DRMY12 Comp Rep 2	0.2242	--	0.0001	0.0036	0.0115	--	0.0007	0.0037	0.569	--	0.004	0.036	0.49	--	0.04	0.18	0.046	--	0.001	0.004	0.0025	J	0.0002	0.0036	18.2	--	0.01	0.09
DRMY12 Comp Rep 3	0.1926	--	0.0001	0.0036	0.0115	--	0.0007	0.0037	0.391	--	0.004	0.036	0.42	--	0.04	0.18	0.075	--	0.001	0.004	0.0023	J	0.0002	0.0036	20.4	--	0.01	0.09
DRMY12 Comp Rep 4	0.2468	--	0.0001	0.0037	0.0109	--	0.0008	0.0038	0.491	--	0.004	0.037	0.48	--	0.04	0.18	0.076	--	0.001	0.004	0.0026	J	0.0002	0.0037	21.2	--	0.01	0.09
DRMY12 Comp Rep 5	0.1884	--	0.0001	0.0034	0.0129	--	0.0007	0.0035	0.458	--	0.003	0.034	0.47	--	0.03	0.17	0.045	--	0.001	0.003	0.0024	J	0.0002	0.0034	16.9	--	0.01	0.09
DRMY12 Comp Mean[1]	***0.2148***				0.0113				**0.478**				**0.47**				0.058				0.0025				19.1			
% of reference tissue	190				97				161				125				157				450				109			

TABLE 30
Analytical Results for Wet Weight Metals in *Macoma nasuta* Tissues

Analyte:	Lead				Mercury				Nickel				Selenium				Silver				Thallium				Zinc			
Sample-Replicate #	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**
WLR12 Comp Rep 1	0.1345	--	0.0001	0.0035	0.0116	--	0.0007	0.0036	0.431	--	0.004	0.035	0.45	--	0.04	0.18	0.055	--	0.001	0.004	0.0023	J	0.0002	0.0035	15.8	--	0.01	0.09
WLR12 Comp Rep 2	0.1556	--	0.0001	0.0037	0.0110	--	0.0008	0.0038	0.538	--	0.004	0.037	0.48	--	0.04	0.19	0.044	--	0.001	0.004	0.0028	J	0.0002	0.0037	16.3	--	0.01	0.09
WLR12 Comp Rep 3	0.1585	--	0.0001	0.0038	0.0069	--	0.0008	0.0038	0.522	--	0.004	0.038	0.42	--	0.04	0.19	0.074	--	0.001	0.004	0.0024	J	0.0002	0.0038	18.1	--	0.01	0.10
WLR12 Comp Rep 4	0.1565	--	0.0001	0.0037	0.0105	--	0.0008	0.0038	0.563	--	0.004	0.037	0.49	--	0.04	0.18	0.051	--	0.001	0.004	0.0028	J	0.0002	0.0037	18.1	--	0.01	0.09
WLR12 Comp Rep 5	0.1819	--	0.0001	0.0037	0.0091	--	0.0008	0.0038	0.641	--	0.004	0.037	0.51	--	0.04	0.18	0.056	--	0.001	0.004	0.0035	J	0.0002	0.0037	19.9	--	0.01	0.09
WLR12 Comp Mean[1]	***0.1574***				0.0098				**0.539**				**0.47**				0.056				0.0028				17.6			
% of reference tissue	140				84				182				124				150				496				101			
WUTB12 Comp Rep 1	0.2083	--	0.0001	0.0038	0.0092	--	0.0008	0.0038	0.507	--	0.004	0.038	0.51	--	0.04	0.19	0.056	--	0.001	0.004	0.0030	J	0.0002	0.0038	21.4	--	0.01	0.09
WUTB12 Comp Rep 2	0.1745	--	0.0001	0.0036	0.0131	--	0.0007	0.0037	0.537	--	0.004	0.036	0.50	--	0.04	0.18	0.034	--	0.001	0.004	0.0026	J	0.0002	0.0036	17.5	--	0.01	0.09
WUTB12 Comp Rep 3	0.1693	--	0.0001	0.0035	0.0102	--	0.0007	0.0036	0.563	--	0.004	0.035	0.48	--	0.04	0.18	0.045	--	0.001	0.004	0.0026	J	0.0002	0.0035	17.3	--	0.01	0.09
WUTB12 Comp Rep 4	0.1886	--	0.0001	0.0037	0.0100	--	0.0007	0.0037	0.459	--	0.004	0.037	0.50	--	0.04	0.18	0.057	--	0.001	0.004	0.0023	J	0.0002	0.0037	18.9	--	0.01	0.09
WUTB12 Comp Rep 5	0.2068	--	0.0001	0.0036	0.0104	--	0.0007	0.0036	0.693	--	0.004	0.036	0.47	--	0.04	0.18	0.094	--	0.001	0.004	0.0025	J	0.0002	0.0036	18.7	--	0.01	0.09
WUTB12 Comp Mean[1]	***0.1895***				0.0106				**0.552**				**0.49**				0.057				0.0026				18.8			
% of reference tissue	168				91				186				130				153				468				108			
DANI12 Comp Rep 1	0.1412	--	0.0001	0.0035	0.0156	--	0.0007	0.0036	0.466	--	0.003	0.035	0.41	--	0.04	0.17	0.024	--	0.001	0.003	0.0019	J	0.0002	0.0035	18.0	--	0.01	0.09
DANI12 Comp Rep 2	0.1364	--	0.0001	0.0035	0.0158	--	0.0007	0.0036	0.482	--	0.004	0.035	0.42	--	0.04	0.18	0.029	--	0.001	0.004	0.0019	J	0.0002	0.0035	17.0	--	0.01	0.09
DANI12 Comp Rep 3	0.1477	--	0.0001	0.0036	0.0154	--	0.0007	0.0036	0.610	--	0.004	0.036	0.42	--	0.04	0.18	0.027	--	0.001	0.004	0.0026	J	0.0002	0.0036	17.0	--	0.01	0.09
DANI12 Comp Rep 4	0.1533	--	0.0001	0.0035	0.0171	--	0.0007	0.0036	0.626	--	0.004	0.035	0.44	--	0.04	0.18	0.030	--	0.001	0.004	0.0028	J	0.0002	0.0035	15.7	--	0.01	0.09
DANI12 Comp Rep 5	0.1369	--	0.0001	0.0036	0.0145	--	0.0007	0.0037	0.574	--	0.004	0.036	0.45	--	0.04	0.18	0.027	--	0.001	0.004	0.0023	J	0.0002	0.0036	17.2	--	0.01	0.09
DANI12 Comp Mean[1]	0.1431				**0.0157**				**0.552**				**0.43**				0.027				0.0023				17.0			
% of reference tissue	127				134				186				113				73				414				97			
CCRK12 Comp Rep 1	0.1852	--	0.0001	0.0035	0.0153	--	0.0007	0.0035	0.582	--	0.003	0.035	0.46	--	0.04	0.17	0.029	--	0.001	0.003	0.0035	--	0.0002	0.0035	16.0	--	0.01	0.09
CCRK12 Comp Rep 2	0.2095	--	0.0001	0.0035	0.0159	--	0.0007	0.0035	0.724	--	0.003	0.035	0.47	--	0.04	0.17	0.023	--	0.001	0.003	0.0034	J	0.0002	0.0035	19.3	--	0.01	0.09
CCRK12 Comp Rep 3	0.1845	--	0.0001	0.0035	0.0151	--	0.0007	0.0036	0.608	--	0.004	0.035	0.42	--	0.04	0.18	0.024	--	0.001	0.004	0.0034	J	0.0002	0.0035	18.2	--	0.01	0.09
CCRK12 Comp Rep 4	0.1933	--	0.0001	0.0035	0.0135	--	0.0007	0.0036	0.477	--	0.004	0.035	0.39	--	0.04	0.18	0.022	--	0.001	0.004	0.0025	J	0.0002	0.0035	18.2	--	0.01	0.09
CCRK12 Comp Rep 5	0.1553	--	0.0001	0.0034	0.0161	--	0.0007	0.0035	0.481	--	0.003	0.034	0.42	--	0.03	0.17	0.022	--	0.001	0.003	0.0019	J	0.0002	0.0034	17.6	--	0.01	0.09
CCRK12 Comp Mean[1]	***0.1856***				**0.0152**				**0.574**				**0.43**				0.024				0.0029				17.9			
% of reference tissue	165				130				194				114				64				529				103			
UH12 Comp Rep 1	0.1599	--	0.0001	0.0032	0.0162	--	0.0007	0.0033	0.537	--	0.003	0.032	0.41	--	0.03	0.16	0.024	--	0.001	0.003	0.0026	J	0.0001	0.0032	16.1	N*	0.01	0.08
UH12 Comp Rep 2	0.1474	--	0.0001	0.0033	0.0149	--	0.0007	0.0033	0.492	--	0.003	0.033	0.44	--	0.03	0.16	0.020	--	0.001	0.003	0.0026	J	0.0001	0.0033	16.1	N*	0.01	0.08
UH12 Comp Rep 3	0.1452	--	0.0001	0.0033	0.0157	--	0.0007	0.0033	0.487	--	0.003	0.033	0.40	--	0.03	0.16	0.024	--	0.001	0.003	0.0020	J	0.0001	0.0033	15.7	N*	0.01	0.08
UH12 Comp Rep 4	0.1373	--	0.0001	0.0034	0.0165	--	0.0007	0.0034	0.502	--	0.003	0.034	0.41	--	0.03	0.17	0.024	--	0.001	0.003	0.0019	J	0.0002	0.0034	18.2	N*	0.01	0.09
UH12 Comp Rep 5	0.1345	--	0.0001	0.0033	0.0151	--	0.0007	0.0034	0.496	--	0.003	0.033	0.39	--	0.03	0.16	0.021	--	0.001	0.003	0.0021	J	0.0001	0.0033	15.6	N*	0.01	0.08
UH12 Comp Mean[1]	0.1449				**0.0157**				**0.503**				**0.41**				0.023				0.0022				16.3			
% of reference tissue	128				134				170				108				61				403				94			
ORDT12 Comp Rep 1	0.1945	--	0.0001	0.0034	0.0154	--	0.0007	0.0034	0.386	--	0.003	0.034	0.44	--	0.03	0.17	0.023	--	0.001	0.003	0.0018	J	0.0002	0.0034	15.4	--	0.01	0.08
ORDT12 Comp Rep 2	0.1922	--	0.0001	0.0033	0.0149	--	0.0007	0.0033	0.411	--	0.003	0.033	0.47	--	0.03	0.16	0.022	--	0.001	0.003	0.0019	J	0.0001	0.0033	17.7	--	0.01	0.08
ORDT12 Comp Rep 3	0.2224	--	0.0001	0.0033	0.0147	--	0.0007	0.0033	0.454	--	0.003	0.033	0.48	--	0.03	0.16	0.025	--	0.001	0.003	0.0020	J	0.0001	0.0033	14.8	--	0.01	0.08
ORDT12 Comp Rep 4	0.2328	--	0.0001	0.0033	0.0150	--	0.0007	0.0033	0.411	--	0.003	0.033	0.48	--	0.03	0.17	0.023	--	0.001	0.003	0.0022	J	0.0001	0.0033	15.2	--	0.01	0.08
ORDT12 Comp Rep 5	0.2166	--	0.0001	0.0033	0.0142	--	0.0007	0.0033	0.410	--	0.003	0.033	0.45	--	0.03	0.16	0.022	--	0.001	0.003	0.0022	J	0.0001	0.0033	14.8	--	0.01	0.08
ORDT12 Comp Mean[1]	***0.2117***				**0.0148**				**0.414**				**0.46**				0.023				0.0020				15.6			
% of reference tissue	188				127				140				123				62				363				89			

TABLE 30
Analytical Results for Wet Weight Metals in *Macoma nasuta* Tissues

Analyte:	Lead				Mercury				Nickel				Selenium				Silver				Thallium				Zinc			
Sample-Replicate #	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL
BENW12 Comp Rep 1	0.1533	--	0.0001	0.0035	0.0084	--	0.0007	0.0035	0.645	--	0.003	0.035	0.47	--	0.04	0.17	0.036	--	0.001	0.003	0.0082	--	0.0002	0.0035	19.7	--	0.01	0.09
BENW12 Comp Rep 2	0.1659	--	0.0001	0.0035	0.0069	--	0.0007	0.0037	0.616	--	0.004	0.035	0.42	--	0.04	0.18	0.054	--	0.001	0.004	0.0065	--	0.0002	0.0035	20.4	--	0.01	0.09
BENW12 Comp Rep 3	0.2406	--	0.0001	0.0036	0.0093	--	0.0007	0.0036	0.705	--	0.004	0.036	0.47	--	0.04	0.18	0.047	--	0.001	0.004	0.0071	--	0.0002	0.0036	19.7	--	0.01	0.09
BENW12 Comp Rep 4	0.1755	--	0.0001	0.0037	0.0077	--	0.0008	0.0038	0.634	--	0.004	0.037	0.48	--	0.04	0.19	0.064	--	0.001	0.004	0.0065	--	0.0002	0.0037	18.1	--	0.01	0.09
BENW12 Comp Rep 5	0.1635	--	0.0001	0.0035	0.0079	--	0.0007	0.0036	0.743	--	0.004	0.035	0.45	--	0.04	0.18	0.052	--	0.001	0.004	0.0095	--	0.0002	0.0035	15.9	--	0.01	0.09
BENW12 Comp Mean[1]	***0.1798***				0.0080				**0.669**				**0.46**				0.051				**0.0076**				18.8			
% of reference tissue	159				69				226				121				136				1360				108			
HGIW12 Comp Rep 1	0.2408	--	0.0001	0.0040	0.0113	--	0.0008	0.0040	0.517	--	0.004	0.040	0.55	--	0.04	0.20	0.045	--	0.001	0.004	0.0064	--	0.0002	0.0040	19.5	--	0.01	0.10
HGIW12 Comp Rep 2	0.2860	--	0.0001	0.0037	0.0097	--	0.0007	0.0037	0.551	--	0.004	0.037	0.50	--	0.04	0.18	0.069	--	0.001	0.004	0.0063	--	0.0002	0.0037	17.5	--	0.01	0.09
HGIW12 Comp Rep 3	0.2462	--	0.0001	0.0038	0.0107	--	0.0008	0.0038	0.523	--	0.004	0.038	0.55	--	0.04	0.19	0.058	--	0.001	0.004	0.0051	--	0.0002	0.0038	19.6	--	0.01	0.09
HGIW12 Comp Rep 4	0.2887	--	0.0001	0.0039	0.0126	--	0.0008	0.0038	0.639	--	0.004	0.039	0.56	--	0.04	0.19	0.064	--	0.001	0.004	0.0074	--	0.0002	0.0039	20.8	--	0.01	0.10
HGIW12 Comp Rep 5	0.3294	--	0.0001	0.0038	0.0107	--	0.0008	0.0038	0.705	--	0.004	0.038	0.53	--	0.04	0.19	0.073	--	0.001	0.004	0.0061	--	0.0002	0.0038	22.1	--	0.01	0.10
HGIW12 Comp Mean[1]	***0.2782***				0.0110				**0.587**				**0.54**				**0.062**				**0.0063**				19.9			
% of reference tissue	247				94				198				142				166				1126				114			
WRTB12 Comp Rep 1	0.2093	--	0.0001	0.0036	0.0156	--	0.0007	0.0037	0.449	--	0.004	0.036	0.47	--	0.04	0.18	0.043	--	0.001	0.004	0.0035	J	0.0002	0.0036	19.0	--	0.01	0.09
WRTB12 Comp Rep 2	0.2351	--	0.0001	0.0038	0.0115	--	0.0007	0.0037	0.483	--	0.004	0.038	0.52	--	0.04	0.19	0.053	--	0.001	0.004	0.0022	J	0.0002	0.0038	23.6	--	0.01	0.09
WRTB12 Comp Rep 3	0.2251	--	0.0001	0.0039	0.0095	--	0.0008	0.0039	0.507	--	0.004	0.039	0.49	--	0.04	0.19	0.058	--	0.001	0.004	0.0029	J	0.0002	0.0039	19.1	--	0.01	0.10
WRTB12 Comp Rep 4	0.2333	--	0.0001	0.0037	0.0113	--	0.0008	0.0038	0.477	--	0.004	0.037	0.51	--	0.04	0.19	0.053	--	0.001	0.004	0.0029	J	0.0002	0.0037	17.4	--	0.01	0.09
WRTB12 Comp Rep 5	0.2347	--	0.0001	0.0038	0.0092	--	0.0008	0.0038	0.507	--	0.004	0.038	0.45	--	0.04	0.19	0.068	--	0.001	0.004	0.0024	J	0.0002	0.0038	22.3	--	0.01	0.09
WRTB12 Comp Mean[1]	***0.2275***				0.0114				**0.485**				**0.49**				0.055				0.0028				20.3			
% of reference tissue	202				98				164				129				148				500				116			
DANW12 Comp Rep 1	0.2776	--	0.0001	0.0035	0.0166	--	0.0007	0.0036	0.685	--	0.004	0.035	0.50	--	0.04	0.18	0.030	--	0.001	0.004	0.0055	--	0.0002	0.0035	17.7	--	0.01	0.09
DANW12 Comp Rep 2	0.1897	--	0.0001	0.0037	0.0166	--	0.0007	0.0037	0.514	--	0.004	0.037	0.47	--	0.04	0.18	0.029	--	0.001	0.004	0.0036	J	0.0002	0.0037	18.8	--	0.01	0.09
DANW12 Comp Rep 3	0.1878	--	0.0001	0.0035	0.0165	--	0.0007	0.0035	0.484	--	0.003	0.035	0.39	--	0.04	0.17	0.030	--	0.001	0.003	0.0033	J	0.0002	0.0035	16.5	--	0.01	0.09
DANW12 Comp Rep 4	0.2348	--	0.0001	0.0035	0.0160	--	0.0007	0.0036	0.470	--	0.004	0.035	0.45	--	0.04	0.18	0.024	--	0.001	0.004	0.0040	--	0.0002	0.0035	17.6	--	0.01	0.09
DANW12 Comp Rep 5	0.1667	--	0.0001	0.0036	0.0124	--	0.0007	0.0037	0.365	--	0.004	0.036	0.48	--	0.04	0.18	0.023	--	0.001	0.004	0.0023	J	0.0002	0.0036	17.1	--	0.01	0.09
DANW12 Comp Mean[1]	***0.2113***				**0.0156**				**0.504**				**0.46**				0.027				**0.0037**				17.5			
% of reference tissue	187				134				170				121				73				673				101			
WLRW12 Comp Rep 1	0.1850	--	0.0001	0.0037	0.0099	--	0.0008	0.0038	0.585	--	0.004	0.037	0.46	--	0.04	0.19	0.103	--	0.001	0.004	0.0025	J	0.0002	0.0037	18.9	--	0.01	0.09
WLRW12 Comp Rep 2	0.1642	--	0.0001	0.0039	0.0087	--	0.0008	0.0039	0.521	--	0.004	0.039	0.46	--	0.04	0.19	0.056	--	0.001	0.004	0.0020	J	0.0002	0.0039	17.9	--	0.01	0.10
WLRW12 Comp Rep 3	0.1534	--	0.0001	0.0037	0.0104	--	0.0007	0.0037	0.542	--	0.004	0.037	0.50	--	0.04	0.18	0.059	--	0.001	0.004	0.0022	J	0.0002	0.0037	17.6	--	0.01	0.09
WLRW12 Comp Rep 4	0.1525	--	0.0001	0.0037	0.0101	--	0.0007	0.0037	0.514	--	0.004	0.037	0.53	--	0.04	0.18	0.059	--	0.001	0.004	0.0023	J	0.0002	0.0037	21.5	--	0.01	0.09
WLRW12 Comp Rep 5	0.1705	--	0.0001	0.0037	0.0089	--	0.0007	0.0037	0.579	--	0.004	0.037	0.48	--	0.04	0.18	0.077	--	0.001	0.004	0.0024	J	0.0002	0.0037	19.6	--	0.01	0.09
WLRW12 Comp Mean[1]	***0.1651***				0.0096				**0.548**				**0.49**				**0.071**				0.0023				19.1			
% of reference tissue	146				82				185				129				190				410				110			
NCW12 Comp Rep 1	0.1519	--	0.0001	0.0035	0.0172	--	0.0007	0.0036	0.514	--	0.004	0.035	0.51	--	0.04	0.18	0.031	--	0.001	0.004	0.0035	J	0.0002	0.0035	17.2	--	0.01	0.09
NCW12 Comp Rep 2	0.1496	--	0.0001	0.0034	0.0162	--	0.0007	0.0035	0.462	--	0.003	0.034	0.43	--	0.03	0.17	0.026	--	0.001	0.003	0.0019	J	0.0002	0.0034	20.2	--	0.01	0.09
NCW12 Comp Rep 3	0.1194	--	0.0001	0.0035	0.0170	--	0.0007	0.0035	0.517	--	0.003	0.035	0.45	--	0.04	0.17	0.021	--	0.001	0.003	0.0027	J	0.0002	0.0035	16.5	--	0.01	0.09
NCW12 Comp Rep 4	0.1318	--	0.0001	0.0034	0.0163	--	0.0007	0.0033	0.457	--	0.003	0.034	0.44	--	0.03	0.17	0.024	--	0.001	0.003	0.0024	J	0.0002	0.0034	15.5	--	0.01	0.08
NCW12 Comp Rep 5	0.1367	--	0.0001	0.0034	0.0158	--	0.0007	0.0035	0.551	--	0.003	0.034	0.46	--	0.03	0.17	0.022	--	0.001	0.003	0.0030	J	0.0002	0.0034	18.5	--	0.01	0.09
NCW12 Comp Mean[1]	***0.1379***				**0.0165**				**0.500**				**0.46**				0.025				0.0027				17.6			
% of reference tissue	122				141				169				121				67				486				101			

TABLE 30
Analytical Results for Wet Weight Metals in *Macoma nasuta* Tissues

Analyte:	Lead				Mercury				Nickel				Selenium				Silver				Thallium				Zinc			
Sample-Replicate #	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**
ABMA12 Comp Rep 1	0.242	--	0.00009	0.0035	0.0071	--	0.0007	0.0035	0.428	--	0.004	0.035	0.39	--	0.04	0.18	0.0357	--	0.0011	0.0035	0.0014	J	0.00016	0.0035	21.2	--	0.011	0.088
ABMA12 Comp Rep 2	0.263	--	0.00009	0.0037	0.0082	--	0.0007	0.0037	0.455	--	0.004	0.037	0.44	--	0.04	0.18	0.0458	--	0.0011	0.0037	0.0029	J	0.00017	0.0037	19.1	--	0.011	0.092
ABMA12 Comp Rep 3	0.264	--	0.00009	0.0035	0.0075	--	0.0007	0.0036	0.442	--	0.003	0.035	0.43	--	0.04	0.18	0.0415	--	0.0010	0.0035	0.0019	J	0.00016	0.0035	21.4	--	0.010	0.087
ABMA12 Comp Rep 4	0.318	--	0.00009	0.0037	0.0082	--	0.0007	0.0037	0.494	--	0.004	0.037	0.41	--	0.04	0.19	0.0551	--	0.0011	0.0037	0.0022	J	0.00017	0.0037	21.3	--	0.011	0.093
ABMA12 Comp Rep 5	0.283	--	0.00009	0.0035	0.0075	--	0.0007	0.0036	0.461	--	0.004	0.035	0.42	--	0.04	0.18	0.0490	--	0.0011	0.0035	0.0020	J	0.00016	0.0035	23.6	--	0.011	0.088
ABMA12 Comp Mean[1]	***0.274***				0.0077				**0.456**				**0.42**				0.0454				0.0021				***21.3***			
% of reference tissue	243				66				154				111				122				374				122			
SHCR12 Comp Rep 1	0.2576	--	0.0001	0.0039	0.0090	--	0.0008	0.0039	0.460	--	0.004	0.039	0.45	--	0.04	0.19	0.065	--	0.001	0.004	0.0022	J	0.0002	0.0039	16.6	--	0.01	0.10
SHCR12 Comp Rep 2	0.2180	--	0.0001	0.0038	0.0088	--	0.0008	0.0038	0.396	--	0.004	0.038	0.46	--	0.04	0.19	0.049	--	0.001	0.004	0.0021	J	0.0002	0.0038	16.2	--	0.01	0.09
SHCR12 Comp Rep 3	0.2866	--	0.0001	0.0038	0.0079	--	0.0008	0.0039	0.483	--	0.004	0.038	0.46	--	0.04	0.19	0.067	--	0.001	0.004	0.0028	J	0.0002	0.0038	20.6	--	0.01	0.10
SHCR12 Comp Rep 4	0.2549	--	0.0001	0.0037	0.0133	--	0.0007	0.0037	0.420	--	0.004	0.037	0.49	--	0.04	0.19	0.059	--	0.001	0.004	0.0025	J	0.0002	0.0037	19.8	--	0.01	0.09
SHCR12 Comp Rep 5	0.2707	--	0.0001	0.0036	0.0103	--	0.0007	0.0037	0.438	--	0.004	0.036	0.50	--	0.04	0.18	0.077	--	0.001	0.004	0.0026	J	0.0002	0.0036	18.6	--	0.01	0.09
SHCR12 Comp Mean[1]	***0.2576***				0.0099				**0.439**				**0.47**				**0.063**				0.0024				18.4			
% of reference tissue	228				84				148				125				170				439				105			
RS-CH-A Rep 1	0.111	--	0.00009	0.0034	0.0118	--	0.0007	0.0035	0.291	--	0.003	0.034	0.38	--	0.03	0.17	0.0309	--	0.0010	0.0034	0.00034	J	0.00015	0.0034	18.2	N*	0.010	0.086
RS-CH-A Rep 2	0.108	--	0.00009	0.0035	0.0104	--	0.0007	0.0035	0.270	--	0.003	0.035	0.39	--	0.04	0.17	0.0424	--	0.0010	0.0035	0.00081	J	0.00016	0.0035	16.6	N*	0.010	0.087
RS-CH-A Rep 3	0.123	--	0.00009	0.0035	0.0119	--	0.0007	0.0036	0.307	--	0.003	0.035	0.37	--	0.04	0.18	0.0429	--	0.0010	0.0035	0.00053	J	0.00016	0.0035	18.3	N*	0.010	0.087
RS-CH-A Rep 4	0.103	--	0.00008	0.0034	0.0118	--	0.0007	0.0035	0.308	--	0.003	0.034	0.36	--	0.03	0.17	0.0349	--	0.0010	0.0034	0.00051	J	0.00015	0.0034	17.0	N*	0.010	0.085
RS-CH-A Rep 5	0.119	--	0.00009	0.0034	0.0125	--	0.0007	0.0035	0.305	--	0.003	0.034	0.39	--	0.03	0.17	0.0353	--	0.0010	0.0034	0.00059	J	0.00015	0.0034	17.0	N*	0.010	0.085
RS-CH-A Mean	0.113				0.0117				0.296				0.38				0.0373				0.00056				17.4			
Pre-exposure Rep 1	0.194	--	0.00009	0.0037	0.0113	--	0.0008	0.0038	0.391	--	0.004	0.036	0.46	--	0.04	0.18	0.0638	--	0.0011	0.0036	0.00049	J	0.00016	0.0037	16.9	N*	0.011	0.091
Pre-exposure Rep 2	0.162	--	0.00009	0.0037	0.0143	--	0.0007	0.0037	0.367	--	0.004	0.037	0.42	--	0.04	0.19	0.0438	--	0.0011	0.0037	0.00050	J	0.00017	0.0037	20.5	N*	0.011	0.092
Pre-exposure Rep 3	0.143	--	0.00009	0.0036	0.0119	--	0.0007	0.0037	0.380	--	0.004	0.036	0.44	--	0.04	0.18	0.0330	--	0.0011	0.0036	0.00034	J	0.00016	0.0036	19.2	N*	0.011	0.090
Pre-exposure Mean	0.166				0.0125				0.379				0.44				0.0469				0.00044				18.9			
FDA Action Levels[1]	1.7				1				80				x				x				x				x			
Eco. Effects Threshold[1]	0.1				0.3				2.2				14.2				1.0				0.3				11.6			
South Atlantic Bight Background[1]	0.05-0.77				<0.02				0.9-3.7				0.70-1.4				<0.96				<0.10				10-20			

Bolded Values = The mean concentration of project tissues is statistically significantly greater than the reference tissues.
Italicized Values = Indicate significantly different results that are greater than the Ecological Effects Threshold and/or the South Atlantic Bight Background concentrations.
[1] = Levels/Limits from FDA (2001) and Appendix H of SERIM (EPA/USACE 2008)
J = The resut is an estimated value.
N = The Matrix Spike sample recovery is not within control limits.
* = The result is an outlier.
-- = No Qualifier needed

Source: ALS Environmental Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 31
Analytical Results for Dry Weight Metals in *Neanthes virens* Tissues

Analyte:	Antimony				Arsenic				Beryllium				Cadmium				Chromium				Copper			
Sample-Replicate #	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL
CHEC12-1 Comp Rep 1	0.020	J	0.002	0.049	16.2	--	0.02	0.49	ND	U	0.003	0.019	0.280	--	0.002	0.019	0.56	--	0.02	0.20	6.14	--	0.02	0.10
CHEC12-1 Comp Rep 2	0.014	J	0.002	0.050	15.9	--	0.02	0.50	ND	U	0.003	0.020	0.271	--	0.002	0.020	0.64	--	0.02	0.20	6.22	--	0.02	0.10
CHEC12-1 Comp Rep 3	0.015	J	0.002	0.050	14.0	--	0.02	0.50	0.004	J	0.003	0.020	0.249	--	0.002	0.020	0.66	--	0.02	0.20	6.18	--	0.02	0.10
CHEC12-1 Comp Rep 4	0.028	J	0.002	0.049	15.7	--	0.02	0.49	0.004	J	0.003	0.020	0.268	--	0.002	0.020	0.63	--	0.02	0.20	6.46	--	0.02	0.10
CHEC12-1 Comp Rep 5	0.028	J	0.002	0.050	14.9	--	0.02	0.50	0.003	J	0.003	0.020	0.236	--	0.002	0.020	0.56	--	0.02	0.20	6.34	--	0.02	0.10
CHEC12-2 Comp Rep 1	0.017	J	0.002	0.049	16.6	--	0.02	0.49	0.003	J	0.003	0.019	0.269	--	0.002	0.019	0.63	--	0.02	0.19	6.06	--	0.02	0.10
CHEC12-2 Comp Rep 2	0.023	J	0.002	0.049	15.9	--	0.02	0.49	ND	U	0.003	0.020	0.261	--	0.002	0.020	0.60	--	0.02	0.20	6.31	--	0.02	0.10
CHEC12-2 Comp Rep 3	0.016	J	0.002	0.049	16.4	--	0.02	0.49	0.004	J	0.003	0.020	0.257	--	0.002	0.020	0.66	--	0.02	0.20	6.26	--	0.02	0.10
CHEC12-2 Comp Rep 4	0.019	J	0.002	0.050	15.8	--	0.02	0.50	ND	U	0.003	0.020	0.262	--	0.002	0.020	0.69	--	0.02	0.20	6.55	--	0.02	0.10
CHEC12-2 Comp Rep 5	0.016	J	0.002	0.050	15.2	--	0.02	0.50	0.004	J	0.003	0.020	0.238	--	0.002	0.020	0.53	--	0.02	0.20	5.91	--	0.02	0.10
MTPL12 Comp Rep 1	0.024	J	0.002	0.050	15.6	--	0.02	0.50	ND	U	0.003	0.020	0.236	--	0.002	0.020	0.61	--	0.02	0.20	6.35	--	0.02	0.10
MTPL12 Comp Rep 2	0.028	J	0.002	0.049	14.9	--	0.02	0.49	ND	U	0.003	0.020	0.231	--	0.002	0.020	0.60	--	0.02	0.20	6.19	--	0.02	0.10
MTPL12 Comp Rep 3	0.020	J	0.002	0.050	15.7	--	0.02	0.50	ND	U	0.003	0.020	0.269	--	0.002	0.020	0.72	--	0.02	0.20	5.79	--	0.02	0.10
MTPL12 Comp Rep 4	0.016	J	0.002	0.049	16.1	--	0.02	0.49	ND	U	0.003	0.019	0.252	--	0.002	0.019	0.50	--	0.02	0.20	6.03	--	0.02	0.10
MTPL12 Comp Rep 5	0.015	J	0.002	0.050	17.5	--	0.02	0.50	0.003	J	0.003	0.020	0.296	--	0.002	0.020	0.56	--	0.02	0.20	5.32	--	0.02	0.10
REHR12 Comp Rep 1	0.018	J	0.002	0.050	13.8	--	0.02	0.50	ND	U	0.003	0.020	0.225	--	0.002	0.020	0.71	--	0.02	0.20	15.4	--	0.02	0.10
REHR12 Comp Rep 2	0.056	--	0.002	0.049	14.5	--	0.02	0.49	ND	U	0.003	0.020	0.211	--	0.002	0.020	0.74	--	0.02	0.20	14.5	--	0.02	0.10
REHR12 Comp Rep 3	0.093	--	0.002	0.050	14.8	--	0.02	0.50	ND	U	0.003	0.020	0.202	--	0.002	0.020	0.81	--	0.02	0.20	16.3	--	0.02	0.10
REHR12 Comp Rep 4	0.018	J	0.002	0.050	15.1	--	0.02	0.50	0.005	J	0.003	0.020	0.224	--	0.002	0.020	0.78	--	0.02	0.20	14.8	--	0.02	0.10
REHR12 Comp Rep 5	0.013	J	0.002	0.050	14.9	--	0.02	0.50	ND	U	0.003	0.020	0.221	--	0.002	0.020	0.54	--	0.02	0.20	15.4	--	0.02	0.10
HGIS12 Comp Rep 1	0.020	J	0.002	0.049	15.9	--	0.02	0.49	0.004	J	0.003	0.020	0.250	--	0.002	0.020	0.72	--	0.02	0.20	6.80	--	0.02	0.10
HGIS12 Comp Rep 2	0.032	J	0.002	0.050	16.9	--	0.02	0.50	0.005	J	0.003	0.020	0.260	--	0.002	0.020	0.81	--	0.02	0.20	6.21	--	0.02	0.10
HGIS12 Comp Rep 3	0.021	J	0.002	0.049	17.0	--	0.02	0.49	ND	U	0.003	0.020	0.244	--	0.002	0.020	0.71	--	0.02	0.20	6.25	--	0.02	0.10
HGIS12 Comp Rep 4	0.019	J	0.002	0.050	16.9	--	0.02	0.50	ND	U	0.003	0.020	0.235	--	0.002	0.020	0.70	--	0.02	0.20	6.94	--	0.02	0.10
HGIS12 Comp Rep 5	0.023	J	0.002	0.050	15.2	--	0.02	0.50	0.007	J	0.003	0.020	0.238	--	0.002	0.020	1.01	--	0.02	0.20	6.67	--	0.02	0.10
DRMY12 Comp Rep 1	0.021	J	0.002	0.049	15.3	--	0.02	0.49	0.003	J	0.003	0.020	0.268	--	0.002	0.020	0.48	--	0.02	0.20	5.39	--	0.02	0.10
DRMY12 Comp Rep 2	0.014	J	0.002	0.049	14.7	--	0.02	0.49	ND	U	0.003	0.020	0.230	--	0.002	0.020	0.64	--	0.02	0.20	6.20	--	0.02	0.10
DRMY12 Comp Rep 3	0.018	J	0.002	0.049	15.7	--	0.02	0.49	0.004	J	0.003	0.020	0.264	--	0.002	0.020	0.70	--	0.02	0.20	6.02	--	0.02	0.10
DRMY12 Comp Rep 4	0.019	J	0.002	0.049	14.8	--	0.02	0.49	ND	U	0.003	0.020	0.217	--	0.002	0.020	0.67	--	0.02	0.20	6.10	--	0.02	0.10
DRMY12 Comp Rep 5	0.016	J	0.002	0.050	13.6	--	0.02	0.50	ND	U	0.003	0.020	0.214	--	0.002	0.020	0.66	--	0.02	0.20	6.34	--	0.02	0.10
WLR12 Comp Rep 1	0.018	J	0.002	0.049	15.5	--	0.02	0.49	0.003	J	0.003	0.020	0.220	--	0.002	0.020	0.65	--	0.02	0.20	6.51	--	0.02	0.10
WLR12 Comp Rep 2	0.020	J	0.002	0.050	14.7	--	0.02	0.50	ND	U	0.003	0.020	0.227	--	0.002	0.020	0.73	--	0.02	0.20	7.35	--	0.02	0.10
WLR12 Comp Rep 3	0.015	J	0.002	0.049	15.2	--	0.02	0.49	ND	U	0.003	0.020	0.215	--	0.002	0.020	0.67	--	0.02	0.20	6.37	--	0.02	0.10
WLR12 Comp Rep 4	0.444	--	0.002	0.049	16.2	--	0.02	0.49	ND	U	0.003	0.020	0.244	--	0.002	0.020	0.63	--	0.02	0.20	6.00	--	0.02	0.10
WLR12 Comp Rep 5	0.014	J	0.002	0.049	15.3	--	0.02	0.49	0.004	J	0.003	0.020	0.262	--	0.002	0.020	0.59	--	0.02	0.20	5.83	--	0.02	0.10

TABLE 31
Analytical Results for Dry Weight Metals in *Neanthes virens* Tissues

Analyte:	Antimony				Arsenic				Beryllium				Cadmium				Chromium				Copper			
Sample-Replicate #	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL
WUTB12 Comp Rep 1	0.016	J	0.002	0.049	15.1	--	0.02	0.49	ND	U	0.003	0.020	0.233	--	0.002	0.020	0.48	--	0.02	0.20	6.49	--	0.02	0.10
WUTB12 Comp Rep 2	0.017	J	0.002	0.050	14.8	--	0.02	0.50	0.006	J	0.003	0.020	0.217	--	0.002	0.020	0.63	--	0.02	0.20	6.85	--	0.02	0.10
WUTB12 Comp Rep 3	0.016	J	0.002	0.049	16.1	--	0.02	0.49	ND	U	0.003	0.020	0.232	--	0.002	0.020	0.47	--	0.02	0.20	6.31	--	0.02	0.10
WUTB12 Comp Rep 4	0.016	J	0.002	0.050	15.8	--	0.02	0.50	0.005	J	0.003	0.020	0.271	--	0.002	0.020	0.49	--	0.02	0.20	6.14	--	0.02	0.10
WUTB12 Comp Rep 5	0.014	J	0.002	0.050	16.3	--	0.02	0.50	ND	U	0.003	0.020	0.255	--	0.002	0.020	0.54	--	0.02	0.20	5.98	--	0.02	0.10
DANI12 Comp Rep 1	0.017	J	0.002	0.049	13.6	--	0.02	0.49	ND	U	0.003	0.019	0.215	--	0.002	0.019	0.48	--	0.02	0.20	16.0	--	0.02	0.10
DANI12 Comp Rep 2	0.011	J	0.002	0.050	15.0	--	0.02	0.50	ND	U	0.003	0.020	0.211	--	0.002	0.020	0.35	--	0.02	0.20	15.3	--	0.02	0.10
DANI12 Comp Rep 3	0.014	J	0.002	0.050	14.0	--	0.02	0.50	ND	U	0.003	0.020	0.192	--	0.002	0.020	0.33	--	0.02	0.20	16.2	--	0.02	0.10
DANI12 Comp Rep 4	0.014	J	0.002	0.049	14.5	--	0.02	0.49	ND	U	0.003	0.020	0.222	--	0.002	0.020	0.39	--	0.02	0.20	17.6	--	0.02	0.10
DANI12 Comp Rep 5	0.014	J	0.002	0.049	14.8	--	0.02	0.49	ND	U	0.003	0.020	0.252	--	0.002	0.020	0.33	--	0.02	0.20	16.6	--	0.02	0.10
CCRK12 Comp Rep 1	0.012	J	0.002	0.049	13.6	--	0.02	0.49	ND	U	0.003	0.020	0.194	--	0.002	0.020	0.32	--	0.02	0.20	14.1	--	0.02	0.10
CCRK12 Comp Rep 2	0.009	J	0.002	0.049	13.4	--	0.02	0.49	ND	U	0.003	0.020	0.206	--	0.002	0.020	0.31	--	0.02	0.20	14.7	--	0.02	0.10
CCRK12 Comp Rep 3	0.022	J	0.002	0.049	14.5	--	0.02	0.49	ND	U	0.003	0.020	0.219	--	0.002	0.020	0.45	--	0.02	0.20	15.0	--	0.02	0.10
CCRK12 Comp Rep 4	0.014	J	0.002	0.049	14.0	--	0.02	0.49	ND	U	0.003	0.019	0.200	--	0.002	0.019	0.35	--	0.02	0.20	12.3	--	0.02	0.10
CCRK12 Comp Rep 5	0.026	J	0.002	0.050	14.5	--	0.02	0.50	ND	U	0.003	0.020	0.212	--	0.002	0.020	0.41	--	0.02	0.20	17.1	--	0.02	0.10
UH12 Comp Rep 1	0.014	J	0.002	0.050	13.3	--	0.02	0.50	ND	U	0.003	0.020	0.198	--	0.002	0.020	0.40	--	0.02	0.20	14.2	--	0.02	0.10
UH12 Comp Rep 2	0.020	J	0.002	0.049	13.6	--	0.02	0.49	ND	U	0.003	0.019	0.200	--	0.002	0.019	0.40	--	0.02	0.19	15.3	--	0.02	0.10
UH12 Comp Rep 3	0.017	J	0.002	0.050	13.8	--	0.02	0.50	ND	U	0.003	0.020	0.208	--	0.002	0.020	0.51	--	0.02	0.20	14.4	--	0.02	0.10
UH12 Comp Rep 4	0.012	J	0.002	0.049	13.2	--	0.02	0.49	0.003	J	0.003	0.019	0.190	--	0.002	0.019	0.39	--	0.02	0.20	14.8	--	0.02	0.10
UH12 Comp Rep 5	0.016	J	0.002	0.049	12.8	--	0.02	0.49	ND	U	0.003	0.019	0.207	--	0.002	0.019	0.42	--	0.02	0.19	14.3	--	0.02	0.10
ORDT12 Comp Rep 1	0.012	J	0.002	0.049	13.3	--	0.02	0.49	ND	U	0.003	0.020	0.222	--	0.002	0.020	0.37	--	0.02	0.20	17.6	--	0.02	0.10
ORDT12 Comp Rep 2	0.062	--	0.002	0.050	14.2	--	0.02	0.50	0.007	J	0.003	0.020	0.192	--	0.002	0.020	0.38	--	0.02	0.20	13.9	--	0.02	0.10
ORDT12 Comp Rep 3	0.024	J	0.002	0.049	14.0	--	0.02	0.49	ND	U	0.003	0.020	0.196	--	0.002	0.020	0.42	--	0.002	0.20	15.6	--	0.02	0.10
ORDT12 Comp Rep 4	0.012	J	0.002	0.050	13.2	--	0.02	0.50	ND	U	0.003	0.020	0.219	--	0.002	0.020	0.48	--	0.002	0.20	16.6	--	0.02	0.10
ORDT12 Comp Rep 5	0.009	J	0.002	0.049	13.5	--	0.02	0.49	ND	U	0.003	0.020	0.190	--	0.002	0.020	0.40	--	0.02	0.20	15.0	--	0.02	0.10
BENW12 Comp Rep 1	0.021	J	0.002	0.049	16.0	--	0.02	0.49	ND	U	0.003	0.020	0.235	--	0.002	0.020	0.53	--	0.02	0.20	6.39	--	0.02	0.10
BENW12 Comp Rep 2	0.015	J	0.002	0.049	15.6	--	0.02	0.49	ND	U	0.003	0.019	0.246	--	0.002	0.019	0.55	--	0.02	0.19	5.88	--	0.02	0.10
BENW12 Comp Rep 3	0.020	J	0.002	0.050	15.3	--	0.02	0.50	ND	U	0.003	0.020	0.236	--	0.002	0.020	0.66	--	0.02	0.20	6.24	--	0.02	0.10
BENW12 Comp Rep 4	0.022	J	0.002	0.049	16.8	--	0.02	0.49	ND	U	0.003	0.020	0.235	--	0.002	0.020	0.68	--	0.02	0.20	6.72	--	0.02	0.10
BENW12 Comp Rep 5	0.020	J	0.002	0.048	15.7	--	0.02	0.48	ND	U	0.003	0.019	0.252	--	0.002	0.019	0.57	--	0.02	0.19	6.43	--	0.02	0.10
HGIW12 Comp Rep 1	0.013	J	0.002	0.050	13.0	--	0.02	0.50	ND	U	0.003	0.020	0.196	--	0.002	0.020	0.57	--	0.02	0.20	6.16	--	0.02	0.10
HGIW12 Comp Rep 2	0.013	J	0.002	0.050	14.5	--	0.02	0.50	ND	U	0.003	0.020	0.230	--	0.002	0.020	0.44	--	0.02	0.20	5.00	--	0.02	0.10
HGIW12 Comp Rep 3	0.019	J	0.002	0.049	14.6	--	0.02	0.49	ND	U	0.003	0.020	0.236	--	0.002	0.020	0.53	--	0.02	0.20	6.49	--	0.02	0.10
HGIW12 Comp Rep 4	0.013	J	0.002	0.049	14.7	--	0.02	0.49	ND	U	0.003	0.020	0.218	--	0.002	0.020	1.05	--	0.02	0.20	5.44	--	0.02	0.10
HGIW12 Comp Rep 5	0.014	J	0.002	0.049	15.0	--	0.02	0.49	ND	U	0.003	0.020	0.250	--	0.002	0.020	0.44	--	0.02	0.20	5.66	--	0.02	0.10

TABLE 31
Analytical Results for Dry Weight Metals in *Neanthes virens* Tissues

Analyte:	Antimony				Arsenic				Beryllium				Cadmium				Chromium				Copper			
Sample-Replicate #	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL
WRTB12 Comp Rep 1	0.017	J	0.002	0.050	13.6	--	0.02	0.50	ND	U	0.003	0.020	0.212	--	0.002	0.020	0.50	--	0.02	0.20	7.23	--	0.02	0.10
WRTB12 Comp Rep 2	0.013	J	0.002	0.049	15.1	--	0.02	0.49	ND	U	0.003	0.019	0.248	--	0.002	0.019	0.64	--	0.02	0.20	7.33	--	0.02	0.10
WRTB12 Comp Rep 3	0.029	J	0.002	0.049	14.7	--	0.02	0.49	ND	U	0.003	0.020	0.231	--	0.002	0.020	0.51	--	0.02	0.20	5.94	--	0.02	0.10
WRTB12 Comp Rep 4	0.018	J	0.002	0.050	13.9	--	0.02	0.50	ND	U	0.003	0.020	0.242	--	0.002	0.020	0.51	--	0.02	0.20	5.70	--	0.02	0.10
WRTB12 Comp Rep 5	0.012	J	0.002	0.050	14.1	--	0.02	0.50	ND	U	0.003	0.020	0.210	--	0.002	0.020	0.46	--	0.02	0.20	6.12	--	0.02	0.10
DANW12 Comp Rep 1	0.016	J	0.002	0.050	13.8	--	0.02	0.50	ND	U	0.003	0.020	0.193	--	0.002	0.020	0.58	--	0.02	0.20	17.9	--	0.02	0.10
DANW12 Comp Rep 2	0.016	J	0.002	0.050	13.4	--	0.02	0.50	ND	U	0.003	0.020	0.200	--	0.002	0.020	0.55	--	0.02	0.20	15.8	--	0.02	0.10
DANW12 Comp Rep 3	0.018	J	0.002	0.050	12.1	--	0.02	0.50	0.004	J	0.003	0.020	0.187	--	0.002	0.020	0.55	--	0.02	0.20	15.6	--	0.02	0.10
DANW12 Comp Rep 4	0.012	J	0.002	0.049	13.3	--	0.02	0.49	ND	U	0.003	0.020	0.190	--	0.002	0.020	0.51	--	0.02	0.20	13.8	--	0.02	0.10
DANW12 Comp Rep 5	0.011	J	0.002	0.050	13.0	--	0.02	0.50	ND	U	0.003	0.020	0.185	--	0.002	0.020	0.35	--	0.02	0.20	12.5	--	0.02	0.10
WLRW12 Comp Rep 1	0.018	J	0.002	0.049	14.6	--	0.02	0.49	ND	U	0.003	0.020	0.215	--	0.002	0.020	0.42	--	0.02	0.20	6.08	--	0.02	0.10
WLRW12 Comp Rep 2	0.014	J	0.002	0.050	15.2	--	0.02	0.50	ND	U	0.003	0.020	0.213	--	0.002	0.020	0.50	--	0.02	0.20	6.74	--	0.02	0.10
WLRW12 Comp Rep 3	0.011	J	0.002	0.050	16.2	--	0.02	0.50	ND	U	0.003	0.020	0.231	--	0.002	0.020	0.42	--	0.02	0.20	5.66	--	0.02	0.10
WLRW12 Comp Rep 4	0.014	J	0.002	0.049	17.0	--	0.02	0.49	ND	U	0.003	0.020	0.245	--	0.002	0.020	0.60	--	0.02	0.20	5.55	--	0.02	0.10
WLRW12 Comp Rep 5	0.016	J	0.002	0.050	14.8	--	0.02	0.50	ND	U	0.003	0.020	0.250	--	0.002	0.020	0.50	--	0.02	0.20	5.56	--	0.02	0.10
NCW12 Comp Rep 1	0.017	J	0.002	0.049	14.6	--	0.02	0.49	ND	U	0.003	0.019	0.190	--	0.002	0.019	0.35	--	0.02	0.19	15.7	--	0.02	0.10
NCW12 Comp Rep 2	0.022	J	0.002	0.049	14.6	--	0.02	0.49	ND	U	0.003	0.020	0.193	--	0.002	0.020	0.41	--	0.02	0.20	12.6	--	0.02	0.10
NCW12 Comp Rep 3	0.018	J	0.002	0.049	13.7	--	0.02	0.49	ND	U	0.003	0.020	0.186	--	0.002	0.020	0.29	--	0.02	0.20	14.5	--	0.02	0.10
NCW12 Comp Rep 4	0.016	J	0.002	0.049	14.3	--	0.02	0.49	ND	U	0.003	0.020	0.205	--	0.002	0.020	0.45	--	0.02	0.20	15.7	--	0.02	0.10
NCW12 Comp Rep 5	0.051	--	0.002	0.050	14.7	--	0.02	0.50	0.004	J	0.003	0.020	0.208	--	0.002	0.020	0.36	--	0.02	0.20	13.7	--	0.02	0.10
ABMA12 Comp Rep 1	0.016	J	0.002	0.049	12.9	--	0.02	0.49	0.004	J	0.003	0.020	0.185	--	0.002	0.020	0.36	--	0.02	0.20	10.5	--	0.02	0.10
ABMA12 Comp Rep 2	0.018	J	0.002	0.050	14.0	--	0.02	0.50	ND	U	0.003	0.020	0.200	--	0.002	0.020	0.41	--	0.02	0.20	10.7	--	0.02	0.10
ABMA12 Comp Rep 3	0.016	J	0.002	0.049	14.2	--	0.02	0.49	0.003	J	0.003	0.020	0.185	--	0.002	0.020	0.53	--	0.02	0.20	9.58	--	0.02	0.10
ABMA12 Comp Rep 4	0.019	J	0.002	0.049	14.1	--	0.02	0.49	0.003	J	0.003	0.020	0.173	--	0.002	0.020	0.44	--	0.02	0.20	10.4	--	0.02	0.10
ABMA12 Comp Rep 5	0.025	J	0.002	0.049	13.2	--	0.02	0.49	0.004	J	0.003	0.019	0.195	--	0.002	0.019	0.43	--	0.02	0.20	10.8	--	0.02	0.10
SHCR12 Comp Rep 1	0.028	J	0.002	0.048	13.9	--	0.02	0.48	0.007	J	0.003	0.019	0.216	--	0.002	0.019	0.54	--	0.02	0.19	6.39	--	0.02	0.10
SHCR12 Comp Rep 2	0.020	J	0.002	0.049	13.9	--	0.02	0.49	0.003	J	0.003	0.020	0.206	--	0.002	0.020	0.43	--	0.02	0.20	7.36	--	0.02	0.10
SHCR12 Comp Rep 3	0.017	J	0.002	0.049	14.1	--	0.02	0.49	0.003	J	0.003	0.020	0.199	--	0.002	0.020	0.48	--	0.02	0.20	7.00	--	0.02	0.10
SHCR12 Comp Rep 4	0.016	J	0.002	0.048	14.8	--	0.02	0.48	ND	U	0.003	0.019	0.237	--	0.002	0.019	0.40	--	0.02	0.19	6.32	--	0.02	0.10
SHCR12 Comp Rep 5	0.021	J	0.002	0.049	14.1	--	0.02	0.49	0.003	J	0.003	0.020	0.189	--	0.002	0.020	0.49	--	0.02	0.20	6.96	--	0.02	0.10
RS-CH-A Rep 1	0.015	J	0.002	0.049	15.4	--	0.02	0.49	ND	U	0.003	0.019	0.234	--	0.002	0.019	0.48	--	0.02	0.19	11.1	--	0.02	0.10
RS-CH-A Rep 2	0.016	J	0.002	0.050	14.4	--	0.02	0.50	ND	U	0.003	0.020	0.224	--	0.002	0.020	0.57	--	0.02	0.20	11.0	--	0.02	0.10
RS-CH-A Rep 3	0.015	J	0.002	0.050	14.8	--	0.02	0.50	ND	U	0.003	0.020	0.224	--	0.002	0.020	0.52	--	0.02	0.20	11.3	--	0.02	0.10
RS-CH-A Rep 4	0.023	J	0.002	0.049	15.9	--	0.02	0.49	ND	U	0.003	0.020	0.211	--	0.002	0.020	0.58	--	0.02	0.20	10.7	--	0.02	0.10
RS-CH-A Rep 5	0.014	J	0.002	0.048	14.9	--	0.02	0.48	ND	U	0.003	0.019	0.243	--	0.002	0.019	0.47	--	0.02	0.19	11.7	--	0.02	0.10
Pre-exposure Rep 1	0.018	J	0.002	0.048	14.4	--	0.02	0.48	0.004	J	0.003	0.019	0.178	--	0.002	0.019	0.69	--	0.02	0.19	7.79	--	0.02	0.10
Pre-exposure Rep 2	0.019	J	0.002	0.049	15.3	--	0.02	0.49	0.003	J	0.003	0.019	0.206	--	0.002	0.019	0.60	--	0.02	0.20	7.07	--	0.02	0.10
Pre-exposure Rep 3	0.021	J	0.002	0.050	16.4	--	0.02	0.50	ND	U	0.003	0.020	0.170	--	0.002	0.020	0.66	--	0.02	0.20	7.07	--	0.02	0.10

TABLE 31
Analytical Results for Dry Weight Metals in *Neanthes virens* Tissues

Analyte:	Lead				Mercury				Nickel				Selenium				Silver				Thallium				Zinc			
Sample-Replicate #	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL
CHEC12-1 Comp Rep 1	0.657	--	0.0005	0.0195	0.143	--	0.004	0.020	0.77	--	0.02	0.20	1.9	--	0.2	1.0	0.148	--	0.006	0.019	0.0012	J	0.0009	0.0195	133	N*	0.06	0.49
CHEC12-1 Comp Rep 2	0.507	--	0.0005	0.0199	0.132	--	0.004	0.020	1.08	--	0.02	0.20	2.2	--	0.2	1.0	0.148	--	0.006	0.020	0.0019	J	0.0009	0.0199	250	N*	0.06	0.50
CHEC12-1 Comp Rep 3	0.590	--	0.0005	0.0199	0.112	--	0.004	0.020	0.79	--	0.02	0.20	2.0	--	0.2	1.0	0.141	--	0.006	0.020	0.0021	J	0.0009	0.0199	233	N*	0.06	0.50
CHEC12-1 Comp Rep 4	0.556	--	0.0005	0.0197	0.134	--	0.004	0.020	0.85	--	0.02	0.20	2.2	--	0.2	1.0	0.178	--	0.006	0.020	0.0028	J	0.0009	0.0197	121	N*	0.06	0.49
CHEC12-1 Comp Rep 5	0.493	--	0.0005	0.0199	0.129	--	0.004	0.020	0.91	--	0.02	0.20	2.2	--	0.2	1.0	0.138	--	0.006	0.020	0.0021	J	0.0009	0.0199	146	N*	0.06	0.50
CHEC12-2 Comp Rep 1	0.586	--	0.0005	0.0194	0.113	--	0.004	0.020	1.02	--	0.02	0.19	2.0	--	0.2	1.0	0.143	--	0.006	0.019	0.0033	J	0.0009	0.0194	86.3	N*	0.06	0.49
CHEC12-2 Comp Rep 2	0.531	--	0.0005	0.0197	0.129	--	0.004	0.020	0.90	--	0.02	0.20	2.2	--	0.2	1.0	0.141	--	0.006	0.020	0.0030	J	0.0009	0.0197	149	N*	0.06	0.49
CHEC12-2 Comp Rep 3	0.605	--	0.0005	0.0197	0.142	--	0.004	0.020	0.97	--	0.02	0.20	2.3	--	0.2	1.0	0.140	--	0.006	0.020	0.0022	J	0.0009	0.0197	91.1	N*	0.06	0.49
CHEC12-2 Comp Rep 4	0.574	--	0.0005	0.0199	0.145	--	0.004	0.020	1.37	--	0.02	0.20	2.1	--	0.2	1.0	0.141	--	0.006	0.020	0.0038	J	0.0009	0.0199	92.4	N*	0.06	0.50
CHEC12-2 Comp Rep 5	0.539	--	0.0005	0.0199	0.124	--	0.004	0.020	1.02	--	0.02	0.20	2.1	--	0.2	1.0	0.148	--	0.006	0.020	0.0033	J	0.0009	0.0199	143	N*	0.06	0.50
MTPL12 Comp Rep 1	0.453	--	0.0005	0.0199	0.134	--	0.004	0.020	1.47	--	0.02	0.20	2.0	--	0.2	1.0	0.125	--	0.006	0.020	0.0101	J	0.0009	0.0199	122	N*	0.06	0.50
MTPL12 Comp Rep 2	0.514	--	0.0005	0.0197	0.129	--	0.004	0.020	1.45	--	0.02	0.20	2.2	--	0.2	1.0	0.124	--	0.006	0.020	0.0092	J	0.0009	0.0197	145	N*	0.06	0.49
MTPL12 Comp Rep 3	0.562	--	0.0005	0.0199	0.108	--	0.004	0.020	1.72	--	0.02	0.20	1.9	--	0.2	1.0	0.128	--	0.006	0.020	0.0078	J	0.0009	0.0199	117	N*	0.06	0.50
MTPL12 Comp Rep 4	0.512	--	0.0005	0.0195	0.156	--	0.004	0.020	1.68	--	0.02	0.20	2.0	--	0.2	1.0	0.116	--	0.006	0.019	0.0089	J	0.0009	0.0195	119	N*	0.06	0.49
MTPL12 Comp Rep 5	0.568	--	0.0005	0.0200	0.096	--	0.004	0.020	1.94	--	0.02	0.20	1.7	--	0.2	1.0	0.120	--	0.006	0.020	0.0106	J	0.0009	0.0200	84.0	N*	0.06	0.50
REHR12 Comp Rep 1	0.505	--	0.0005	0.0200	0.092	--	0.004	0.020	1.08	--	0.02	0.20	1.9	--	0.2	1.0	0.071	--	0.006	0.020	0.0030	J	0.0009	0.0200	135	N*	0.06	0.50
REHR12 Comp Rep 2	0.559	--	0.0005	0.0197	0.095	--	0.004	0.020	0.93	--	0.02	0.20	1.8	--	0.2	1.0	0.088	--	0.006	0.020	0.0027	J	0.0009	0.0197	70.0	N*	0.06	0.49
REHR12 Comp Rep 3	0.467	--	0.0005	0.0199	0.096	--	0.004	0.020	1.07	--	0.02	0.20	2.0	--	0.2	1.0	0.061	--	0.006	0.020	0.0030	J	0.0009	0.0199	217	N*	0.06	0.50
REHR12 Comp Rep 4	0.560	--	0.0005	0.0199	0.105	--	0.004	0.019	0.97	--	0.02	0.20	2.0	--	0.2	1.0	0.072	--	0.006	0.020	0.0024	J	0.0009	0.0199	93.6	N*	0.06	0.50
REHR12 Comp Rep 5	0.524	--	0.0005	0.0198	0.103	--	0.004	0.020	0.80	--	0.02	0.20	2.0	--	0.2	1.0	0.080	--	0.006	0.020	0.0027	J	0.0009	0.0198	64.0	N*	0.06	0.50
HGIS12 Comp Rep 1	0.578	--	0.0005	0.0195	0.125	--	0.004	0.020	1.78	--	0.02	0.20	2.0	--	0.2	1.0	0.170	--	0.006	0.020	0.0025	J	0.0009	0.0195	177	N*	0.06	0.49
HGIS12 Comp Rep 2	0.588	--	0.0005	0.0198	0.144	--	0.004	0.020	1.91	--	0.02	0.20	2.0	--	0.2	1.0	0.137	--	0.006	0.020	0.0036	J	0.0009	0.0198	114	N*	0.06	0.50
HGIS12 Comp Rep 3	0.544	--	0.0005	0.0196	0.126	--	0.004	0.020	2.09	--	0.02	0.20	2.4	--	0.2	1.0	0.112	--	0.006	0.020	0.0026	J	0.0009	0.0196	233	N*	0.06	0.49
HGIS12 Comp Rep 4	0.529	--	0.0005	0.0199	0.133	--	0.004	0.020	1.71	--	0.02	0.20	1.9	--	0.2	1.0	0.177	--	0.006	0.020	0.0033	J	0.0009	0.0199	79.3	N*	0.06	0.50
HGIS12 Comp Rep 5	0.695	--	0.0005	0.0199	0.128	--	0.004	0.020	2.32	--	0.02	0.20	2.1	--	0.2	1.0	0.131	--	0.006	0.020	0.0044	J	0.0009	0.0199	227	N*	0.06	0.50
DRMY12 Comp Rep 1	0.515	--	0.0005	0.0195	0.109	--	0.004	0.019	1.05	--	0.02	0.20	1.7	--	0.2	1.0	0.121	--	0.006	0.020	0.0015	J	0.0009	0.0195	230	N*	0.06	0.49
DRMY12 Comp Rep 2	0.565	--	0.0005	0.0196	0.121	--	0.004	0.020	1.20	--	0.02	0.20	1.8	--	0.2	1.0	0.131	--	0.006	0.020	0.0015	J	0.0009	0.0196	67.6	N*	0.06	0.49
DRMY12 Comp Rep 3	0.667	--	0.0005	0.0197	0.105	--	0.004	0.020	0.94	--	0.02	0.20	1.8	--	0.2	1.0	0.113	--	0.006	0.020	0.0017	J	0.0009	0.0197	64.1	N*	0.06	0.49
DRMY12 Comp Rep 4	0.519	--	0.0005	0.0197	0.139	--	0.004	0.020	1.18	--	0.02	0.20	2.1	--	0.2	1.0	0.119	--	0.006	0.020	0.0015	J	0.0009	0.0197	106	N*	0.06	0.49
DRMY12 Comp Rep 5	0.566	--	0.0005	0.0200	0.138	--	0.004	0.020	1.11	--	0.02	0.20	2.1	--	0.2	1.0	0.105	--	0.006	0.020	0.0014	J	0.0009	0.0200	66.8	N*	0.06	0.50
WLR12 Comp Rep 1	0.523	--	0.0005	0.0197	0.134	--	0.004	0.020	2.18	--	0.02	0.20	2.2	--	0.2	1.0	0.152	--	0.006	0.020	0.0030	J	0.0009	0.0197	207	N*	0.06	0.49
WLR12 Comp Rep 2	0.439	--	0.0005	0.0198	0.152	--	0.004	0.020	3.10	--	0.02	0.20	2.3	--	0.2	1.0	0.123	--	0.006	0.020	0.0023	J	0.0009	0.0198	64.5	N*	0.06	0.50
WLR12 Comp Rep 3	0.474	--	0.0005	0.0197	0.146	--	0.004	0.020	2.07	--	0.02	0.20	2.2	--	0.2	1.0	0.106	--	0.006	0.020	0.0021	J	0.0009	0.0197	185	N*	0.06	0.49
WLR12 Comp Rep 4	0.642	--	0.0005	0.0196	0.090	--	0.004	0.020	2.38	--	0.02	0.20	1.9	--	0.2	1.0	0.114	--	0.006	0.020	0.0017	J	0.0009	0.0196	140	N*	0.06	0.49
WLR12 Comp Rep 5	0.505	--	0.0005	0.0195	0.111	--	0.004	0.020	2.01	--	0.02	0.20	1.9	--	0.2	1.0	0.091	--	0.006	0.020	0.0022	J	0.0009	0.0195	236	N*	0.06	0.49

TABLE 31
Analytical Results for Dry Weight Metals in *Neanthes virens* Tissues

Analyte:	Lead				Mercury				Nickel				Selenium				Silver				Thallium				Zinc			
Sample-Replicate #	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL
WUTB12 Comp Rep 1	0.654	--	0.0005	0.0196	0.121	--	0.004	0.020	1.45	--	0.02	0.20	1.9	--	0.2	1.0	0.128	--	0.006	0.020	0.0016	J	0.0009	0.0196	117	N*	0.06	0.49
WUTB12 Comp Rep 2	0.500	--	0.0005	0.0200	0.140	--	0.004	0.020	1.51	--	0.02	0.20	2.2	--	0.2	1.0	0.156	--	0.006	0.020	0.0025	J	0.0009	0.0200	111	N*	0.06	0.50
WUTB12 Comp Rep 3	0.643	--	0.0005	0.0196	0.113	--	0.004	0.020	1.41	--	0.02	0.20	2.1	--	0.2	1.0	0.124	--	0.006	0.020	0.0012	J	0.0009	0.0196	222	N*	0.06	0.49
WUTB12 Comp Rep 4	0.562	--	0.0005	0.0198	0.167	--	0.004	0.020	1.31	--	0.02	0.20	2.1	--	0.2	1.0	0.144	--	0.006	0.020	0.0013	J	0.0009	0.0198	117	N*	0.06	0.50
WUTB12 Comp Rep 5	0.553	--	0.0005	0.0199	0.122	--	0.004	0.020	1.37	--	0.02	0.20	2.0	--	0.2	1.0	0.174	--	0.006	0.020	0.0014	J	0.0009	0.0199	62.9	N*	0.06	0.50
DANI12 Comp Rep 1	0.494	--	0.0005	0.0195	0.098	--	0.004	0.020	1.66	--	0.02	0.20	1.7	--	0.2	1.0	0.077	--	0.006	0.019	ND	U	0.0009	0.0195	88.0	N*	0.06	0.49
DANI12 Comp Rep 2	0.463	--	0.0005	0.0199	0.115	--	0.004	0.020	1.56	--	0.02	0.20	1.9	--	0.2	1.0	0.071	--	0.006	0.020	ND	U	0.0009	0.0199	179	N*	0.06	0.50
DANI12 Comp Rep 3	0.470	--	0.0005	0.0199	0.090	--	0.004	0.019	1.39	--	0.02	0.20	1.6	--	0.2	1.0	0.070	--	0.006	0.020	ND	U	0.0009	0.0199	164	N*	0.06	0.50
DANI12 Comp Rep 4	0.519	--	0.0005	0.0197	0.112	--	0.004	0.020	1.70	--	0.02	0.20	1.8	--	0.2	1.0	0.106	--	0.006	0.020	ND	U	0.0009	0.0197	118	N*	0.06	0.49
DANI12 Comp Rep 5	0.571	--	0.0005	0.0197	0.097	--	0.004	0.020	1.89	--	0.02	0.20	1.7	--	0.2	1.0	0.082	--	0.006	0.020	ND	U	0.0009	0.0197	60.2	N*	0.06	0.49
CCRK12 Comp Rep 1	0.470	--	0.0005	0.0197	0.088	--	0.004	0.020	1.22	--	0.02	0.20	1.5	--	0.2	1.0	0.089	--	0.006	0.020	0.0018	J	0.0009	0.0197	74.7	N*	0.06	0.49
CCRK12 Comp Rep 2	0.492	--	0.0005	0.0197	0.104	--	0.004	0.020	1.32	--	0.02	0.20	1.7	--	0.2	1.0	0.078	--	0.006	0.020	ND	U	0.0009	0.0197	61.0	N*	0.06	0.49
CCRK12 Comp Rep 3	0.503	--	0.0005	0.0197	0.102	--	0.004	0.020	1.52	--	0.02	0.20	1.7	--	0.2	1.0	0.088	--	0.006	0.020	ND	U	0.0009	0.0197	141	N*	0.06	0.49
CCRK12 Comp Rep 4	0.488	--	0.0005	0.0195	0.094	--	0.004	0.020	1.11	--	0.02	0.20	1.8	--	0.2	1.0	0.068	--	0.006	0.019	ND	U	0.0009	0.0195	84.6	N*	0.06	0.49
CCRK12 Comp Rep 5	0.469	--	0.0005	0.0199	0.095	--	0.004	0.020	1.79	--	0.02	0.20	1.8	--	0.2	1.0	0.088	--	0.006	0.020	0.0009	J	0.0009	0.0199	197	N*	0.06	0.50
UH12 Comp Rep 1	0.454	--	0.0005	0.0199	0.102	--	0.004	0.020	1.34	--	0.02	0.20	1.7	--	0.2	1.0	0.063	--	0.006	0.020	0.0016	J	0.0009	0.0199	129	N*	0.06	0.50
UH12 Comp Rep 2	0.441	--	0.0005	0.0194	0.086	--	0.004	0.020	1.75	--	0.02	0.19	1.6	--	0.2	1.0	0.072	--	0.006	0.019	0.0011	J	0.0009	0.0194	63.0	N*	0.06	0.49
UH12 Comp Rep 3	0.478	--	0.0005	0.0199	0.108	--	0.004	0.020	1.77	--	0.02	0.20	1.7	--	0.2	1.0	0.076	--	0.006	0.020	0.0017	J	0.0009	0.0199	184	N*	0.06	0.50
UH12 Comp Rep 4	0.445	--	0.0005	0.0195	0.090	--	0.004	0.020	1.50	--	0.02	0.20	1.6	--	0.2	1.0	0.060	--	0.006	0.019	0.0015	J	0.0009	0.0195	87.3	N*	0.06	0.49
UH12 Comp Rep 5	0.487	--	0.0005	0.0194	0.102	--	0.004	0.020	1.65	--	0.02	0.19	1.6	--	0.2	1.0	0.076	--	0.006	0.019	0.0012	J	0.0009	0.0194	115	N*	0.06	0.49
ORDT12 Comp Rep 1	0.541	--	0.0005	0.0197	0.106	--	0.004	0.020	0.58	--	0.02	0.20	1.8	--	0.2	1.0	0.107	--	0.006	0.020	ND	U	0.0009	0.0197	64.9	N*	0.06	0.49
ORDT12 Comp Rep 2	0.515	--	0.0005	0.0198	0.102	--	0.004	0.020	0.81	--	0.02	0.20	1.8	--	0.2	1.0	0.064	--	0.006	0.020	0.0127	J	0.0009	0.0198	57.0	N*	0.06	0.50
ORDT12 Comp Rep 3	0.492	--	0.0005	0.0197	0.118	--	0.004	0.020	0.69	--	0.02	0.20	1.9	--	0.2	1.0	0.063	--	0.006	0.020	0.0021	J	0.0009	0.0197	240	N*	0.06	0.49
ORDT12 Comp Rep 4	0.484	--	0.0005	0.0199	0.124	--	0.004	0.020	0.65	--	0.02	0.20	1.8	--	0.2	1.0	0.077	--	0.006	0.020	ND	U	0.0009	0.0199	139	N*	0.06	0.50
ORDT12 Comp Rep 5	0.469	--	0.0005	0.0195	0.085	--	0.004	0.020	0.63	--	0.02	0.20	1.7	--	0.2	1.0	0.059	--	0.006	0.020	ND	U	0.0009	0.0195	61.9	N*	0.06	0.49
BENW12 Comp Rep 1	0.724	--	0.0005	0.0195	0.148	--	0.004	0.020	1.68	--	0.02	0.20	2.0	--	0.2	1.0	0.136	--	0.006	0.020	0.0045	J	0.0009	0.0195	60.5	N*	0.06	0.49
BENW12 Comp Rep 2	0.647	--	0.0005	0.0194	0.145	--	0.004	0.020	1.73	--	0.02	0.19	1.6	--	0.2	1.0	0.125	--	0.006	0.019	0.0040	J	0.0009	0.0194	110	N*	0.06	0.49
BENW12 Comp Rep 3	0.512	--	0.0005	0.0199	0.164	--	0.004	0.020	1.83	--	0.02	0.20	1.9	--	0.2	1.0	0.130	--	0.006	0.020	0.0063	J	0.0009	0.0199	103	N*	0.06	0.50
BENW12 Comp Rep 4	0.462	--	0.0005	0.0195	0.169	--	0.004	0.020	2.31	--	0.02	0.20	2.2	--	0.2	1.0	0.149	--	0.006	0.020	0.0055	J	0.0009	0.0195	85.3	N*	0.06	0.49
BENW12 Comp Rep 5	0.588	--	0.0005	0.0194	0.122	--	0.004	0.020	1.96	--	0.02	0.19	1.8	--	0.2	1.0	0.146	--	0.006	0.019	0.0058	J	0.0009	0.0194	203	N*	0.06	0.48
HGIW12 Comp Rep 1	0.516	--	0.0005	0.0199	0.141	--	0.004	0.020	0.86	--	0.02	0.20	1.9	--	0.2	1.0	0.107	--	0.006	0.020	0.0012	J	0.0009	0.0199	66.5	N*	0.06	0.50
HGIW12 Comp Rep 2	0.536	--	0.0005	0.0200	0.102	--	0.004	0.020	0.81	--	0.02	0.20	1.6	--	0.2	1.0	0.115	--	0.006	0.020	0.0011	J	0.0009	0.0200	67.9	N*	0.06	0.50
HGIW12 Comp Rep 3	0.519	--	0.0005	0.0197	0.136	--	0.004	0.020	0.91	--	0.02	0.20	1.9	--	0.2	1.0	0.117	--	0.006	0.020	0.0011	J	0.0009	0.0197	59.6	N*	0.06	0.49
HGIW12 Comp Rep 4	0.548	--	0.0005	0.0197	0.125	--	0.004	0.020	1.18	--	0.02	0.20	1.6	--	0.2	1.0	0.117	--	0.006	0.020	0.0010	J	0.0009	0.0197	83.5	N*	0.06	0.49
HGIW12 Comp Rep 5	0.610	--	0.0005	0.0197	0.120	--	0.004	0.020	1.05	--	0.02	0.20	1.7	--	0.2	1.0	0.106	--	0.006	0.020	0.0016	J	0.0009	0.0197	254	N*	0.06	0.49

TABLE 31
Analytical Results for Dry Weight Metals in *Neanthes virens* Tissues

Analyte:	Lead				Mercury				Nickel				Selenium				Silver				Thallium				Zinc			
Sample-Replicate #	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**	**Result mg/kg**	**Qualifier**	**MDL**	**MRL**
WRTB12 Comp Rep 1	0.423	--	0.0005	0.0199	0.144	--	0.004	0.020	1.15	--	0.02	0.20	1.9	--	0.2	1.0	0.154	--	0.006	0.020	ND	U	0.0009	0.0199	60.1	N*	0.06	0.50
WRTB12 Comp Rep 2	0.546	--	0.0005	0.0195	0.125	--	0.004	0.020	1.10	--	0.02	0.20	2.1	--	0.2	1.0	0.131	--	0.006	0.019	ND	U	0.0009	0.0195	59.6	N*	0.06	0.49
WRTB12 Comp Rep 3	0.489	--	0.0005	0.0197	0.149	--	0.004	0.020	1.07	--	0.02	0.20	1.9	--	0.2	1.0	0.115	--	0.006	0.020	0.0011	J	0.0009	0.0197	60.9	N*	0.06	0.49
WRTB12 Comp Rep 4	0.538	--	0.0005	0.0200	0.122	--	0.004	0.020	1.04	--	0.02	0.20	1.7	--	0.2	1.0	0.124	--	0.006	0.020	ND	U	0.0009	0.0200	131	N*	0.06	0.50
WRTB12 Comp Rep 5	0.439	--	0.0005	0.0198	0.131	--	0.004	0.020	0.91	--	0.02	0.20	2.0	--	0.2	1.0	0.152	--	0.006	0.020	ND	U	0.0009	0.0198	56.2	N*	0.06	0.50
DANW12 Comp Rep 1	0.481	--	0.0005	0.0199	0.124	--	0.004	0.020	1.05	--	0.02	0.20	1.9	--	0.2	1.0	0.092	--	0.006	0.020	ND	U	0.0009	0.0199	161	N*	0.06	0.50
DANW12 Comp Rep 2	0.424	--	0.0005	0.0199	0.094	--	0.004	0.020	0.73	--	0.02	0.20	1.8	--	0.2	1.0	0.062	--	0.006	0.020	ND	U	0.0009	0.0199	88.3	N*	0.06	0.50
DANW12 Comp Rep 3	0.419	--	0.0005	0.0200	0.099	--	0.004	0.020	0.77	--	0.02	0.20	1.7	--	0.2	1.0	0.069	--	0.006	0.020	0.0087	J	0.0009	0.0200	224	N*	0.06	0.50
DANW12 Comp Rep 4	0.466	--	0.0005	0.0197	0.097	--	0.004	0.020	0.80	--	0.02	0.20	1.9	--	0.2	1.0	0.072	--	0.006	0.020	ND	U	0.0009	0.0197	302	N*	0.06	0.49
DANW12 Comp Rep 5	0.442	--	0.0005	0.0200	0.092	--	0.004	0.020	0.58	--	0.02	0.20	1.6	--	0.2	1.0	0.079	--	0.006	0.020	ND	U	0.0009	0.0200	142	N*	0.06	0.50
WLRW12 Comp Rep 1	0.465	--	0.0005	0.0197	0.123	--	0.004	0.020	1.75	--	0.02	0.20	1.8	--	0.2	1.0	0.098	--	0.006	0.020	0.0011	J	0.0009	0.0197	158	N*	0.06	0.49
WLRW12 Comp Rep 2	0.421	--	0.0005	0.0200	0.151	--	0.004	0.020	1.67	--	0.02	0.20	2.0	--	0.2	1.0	0.104	--	0.006	0.020	ND	U	0.0009	0.0200	63.5	N*	0.06	0.50
WLRW12 Comp Rep 3	0.437	--	0.0005	0.0199	0.120	--	0.004	0.020	1.61	--	0.02	0.20	1.8	--	0.2	1.0	0.117	--	0.006	0.020	0.0010	J	0.0009	0.0199	147	N*	0.06	0.50
WLRW12 Comp Rep 4	0.491	--	0.0005	0.0197	0.145	--	0.004	0.020	2.14	--	0.02	0.20	2.0	--	0.2	1.0	0.124	--	0.006	0.020	0.0010	J	0.0009	0.0197	228	N*	0.06	0.49
WLRW12 Comp Rep 5	0.523	--	0.0005	0.0199	0.102	--	0.004	0.020	1.66	--	0.02	0.20	1.6	--	0.2	1.0	0.094	--	0.006	0.020	0.0012	J	0.0009	0.0199	61.2	N*	0.06	0.50
NCW12 Comp Rep 1	0.411	--	0.0005	0.0194	0.091	--	0.004	0.020	2.14	--	0.02	0.19	1.7	--	0.2	1.0	0.065	--	0.006	0.019	0.0025	J	0.0009	0.0194	67.9	N*	0.06	0.49
NCW12 Comp Rep 2	0.456	--	0.0005	0.0197	0.090	--	0.004	0.020	2.06	--	0.02	0.20	1.6	--	0.2	1.0	0.087	--	0.006	0.020	0.0014	J	0.0009	0.0197	62.6	N*	0.06	0.49
NCW12 Comp Rep 3	0.444	--	0.0005	0.0195	0.087	--	0.004	0.020	1.63	--	0.02	0.20	1.7	--	0.2	1.0	0.059	--	0.006	0.020	0.0013	J	0.0009	0.0195	104	N*	0.06	0.49
NCW12 Comp Rep 4	0.488	--	0.0005	0.0196	0.086	--	0.004	0.020	2.65	--	0.02	0.20	1.7	--	0.2	1.0	0.093	--	0.006	0.020	0.0031	J	0.0009	0.0196	114	N*	0.06	0.49
NCW12 Comp Rep 5	0.494	--	0.0005	0.0199	0.080	--	0.004	0.019	2.07	--	0.02	0.20	1.8	--	0.2	1.0	0.072	--	0.006	0.020	0.0075	J	0.0009	0.0199	160	N*	0.06	0.50
ABMA12 Comp Rep 1	0.565	--	0.0005	0.0196	0.122	--	0.004	0.020	0.72	--	0.02	0.20	1.6	--	0.2	1.0	0.055	--	0.006	0.020	ND	U	0.0009	0.0196	67.5	--	0.06	0.49
ABMA12 Comp Rep 2	0.670	--	0.0005	0.0199	0.115	--	0.004	0.019	0.81	--	0.02	0.20	1.7	--	0.2	1.0	0.060	--	0.006	0.020	ND	U	0.0009	0.0199	64.9	--	0.06	0.50
ABMA12 Comp Rep 3	0.615	--	0.0005	0.0198	0.123	--	0.004	0.020	0.74	--	0.02	0.20	1.8	--	0.2	1.0	0.050	--	0.006	0.020	ND	U	0.0009	0.0198	153	--	0.06	0.49
ABMA12 Comp Rep 4	0.624	--	0.0005	0.0197	0.119	--	0.004	0.020	0.77	--	0.02	0.20	1.6	--	0.2	1.0	0.065	--	0.006	0.020	ND	U	0.0009	0.0197	64.8	--	0.06	0.49
ABMA12 Comp Rep 5	0.831	--	0.0005	0.0195	0.140	--	0.004	0.020	0.69	--	0.02	0.20	1.7	--	0.2	1.0	0.081	--	0.006	0.019	ND	U	0.0009	0.0195	69.5	--	0.06	0.49
SHCR12 Comp Rep 1	0.513	--	0.0005	0.0194	0.135	--	0.004	0.020	0.90	--	0.02	0.19	2.0	--	0.2	1.0	0.137	--	0.006	0.019	0.0023	J	0.0009	0.0194	61.9	N*	0.06	0.48
SHCR12 Comp Rep 2	0.442	--	0.0005	0.0197	0.139	--	0.004	0.020	0.97	--	0.02	0.20	1.8	--	0.2	1.0	0.148	--	0.006	0.020	ND	U	0.0009	0.0197	66.1	N*	0.06	0.49
SHCR12 Comp Rep 3	0.472	--	0.0005	0.0197	0.125	--	0.004	0.020	0.91	--	0.02	0.20	2.0	--	0.2	1.0	0.126	--	0.006	0.020	0.0011	J	0.0009	0.0197	63.1	N*	0.06	0.49
SHCR12 Comp Rep 4	0.556	--	0.0005	0.0194	0.122	--	0.004	0.020	0.83	--	0.02	0.19	2.0	--	0.2	1.0	0.148	--	0.006	0.019	0.0009	J	0.0009	0.0194	155	N*	0.06	0.48
SHCR12 Comp Rep 5	0.421	--	0.0005	0.0195	0.152	--	0.004	0.020	0.87	--	0.02	0.20	2.0	--	0.2	1.0	0.123	--	0.006	0.020	ND	U	0.0009	0.0195	203	N*	0.06	0.49
RS-CH-A Rep 1	0.514	--	0.0005	0.0194	0.113	--	0.004	0.020	0.68	--	0.02	0.19	1.8	--	0.2	1.0	0.111	--	0.006	0.019	ND	U	0.0009	0.0194	170	N*	0.06	0.49
RS-CH-A Rep 2	0.458	--	0.0005	0.0199	0.114	--	0.004	0.020	0.66	--	0.02	0.20	1.8	--	0.2	1.0	0.116	--	0.006	0.020	ND	U	0.0009	0.0199	158	N*	0.06	0.50
RS-CH-A Rep 3	0.517	--	0.0005	0.0199	0.128	--	0.004	0.020	0.78	--	0.02	0.20	1.8	--	0.2	1.0	0.118	--	0.006	0.020	ND	U	0.0009	0.0199	151	N*	0.06	0.50
RS-CH-A Rep 4	0.516	--	0.0005	0.0196	0.106	--	0.004	0.020	0.83	--	0.02	0.20	1.7	--	0.2	1.0	0.101	--	0.006	0.020	ND	U	0.0009	0.0196	60.7	N*	0.06	0.49
RS-CH-A Rep 5	0.549	--	0.0005	0.0191	0.122	--	0.004	0.020	0.73	--	0.02	0.19	1.9	--	0.2	1.0	0.164	--	0.006	0.019	ND	U	0.0009	0.0191	74.2	N*	0.06	0.48
Pre-exposure Rep 1	0.490	--	0.0005	0.0194	0.120	--	0.004	0.020	1.10	--	0.02	0.19	2.0	--	0.2	1.0	0.134	--	0.006	0.019	ND	U	0.0009	0.0194	253	*	0.06	0.48
Pre-exposure Rep 2	0.485	--	0.0005	0.0195	0.096	--	0.004	0.020	0.97	--	0.02	0.20	1.7	--	0.2	1.0	0.149	--	0.006	0.019	ND	U	0.0009	0.0195	55.8	N*	0.06	0.49
Pre-exposure Rep 3	0.485	--	0.0005	0.0199	0.112	--	0.004	0.020	1.10	--	0.02	0.20	1.8	--	0.2	1.0	0.157	--	0.006	0.020	ND	U	0.0009	0.0199	52.9	N*	0.06	0.50

J = The resut is an estimated value.
N = The Matrix Spike sample recovery is not within control limits.
U = The analyte was analyzed for, but was not detected at or above the MDL
* = The result is an outlier.
-- = No Qualified Needed

Source: ALS Environmental Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 32
Analytical Results for Dry Weight Metals in *Macoma nasuta* Tissues

Analyte:	Antimony				Arsenic				Beryllium				Cadmium				Chromium				Copper			
Sample-Replicate #	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL
CHEC12-1 Comp Rep 1	0.060	--	0.002	0.049	36.8	--	0.02	0.49	0.049	--	0.003	0.020	0.237	--	0.002	0.020	3.04	--	0.02	0.20	14.6	--	0.02	0.10
CHEC12-1 Comp Rep 2	0.064	--	0.002	0.049	33.3	--	0.02	0.49	0.044	--	0.003	0.020	0.188	--	0.002	0.020	3.15	--	0.02	0.20	14.4	--	0.02	0.10
CHEC12-1 Comp Rep 3	0.074	--	0.002	0.049	30.7	--	0.02	0.49	0.048	--	0.003	0.019	0.213	--	0.002	0.019	3.31	--	0.02	0.19	13.2	--	0.02	0.10
CHEC12-1 Comp Rep 4	0.065	--	0.002	0.049	38.6	--	0.02	0.49	0.048	--	0.003	0.020	0.199	--	0.002	0.020	3.31	--	0.02	0.20	13.7	--	0.02	0.10
CHEC12-1 Comp Rep 5	0.062	--	0.002	0.050	35.6	--	0.02	0.50	0.042	--	0.003	0.020	0.181	--	0.002	0.020	2.95	--	0.02	0.20	11.3	--	0.02	0.10
CHEC12-2 Comp Rep 1	0.114	--	0.002	0.049	36.5	--	0.02	0.49	0.030	--	0.003	0.020	0.456	--	0.002	0.020	4.25	--	0.02	0.20	13.3	--	0.02	0.10
CHEC12-2 Comp Rep 2	0.092	--	0.002	0.050	30.7	--	0.02	0.50	0.026	--	0.003	0.020	0.299	--	0.002	0.020	3.32	--	0.02	0.20	12.7	--	0.02	0.10
CHEC12-2 Comp Rep 3	0.116	--	0.002	0.049	29.7	--	0.02	0.49	0.035	--	0.003	0.019	0.425	--	0.002	0.019	4.38	--	0.02	0.20	11.9	--	0.02	0.10
CHEC12-2 Comp Rep 4	0.110	--	0.002	0.050	25.9	--	0.02	0.50	0.030	--	0.003	0.020	0.396	--	0.002	0.020	3.91	--	0.02	0.20	13.6	--	0.02	0.10
CHEC12-2 Comp Rep 5	0.110	--	0.002	0.049	36.8	--	0.02	0.49	0.024	--	0.003	0.020	0.339	--	0.002	0.020	2.83	--	0.02	0.20	11.2	--	0.02	0.10
MTPL12 Comp Rep 1	0.176	--	0.002	0.048	34.2	--	0.02	0.48	0.016	J	0.003	0.019	0.253	--	0.002	0.019	2.18	--	0.02	0.19	10.7	--	0.02	0.10
MTPL12 Comp Rep 2	0.109	--	0.002	0.049	27.2	--	0.02	0.49	0.017	J	0.003	0.020	0.284	--	0.002	0.020	2.50	--	0.02	0.20	11.4	--	0.02	0.10
MTPL12 Comp Rep 3	0.125	--	0.002	0.049	31.5	--	0.02	0.49	0.024	--	0.003	0.020	0.334	--	0.002	0.020	3.22	--	0.02	0.20	11.3	--	0.02	0.10
MTPL12 Comp Rep 4	0.099	--	0.002	0.049	35.0	--	0.02	0.49	0.011	J	0.003	0.020	0.249	--	0.002	0.020	1.83	--	0.02	0.20	11.0	--	0.02	0.10
MTPL12 Comp Rep 5	0.134	--	0.002	0.050	30.8	--	0.02	0.50	0.041	--	0.003	0.020	0.378	--	0.002	0.020	4.59	--	0.02	0.20	11.2	--	0.02	0.10
REHR12 Comp Rep 1	0.087	--	0.002	0.049	23.2	--	0.02	0.49	0.039	--	0.003	0.020	0.275	--	0.002	0.020	3.36	--	0.02	0.20	15.3	--	0.02	0.10
REHR12 Comp Rep 2	0.092	--	0.002	0.050	23.0	--	0.02	0.50	0.046	--	0.003	0.020	0.284	--	0.002	0.020	3.65	--	0.02	0.20	15.8	--	0.02	0.10
REHR12 Comp Rep 3	0.075	--	0.002	0.050	24.4	--	0.02	0.50	0.048	--	0.003	0.020	0.221	--	0.002	0.020	3.51	--	0.02	0.20	14.6	--	0.02	0.10
REHR12 Comp Rep 4	0.076	--	0.002	0.049	20.1	--	0.02	0.49	0.043	--	0.003	0.019	0.254	--	0.002	0.019	3.18	--	0.02	0.20	15.5	--	0.02	0.10
REHR12 Comp Rep 5	0.072	--	0.002	0.050	22.0	--	0.02	0.50	0.025	--	0.003	0.020	0.251	--	0.002	0.020	2.08	--	0.02	0.20	16.2	--	0.02	0.10
HGIS12 Comp Rep 1	0.127	--	0.002	0.049	29.8	--	0.02	0.49	0.034	--	0.003	0.020	0.270	--	0.002	0.020	3.24	--	0.02	0.20	10.8	--	0.02	0.10
HGIS12 Comp Rep 2	0.096	--	0.002	0.049	38.5	--	0.02	0.49	0.029	--	0.003	0.020	0.199	--	0.002	0.020	2.73	--	0.02	0.20	12.7	--	0.02	0.10
HGIS12 Comp Rep 3	0.110	--	0.002	0.049	32.3	--	0.02	0.49	0.031	--	0.003	0.019	0.193	--	0.002	0.019	2.98	--	0.02	0.20	11.5	--	0.02	0.10
HGIS12 Comp Rep 4	0.084	--	0.002	0.050	32.7	--	0.02	0.50	0.019	J	0.003	0.020	0.188	--	0.002	0.020	3.25	--	0.02	0.20	13.6	--	0.02	0.10
HGIS12 Comp Rep 5	0.090	--	0.002	0.048	29.8	--	0.02	0.48	0.018	J	0.003	0.019	0.222	--	0.002	0.019	2.48	--	0.02	0.19	11.4	--	0.02	0.10
DRMY12 Comp Rep 1	0.075	--	0.002	0.050	37.2	--	0.02	0.50	0.044	--	0.003	0.020	0.217	--	0.002	0.020	2.94	--	0.02	0.20	12.0	--	0.02	0.10
DRMY12 Comp Rep 2	0.075	--	0.002	0.049	36.4	--	0.02	0.49	0.040	--	0.003	0.020	0.180	--	0.002	0.020	2.74	--	0.02	0.20	12.2	--	0.02	0.10
DRMY12 Comp Rep 3	0.079	--	0.002	0.049	29.8	--	0.02	0.49	0.024	--	0.003	0.020	0.215	--	0.002	0.020	2.04	--	0.02	0.20	13.0	--	0.02	0.10
DRMY12 Comp Rep 4	0.089	--	0.002	0.049	32.9	--	0.02	0.49	0.033	--	0.003	0.019	0.223	--	0.002	0.019	2.70	--	0.02	0.19	14.6	--	0.02	0.10
DRMY12 Comp Rep 5	0.077	--	0.002	0.049	27.7	--	0.02	0.49	0.037	--	0.003	0.019	0.185	--	0.002	0.019	2.91	--	0.02	0.20	12.7	--	0.02	0.10
WLR12 Comp Rep 1	0.224	--	0.002	0.048	30.1	--	0.02	0.48	0.021	--	0.003	0.019	0.213	--	0.002	0.019	2.31	--	0.02	0.19	13.0	--	0.02	0.10
WLR12 Comp Rep 2	0.099	--	0.002	0.050	30.4	--	0.02	0.50	0.023	--	0.003	0.020	0.203	--	0.002	0.020	3.11	--	0.02	0.20	11.7	--	0.02	0.10
WLR12 Comp Rep 3	0.127	--	0.002	0.050	33.7	--	0.02	0.50	0.024	--	0.003	0.020	0.197	--	0.002	0.020	2.61	--	0.02	0.20	12.1	--	0.02	0.10
WLR12 Comp Rep 4	0.109	--	0.002	0.049	32.3	--	0.02	0.49	0.020	J	0.003	0.020	0.197	--	0.002	0.020	2.85	--	0.02	0.20	11.2	--	0.02	0.10
WLR12 Comp Rep 5	0.114	--	0.002	0.049	34.5	--	0.02	0.49	0.023	--	0.003	0.019	0.189	--	0.002	0.019	3.16	--	0.02	0.20	13.1	--	0.02	0.10

TABLE 32
Analytical Results for Dry Weight Metals in *Macoma nasuta* Tissues

Analyte:	Antimony				Arsenic				Beryllium				Cadmium				Chromium				Copper			
Sample-Replicate #	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL
WUTB12 Comp Rep 1	0.105	--	0.002	0.049	32.1	--	0.02	0.49	0.029	--	0.003	0.020	0.220	--	0.002	0.020	2.46	--	0.02	0.20	11.4	--	0.02	0.10
WUTB12 Comp Rep 2	0.083	--	0.002	0.049	25.0	--	0.02	0.49	0.029	--	0.003	0.019	0.184	--	0.002	0.019	3.15	--	0.02	0.20	13.6	--	0.02	0.10
WUTB12 Comp Rep 3	0.101	--	0.002	0.049	30.4	--	0.02	0.49	0.032	--	0.003	0.019	0.241	--	0.002	0.019	2.42	--	0.02	0.19	11.0	--	0.02	0.10
WUTB12 Comp Rep 4	0.097	--	0.002	0.049	31.2	--	0.02	0.49	0.023	--	0.003	0.020	0.196	--	0.002	0.020	2.07	--	0.02	0.20	11.7	--	0.02	0.10
WUTB12 Comp Rep 5	0.107	--	0.002	0.050	26.3	--	0.02	0.50	0.033	--	0.003	0.020	0.238	--	0.002	0.020	3.49	--	0.02	0.20	12.9	--	0.02	0.10
DANI12 Comp Rep 1	0.079	--	0.002	0.049	21.9	--	0.02	0.49	0.026	--	0.003	0.020	0.244	--	0.002	0.020	3.09	--	0.02	0.20	15.3	--	0.02	0.10
DANI12 Comp Rep 2	0.081	--	0.002	0.049	22.2	--	0.02	0.49	0.023	--	0.003	0.020	0.214	--	0.002	0.020	2.74	--	0.02	0.20	16.8	--	0.02	0.10
DANI12 Comp Rep 3	0.078	--	0.002	0.050	19.9	--	0.02	0.50	0.031	--	0.003	0.020	0.235	--	0.002	0.020	3.70	--	0.02	0.20	16.2	--	0.02	0.10
DANI12 Comp Rep 4	0.076	--	0.002	0.049	20.3	--	0.02	0.49	0.040	--	0.003	0.020	0.201	--	0.002	0.020	3.95	--	0.02	0.20	15.1	--	0.02	0.10
DANI12 Comp Rep 5	0.075	--	0.002	0.049	21.1	--	0.02	0.49	0.024	--	0.003	0.019	0.209	--	0.002	0.019	3.67	--	0.02	0.20	15.1	--	0.02	0.10
CCRK12 Comp Rep 1	0.092	--	0.002	0.049	20.0	--	0.02	0.49	0.040	--	0.003	0.020	0.232	--	0.002	0.020	4.45	--	0.02	0.20	17.5	--	0.02	0.10
CCRK12 Comp Rep 2	0.087	--	0.002	0.049	20.7	--	0.02	0.49	0.049	--	0.003	0.020	0.324	--	0.002	0.020	5.29	--	0.02	0.20	15.6	--	0.02	0.10
CCRK12 Comp Rep 3	0.084	--	0.002	0.049	21.7	--	0.02	0.49	0.033	--	0.003	0.020	0.260	--	0.002	0.020	4.03	--	0.02	0.20	14.7	--	0.02	0.10
CCRK12 Comp Rep 4	0.082	--	0.002	0.049	17.3	--	0.02	0.49	0.032	--	0.003	0.019	0.255	--	0.002	0.019	3.16	--	0.02	0.20	14.3	--	0.02	0.10
CCRK12 Comp Rep 5	0.087	--	0.002	0.049	21.7	--	0.02	0.49	0.027	--	0.003	0.019	0.291	--	0.002	0.019	3.08	--	0.02	0.19	15.0	--	0.02	0.10
UH12 Comp Rep 1	0.108	--	0.002	0.048	21.8	--	0.02	0.48	0.040	--	0.003	0.019	0.209	--	0.002	0.019	3.47	--	0.02	0.19	17.6	--	0.02	0.10
UH12 Comp Rep 2	0.109	--	0.002	0.049	19.6	--	0.02	0.49	0.032	--	0.003	0.020	0.205	--	0.002	0.020	3.25	--	0.02	0.20	15.1	--	0.02	0.10
UH12 Comp Rep 3	0.094	--	0.002	0.049	20.9	--	0.02	0.49	0.027	--	0.003	0.020	0.226	--	0.002	0.020	2.84	--	0.02	0.20	15.6	--	0.02	0.10
UH12 Comp Rep 4	0.105	--	0.002	0.050	20.5	--	0.02	0.50	0.025	--	0.003	0.020	0.245	--	0.002	0.020	2.85	--	0.02	0.20	17.0	--	0.02	0.10
UH12 Comp Rep 5	0.101	--	0.002	0.049	19.5	--	0.02	0.49	0.028	--	0.003	0.019	0.208	--	0.002	0.019	3.28	--	0.02	0.20	14.3	--	0.02	0.10
ORDT12 Comp Rep 1	0.063	--	0.002	0.049	20.8	--	0.02	0.49	0.034	--	0.003	0.020	0.196	--	0.002	0.020	2.88	--	0.02	0.20	16.1	--	0.02	0.10
ORDT12 Comp Rep 2	0.057	--	0.002	0.049	21.7	--	0.02	0.49	0.038	--	0.003	0.020	0.251	--	0.002	0.020	3.46	--	0.02	0.20	15.0	--	0.02	0.10
ORDT12 Comp Rep 3	0.065	--	0.002	0.049	20.7	--	0.02	0.49	0.045	--	0.003	0.020	0.199	--	0.002	0.020	4.37	--	0.02	0.20	17.6	--	0.02	0.10
ORDT12 Comp Rep 4	0.067	--	0.002	0.050	20.7	--	0.02	0.50	0.046	--	0.003	0.020	0.208	--	0.002	0.020	3.49	--	0.02	0.20	16.5	--	0.02	0.10
ORDT12 Comp Rep 5	0.053	--	0.002	0.050	21.5	--	0.02	0.50	0.050	--	0.003	0.020	0.192	--	0.002	0.020	3.93	--	0.02	0.20	15.7	--	0.02	0.10
BENW12 Comp Rep 1	0.107	--	0.002	0.049	34.4	--	0.02	0.49	0.028	--	0.003	0.020	0.267	--	0.002	0.020	3.73	--	0.02	0.20	10.7	--	0.02	0.10
BENW12 Comp Rep 2	0.109	--	0.002	0.049	33.1	--	0.02	0.49	0.022	--	0.003	0.019	0.249	--	0.002	0.019	2.86	--	0.02	0.19	12.6	--	0.02	0.10
BENW12 Comp Rep 3	0.109	--	0.002	0.050	31.7	--	0.02	0.50	0.030	--	0.003	0.020	0.287	--	0.002	0.020	5.41	--	0.02	0.20	11.5	--	0.02	0.10
BENW12 Comp Rep 4	0.113	--	0.002	0.049	35.7	--	0.02	0.49	0.027	--	0.003	0.019	0.247	--	0.002	0.019	2.78	--	0.02	0.19	11.5	--	0.02	0.10
BENW12 Comp Rep 5	0.118	--	0.002	0.049	30.0	--	0.02	0.49	0.029	--	0.003	0.020	0.261	--	0.002	0.020	4.10	--	0.02	0.20	11.7	--	0.02	0.10
HGIW12 Comp Rep 1	0.077	--	0.002	0.049	30.1	--	0.02	0.49	0.048	--	0.003	0.020	0.173	--	0.002	0.020	3.11	--	0.02	0.20	10.8	--	0.02	0.10
HGIW12 Comp Rep 2	0.086	--	0.002	0.049	33.7	--	0.02	0.49	0.052	--	0.003	0.020	0.197	--	0.002	0.020	3.38	--	0.02	0.20	12.8	--	0.02	0.10
HGIW12 Comp Rep 3	0.073	--	0.002	0.049	33.8	--	0.02	0.49	0.042	--	0.003	0.020	0.210	--	0.002	0.020	3.13	--	0.02	0.20	13.4	--	0.02	0.10
HGIW12 Comp Rep 4	0.086	--	0.002	0.050	31.8	--	0.02	0.50	0.064	--	0.003	0.020	0.225	--	0.002	0.020	4.47	--	0.02	0.20	11.8	--	0.02	0.10
HGIW12 Comp Rep 5	0.071	--	0.002	0.049	36.3	--	0.02	0.49	0.049	--	0.003	0.020	0.224	--	0.002	0.020	3.78	--	0.02	0.20	13.9	--	0.02	0.10

TABLE 32
Analytical Results for Dry Weight Metals in *Macoma nasuta* Tissues

Analyte:	Antimony				Arsenic				Beryllium				Cadmium				Chromium				Copper			
Sample-Replicate #	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL
WRTB12 Comp Rep 1	0.075	--	0.002	0.049	25.4	--	0.02	0.49	0.040	--	0.003	0.019	0.171	--	0.002	0.019	3.34	--	0.02	0.19	13.0	--	0.02	0.10
WRTB12 Comp Rep 2	0.097	--	0.002	0.050	33.0	--	0.02	0.50	0.030	--	0.003	0.020	0.255	--	0.002	0.020	2.65	--	0.02	0.20	12.1	--	0.02	0.10
WRTB12 Comp Rep 3	0.070	--	0.002	0.049	35.0	--	0.02	0.49	0.028	--	0.003	0.020	0.179	--	0.002	0.020	2.96	--	0.02	0.20	10.9	--	0.02	0.10
WRTB12 Comp Rep 4	0.076	--	0.002	0.049	29.3	--	0.02	0.49	0.030	--	0.003	0.020	0.191	--	0.002	0.020	2.67	--	0.02	0.20	12.2	--	0.02	0.10
WRTB12 Comp Rep 5	0.095	--	0.002	0.049	36.9	--	0.02	0.49	0.029	--	0.003	0.020	0.231	--	0.002	0.020	2.16	--	0.02	0.20	11.8	--	0.02	0.10
DANW12 Comp Rep 1	0.075	--	0.002	0.049	20.5	--	0.02	0.49	0.056	--	0.003	0.020	0.246	--	0.002	0.020	6.16	--	0.02	0.20	16.5	--	0.02	0.10
DANW12 Comp Rep 2	0.076	--	0.002	0.050	20.7	--	0.02	0.50	0.030	--	0.003	0.020	0.246	--	0.002	0.020	3.98	--	0.02	0.20	13.3	--	0.02	0.10
DANW12 Comp Rep 3	0.061	--	0.002	0.049	20.7	--	0.02	0.49	0.044	--	0.003	0.020	0.210	--	0.002	0.020	4.43	--	0.02	0.20	14.6	--	0.02	0.10
DANW12 Comp Rep 4	0.061	--	0.002	0.048	19.6	--	0.02	0.48	0.047	--	0.003	0.019	0.217	--	0.002	0.019	3.89	--	0.02	0.19	14.6	--	0.02	0.10
DANW12 Comp Rep 5	0.079	--	0.002	0.050	20.2	--	0.02	0.50	0.027	--	0.003	0.020	0.222	--	0.002	0.020	2.40	--	0.02	0.20	13.0	--	0.02	0.10
WLRW12 Comp Rep 1	0.123	--	0.002	0.049	36.6	--	0.02	0.49	0.019	J	0.003	0.019	0.218	--	0.002	0.019	2.44	--	0.02	0.19	12.2	--	0.02	0.10
WLRW12 Comp Rep 2	0.093	--	0.002	0.049	33.7	--	0.02	0.49	0.020	--	0.003	0.020	0.182	--	0.002	0.020	2.50	--	0.02	0.20	10.5	--	0.02	0.10
WLRW12 Comp Rep 3	0.099	--	0.002	0.049	33.3	--	0.02	0.49	0.024	--	0.003	0.019	0.193	--	0.002	0.019	2.51	--	0.02	0.20	12.0	--	0.02	0.10
WLRW12 Comp Rep 4	0.118	--	0.002	0.049	35.4	--	0.02	0.49	0.027	--	0.003	0.019	0.218	--	0.002	0.019	2.65	--	0.02	0.19	11.8	--	0.02	0.10
WLRW12 Comp Rep 5	0.113	--	0.002	0.049	35.0	--	0.02	0.49	0.021	--	0.003	0.020	0.299	--	0.002	0.020	2.62	--	0.02	0.20	12.2	--	0.02	0.10
NCW12 Comp Rep 1	0.331	--	0.002	0.050	21.6	--	0.02	0.50	0.043	--	0.003	0.020	0.231	--	0.002	0.020	3.11	--	0.02	0.20	17.5	--	0.02	0.10
NCW12 Comp Rep 2	0.236	--	0.002	0.049	20.9	--	0.02	0.49	0.024	--	0.003	0.019	0.282	--	0.002	0.019	2.84	--	0.02	0.20	16.1	--	0.02	0.10
NCW12 Comp Rep 3	0.252	--	0.002	0.049	20.9	--	0.02	0.49	0.027	--	0.003	0.020	0.223	--	0.002	0.020	3.53	--	0.02	0.20	13.7	--	0.02	0.10
NCW12 Comp Rep 4	0.225	--	0.002	0.050	21.6	--	0.02	0.50	0.029	--	0.003	0.020	0.257	--	0.002	0.020	3.46	--	0.02	0.20	14.4	--	0.02	0.10
NCW12 Comp Rep 5	0.204	--	0.002	0.049	20.7	--	0.02	0.49	0.032	--	0.003	0.019	0.278	--	0.002	0.019	3.42	--	0.02	0.20	14.9	--	0.02	0.10
ABMA12 Comp Rep 1	0.056	--	0.002	0.050	26.2	--	0.02	0.50	0.023	--	0.003	0.020	0.274	--	0.002	0.020	1.96	--	0.02	0.20	12.9	--	0.02	0.10
ABMA12 Comp Rep 2	0.060	--	0.002	0.049	22.9	--	0.02	0.49	0.032	--	0.003	0.019	0.244	--	0.002	0.019	2.47	--	0.02	0.20	14.2	--	0.02	0.10
ABMA12 Comp Rep 3	0.063	--	0.002	0.049	23.7	--	0.02	0.49	0.024	--	0.003	0.019	0.270	--	0.002	0.019	2.47	--	0.02	0.19	14.5	--	0.02	0.10
ABMA12 Comp Rep 4	0.050	J	0.002	0.050	24.7	--	0.02	0.50	0.034	--	0.003	0.020	0.263	--	0.002	0.020	2.63	--	0.02	0.20	14.6	--	0.02	0.10
ABMA12 Comp Rep 5	0.062	--	0.002	0.049	23.4	--	0.02	0.49	0.029	--	0.003	0.020	0.245	--	0.002	0.020	2.31	--	0.02	0.20	15.3	--	0.02	0.10
SHCR12 Comp Rep 1	0.239	--	0.002	0.049	36.0	--	0.02	0.49	0.033	--	0.003	0.020	0.179	--	0.002	0.020	2.18	--	0.02	0.20	13.5	--	0.02	0.10
SHCR12 Comp Rep 2	0.184	--	0.002	0.049	36.4	--	0.02	0.49	0.038	--	0.003	0.020	0.177	--	0.002	0.020	2.19	--	0.02	0.20	13.4	--	0.02	0.10
SHCR12 Comp Rep 3	0.111	--	0.002	0.048	33.4	--	0.02	0.48	0.038	--	0.003	0.019	0.178	--	0.002	0.019	2.72	--	0.02	0.19	10.6	--	0.02	0.10
SHCR12 Comp Rep 4	0.145	--	0.002	0.049	32.0	--	0.02	0.49	0.038	--	0.003	0.020	0.223	--	0.002	0.020	2.86	--	0.02	0.20	12.3	--	0.02	0.10
SHCR12 Comp Rep 5	0.107	--	0.002	0.049	32.5	--	0.02	0.49	0.049	--	0.003	0.020	0.233	--	0.002	0.020	2.72	--	0.02	0.20	13.5	--	0.02	0.10
RS-CH-A Rep 1	0.077	--	0.002	0.048	23.7	--	0.02	0.48	0.007	J	0.003	0.019	0.199	--	0.002	0.019	1.37	--	0.02	0.19	12.8	--	0.02	0.10
RS-CH-A Rep 2	0.082	--	0.002	0.050	24.7	--	0.02	0.50	0.006	J	0.003	0.020	0.174	--	0.002	0.020	1.26	--	0.02	0.20	11.6	--	0.02	0.10
RS-CH-A Rep 3	0.086	--	0.002	0.048	22.9	--	0.02	0.48	0.009	J	0.003	0.019	0.208	--	0.002	0.019	1.45	--	0.02	0.19	12.0	--	0.02	0.10
RS-CH-A Rep 4	0.089	--	0.002	0.049	23.1	--	0.02	0.49	0.008	J	0.003	0.020	0.195	--	0.002	0.020	1.27	--	0.02	0.20	13.3	--	0.02	0.10
RS-CH-A Rep 5	0.086	--	0.002	0.049	22.9	--	0.02	0.49	0.009	J	0.003	0.020	0.183	--	0.002	0.020	1.82	--	0.02	0.20	13.0	--	0.02	0.10
Pre-exposure Rep 1	0.093	--	0.002	0.048	27.5	--	0.02	0.49	0.005	J	0.003	0.019	0.189	--	0.002	0.019	0.94	--	0.02	0.19	17.9	--	0.02	0.10
Pre-exposure Rep 2	0.090	--	0.002	0.050	26.2	--	0.02	0.50	0.004	J	0.003	0.020	0.244	--	0.002	0.020	1.17	--	0.02	0.20	16.9	--	0.02	0.10
Pre-exposure Rep 3	0.082	--	0.002	0.049	25.8	--	0.02	0.49	ND	U	0.003	0.019	0.224	--	0.002	0.019	0.92	--	0.02	0.19	15.4	--	0.02	0.10

TABLE 32
Analytical Results for Dry Weight Metals in *Macoma nasuta* Tissues

Analyte:	Lead				Mercury				Nickel				Selenium				Silver				Thallium				Zinc			
Sample-Replicate #	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL
CHEC12-1 Comp Rep 1	1.4800	--	0.0005	0.0197	0.061	--	0.004	0.020	3.02	--	0.02	0.20	2.6	--	0.2	1.0	0.419	N	0.006	0.020	0.0133	J	0.0009	0.0197	93.5	--	0.06	0.49
CHEC12-1 Comp Rep 2	1.2200	--	0.0005	0.0197	0.057	--	0.004	0.020	2.73	--	0.02	0.20	2.6	--	0.2	1.0	0.325	N	0.006	0.020	0.0141	J	0.0009	0.0197	103	--	0.06	0.49
CHEC12-1 Comp Rep 3	1.2200	--	0.0005	0.0194	0.074	--	0.004	0.020	2.80	--	0.02	0.19	2.6	--	0.2	1.0	0.268	N	0.006	0.019	0.0136	J	0.0009	0.0194	98.5	--	0.06	0.49
CHEC12-1 Comp Rep 4	1.3700	--	0.0005	0.0197	0.060	--	0.004	0.020	3.09	--	0.02	0.20	2.7	--	0.2	1.0	0.320	N	0.006	0.020	0.0151	J	0.0009	0.0197	103	--	0.06	0.49
CHEC12-1 Comp Rep 5	1.2200	--	0.0005	0.0198	0.058	--	0.004	0.020	2.80	--	0.02	0.20	2.6	--	0.2	1.0	0.384	N	0.006	0.020	0.0123	J	0.0009	0.0198	85.1	--	0.06	0.50
CHEC12-2 Comp Rep 1	0.944	--	0.0005	0.0195	0.058	--	0.004	0.020	4.16	--	0.02	0.20	2.7	--	0.2	1.0	0.329	N	0.006	0.020	0.0500	--	0.0009	0.0195	121	--	0.06	0.49
CHEC12-2 Comp Rep 2	0.726	--	0.0005	0.0198	0.052	--	0.004	0.020	3.07	--	0.02	0.20	2.5	--	0.2	1.0	0.314	N	0.006	0.020	0.0409	--	0.0009	0.0198	93.1	--	0.06	0.50
CHEC12-2 Comp Rep 3	0.767	--	0.0005	0.0195	0.060	--	0.004	0.020	3.88	--	0.02	0.20	2.6	--	0.2	1.0	0.331	N	0.006	0.019	0.0601	--	0.0009	0.0195	101	--	0.06	0.49
CHEC12-2 Comp Rep 4	0.728	--	0.0005	0.0199	0.076	--	0.004	0.020	3.21	--	0.02	0.20	2.5	--	0.2	1.0	0.307	N	0.006	0.020	0.0463	--	0.0009	0.0199	102	--	0.06	0.50
CHEC12-2 Comp Rep 5	0.823	--	0.0005	0.0197	0.048	--	0.004	0.020	3.07	--	0.02	0.20	2.8	--	0.2	1.0	0.321	N	0.006	0.020	0.0447	--	0.0009	0.0197	100	--	0.06	0.49
MTPL12 Comp Rep 1	0.608	--	0.0005	0.0194	0.052	--	0.004	0.020	2.30	--	0.02	0.19	2.4	--	0.2	1.0	0.220	N	0.006	0.019	0.0300	--	0.0009	0.0194	121	--	0.06	0.48
MTPL12 Comp Rep 2	0.533	--	0.0005	0.0197	0.058	--	0.004	0.020	2.53	--	0.02	0.20	2.3	--	0.2	1.0	0.295	N	0.006	0.020	0.0323	--	0.0009	0.0197	113	--	0.06	0.49
MTPL12 Comp Rep 3	0.722	--	0.0005	0.0196	0.060	--	0.004	0.020	2.97	--	0.02	0.20	2.5	--	0.2	1.0	0.304	N	0.006	0.020	0.0460	--	0.0009	0.0196	105	--	0.06	0.49
MTPL12 Comp Rep 4	0.718	--	0.0005	0.0197	0.050	--	0.004	0.020	2.54	--	0.02	0.20	2.5	--	0.2	1.0	0.295	N	0.006	0.020	0.0221	--	0.0009	0.0197	96.9	--	0.06	0.49
MTPL12 Comp Rep 5	0.641	--	0.0005	0.0199	0.076	--	0.004	0.020	3.38	--	0.02	0.20	2.5	--	0.2	1.0	0.230	N	0.006	0.020	0.0584	--	0.0009	0.0199	109	--	0.06	0.50
REHR12 Comp Rep 1	1.1000	--	0.0005	0.0196	0.096	--	0.004	0.020	2.84	--	0.02	0.20	2.6	--	0.2	1.0	0.151	N	0.006	0.020	0.0298	--	0.0009	0.0196	98.9	--	0.06	0.49
REHR12 Comp Rep 2	1.3700	--	0.0005	0.0199	0.099	--	0.004	0.020	3.33	--	0.02	0.20	2.6	--	0.2	1.0	0.167	N	0.006	0.020	0.0388	--	0.0009	0.0199	109	--	0.06	0.50
REHR12 Comp Rep 3	1.2900	--	0.0005	0.0199	0.102	--	0.004	0.020	3.47	--	0.02	0.20	2.6	--	0.2	1.0	0.145	N	0.006	0.020	0.0421	--	0.0009	0.0199	89.9	--	0.06	0.50
REHR12 Comp Rep 4	1.2100	--	0.0005	0.0195	0.096	--	0.004	0.020	2.97	--	0.02	0.20	2.4	--	0.2	1.0	0.141	N	0.006	0.019	0.0370	--	0.0009	0.0195	108	--	0.06	0.49
REHR12 Comp Rep 5	0.934	--	0.0005	0.0199	0.105	--	0.004	0.020	2.64	--	0.02	0.20	2.4	--	0.2	1.0	0.142	N	0.006	0.020	0.0165	J	0.0009	0.0199	100	--	0.06	0.50
HGIS12 Comp Rep 1	0.840	--	0.0005	0.0196	0.048	--	0.004	0.020	3.03	--	0.02	0.20	2.6	--	0.2	1.0	0.207	--	0.006	0.020	0.0155	J	0.0009	0.0196	118	--	0.06	0.49
HGIS12 Comp Rep 2	1.1200	--	0.0005	0.0197	0.040	--	0.004	0.020	2.89	--	0.02	0.20	2.3	--	0.2	1.0	0.309	--	0.006	0.020	0.0156	J	0.0009	0.0197	109	--	0.06	0.49
HGIS12 Comp Rep 3	0.931	--	0.0005	0.0195	0.038	--	0.004	0.020	2.94	--	0.02	0.20	2.7	--	0.2	1.0	0.353	--	0.006	0.019	0.0185	J	0.0009	0.0195	95.1	--	0.06	0.49
HGIS12 Comp Rep 4	0.988	--	0.0005	0.0199	0.040	--	0.004	0.020	3.21	--	0.02	0.20	2.2	--	0.2	1.0	0.331	--	0.006	0.020	0.0161	J	0.0009	0.0199	88.6	--	0.06	0.50
HGIS12 Comp Rep 5	0.796	--	0.0005	0.0194	0.060	--	0.004	0.020	2.64	--	0.02	0.19	2.4	--	0.2	1.0	0.215	--	0.006	0.019	0.0118	J	0.0009	0.0194	101	--	0.06	0.48
DRMY12 Comp Rep 1	1.1900	--	0.0005	0.0199	0.052	--	0.004	0.020	2.59	--	0.02	0.20	2.7	--	0.2	1.0	0.267	--	0.006	0.020	0.0146	J	0.0009	0.0199	100	--	0.06	0.50
DRMY12 Comp Rep 2	1.2100	--	0.0005	0.0196	0.062	--	0.004	0.020	3.06	--	0.02	0.20	2.7	--	0.2	1.0	0.248	--	0.006	0.020	0.0132	J	0.0009	0.0196	98.1	--	0.06	0.49
DRMY12 Comp Rep 3	1.0400	--	0.0005	0.0197	0.062	--	0.004	0.020	2.11	--	0.02	0.20	2.3	--	0.2	1.0	0.405	--	0.006	0.020	0.0125	J	0.0009	0.0197	110	--	0.06	0.49
DRMY12 Comp Rep 4	1.3100	--	0.0005	0.0194	0.058	--	0.004	0.020	2.61	--	0.02	0.19	2.5	--	0.2	1.0	0.403	--	0.006	0.019	0.0136	J	0.0009	0.0194	113	--	0.06	0.49
DRMY12 Comp Rep 5	1.0800	--	0.0005	0.0195	0.074	--	0.004	0.020	2.63	--	0.02	0.20	2.7	--	0.2	1.0	0.259	--	0.006	0.019	0.0141	J	0.0009	0.0195	97.4	--	0.06	0.49
WLR12 Comp Rep 1	0.739	--	0.0005	0.0194	0.063	--	0.004	0.020	2.37	--	0.02	0.19	2.5	--	0.2	1.0	0.305	--	0.006	0.019	0.0127	J	0.0009	0.0194	87.0	--	0.06	0.48
WLR12 Comp Rep 2	0.823	--	0.0005	0.0198	0.058	--	0.004	0.020	2.85	--	0.02	0.20	2.5	--	0.2	1.0	0.235	--	0.006	0.020	0.0150	J	0.0009	0.0198	86.0	--	0.06	0.50
WLR12 Comp Rep 3	0.830	--	0.0005	0.0200	0.036	--	0.004	0.020	2.73	--	0.02	0.20	2.2	--	0.2	1.0	0.388	--	0.006	0.020	0.0125	J	0.0009	0.0200	95.0	--	0.06	0.50
WLR12 Comp Rep 4	0.833	--	0.0005	0.0196	0.056	--	0.004	0.020	2.99	--	0.02	0.20	2.6	--	0.2	1.0	0.273	--	0.006	0.020	0.0147	J	0.0009	0.0196	96.4	--	0.06	0.49
WLR12 Comp Rep 5	0.962	--	0.0005	0.0195	0.048	--	0.004	0.020	3.39	--	0.02	0.20	2.7	--	0.2	1.0	0.299	--	0.006	0.019	0.0185	J	0.0009	0.0195	105	--	0.06	0.49

TABLE 32
Analytical Results for Dry Weight Metals in *Macoma nasuta* Tissues

Analyte:	Lead				Mercury				Nickel				Selenium				Silver				Thallium				Zinc			
Sample-Replicate #	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL
WUTB12 Comp Rep 1	1.0900	--	0.0005	0.0197	0.048	--	0.004	0.020	2.64	--	0.02	0.20	2.7	--	0.2	1.0	0.293	--	0.006	0.020	0.0157	J	0.0009	0.0197	111	--	0.06	0.49
WUTB12 Comp Rep 2	0.933	--	0.0005	0.0195	0.070	--	0.004	0.020	2.87	--	0.02	0.20	2.7	--	0.2	1.0	0.183	--	0.006	0.019	0.0140	J	0.0009	0.0195	93.7	--	0.06	0.49
WUTB12 Comp Rep 3	0.930	--	0.0005	0.0194	0.056	--	0.004	0.020	3.09	--	0.02	0.19	2.6	--	0.2	1.0	0.247	--	0.006	0.019	0.0141	J	0.0009	0.0194	95.1	--	0.06	0.49
WUTB12 Comp Rep 4	1.0200	--	0.0005	0.0197	0.054	--	0.004	0.020	2.48	--	0.02	0.20	2.7	--	0.2	1.0	0.306	--	0.006	0.020	0.0124	J	0.0009	0.0197	102	--	0.06	0.49
WUTB12 Comp Rep 5	1.1400	--	0.0005	0.0199	0.058	--	0.004	0.020	3.83	--	0.02	0.20	2.6	--	0.2	1.0	0.517	--	0.006	0.020	0.0139	J	0.0009	0.0199	103	--	0.06	0.50
DANI12 Comp Rep 1	0.795	--	0.0005	0.0196	0.088	--	0.004	0.020	2.62	--	0.02	0.20	2.3	--	0.2	1.0	0.137	--	0.006	0.020	0.0108	J	0.0009	0.0196	101	--	0.06	0.49
DANI12 Comp Rep 2	0.757	--	0.0005	0.0197	0.087	--	0.004	0.020	2.68	--	0.02	0.20	2.4	--	0.2	1.0	0.159	--	0.006	0.020	0.0108	J	0.0009	0.0197	94.3	--	0.06	0.49
DANI12 Comp Rep 3	0.814	--	0.0005	0.0199	0.085	--	0.004	0.020	3.36	--	0.02	0.20	2.3	--	0.2	1.0	0.148	--	0.006	0.020	0.0142	J	0.0009	0.0199	93.5	--	0.06	0.50
DANI12 Comp Rep 4	0.854	--	0.0005	0.0195	0.095	--	0.004	0.020	3.49	--	0.02	0.20	2.5	--	0.2	1.0	0.167	--	0.006	0.020	0.0158	J	0.0009	0.0195	87.4	--	0.06	0.49
DANI12 Comp Rep 5	0.734	--	0.0005	0.0195	0.078	--	0.004	0.020	3.08	--	0.02	0.20	2.4	--	0.2	1.0	0.147	--	0.006	0.019	0.0121	J	0.0009	0.0195	92.5	--	0.06	0.49
CCRK12 Comp Rep 1	1.0600	--	0.0005	0.0197	0.087	--	0.004	0.020	3.33	--	0.02	0.20	2.6	--	0.2	1.0	0.166	--	0.006	0.020	0.0202	--	0.0009	0.0197	91.7	--	0.06	0.49
CCRK12 Comp Rep 2	1.1800	--	0.0005	0.0195	0.089	--	0.004	0.020	4.06	--	0.02	0.20	2.6	--	0.2	1.0	0.128	--	0.006	0.020	0.0193	J	0.0009	0.0195	108	--	0.06	0.49
CCRK12 Comp Rep 3	1.0300	--	0.0005	0.0195	0.084	--	0.004	0.020	3.39	--	0.02	0.20	2.4	--	0.2	1.0	0.134	--	0.006	0.020	0.0190	J	0.0009	0.0195	102	--	0.06	0.49
CCRK12 Comp Rep 4	1.0700	--	0.0005	0.0195	0.075	--	0.004	0.020	2.64	--	0.02	0.20	2.2	--	0.2	1.0	0.123	--	0.006	0.019	0.0138	J	0.0009	0.0195	101	--	0.06	0.49
CCRK12 Comp Rep 5	0.883	--	0.0005	0.0194	0.092	--	0.004	0.020	2.74	--	0.02	0.19	2.4	--	0.2	1.0	0.126	--	0.006	0.019	0.0108	J	0.0009	0.0194	100	--	0.06	0.49
UH12 Comp Rep 1	0.969	--	0.0005	0.0194	0.098	--	0.004	0.020	3.25	--	0.02	0.19	2.5	--	0.2	1.0	0.148	--	0.006	0.019	0.0161	J	0.0009	0.0194	97.5	N*	0.06	0.48
UH12 Comp Rep 2	0.888	--	0.0005	0.0196	0.090	--	0.004	0.020	2.96	--	0.02	0.20	2.7	--	0.2	1.0	0.122	--	0.006	0.020	0.0159	J	0.0009	0.0196	97.0	N*	0.06	0.49
UH12 Comp Rep 3	0.864	--	0.0005	0.0195	0.093	--	0.004	0.020	2.90	--	0.02	0.20	2.4	--	0.2	1.0	0.140	--	0.006	0.020	0.0120	J	0.0009	0.0195	93.6	N*	0.06	0.49
UH12 Comp Rep 4	0.798	--	0.0005	0.0199	0.096	--	0.004	0.020	2.92	--	0.02	0.20	2.4	--	0.2	1.0	0.140	--	0.006	0.020	0.0113	J	0.0009	0.0199	106	N*	0.06	0.50
UH12 Comp Rep 5	0.801	--	0.0005	0.0195	0.090	--	0.004	0.020	2.95	--	0.02	0.20	2.3	--	0.2	1.0	0.126	--	0.006	0.019	0.0125	J	0.0009	0.0195	92.8	N*	0.06	0.49
ORDT12 Comp Rep 1	1.1300	--	0.0005	0.0195	0.090	--	0.004	0.020	2.24	--	0.02	0.20	2.5	--	0.2	1.0	0.131	--	0.006	0.020	0.0104	J	0.0009	0.0195	89.5	--	0.06	0.49
ORDT12 Comp Rep 2	1.1500	--	0.0005	0.0195	0.089	--	0.004	0.020	2.45	--	0.02	0.20	2.8	--	0.2	1.0	0.133	--	0.006	0.020	0.0112	J	0.0009	0.0195	106	--	0.06	0.49
ORDT12 Comp Rep 3	1.3300	--	0.0005	0.0196	0.088	--	0.004	0.020	2.71	--	0.02	0.20	2.9	--	0.2	1.0	0.148	--	0.006	0.020	0.0120	J	0.0009	0.0196	88.2	--	0.06	0.49
ORDT12 Comp Rep 4	1.4000	--	0.0005	0.0199	0.090	--	0.004	0.020	2.47	--	0.02	0.20	2.9	--	0.2	1.0	0.141	--	0.006	0.020	0.0132	J	0.0009	0.0199	91.1	--	0.06	0.50
ORDT12 Comp Rep 5	1.3100	--	0.0005	0.0198	0.086	--	0.004	0.020	2.48	--	0.02	0.20	2.7	--	0.2	1.0	0.132	--	0.006	0.020	0.0131	J	0.0009	0.0198	89.5	--	0.06	0.50
BENW12 Comp Rep 1	0.868	--	0.0005	0.0197	0.048	--	0.004	0.020	3.65	--	0.02	0.20	2.7	--	0.2	1.0	0.202	--	0.006	0.020	0.0465	--	0.0009	0.0197	112	--	0.06	0.49
BENW12 Comp Rep 2	0.908	--	0.0005	0.0194	0.038	--	0.004	0.020	3.37	--	0.02	0.19	2.3	--	0.2	1.0	0.295	--	0.006	0.019	0.0354	--	0.0009	0.0194	111	--	0.06	0.49
BENW12 Comp Rep 3	1.3500	--	0.0005	0.0199	0.052	--	0.004	0.020	3.95	--	0.02	0.20	2.6	--	0.2	1.0	0.264	--	0.006	0.020	0.0398	--	0.0009	0.0199	111	--	0.06	0.50
BENW12 Comp Rep 4	0.915	--	0.0005	0.0194	0.040	--	0.004	0.020	3.31	--	0.02	0.19	2.5	--	0.2	1.0	0.333	--	0.006	0.019	0.0341	--	0.0009	0.0194	94.4	--	0.06	0.49
BENW12 Comp Rep 5	0.903	--	0.0005	0.0196	0.044	--	0.004	0.020	4.11	--	0.02	0.20	2.5	--	0.2	1.0	0.289	--	0.006	0.020	0.0526	--	0.0009	0.0196	88.0	--	0.06	0.49
HGIW12 Comp Rep 1	1.1900	--	0.0005	0.0196	0.056	--	0.004	0.020	2.56	--	0.02	0.20	2.7	--	0.2	1.0	0.221	--	0.006	0.020	0.0319	--	0.0009	0.0196	96.3	--	0.06	0.49
HGIW12 Comp Rep 2	1.5400	--	0.0005	0.0197	0.052	--	0.004	0.020	2.96	--	0.02	0.20	2.7	--	0.2	1.0	0.373	--	0.006	0.020	0.0340	--	0.0009	0.0197	93.9	--	0.06	0.49
HGIW12 Comp Rep 3	1.2900	--	0.0005	0.0197	0.056	--	0.004	0.020	2.74	--	0.02	0.20	2.9	--	0.2	1.0	0.304	--	0.006	0.020	0.0265	--	0.0009	0.0197	102	--	0.06	0.49
HGIW12 Comp Rep 4	1.4800	--	0.0005	0.0198	0.065	--	0.004	0.020	3.27	--	0.02	0.20	2.9	--	0.2	1.0	0.327	--	0.006	0.020	0.0382	--	0.0009	0.0198	107	--	0.06	0.50
HGIW12 Comp Rep 5	1.7200	--	0.0005	0.0197	0.056	--	0.004	0.020	3.67	--	0.02	0.20	2.8	--	0.2	1.0	0.381	--	0.006	0.020	0.0319	--	0.0009	0.0197	115	--	0.06	0.49

TABLE 32
Analytical Results for Dry Weight Metals in *Macoma nasuta* Tissues

Analyte:	Lead				Mercury				Nickel				Selenium				Silver				Thallium				Zinc			
Sample-Replicate #	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL	Result mg/kg	Qualifier	MDL	MRL
WRTB12 Comp Rep 1	1.1300	--	0.0005	0.0194	0.084	--	0.004	0.020	2.41	--	0.02	0.19	2.5	--	0.2	1.0	0.229	--	0.006	0.019	0.0187	J	0.0009	0.0194	102	--	0.06	0.49
WRTB12 Comp Rep 2	1.2400	--	0.0005	0.0198	0.061	--	0.004	0.020	2.54	--	0.02	0.20	2.8	--	0.2	1.0	0.281	--	0.006	0.020	0.0117	J	0.0009	0.0198	124	--	0.06	0.50
WRTB12 Comp Rep 3	1.1400	--	0.0005	0.0195	0.048	--	0.004	0.020	2.57	--	0.02	0.20	2.5	--	0.2	1.0	0.292	--	0.006	0.020	0.0148	J	0.0009	0.0195	96.9	--	0.06	0.49
WRTB12 Comp Rep 4	1.2300	--	0.0005	0.0197	0.060	--	0.004	0.020	2.52	--	0.02	0.20	2.7	--	0.2	1.0	0.279	--	0.006	0.020	0.0151	J	0.0009	0.0197	91.9	--	0.06	0.49
WRTB12 Comp Rep 5	1.2200	--	0.0005	0.0196	0.048	--	0.004	0.020	2.64	--	0.02	0.20	2.3	--	0.2	1.0	0.355	--	0.006	0.020	0.0124	J	0.0009	0.0196	116	--	0.06	0.49
DANW12 Comp Rep 1	1.5400	--	0.0005	0.0196	0.092	--	0.004	0.020	3.80	--	0.02	0.20	2.8	--	0.2	1.0	0.165	--	0.006	0.020	0.0308	--	0.0009	0.0196	98.6	--	0.06	0.49
DANW12 Comp Rep 2	1.0300	--	0.0005	0.0198	0.090	--	0.004	0.020	2.78	--	0.02	0.20	2.6	--	0.2	1.0	0.157	--	0.006	0.020	0.0192	J	0.0009	0.0198	102	--	0.06	0.50
DANW12 Comp Rep 3	1.0700	--	0.0005	0.0197	0.094	--	0.004	0.020	2.75	--	0.02	0.20	2.2	--	0.2	1.0	0.172	--	0.006	0.020	0.0186	J	0.0009	0.0197	93.5	--	0.06	0.49
DANW12 Comp Rep 4	1.2900	--	0.0005	0.0194	0.088	--	0.004	0.020	2.58	--	0.02	0.19	2.5	--	0.2	1.0	0.133	--	0.006	0.019	0.0220	--	0.0009	0.0194	97.0	--	0.06	0.48
DANW12 Comp Rep 5	0.911	--	0.0005	0.0198	0.068	--	0.004	0.020	1.99	--	0.02	0.20	2.6	--	0.2	1.0	0.123	--	0.006	0.020	0.0124	J	0.0009	0.0198	93.6	--	0.06	0.50
WLRW12 Comp Rep 1	0.968	--	0.0005	0.0194	0.052	--	0.004	0.020	3.06	--	0.02	0.19	2.4	--	0.2	1.0	0.539	--	0.006	0.019	0.0130	J	0.0009	0.0194	98.9	--	0.06	0.49
WLRW12 Comp Rep 2	0.834	--	0.0005	0.0195	0.044	--	0.004	0.020	2.64	--	0.02	0.20	2.4	--	0.2	1.0	0.283	--	0.006	0.020	0.0102	J	0.0009	0.0195	91.0	--	0.06	0.49
WLRW12 Comp Rep 3	0.812	--	0.0005	0.0195	0.055	--	0.004	0.020	2.87	--	0.02	0.20	2.7	--	0.2	1.0	0.314	--	0.006	0.019	0.0116	J	0.0009	0.0195	93.1	--	0.06	0.49
WLRW12 Comp Rep 4	0.807	--	0.0005	0.0194	0.053	--	0.004	0.020	2.72	--	0.02	0.19	2.8	--	0.2	1.0	0.311	--	0.006	0.019	0.0121	J	0.0009	0.0194	114	--	0.06	0.49
WLRW12 Comp Rep 5	0.912	--	0.0005	0.0195	0.048	--	0.004	0.020	3.10	--	0.02	0.20	2.5	--	0.2	1.0	0.411	--	0.006	0.020	0.0127	J	0.0009	0.0195	105	--	0.06	0.49
NCW12 Comp Rep 1	0.849	--	0.0005	0.0198	0.096	--	0.004	0.020	2.87	--	0.02	0.20	2.8	--	0.2	1.0	0.175	--	0.006	0.020	0.0196	J	0.0009	0.0198	95.8	--	0.06	0.50
NCW12 Comp Rep 2	0.850	--	0.0005	0.0195	0.092	--	0.004	0.020	2.63	--	0.02	0.20	2.4	--	0.2	1.0	0.145	--	0.006	0.019	0.0109	J	0.0009	0.0195	114	--	0.06	0.49
NCW12 Comp Rep 3	0.674	--	0.0005	0.0197	0.096	--	0.004	0.020	2.92	--	0.02	0.20	2.5	--	0.2	1.0	0.120	--	0.006	0.020	0.0153	J	0.0009	0.0197	92.9	--	0.06	0.49
NCW12 Comp Rep 4	0.780	--	0.0005	0.0199	0.097	--	0.004	0.020	2.70	--	0.02	0.20	2.6	--	0.2	1.0	0.141	--	0.006	0.020	0.0144	J	0.0009	0.0199	91.4	--	0.06	0.50
NCW12 Comp Rep 5	0.772	--	0.0005	0.0195	0.089	--	0.004	0.020	3.12	--	0.02	0.20	2.6	--	0.2	1.0	0.125	--	0.006	0.019	0.0172	J	0.0009	0.0195	105	--	0.06	0.49
ABMA12 Comp Rep 1	1.3700	--	0.0005	0.0199	0.040	--	0.004	0.020	2.42	--	0.02	0.20	2.2	--	0.2	1.0	0.202	--	0.006	0.020	0.0079	J	0.0009	0.0199	120	--	0.06	0.50
ABMA12 Comp Rep 2	1.3900	--	0.0005	0.0195	0.044	--	0.004	0.020	2.41	--	0.02	0.20	2.3	--	0.2	1.0	0.242	--	0.006	0.019	0.0152	J	0.0009	0.0195	101	--	0.06	0.49
ABMA12 Comp Rep 3	1.4700	--	0.0005	0.0194	0.042	--	0.004	0.020	2.46	--	0.02	0.19	2.4	--	0.2	1.0	0.231	--	0.006	0.019	0.0106	J	0.0009	0.0194	119	--	0.06	0.49
ABMA12 Comp Rep 4	1.7100	--	0.0005	0.0199	0.044	--	0.004	0.020	2.66	--	0.02	0.20	2.2	--	0.2	1.0	0.296	--	0.006	0.020	0.0118	J	0.0009	0.0199	115	--	0.06	0.50
ABMA12 Comp Rep 5	1.5800	--	0.0005	0.0196	0.042	--	0.004	0.020	2.58	--	0.02	0.20	2.3	--	0.2	1.0	0.274	--	0.006	0.020	0.0112	J	0.0009	0.0196	132	--	0.06	0.49
SHCR12 Comp Rep 1	1.3100	--	0.0005	0.0195	0.046	--	0.004	0.020	2.34	--	0.02	0.20	2.3	--	0.2	1.0	0.331	--	0.006	0.020	0.0112	J	0.0009	0.0195	84.2	--	0.06	0.49
SHCR12 Comp Rep 2	1.1400	--	0.0005	0.0197	0.046	--	0.004	0.020	2.06	--	0.02	0.20	2.4	--	0.2	1.0	0.254	--	0.006	0.020	0.0109	J	0.0009	0.0197	84.2	--	0.06	0.49
SHCR12 Comp Rep 3	1.4500	--	0.0005	0.0194	0.040	--	0.004	0.020	2.45	--	0.02	0.19	2.4	--	0.2	1.0	0.341	--	0.006	0.019	0.0140	J	0.0009	0.0194	105	--	0.06	0.48
SHCR12 Comp Rep 4	1.3600	--	0.0005	0.0197	0.071	--	0.004	0.020	2.25	--	0.02	0.20	2.6	--	0.2	1.0	0.318	--	0.006	0.020	0.0132	J	0.0009	0.0197	106	--	0.06	0.49
SHCR12 Comp Rep 5	1.4700	--	0.0005	0.0197	0.056	--	0.004	0.020	2.38	--	0.02	0.20	2.7	--	0.2	1.0	0.416	--	0.006	0.020	0.0144	J	0.0009	0.0197	101	--	0.06	0.49
RS-CH-A Rep 1	0.626	--	0.0005	0.0193	0.067	--	0.004	0.020	1.64	--	0.02	0.19	2.2	--	0.2	1.0	0.174	--	0.006	0.019	0.0019	J	0.0009	0.0193	103	N*	0.06	0.48
RS-CH-A Rep 2	0.612	--	0.0005	0.0198	0.059	--	0.004	0.020	1.54	--	0.02	0.20	2.2	--	0.2	1.0	0.241	--	0.006	0.020	0.0046	J	0.0009	0.0198	94.1	N*	0.06	0.50
RS-CH-A Rep 3	0.680	--	0.0005	0.0193	0.066	--	0.004	0.020	1.70	--	0.02	0.19	2.0	--	0.2	1.0	0.237	--	0.006	0.019	0.0029	J	0.0009	0.0193	101	N*	0.06	0.48
RS-CH-A Rep 4	0.598	--	0.0005	0.0196	0.068	--	0.004	0.020	1.78	--	0.02	0.20	2.1	--	0.2	1.0	0.202	--	0.006	0.020	0.0030	J	0.0009	0.0196	98.1	N*	0.06	0.49
RS-CH-A Rep 5	0.683	--	0.0005	0.0196	0.072	--	0.004	0.020	1.75	--	0.02	0.20	2.2	--	0.2	1.0	0.203	--	0.006	0.020	0.0034	J	0.0009	0.0196	97.8	N*	0.06	0.49
Pre-exposure Rep 1	1.0300	--	0.0005	0.0194	0.060	--	0.004	0.020	2.08	--	0.02	0.19	2.4	--	0.2	1.0	0.339	--	0.006	0.019	0.0026	J	0.0009	0.0194	89.8	N*	0.06	0.49
Pre-exposure Rep 2	0.872	--	0.0005	0.0199	0.077	--	0.004	0.020	1.97	--	0.02	0.20	2.3	--	0.2	1.0	0.235	--	0.006	0.020	0.0027	J	0.0009	0.0199	110	N*	0.06	0.50
Pre-exposure Rep 3	0.770	--	0.0005	0.0194	0.064	--	0.004	0.020	2.04	--	0.02	0.19	2.4	--	0.2	1.0	0.177	--	0.006	0.019	0.0018	J	0.0009	0.0194	103	N*	0.06	0.49

J = The resut is an estimated value.
N = The Matrix Spike sample recovery is not within control limits.
* = The result is an outlier.
-- = No Qualified Needed

Source: ALS Environmental Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 33

Analytical Results for Wet Weight PAHs in *Neanthes virens* Tissues

Analyte:	Total LMW PAHs	Total HMW PAHs	Total PAHs	1-Methylnaphthalene^{LMW}				2-Methylnaphthalene^{LMW}				Acenaphthene^{LMW}				Acenaphthylene				Anthracene^{LMW}				Benzo(a)anthracene^{HMW}				Benzo(a)pyrene^{HMW}				Benzo(b)fluoranthene			
Sample-Replicate #	Result µg/kg	Result µg/kg	Result µg/kg	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
CHEC12-1 Comp Rep 1	7.9	2.7	12	0.73	J	0.55	5.0	ND	U	0.60	5.0	2.1	JX	0.24	5.0	0.26	J	0.23	5.0	ND	U	0.19	5.0	0.34	J	0.19	5.0	ND	Ui	0.43	5.0	ND	U	0.33	5.0
CHEC12-1 Comp Rep 2	5.4	2.6	9.8	0.60	J	0.53	4.9	ND	U	0.58	4.9	0.85	JX	0.23	4.9	ND	U	0.23	4.9	ND	U	0.19	4.9	0.33	J	0.19	4.9	ND	Ui	0.44	4.9	ND	U	0.32	4.9
CHEC12-1 Comp Rep 3	7.8	2.6	12	ND	U	0.55	5.0	ND	U	0.60	5.0	2.1	JX	0.24	5.0	ND	U	0.23	5.0	ND	U	0.19	5.0	0.28	J	0.19	5.0	ND	Ui	0.46	5.0	ND	U	0.33	5.0
CHEC12-1 Comp Rep 4	6.5	2.5	11	ND	U	0.54	4.9	ND	U	0.59	4.9	1.7	JX	0.23	4.9	ND	U	0.23	4.9	ND	U	0.19	4.9	0.38	J	0.19	4.9	ND	Ui	0.47	4.9	ND	U	0.33	4.9
CHEC12-1 Comp Rep 5	7.3	2.4	12	0.71	J	0.55	5.0	ND	U	0.60	5.0	1.3	JX	0.24	5.0	0.25	J	0.23	5.0	ND	U	0.19	5.0	0.29	J	0.19	5.0	ND	Ui	0.50	5.0	ND	U	0.33	5.0
CHEC12-1 Comp Mean[1]	7.0	2.6	11	0.63				0.59				1.6				0.24				0.19				0.32				0.46				0.33			
Adjusted Concentration	--	--	--	0.63				0.59				1.6				0.24				0.19				0.55				0.97				0.75			
% of reference tissue	173	86	128	99				100				219				101				86				44				116				99			
CHEC12-2 Comp Rep 1	6.6	2.9	11	0.61	J	0.54	4.9	ND	U	0.58	4.9	2.0	JX	0.23	4.9	0.23	J	0.23	4.9	ND	U	0.19	4.9	0.62	JX	0.19	4.9	ND	Ui	0.41	4.9	ND	U	0.32	4.9
CHEC12-2 Comp Rep 2	7.4	3.1	12	0.64	J	0.53	4.9	ND	U	0.58	4.9	2.2	JX	0.23	4.9	0.23	J	0.23	4.9	ND	U	0.19	4.9	0.74	JX	0.19	4.9	ND	Ui	0.51	4.9	ND	U	0.32	4.9
CHEC12-2 Comp Rep 3	7.5	3.0	12	0.60	J	0.54	5.0	ND	U	0.59	5.0	2.1	JX	0.24	5.0	0.26	J	0.23	5.0	ND	U	0.19	5.0	0.72	JX	0.19	5.0	ND	Ui	0.52	5.0	ND	U	0.33	5.0
CHEC12-2 Comp Rep 4	5.3	3.1	10	0.51	J	0.51	4.6	ND	U	0.56	4.6	0.81	JX	0.22	4.6	ND	U	0.22	4.6	ND	U	0.18	4.6	0.81	JX	0.18	4.6	ND	Ui	0.56	4.6	ND	U	0.31	4.6
CHEC12-2 Comp Rep 5	6.1	2.8	11	0.60	J	0.54	5.0	ND	U	0.59	5.0	1.5	JX	0.24	5.0	ND	U	0.23	5.0	ND	U	0.19	5.0	0.67	JX	0.19	5.0	ND	Ui	0.54	5.0	ND	U	0.33	5.0
CHEC12-2 Comp Mean[1]	6.6	3.0	11	0.59				0.58				1.7				0.23				0.19				0.71				0.51				0.32			
Adjusted Concentration	--	--	--	0.59				0.58				1.7				0.23				0.19				1.2				1.1				0.74			
% of reference tissue	163	99	128	94				97				235				98				85				96				128				98			
MTPL12 Comp Rep 1	6.0	2.3	10	ND	U	0.55	5.0	ND	U	0.59	5.0	1.4	JX	0.24	5.0	ND	U	0.23	5.0	ND	U	0.19	5.0	0.26	J	0.19	5.0	ND	Ui	0.48	5.0	ND	U	0.33	5.0
MTPL12 Comp Rep 2	6.6	2.6	11	ND	U	0.55	5.0	ND	U	0.60	5.0	1.4	JX	0.24	5.0	0.25	J	0.23	5.0	ND	U	0.19	5.0	0.74	JX	0.19	5.0	ND	Ui	0.40	5.0	ND	U	0.33	5.0
MTPL12 Comp Rep 3	6.0	2.6	10	ND	U	0.54	5.0	ND	U	0.59	5.0	1.5	JX	0.24	5.0	ND	U	0.23	5.0	ND	U	0.19	5.0	0.25	J	0.19	5.0	ND	Ui	0.62	5.0	ND	U	0.33	5.0
MTPL12 Comp Rep 4	7.8	2.8	12	0.58	J	0.54	4.9	ND	U	0.59	4.9	1.8	JX	0.23	4.9	ND	U	0.23	4.9	ND	U	0.19	4.9	ND	U	0.19	4.9	ND	Ui	0.99	4.9	ND	U	0.32	4.9
MTPL12 Comp Rep 5	5.7	2.4	9.9	0.60	J	0.55	5.0	ND	U	0.60	5.0	1.3	JX	0.24	5.0	ND	U	0.23	5.0	ND	U	0.19	5.0	0.59	JX	0.19	5.0	ND	Ui	0.38	5.0	ND	U	0.33	5.0
MTPL12 Comp Mean[1]	6.4	2.6	11	0.56				0.59				1.5				0.23				0.19				0.41				0.57				0.33			
Adjusted Concentration	--	--	--	0.56				0.59				1.5				0.23				0.19				0.69				1.2				0.75			
% of reference tissue	159	85	122	90				100				202				98				86				55				145				99			
REHR12 Comp Rep 1	6.9	3.2	12	0.61	J	0.53	4.8	ND	U	0.58	4.8	1.6	JX	0.23	4.8	ND	U	0.22	4.8	ND	U	0.19	4.8	0.37	J	0.19	4.8	ND	Ui	0.79	4.8	ND	U	0.32	4.8
REHR12 Comp Rep 2	7.3	2.7	12	0.59	J	0.52	4.8	ND	U	0.57	4.8	2.0	JX	0.23	4.8	ND	U	0.22	4.8	ND	U	0.18	4.8	0.22	J	0.18	4.8	ND	Ui	0.59	4.8	ND	U	0.32	4.8
REHR12 Comp Rep 3	8.1	2.2	12	0.59	J	0.53	4.8	ND	U	0.58	4.8	2.3	JX	0.23	4.8	ND	U	0.22	4.8	ND	U	0.19	4.8	0.27	J	0.19	4.8	ND	Ui	0.61	4.8	ND	U	0.32	4.8
REHR12 Comp Rep 4	6.7	7.2	16	0.56	J	0.55	5.0	ND	U	0.60	5.0	1.5	JX	0.24	5.0	ND	U	0.23	5.0	ND	U	0.19	5.0	0.59	JX	0.19	5.0	ND	Ui	0.57	5.0	ND	U	0.33	5.0
REHR12 Comp Rep 5	8.3	2.6	13	0.72	J	0.53	4.9	ND	U	0.58	4.9	1.8	JX	0.23	4.9	0.25	J	0.23	4.9	ND	U	0.19	4.9	0.26	J	0.19	4.9	ND	Ui	0.66	4.9	ND	U	0.32	4.9
REHR12 Comp Mean[1]	7.5	3.6	13	0.61				0.58				1.8				0.23				0.19				0.34				0.64				0.32			
Adjusted Concentration	--	--	--	0.61				0.58				1.8				0.23				0.19				0.58				1.4				0.74			
% of reference tissue	185	119	145	97				98				251				96				85				46				163				98			
HGIS12 Comp Rep 1	3.7	3.3	8.8	ND	U	0.55	5.0	ND	U	0.59	5.0	0.72	JX	0.24	5.0	ND	U	0.23	5.0	ND	U	0.19	5.0	ND	U	0.19	5.0	ND	U	0.36	5.0	ND	U	0.33	5.0
HGIS12 Comp Rep 2	4.5	3.1	9.4	ND	U	0.55	5.0	ND	U	0.60	5.0	1.6	JX	0.24	5.0	ND	U	0.23	5.0	ND	U	0.19	5.0	ND	UX	0.19	5.0	ND	U	0.37	5.0	ND	U	0.33	5.0
HGIS12 Comp Rep 3	4.3	1.9	8.1	ND	U	0.54	5.0	ND	U	0.59	5.0	1.4	JX	0.24	5.0	ND	U	0.23	5.0	ND	U	0.19	5.0	0.26	J	0.19	5.0	ND	U	0.36	5.0	ND	U	0.33	5.0
HGIS12 Comp Rep 4	3.7	2.9	8.3	ND	U	0.53	4.8	ND	U	0.58	4.8	0.73	JX	0.23	4.8	ND	U	0.22	4.8	ND	U	0.19	4.8	0.21	J	0.19	4.8	ND	U	0.35	4.8	ND	U	0.32	4.8
HGIS12 Comp Rep 5	6.8	2.6	11	ND	U	0.53	4.9	ND	U	0.58	4.9	2.2	JX	0.23	4.9	ND	U	0.23	4.9	ND	U	0.19	4.9	0.23	J	0.19	4.9	ND	U	0.36	4.9	ND	U	0.32	4.9
HGIS12 Comp Mean[1]	4.6	2.8	9.1	0.54				0.59				1.3				0.23				0.19				0.22				0.36				0.33			
Adjusted Concentration	--	--	--	0.54				0.59				1.3				0.23				0.19				0.37				0.76				0.75			
% of reference tissue	114	92	104	86				99				181				96				86				29				91				99			
DRMY12 Comp Rep 1	4.2	3.4	9.4	ND	U	0.54	4.9	ND	U	0.59	4.9	1.3	JX	0.23	4.9	ND	U	0.23	4.9	ND	U	0.19	4.9	0.29	J	0.19	4.9	ND	U	0.36	4.9	ND	U	0.32	4.9
DRMY12 Comp Rep 2	4.8	5.3	12	ND	U	0.54	4.9	ND	U	0.59	4.9	1.8	JX	0.23	4.9	ND	U	0.23	4.9	ND	U	0.19	4.9	ND	UX	0.19	4.9	ND	U	0.36	4.9	ND	U	0.33	4.9
DRMY12 Comp Rep 3	4.0	3.4	9.1	ND	U	0.53	4.8	ND	U	0.57	4.8	0.91	JX	0.23	4.8	ND	U	0.22	4.8	ND	U	0.19	4.8	0.29	J	0.19	4.8	ND	U	0.35	4.8	ND	U	0.32	4.8
DRMY12 Comp Rep 4	4.3	4.1	10	ND	U	0.55	5.0	ND	U	0.60	5.0	1.3	JX	0.24	5.0	ND	U	0.23	5.0	ND	U	0.19	5.0	ND	UX	0.19	5.0	ND	U	0.36	5.0	ND	U	0.33	5.0
DRMY12 Comp Rep 5	4.2	4.1	10	ND	U	0.55	5.0	ND	U	0.59	5.0	1.0	JX	0.24	5.0	ND	U	0.23	5.0	ND	U	0.19	5.0	0.21	J	0.19	5.0	ND	U	0.36	5.0	ND	U	0.33	5.0
DRMY12 Comp Mean[1]	4.3	4.0	10	0.54				0.59				1.3				0.23				0.19				0.23				0.36				0.33			
Adjusted Concentration	--	--	--	0.54				0.59				1.3				0.23				0.19				0.40				0.75				0.75			
% of reference tissue	107	135	115	86				99				172				96				86				32				90				99			

TABLE 33

Analytical Results for Wet Weight PAHs in *Neanthes virens* Tissues

Analyte:	Benzo(g,h,i)perylene				Benzo(k)fluoranthene				Chrysene[HMW]				Dibenzo(a,h)anthracene[HMW]				Fluoranthene[HMW]				Fluorene[LMW]				Indeno(1,2,3-cd)pyrene				Naphthalene[LMW]				Phenanthrene[LMW]				Pyrene[HMW]			
Sample-Replicate #	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
CHEC12-1 Comp Rep 1	ND	U	0.48	5.0	ND	U	0.29	5.0	0.37	J	0.28	5.0	ND	U	0.43	5.0	0.61	J	0.25	5.0	0.86	JX	0.26	5.0	ND	U	0.48	5.0	2.7	J	0.75	5.0	0.68	J	0.33	5.0	ND	Ui	0.49	5.0
CHEC12-1 Comp Rep 2	ND	U	0.46	4.9	ND	U	0.28	4.9	0.28	J	0.27	4.9	ND	U	0.42	4.9	0.62	J	0.24	4.9	0.42	J	0.26	4.9	ND	U	0.47	4.9	2.1	J	0.73	4.9	0.61	J	0.32	4.9	ND	Ui	0.55	4.9
CHEC12-1 Comp Rep 3	ND	U	0.48	5.0	ND	U	0.29	5.0	0.32	J	0.28	5.0	ND	U	0.43	5.0	0.65	J	0.25	5.0	0.92	JX	0.26	5.0	ND	U	0.48	5.0	2.8	J	0.75	5.0	0.63	J	0.33	5.0	ND	Ui	0.50	5.0
CHEC12-1 Comp Rep 4	ND	U	0.47	4.9	ND	U	0.28	4.9	ND	U	0.27	4.9	ND	U	0.42	4.9	0.55	J	0.24	4.9	0.59	JX	0.26	4.9	ND	U	0.47	4.9	2.3	J	0.73	4.9	0.55	J	0.33	4.9	ND	Ui	0.40	4.9
CHEC12-1 Comp Rep 5	ND	U	0.47	5.0	ND	U	0.29	5.0	ND	U	0.28	5.0	ND	U	0.43	5.0	0.53	J	0.25	5.0	0.69	JX	0.26	5.0	ND	U	0.48	5.0	3.0	J	0.75	5.0	0.80	J	0.33	5.0	ND	Ui	0.41	5.0
CHEC12-1 Comp Mean[1]	0.47				0.29				0.30				0.43				0.59				0.70				0.48				2.6				0.65				0.47			
Adjusted Concentration	1.4				0.66				0.43				0.85				0.65				0.70				1.4				2.6				0.65				0.52			
% of reference tissue	100				100				109				100				86				167				100				348				96				100			
CHEC12-2 Comp Rep 1	ND	U	0.46	4.9	ND	U	0.28	4.9	ND	UX	0.27	4.9	ND	U	0.42	4.9	0.66	J	0.24	4.9	0.76	JX	0.26	4.9	ND	U	0.47	4.9	1.8	J	0.73	4.9	0.69	J	0.32	4.9	ND	Ui	0.51	4.9
CHEC12-2 Comp Rep 2	ND	U	0.46	4.9	ND	U	0.28	4.9	ND	UX	0.27	4.9	ND	U	0.42	4.9	0.55	J	0.24	4.9	0.91	JX	0.26	4.9	ND	U	0.47	4.9	2.2	J	0.73	4.9	0.63	J	0.32	4.9	ND	Ui	0.65	4.9
CHEC12-2 Comp Rep 3	ND	U	0.47	5.0	ND	U	0.28	5.0	ND	UX	0.27	5.0	ND	U	0.43	5.0	0.64	J	0.25	5.0	0.79	JX	0.26	5.0	ND	U	0.48	5.0	2.6	J	0.74	5.0	0.60	J	0.33	5.0	ND	Ui	0.38	5.0
CHEC12-2 Comp Rep 4	ND	U	0.44	4.6	ND	U	0.27	4.6	ND	UX	0.26	4.6	ND	U	0.40	4.6	0.53	J	0.23	4.6	0.45	J	0.24	4.6	ND	U	0.45	4.6	2.1	J	0.69	4.6	0.65	J	0.31	4.6	ND	Ui	0.51	4.6
CHEC12-2 Comp Rep 5	ND	U	0.47	5.0	ND	U	0.28	5.0	ND	UX	0.27	5.0	ND	U	0.43	5.0	0.50	J	0.25	5.0	0.72	JX	0.26	5.0	ND	U	0.48	5.0	1.9	J	0.74	5.0	0.57	J	0.33	5.0	ND	Ui	0.42	5.0
CHEC12-2 Comp Mean[1]	0.46				0.28				0.27				0.42				0.58				0.73				0.47				2.1				0.63				0.49			
Adjusted Concentration	1.3				0.64				0.38				0.84				0.63				0.73				1.4				2.1				0.63				0.54			
% of reference tissue	97				97				96				98				84				174				98				286				92				105			
MTPL12 Comp Rep 1	ND	U	0.47	5.0	ND	U	0.29	5.0	ND	U	0.28	5.0	ND	U	0.43	5.0	0.41	J	0.25	5.0	0.59	JX	0.26	5.0	ND	U	0.48	5.0	2.1	J	0.74	5.0	0.58	J	0.33	5.0	ND	Ui	0.47	5.0
MTPL12 Comp Rep 2	ND	U	0.48	5.0	ND	U	0.29	5.0	ND	UX	0.28	5.0	ND	U	0.43	5.0	0.38	J	0.25	5.0	0.51	JX	0.26	5.0	ND	U	0.48	5.0	2.7	J	0.75	5.0	0.63	J	0.33	5.0	ND	Ui	0.35	5.0
MTPL12 Comp Rep 3	ND	U	0.47	5.0	ND	U	0.28	5.0	ND	U	0.27	5.0	ND	U	0.43	5.0	0.53	J	0.25	5.0	0.51	J	0.26	5.0	ND	U	0.48	5.0	2.2	J	0.74	5.0	0.50	J	0.33	5.0	ND	Ui	0.53	5.0
MTPL12 Comp Rep 4	ND	U	0.47	4.9	ND	U	0.28	4.9	ND	U	0.27	4.9	ND	U	0.42	4.9	0.46	J	0.24	4.9	0.65	JX	0.26	4.9	ND	U	0.47	4.9	3.2	J	0.73	4.9	0.74	J	0.32	4.9	ND	Ui	0.49	4.9
MTPL12 Comp Rep 5	ND	U	0.48	5.0	ND	U	0.29	5.0	ND	UX	0.28	5.0	ND	U	0.43	5.0	0.37	J	0.25	5.0	0.57	JX	0.26	5.0	ND	U	0.48	5.0	1.8	J	0.75	5.0	0.59	J	0.33	5.0	ND	Ui	0.37	5.0
MTPL12 Comp Mean[1]	0.47				0.29				0.28				0.43				0.43				0.57				0.48				2.4				0.61				0.44			
Adjusted Concentration	1.4				0.66				0.39				0.86				0.47				0.57				1.4				2.4				0.61				0.49			
% of reference tissue	100				100				99				100				63				135				100				323				89				94			
REHR12 Comp Rep 1	ND	U	0.46	4.8	ND	U	0.28	4.8	ND	U	0.27	4.8	ND	U	0.42	4.8	0.62	J	0.24	4.8	0.70	JX	0.25	4.8	ND	U	0.46	4.8	2.5	J	0.72	4.8	0.71	J	0.32	4.8	ND	Ui	0.71	4.8
REHR12 Comp Rep 2	ND	U	0.45	4.8	ND	U	0.27	4.8	0.49	J	0.26	4.8	ND	U	0.41	4.8	0.57	J	0.24	4.8	1.0	JX	0.25	4.8	ND	U	0.46	4.8	2.1	J	0.71	4.8	0.85	J	0.32	4.8	0.41	J	0.24	4.8
REHR12 Comp Rep 3	ND	U	0.46	4.8	ND	U	0.28	4.8	ND	U	0.27	4.8	ND	U	0.41	4.8	0.35	J	0.24	4.8	1.1	JX	0.25	4.8	ND	U	0.46	4.8	2.5	J	0.72	4.8	0.83	J	0.32	4.8	ND	Ui	0.28	4.8
REHR12 Comp Rep 4	ND	U	0.48	5.0	ND	U	0.29	5.0	ND	UX	0.28	5.0	ND	U	0.43	5.0	0.33	J	0.25	5.0	0.74	J	0.26	5.0	ND	U	0.48	5.0	2.5	J	0.75	5.0	0.61	J	0.33	5.0	ND	Ui	5.0	5.0
REHR12 Comp Rep 5	ND	U	0.46	4.9	ND	U	0.28	4.9	0.41	J	0.27	4.9	ND	U	0.42	4.9	0.49	J	0.24	4.9	0.90	JX	0.26	4.9	ND	U	0.47	4.9	3.2	J	0.73	4.9	0.94	J	0.32	4.9	ND	Ui	0.39	4.9
REHR12 Comp Mean[1]	0.46				0.28				0.34				0.42				0.47				0.89				0.47				2.6				0.79				1.4			
Adjusted Concentration	1.3				0.64				0.48				0.84				0.52				0.89				1.4				2.6				0.79				1.5			
% of reference tissue	97				98				124				98				69				212				97				345				116				289			
HGIS12 Comp Rep 1	ND	U	0.47	5.0	ND	U	0.29	5.0	0.38	J	0.28	5.0	ND	U	0.43	5.0	1.0	J	0.25	5.0	0.29	J	0.26	5.0	ND	U	0.48	5.0	ND	U	0.74	5.0	0.63	J	0.33	5.0	0.93	J	0.25	5.0
HGIS12 Comp Rep 2	ND	U	0.48	5.0	ND	U	0.29	5.0	0.95	JX	0.28	5.0	ND	U	0.43	5.0	0.71	J	0.25	5.0	0.29	J	0.26	5.0	ND	U	0.48	5.0	ND	U	0.75	5.0	0.52	J	0.33	5.0	0.46	J	0.25	5.0
HGIS12 Comp Rep 3	ND	U	0.47	5.0	ND	U	0.28	5.0	ND	U	0.27	5.0	ND	U	0.43	5.0	0.35	J	0.25	5.0	0.26	J	0.26	5.0	ND	U	0.48	5.0	0.91	J	0.74	5.0	0.43	J	0.33	5.0	0.27	J	0.25	5.0
HGIS12 Comp Rep 4	ND	U	0.46	4.8	ND	U	0.28	4.8	0.53	J	0.27	4.8	ND	U	0.41	4.8	0.81	J	0.24	4.8	0.36	J	0.25	4.8	ND	U	0.46	4.8	ND	U	0.72	4.8	0.57	J	0.32	4.8	0.54	J	0.24	4.8
HGIS12 Comp Rep 5	ND	U	0.46	4.9	ND	U	0.28	4.9	0.32	J	0.27	4.9	ND	U	0.42	4.9	0.67	J	0.24	4.9	0.32	J	0.25	4.9	ND	U	0.47	4.9	2.5	J	0.73	4.9	0.47	J	0.32	4.9	0.60	J	0.25	4.9
HGIS Comp Mean[1]	0.47				0.28				0.49				0.42				0.71				0.30				0.47				1.1				0.52				0.56			
Adjusted Concentration	1.4				0.65				0.69				0.85				0.78				0.30				1.4				1.1				0.52				0.62			
% of reference tissue	99				99				176				99				103				73				99				151				77				119			
DRMY12 Comp Rep 1	ND	U	0.46	4.9	0.36	JX	0.28	4.9	0.28	J	0.27	4.9	ND	U	0.42	4.9	1.2	J	0.24	4.9	0.29	J	0.26	4.9	ND	U	0.47	4.9	0.80	J	0.73	4.9	0.50	J	0.32	4.9	0.83	J	0.25	4.9
DRMY12 Comp Rep 2	ND	U	0.47	4.9	0.33	JX	0.28	4.9	1.1	JX	0.27	4.9	ND	U	0.42	4.9	1.9	J	0.24	4.9	0.41	J	0.26	4.9	ND	U	0.47	4.9	ND	U	0.73	4.9	0.58	J	0.33	4.9	1.3	J	0.25	4.9
DRMY12 Comp Rep 3	ND	U	0.46	4.8	0.28	JX	0.28	4.8	0.34	J	0.27	4.8	ND	U	0.41	4.8	1.2	J	0.24	4.8	0.40	J	0.25	4.8	ND	U	0.46	4.8	ND	U	0.72	4.8	0.64	J	0.32	4.8	0.83	J	0.24	4.8
DRMY12 Comp Rep 4	ND	U	0.47	5.0	ND	U	0.29	5.0	0.85	JX	0.28	5.0	ND	U	0.43	5.0	1.4	J	0.25	5.0	0.38	J	0.26	5.0	ND	U	0.48	5.0	ND	U	0.74	5.0	0.56	J	0.33	5.0	0.82	J	0.25	5.0
DRMY12 Comp Rep 5	ND	U	0.47	5.0	ND	U	0.29	5.0	0.58	J	0.28	5.0	ND	U	0.43	5.0	1.6	J	0.25	5.0	0.43	J	0.26	5.0	ND	U	0.48	5.0	ND	U	0.74	5.0	0.67	J	0.33	5.0	0.94	J	0.25	5.0
DRMY12 Comp Mean[1]	0.47				0.31				0.63				0.42				1.5				0.38				0.47				0.75				0.59				0.94			
Adjusted Concentration	1.4				0.71				0.88				0.84				1.6				0.38				1.4				0.75				0.59				1.0			
% of reference tissue	98				108				227				99				212				91				99				101				87				201			

TABLE 33
Analytical Results for Wet Weight PAHs in *Neanthes virens* Tissues

Analyte:	Total LMW PAHs	Total HMW PAHs	Total PAHs	1-Methylnaphthalene^{LMW}				2-Methylnaphthalene^{LMW}				Acenaphthene^{LMW}				Acenaphthylene				Anthracene^{LMW}				Benzo(a)anthracene^{HMW}				Benzo(a)pyrene^{HMW}				Benzo(b)fluoranthene			
Sample-Replicate #	Result µg/kg	Result µg/kg	Result µg/kg	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
WLR12 Comp Rep 1	3.9	2.6	8.3	ND	U	0.54	4.9	ND	U	0.59	4.9	0.85	JX	0.23	4.9	ND	U	0.23	4.9	ND	U	0.19	4.9	0.26	J	0.19	4.9	0.41	JX	0.36	4.9	ND	U	0.33	4.9
WLR12 Comp Rep 2	5.4	2.9	10	ND	U	0.54	4.9	ND	U	0.59	4.9	2.1	JX	0.23	4.9	ND	U	0.23	4.9	ND	U	0.19	4.9	0.29	J	0.19	4.9	ND	U	0.36	4.9	ND	U	0.33	4.9
WLR12 Comp Rep 3	4.0	2.5	8.2	ND	U	0.52	4.7	ND	U	0.56	4.7	1.0	JX	0.22	4.7	ND	U	0.22	4.7	ND	U	0.18	4.7	0.45	JX	0.18	4.7	0.41	J	0.35	4.7	ND	U	0.31	4.7
WLR12 Comp Rep 4	4.3	3.5	9.5	ND	U	0.52	4.8	ND	U	0.57	4.8	1.3	JX	0.23	4.8	ND	U	0.22	4.8	ND	U	0.18	4.8	ND	U	0.18	4.8	ND	U	0.35	4.8	ND	U	0.32	4.8
WLR12 Comp Rep 5	3.7	2.6	8.2	ND	U	0.55	5.0	ND	U	0.60	5.0	0.72	JX	0.24	5.0	ND	U	0.23	5.0	ND	U	0.19	5.0	ND	U	0.19	5.0	ND	U	0.37	5.0	ND	U	0.33	5.0
WLR12 Comp Mean[1]	4.2	2.8	8.8	0.53				0.58				1.2				0.23				0.19				0.27				0.38				0.32			
Adjusted Concentration	--	--	--	0.53				0.58				1.2				0.23				0.19				0.47				0.80				0.75			
% of reference tissue	106	94	100	85				98				163				95				84				37				96				98			
WUTB12 Comp Rep 1	5.2	3.4	11	0.59	J	0.55	5.0	ND	U	0.60	5.0	2.1	JX	0.24	5.0	ND	U	0.23	5.0	ND	U	0.19	5.0	0.30	J	0.19	5.0	ND	U	0.36	5.0	ND	U	0.33	5.0
WUTB12 Comp Rep 2	4.5	3.5	9.8	ND	U	0.53	4.8	ND	U	0.57	4.8	1.5	JX	0.23	4.8	ND	U	0.22	4.8	ND	U	0.19	4.8	0.21	J	0.19	4.8	ND	U	0.35	4.8	ND	U	0.32	4.8
WUTB12 Comp Rep 3	4.9	3.9	11	ND	U	0.54	4.9	ND	U	0.58	4.9	1.5	JX	0.23	4.9	ND	U	0.23	4.9	ND	U	0.19	4.9	0.25	J	0.19	4.9	ND	U	0.36	4.9	ND	U	0.32	4.9
WUTB12 Comp Rep 4	5.5	3.4	11	ND	U	0.55	5.0	ND	U	0.60	5.0	1.0	JX	0.24	5.0	0.34	J	0.23	5.0	ND	U	0.19	5.0	0.38	J	0.19	5.0	ND	U	0.37	5.0	ND	U	0.33	5.0
WUTB12 Comp Rep 5	3.8	4.3	14	ND	U	0.51	4.7	ND	U	0.56	4.7	1.2	JX	0.22	4.7	ND	U	0.22	4.7	ND	U	0.18	4.7	0.23	J	0.18	4.7	0.53	JX	0.34	4.7	0.72	JX	0.31	4.7
WUTB12 Comp Mean[1]	4.8	3.7	11	0.54				0.58				1.5				0.25				0.19				0.27				0.39				0.40			
Adjusted Concentration	--	--	--	0.54				0.58				1.5				0.25				0.19				0.47				0.83				0.93			
% of reference tissue	118	122	126	86				98				199				104				85				37				99				122			
DANI12 Comp Rep 1	5.6	3.7	11	ND	U	0.52	4.8	ND	U	0.57	4.8	1.8	JX	0.23	4.8	ND	U	0.22	4.8	0.21	JX	0.18	4.8	0.26	J	0.18	4.8	ND	Ui	0.53	4.8	ND	U	0.32	4.8
DANI12 Comp Rep 2	6.6	2.8	11	ND	U	0.54	4.9	ND	U	0.59	4.9	2.4	JX	0.23	4.9	ND	U	0.23	4.9	ND	U	0.19	4.9	0.57	JX	0.19	4.9	ND	Ui	0.58	4.9	ND	U	0.33	4.9
DANI12 Comp Rep 3	7.5	3.1	12	ND	U	0.55	5.0	ND	U	0.60	5.0	3.3	JX	0.24	5.0	ND	U	0.23	5.0	ND	U	0.19	5.0	0.24	J	0.19	5.0	ND	Ui	0.49	5.0	ND	U	0.33	5.0
DANI12 Comp Rep 4	5.6	3.0	10	ND	U	0.51	4.7	ND	U	0.56	4.7	2.1	JX	0.22	4.7	ND	U	0.22	4.7	ND	U	0.18	4.7	0.25	J	0.18	4.7	ND	Ui	0.46	4.7	ND	U	0.31	4.7
DANI12 Comp Rep 5	5.6	3.0	10	ND	U	0.54	4.9	ND	U	0.59	4.9	2.0	JX	0.23	4.9	0.28	J	0.23	4.9	0.22	J	0.19	4.9	0.36	J	0.19	4.9	ND	Ui	0.51	4.9	ND	U	0.33	4.9
DANI12 Comp Mean[1]	6.2	3.1	11	0.53				0.58				2.3				0.24				0.20				0.34				0.51				0.32			
Adjusted Concentration	--	--	--	0.53				0.58				2.3				0.24				0.20				0.57				1.1				0.75			
% of reference tissue	154	103	125	84				98				316				99				89				45				130				98			
CCRK12 Comp Rep 1	7.1	3.9	13	0.58	J	0.55	5.0	ND	U	0.60	5.0	2.8	JX	0.24	5.0	ND	U	0.23	5.0	0.29	JX	0.19	5.0	0.77	JX	0.19	5.0	ND	Ui	0.48	5.0	ND	U	0.33	5.0
CCRK12 Comp Rep 2	5.8	5.3	13	0.54	J	0.52	4.7	ND	U	0.57	4.7	2.2	JX	0.23	4.7	ND	U	0.22	4.7	ND	U	0.18	4.7	0.91	JX	0.18	4.7	ND	Ui	0.46	4.7	ND	U	0.31	4.7
CCRK12 Comp Rep 3	5.1	3.7	11	0.57	J	0.55	5.0	ND	U	0.59	5.0	1.1	JX	0.24	5.0	ND	U	0.23	5.0	ND	U	0.19	5.0	0.76	JX	0.19	5.0	ND	Ui	0.42	5.0	ND	U	0.33	5.0
CCRK12 Comp Rep 4	8.3	6.3	16	0.66	J	0.51	4.6	ND	U	0.55	4.6	3.3	JX	0.22	4.6	0.23	J	0.21	4.6	0.25	JX	0.18	4.6	0.34	J	0.18	4.6	ND	Ui	0.52	4.6	ND	U	0.31	4.6
CCRK12 Comp Rep 5	7.2	3.4	12	0.69	J	0.54	4.9	ND	U	0.59	4.9	2.3	JX	0.23	4.9	ND	U	0.23	4.9	0.23	JX	0.19	4.9	0.28	J	0.19	4.9	ND	Ui	0.56	4.9	ND	U	0.32	4.9
CCRK12 Comp Mean[1]	6.7	4.5	13	0.61				0.58				2.3				0.23				0.23				0.61				0.49				0.32			
Adjusted Concentration	--	--	--	0.61				0.58				2.3				0.23				0.23				1.0				1.0				0.74			
% of reference tissue	167	151	147	97				97				319				96				103				83				123				97			
UH12 Comp Rep 1	12	6.5	20	0.64	J	0.54	4.9	ND	U	0.59	4.9	5.7	X	0.23	4.9	0.27	J	0.23	4.9	ND	U	0.19	4.9	0.36	J	0.19	4.9	0.72	JX	0.36	4.9	ND	U	0.33	4.9
UH12 Comp Rep 2	9.5	3.7	15	0.59	J	0.51	4.7	ND	U	0.56	4.7	3.4	JX	0.22	4.7	ND	U	0.22	4.7	ND	U	0.18	4.7	0.24	J	0.18	4.7	ND	U	0.34	4.7	ND	U	0.31	4.7
UH12 Comp Rep 3	12	3.6	18	0.79	J	0.54	4.9	0.70	J	0.59	4.9	5.1	X	0.24	4.9	0.35	J	0.23	4.9	0.28	J	0.19	4.9	0.30	J	0.19	4.9	0.46	JX	0.36	4.9	ND	U	0.33	4.9
UH12 Comp Rep 4	9.1	3.5	14	0.62	J	0.51	4.7	ND	U	0.56	4.7	3.5	JX	0.22	4.7	0.22	J	0.22	4.7	ND	U	0.18	4.7	0.24	J	0.18	4.7	ND	U	0.34	4.7	ND	U	0.31	4.7
UH12 Comp Rep 5	5.6	3.2	11	ND	U	0.52	4.7	ND	U	0.56	4.7	2.3	JX	0.22	4.7	ND	U	0.22	4.7	ND	U	0.18	4.7	0.27	J	0.18	4.7	ND	U	0.34	4.7	ND	U	0.31	4.7
UH12 Comp Mean[1]	9.6	4.1	15	0.63				0.59				4.0				0.26				0.20				0.28				0.44				0.32			
Adjusted Concentration	--	--	--	0.63				0.59				4.0				0.26				0.20				0.48				0.92				0.73			
% of reference tissue	239	137	176	100				100				545				108				91				38				111				96			
ORDT12 Comp Rep 1	5.8	4.7	12	ND	U	0.54	4.9	ND	U	0.59	4.9	2.1	JX	0.23	4.9	ND	U	0.23	4.9	0.25	JX	0.19	4.9	0.32	J	0.19	4.9	ND	Ui	0.53	4.9	ND	U	0.33	4.9
ORDT12 Comp Rep 2	5.1	4.5	11	ND	U	0.55	5.0	ND	U	0.60	5.0	1.7	JX	0.24	5.0	ND	U	0.23	5.0	ND	U	0.19	5.0	0.34	J	0.19	5.0	ND	Ui	0.42	5.0	ND	U	0.33	5.0
ORDT12 Comp Rep 3	6.4	4.6	13	0.57	J	0.51	4.6	ND	U	0.56	4.6	2.6	JX	0.22	4.6	ND	U	0.22	4.6	0.22	JX	0.18	4.6	0.32	J	0.18	4.6	ND	Ui	0.60	4.6	ND	U	0.31	4.6
ORDT12 Comp Rep 4	6.3	3.7	12	ND	U	0.53	4.8	ND	U	0.58	4.8	2.5	JX	0.23	4.8	ND	U	0.23	4.8	0.21	JX	0.19	4.8	0.29	J	0.19	4.8	ND	Ui	0.55	4.8	ND	U	0.32	4.8
ORDT12 Comp Rep 5	6.4	4.2	12	0.67	J	0.53	4.8	ND	U	0.58	4.8	2.3	JX	0.23	4.8	ND	U	0.23	4.8	0.19	JX	0.19	4.8	0.29	J	0.19	4.8	ND	Ui	0.44	4.8	ND	U	0.32	4.8
ORDT12 Comp Mean[1]	6.0	4.3	12	0.57				0.58				2.2				0.23				0.21				0.31				0.51				0.32			
Adjusted Concentration	--	--	--	0.57				0.58				2.2				0.23				0.21				0.53				1.1				0.74			
% of reference tissue	149	144	137	91				98				305				96				95				42				128				98			

TABLE 33
Analytical Results for Wet Weight PAHs in *Neanthes virens* Tissues

Analyte:	Benzo(g,h,i)perylene				Benzo(k)fluoranthene				Chrysene[HMW]				Dibenzo(a,h)anthracene[HMW]				Fluoranthene[HMW]				Fluorene[LMW]				Indeno(1,2,3-cd)pyrene				Naphthalene[LMW]				Phenanthrene[LMW]				Pyrene[HMW]			
Sample-Replicate #	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
WLR12 Comp Rep 1	ND	U	0.47	4.9	ND	U	0.28	4.9	0.34	J	0.27	4.9	ND	U	0.42	4.9	0.75	J	0.24	4.9	0.41	J	0.26	4.9	ND	U	0.47	4.9	ND	U	0.73	4.9	0.61	J	0.33	4.9	0.42	J	0.25	4.9
WLR12 Comp Rep 2	ND	U	0.47	4.9	ND	U	0.28	4.9	0.33	J	0.27	4.9	ND	U	0.42	4.9	0.99	J	0.24	4.9	0.51	J	0.26	4.9	ND	U	0.47	4.9	ND	U	0.74	4.9	0.72	J	0.33	4.9	0.48	J	0.25	4.9
WLR12 Comp Rep 3	ND	U	0.45	4.7	ND	U	0.27	4.7	ND	UX	0.26	4.7	ND	U	0.41	4.7	0.65	J	0.23	4.7	0.42	J	0.25	4.7	ND	U	0.45	4.7	ND	U	0.70	4.7	0.61	J	0.31	4.7	0.31	J	0.24	4.7
WLR12 Comp Rep 4	ND	U	0.45	4.8	ND	U	0.27	4.8	0.81	J	0.26	4.8	ND	U	0.41	4.8	1.1	J	0.24	4.8	0.36	J	0.25	4.8	ND	U	0.46	4.8	ND	U	0.71	4.8	0.61	J	0.32	4.8	0.69	J	0.24	4.8
WLR12 Comp Rep 5	ND	U	0.48	5.0	0.41	JX	0.29	5.0	0.41	J	0.28	5.0	ND	U	0.43	5.0	0.70	J	0.25	5.0	0.34	J	0.26	5.0	ND	U	0.48	5.0	ND	U	0.75	5.0	0.53	J	0.33	5.0	0.49	J	0.25	5.0
WLR12 Comp Mean[1]	0.46				0.30				0.43				0.42				0.84				0.41				0.47				0.73				0.62				0.48			
Adjusted Concentration	1.3				0.69				0.60				0.84				0.92				0.41				1.4				0.73				0.62				0.53			
% of reference tissue	98				106				155				98				122				98				97				98				91				102			
WUTB12 Comp Rep 1	ND	U	0.47	5.0	0.56	JX	0.29	5.0	0.43	J	0.28	5.0	ND	U	0.43	5.0	1.1	J	0.25	5.0	0.42	J	0.26	5.0	ND	U	0.48	5.0	ND	U	0.74	5.0	0.53	J	0.33	5.0	0.74	J	0.25	5.0
WUTB12 Comp Rep 2	ND	U	0.46	4.8	ND	U	0.28	4.8	0.38	J	0.27	4.8	ND	U	0.41	4.8	1.4	J	0.24	4.8	0.42	J	0.25	4.8	ND	U	0.46	4.8	ND	U	0.72	4.8	0.58	J	0.32	4.8	0.77	J	0.24	4.8
WUTB12 Comp Rep 3	ND	U	0.46	4.9	0.59	JX	0.28	4.9	0.49	J	0.27	4.9	ND	U	0.42	4.9	1.5	J	0.24	4.9	0.53	J	0.26	4.9	ND	U	0.47	4.9	ND	U	0.73	4.9	0.78	J	0.32	4.9	0.85	J	0.25	4.9
WUTB12 Comp Rep 4	ND	U	0.48	5.0	ND	U	0.29	5.0	0.34	J	0.28	5.0	ND	U	0.43	5.0	1.2	J	0.25	5.0	0.35	J	0.26	5.0	ND	U	0.48	5.0	2.2	J	0.75	5.0	0.59	J	0.33	5.0	0.64	J	0.25	5.0
WUTB12 Comp Rep 5	ND	U	0.45	4.7	3.6	JX	0.27	4.7	0.30	J	0.26	4.7	ND	U	0.40	4.7	1.5	J	0.23	4.7	ND	U	0.25	4.7	ND	U	0.45	4.7	ND	U	0.70	4.7	0.40	J	0.31	4.7	1.3	JX	0.24	4.7
WUTB12 Comp Mean[1]	0.46				1.1				0.39				0.42				1.3				0.39				0.47				1.0				0.58				0.86			
Adjusted Concentration	1.3				2.4				0.54				0.84				1.5				0.39				1.4				1.0				0.58				0.95			
% of reference tissue	98				372				140				98				195				94				98				137				85				183			
DANI12 Comp Rep 1	ND	U	0.45	4.8	ND	U	0.27	4.8	0.49	J	0.26	4.8	ND	U	0.41	4.8	1.1	J	0.24	4.8	0.82	JX	0.25	4.8	ND	U	0.46	4.8	1.1	J	0.71	4.8	0.61	J	0.32	4.8	0.90	J	0.24	4.8
DANI12 Comp Rep 2	ND	U	0.47	4.9	ND	U	0.28	4.9	ND	UX	0.27	4.9	ND	U	0.42	4.9	0.53	J	0.24	4.9	1.0	JX	0.26	4.9	ND	U	0.47	4.9	1.4	J	0.73	4.9	0.50	J	0.33	4.9	0.40	J	0.25	4.9
DANI12 Comp Rep 3	ND	U	0.47	5.0	ND	U	0.29	5.0	0.39	J	0.28	5.0	ND	U	0.43	5.0	0.88	J	0.25	5.0	1.3	JX	0.26	5.0	ND	U	0.48	5.0	0.85	J	0.75	5.0	0.70	J	0.33	5.0	0.69	J	0.25	5.0
DANI12 Comp Rep 4	ND	U	0.44	4.7	ND	U	0.27	4.7	0.31	J	0.26	4.7	ND	U	0.40	4.7	0.84	J	0.23	4.7	0.89	JX	0.24	4.7	ND	U	0.45	4.7	0.81	J	0.70	4.7	0.53	J	0.31	4.7	0.69	J	0.24	4.7
DANI12 Comp Rep 5	ND	U	0.47	4.9	ND	U	0.28	4.9	0.30	J	0.27	4.9	ND	U	0.42	4.9	0.75	J	0.24	4.9	0.80	JX	0.26	4.9	ND	U	0.47	4.9	ND	U	0.74	4.9	0.68	J	0.33	4.9	0.65	J	0.25	4.9
DANI12 Comp Mean[1]	0.46				0.28				0.35				0.42				0.82				0.96				0.47				0.98				0.60				0.67			
Adjusted Concentration	1.3				0.64				0.49				0.83				0.90				0.96				1.4				0.98				0.60				0.73			
% of reference tissue	97				97				127				97				119				230				97				132				89				142			
CCRK12 Comp Rep 1	ND	U	0.47	5.0	ND	U	0.29	5.0	ND	UX	0.28	5.0	ND	U	0.43	5.0	0.96	J	0.25	5.0	1.2	JX	0.26	5.0	ND	U	0.48	5.0	1.0	J	0.74	5.0	0.67	J	0.33	5.0	0.98	J	0.25	5.0
CCRK12 Comp Rep 2	ND	U	0.45	4.7	ND	U	0.27	4.7	ND	UX	0.26	4.7	ND	U	0.41	4.7	1.5	J	0.23	4.7	0.89	JX	0.25	4.7	ND	U	0.45	4.7	ND	U	0.71	4.7	0.73	J	0.31	4.7	1.8	J	0.24	4.7
CCRK12 Comp Rep 3	ND	U	0.47	5.0	ND	U	0.29	5.0	ND	UX	0.28	5.0	ND	U	0.43	5.0	0.96	J	0.25	5.0	0.62	JX	0.26	5.0	ND	U	0.48	5.0	1.2	J	0.74	5.0	0.83	J	0.33	5.0	0.89	J	0.25	5.0
CCRK12 Comp Rep 4	ND	U	0.44	4.6	ND	U	0.26	4.6	0.46	J	0.26	4.6	ND	U	0.40	4.6	2.3	J	0.23	4.6	1.4	JX	0.24	4.6	ND	U	0.44	4.6	1.2	J	0.69	4.6	0.90	J	0.31	4.6	2.3	J	0.23	4.6
CCRK12 Comp Rep 5	ND	U	0.47	4.9	ND	U	0.28	4.9	ND	U	0.27	4.9	ND	U	0.42	4.9	0.84	J	0.24	4.9	1.2	JX	0.26	4.9	ND	U	0.47	4.9	1.4	J	0.73	4.9	0.79	J	0.32	4.9	1.0	J	0.25	4.9
CCRK12 Comp Mean[1]	0.46				0.28				0.31				0.42				1.3				1.1				0.46				1.1				0.78				1.4			
Adjusted Concentration	1.3				0.64				0.43				0.84				1.4				1.1				1.4				1.1				0.78				1.5			
% of reference tissue	97				97				112				98				191				254				97				149				115				297			
UH12 Comp Rep 1	ND	U	0.47	4.9	ND	U	0.28	4.9	0.44	J	0.27	4.9	ND	U	0.42	4.9	2.1	J	0.24	4.9	0.50	J	0.26	4.9	ND	U	0.47	4.9	3.0	J	0.74	4.9	0.91	J	0.33	4.9	2.5	JX	0.25	4.9
UH12 Comp Rep 2	ND	U	0.44	4.7	ND	U	0.27	4.7	0.35	J	0.26	4.7	ND	U	0.40	4.7	1.4	J	0.23	4.7	0.50	J	0.24	4.7	ND	U	0.45	4.7	3.5	J	0.70	4.7	0.72	J	0.31	4.7	1.0	JX	0.24	4.7
UH12 Comp Rep 3	ND	U	0.47	4.9	ND	U	0.28	4.9	0.32	J	0.27	4.9	ND	U	0.43	4.9	1.2	J	0.24	4.9	0.65	J	0.26	4.9	ND	U	0.48	4.9	3.9	J	0.74	4.9	0.93	J	0.33	4.9	0.88	JX	0.25	4.9
UH12 Comp Rep 4	ND	U	0.44	4.7	ND	U	0.27	4.7	0.37	J	0.26	4.7	ND	U	0.40	4.7	1.2	J	0.23	4.7	0.51	J	0.25	4.7	ND	U	0.45	4.7	3.0	J	0.70	4.7	0.74	J	0.31	4.7	0.96	JX	0.24	4.7
UH12 Comp Rep 5	ND	U	0.45	4.7	ND	U	0.27	4.7	0.31	J	0.26	4.7	ND	U	0.41	4.7	1.0	J	0.23	4.7	0.52	J	0.25	4.7	ND	U	0.45	4.7	ND	U	0.70	4.7	0.86	J	0.31	4.7	0.88	JX	0.24	4.7
UH12 Comp Mean[1]	0.45				0.27				0.36				0.41				1.4				0.54				0.46				2.8				0.83				1.2			
Adjusted Concentration	1.3				0.63				0.50				0.82				1.5				0.54				1.4				2.8				0.83				1.4			
% of reference tissue	96				96				129				96				201				128				96				380				122				265			
ORDT12 Comp Rep 1	ND	U	0.47	4.9	ND	U	0.28	4.9	0.59	J	0.27	4.9	ND	U	0.42	4.9	1.6	J	0.24	4.9	0.87	JX	0.26	4.9	ND	U	0.47	4.9	0.83	J	0.73	4.9	0.57	J	0.33	4.9	1.2	J	0.25	4.9
ORDT12 Comp Rep 2	ND	U	0.47	5.0	ND	U	0.29	5.0	0.59	J	0.28	5.0	ND	U	0.43	5.0	1.6	J	0.25	5.0	0.63	JX	0.26	5.0	ND	U	0.48	5.0	0.83	J	0.74	5.0	0.55	J	0.33	5.0	1.1	J	0.25	5.0
ORDT12 Comp Rep 3	ND	U	0.44	4.6	ND	U	0.27	4.6	0.48	J	0.26	4.6	ND	U	0.40	4.6	1.5	J	0.23	4.6	1.1	JX	0.24	4.6	ND	U	0.45	4.6	0.81	J	0.69	4.6	0.58	J	0.31	4.6	1.3	J	0.23	4.6
ORDT12 Comp Rep 4	ND	U	0.46	4.8	ND	U	0.28	4.8	0.46	J	0.27	4.8	ND	U	0.42	4.8	1.2	J	0.24	4.8	0.97	JX	0.25	4.8	ND	U	0.47	4.8	0.98	J	0.72	4.8	0.50	J	0.32	4.8	0.80	J	0.24	4.8
ORDT12 Comp Rep 5	ND	U	0.46	4.8	ND	U	0.28	4.8	0.53	J	0.27	4.8	ND	U	0.42	4.8	1.4	J	0.24	4.8	1.0	JX	0.25	4.8	ND	U	0.47	4.8	1.1	J	0.72	4.8	0.58	J	0.32	4.8	1.1	J	0.24	4.8
ORDT12 Comp Mean[1]	0.46				0.28				0.53				0.42				1.5				0.91				0.47				0.91				0.56				1.1			
Adjusted Concentration	1.3				0.64				0.74				0.84				1.6				0.91				1.4				0.91				0.56				1.2			
% of reference tissue	97				98				191				98				212				219				98				123				82				234			

TABLE 33

Analytical Results for Wet Weight PAHs in *Neanthes virens* Tissues

Analyte:	Total LMW PAHs	Total HMW PAHs	Total PAHs	1-Methylnaphthalene[LMW]				2-Methylnaphthalene[LMW]				Acenaphthene[LMW]				Acenaphthylene				Anthracene[LMW]				Benzo(a)anthracene[HMW]				Benzo(a)pyrene[HMW]				Benzo(b)fluoranthene			
Sample-Replicate #	Result µg/kg	Result µg/kg	Result µg/kg	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
BENW12 Comp Rep 1	4.9	2.1	8.8	ND	U	0.55	5.0	ND	U	0.59	5.0	1.5	JX	0.24	5.0	ND	U	0.23	5.0	ND	U	0.19	5.0	0.29	J	0.19	5.0	ND	U	0.36	5.0	ND	U	0.33	5.0
BENW12 Comp Rep 2	5.3	7.8	15	0.54	J	0.53	4.8	ND	U	0.58	4.8	1.4	JX	0.23	4.8	0.22	J	0.22	4.8	ND	U	0.19	4.8	0.31	J	0.19	4.8	ND	Ui	4.8	4.8	ND	U	0.32	4.8
BENW12 Comp Rep 3	5.3	2.8	9.8	0.55	J	0.54	5.0	ND	U	0.59	5.0	1.5	JX	0.24	5.0	ND	U	0.23	5.0	ND	U	0.19	5.0	0.65	JX	0.19	5.0	ND	Ui	0.44	5.0	ND	U	0.33	5.0
BENW12 Comp Rep 4	6.4	2.5	11	0.58	J	0.54	4.9	ND	U	0.59	4.9	1.6	JX	0.23	4.9	ND	U	0.23	4.9	ND	U	0.19	4.9	0.36	JX	0.19	4.9	ND	Ui	0.64	4.9	ND	U	0.33	4.9
BENW12 Comp Rep 5	5.5	2.3	9.6	0.60	J	0.55	5.0	ND	U	0.59	5.0	1.7	JX	0.24	5.0	0.30	J	0.23	5.0	ND	U	0.19	5.0	0.38	J	0.19	5.0	ND	Ui	0.37	5.0	ND	U	0.33	5.0
BENW12 Comp Mean[1]	5.4	3.5	11	0.56				0.59				1.5				0.24				0.19				0.40				1.3				0.33			
Adjusted Concentration	--	--	--	0.56				0.59				1.5				0.24				0.19				0.68				2.8				0.75			
% of reference tissue	135	116	122	90				99				210				102				86				54				334				99			
HGIW12 Comp Rep 1	5.4	4.9	12	0.58	J	0.55	5.0	ND	U	0.60	5.0	1.4	JX	0.24	5.0	ND	U	0.23	5.0	ND	U	0.19	5.0	0.92	JX	0.19	5.0	ND	Ui	0.39	5.0	ND	U	0.33	5.0
HGIW12 Comp Rep 2	4.4	3.0	9.1	0.54	J	0.52	4.7	ND	U	0.57	4.7	1.0	JX	0.23	4.7	ND	U	0.22	4.7	ND	U	0.18	4.7	0.30	J	0.18	4.7	ND	Ui	0.42	4.7	ND	U	0.31	4.7
HGIW12 Comp Rep 3	4.8	3.4	10	ND	U	0.55	5.0	ND	U	0.60	5.0	0.98	JX	0.24	5.0	ND	U	0.23	5.0	0.20	JX	0.19	5.0	0.36	J	0.19	5.0	ND	U	0.37	5.0	ND	U	0.33	5.0
HGIW12 Comp Rep 4	4.4	3.4	9.5	ND	U	0.52	4.7	ND	U	0.57	4.7	1.0	JX	0.22	4.7	ND	U	0.22	4.7	ND	U	0.18	4.7	0.30	J	0.18	4.7	ND	U	0.35	4.7	ND	U	0.31	4.7
HGIW12 Comp Rep 5	4.6	3.0	9.4	0.60	J	0.55	5.0	ND	U	0.60	5.0	0.93	JX	0.24	5.0	ND	U	0.23	5.0	ND	U	0.19	5.0	0.22	J	0.19	5.0	ND	U	0.37	5.0	ND	U	0.33	5.0
HGIW12 Comp Mean[1]	4.7	3.5	10	0.56				0.59				1.1				0.23				0.19				0.42				0.38				0.32			
Adjusted Concentration	--	--	--	0.56				0.59				1.1				0.23				0.19				0.71				0.80				0.74			
% of reference tissue	117	118	113	89				99				145				95				85				57				96				98			
WRTB12 Comp Rep 1	5.2	5.2	12	ND	U	0.54	4.9	ND	U	0.59	4.9	1.2	JX	0.23	4.9	ND	U	0.23	4.9	ND	U	0.19	4.9	ND	UX	0.19	4.9	ND	Ui	0.64	4.9	ND	U	0.32	4.9
WRTB12 Comp Rep 2	5.1	3.6	10	ND	U	0.55	5.0	ND	U	0.60	5.0	1.5	JX	0.24	5.0	ND	U	0.23	5.0	ND	U	0.19	5.0	0.33	J	0.19	5.0	ND	U	0.37	5.0	ND	U	0.33	5.0
WRTB12 Comp Rep 3	5.3	4.3	11	0.58	J	0.54	5.0	ND	U	0.59	5.0	1.2	JX	0.24	5.0	ND	U	0.23	5.0	0.19	JX	0.19	5.0	0.33	J	0.19	5.0	ND	Ui	0.38	5.0	ND	U	0.33	5.0
WRTB12 Comp Rep 4	5.5	4.1	11	0.59	J	0.55	5.0	ND	U	0.60	5.0	1.1	JX	0.24	5.0	0.24	J	0.23	5.0	ND	U	0.19	5.0	0.34	J	0.19	5.0	ND	Ui	0.42	5.0	ND	U	0.33	5.0
WRTB12 Comp Rep 5	5.3	3.7	11	0.57	J	0.51	4.6	ND	U	0.55	4.6	1.2	JX	0.22	4.6	ND	U	0.22	4.6	ND	U	0.18	4.6	0.33	J	0.18	4.6	ND	Ui	0.40	4.6	ND	U	0.31	4.6
WRTB12 Comp Mean[1]	5.3	4.2	11	0.57				0.59				1.2				0.23				0.19				0.30				0.44				0.32			
Adjusted Concentration	--	--	--	0.57				0.59				1.2				0.23				0.19				0.52				0.93				0.75			
% of reference tissue	131	139	127	90				98				169				97				85				41				**112**				98			
DANW12 Comp Rep 1	4.3	2.2	8.3	ND	U	0.55	5.0	ND	U	0.60	5.0	0.98	JX	0.24	5.0	ND	U	0.23	5.0	ND	U	0.19	5.0	0.27	J	0.19	5.0	ND	U	0.36	5.0	ND	U	0.33	5.0
DANW12 Comp Rep 2	4.0	2.9	8.6	ND	U	0.53	4.8	ND	U	0.57	4.8	0.74	JX	0.23	4.8	ND	U	0.22	4.8	ND	U	0.18	4.8	0.87	JX	0.18	4.8	ND	U	0.35	4.8	ND	U	0.32	4.8
DANW12 Comp Rep 3	5.0	3.3	10	0.57	J	0.54	4.9	ND	U	0.59	4.9	1.1	JX	0.23	4.9	ND	U	0.23	4.9	ND	U	0.19	4.9	0.32	J	0.19	4.9	ND	Ui	0.49	4.9	ND	U	0.33	4.9
DANW12 Comp Rep 4	5.4	2.3	9.4	0.55	J	0.53	4.9	ND	U	0.58	4.9	1.3	JX	0.23	4.9	ND	U	0.23	4.9	0.22	JX	0.19	4.9	0.44	J	0.19	4.9	ND	U	0.36	4.9	ND	U	0.32	4.9
DANW12 Comp Rep 5	6.2	2.2	10	0.65	J	0.55	5.0	ND	U	0.60	5.0	1.7	JX	0.24	5.0	ND	U	0.23	5.0	ND	U	0.19	5.0	0.26	J	0.19	5.0	ND	U	0.37	5.0	ND	U	0.33	5.0
DANW12 Comp Mean[1]	5.0	2.6	9.3	0.57				0.59				1.2				0.23				0.19				0.43				0.39				0.33			
Adjusted Concentration	--	--	--	0.57				0.59				1.2				0.23				0.19				0.73				0.81				0.75			
% of reference tissue	123	86	106	90				99				159				96				87				58				97				99			
WLRW12 Comp Rep 1	5.8	3.1	11	ND	U	0.55	5.0	ND	U	0.60	5.0	1.8	JX	0.24	5.0	0.26	J	0.23	5.0	0.19	JX	0.19	5.0	1.0	JX	0.19	5.0	ND	U	0.36	5.0	ND	U	0.33	5.0
WLRW12 Comp Rep 2	5.1	2.6	9.4	0.54	J	0.53	4.8	ND	U	0.58	4.8	0.97	JX	0.23	4.8	ND	U	0.22	4.8	ND	U	0.19	4.8	0.30	J	0.19	4.8	ND	U	0.35	4.8	ND	U	0.32	4.8
WLRW12 Comp Rep 3	5.4	2.5	9.8	ND	U	0.55	5.0	ND	U	0.60	5.0	1.3	JX	0.24	5.0	ND	U	0.23	5.0	ND	U	0.19	5.0	0.67	JX	0.19	5.0	ND	U	0.37	5.0	ND	U	0.33	5.0
WLRW12 Comp Rep 4	4.7	2.6	9.0	ND	U	0.51	4.7	ND	U	0.56	4.7	0.85	JX	0.22	4.7	ND	U	0.22	4.7	ND	U	0.18	4.7	0.35	J	0.18	4.7	ND	Ui	0.36	4.7	ND	U	0.31	4.7
WLRW12 Comp Rep 5	5.4	3.6	11	0.61	J	0.54	4.9	ND	U	0.59	4.9	1.2	JX	0.23	4.9	ND	U	0.23	4.9	0.19	JX	0.19	4.9	0.32	J	0.19	4.9	ND	U	0.36	4.9	ND	U	0.33	4.9
WLRW12 Comp Mean[1]	5.3	2.9	10	0.55				0.59				1.2				0.23				0.19				0.53				0.36				0.32			
Adjusted Concentration	--	--	--	0.55				0.59				1.2				0.23				0.19				0.90				0.76				0.75			
% of reference tissue	132	96	113	88				98				167				97				85				71				91				98			
NCW12 Comp Rep 1	8.1	4.2	14	0.72	J	0.55	5.0	0.72	J	0.60	5.0	3.1	JX	0.24	5.0	0.37	J	0.23	5.0	0.59	J	0.19	5.0	0.75	J	0.19	5.0	0.45	JX	0.36	5.0	ND	U	0.33	5.0
NCW12 Comp Rep 2	7.1	5.1	14	0.55	J	0.55	5.0	ND	U	0.60	5.0	3.8	JX	0.24	5.0	ND	U	0.23	5.0	ND	U	0.19	5.0	ND	UX	0.19	5.0	ND	U	0.37	5.0	ND	U	0.33	5.0
NCW12 Comp Rep 3	6.2	3.8	12	0.58	J	0.54	4.9	ND	U	0.59	4.9	2.7	JX	0.23	4.9	0.41	J	0.23	4.9	0.21	J	0.19	4.9	ND	UX	0.19	4.9	ND	U	0.36	4.9	ND	U	0.33	4.9
NCW12 Comp Rep 4	6.6	4.6	13	0.60	J	0.55	5.0	ND	U	0.60	5.0	2.9	JX	0.24	5.0	ND	Ui	0.46	5.0	0.32	J	0.19	5.0	ND	U	0.19	5.0	ND	U	0.37	5.0	ND	U	0.33	5.0
NCW12 Comp Rep 5	7.0	5.9	15	0.54	J	0.53	4.8	ND	U	0.58	4.8	3.5	JX	0.23	4.8	ND	U	0.22	4.8	ND	U	0.19	4.8	ND	UX	0.19	4.8	ND	U	0.35	4.8	ND	U	0.32	4.8
NCW12 Comp Mean[1]	7.0	4.7	14	0.60				0.62				3.2				0.34				0.30				0.30				0.38				0.33			
Adjusted Concentration	--	--	--	0.60				0.62				3.2				0.34				0.30				0.51				0.80				0.75			
% of reference tissue	174	157	154	95				104				436				142				135				41				96				99			

TABLE 33
Analytical Results for Wet Weight PAHs in *Neanthes virens* Tissues

Analyte:	Benzo(g,h,i)perylene				Benzo(k)fluoranthene				Chrysene^{HMW}				Dibenzo(a,h)anthracene^{HMW}				Fluoranthene^{HMW}				Fluorene^{LMW}				Indeno(1,2,3-cd)pyrene				Naphthalene^{LMW}				Phenanthrene^{LMW}				Pyrene^{HMW}			
Sample-Replicate #	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**
BENW12 Comp Rep 1	ND	U	0.47	5.0	ND	U	0.28	5.0	ND	U	0.28	5.0	ND	U	0.43	5.0	0.47	J	0.25	5.0	0.49	JX	0.26	5.0	ND	U	0.48	5.0	0.92	J	0.74	5.0	0.62	J	0.33	5.0	0.31	J	0.25	5.0
BENW12 Comp Rep 2	ND	U	0.46	4.8	ND	U	0.28	4.8	0.43	J	0.27	4.8	ND	U	0.41	4.8	0.84	J	0.24	4.8	0.63	JX	0.25	4.8	ND	U	0.46	4.8	1.2	J	0.72	4.8	0.72	J	0.32	4.8	1.0	J	0.24	4.8
BENW12 Comp Rep 3	ND	U	0.47	5.0	ND	U	0.28	5.0	ND	UX	0.27	5.0	ND	U	0.43	5.0	0.52	J	0.25	5.0	0.47	JX	0.26	5.0	ND	U	0.48	5.0	1.3	J	0.74	5.0	0.65	J	0.33	5.0	0.44	J	0.25	5.0
BENW12 Comp Rep 4	ND	U	0.47	4.9	ND	U	0.28	4.9	ND	UX	0.27	4.9	ND	U	0.42	4.9	0.50	J	0.24	4.9	0.65	JX	0.26	4.9	ND	U	0.47	4.9	2.2	J	0.74	4.9	0.58	J	0.33	4.9	0.31	J	0.25	4.9
BENW12 Comp Rep 5	ND	U	0.47	5.0	ND	U	0.28	5.0	0.35	J	0.28	5.0	ND	U	0.43	5.0	0.45	J	0.25	5.0	0.74	JX	0.26	5.0	ND	U	0.48	5.0	1.0	J	0.74	5.0	0.66	J	0.33	5.0	0.31	J	0.25	5.0
BENW12 Comp Mean[1]	0.47				0.28				0.32				0.42				0.56				0.60				0.47				1.3				0.65				0.47			
Adjusted Concentration	1.4				0.64				0.45				0.85				0.61				0.60				1.4				1.3				0.65				0.52			
% of reference tissue	99				98				115				99				81				143				99								95				101			
HGIW12 Comp Rep 1	ND	U	0.47	5.0	ND	U	0.29	5.0	ND	UX	0.28	5.0	ND	U	0.43	5.0	1.6	J	0.25	5.0	0.71	JX	0.26	5.0	ND	U	0.48	5.0	1.4	J	0.74	5.0	0.54	J	0.33	5.0	1.3	J	0.25	5.0
HGIW12 Comp Rep 2	ND	U	0.45	4.7	ND	U	0.27	4.7	0.39	J	0.26	4.7	ND	U	0.41	4.7	0.76	J	0.23	4.7	0.61	JX	0.25	4.7	ND	U	0.45	4.7	0.96	J	0.71	4.7	0.55	J	0.31	4.7	0.68	J	0.24	4.7
HGIW12 Comp Rep 3	ND	U	0.48	5.0	ND	U	0.29	5.0	0.55	J	0.28	5.0	ND	U	0.43	5.0	0.93	J	0.25	5.0	0.58	JX	0.26	5.0	ND	U	0.48	5.0	1.4	J	0.75	5.0	0.47	J	0.33	5.0	0.75	J	0.25	5.0
HGIW12 Comp Rep 4	ND	U	0.45	4.7	ND	U	0.27	4.7	0.47	J	0.26	4.7	ND	U	0.41	4.7	1.0	J	0.23	4.7	0.66	JX	0.25	4.7	ND	U	0.45	4.7	1.1	J	0.71	4.7	0.39	J	0.31	4.7	0.85	J	0.24	4.7
HGIW12 Comp Rep 5	ND	U	0.47	5.0	ND	U	0.29	5.0	0.53	J	0.28	5.0	ND	U	0.43	5.0	0.79	J	0.25	5.0	0.63	JX	0.26	5.0	ND	U	0.48	5.0	1.0	J	0.75	5.0	0.60	J	0.33	5.0	0.68	J	0.25	5.0
HGIW12 Comp Mean[1]	0.46				0.28				0.44				0.42				1.0				0.64				0.47				1.2				0.51				0.85			
Adjusted Concentration	1.4				0.65				0.62				0.84				1.1				0.64				1.4				1.2				0.51				0.94			
% of reference tissue	102				99				160				99				148				153				98				158				75				181			
WRTB12 Comp Rep 1	ND	U	0.46	4.9	ND	U	0.28	4.9	1.1	JX	0.27	4.9	ND	U	0.42	4.9	1.5	J	0.24	4.9	0.66	JX	0.26	4.9	ND	U	0.47	4.9	1.5	J	0.73	4.9	0.55	J	0.32	4.9	1.3	J	0.25	4.9
WRTB12 Comp Rep 2	ND	U	0.48	5.0	ND	U	0.29	5.0	0.54	J	0.28	5.0	ND	U	0.43	5.0	1.1	J	0.25	5.0	0.77	JX	0.26	5.0	ND	U	0.48	5.0	0.79	J	0.75	5.0	0.65	J	0.33	5.0	0.81	J	0.25	5.0
WRTB12 Comp Rep 3	ND	U	0.47	5.0	ND	U	0.28	5.0	0.55	J	0.27	5.0	ND	U	0.43	5.0	1.4	J	0.25	5.0	0.69	J	0.26	5.0	ND	U	0.48	5.0	1.3	J	0.74	5.0	0.73	J	0.33	5.0	1.2	J	0.25	5.0
WRTB12 Comp Rep 4	ND	U	0.48	5.0	ND	U	0.29	5.0	0.42	J	0.28	5.0	ND	U	0.43	5.0	1.3	J	0.25	5.0	0.70	JX	0.26	5.0	ND	U	0.48	5.0	1.7	J	0.75	5.0	0.61	J	0.33	5.0	ND	Ui	1.2	5.0
WRTB12 Comp Rep 5	ND	U	0.44	4.6	ND	U	0.27	4.6	0.49	J	0.26	4.6	ND	U	0.40	4.6	1.1	J	0.23	4.6	0.58	JX	0.24	4.6	ND	U	0.44	4.6	1.7	J	0.69	4.6	0.54	J	0.31	4.6	ND	Ui	0.93	4.6
WRTB12 Comp Mean[1]	0.47				0.28				0.62				0.42				1.3				0.68				0.47				1.4				0.62				1.1			
Adjusted Concentration	1.4				0.65				0.87				0.84				1.4				0.68				1.4				1.4				0.62				1.2			
% of reference tissue	102				99				223				99				186				163				98				188				91				231			
DANW12 Comp Rep 1	ND	U	0.47	5.0	ND	U	0.29	5.0	ND	U	0.28	5.0	ND	U	0.43	5.0	0.51	J	0.25	5.0	0.56	JX	0.26	5.0	ND	U	0.48	5.0	0.85	J	0.74	5.0	0.53	J	0.33	5.0	0.36	J	0.25	5.0
DANW12 Comp Rep 2	ND	U	0.45	4.8	ND	U	0.27	4.8	ND	UX	0.27	4.8	ND	U	0.41	4.8	0.54	J	0.24	4.8	0.55	JX	0.25	4.8	ND	U	0.46	4.8	0.83	J	0.71	4.8	0.56	J	0.32	4.8	0.46	J	0.24	4.8
DANW12 Comp Rep 3	ND	U	0.47	4.9	ND	U	0.28	4.9	ND	U	0.27	4.9	ND	U	0.43	4.9	0.85	J	0.24	4.9	0.75	JX	0.26	4.9	ND	U	0.47	4.9	1.2	J	0.74	4.9	0.62	J	0.33	4.9	0.96	J	0.25	4.9
DANW12 Comp Rep 4	ND	U	0.46	4.9	ND	U	0.28	4.9	ND	U	0.27	4.9	ND	U	0.42	4.9	0.44	J	0.24	4.9	0.96	JX	0.26	4.9	ND	U	0.47	4.9	0.96	J	0.73	4.9	0.80	J	0.32	4.9	0.36	J	0.25	4.9
DANW12 Comp Rep 5	ND	U	0.48	5.0	ND	U	0.29	5.0	ND	U	0.28	5.0	ND	U	0.43	5.0	0.48	J	0.25	5.0	1.2	JX	0.26	5.0	ND	U	0.48	5.0	1.0	J	0.75	5.0	0.87	J	0.33	5.0	0.38	J	0.25	5.0
DANW12 Comp Mean[1]	0.47				0.28				0.27				0.42				0.56				0.80				0.47				0.97				0.68				0.50			
Adjusted Concentration	1.4				0.65				0.38				0.85				0.62				0.80				1.4				0.97				0.68				0.55			
% of reference tissue	102				99				99				99				82				192				99				130				99				107			
WLRW12 Comp Rep 1	ND	U	0.47	5.0	ND	U	0.29	5.0	ND	UX	0.28	5.0	ND	U	0.43	5.0	0.54	J	0.25	5.0	1.0	JX	0.26	5.0	ND	U	0.48	5.0	1.2	J	0.74	5.0	0.50	J	0.33	5.0	0.46	J	0.25	5.0
WLRW12 Comp Rep 2	ND	U	0.46	4.8	ND	U	0.28	4.8	0.37	J	0.27	4.8	ND	U	0.42	4.8	0.67	J	0.24	4.8	0.63	JX	0.25	4.8	ND	U	0.46	4.8	1.6	J	0.72	4.8	0.61	J	0.32	4.8	ND	Ui	0.47	4.8
WLRW12 Comp Rep 3	ND	U	0.48	5.0	ND	U	0.29	5.0	ND	UX	0.28	5.0	ND	U	0.43	5.0	0.43	J	0.25	5.0	0.84	JX	0.26	5.0	ND	U	0.48	5.0	1.4	J	0.75	5.0	0.54	J	0.33	5.0	ND	Ui	0.36	5.0
WLRW12 Comp Rep 4	ND	U	0.44	4.7	ND	U	0.27	4.7	0.47	J	0.26	4.7	ND	U	0.40	4.7	0.48	J	0.23	4.7	0.59	JX	0.24	4.7	ND	U	0.45	4.7	1.5	J	0.70	4.7	0.54	J	0.31	4.7	ND	Ui	0.54	4.7
WLRW12 Comp Rep 5	ND	U	0.47	4.9	ND	U	0.28	4.9	0.32	J	0.27	4.9	ND	U	0.42	4.9	1.1	J	0.24	4.9	0.76	JX	0.26	4.9	ND	U	0.47	4.9	1.5	J	0.73	4.9	0.57	J	0.33	4.9	ND	Ui	1.1	4.9
WLRW12 Comp Mean[1]	0.46				0.28				0.34				0.42				0.64				0.76				0.47				1.4				0.55				0.59			
Adjusted Concentration	1.4				0.65				0.48				0.84				0.71				0.76				1.4				1.4				0.55				0.64			
% of reference tissue	102				99				124				98				94				183				98				194				81				125			
NCW12 Comp Rep 1	ND	U	0.47	5.0	ND	U	0.29	5.0	0.41	J	0.28	5.0	ND	U	0.43	5.0	1.3	J	0.25	5.0	0.51	J	0.26	5.0	ND	U	0.48	5.0	1.4	J	0.74	5.0	1.1	J	0.33	5.0	0.90	JX	0.25	5.0
NCW12 Comp Rep 2	ND	U	0.47	5.0	ND	U	0.29	5.0	0.82	JX	0.28	5.0	ND	U	0.43	5.0	1.7	J	0.25	5.0	0.29	J	0.26	5.0	ND	U	0.48	5.0	0.78	J	0.75	5.0	0.87	J	0.33	5.0	1.6	J	0.25	5.0
NCW12 Comp Rep 3	ND	U	0.47	4.9	ND	U	0.28	4.9	0.69	JX	0.27	4.9	ND	U	0.42	4.9	1.2	J	0.24	4.9	0.29	J	0.26	4.9	ND	U	0.47	4.9	0.99	J	0.74	4.9	0.81	J	0.33	4.9	0.91	J	0.25	4.9
NCW12 Comp Rep 4	ND	U	0.48	5.0	ND	U	0.29	5.0	0.72	J	0.28	5.0	ND	U	0.43	5.0	1.6	J	0.25	5.0	0.33	J	0.26	5.0	ND	U	0.48	5.0	1.1	J	0.75	5.0	0.75	J	0.33	5.0	1.3	J	0.25	5.0
NCW12 Comp Rep 5	ND	U	0.46	4.8	ND	U	0.28	4.8	0.89	JX	0.27	4.8	ND	U	0.42	4.8	1.9	J	0.24	4.8	0.29	J	0.25	4.8	ND	U	0.46	4.8	1.2	J	0.72	4.8	0.70	J	0.32	4.8	2.1	J	0.24	4.8
NCW12 Comp Mean[1]	0.47				0.29				0.71				0.43				1.5				0.34				0.47				1.1				0.85				1.4			
Adjusted Concentration	1.4				0.66				0.99				0.85				1.7				0.34				1.4				1.1				0.85				1.5			
% of reference tissue	99				100				254				100				224				82				99				147				124				290			

TABLE 33
Analytical Results for Wet Weight PAHs in *Neanthes virens* Tissues

Analyte:	Total LMW PAHs	Total HMW PAHs	Total PAHs	1-Methylnaphthalene[LMW]				2-Methylnaphthalene[LMW]				Acenaphthene[LMW]				Acenaphthylene				Anthracene[LMW]				Benzo(a)anthracene[HMW]				Benzo(a)pyrene[HMW]				Benzo(b)fluoranthene			
Sample-Replicate #	Result µg/kg	Result µg/kg	Result µg/kg	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
ABMA12 Comp Rep 1	12	4.3	18	ND	U	0.52	4.7	ND	U	0.57	4.7	ND	Ui	6.1	6.1	0.60	J	0.22	4.7	0.39	J	0.18	4.7	ND	UX	0.18	4.7	ND	U	0.35	4.7	ND	U	0.31	4.7
ABMA12 Comp Rep 2	10	4.0	16	ND	U	0.53	4.8	ND	U	0.58	4.8	ND	Ui	5.3	5.3	0.31	J	0.23	4.8	0.38	J	0.19	4.8	ND	UX	0.19	4.8	ND	U	0.36	4.8	ND	U	0.32	4.8
ABMA12 Comp Rep 3	8.0	5.4	16	ND	U	0.53	4.9	ND	U	0.58	4.9	ND	Ui	3.4	4.9	1.2	J	0.23	4.9	0.47	J	0.19	4.9	ND	UX	0.19	4.9	ND	U	0.36	4.9	ND	U	0.32	4.9
ABMA12 Comp Rep 4	9.4	3.9	15	ND	U	0.54	4.9	ND	U	0.58	4.9	ND	Ui	4.7	4.9	0.31	J	0.23	4.9	0.29	J	0.19	4.9	ND	UX	0.19	4.9	ND	U	0.36	4.9	ND	U	0.32	4.9
ABMA12 Comp Rep 5	7.8	4.0	14	ND	U	0.53	4.8	ND	U	0.58	4.8	ND	Ui	3.5	4.8	0.34	J	0.22	4.8	0.31	J	0.19	4.8	ND	UX	0.19	4.8	ND	U	0.35	4.8	ND	U	0.32	4.8
ABMA12 Comp Mean[1]	9.4	4.3	16	0.53				0.58				4.6				0.55				0.37				0.19				0.36				0.32			
Adjusted Concentration	--	--	--	0.53				0.58				4.6				0.55				0.37				0.32				0.75				0.73			
% of reference tissue	235	144	179	84				97				627				232				166				25				90				96			
SHCR12 Comp Rep 1	5.2	6.9	14	0.56	J	0.55	5.0	ND	U	0.60	5.0	1.9	JX	0.24	5.0	0.61	J	0.23	5.0	0.19	J	0.19	5.0	ND	UX	0.19	5.0	ND	U	0.36	5.0	ND	U	0.33	5.0
SHCR12 Comp Rep 2	6.5	4.9	13	ND	U	0.55	5.0	ND	U	0.60	5.0	2.4	JX	0.24	5.0	ND	U	0.23	5.0	ND	U	0.19	5.0	0.26	J	0.19	5.0	ND	U	0.36	5.0	ND	U	0.33	5.0
SHCR12 Comp Rep 3	7.1	6.2	15	ND	U	0.55	5.0	ND	U	0.59	5.0	2.0	JX	0.24	5.0	0.24	J	0.23	5.0	ND	U	0.19	5.0	0.31	J	0.19	5.0	ND	U	0.36	5.0	ND	U	0.33	5.0
SHCR12 Comp Rep 4	11	5.8	19	0.56	J	0.53	4.8	ND	U	0.58	4.8	6.8	X	0.23	4.8	0.39	J	0.23	4.8	ND	U	0.19	4.8	ND	UX	0.19	4.8	0.46	JX	0.35	4.8	ND	U	0.32	4.8
SHCR12 Comp Rep 5	9.4	4.6	16	0.57	J	0.51	4.7	ND	U	0.56	4.7	3.6	JX	0.22	4.7	0.26	J	0.22	4.7	ND	U	0.18	4.7	ND	UX	0.18	4.7	0.38	JX	0.34	4.7	ND	U	0.31	4.7
SHCR12 Comp Mean[1]	7.8	5.7	15	0.56				0.59				3.3				0.35				0.19				0.23				0.38				0.32			
Adjusted Concentration	--	--	--	0.56				0.59				3.3				0.35				0.19				0.38				0.81				0.75			
% of reference tissue	194	189	174	89				98				455				145				85				31				97				98			
RS-CH-A Rep 1	3.8	3.2	8.8	0.70	J	0.54	4.9	ND	U	0.59	4.9	ND	Ui	0.79	4.9	ND	U	0.23	4.9	ND	U	0.19	4.9	0.83	JX	0.19	4.9	ND	U	0.36	4.9	ND	U	0.33	4.9
RS-CH-A Rep 2	3.9	3.1	8.8	0.62	J	0.55	5.0	ND	U	0.60	5.0	ND	Ui	0.75	5.0	ND	U	0.23	5.0	ND	U	0.19	5.0	0.98	JX	0.19	5.0	ND	U	0.37	5.0	ND	U	0.33	5.0
RS-CH-A Rep 3	3.9	2.2	7.9	ND	U	0.55	5.0	ND	U	0.60	5.0	ND	Ui	0.66	5.0	ND	U	0.23	5.0	ND	U	0.19	5.0	ND	U	0.19	5.0	ND	U	0.36	5.0	ND	U	0.33	5.0
RS-CH-A Rep 4	4.7	3.7	10	0.73	J	0.55	5.0	ND	U	0.60	5.0	ND	Ui	0.70	5.0	0.27	J	0.23	5.0	0.35	J	0.19	5.0	1.1	JX	0.19	5.0	ND	U	0.37	5.0	ND	U	0.33	5.0
RS-CH-A Rep 5	3.8	2.8	8.3	ND	U	0.55	5.0	ND	U	0.59	5.0	ND	Ui	0.77	5.0	ND	U	0.23	5.0	ND	U	0.19	5.0	0.60	JX	0.19	5.0	ND	Ui	0.52	5.0	ND	U	0.33	5.0
RS-CH-A Mean	4.0	3.0	8.8	0.63				0.60				0.73				0.24				0.22				0.74				0.40				0.33			
Adjusted Concentration	--	--	--	0.63				0.60				0.73				0.24				0.22				1.3				0.83				0.76			
Pre-exposure Rep 1	4.4	3.4	9.8	0.78	J	0.55	5.0	ND	U	0.60	5.0	ND	Ui	0.68	5.0	0.34	J	0.23	5.0	ND	U	0.19	5.0	0.27	J	0.19	5.0	ND	U	0.37	5.0	ND	U	0.33	5.0
Pre-exposure Rep 2	4.7	3.9	10	0.67	J	0.54	4.9	ND	U	0.59	4.9	ND	Ui	0.78	4.9	ND	U	0.23	4.9	ND	U	0.19	4.9	1.3	JX	0.19	4.9	ND	U	0.36	4.9	ND	U	0.32	4.9
Pre-exposure Rep 3	4.3	2.9	9.0	ND	U	0.55	5.0	ND	U	0.60	5.0	ND	Ui	0.57	5.0	ND	U	0.23	5.0	ND	U	0.19	5.0	0.28	J	0.19	5.0	ND	U	0.37	5.0	ND	U	0.33	5.0
Pre-exposure Mean	4.5	3.4	9.7	0.67				0.60				0.68				0.27				0.19				0.62				0.37				0.33			
Steady State Factor[1]	x	x	x	1.0				1.0				1.0				1.0				1.0				1.7				2.1				2.3			
Eco. Effects Threshold[1]	x	x	40000	x				x				1.2				x				x				x				x				x			
S. Atl. Bight Background[1]	60	60	170	<20				<20				<20				<20				<20				<20				<20				<20			

TABLE 33
Analytical Results for Wet Weight PAHs in *Neanthes virens* Tissues

Analyte:	Benzo(g,h,i)perylene				Benzo(k)fluoranthene				Chrysene[HMW]				Dibenzo(a,h)anthracene[HMW]				Fluoranthene[HMW]				Fluorene[LMW]				Indeno(1,2,3-cd)pyrene				Naphthalene[LMW]				Phenanthrene[LMW]				Pyrene[HMW]			
Sample-Replicate #	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**
ABMA12 Comp Rep 1	ND	U	0.45	4.7	ND	U	0.27	4.7	1.4	JX	0.26	4.7	ND	U	0.41	4.7	1.0	J	0.23	4.7	ND	Ui	2.7	4.7	ND	U	0.45	4.7	ND	U	0.71	4.7	0.57	J	0.31	4.7	1.0	J	0.24	4.7
ABMA12 Comp Rep 2	ND	U	0.46	4.8	ND	U	0.28	4.8	1.1	JX	0.27	4.8	ND	U	0.42	4.8	0.95	J	0.24	4.8	ND	Ui	2.4	4.8	ND	U	0.47	4.8	ND	U	0.72	4.8	0.47	J	0.32	4.8	1.0	J	0.24	4.8
ABMA12 Comp Rep 3	ND	U	0.46	4.9	ND	U	0.28	4.9	1.5	JX	0.27	4.9	ND	U	0.42	4.9	1.5	J	0.24	4.9	ND	Ui	1.6	4.9	ND	U	0.47	4.9	ND	U	0.73	4.9	0.73	J	0.32	4.9	1.4	J	0.25	4.9
ABMA12 Comp Rep 4	ND	U	0.46	4.9	ND	U	0.28	4.9	1.2	JX	0.27	4.9	ND	U	0.42	4.9	0.95	J	0.24	4.9	ND	Ui	2.1	4.9	ND	U	0.47	4.9	ND	U	0.73	4.9	0.47	J	0.32	4.9	0.80	J	0.25	4.9
ABMA12 Comp Rep 5	ND	U	0.46	4.8	ND	U	0.28	4.8	1.2	JX	0.27	4.8	ND	U	0.42	4.8	1.0	J	0.24	4.8	ND	Ui	1.7	4.8	ND	U	0.46	4.8	ND	U	0.72	4.8	0.50	J	0.32	4.8	0.80	J	0.24	4.8
ABMA12 Comp Mean[1]	0.46				0.28				1.3				0.42				1.1				2.1				0.46				0.72				0.55				1.0			
Adjusted Concentration	1.3				0.64				1.8				0.84				1.2				2.1				1.4				0.72				0.55				1.1			
% of reference tissue	97				97				460				98				157				502				97				97				81				213			
SHCR12 Comp Rep 1	ND	U	0.47	5.0	ND	U	0.29	5.0	1.0	JX	0.28	5.0	ND	U	0.43	5.0	2.2	J	0.25	5.0	0.29	J	0.26	5.0	ND	U	0.48	5.0	1.1	J	0.74	5.0	0.57	J	0.33	5.0	2.7	J	0.25	5.0
SHCR12 Comp Rep 2	ND	U	0.47	5.0	ND	U	0.29	5.0	0.59	J	0.28	5.0	ND	U	0.43	5.0	1.4	J	0.25	5.0	0.32	J	0.26	5.0	ND	U	0.48	5.0	1.9	J	0.74	5.0	0.52	J	0.33	5.0	1.9	J	0.25	5.0
SHCR12 Comp Rep 3	ND	U	0.47	5.0	ND	U	0.29	5.0	0.65	J	0.28	5.0	ND	U	0.43	5.0	2.0	J	0.25	5.0	0.37	J	0.26	5.0	ND	U	0.48	5.0	2.7	J	0.74	5.0	0.74	J	0.33	5.0	2.4	J	0.25	5.0
SHCR12 Comp Rep 4	ND	U	0.46	4.8	ND	U	0.28	4.8	1.0	JX	0.27	4.8	ND	U	0.42	4.8	1.8	J	0.24	4.8	0.40	J	0.25	4.8	ND	U	0.47	4.8	1.5	J	0.72	4.8	0.82	J	0.32	4.8	1.9	J	0.24	4.8
SHCR12 Comp Rep 5	ND	U	0.44	4.7	ND	U	0.27	4.7	0.77	JX	0.26	4.7	ND	U	0.40	4.7	1.3	J	0.23	4.7	0.43	J	0.24	4.7	ND	U	0.45	4.7	3.4	J	0.70	4.7	0.65	J	0.31	4.7	1.6	J	0.24	4.7
SHCR12 Comp Mean[1]	0.46				0.28				0.80				0.42				1.7				0.36				0.47				2.1				0.66				2.1			
Adjusted Concentration	1.34				0.65				1.12				0.84				1.9				0.36				1.42				2.1				0.66				2.3			
% of reference tissue	97				99				288				99				253				87				99				286				97				447			
RS-CH-A Rep 1	ND	U	0.47	4.9	ND	U	0.28	4.9	ND	UX	0.27	4.9	ND	U	0.42	4.9	0.79	J	0.24	4.9	ND	U	0.26	4.9	ND	U	0.47	4.9	ND	U	0.73	4.9	0.57	J	0.33	4.9	0.55	J	0.25	4.9
RS-CH-A Rep 2	ND	U	0.48	5.0	ND	U	0.29	5.0	ND	UX	0.28	5.0	ND	U	0.43	5.0	0.64	J	0.25	5.0	ND	U	0.26	5.0	ND	U	0.48	5.0	ND	U	0.75	5.0	0.73	J	0.33	5.0	0.36	J	0.25	5.0
RS-CH-A Rep 3	ND	U	0.47	5.0	ND	U	0.29	5.0	ND	U	0.28	5.0	ND	U	0.43	5.0	0.58	J	0.25	5.0	0.54	J	0.26	5.0	ND	U	0.48	5.0	ND	U	0.74	5.0	0.63	J	0.33	5.0	0.38	J	0.25	5.0
RS-CH-A Rep 4	ND	U	0.48	5.0	ND	U	0.29	5.0	ND	UX	0.28	5.0	ND	U	0.43	5.0	1.0	J	0.25	5.0	0.63	J	0.26	5.0	ND	U	0.48	5.0	ND	U	0.75	5.0	0.94	J	0.33	5.0	0.55	J	0.25	5.0
RS-CH-A Rep 5	ND	U	0.47	5.0	ND	U	0.28	5.0	ND	UX	0.28	5.0	ND	U	0.43	5.0	0.43	J	0.25	5.0	0.40	J	0.26	5.0	ND	U	0.48	5.0	ND	U	0.74	5.0	0.53	J	0.33	5.0	ND	Ui	0.51	5.0
RS-CH-A Mean	0.47				0.29				0.28				0.43				0.69				0.42				0.48				0.74				0.68				0.47			
Adjusted Concentration	1.4				0.66				0.39				0.86				0.76				0.42				1.4				0.74				0.68				0.517			
Pre-exposure Rep 1	ND	U	0.48	5.0	ND	U	0.29	5.0	0.85	JX	0.28	5.0	ND	U	0.43	5.0	0.88	J	0.25	5.0	0.59	J	0.26	5.0	ND	U	0.48	5.0	ND	U	0.75	5.0	0.83	J	0.33	5.0	0.62	J	0.25	5.0
Pre-exposure Rep 2	ND	U	0.47	4.9	ND	U	0.28	4.9	ND	UX	0.27	4.9	ND	U	0.42	4.9	0.88	J	0.24	4.9	ND	Ui	0.87	4.9	ND	U	0.47	4.9	ND	U	0.73	4.9	0.87	J	0.32	4.9	0.66	J	0.25	4.9
Pre-exposure Rep 3	ND	U	0.48	5.0	ND	U	0.29	5.0	ND	U	0.28	5.0	ND	U	0.43	5.0	0.90	J	0.25	5.0	ND	Ui	0.71	5.0	ND	U	0.48	5.0	ND	U	0.75	5.0	0.90	J	0.33	5.0	0.67	J	0.25	5.0
Pre-exposure Mean	0.48				0.29				0.47				0.43				0.89				0.72				0.48				0.74				0.87				0.65			
Steady State Factor[1]	2.9				2.3				1.4				2.0				1.1				1.0				3.0				1.0				1.0				1.1			
Eco. Effects Threshold[1]	x				x				x				x				12.8				x				x				x				x				x			
S. Atl. Bight Background[1]	<20				<20				<20				<20				<20				<20				<20				<20				<20				<20			

Adjusted concentration was calculated by multiplying the mean concentration value with the analyte-specific steady state factor.
Non-detect (ND) results use the MDL for calculating the average concentrations and total PAHs.
[LMW] Low Molecular Weight PAHs (NOAA 1989)
[HMW] High Molecular Weight PAHs (NOAA 1989)
[1] = Steady State Factors and Levels/Limits from Appendix H of SERIM (EPA/USACE 2008)
J = The resut is an estimated value.
U = The analyte was analyzed for, but was not detected at or above the MRL/MDL
X = The results may contain a slight bias, due to the chromatograms indicating the presense of non-target background components
--= No Qualifier needed
Source: ALS Environmental Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 34

Analytical Results for Wet Weight PAHs in *Macoma nasuta* Tissues

Analyte:	Total LMW PAHs	Total HMW PAHs	Total PAHs	1-Methylnaphthalene[LMW]				2-Methylnaphthalene[LMW]				Acenaphthene[LMW]				Acenaphthylene				Anthracene[LMW]				Benzo(a)anthracene[HMW]				Benzo(a)pyrene[HMW]				Benzo(b)fluoranthene			
Sample-Replicate #	Result µg/kg	Result µg/kg	Result µg/kg	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
CHEC12-1 Comp Rep 1	7.1	8.3	18	ND	U	0.55	5.0	ND	U	0.60	5.0	0.67	JX	0.24	5.0	ND	U	0.23	5.0	0.54	J	0.19	5.0	0.70	J	0.19	5.0	ND	U	0.37	5.0	0.64	J	0.33	5.0
CHEC12-1 Comp Rep 2	8.0	7.4	17	ND	U	0.55	5.0	ND	U	0.60	5.0	0.50	JX	0.24	5.0	ND	U	0.23	5.0	0.48	J	0.19	5.0	0.61	J	0.19	5.0	0.57	JX	0.37	5.0	0.54	J	0.33	5.0
CHEC12-1 Comp Rep 3	6.7	7.4	16	ND	U	0.55	5.0	ND	U	0.60	5.0	0.35	JX	0.24	5.0	ND	U	0.23	5.0	0.42	J	0.19	5.0	0.54	J	0.19	5.0	ND	U	0.37	5.0	0.64	J	0.33	5.0
CHEC12-1 Comp Rep 4	8.0	8.4	19	ND	U	0.55	5.0	ND	U	0.60	5.0	0.43	JX	0.24	5.0	ND	U	0.23	5.0	0.43	J	0.19	5.0	0.57	J	0.19	5.0	1.1	JX	0.37	5.0	0.57	J	0.33	5.0
CHEC12-1 Comp Rep 5	6.5	7.3	16	ND	U	0.55	5.0	ND	U	0.60	5.0	0.44	JX	0.24	5.0	ND	U	0.23	5.0	0.54	J	0.19	5.0	0.71	J	0.19	5.0	ND	U	0.37	5.0	0.70	J	0.33	5.0
CHEC12-1 Comp Mean[1]	7.2	7.8	17	0.55				0.60				0.48				0.23				0.48				0.63				0.56				0.62			
Adjusted Concentration	--	--	--	0.55				0.60				0.48				0.23				0.48				1.1				1.2				1.4			
% of reference tissue	133	119	125	104				103				182				96				105				107				93				173			
CHEC12-2 Comp Rep 1	6.9	5.7	14	ND	U	0.54	5.0	ND	U	0.59	5.0	0.57	JX	0.24	5.0	ND	U	0.23	5.0	0.33	J	0.19	5.0	0.61	J	0.19	5.0	0.66	JX	0.36	5.0	ND	U	0.33	5.0
CHEC12-2 Comp Rep 2	7.1	4.8	14	ND	U	0.54	5.0	0.60	J	0.59	5.0	0.34	JX	0.24	5.0	ND	U	0.23	5.0	0.25	J	0.19	5.0	0.42	J	0.19	5.0	0.77	JX	0.36	5.0	ND	U	0.33	5.0
CHEC12-2 Comp Rep 3	7.0	5.1	14	ND	U	0.55	5.0	ND	U	0.60	5.0	0.52	JX	0.24	5.0	ND	U	0.23	5.0	0.25	J	0.19	5.0	0.40	J	0.19	5.0	0.77	JX	0.37	5.0	ND	U	0.33	5.0
CHEC12-2 Comp Rep 4	5.5	3.4	11	ND	U	0.53	4.8	ND	U	0.57	4.8	0.37	JX	0.23	4.8	ND	U	0.22	4.8	0.25	J	0.19	4.8	0.47	J	0.19	4.8	0.42	JX	0.35	4.8	ND	U	0.32	4.8
CHEC12-2 Comp Rep 5	7.8	5.4	15	ND	U	0.55	5.0	0.64	J	0.60	5.0	0.44	JX	0.24	5.0	ND	U	0.23	5.0	0.32	J	0.19	5.0	0.45	J	0.19	5.0	0.85	JX	0.37	5.0	ND	U	0.33	5.0
CHEC12-2 Comp Mean[1]	6.9	4.9	14	0.54				0.60				0.45				0.23				0.28				0.47				0.69				0.33			
Adjusted Concentration	--	--	--	0.54				0.60				0.45				0.23				0.28				0.80				1.5				0.75			
% of reference tissue	126	75	98	102				103				171				95				61				80				116				92			
MTPL12 Comp Rep 1	8.0	6.8	16	0.52	J	0.51	4.7	0.67	J	0.56	4.7	0.36	JX	0.22	4.7	ND	U	0.22	4.7	0.41	J	0.18	4.7	0.57	J	0.18	4.7	0.98	JX	0.34	4.7	ND	U	0.31	4.7
MTPL12 Comp Rep 2	8.0	5.2	15	ND	U	0.52	4.8	0.69	J	0.57	4.8	0.40	JX	0.23	4.8	ND	U	0.22	4.8	0.29	J	0.18	4.8	0.47	J	0.18	4.8	0.83	JX	0.35	4.8	ND	U	0.32	4.8
MTPL12 Comp Rep 3	6.6	4.0	12	ND	U	0.53	4.8	0.58	J	0.57	4.8	0.46	JX	0.23	4.8	ND	U	0.22	4.8	0.25	J	0.19	4.8	0.47	J	0.19	4.8	0.74	JX	0.35	4.8	ND	U	0.32	4.8
MTPL12 Comp Rep 4	6.1	3.9	12	ND	U	0.52	4.7	ND	U	0.56	4.7	0.29	JX	0.22	4.7	ND	U	0.22	4.7	0.24	J	0.18	4.7	0.47	J	0.18	4.7	0.65	JX	0.34	4.7	ND	U	0.31	4.7
MTPL12 Comp Rep 5	7.2	5.3	14	ND	U	0.53	4.8	ND	U	0.58	4.8	0.40	JX	0.23	4.8	ND	U	0.22	4.8	0.30	J	0.19	4.8	0.54	J	0.19	4.8	0.94	JX	0.35	4.8	ND	U	0.32	4.8
MTPL12 Comp Mean[1]	7.2	5.0	14	0.52				0.62				0.38				0.22				0.30				0.50				0.83				0.32			
Adjusted Concentration	--	--	--	0.52				0.62				0.38				0.22				0.30				0.86				1.7				0.73			
% of reference tissue	132	77	101	99				106				146				92				65				86				138				88			
REHR12 Comp Rep 1	6.2	4.0	12	ND	U	0.53	4.9	ND	U	0.58	4.9	0.26	JX	0.23	4.9	ND	U	0.23	4.9	0.28	J	0.19	4.9	0.52	J	0.19	4.9	0.85	JX	0.36	4.9	ND	U	0.32	4.9
REHR12 Comp Rep 2	5.7	3.6	11	ND	U	0.52	4.8	ND	U	0.57	4.8	0.47	JX	0.23	4.8	ND	U	0.22	4.8	0.27	J	0.18	4.8	0.49	J	0.18	4.8	ND	UX	0.35	4.8	ND	U	0.32	4.8
REHR12 Comp Rep 3	6.4	3.5	12	ND	U	0.53	4.8	ND	U	0.57	4.8	0.44	JX	0.23	4.8	ND	U	0.22	4.8	0.27	J	0.18	4.8	0.59	J	0.18	4.8	0.77	JX	0.35	4.8	ND	U	0.32	4.8
REHR12 Comp Rep 4	6.2	3.2	11	ND	U	0.55	5.0	ND	U	0.60	5.0	0.34	JX	0.24	5.0	ND	U	0.23	5.0	0.25	J	0.19	5.0	0.48	J	0.19	5.0	0.58	JX	0.37	5.0	ND	U	0.33	5.0
REHR12 Comp Rep 5	6.1	4.1	12	ND	U	0.52	4.7	ND	U	0.56	4.7	0.36	JX	0.22	4.7	ND	U	0.22	4.7	0.27	J	0.18	4.7	0.63	J	0.18	4.7	1.2	JX	0.34	4.7	0.31	J	0.31	4.7
REHR12 Comp Mean[1]	6.1	3.7	12	0.53				0.58				0.37				0.22				0.27				0.54				0.75				0.32			
Adjusted Concentration	--	--	--	0.53				0.58				0.37				0.22				0.27				0.92				1.6				0.74			
% of reference tissue	112	56	84	100				99				143				93				59				93				125				89			
HGIS12 Comp Rep 1	4.8	6.7	14	ND	U	0.53	4.8	ND	U	0.58	4.8	0.42	JX	0.23	4.8	ND	U	0.23	4.8	0.39	J	0.19	4.8	0.74	J	0.19	4.8	0.76	JX	0.35	4.8	0.76	J	0.32	4.8
HGIS12 Comp Rep 2	4.7	6.0	13	ND	U	0.51	4.7	ND	U	0.56	4.7	0.46	JX	0.22	4.7	ND	U	0.22	4.7	0.41	J	0.18	4.7	0.41	J	0.18	4.7	0.39	JX	0.34	4.7	0.54	J	0.31	4.7
HGIS12 Comp Rep 3	5.4	6.7	14	ND	U	0.51	4.6	ND	U	0.56	4.6	0.74	JX	0.22	4.6	ND	U	0.22	4.6	0.45	J	0.18	4.6	0.58	J	0.18	4.6	0.60	JX	0.34	4.6	0.57	J	0.31	4.6
HGIS12 Comp Rep 4	6.2	6.8	15	ND	U	0.54	4.9	ND	U	0.59	4.9	0.72	JX	0.23	4.9	ND	U	0.23	4.9	0.48	J	0.19	4.9	0.43	J	0.19	4.9	0.46	JX	0.36	4.9	0.55	J	0.32	4.9
HGIS12 Comp Rep 5	4.5	5.8	12	ND	U	0.53	4.8	ND	U	0.58	4.8	0.36	JX	0.23	4.8	ND	U	0.22	4.8	0.43	J	0.19	4.8	0.36	J	0.19	4.8	0.59	JX	0.35	4.8	0.45	J	0.32	4.8
HGIS Comp Mean[1]	5.1	6.4	14	0.52				0.57				0.54				0.22				0.43				0.50				0.56				0.57			
Adjusted Concentration	--	--	--	0.52				0.57				0.54				0.22				0.43				0.86				1.2				1.3			
% of reference tissue	94	98	98	99				99				206				93				94				86				94				160			
DRMY12 Comp Rep 1	7.1	18	28	ND	U	0.54	4.9	ND	U	0.59	4.9	0.77	JX	0.23	4.9	ND	U	0.23	4.9	1.2	J	0.19	4.9	1.2	J	0.19	4.9	0.82	JX	0.36	4.9	1.1	J	0.33	4.9
DRMY12 Comp Rep 2	6.7	16	25	ND	U	0.52	4.7	ND	U	0.56	4.7	0.83	JX	0.22	4.7	ND	U	0.22	4.7	1.2	J	0.18	4.7	1.2	J	0.18	4.7	0.72	JX	0.34	4.7	1.2	J	0.31	4.7
DRMY12 Comp Rep 3	6.4	14	23	ND	U	0.52	4.7	ND	U	0.57	4.7	0.57	JX	0.23	4.7	ND	U	0.22	4.7	1.1	J	0.18	4.7	1.1	J	0.18	4.7	0.63	JX	0.35	4.7	1.1	J	0.32	4.7
DRMY12 Comp Rep 4	6.2	14	24	ND	U	0.53	4.8	ND	U	0.58	4.8	0.63	JX	0.23	4.8	ND	U	0.22	4.8	0.92	J	0.19	4.8	1.3	J	0.19	4.8	0.75	JX	0.35	4.8	1.3	J	0.32	4.8
DRMY12 Comp Rep 5	7.1	12	22	ND	U	0.54	4.9	ND	U	0.59	4.9	0.55	JX	0.23	4.9	ND	U	0.23	4.9	0.80	J	0.19	4.9	1.1	J	0.19	4.9	0.62	JX	0.36	4.9	1.1	J	0.33	4.9
DRMY12 Comp Mean[1]	6.7	**15**	**24**	0.53				0.58				0.67				0.22				1.0				1.2				0.71				1.2			
Adjusted Concentration	--	--	--	0.53				0.58				0.67				0.22				1.0				2.0				1.5				2.7			
% of reference tissue	123	228	177	100				100				256				93				228				202				118				324			

TABLE 34
Analytical Results for Wet Weight PAHs in *Macoma nasuta* Tissues

Analyte:	Benzo(g,h,i)perylene				Benzo(k)fluoranthene				Chrysene[HMW]				Dibenzo(a,h)anthracene[HMW]				Fluoranthene[HMW]				Fluorene[LMW]				Indeno(1,2,3-cd)pyrene				Naphthalene[LMW]				Phenanthrene[LMW]				Pyrene[HMW]			
Sample-Replicate #	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
CHEC12-1 Comp Rep 1	ND	U	0.47	5.0	0.39	J	0.29	5.0	1.5	J	0.28	5.0	ND	U	0.43	5.0	3.3	J	0.25	5.0	0.88	J	0.26	5.0	ND	U	0.48	5.0	2.1	J	0.75	5.0	1.8	J	0.33	5.0	2.0	JX	0.25	5.0
CHEC12-1 Comp Rep 2	ND	U	0.47	5.0	ND	U	0.29	5.0	1.4	J	0.28	5.0	ND	U	0.43	5.0	3.1	J	0.25	5.0	0.83	J	0.26	5.0	ND	U	0.48	5.0	3.3	J	0.75	5.0	1.7	J	0.33	5.0	1.3	JX	0.25	5.0
CHEC12-1 Comp Rep 3	ND	U	0.47	5.0	ND	U	0.29	5.0	1.3	J	0.28	5.0	ND	U	0.43	5.0	3.2	J	0.25	5.0	0.74	J	0.26	5.0	ND	U	0.48	5.0	2.5	J	0.75	5.0	1.5	J	0.33	5.0	1.6	J	0.25	5.0
CHEC12-1 Comp Rep 4	ND	U	0.48	5.0	0.39	J	0.29	5.0	1.3	J	0.28	5.0	ND	U	0.43	5.0	3.3	J	0.25	5.0	0.80	J	0.26	5.0	ND	U	0.48	5.0	3.7	J	0.75	5.0	1.5	J	0.33	5.0	1.7	JX	0.25	5.0
CHEC12-1 Comp Rep 5	ND	U	0.48	5.0	0.35	J	0.29	5.0	1.3	J	0.28	5.0	ND	U	0.43	5.0	3.0	J	0.25	5.0	0.62	J	0.26	5.0	ND	U	0.48	5.0	2.4	J	0.75	5.0	1.3	J	0.33	5.0	1.5	JX	0.25	5.0
CHEC12-1 Comp Mean[1]	0.47				0.34				1.4				0.43				3.2				0.77				0.48				2.8				1.6				1.6			
Adjusted Concentration	1.4				0.79				1.9				0.86				3.5				0.77				1.4				2.8				1.6				1.8			
% of reference tissue	103				123				143				103				136				91				104				387				76				100			
CHEC12-2 Comp Rep 1	ND	U	0.47	5.0	ND	U	0.28	5.0	1.1	J	0.27	5.0	ND	U	0.43	5.0	1.8	J	0.25	5.0	0.75	J	0.26	5.0	ND	U	0.48	5.0	3.0	J	0.74	5.0	1.1	J	0.33	5.0	1.1	JX	0.25	5.0
CHEC12-2 Comp Rep 2	ND	U	0.47	5.0	ND	U	0.28	5.0	0.80	J	0.27	5.0	ND	U	0.43	5.0	1.5	J	0.25	5.0	0.70	J	0.26	5.0	ND	U	0.48	5.0	3.4	J	0.74	5.0	1.3	J	0.33	5.0	0.86	JX	0.25	5.0
CHEC12-2 Comp Rep 3	ND	U	0.48	5.0	ND	U	0.29	5.0	1.0	J	0.28	5.0	ND	U	0.43	5.0	1.7	J	0.25	5.0	0.73	J	0.26	5.0	ND	U	0.48	5.0	3.3	J	0.75	5.0	1.0	J	0.33	5.0	0.84	JX	0.25	5.0
CHEC12-2 Comp Rep 4	ND	U	0.46	4.8	ND	U	0.28	4.8	0.64	J	0.27	4.8	ND	U	0.41	4.8	1.0	J	0.24	4.8	0.61	J	0.25	4.8	ND	U	0.46	4.8	2.3	J	0.72	4.8	0.87	J	0.32	4.8	0.48	J	0.24	4.8
CHEC12-2 Comp Rep 5	ND	U	0.48	5.0	ND	U	0.29	5.0	1.1	J	0.28	5.0	ND	U	0.43	5.0	1.8	J	0.25	5.0	0.77	J	0.26	5.0	ND	U	0.48	5.0	3.8	J	0.75	5.0	1.3	J	0.33	5.0	0.75	JX	0.25	5.0
CHEC12-2 Comp Mean[1]	0.47				0.28				0.93				0.43				1.6				0.71				0.48				3.2				1.1				0.81			
Adjusted Concentration	1.4				0.65				1.3				0.85				1.7				0.71				1.4				3.2				1.1				0.89			
% of reference tissue	102				102				97				102				67				84				103				436				55				50			
MTPL12 Comp Rep 1	ND	U	0.44	4.7	ND	U	0.27	4.7	1.2	J	0.26	4.7	ND	U	0.40	4.7	2.4	J	0.23	4.7	0.88	J	0.25	4.7	ND	U	0.45	4.7	3.2	J	0.70	4.7	2.0	J	0.31	4.7	1.2	J	0.24	4.7
MTPL12 Comp Rep 2	ND	U	0.45	4.8	ND	U	0.27	4.8	0.93	J	0.26	4.8	ND	U	0.41	4.8	1.7	J	0.24	4.8	0.82	J	0.25	4.8	ND	U	0.46	4.8	3.4	J	0.71	4.8	1.9	J	0.32	4.8	0.82	JX	0.24	4.8
MTPL12 Comp Rep 3	ND	U	0.46	4.8	ND	U	0.28	4.8	0.84	J	0.27	4.8	ND	U	0.41	4.8	1.1	J	0.24	4.8	0.71	J	0.25	4.8	ND	U	0.46	4.8	3.0	J	0.72	4.8	1.1	J	0.32	4.8	0.45	JX	0.24	4.8
MTPL12 Comp Rep 4	ND	U	0.45	4.7	ND	U	0.27	4.7	0.86	J	0.26	4.7	ND	U	0.41	4.7	1.0	J	0.23	4.7	0.65	J	0.25	4.7	ND	U	0.45	4.7	2.7	J	0.70	4.7	1.1	J	0.31	4.7	0.51	JX	0.24	4.7
MTPL12 Comp Rep 5	ND	U	0.46	4.8	ND	U	0.28	4.8	0.93	J	0.27	4.8	ND	U	0.41	4.8	1.6	J	0.24	4.8	0.78	J	0.25	4.8	ND	U	0.46	4.8	3.0	J	0.72	4.8	1.6	J	0.32	4.8	0.92	JX	0.24	4.8
MTPL12 Comp Mean[1]	0.45				0.27				0.95				0.41				1.6				0.77				0.46				3.1				1.5				0.78			
Adjusted Concentration	1.3				0.63				1.3				0.82				1.7				0.77				1.4				3.1				1.5				0.86			
% of reference tissue	98				99				100				98				67				91				99				423				75				48			
REHR12 Comp Rep 1	ND	U	0.46	4.9	ND	U	0.28	4.9	0.72	J	0.27	4.9	ND	U	0.42	4.9	0.88	J	0.24	4.9	0.75	J	0.25	4.9	ND	U	0.47	4.9	2.4	J	0.73	4.9	1.4	J	0.32	4.9	0.59	JX	0.25	4.9
REHR12 Comp Rep 2	ND	U	0.45	4.8	ND	U	0.27	4.8	0.90	J	0.26	4.8	ND	U	0.41	4.8	0.87	J	0.24	4.8	0.73	J	0.25	4.8	ND	U	0.46	4.8	2.0	J	0.71	4.8	1.1	J	0.32	4.8	0.57	JX	0.24	4.8
REHR12 Comp Rep 3	ND	U	0.45	4.8	ND	U	0.27	4.8	0.65	J	0.27	4.8	ND	U	0.41	4.8	0.69	J	0.24	4.8	0.74	J	0.25	4.8	ND	U	0.46	4.8	2.7	J	0.72	4.8	1.1	J	0.32	4.8	0.40	JX	0.24	4.8
REHR12 Comp Rep 4	ND	U	0.48	5.0	ND	U	0.29	5.0	0.58	J	0.28	5.0	ND	U	0.43	5.0	0.68	J	0.25	5.0	0.74	J	0.26	5.0	ND	U	0.48	5.0	2.5	J	0.75	5.0	1.2	J	0.33	5.0	0.42	JX	0.25	5.0
REHR12 Comp Rep 5	ND	U	0.45	4.7	ND	U	0.27	4.7	0.69	J	0.26	4.7	ND	U	0.41	4.7	0.72	J	0.23	4.7	0.78	J	0.25	4.7	ND	U	0.45	4.7	2.3	J	0.70	4.7	1.3	J	0.31	4.7	0.48	JX	0.24	4.7
REHR12 Comp Mean[1]	0.46				0.28				0.71				0.42				0.77				0.75				0.46				2.4				1.2				0.49			
Adjusted Concentration	1.3				0.63				0.99				0.83				0.84				0.75				1.4				2.4				1.2				0.54			
% of reference tissue	99				99				74				100				33				88				100				329				60				30			
HGIS12 Comp Rep 1	ND	U	0.46	4.8	0.33	J	0.28	4.8	1.2	J	0.27	4.8	ND	U	0.42	4.8	2.0	J	0.24	4.8	0.51	J	0.25	4.8	ND	U	0.46	4.8	ND	U	0.72	4.8	1.6	J	0.32	4.8	1.6	J	0.24	4.8
HGIS12 Comp Rep 2	ND	U	0.44	4.7	ND	U	0.27	4.7	1.4	JX	0.26	4.7	ND	U	0.40	4.7	1.9	J	0.23	4.7	0.54	J	0.25	4.7	ND	U	0.45	4.7	ND	U	0.70	4.7	1.5	J	0.31	4.7	1.5	J	0.24	4.7
HGIS12 Comp Rep 3	ND	U	0.44	4.6	0.34	J	0.27	4.6	1.4	J	0.26	4.6	ND	U	0.40	4.6	2.0	J	0.23	4.6	0.69	J	0.24	4.6	ND	U	0.45	4.6	0.77	J	0.69	4.6	1.7	J	0.31	4.6	1.7	J	0.23	4.6
HGIS12 Comp Rep 4	ND	U	0.46	4.9	0.37	J	0.28	4.9	1.2	JX	0.27	4.9	ND	U	0.42	4.9	2.4	J	0.24	4.9	0.65	J	0.26	4.9	ND	U	0.47	4.9	1.4	J	0.73	4.9	1.8	J	0.32	4.9	1.9	J	0.25	4.9
HGIS12 Comp Rep 5	ND	U	0.46	4.8	ND	U	0.28	4.8	0.82	J	0.27	4.8	ND	U	0.41	4.8	2.0	J	0.24	4.8	0.57	J	0.25	4.8	ND	U	0.46	4.8	ND	U	0.72	4.8	1.3	J	0.32	4.8	1.6	J	0.24	4.8
HGIS12 Comp Mean[1]	0.45				0.32				1.2				0.41				2.1				0.59				0.46				0.86				1.6				1.7			
Adjusted Concentration	1.3				0.73				1.7				0.82				2.3				0.59				1.4				0.86				1.6				1.8			
% of reference tissue	98				114				126				99				88				70				99				119				77				102			
DRMY12 Comp Rep 1	ND	U	0.47	4.9	0.50	J	0.28	4.9	2.1	J	0.27	4.9	ND	U	0.42	4.9	7.7	--	0.24	4.9	0.92	J	0.26	4.9	ND	U	0.47	4.9	1.4	J	0.73	4.9	1.7	J	0.33	4.9	5.5	--	0.25	4.9
DRMY12 Comp Rep 2	ND	U	0.45	4.7	0.52	J	0.27	4.7	2.5	J	0.26	4.7	ND	U	0.40	4.7	6.6	--	0.23	4.7	0.94	J	0.25	4.7	ND	U	0.45	4.7	ND	U	0.70	4.7	1.9	J	0.31	4.7	4.2	J	0.24	4.7
DRMY12 Comp Rep 3	ND	U	0.45	4.7	0.52	J	0.27	4.7	2.0	J	0.26	4.7	ND	U	0.41	4.7	5.9	--	0.24	4.7	0.92	J	0.25	4.7	ND	U	0.46	4.7	ND	U	0.71	4.7	2.0	J	0.32	4.7	4.3	J	0.24	4.7
DRMY12 Comp Rep 4	ND	U	0.46	4.8	0.55	J	0.28	4.8	2.5	J	0.27	4.8	ND	U	0.42	4.8	5.8	--	0.24	4.8	0.78	J	0.25	4.8	ND	U	0.46	4.8	ND	U	0.72	4.8	2.0	J	0.32	4.8	3.7	J	0.24	4.8
DRMY12 Comp Rep 5	ND	U	0.47	4.9	0.48	J	0.28	4.9	1.8	J	0.27	4.9	ND	U	0.43	4.9	4.9	--	0.24	4.9	0.80	J	0.26	4.9	ND	U	0.47	4.9	2.1	J	0.74	4.9	1.7	J	0.33	4.9	3.3	J	0.25	4.9
DRMY12 Comp Mean[1]	0.46				0.51				2.2				0.42				6.2				0.87				0.46				1.1				1.9				4.2			
Adjusted Concentration	1.3				1.2				3.1				0.83				**6.8**				0.87				1.4				1.1				1.9				4.6			
% of reference tissue	100				185				229				100				264				103				100				156				91				259			

TABLE 34

Analytical Results for Wet Weight PAHs in *Macoma nasuta* Tissues

Analyte:	Total LMW PAHs	Total HMW PAHs	Total PAHs	1-Methylnaphthalene[LMW]				2-Methylnaphthalene[LMW]				Acenaphthene[LMW]				Acenaphthylene				Anthracene[LMW]				Benzo(a)anthracene[HMW]				Benzo(a)pyrene[HMW]				Benzo(b)fluoranthene			
Sample-Replicate #	Result µg/kg	Result µg/kg	Result µg/kg	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
WLR12 Comp Rep 1	5.1	6.2	13	ND	U	0.53	4.8	ND	U	0.58	4.8	0.73	JX	0.23	4.8	ND	U	0.22	4.8	0.48	J	0.19	4.8	0.64	J	0.19	4.8	ND	U	0.35	4.8	0.43	J	0.32	4.8
WLR12 Comp Rep 2	5.0	6.4	13	ND	U	0.55	5.0	ND	U	0.60	5.0	0.57	JX	0.24	5.0	ND	U	0.23	5.0	0.51	J	0.19	5.0	0.64	J	0.19	5.0	0.64	JX	0.37	5.0	0.39	J	0.33	5.0
WLR12 Comp Rep 3	5.2	6.7	14	ND	U	0.53	4.8	ND	U	0.57	4.8	0.90	JX	0.23	4.8	ND	U	0.22	4.8	0.56	J	0.18	4.8	0.58	J	0.18	4.8	0.48	JX	0.35	4.8	0.47	J	0.32	4.8
WLR12 Comp Rep 4	6.9	7.0	16	ND	U	0.54	4.9	ND	U	0.58	4.9	0.74	JX	0.23	4.9	ND	U	0.23	4.9	0.50	J	0.19	4.9	0.54	J	0.19	4.9	0.49	JX	0.36	4.9	0.45	J	0.32	4.9
WLR12 Comp Rep 5	4.7	6.2	13	ND	U	0.53	4.8	ND	U	0.57	4.8	0.51	JX	0.23	4.8	ND	U	0.22	4.8	0.39	J	0.19	4.8	0.59	J	0.19	4.8	0.37	JX	0.35	4.8	0.47	J	0.32	4.8
WLR12 Comp Mean[1]	5.4	6.5	14	0.54				0.58				0.69				0.22				0.49				0.60				0.47				0.44			
Adjusted Concentration	--	--	--	0.54				0.58				0.69				0.22				0.49				1.0				0.98				1.0			
% of reference tissue	99	100	100	101				100				263				93				107				102				78				123			
WUTB12 Comp Rep 1	7.0	12	21	ND	U	0.48	4.3	ND	U	0.52	4.3	0.55	JX	0.21	4.3	ND	U	0.20	4.3	0.74	J	0.17	4.3	0.88	J	0.17	4.3	0.46	JX	0.32	4.3	0.78	J	0.29	4.3
WUTB12 Comp Rep 2	5.0	11	19	ND	U	0.51	4.7	ND	U	0.56	4.7	ND	U	0.22	4.7	ND	U	0.22	4.7	0.52	J	0.18	4.7	0.88	J	0.18	4.7	0.57	JX	0.34	4.7	0.86	J	0.31	4.7
WUTB12 Comp Rep 3	6.6	59	198	1.1	JX	0.55	5.0	ND	U	0.60	5.0	ND	U	0.24	5.0	ND	U	0.23	5.0	ND	U	0.94	25	ND	U	0.94	25	ND	Ui	2.0	25	ND	U	1.7	25
WUTB12 Comp Rep 4	4.8	11	18	ND	U	0.53	4.8	ND	U	0.58	4.8	ND	U	0.23	4.8	0.28	JX	0.23	4.8	0.60	J	0.19	4.8	0.90	J	0.19	4.8	0.49	JX	0.36	4.8	0.77	J	0.32	4.8
WUTB12 Comp Rep 5	5.6	12	19	ND	U	0.52	4.8	ND	U	0.57	4.8	0.42	JX	0.23	4.8	ND	U	0.22	4.8	0.72	J	0.18	4.8	0.87	J	0.18	4.8	0.59	JX	0.35	4.8	0.76	J	0.32	4.8
WUTB12 Comp Mean[1]	5.8	**21**	**55**	0.63				0.57				0.33				0.23				0.70				0.89				0.82				0.97			
Adjusted Concentration	--	--	--	0.63				0.57				0.33				0.23				0.70				1.5				1.7				2.2			
% of reference tissue	107	321	400	118				98				127				96				154				153				137				272			
DANI12 Comp Rep 1	11	7.1	20	ND	U	0.54	4.9	ND	U	0.59	4.9	0.47	JX	0.23	4.9	ND	U	0.23	4.9	0.65	J	0.19	4.9	0.65	J	0.19	4.9	1.0	JX	0.36	4.9	0.65	J	0.33	4.9
DANI12 Comp Rep 2	5.1	6.1	13	ND	U	0.53	4.9	ND	U	0.58	4.9	0.28	JX	0.23	4.9	ND	U	0.23	4.9	0.56	J	0.19	4.9	0.54	J	0.19	4.9	0.77	JX	0.36	4.9	0.66	J	0.32	4.9
DANI12 Comp Rep 3	5.4	6.7	14	ND	U	0.53	4.8	ND	U	0.58	4.8	0.42	JX	0.23	4.8	ND	U	0.22	4.8	0.64	J	0.19	4.8	0.60	J	0.19	4.8	0.89	JX	0.35	4.8	0.69	J	0.32	4.8
DANI12 Comp Rep 4	9.6	7.6	20	ND	U	0.53	4.8	ND	U	0.58	4.8	0.40	JX	0.23	4.8	ND	U	0.23	4.8	0.59	J	0.19	4.8	0.89	JX	0.19	4.8	1.1	JX	0.36	4.8	0.81	J	0.32	4.8
DANI12 Comp Rep 5	9.2	8.8	20	ND	U	0.51	4.7	ND	U	0.56	4.7	0.37	JX	0.22	4.7	ND	U	0.22	4.7	0.60	J	0.18	4.7	0.58	J	0.18	4.7	1.5	JX	0.34	4.7	0.80	J	0.31	4.7
DANI12 Comp Mean[1]	8.0	7.3	17	0.53				0.58				0.39				0.23				0.61				0.65				1.1				0.72			
Adjusted Concentration	--	--	--	0.53				0.58				0.39				0.23				0.61				1.1				2.2				1.7			
% of reference tissue	146	112	127	100				100				148				94				133				112				176				202			
CCRK12 Comp Rep 1	5.1	8.7	16	ND	U	0.55	5.0	ND	U	0.60	5.0	0.31	JX	0.24	5.0	ND	U	0.23	5.0	0.63	J	0.19	5.0	0.75	J	0.19	5.0	0.76	JX	0.37	5.0	1.0	J	0.33	5.0
CCRK12 Comp Rep 2	5.3	9.7	18	ND	U	0.51	4.7	ND	U	0.56	4.7	0.32	JX	0.22	4.7	0.25	JX	0.22	4.7	0.64	J	0.18	4.7	1.1	J	0.18	4.7	1.1	JX	0.34	4.7	1.3	J	0.31	4.7
CCRK12 Comp Rep 3	8.6	8.9	20	ND	U	0.53	4.8	ND	U	0.58	4.8	0.39	JX	0.23	4.8	ND	U	0.22	4.8	0.67	J	0.19	4.8	0.82	J	0.19	4.8	0.78	JX	0.35	4.8	1.2	J	0.32	4.8
CCRK12 Comp Rep 4	5.7	13	24	ND	U	0.52	4.8	ND	U	0.57	4.8	0.35	JX	0.23	4.8	ND	U	0.22	4.8	0.68	J	0.18	4.8	1.7	J	0.18	4.8	1.8	JX	0.35	4.8	2.4	J	0.32	4.8
CCRK12 Comp Rep 5	10	8.7	22	ND	U	0.54	5.0	ND	U	0.59	5.0	0.38	JX	0.24	5.0	ND	U	0.23	5.0	0.68	J	0.19	5.0	0.78	J	0.19	5.0	1.1	JX	0.36	5.0	1.0	J	0.33	5.0
CCRK12 Comp Mean[1]	7.0	9.9	20	0.53				0.58				0.35				0.23				0.66				1.0				1.1				1.4			
Adjusted Concentration	--	--	--	0.53				0.58				0.35				0.23				0.66				1.8				2.3				3.2			
% of reference tissue	129	152	146	100				100				134				96				144				176				185				385			
UH12 Comp Rep 1	9.9	10	23	0.56	J	0.55	5.0	ND	U	0.60	5.0	0.64	JX	0.24	5.0	0.31	J	0.23	5.0	0.91	J	0.19	5.0	1.1	J	0.19	5.0	0.98	JX	0.37	5.0	1.2	J	0.33	5.0
UH12 Comp Rep 2	8.2	8.7	20	ND	U	0.54	4.9	ND	U	0.59	4.9	0.35	JX	0.23	4.9	ND	U	0.23	4.9	0.82	J	0.19	4.9	1.0	J	0.19	4.9	0.61	JX	0.36	4.9	1.0	J	0.33	4.9
UH12 Comp Rep 3	10	11	24	ND	U	0.54	4.9	0.60	J	0.59	4.9	0.41	JX	0.23	4.9	ND	U	0.23	4.9	0.91	J	0.19	4.9	0.96	J	0.19	4.9	0.94	JX	0.36	4.9	1.1	J	0.33	4.9
UH12 Comp Rep 4	9.6	10	22	ND	U	0.55	5.0	ND	U	0.60	5.0	0.52	JX	0.24	5.0	ND	U	0.23	5.0	0.83	J	0.19	5.0	1.0	J	0.19	5.0	0.88	JX	0.37	5.0	1.0	J	0.33	5.0
UH12 Comp Rep 5	11	10	24	ND	U	0.55	5.0	ND	U	0.60	5.0	1.2	JX	0.24	5.0	ND	U	0.23	5.0	0.75	J	0.19	5.0	0.99	J	0.19	5.0	1.1	JX	0.37	5.0	1.0	J	0.33	5.0
UH12 Comp Mean[1]	9.8	10	23	0.55				0.60				0.62				0.25				0.84				1.0				0.90				1.1			
Adjusted Concentration	--	--	--	0.55				0.60				0.62				0.25				0.84				1.7				1.9				2.4			
% of reference tissue	180	155	165	103				103				238				103				184				173				151				296			
ORDT12 Comp Rep 1	5.5	14	22	ND	U	0.55	5.0	ND	U	0.60	5.0	0.29	JX	0.24	5.0	ND	U	0.23	5.0	1.2	J	0.19	5.0	1.2	J	0.19	5.0	0.62	JX	0.37	5.0	1.2	J	0.33	5.0
ORDT12 Comp Rep 2	6.0	18	27	ND	U	0.52	4.7	ND	U	0.57	4.7	0.29	JX	0.22	4.7	ND	U	0.22	4.7	1.4	J	0.18	4.7	1.7	J	0.18	4.7	0.89	JX	0.35	4.7	1.6	J	0.31	4.7
ORDT12 Comp Rep 3	5.6	13	22	ND	U	0.54	5.0	ND	U	0.59	5.0	0.29	JX	0.24	5.0	ND	U	0.23	5.0	1.2	J	0.19	5.0	1.3	J	0.19	5.0	0.66	JX	0.36	5.0	1.2	J	0.33	5.0
ORDT12 Comp Rep 4	9.9	14	26	ND	U	0.52	4.7	ND	U	0.57	4.7	0.46	JX	0.23	4.7	0.24	JX	0.22	4.7	1.2	J	0.18	4.7	1.5	J	0.18	4.7	1.4	JX	0.35	4.7	1.3	J	0.31	4.7
ORDT12 Comp Rep 5	10	16	29	ND	U	0.54	4.9	ND	U	0.59	4.9	0.33	JX	0.23	4.9	ND	U	0.23	4.9	1.3	J	0.19	4.9	1.4	J	0.19	4.9	1.1	JX	0.36	4.9	1.3	J	0.33	4.9
ORDT12 Comp Mean[1]	7.4	**15**	**25**	0.53				0.58				0.33				0.23				1.3				1.4				0.93				1.3			
Adjusted Concentration	--	--	--	0.53				0.58				0.33				0.23				1.3				2.4				2.0				3.0			
% of reference tissue	137	229	185	101				101				127				96				275				243				156				369			

TABLE 34
Analytical Results for Wet Weight PAHs in *Macoma nasuta* Tissues

Analyte:	Benzo(g,h,i)perylene				Benzo(k)fluoranthene				Chrysene[HMW]				Dibenzo(a,h)anthracene[HMW]				Fluoranthene[HMW]				Fluorene[LMW]				Indeno(1,2,3-cd)pyrene				Naphthalene[LMW]				Phenanthrene[LMW]				Pyrene[HMW]			
Sample-Replicate #	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
WLR12 Comp Rep 1	ND	U	0.46	4.8	0.30	J	0.28	4.8	1.3	J	0.27	4.8	ND	U	0.42	4.8	2.2	J	0.24	4.8	0.76	J	0.25	4.8	ND	U	0.46	4.8	ND	U	0.72	4.8	1.3	J	0.32	4.8	1.3	J	0.24	4.8
WLR12 Comp Rep 2	ND	U	0.48	5.0	ND	U	0.29	5.0	1.2	J	0.28	5.0	ND	U	0.43	5.0	2.2	J	0.25	5.0	0.71	J	0.26	5.0	ND	U	0.48	5.0	ND	U	0.75	5.0	1.3	J	0.33	5.0	1.3	J	0.25	5.0
WLR12 Comp Rep 3	ND	U	0.45	4.8	ND	U	0.27	4.8	1.3	JX	0.27	4.8	ND	U	0.41	4.8	2.5	J	0.24	4.8	0.50	J	0.25	4.8	ND	U	0.46	4.8	ND	U	0.71	4.8	1.4	J	0.32	4.8	1.4	J	0.24	4.8
WLR12 Comp Rep 4	ND	U	0.46	4.9	ND	U	0.28	4.9	1.4	J	0.27	4.9	ND	U	0.42	4.9	2.5	J	0.24	4.9	0.85	J	0.26	4.9	ND	U	0.47	4.9	2.2	J	0.73	4.9	1.5	J	0.32	4.9	1.6	J	0.25	4.9
WLR12 Comp Rep 5	ND	U	0.46	4.8	ND	U	0.28	4.8	1.2	J	0.27	4.8	ND	U	0.41	4.8	2.2	J	0.24	4.8	0.69	J	0.25	4.8	ND	U	0.46	4.8	ND	U	0.72	4.8	1.3	J	0.32	4.8	1.4	J	0.24	4.8
WLR12 Comp Mean[1]	0.46				0.28				1.3				0.42				2.3				0.70				0.47				1.0				1.4				1.4			
Adjusted Concentration	1.3				0.65				1.8				0.84				2.6				0.70				1.4				1.0				1.4				1.5			
% of reference tissue	100				102				134				100				99				83				101				141				67				86			
WUTB12 Comp Rep 1	ND	U	0.41	4.3	0.38	J	0.25	4.3	1.8	J	0.24	4.3	ND	U	0.37	4.3	5.4	--	0.22	4.3	0.90	J	0.23	4.3	ND	U	0.42	4.3	2.1	J	0.65	4.3	1.7	J	0.29	4.3	3.3	J	0.22	4.3
WUTB12 Comp Rep 2	ND	U	0.45	4.7	0.28	J	0.27	4.7	1.5	JX	0.26	4.7	ND	U	0.40	4.7	5.0	--	0.23	4.7	0.60	J	0.25	4.7	ND	U	0.45	4.7	1.2	J	0.70	4.7	1.4	J	0.31	4.7	2.9	J	0.24	4.7
WUTB12 Comp Rep 3	ND	Ui	82	82	ND	U	1.5	25	ND	Ui	45	45	ND	U	2.2	25	5.2	JD	1.3	25	0.65	J	0.26	5.0	ND	Ui	47	47	1.3	J	0.74	5.0	ND	Ui	1.8	25	3.4	JD	1.3	25
WUTB12 Comp Rep 4	ND	U	0.46	4.8	0.33	J	0.28	4.8	1.4	J	0.27	4.8	ND	U	0.42	4.8	5.2	--	0.24	4.8	0.67	J	0.25	4.8	ND	U	0.47	4.8	ND	U	0.72	4.8	1.5	J	0.32	4.8	2.5	J	0.24	4.8
WUTB12 Comp Rep 5	ND	U	0.45	4.8	0.35	J	0.27	4.8	1.5	J	0.26	4.8	ND	U	0.41	4.8	5.1	--	0.24	4.8	0.87	J	0.25	4.8	ND	U	0.46	4.8	ND	U	0.71	4.8	1.8	J	0.32	4.8	3.1	J	0.24	4.8
WUTB12 Comp Mean[1]	17				0.57				10				0.76				5.2				0.74				9.8				1.2				1.6				3.0			
Adjusted Concentration	49				1.3				14				1.5				**5.7**				0.74				29				1.2				1.6				3.3			
% of reference tissue	3626				204				1073				183				221				87				2113				167				80				188			
DANI12 Comp Rep 1	ND	U	0.47	4.9	0.33	J	0.28	4.9	1.5	J	0.27	4.9	ND	U	0.43	4.9	1.9	J	0.24	4.9	1.1	J	0.26	4.9	ND	U	0.47	4.9	5.7	--	0.74	4.9	1.5	J	0.33	4.9	1.6	JX	0.25	4.9
DANI12 Comp Rep 2	ND	U	0.46	4.9	ND	U	0.28	4.9	1.3	J	0.27	4.9	ND	U	0.42	4.9	1.7	J	0.24	4.9	1.0	J	0.26	4.9	ND	U	0.47	4.9	ND	U	0.73	4.9	1.4	J	0.32	4.9	1.4	JX	0.25	4.9
DANI12 Comp Rep 3	ND	U	0.46	4.8	0.29	J	0.28	4.8	1.3	J	0.27	4.8	ND	U	0.42	4.8	1.9	J	0.24	4.8	1.0	J	0.25	4.8	ND	U	0.46	4.8	ND	U	0.72	4.8	1.5	J	0.32	4.8	1.6	JX	0.24	4.8
DANI12 Comp Rep 4	ND	U	0.46	4.8	0.33	J	0.28	4.8	1.4	J	0.27	4.8	ND	U	0.42	4.8	2.1	J	0.24	4.8	1.1	J	0.25	4.8	ND	U	0.47	4.8	4.9	--	0.72	4.8	1.5	J	0.32	4.8	1.7	JX	0.24	4.8
DANI12 Comp Rep 5	ND	U	0.44	4.7	0.33	J	0.27	4.7	1.4	J	0.26	4.7	ND	U	0.40	4.7	2.8	J	0.23	4.7	1.0	J	0.24	4.7	ND	U	0.45	4.7	4.6	J	0.70	4.7	1.6	J	0.31	4.7	2.1	JX	0.24	4.7
DANI12 Comp Mean[1]	0.46				0.31				1.4				0.42				2.1				1.0				0.46				3.3				1.5				1.7			
Adjusted Concentration	1.3				0.72				1.9				0.84				2.3				1.0				1.4				**3.3**				1.5				1.8			
% of reference tissue	99				112				145				100				89				123				100				460				74				104			
CCRK12 Comp Rep 1	ND	U	0.48	5.0	0.44	J	0.29	5.0	1.6	J	0.28	5.0	ND	U	0.43	5.0	2.5	J	0.25	5.0	0.98	J	0.26	5.0	ND	U	0.48	5.0	ND	U	0.75	5.0	1.3	J	0.33	5.0	2.7	JX	0.25	5.0
CCRK12 Comp Rep 2	ND	U	0.44	4.7	0.56	J	0.27	4.7	1.7	J	0.26	4.7	ND	U	0.40	4.7	2.5	J	0.23	4.7	0.98	J	0.25	4.7	ND	U	0.45	4.7	ND	U	0.70	4.7	1.6	J	0.31	4.7	2.9	JX	0.24	4.7
CCRK12 Comp Rep 3	ND	U	0.46	4.8	0.51	J	0.28	4.8	1.9	J	0.27	4.8	ND	U	0.42	4.8	2.6	J	0.24	4.8	1.1	J	0.25	4.8	ND	U	0.46	4.8	3.8	J	0.72	4.8	1.5	J	0.32	4.8	2.4	J	0.24	4.8
CCRK12 Comp Rep 4	0.50	J	0.45	4.8	0.94	J	0.27	4.8	2.5	J	0.26	4.8	ND	U	0.41	4.8	3.7	J	0.24	4.8	1.1	J	0.25	4.8	0.54	J	0.46	4.8	ND	U	0.71	4.8	1.8	J	0.32	4.8	3.2	JX	0.24	4.8
CCRK12 Comp Rep 5	ND	U	0.47	5.0	0.44	J	0.28	5.0	1.9	J	0.27	5.0	ND	U	0.43	5.0	2.3	J	0.25	5.0	1.1	J	0.26	5.0	ND	U	0.48	5.0	5.4	--	0.74	5.0	1.6	J	0.33	5.0	2.2	JX	0.25	5.0
CCRK12 Comp Mean[1]	0.47				0.58				1.9				0.42				2.7				1.1				0.48				2.3				1.6				2.7			
Adjusted Concentration	1.4				1.3				2.7				0.84				3.0				1.1				1.4				2.3				1.6				3.0			
% of reference tissue	102				208				201				100				116				124				104				314				76				168			
UH12 Comp Rep 1	ND	U	0.48	5.0	0.47	J	0.29	5.0	2.0	J	0.28	5.0	ND	U	0.43	5.0	3.0	J	0.25	5.0	0.97	J	0.26	5.0	ND	U	0.48	5.0	4.8	J	0.75	5.0	1.4	J	0.33	5.0	2.7	JX	0.25	5.0
UH12 Comp Rep 2	ND	U	0.47	4.9	0.48	J	0.28	4.9	1.6	J	0.27	4.9	ND	U	0.42	4.9	2.9	J	0.24	4.9	0.96	J	0.26	4.9	ND	U	0.47	4.9	3.6	J	0.74	4.9	1.3	J	0.33	4.9	2.2	JX	0.25	4.9
UH12 Comp Rep 3	ND	U	0.47	4.9	0.45	J	0.28	4.9	1.9	J	0.27	4.9	ND	U	0.42	4.9	4.0	J	0.24	4.9	1.1	J	0.26	4.9	ND	U	0.47	4.9	4.9	J	0.74	4.9	1.5	J	0.33	4.9	3.1	JX	0.25	4.9
UH12 Comp Rep 4	ND	U	0.48	5.0	0.43	J	0.29	5.0	1.9	J	0.28	5.0	ND	U	0.43	5.0	3.1	J	0.25	5.0	1.0	J	0.26	5.0	ND	U	0.48	5.0	4.7	J	0.75	5.0	1.4	J	0.33	5.0	2.7	JX	0.25	5.0
UH12 Comp Rep 5	ND	U	0.48	5.0	0.55	J	0.29	5.0	1.8	J	0.28	5.0	ND	U	0.43	5.0	3.2	J	0.25	5.0	1.0	J	0.26	5.0	ND	U	0.48	5.0	5.9	--	0.75	5.0	1.4	J	0.33	5.0	2.7	JX	0.25	5.0
UH12 Comp Mean[1]	0.48				0.48				1.8				0.43				3.2				1.0				0.48				4.8				1.4				2.7			
Adjusted Concentration	1.4				1.1				2.6				0.85				3.6				1.0				1.4				4.8				1.4				2.9			
% of reference tissue	103				171				193				102				138				119				103				660				69				165			
ORDT12 Comp Rep 1	ND	U	0.48	5.0	0.51	J	0.29	5.0	2.1	J	0.28	5.0	ND	U	0.43	5.0	5.6	--	0.25	5.0	0.86	J	0.26	5.0	ND	U	0.48	5.0	ND	U	0.75	5.0	1.2	J	0.33	5.0	4.0	J	0.25	5.0
ORDT12 Comp Rep 2	ND	U	0.45	4.7	0.58	J	0.27	4.7	2.8	J	0.26	4.7	ND	U	0.41	4.7	7.1	--	0.23	4.7	1.0	J	0.25	4.7	ND	U	0.45	4.7	ND	U	0.71	4.7	1.5	J	0.31	4.7	5.2	--	0.24	4.7
ORDT12 Comp Rep 3	ND	U	0.47	5.0	0.55	J	0.28	5.0	2.4	J	0.27	5.0	ND	U	0.43	5.0	5.3	--	0.25	5.0	0.96	J	0.26	5.0	ND	U	0.48	5.0	ND	U	0.74	5.0	1.3	J	0.33	5.0	3.4	J	0.25	5.0
ORDT12 Comp Rep 4	ND	U	0.45	4.7	0.60	J	0.27	4.7	2.2	J	0.26	4.7	ND	U	0.41	4.7	5.0	--	0.24	4.7	1.0	J	0.25	4.7	ND	U	0.46	4.7	4.8	--	0.71	4.7	1.3	J	0.31	4.7	3.0	JX	0.24	4.7
ORDT12 Comp Rep 5	ND	U	0.47	4.9	0.59	J	0.28	4.9	2.2	J	0.27	4.9	ND	U	0.42	4.9	6.1	--	0.24	4.9	1.1	J	0.26	4.9	ND	U	0.47	4.9	4.7	J	0.74	4.9	1.7	J	0.33	4.9	4.3	JX	0.25	4.9
ORDT12 Comp Mean[1]	0.46				0.57				2.3				0.42				5.8				0.98				0.47				2.3				1.4				4.0			
Adjusted Concentration	1.3				1.3				3.3				0.84				**6.4**				0.98				1.4				2.3				1.4				4.4			
% of reference tissue	100				204				245				101				249				116				101				323				69				246			

TABLE 34
Analytical Results for Wet Weight PAHs in *Macoma nasuta* Tissues

Analyte:	Total LMW PAHs	Total HMW PAHs	Total PAHs	1-Methylnaphthalene[LMW]				2-Methylnaphthalene[LMW]				Acenaphthene[LMW]				Acenaphthylene				Anthracene[LMW]				Benzo(a)anthracene[HMW]				Benzo(a)pyrene[HMW]				Benzo(b)fluoranthene			
Sample-Replicate #	Result µg/kg	Result µg/kg	Result µg/kg	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
BENW12 Comp Rep 1	4.4	5.0	11	ND	U	0.53	4.8	ND	U	0.58	4.8	0.33	JX	0.23	4.8	ND	U	0.22	4.8	0.30	J	0.19	4.8	0.28	J	0.19	4.8	ND	U	0.35	4.8	0.55	J	0.32	4.8
BENW12 Comp Rep 2	4.7	5.1	11	ND	U	0.52	4.8	ND	U	0.57	4.8	0.39	JX	0.23	4.8	ND	U	0.22	4.8	0.33	J	0.18	4.8	0.33	J	0.18	4.8	0.53	JX	0.35	4.8	ND	U	0.32	4.8
BENW12 Comp Rep 3	4.6	4.7	11	ND	U	0.54	4.9	ND	U	0.59	4.9	0.38	JX	0.23	4.9	ND	U	0.23	4.9	0.30	J	0.19	4.9	0.30	J	0.19	4.9	0.75	JX	0.36	4.9	0.43	JX	0.33	4.9
BENW12 Comp Rep 4	5.8	7.7	16	ND	U	0.54	4.9	0.60	J	0.59	4.9	0.54	JX	0.23	4.9	ND	U	0.23	4.9	0.47	J	0.19	4.9	0.35	J	0.19	4.9	1.2	JX	0.36	4.9	0.62	JX	0.33	4.9
BENW12 Comp Rep 5	7.4	3.8	13	ND	U	0.53	4.8	ND	U	0.58	4.8	0.37	JX	0.23	4.8	ND	U	0.23	4.8	0.28	J	0.19	4.8	0.25	J	0.19	4.8	0.40	JX	0.35	4.8	0.37	JX	0.32	4.8
BENW12 Comp Mean[1]	5.4	5.2	13	0.53				0.58				0.40				0.23				0.34				0.30				0.65				0.46			
Adjusted Concentration	--	--	--	0.53				0.58				0.40				0.23				0.34				0.51				1.4				1.1			
% of reference tissue	99	80	91	100				101				153				94				73				52				108				128			
HGIW12 Comp Rep 1	5.7	10	18	ND	U	0.55	5.0	ND	U	0.60	5.0	0.80	JX	0.24	5.0	ND	U	0.23	5.0	0.44	J	0.19	5.0	0.89	J	0.19	5.0	ND	U	0.36	5.0	0.76	J	0.33	5.0
HGIW12 Comp Rep 2	5.2	7.0	14	ND	U	0.54	4.9	ND	U	0.59	4.9	0.87	JX	0.23	4.9	ND	U	0.23	4.9	0.37	J	0.19	4.9	0.71	J	0.19	4.9	ND	U	0.36	4.9	0.65	J	0.32	4.9
HGIW12 Comp Rep 3	6.2	10	20	ND	U	0.55	5.0	ND	U	0.60	5.0	0.94	JX	0.24	5.0	ND	U	0.23	5.0	0.53	J	0.19	5.0	1.2	J	0.19	5.0	0.70	JX	0.37	5.0	1.2	J	0.33	5.0
HGIW12 Comp Rep 4	5.4	8.9	16	ND	U	0.55	5.0	ND	U	0.60	5.0	0.81	JX	0.24	5.0	ND	U	0.23	5.0	0.33	J	0.19	5.0	0.86	J	0.19	5.0	ND	U	0.37	5.0	0.77	J	0.33	5.0
HGIW12 Comp Rep 5	6.6	9.9	19	ND	U	0.55	5.0	ND	U	0.60	5.0	0.87	JX	0.24	5.0	ND	U	0.23	5.0	0.47	J	0.19	5.0	0.95	J	0.19	5.0	ND	U	0.37	5.0	0.91	J	0.33	5.0
HGIW12 Comp Mean[1]	5.8	9.2	18	0.55				0.60				0.86				0.23				0.43				0.92				0.43				0.86			
Adjusted Concentration	--	--	--	0.55				0.60				0.86				0.23				0.43				1.6				0.91				2.0			
% of reference tissue	107	142	127	103				103				327				96				93				158				72				240			
WRTB12 Comp Rep 1	5.4	9.9	18	ND	U	0.51	4.7	ND	U	0.56	4.7	0.79	JX	0.22	4.7	ND	U	0.22	4.7	0.34	J	0.18	4.7	0.88	J	0.18	4.7	ND	U	0.34	4.7	0.87	J	0.31	4.7
WRTB12 Comp Rep 2	7.1	14	24	ND	U	0.55	5.0	ND	U	0.59	5.0	0.77	JX	0.24	5.0	ND	U	0.23	5.0	0.49	J	0.19	5.0	1.1	J	0.19	5.0	0.59	JX	0.36	5.0	1.3	J	0.33	5.0
WRTB12 Comp Rep 3	6.6	13	22	ND	U	0.52	4.7	ND	U	0.57	4.7	1.0	JX	0.23	4.7	ND	U	0.22	4.7	0.48	J	0.18	4.7	1.1	J	0.18	4.7	0.59	JX	0.35	4.7	1.2	J	0.31	4.7
WRTB12 Comp Rep 4	6.3	13	22	ND	U	0.54	4.9	ND	U	0.59	4.9	0.66	JX	0.23	4.9	ND	U	0.23	4.9	0.37	J	0.19	4.9	1.1	J	0.19	4.9	0.50	JX	0.36	4.9	1.0	J	0.33	4.9
WRTB12 Comp Rep 5	7.0	14	23	ND	U	0.54	4.9	ND	U	0.59	4.9	0.86	JX	0.23	4.9	ND	U	0.23	4.9	0.44	J	0.19	4.9	1.0	J	0.19	4.9	ND	U	0.36	4.9	0.96	J	0.33	4.9
WRTB12 Comp Mean[1]	6.5	**13**	**22**	0.53				0.58				0.82				0.23				0.42				1.0				0.48				1.1			
Adjusted Concentration	--	--	--	0.53				0.58				0.82				0.23				0.42				1.8				1.0				2.4			
% of reference tissue	119	194	159	100		ND	U	100				311				94				93				177				80				291			
DANW12 Comp Rep 1	5.9	3.9	11	ND	U	0.51	4.6	ND	U	0.55	4.6	0.74	JX	0.22	4.6	ND	U	0.22	4.6	0.29	J	0.18	4.6	0.72	J	0.18	4.6	ND	U	0.34	4.6	ND	U	0.31	4.6
DANW12 Comp Rep 2	5.1	5.0	12	ND	U	0.55	5.0	ND	U	0.60	5.0	0.55	JX	0.24	5.0	ND	U	0.23	5.0	0.27	J	0.19	5.0	0.52	J	0.19	5.0	ND	U	0.37	5.0	0.42	J	0.33	5.0
DANW12 Comp Rep 3	6.9	4.2	13	ND	U	0.55	5.0	ND	U	0.60	5.0	0.66	JX	0.24	5.0	ND	U	0.23	5.0	0.39	J	0.19	5.0	0.69	J	0.19	5.0	ND	U	0.36	5.0	ND	U	0.33	5.0
DANW12 Comp Rep 4	7.1	4.1	13	ND	U	0.55	5.0	ND	U	0.60	5.0	0.60	JX	0.24	5.0	ND	U	0.23	5.0	0.43	J	0.19	5.0	0.62	J	0.19	5.0	ND	U	0.37	5.0	ND	U	0.33	5.0
DANW12 Comp Rep 5	7.8	5.9	15	ND	U	0.55	5.0	ND	U	0.60	5.0	0.70	JX	0.24	5.0	ND	U	0.23	5.0	0.44	J	0.19	5.0	0.56	J	0.19	5.0	ND	U	0.36	5.0	0.34	J	0.33	5.0
DANW12 Comp Mean[1]	6.5	4.6	13	0.54				0.59				0.65				0.23				0.36				0.62				0.36				0.35			
Adjusted Concentration	--	--	--	0.54				0.59				0.65				0.23				0.36				1.1				0.76				0.80			
% of reference tissue	120	71	94	102				102				248				95				79				107				60				97			
WLRW12 Comp Rep 1	4.6	4.1	10	ND	U	0.54	4.9	ND	U	0.59	4.9	0.60	JX	0.23	4.9	ND	U	0.23	4.9	0.20	J	0.19	4.9	0.44	J	0.19	4.9	ND	U	0.36	4.9	ND	U	0.33	4.9
WLRW12 Comp Rep 2	5.2	4.4	11	ND	U	0.53	4.9	ND	U	0.58	4.9	0.59	JX	0.23	4.9	ND	U	0.23	4.9	0.28	J	0.19	4.9	0.49	J	0.19	4.9	ND	U	0.36	4.9	ND	U	0.32	4.9
WLRW12 Comp Rep 3	4.9	3.3	9.9	ND	U	0.51	4.6	ND	U	0.55	4.6	0.57	JX	0.22	4.6	ND	U	0.22	4.6	0.25	J	0.18	4.6	0.39	J	0.18	4.6	ND	U	0.34	4.6	ND	U	0.31	4.6
WLRW12 Comp Rep 4	5.1	4.7	12	ND	U	0.54	4.9	ND	U	0.59	4.9	0.84	JX	0.23	4.9	ND	U	0.23	4.9	0.38	J	0.19	4.9	0.54	J	0.19	4.9	ND	U	0.36	4.9	ND	U	0.33	4.9
WLRW12 Comp Rep 5	5.7	4.3	12	ND	U	0.53	4.8	ND	U	0.58	4.8	0.73	JX	0.23	4.8	ND	U	0.22	4.8	0.32	J	0.19	4.8	0.49	J	0.19	4.8	ND	U	0.35	4.8	ND	U	0.32	4.8
WLRW12 Comp Mean[1]	5.1	4.2	11	0.53				0.58				0.67				0.23				0.29				0.47				0.35				0.32			
Adjusted Concentration	--	--	--	0.53				0.58				0.67				0.23				0.29				0.80				0.74				0.74			
% of reference tissue	94	64	80	100				100				254				94				62				80				59				90			
NCW12 Comp Rep 1	5.5	9.6	18	ND	U	0.55	5.0	ND	U	0.60	5.0	0.65	JX	0.24	5.0	ND	U	0.23	5.0	0.89	J	0.19	5.0	1.1	J	0.19	5.0	0.55	JX	0.36	5.0	0.93	J	0.33	5.0
NCW12 Comp Rep 2	5.6	8.5	17	ND	U	0.55	5.0	ND	U	0.60	5.0	0.77	JX	0.24	5.0	ND	U	0.23	5.0	0.87	J	0.19	5.0	1.1	J	0.19	5.0	0.58	JX	0.37	5.0	0.90	J	0.33	5.0
NCW12 Comp Rep 3	5.8	11	20	ND	U	0.53	4.8	ND	U	0.58	4.8	0.62	JX	0.23	4.8	ND	U	0.23	4.8	0.81	J	0.19	4.8	1.1	J	0.19	4.8	0.64	JX	0.35	4.8	1.1	J	0.32	4.8
NCW12 Comp Rep 4	5.2	7.8	15	ND	U	0.54	4.9	ND	U	0.59	4.9	0.54	JX	0.23	4.9	ND	U	0.23	4.9	0.63	J	0.19	4.9	0.86	J	0.19	4.9	0.43	JX	0.36	4.9	0.72	J	0.33	4.9
NCW12 Comp Rep 5	6.6	9.2	18	ND	U	0.54	4.9	ND	U	0.59	4.9	0.76	JX	0.23	4.9	ND	U	0.23	4.9	0.83	J	0.19	4.9	0.97	J	0.19	4.9	0.49	JX	0.36	4.9	0.89	J	0.32	4.9
NCW12 Comp Mean[1]	5.7	9.3	18	0.54				0.59				0.67				0.23				0.81				1.0				0.54				0.91			
Adjusted Concentration	--	--	--	0.54				0.59				0.67				0.23				0.81				1.7				1.1				2.1			
% of reference tissue	105	143	128	102				102				255				96				176				176				90				254			

TABLE 34
Analytical Results for Wet Weight PAHs in *Macoma nasuta* Tissues

Analyte:	Benzo(g,h,i)perylene				Benzo(k)fluoranthene				Chrysene[HMW]				Dibenzo(a,h)anthracene[HMW]				Fluoranthene[HMW]				Fluorene[LMW]				Indeno(1,2,3-cd)pyrene				Naphthalene[LMW]				Phenanthrene[LMW]				Pyrene[HMW]			
Sample-Replicate #	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
BENW12 Comp Rep 1	ND	U	0.46	4.8	0.28	J	0.28	4.8	1.3	J	0.27	4.8	ND	U	0.42	4.8	1.7	J	0.24	4.8	0.78	J	0.25	4.8	ND	U	0.46	4.8	ND	U	0.72	4.8	1.2	J	0.32	4.8	0.96	JX	0.24	4.8
BENW12 Comp Rep 2	ND	U	0.45	4.8	ND	U	0.27	4.8	1.2	J	0.26	4.8	ND	U	0.41	4.8	1.7	J	0.24	4.8	0.85	J	0.25	4.8	ND	U	0.46	4.8	ND	U	0.71	4.8	1.3	J	0.32	4.8	0.89	JX	0.24	4.8
BENW12 Comp Rep 3	ND	U	0.47	4.9	ND	UX	0.28	4.9	1.1	J	0.27	4.9	ND	U	0.42	4.9	1.4	J	0.24	4.9	0.79	J	0.26	4.9	ND	U	0.47	4.9	ND	U	0.74	4.9	1.3	J	0.33	4.9	0.73	JX	0.25	4.9
BENW12 Comp Rep 4	ND	U	0.47	4.9	ND	UX	0.28	4.9	1.5	J	0.27	4.9	ND	U	0.42	4.9	2.7	J	0.24	4.9	1.0	J	0.26	4.9	ND	U	0.47	4.9	ND	U	0.74	4.9	1.9	J	0.33	4.9	1.5	JX	0.25	4.9
BENW12 Comp Rep 5	ND	U	0.46	4.8	ND	UX	0.28	4.8	0.92	J	0.27	4.8	ND	U	0.42	4.8	1.1	J	0.24	4.8	0.62	J	0.25	4.8	ND	U	0.46	4.8	3.9	J	0.72	4.8	1.1	J	0.32	4.8	0.66	JX	0.24	4.8
BENW12 Comp Mean[1]	0.46				0.28				1.2				0.42				1.7				0.81				0.46				1.4				1.4				0.95			
Adjusted Concentration	1.3				0.64				1.7				0.84				1.9				0.81				1.4				1.4				1.4				1.0			
% of reference tissue	100				100				126				100				74				95				100				188				67				59			
HGIW12 Comp Rep 1	ND	U	0.47	5.0	0.37	J	0.29	5.0	1.6	J	0.28	5.0	ND	U	0.43	5.0	4.3	J	0.25	5.0	0.72	J	0.26	5.0	ND	U	0.48	5.0	1.3	J	0.74	5.0	1.3	J	0.33	5.0	2.5	J	0.25	5.0
HGIW12 Comp Rep 2	ND	U	0.47	4.9	0.36	J	0.28	4.9	1.2	J	0.27	4.9	ND	U	0.42	4.9	2.7	J	0.24	4.9	0.68	J	0.26	4.9	ND	U	0.47	4.9	1.2	J	0.73	4.9	0.99	J	0.32	4.9	1.6	J	0.25	4.9
HGIW12 Comp Rep 3	ND	U	0.47	5.0	0.63	J	0.29	5.0	2.0	J	0.28	5.0	ND	U	0.43	5.0	3.7	J	0.25	5.0	0.77	J	0.26	5.0	ND	U	0.48	5.0	1.2	J	0.75	5.0	1.6	J	0.33	5.0	2.4	J	0.25	5.0
HGIW12 Comp Rep 4	ND	U	0.47	5.0	0.33	J	0.29	5.0	1.4	J	0.28	5.0	ND	U	0.43	5.0	3.6	J	0.25	5.0	0.66	J	0.26	5.0	ND	U	0.48	5.0	1.2	J	0.75	5.0	1.2	J	0.33	5.0	2.2	J	0.25	5.0
HGIW12 Comp Rep 5	ND	U	0.48	5.0	0.40	J	0.29	5.0	1.8	J	0.28	5.0	ND	U	0.43	5.0	4.0	J	0.25	5.0	0.72	J	0.26	5.0	ND	U	0.48	5.0	2.1	J	0.75	5.0	1.3	J	0.33	5.0	2.3	J	0.25	5.0
HGIW12 Comp Mean[1]	0.47				0.42				1.6				0.43				3.7				0.71				0.48				1.4				1.3				2.2			
Adjusted Concentration	1.4				0.96				2.2				0.86				4.0				0.71				1.4				1.4				1.3				2.4			
% of reference tissue	102				150				168				103				156				84				103				193				63				136			
WRTB12 Comp Rep 1	ND	U	0.44	4.7	0.43	J	0.27	4.7	1.8	J	0.26	4.7	ND	U	0.40	4.7	4.0	J	0.23	4.7	0.69	J	0.24	4.7	ND	U	0.45	4.7	1.4	J	0.70	4.7	1.1	J	0.31	4.7	2.5	J	0.24	4.7
WRTB12 Comp Rep 2	ND	U	0.47	5.0	0.68	J	0.29	5.0	2.1	J	0.28	5.0	ND	U	0.43	5.0	6.0	--	0.25	5.0	0.90	J	0.26	5.0	ND	U	0.48	5.0	2.0	J	0.74	5.0	1.8	J	0.33	5.0	3.9	J	0.25	5.0
WRTB12 Comp Rep 3	ND	U	0.45	4.7	0.60	J	0.27	4.7	2.1	J	0.26	4.7	ND	U	0.41	4.7	5.1	--	0.23	4.7	0.87	J	0.25	4.7	ND	U	0.45	4.7	1.5	J	0.71	4.7	1.7	J	0.31	4.7	3.5	J	0.24	4.7
WRTB12 Comp Rep 4	ND	U	0.47	4.9	0.51	J	0.28	4.9	1.9	J	0.27	4.9	ND	U	0.43	4.9	5.0	--	0.24	4.9	0.79	J	0.26	4.9	ND	U	0.47	4.9	2.0	J	0.74	4.9	1.3	J	0.33	4.9	3.8	J	0.25	4.9
WRTB12 Comp Rep 5	ND	U	0.47	4.9	0.51	J	0.28	4.9	2.1	J	0.27	4.9	ND	U	0.42	4.9	5.7	--	0.24	4.9	0.92	J	0.26	4.9	ND	U	0.47	4.9	1.6	J	0.73	4.9	2.0	J	0.33	4.9	4.1	J	0.25	4.9
WRTB12 Comp Mean[1]	0.46				0.55				2.0				0.42				5.2				0.83				0.46				1.7				1.6				3.6			
Adjusted Concentration	1.3				1.3				2.8				0.84				**5.7**				0.83				1.4				1.7				1.6				3.9			
% of reference tissue	100				196				210				100				221				98				100				235				77				220			
DANW12 Comp Rep 1	ND	U	0.44	4.6	ND	U	0.27	4.6	0.92	J	0.26	4.6	ND	U	0.40	4.6	0.97	J	0.23	4.6	0.77	J	0.24	4.6	ND	U	0.44	4.6	2.0	J	0.69	4.6	1.0	J	0.31	4.6	0.57	J	0.23	4.6
DANW12 Comp Rep 2	ND	U	0.48	5.0	ND	U	0.29	5.0	0.59	J	0.28	5.0	ND	U	0.43	5.0	1.8	J	0.25	5.0	0.68	J	0.26	5.0	ND	U	0.48	5.0	1.2	J	0.75	5.0	1.2	J	0.33	5.0	1.3	J	0.25	5.0
DANW12 Comp Rep 3	ND	U	0.47	5.0	ND	U	0.29	5.0	0.95	J	0.28	5.0	ND	U	0.43	5.0	1.0	J	0.25	5.0	0.89	J	0.26	5.0	ND	U	0.48	5.0	2.5	J	0.74	5.0	1.3	J	0.33	5.0	0.77	JX	0.25	5.0
DANW12 Comp Rep 4	ND	U	0.48	5.0	ND	U	0.29	5.0	0.99	J	0.28	5.0	ND	U	0.43	5.0	0.97	J	0.25	5.0	0.88	J	0.26	5.0	ND	U	0.48	5.0	2.7	J	0.75	5.0	1.3	J	0.33	5.0	0.68	J	0.25	5.0
DANW12 Comp Rep 5	ND	U	0.47	5.0	ND	U	0.29	5.0	1.1	J	0.28	5.0	ND	U	0.43	5.0	2.1	J	0.25	5.0	0.96	J	0.26	5.0	ND	U	0.48	5.0	2.6	J	0.74	5.0	1.9	J	0.33	5.0	1.3	J	0.25	5.0
DANW12 Comp Mean[1]	0.47				0.29				0.91				0.42				1.4				0.84				0.47				2.2				1.3				0.92			
Adjusted Concentration	1.4				0.66				1.3				0.85				1.5				0.84				1.4				2.2				1.3				1.0			
% of reference tissue	101				103				95				102				58				99				102				304				66				57			
WLRW12 Comp Rep 1	ND	U	0.47	4.9	ND	U	0.28	4.9	0.78	J	0.27	4.9	ND	U	0.42	4.9	1.4	J	0.24	4.9	0.53	J	0.26	4.9	ND	U	0.47	4.9	1.2	J	0.73	4.9	0.97	J	0.33	4.9	0.68	JX	0.25	4.9
WLRW12 Comp Rep 2	ND	U	0.46	4.9	ND	U	0.28	4.9	1.0	J	0.27	4.9	ND	U	0.42	4.9	1.5	J	0.24	4.9	0.65	J	0.26	4.9	ND	U	0.47	4.9	1.5	J	0.73	4.9	1.1	J	0.32	4.9	0.67	JX	0.25	4.9
WLRW12 Comp Rep 3	ND	U	0.44	4.6	ND	U	0.27	4.6	0.96	J	0.26	4.6	ND	U	0.40	4.6	0.85	J	0.23	4.6	0.62	J	0.24	4.6	ND	U	0.44	4.6	1.5	J	0.69	4.6	0.85	J	0.31	4.6	0.40	J	0.23	4.6
WLRW12 Comp Rep 4	ND	U	0.47	4.9	ND	U	0.28	4.9	1.1	J	0.27	4.9	ND	U	0.43	4.9	1.6	J	0.24	4.9	0.71	J	0.26	4.9	ND	U	0.47	4.9	0.85	J	0.74	4.9	1.2	J	0.33	4.9	0.70	J	0.25	4.9
WLRW12 Comp Rep 5	ND	U	0.46	4.8	ND	U	0.28	4.8	0.82	J	0.27	4.8	ND	U	0.41	4.8	1.6	J	0.24	4.8	0.72	J	0.25	4.8	ND	U	0.46	4.8	1.5	J	0.72	4.8	1.3	J	0.32	4.8	0.58	J	0.24	4.8
WLRW12 Comp Mean[1]	0.46				0.28				0.93				0.42				1.4				0.65				0.46				1.3				1.1				0.61			
Adjusted Concentration	1.3				0.64				1.3				0.83				1.5				0.65				1.4				1.3				1.1				0.67			
% of reference tissue	100				100				98				100				59				76				100				181				53				37			
NCW12 Comp Rep 1	ND	U	0.47	5.0	0.47	J	0.29	5.0	1.4	J	0.28	5.0	ND	U	0.43	5.0	3.3	J	0.25	5.0	0.61	J	0.26	5.0	ND	U	0.48	5.0	1.0	J	0.74	5.0	1.2	J	0.33	5.0	2.8	J	0.25	5.0
NCW12 Comp Rep 2	ND	U	0.48	5.0	0.36	J	0.29	5.0	1.4	J	0.28	5.0	ND	U	0.43	5.0	2.8	J	0.25	5.0	0.71	J	0.26	5.0	ND	U	0.48	5.0	ND	U	0.75	5.0	1.3	J	0.33	5.0	2.2	J	0.25	5.0
NCW12 Comp Rep 3	ND	U	0.46	4.8	0.53	J	0.28	4.8	1.8	JX	0.27	4.8	ND	U	0.42	4.8	3.9	J	0.24	4.8	0.71	J	0.25	4.8	ND	U	0.46	4.8	0.99	J	0.72	4.8	1.6	J	0.32	4.8	3.5	J	0.24	4.8
NCW12 Comp Rep 4	ND	U	0.47	4.9	0.40	J	0.28	4.9	1.3	J	0.27	4.9	ND	U	0.42	4.9	2.6	J	0.24	4.9	0.60	J	0.26	4.9	ND	U	0.47	4.9	1.3	J	0.74	4.9	1.0	J	0.33	4.9	2.2	J	0.25	4.9
NCW12 Comp Rep 5	ND	U	0.46	4.9	0.48	J	0.28	4.9	1.6	J	0.27	4.9	ND	U	0.42	4.9	3.1	J	0.24	4.9	0.79	J	0.26	4.9	ND	U	0.47	4.9	1.7	J	0.73	4.9	1.4	J	0.32	4.9	2.6	J	0.25	4.9
NCW12 Comp Mean[1]	0.47				0.45				1.5				0.42				3.1				0.68				0.47				1.2				1.3				2.7			
Adjusted Concentration	1.4				1.0				2.1				0.85				3.5				0.68				1.4				1.2				1.3				2.9			
% of reference tissue	101				161				157				102				134				81				102				166				64				164			

TABLE 34

Analytical Results for Wet Weight PAHs in *Macoma nasuta* Tissues

Analyte:	Total LMW PAHs	Total HMW PAHs	Total PAHs	1-Methylnaphthalene[LMW]				2-Methylnaphthalene[LMW]				Acenaphthene[LMW]				Acenaphthylene				Anthracene[LMW]				Benzo(a)anthracene[HMW]				Benzo(a)pyrene[HMW]				Benzo(b)fluoranthene			
Sample-Replicate #	Result µg/kg	Result µg/kg	Result µg/kg	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
ABMA12 Comp Rep 1	8.3	19	31	ND	U	0.53	4.8	ND	U	0.58	4.8	ND	Ui	0.95	4.8	0.23	J	0.22	4.8	1.2	J	0.19	4.8	1.8	J	0.19	4.8	0.84	JX	0.35	4.8	1.5	J	0.32	4.8
ABMA12 Comp Rep 2	7.0	18	28	ND	U	0.54	4.9	ND	U	0.59	4.9	ND	Ui	0.79	4.9	0.24	J	0.23	4.9	1.1	J	0.19	4.9	1.3	J	0.19	4.9	0.71	JX	0.36	4.9	1.4	J	0.33	4.9
ABMA12 Comp Rep 3	7.0	19	30	ND	U	0.53	4.9	ND	U	0.58	4.9	ND	Ui	0.80	4.9	0.30	J	0.23	4.9	1.2	J	0.19	4.9	1.7	J	0.19	4.9	0.66	JX	0.36	4.9	1.4	J	0.32	4.9
ABMA12 Comp Rep 4	7.5	17	28	ND	U	0.55	5.0	ND	U	0.60	5.0	ND	Ui	0.86	5.0	0.25	J	0.23	5.0	1.1	J	0.19	5.0	1.5	J	0.19	5.0	0.70	JX	0.37	5.0	1.3	J	0.33	5.0
ABMA12 Comp Rep 5	7.6	17	28	ND	U	0.55	5.0	ND	U	0.60	5.0	ND	Ui	0.89	5.0	0.29	J	0.23	5.0	1.0	J	0.19	5.0	1.3	J	0.19	5.0	0.61	JX	0.36	5.0	1.2	J	0.33	5.0
ABMA12 Comp Mean[1]	7.5	**18**	**29**	0.54				0.59				0.86				0.26				1.1				1.5				0.70				1.4			
Adjusted Concentration	--	--	--	0.54				0.59				0.86				0.26				1.1				2.6				1.5				3.1			
% of reference tissue	137	280	210	102				102				327				109				245				260				118				380			
SHCR12 Comp Rep 1	6.1	26	37	ND	U	0.53	4.8	ND	U	0.57	4.8	0.67	JX	0.23	4.8	ND	U	0.22	4.8	0.78	J	0.19	4.8	2.1	J	0.19	4.8	1.3	J	0.35	4.8	2.9	J	0.32	4.8
SHCR12 Comp Rep 2	8.0	29	44	ND	U	0.53	4.8	ND	U	0.58	4.8	0.74	JX	0.23	4.8	0.26	J	0.23	4.8	1.1	J	0.19	4.8	2.4	J	0.19	4.8	1.6	J	0.35	4.8	3.1	J	0.32	4.8
SHCR12 Comp Rep 3	8.8	35	51	ND	U	0.54	4.9	ND	U	0.59	4.9	0.74	JX	0.23	4.9	0.32	J	0.23	4.9	1.4	J	0.19	4.9	3.5	J	0.19	4.9	1.9	J	0.36	4.9	4.0	J	0.33	4.9
SHCR12 Comp Rep 4	7.4	25	37	ND	U	0.54	4.9	ND	U	0.59	4.9	0.74	JX	0.23	4.9	ND	U	0.23	4.9	0.82	J	0.19	4.9	1.9	J	0.19	4.9	1.2	JX	0.36	4.9	2.6	J	0.32	4.9
SHCR12 Comp Rep 5	6.2	23	33	ND	U	0.53	4.8	ND	U	0.58	4.8	0.60	JX	0.23	4.8	ND	U	0.22	4.8	0.76	J	0.19	4.8	1.8	J	0.19	4.8	1.1	J	0.35	4.8	2.4	J	0.32	4.8
SHCR12 Comp Mean[1]	7.3	**27**	**41**	0.53				0.58				0.70				0.25				0.97				2.3				1.4				3.0			
Adjusted Concentration	--	--	--	0.53				0.58				0.70				0.25				0.97				4.0				3.0				6.9			
% of reference tissue	134	415	298	101				100				266				104				212				401				237				838			
RS-CH-A Rep 1	4.7	5.6	12	ND	U	0.53	4.8	ND	U	0.58	4.8	ND	U	0.23	4.8	ND	U	0.22	4.8	0.42	J	0.19	4.8	0.53	J	0.19	4.8	ND	U	0.35	4.8	0.33	J	0.32	4.8
RS-CH-A Rep 2	4.7	6.3	13	ND	U	0.51	4.7	ND	U	0.56	4.7	ND	U	0.22	4.7	ND	U	0.22	4.7	0.35	J	0.18	4.7	0.44	J	0.18	4.7	ND	Ui	0.80	4.7	ND	U	0.31	4.7
RS-CH-A Rep 3	5.6	6.9	14	ND	U	0.54	4.9	ND	U	0.59	4.9	ND	Ui	0.30	4.9	ND	U	0.23	4.9	0.47	J	0.19	4.9	0.70	J	0.19	4.9	ND	U	0.36	4.9	0.36	J	0.33	4.9
RS-CH-A Rep 4	5.1	5.3	12	ND	U	0.55	5.0	ND	U	0.60	5.0	ND	U	0.24	5.0	ND	U	0.23	5.0	0.38	J	0.19	5.0	0.56	J	0.19	5.0	ND	Ui	0.79	5.0	0.39	J	0.33	5.0
RS-CH-A Rep 5	7.1	8.5	17	ND	U	0.52	4.7	ND	U	0.57	4.7	ND	Ui	0.32	4.7	0.30	J	0.22	4.7	0.67	J	0.18	4.7	0.69	J	0.18	4.7	ND	Ui	0.69	4.7	0.40	J	0.31	4.7
RS-CH-A Mean	5.4	6.5	14	0.53				0.58				0.26				0.24				0.46				0.58				0.60				0.36			
Adjusted Concentration	--	--	--	0.53				0.58				0.26				0.24				0.46				0.99				1.3				0.82			
Pre-exposure Rep 1	5.7	10	18	ND	U	0.54	4.9	ND	U	0.59	4.9	ND	U	0.23	4.9	ND	U	0.23	4.9	0.51	J	0.19	4.9	0.81	J	0.19	4.9	ND	Ui	0.39	4.9	0.74	J	0.32	4.9
Pre-exposure Rep 2	5.6	9.5	17	ND	U	0.54	4.9	ND	U	0.59	4.9	0.27	J	0.23	4.9	ND	U	0.23	4.9	0.46	J	0.19	4.9	0.78	J	0.19	4.9	ND	Ui	0.70	4.9	0.74	J	0.33	4.9
Pre-exposure Rep 3	5.1	11	18	ND	U	0.47	4.3	ND	U	0.51	4.3	ND	Ui	0.27	4.3	ND	U	0.20	4.3	0.49	J	0.17	4.3	0.91	J	0.17	4.3	ND	Ui	0.61	4.3	0.78	J	0.29	4.3
Pre-exposure Mean	5.4	10	18	0.52				0.56				0.26				0.22				0.49				0.83				0.57				0.75			
Steady State Factor[1]	--	--	--	1.0				1.0				1.0				1.0				1.0				1.7				2.1				2.3			
Eco. Effects Threshold[1]	--	--	40000	x				x				7.3				x				x				x				x				x			
S. Atl. Bight Background[1]	60.0	60.0	170	<20				<20				<20				<20				<20				<20				<20				<20			

TABLE 34

Analytical Results for Wet Weight PAHs in *Macoma nasuta* Tissues

Analyte:	Benzo(g,h,i)perylene				Benzo(k)fluoranthene				Chrysene[HMW]				Dibenzo(a,h)anthracene[HMW]				Fluoranthene[HMW]				Fluorene[LMW]				Indeno(1,2,3-cd)pyrene				Naphthalene[LMW]				Phenanthrene[LMW]				Pyrene[HMW]			
Sample-Replicate #	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
ABMA12 Comp Rep 1	0.47	J	0.46	4.8	0.59	JX	0.28	4.8	3.5	J	0.27	4.8	ND	U	0.42	4.8	7.0	--	0.24	4.8	1.4	J	0.25	4.8	ND	U	0.46	4.8	ND	U	0.72	4.8	2.9	J	0.32	4.8	5.7	--	0.24	4.8
ABMA12 Comp Rep 2	ND	U	0.47	4.9	0.58	JX	0.28	4.9	3.9	J	0.27	4.9	ND	U	0.42	4.9	6.1	--	0.24	4.9	1.3	J	0.26	4.9	ND	U	0.47	4.9	ND	U	0.73	4.9	1.9	J	0.33	4.9	5.6	--	0.25	4.9
ABMA12 Comp Rep 3	ND	U	0.46	4.9	0.68	JX	0.28	4.9	3.7	J	0.27	4.9	ND	U	0.42	4.9	6.8	--	0.24	4.9	1.3	J	0.26	4.9	ND	U	0.47	4.9	ND	U	0.73	4.9	1.9	J	0.32	4.9	6.1	--	0.25	4.9
ABMA12 Comp Rep 4	ND	U	0.47	5.0	0.58	JX	0.29	5.0	3.7	J	0.28	5.0	ND	U	0.43	5.0	6.2	--	0.25	5.0	1.5	J	0.26	5.0	ND	U	0.48	5.0	ND	U	0.75	5.0	2.1	J	0.33	5.0	4.8	J	0.25	5.0
ABMA12 Comp Rep 5	ND	U	0.47	5.0	0.55	JX	0.29	5.0	3.6	J	0.28	5.0	ND	U	0.43	5.0	5.9	--	0.25	5.0	1.6	J	0.26	5.0	ND	U	0.48	5.0	ND	U	0.74	5.0	2.2	J	0.33	5.0	5.4	--	0.25	5.0
ABMA12 Comp Mean[1]	0.47				0.60				3.7				0.42				6.4				1.4				0.47				0.73				2.2				5.5			
Adjusted Concentration	1.4				1.4				5.2				0.85				**7.0**				1.4				1.4				0.73				2.2				**6.1**			
% of reference tissue	101				214				386				102				274				167				102				101				108				341			
SHCR12 Comp Rep 1	0.54	J	0.46	4.8	1.1	J	0.28	4.8	1.4	J	0.27	4.8	ND	U	0.41	4.8	9.8	--	0.24	4.8	0.67	J	0.25	4.8	0.62	J	0.46	4.8	0.95	J	0.72	4.8	1.9	J	0.32	4.8	11	--	0.24	4.8
SHCR12 Comp Rep 2	0.71	J	0.46	4.8	1.4	J	0.28	4.8	4.0	J	0.27	4.8	ND	U	0.42	4.8	10	--	0.24	4.8	0.82	J	0.25	4.8	0.78	J	0.46	4.8	2.0	J	0.72	4.8	2.2	J	0.32	4.8	11	--	0.24	4.8
SHCR12 Comp Rep 3	0.90	J	0.47	4.9	1.7	J	0.28	4.9	4.9	--	0.27	4.9	ND	U	0.42	4.9	12	--	0.24	4.9	0.92	J	0.26	4.9	0.93	J	0.47	4.9	2.3	J	0.73	4.9	2.3	J	0.33	4.9	12	--	0.25	4.9
SHCR12 Comp Rep 4	ND	U	0.46	4.9	1.0	J	0.28	4.9	3.0	J	0.27	4.9	ND	U	0.42	4.9	8.7	--	0.24	4.9	0.83	J	0.26	4.9	ND	U	0.47	4.9	2.1	J	0.73	4.9	1.8	J	0.32	4.9	9.3	--	0.25	4.9
SHCR12 Comp Rep 5	0.49	J	0.46	4.8	0.98	J	0.28	4.8	3.1	J	0.27	4.8	ND	U	0.41	4.8	7.8	--	0.24	4.8	0.68	J	0.25	4.8	0.49	J	0.46	4.8	1.6	J	0.72	4.8	1.4	J	0.32	4.8	8.5	--	0.24	4.8
SHCR12 Comp Mean[1]	0.62				1.2				3.3				0.42				9.7				0.78				0.66				1.8				1.9				10			
Adjusted Concentration	1.8				2.8				4.6				0.83				**11**				0.78				2.0				1.8				1.9				**11**			
% of reference tissue	134				445				344				100				413				92				142				247				94				640			
RS-CH-A Rep 1	ND	U	0.46	4.8	ND	U	0.28	4.8	0.70	J	0.27	4.8	ND	U	0.41	4.8	2.4	J	0.24	4.8	0.61	J	0.25	4.8	ND	U	0.46	4.8	ND	U	0.72	4.8	1.6	J	0.32	4.8	1.2	J	0.24	4.8
RS-CH-A Rep 2	ND	U	0.45	4.7	ND	U	0.27	4.7	0.56	J	0.26	4.7	ND	U	0.40	4.7	2.1	J	0.23	4.7	0.57	J	0.25	4.7	ND	U	0.45	4.7	ND	U	0.70	4.7	1.8	J	0.31	4.7	ND	Ui	2.0	4.7
RS-CH-A Rep 3	ND	U	0.47	4.9	ND	U	0.28	4.9	0.87	J	0.27	4.9	ND	U	0.43	4.9	2.8	J	0.24	4.9	0.76	J	0.26	4.9	ND	U	0.47	4.9	ND	U	0.74	4.9	2.2	J	0.33	4.9	1.7	J	0.25	4.9
RS-CH-A Rep 4	ND	U	0.48	5.0	ND	U	0.29	5.0	0.64	J	0.28	5.0	ND	U	0.43	5.0	1.7	J	0.25	5.0	0.80	J	0.26	5.0	ND	U	0.48	5.0	ND	U	0.75	5.0	1.8	J	0.33	5.0	ND	Ui	1.2	5.0
RS-CH-A Rep 5	ND	U	0.45	4.7	ND	U	0.27	4.7	2.0	J	0.26	4.7	ND	U	0.41	4.7	2.7	J	0.23	4.7	1.5	J	0.25	4.7	ND	U	0.45	4.7	ND	U	0.71	4.7	2.8	J	0.31	4.7	ND	Ui	2.0	4.7
RS-CH-A Mean	0.46				0.28				0.95				0.42				2.3				0.85				0.46				0.72				2.0				1.6			
Adjusted Concentration	1.3				0.64				1.3				0.83				2.6				0.85				1.4				0.72				2.0				1.8			
Pre-exposure Rep 1	ND	U	0.46	4.9	ND	Ui	0.34	4.9	0.90	J	0.27	4.9	ND	U	0.42	4.9	5.3	--	0.24	4.9	0.86	J	0.26	4.9	ND	U	0.47	4.9	ND	U	0.73	4.9	2.2	J	0.32	4.9	2.2	J	0.25	4.9
Pre-exposure Rep 2	ND	U	0.47	4.9	ND	Ui	0.36	4.9	0.65	J	0.27	4.9	ND	U	0.42	4.9	4.3	J	0.24	4.9	0.77	J	0.26	4.9	ND	U	0.47	4.9	ND	U	0.74	4.9	2.2	J	0.33	4.9	ND	Ui	2.6	4.9
Pre-exposure Rep 3	ND	U	0.41	4.3	ND	Ui	0.27	4.3	0.89	J	0.24	4.3	ND	U	0.37	4.3	5.3	--	0.21	4.3	0.72	J	0.23	4.3	ND	U	0.41	4.3	ND	U	0.64	4.3	2.0	J	0.29	4.3	2.9	J	0.22	4.3
Pre-exposure Mean	0.45				0.32				0.81				0.40				5.0				0.78				0.45				0.70				2.1				2.6			
Steady State Factor[1]	2.9				2.3				1.4				2.0				1.1				1.0				3.0				1.0				1.0				1.1			
Eco. Effects Threshold[1]	x				x				x				x				8.8				x				x				x				x				x			
S. Atl. Bight Backgroun	<20				<20				<20				<20				<20				<20				<20				<20				<20				<20			

Adjusted concentration was calculated by multiplying the mean concentration value with the analyte-specific steady state factor.

Bolded Values = The mean concentration of project tissues is statistically significantly greater than the reference tissues.

Non-detect (ND) results use the MDL for calculating the average concentrations and total PAHs.

[LMW] Low Molecular Weight PAHs (NOAA 1989)

[HMW] High Molecular Weight PAHs (NOAA 1989)

[1] = Steady State Factors and Levels/Limits from Appendix H of SERIM (EPA/USACE 2008)

i = The MDL is elevated due to a matrix interference.

J = The result is an estimated value.

U = The analyte was analyzed for, but was not detected at or above the MRL/MDL

X = The Results may contain a slight bias, due to the chromatograms indicating the presense of non-target background components

--= No Qualifier needed

Source: ALS Environmental Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 35
Analytical Results for Dry Weight PAHs in *Neanthes virens* Tissues

Analyte:	1-Methylnaphthalene[LMW]				2-Methylnaphthalene[LMW]				Acenaphthene[LMW]				Acenaphthylene				Anthracene[LMW]				Benzo(a)anthracene[HMW]				Benzo(a)pyrene[HMW]				Benzo(b)fluoranthene				Benzo(g,h,i)perylene			
Sample-Replicate #	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
CHEC12-1 Comp Rep 1	4.9	J	3.7	34	ND	U	4.0	34	14	JX	1.6	34	1.7	J	1.6	34	ND	U	1.3	34	2.3	J	1.3	34	ND	Ui	2.9	34	ND	U	2.2	34	ND	U	3.2	34
CHEC12-1 Comp Rep 2	4.0	J	3.6	32	ND	U	3.9	32	5.6	JX	1.5	32	ND	U	1.5	32	ND	U	1.3	32	2.2	J	1.3	32	ND	Ui	2.9	32	ND	U	2.2	32	ND	U	3.1	32
CHEC12-1 Comp Rep 3	ND	U	3.6	33	ND	U	3.9	33	13	JX	1.6	33	ND	U	1.5	33	ND	U	1.3	33	1.8	J	1.3	33	ND	Ui	3.0	33	ND	U	2.2	33	ND	U	3.1	33
CHEC12-1 Comp Rep 4	ND	U	3.6	33	ND	U	3.9	33	11	JX	1.6	33	1.5	J	1.5	33	ND	U	1.3	33	2.5	J	1.3	33	ND	Ui	3.1	33	ND	U	2.2	33	ND	U	3.1	33
CHEC12-1 Comp Rep 5	4.6	J	3.6	32	ND	U	3.9	32	8.7	JX	1.5	32	1.6	J	1.5	32	ND	U	1.3	32	1.8	J	1.3	32	ND	Ui	3.2	32	ND	U	2.2	32	ND	U	3.1	32
CHEC12-2 Comp Rep 1	3.9	J	3.5	31	ND	U	3.8	31	13	JX	1.5	31	ND	U	1.5	31	1.2	J	1.2	31	4.0	JX	1.2	31	ND	Ui	2.6	31	ND	U	2.1	31	ND	U	3.0	31
CHEC12-2 Comp Rep 2	4.1	J	3.4	31	ND	U	3.8	31	14	JX	1.5	31	ND	U	1.5	31	ND	U	1.2	31	4.7	JX	1.2	31	ND	Ui	3.3	31	ND	U	2.1	31	ND	U	3.0	31
CHEC12-2 Comp Rep 3	3.8	J	3.5	32	ND	U	3.8	32	13	JX	1.5	32	1.7	J	1.5	32	ND	U	1.2	32	4.6	JX	1.2	32	ND	Ui	3.4	32	ND	U	2.1	32	ND	U	3.0	32
CHEC12-2 Comp Rep 4	ND	U	3.4	31	ND	U	3.7	31	5.3	JX	1.5	31	ND	U	1.4	31	ND	U	1.2	31	5.3	JX	1.2	31	ND	Ui	3.7	31	ND	U	2.0	31	ND	U	2.9	31
CHEC12-2 Comp Rep 5	3.8	J	3.5	32	ND	U	3.8	32	9.6	JX	1.5	32	ND	U	1.5	32	ND	U	1.2	32	4.2	JX	1.2	32	ND	Ui	3.5	32	ND	U	2.1	32	ND	U	3.0	32
MTPL12 Comp Rep 1	ND	U	3.6	33	ND	U	4.0	33	9.0	JX	1.6	33	ND	U	1.5	33	ND	U	1.3	33	1.7	J	1.3	33	ND	Ui	3.2	33	ND	U	2.2	33	ND	U	3.1	33
MTPL12 Comp Rep 2	ND	U	3.5	32	ND	U	3.9	32	8.7	JX	1.5	32	1.6	J	1.5	32	ND	U	1.3	32	4.8	JX	1.3	32	ND	Ui	2.6	32	ND	U	2.1	32	ND	U	3.1	32
MTPL12 Comp Rep 3	ND	U	3.4	31	ND	U	3.7	31	9.2	JX	1.5	31	ND	U	1.5	31	ND	U	1.2	31	1.5	J	1.2	31	ND	Ui	3.9	31	ND	U	2.1	31	ND	U	3.0	31
MTPL12 Comp Rep 4	3.7	J	3.5	32	ND	U	3.8	32	11	JX	1.5	32	ND	U	1.5	32	ND	U	1.2	32	ND	U	1.2	32	ND	Ui	6.4	32	ND	U	2.1	32	ND	U	3.0	32
MTPL12 Comp Rep 5	4.0	J	3.7	33	ND	U	4.0	33	8.9	JX	1.6	33	ND	U	1.6	33	ND	U	1.3	33	3.9	JX	1.3	33	ND	Ui	2.6	33	ND	U	2.2	33	ND	U	3.2	33
REHR12 Comp Rep 1	4.0	J	3.5	32	ND	U	3.8	32	10	JX	1.5	32	ND	U	1.5	32	1.2	J	1.2	32	2.4	J	1.2	32	ND	Ui	5.2	32	ND	U	2.1	32	ND	U	3.0	32
REHR12 Comp Rep 2	3.9	J	3.5	32	ND	U	3.8	32	13	JX	1.5	32	ND	U	1.5	32	ND	U	1.2	32	1.4	J	1.2	32	ND	Ui	4.0	32	ND	U	2.1	32	ND	U	3.0	32
REHR12 Comp Rep 3	3.8	J	3.4	31	ND	U	3.7	31	14	JX	1.5	31	ND	U	1.5	31	ND	U	1.2	31	1.7	J	1.2	31	ND	Ui	3.9	31	ND	U	2.1	31	ND	U	2.9	31
REHR12 Comp Rep 4	ND	U	3.6	32	ND	U	3.9	32	9.7	JX	1.6	32	ND	U	1.5	32	ND	U	1.3	32	3.8	JX	1.3	32	ND	Ui	3.7	32	ND	U	2.2	32	ND	U	3.1	32
REHR12 Comp Rep 5	4.5	J	3.3	30	ND	U	3.6	30	11	JX	1.5	30	1.6	J	1.4	30	ND	U	1.2	30	1.6	J	1.2	30	ND	Ui	4.1	30	ND	U	2.0	30	ND	U	2.9	30
HGIS12 Comp Rep 1	ND	U	3.6	33	ND	U	3.9	33	4.7	JX	1.6	33	ND	U	1.5	33	ND	U	1.3	33	ND	U	1.3	33	ND	U	2.4	33	ND	U	2.2	33	ND	U	3.1	33
HGIS12 Comp Rep 2	ND	U	3.6	33	ND	U	3.9	33	10	JX	1.6	33	ND	U	1.5	33	ND	U	1.3	33	ND	UX	1.3	33	ND	U	2.4	33	ND	U	2.2	33	ND	U	3.1	33
HGIS12 Comp Rep 3	ND	U	3.5	32	ND	U	3.8	32	9.3	JX	1.5	32	ND	U	1.5	32	ND	U	1.3	32	1.6	J	1.3	32	ND	U	2.4	32	ND	U	2.1	32	ND	U	3.1	32
HGIS12 Comp Rep 4	ND	U	3.5	32	ND	U	3.9	32	4.9	JX	1.5	32	ND	U	1.5	32	ND	U	1.3	32	1.4	J	1.3	32	ND	U	2.4	32	ND	U	2.1	32	ND	U	3.1	32
HGIS12 Comp Rep 5	ND	U	3.7	34	ND	U	4.1	34	15	JX	1.6	34	ND	U	1.6	34	ND	U	1.3	34	1.6	J	1.3	34	ND	U	2.5	34	ND	U	2.3	34	ND	U	3.2	34
DRMY12 Comp Rep 1	ND	U	3.5	32	ND	U	3.8	32	8.4	JX	1.5	32	ND	U	1.5	32	ND	U	1.2	32	1.9	J	1.2	32	ND	U	2.3	32	ND	U	2.1	32	ND	U	3.0	32
DRMY12 Comp Rep 2	ND	U	3.5	32	ND	U	3.8	32	12	JX	1.5	32	ND	U	1.5	32	ND	U	1.2	32	ND	UX	1.2	32	ND	U	2.3	32	ND	U	2.1	32	ND	U	3.0	32
DRMY12 Comp Rep 3	ND	U	3.6	33	ND	U	3.9	33	6.2	JX	1.6	33	ND	U	1.5	33	ND	U	1.3	33	2.0	J	1.3	33	ND	U	2.4	33	ND	U	2.2	33	ND	U	3.1	33
DRMY12 Comp Rep 4	ND	U	3.6	33	ND	U	3.9	33	8.4	JX	1.6	33	ND	U	1.5	33	ND	U	1.3	33	ND	UX	1.3	33	ND	U	2.4	33	ND	U	2.2	33	ND	U	3.1	33
DRMY12 Comp Rep 5	ND	U	3.7	34	ND	U	4.1	34	7.1	JX	1.6	34	ND	U	1.6	34	ND	U	1.3	34	1.4	J	1.3	34	ND	U	2.5	34	ND	U	2.3	34	ND	U	3.2	34
WLR12 Comp Rep 1	ND	U	3.6	33	ND	U	4.0	33	5.7	JX	1.6	33	ND	U	1.6	33	ND	U	1.3	33	1.8	J	1.3	33	2.7	JX	2.4	33	ND	U	2.2	33	ND	U	3.2	33
WLR12 Comp Rep 2	ND	U	3.6	33	ND	U	3.9	33	14	JX	1.6	33	ND	U	1.5	33	ND	U	1.3	33	1.9	J	1.3	33	ND	U	2.4	33	ND	U	2.2	33	ND	U	3.1	33
WLR12 Comp Rep 3	ND	U	3.6	33	ND	U	3.9	33	6.9	JX	1.6	33	ND	U	1.5	33	ND	U	1.3	33	3.1	JX	1.3	33	2.9	J	2.4	33	ND	U	2.2	33	ND	U	3.1	33
WLR12 Comp Rep 4	ND	U	3.6	33	ND	U	3.9	33	9.2	JX	1.6	33	ND	U	1.5	33	ND	U	1.3	33	ND	U	1.3	33	ND	U	2.4	33	ND	U	2.2	33	ND	U	3.1	33
WLR12 Comp Rep 5	ND	U	3.7	33	ND	U	4.0	33	4.8	JX	1.6	33	ND	U	1.6	33	ND	U	1.3	33	ND	U	1.3	33	ND	U	2.4	33	ND	U	2.2	33	ND	U	3.2	33
WUTB12 Comp Rep 1	4.1	J	3.8	35	ND	U	4.1	35	15	JX	1.6	35	ND	U	1.6	35	ND	U	1.3	35	2.1	J	1.3	35	ND	U	2.5	35	ND	U	2.3	35	ND	U	3.3	35
WUTB12 Comp Rep 2	ND	U	3.8	34	ND	U	4.1	34	11	JX	1.6	34	ND	U	1.6	34	ND	U	1.3	34	1.5	J	1.3	34	ND	U	2.5	34	ND	U	2.3	34	ND	U	3.2	34
WUTB12 Comp Rep 3	ND	U	3.5	32	ND	U	3.8	32	9.6	JX	1.5	32	ND	U	1.5	32	ND	U	1.2	32	1.6	J	1.2	32	ND	U	2.3	32	ND	U	2.1	32	ND	U	3.0	32
WUTB12 Comp Rep 4	ND	U	3.7	34	ND	U	4.1	34	7.1	JX	1.6	34	2.3	J	1.6	34	ND	U	1.3	34	2.5	J	1.3	34	ND	U	2.5	34	ND	U	2.3	34	ND	U	3.2	34
WUTB12 Comp Rep 5	ND	U	3.4	31	ND	U	3.7	31	7.6	JX	1.5	31	ND	U	1.5	31	ND	U	1.2	31	1.5	J	1.2	31	3.5	JX	2.3	31	4.7	JX	2.1	31	ND	U	2.9	31

TABLE 35
Analytical Results for Dry Weight PAHs in *Neanthes virens* Tissues

Analyte:	Benzo(k)fluoranthene				Chrysene^{HMW}				Dibenzo(a,h)anthracene^{HMW}				Fluoranthene^{HMW}				Fluorene^{LMW}				Indeno(1,2,3-cd)pyrene				Naphthalene^{LMW}				Phenanthrene^{LMW}				Pyrene^{HMW}			
Sample-Replicate #	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
CHEC12-1 Comp Rep 1	ND	U	1.9	34	2.5	J	1.9	34	ND	U	2.9	34	4.1	J	1.7	34	5.8	JX	1.8	34	ND	U	3.2	34	18	J	5.0	34	4.6	J	2.2	34	ND	Ui	3.3	34
CHEC12-1 Comp Rep 2	ND	U	1.9	32	1.8	J	1.8	32	ND	U	2.8	32	4.1	J	1.6	32	2.8	J	1.7	32	ND	U	3.1	32	14	J	4.8	32	4.1	J	2.2	32	ND	Ui	3.7	32
CHEC12-1 Comp Rep 3	ND	U	1.9	33	2.1	J	1.8	33	ND	U	2.8	33	4.2	J	1.6	33	5.9	JX	1.7	33	ND	U	3.1	33	18	J	4.9	33	4.1	J	2.2	33	ND	Ui	3.2	33
CHEC12-1 Comp Rep 4	ND	U	1.9	33	ND	U	1.8	33	ND	U	2.8	33	3.7	J	1.6	33	3.9	JX	1.7	33	ND	U	3.1	33	15	J	4.9	33	3.7	J	2.2	33	ND	Ui	2.7	33
CHEC12-1 Comp Rep 5	ND	U	1.9	32	ND	U	1.8	32	ND	U	2.8	32	3.4	J	1.6	32	4.4	JX	1.7	32	ND	U	3.1	32	19	J	4.8	32	5.1	J	2.2	32	ND	Ui	2.7	32
CHEC12-2 Comp Rep 1	ND	U	1.8	31	ND	UX	1.8	31	ND	U	2.7	31	4.2	J	1.6	31	4.9	JX	1.7	31	ND	U	3.0	31	12	J	4.7	31	4.4	J	2.1	31	ND	Ui	3.3	31
CHEC12-2 Comp Rep 2	ND	U	1.8	31	ND	UX	1.7	31	ND	U	2.7	31	3.5	J	1.6	31	5.8	JX	1.7	31	ND	U	3.0	31	14	J	4.7	31	4.0	J	2.1	31	ND	Ui	4.2	31
CHEC12-2 Comp Rep 3	ND	U	1.8	32	ND	UX	1.8	32	ND	U	2.7	32	4.1	J	1.6	32	5.0	JX	1.7	32	ND	U	3.0	32	16	J	4.7	32	3.8	J	2.1	32	ND	Ui	2.5	32
CHEC12-2 Comp Rep 4	ND	U	1.8	31	ND	UX	1.7	31	ND	U	2.6	31	3.5	J	1.5	31	3.0	J	1.6	31	ND	U	2.9	31	14	J	4.6	31	4.3	J	2.0	31	ND	Ui	3.4	31
CHEC12-2 Comp Rep 5	ND	U	1.8	32	ND	UX	1.8	32	ND	U	2.7	32	3.1	J	1.6	32	4.6	JX	1.7	32	ND	U	3.0	32	12	J	4.7	32	3.6	J	2.1	32	ND	Ui	2.7	32
MTPL12 Comp Rep 1	ND	U	1.9	33	ND	U	1.8	33	ND	U	2.8	33	2.7	J	1.6	33	3.9	JX	1.7	33	ND	U	3.2	33	14	J	4.9	33	3.9	J	2.2	33	ND	Ui	3.1	33
MTPL12 Comp Rep 2	ND		1.9	32	ND	UX	1.8	32	ND	U	2.8	32	2.4	J	1.6	32	3.3	JX	1.7	32	ND	U	3.1	32	17	J	4.8	32	4.1	J	2.1	32	ND	Ui	2.3	32
MTPL12 Comp Rep 3	ND	U	1.8	31	ND	U	1.7	31	ND	U	2.7	31	3.3	J	1.6	31	3.2	J	1.7	31	ND	U	3.0	31	14	J	4.7	31	3.2	J	2.1	31	ND	Ui	3.4	31
MTPL12 Comp Rep 4	ND	U	1.8	32	ND	U	1.8	32	ND	U	2.7	32	3.0	J	1.6	32	4.2	JX	1.7	32	ND	U	3.0	32	20	J	4.7	32	4.7	J	2.1	32	ND	Ui	3.2	32
MTPL12 Comp Rep 5	ND	U	1.9	33	ND	UX	1.9	33	ND	U	2.9	33	2.4	J	1.7	33	3.8	JX	1.8	33	ND	U	3.2	33	12	J	5.0	33	3.9	J	2.2	33	ND	Ui	2.5	33
REHR12 Comp Rep 1	ND	U	1.8	32	ND	U	1.8	32	ND	U	2.7	32	4.0	J	1.6	32	4.5	JX	1.7	32	ND	U	3.0	32	17	J	4.7	32	4.6	J	2.1	32	ND	Ui	4.6	32
REHR12 Comp Rep 2	ND	U	1.8	32	3.2	J	1.8	32	ND	U	2.7	32	3.7	J	1.6	32	6.9	JX	1.7	32	ND	U	3.0	32	14	J	4.7	32	5.6	J	2.1	32	2.7	J	1.6	32
REHR12 Comp Rep 3	ND	U	1.8	31	ND	U	1.7	31	ND	U	2.7	31	2.2	J	1.5	31	7.1	JX	1.6	31	ND	U	3.0	31	16	J	4.6	31	5.3	J	2.1	31	ND	Ui	1.8	31
REHR12 Comp Rep 4	ND	U	1.9	32	ND	UX	1.8	32	ND	U	2.8	32	2.1	J	1.6	32	4.8	J	1.7	32	ND	U	3.1	32	16	J	4.8	32	4.0	J	2.2	32	ND	Ui	32	32
REHR12 Comp Rep 5	ND	U	1.8	30	2.6	J	1.7	30	ND	U	2.6	30	3.1	J	1.5	30	5.6	JX	1.6	30	ND	U	2.9	30	20	J	4.5	30	5.9	J	2.0	30	ND	Ui	2.4	30
HGIS12 Comp Rep 1	ND	U	1.9	33	2.5	J	1.8	33	ND	U	2.8	33	6.6	J	1.6	33	1.9	J	1.7	33	ND	U	3.2	33	ND	U	4.9	33	4.2	J	2.2	33	6.1	J	1.7	33
HGIS12 Comp Rep 2	ND	U	1.9	33	6.2	JX	1.8	33	ND	U	2.8	33	4.6	J	1.6	33	1.9	J	1.7	33	ND	U	3.2	33	ND	U	4.9	33	3.4	J	2.2	33	3.0	J	1.7	33
HGIS12 Comp Rep 3	ND	U	1.9	32	ND	U	1.8	32	ND	U	2.8	32	2.3	J	1.6	32	1.7	J	1.7	32	ND	U	3.1	32	5.9	J	4.8	32	2.8	J	2.1	32	1.7	J	1.6	32
HGIS12 Comp Rep 4	ND	U	1.9	32	3.5	J	1.8	32	ND	U	2.8	32	5.4	J	1.6	32	2.4	J	1.7	32	ND	U	3.1	32	ND	U	4.8	32	3.8	J	2.1	32	3.6	J	1.6	32
HGIS12 Comp Rep 5	ND	U	2.0	34	2.2	J	1.9	34	ND	U	2.9	34	4.7	J	1.7	34	2.2	J	1.8	34	ND	U	3.3	34	18	J	5.1	34	3.3	J	2.3	34	4.2	J	1.7	34
DRMY12 Comp Rep 1	2.3	JX	1.8	32	ND	U	1.8	32	ND	U	2.7	32	7.6	J	1.6	32	1.8	J	1.7	32	ND	U	3.0	32	5.1	J	4.7	32	3.2	J	2.1	32	5.3	J	1.6	32
DRMY12 Comp Rep 2	2.1	JX	1.8	32	7.1	JX	1.8	32	ND	U	2.7	32	12	J	1.6	32	2.7	J	1.7	32	ND	U	3.1	32	ND	U	4.7	32	3.8	J	2.1	32	8.2	J	1.6	32
DRMY12 Comp Rep 3	1.9	JX	1.9	33	2.3	J	1.8	33	ND	U	2.8	33	8.4	J	1.6	33	2.7	J	1.7	33	ND	U	3.2	33	ND	U	4.9	33	4.4	J	2.2	33	5.6	J	1.7	33
DRMY12 Comp Rep 4	ND	U	1.9	33	5.6	JX	1.8	33	ND	U	2.8	33	9.4	J	1.6	33	2.5	J	1.7	33	ND	U	3.2	33	ND	U	4.9	33	3.7	J	2.2	33	5.4	J	1.7	33
DRMY12 Comp Rep 5	ND	U	2.0	34	4.0	J	1.9	34	ND	U	2.9	34	11	J	1.7	34	2.9	J	1.8	34	ND	U	3.3	34	ND	U	5.1	34	4.5	J	2.3	34	6.4	J	1.7	34
WLR12 Comp Rep 1	ND	U	1.9	33	2.3	J	1.8	33	ND	U	2.9	33	5.0	J	1.6	33	2.7	J	1.7	33	ND	U	3.2	33	ND	U	4.9	33	4.1	J	2.2	33	2.8	J	1.7	33
WLR12 Comp Rep 2	ND	U	1.9	33	2.2	J	1.8	33	ND	U	2.8	33	6.5	J	1.6	33	3.4	J	1.7	33	ND	U	3.2	33	ND	U	4.9	33	4.7	J	2.2	33	3.2	J	1.7	33
WLR12 Comp Rep 3	ND	U	1.9	33	ND	UX	1.8	33	ND	U	2.8	33	4.5	J	1.6	33	2.9	J	1.7	33	ND	U	3.1	33	ND	U	4.9	33	4.2	J	2.2	33	2.1	J	1.7	33
WLR12 Comp Rep 4	ND	U	1.9	33	5.5	J	1.8	33	ND	U	2.8	33	7.5	J	1.6	33	2.5	J	1.7	33	ND	U	3.1	33	ND	U	4.9	33	4.1	J	2.2	33	4.7	J	1.7	33
WLR12 Comp Rep 5	2.7	JX	1.9	33	2.7	J	1.9	33	ND	U	2.9	33	4.6	J	1.7	33	2.2	J	1.8	33	ND	U	3.2	33	ND	U	5.0	33	3.5	J	2.2	33	3.2	J	1.7	33
WUTB12 Comp Rep 1	3.9	JX	2.0	35	3.0	J	1.9	35	ND	U	3.0	35	7.5	J	1.7	35	2.9	J	1.8	35	ND	U	3.3	35	ND	U	5.2	35	3.7	J	2.3	35	5.1	J	1.8	35
WUTB12 Comp Rep 2	ND	U	2.0	34	2.7	J	1.9	34	ND	U	2.9	34	9.7	J	1.7	34	3.0	J	1.8	34	ND	U	3.3	34	ND	U	5.1	34	4.1	J	2.3	34	5.5	J	1.7	34
WUTB12 Comp Rep 3	3.8	JX	1.8	32	3.2	J	1.8	32	ND	U	2.7	32	9.7	J	1.6	32	3.4	J	1.7	32	ND	U	3.0	32	ND	U	4.7	32	5.0	J	2.1	32	5.5	J	1.6	32
WUTB12 Comp Rep 4	ND	U	2.0	34	2.3	J	1.9	34	ND	U	2.9	34	8.0	J	1.7	34	2.3	J	1.8	34	ND	U	3.3	34	15	J	5.1	34	4.0	J	2.3	34	4.3	J	1.7	34
WUTB12 Comp Rep 5	24	JX	1.8	31	2.0	J	1.7	31	ND	U	2.7	31	10	J	1.5	31	ND	U	1.6	31	ND	U	3.0	31	ND	U	4.6	31	2.7	J	2.1	31	8.5	JX	1.6	31

TABLE 35
Analytical Results for Dry Weight PAHs in *Neanthes virens* Tissues

Analyte:	1-Methylnaphthalene[LMW]				2-Methylnaphthalene[LMW]				Acenaphthene[LMW]				Acenaphthylene				Anthracene[LMW]				Benzo(a)anthracene[HMW]				Benzo(a)pyrene[HMW]				Benzo(b)fluoranthene				Benzo(g,h,i)perylene			
Sample-Replicate #	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
DANI12 Comp Rep 1	ND	U	3.3	30	ND	U	3.6	30	11	JX	1.4	30	ND	U	1.4	30	1.3	JX	1.2	30	1.6	J	1.2	30	ND	Ui	3.3	30	ND	U	2.0	30	ND	U	2.8	30
DANI12 Comp Rep 2	ND	U	3.4	31	ND	U	3.7	31	15	JX	1.5	31	ND	U	1.4	31	ND	U	1.2	31	3.6	JX	1.2	31	ND	Ui	3.6	31	ND	U	2.1	31	ND	U	2.9	31
DANI12 Comp Rep 3	ND	U	3.6	32	ND	U	3.9	32	21	JX	1.5	32	ND	U	1.5	32	ND	U	1.3	32	1.6	J	1.3	32	ND	Ui	3.2	32	ND	U	2.2	32	ND	U	3.1	32
DANI12 Comp Rep 4	ND	U	3.3	30	ND	U	3.6	30	14	JX	1.5	30	ND	U	1.4	30	ND	U	1.2	30	1.6	J	1.2	30	ND	Ui	3.0	30	ND	U	2.0	30	ND	U	2.9	30
DANI12 Comp Rep 5	ND	U	3.6	32	ND	U	3.9	32	13	JX	1.5	32	1.8	J	1.5	32	1.5	J	1.3	32	2.4	J	1.3	32	ND	Ui	3.3	32	ND	U	2.2	32	ND	U	3.1	32
CCRK12 Comp Rep 1	3.6	J	3.4	31	ND	U	3.7	31	17	JX	1.5	31	ND	U	1.5	31	1.8	JX	1.2	31	4.8	JX	1.2	31	ND	Ui	3.0	31	ND	U	2.1	31	ND	U	3.0	31
CCRK12 Comp Rep 2	3.4	J	3.3	30	ND	U	3.6	30	14	JX	1.4	30	ND	U	1.4	30	ND	U	1.2	30	5.7	JX	1.2	30	ND	Ui	2.9	30	ND	U	2.0	30	ND	U	2.8	30
CCRK12 Comp Rep 3	3.7	J	3.6	32	ND	U	3.9	32	7.3	JX	1.6	32	ND	U	1.5	32	ND	U	1.3	32	4.9	JX	1.3	32	ND	Ui	2.8	32	ND	U	2.2	32	ND	U	3.1	32
CCRK12 Comp Rep 4	4.1	J	3.2	29	ND	U	3.5	29	21	JX	1.4	29	1.5	J	1.4	29	1.6	JX	1.1	29	2.1	J	1.1	29	ND	Ui	3.2	29	ND	U	1.9	29	ND	U	2.8	29
CCRK12 Comp Rep 5	4.4	J	3.4	31	ND	U	3.7	31	14	JX	1.5	31	ND	U	1.5	31	1.5	JX	1.2	31	1.8	J	1.2	31	ND	Ui	3.6	31	ND	U	2.1	31	ND	U	3.0	31
UH12 Comp Rep 1	4.2	J	3.6	32	ND	U	3.9	32	37	X	1.5	32	1.8	J	1.5	32	ND	U	1.3	32	2.3	J	1.3	32	4.7	JX	2.4	32	ND	U	2.2	32	ND	U	3.1	32
UH12 Comp Rep 2	3.7	J	3.2	29	ND	U	3.5	29	21	JX	1.4	29	ND	U	1.4	29	ND	U	1.1	29	1.5	J	1.1	29	ND	U	2.2	29	ND	U	1.9	29	ND	U	2.8	29
UH12 Comp Rep 3	5.2	J	3.6	33	4.6	J	3.9	33	34	X	1.6	33	2.3	J	1.5	33	1.8	J	1.3	33	2.0	J	1.3	33	3.0	JX	2.4	33	ND	U	2.2	33	ND	U	3.1	33
UH12 Comp Rep 4	4.1	J	3.4	31	ND	U	3.7	31	23	JX	1.5	31	1.5	J	1.4	31	ND	U	1.2	31	1.5	J	1.2	31	ND	U	2.3	31	ND	U	2.1	31	ND	U	2.9	31
UH12 Comp Rep 5	ND	U	3.5	32	ND	U	3.8	32	15	JX	1.5	32	ND	U	1.5	32	ND	U	1.2	32	1.9	J	1.2	32	ND	U	2.3	32	ND	U	2.1	32	ND	U	3.0	32
ORDT12 Comp Rep 1	ND	U	3.5	32	ND	U	3.8	32	14	JX	1.5	32	ND	U	1.5	32	1.6	JX	1.3	32	2.1	J	1.3	32	ND	Ui	3.5	32	ND	U	2.1	32	ND	U	3.1	32
ORDT12 Comp Rep 2	ND	U	3.5	32	ND	U	3.8	32	11	JX	1.5	32	ND	U	1.5	32	ND	U	1.3	32	2.1	J	1.3	32	ND	Ui	2.7	32	ND	U	2.1	32	ND	U	3.1	32
ORDT12 Comp Rep 3	3.5	J	3.2	29	ND	U	3.5	29	16	JX	1.4	29	ND	U	1.4	29	1.3	JX	1.1	29	2.0	J	1.1	29	ND	Ui	3.8	29	ND	U	1.9	29	ND	U	2.8	29
ORDT12 Comp Rep 4	ND	U	3.6	33	ND	U	3.9	33	17	JX	1.6	33	ND	U	1.5	33	1.4	JX	1.3	33	2.0	J	1.3	33	ND	Ui	3.7	33	ND	U	2.2	33	ND	U	3.1	33
ORDT12 Comp Rep 5	4.4	J	3.5	32	ND	U	3.8	32	15	JX	1.5	32	ND	U	1.5	32	1.3	JX	1.2	32	1.9	J	1.2	32	ND	Ui	2.9	32	ND	U	2.1	32	ND	U	3.0	32
BENW12 Comp Rep 1	ND	U	3.6	32	ND	U	3.9	32	10	JX	1.5	32	ND	U	1.5	32	ND	U	1.3	32	1.9	J	1.3	32	ND	U	2.4	32	ND	U	2.2	32	ND	U	3.1	32
BENW12 Comp Rep 2	3.5	J	3.4	31	ND	U	3.8	31	8.9	JX	1.5	31	ND	U	1.5	31	1.2	J	1.2	31	2.0	J	1.2	31	ND	Ui	31	31	ND	U	2.1	31	ND	U	3.0	31
BENW12 Comp Rep 3	ND	U	3.6	32	ND	U	3.9	32	9.7	JX	1.5	32	ND	U	1.5	32	ND	U	1.3	32	4.2	JX	1.3	32	ND	Ui	2.9	32	ND	U	2.2	32	ND	U	3.1	32
BENW12 Comp Rep 4	3.9	J	3.7	34	ND	U	4.0	34	11	JX	1.6	34	ND	U	1.6	34	ND	U	1.3	34	2.4	JX	1.3	34	ND	Ui	4.4	34	ND	U	2.2	34	ND	U	3.2	34
BENW12 Comp Rep 5	4.0	J	3.6	33	ND	U	3.9	33	11	JX	1.6	33	2.0	J	1.5	33	ND	U	1.3	33	2.5	J	1.3	33	ND	Ui	2.5	33	ND	U	2.2	33	ND	U	3.1	33
HGIW12 Comp Rep 1	3.7	J	3.5	32	ND	U	3.8	32	8.9	JX	1.5	32	ND	U	1.5	32	ND	U	1.2	32	5.8	JX	1.2	32	ND	Ui	2.5	32	ND	U	2.1	32	ND	U	3.0	32
HGIW12 Comp Rep 2	3.5	J	3.4	31	ND	U	3.7	31	6.6	JX	1.5	31	ND	U	1.4	31	ND	U	1.2	31	1.9	J	1.2	31	ND	Ui	2.8	31	ND	U	2.1	31	ND	U	2.9	31
HGIW12 Comp Rep 3	ND	U	3.7	33	ND	U	4.0	33	6.5	JX	1.6	33	ND	U	1.6	33	1.3	JX	1.3	33	2.4	J	1.3	33	ND	U	2.4	33	ND	U	2.2	33	ND	U	3.2	33
HGIW12 Comp Rep 4	ND	U	3.5	32	ND	U	3.8	32	6.9	JX	1.5	32	ND	U	1.5	32	ND	U	1.2	32	2.0	J	1.2	32	ND	U	2.3	32	ND	U	2.1	32	ND	U	3.0	32
HGIW12 Comp Rep 5	4.1	J	3.7	34	ND	U	4.1	34	6.3	JX	1.6	34	ND	U	1.6	34	ND	U	1.3	34	1.5	J	1.3	34	ND	U	2.5	34	ND	U	2.3	34	ND	U	3.2	34
WRTB12 Comp Rep 1	ND	U	3.7	34	ND	U	4.0	34	8.2	JX	1.6	34	ND	U	1.6	34	ND	U	1.3	34	ND	UX	1.3	34	ND	Ui	4.4	34	ND	U	2.2	34	ND	U	3.2	34
WRTB12 Comp Rep 2	ND	U	3.6	33	ND	U	3.9	33	10	JX	1.6	33	ND	U	1.5	33	ND	U	1.3	33	2.1	J	1.3	33	ND	U	2.4	33	ND	U	2.2	33	ND	U	3.1	33
WRTB12 Comp Rep 3	3.9	J	3.6	33	ND	U	3.9	33	7.9	JX	1.6	33	ND	U	1.5	33	ND	UX	1.3	33	2.2	J	1.3	33	ND	Ui	2.5	33	ND	U	2.2	33	ND	U	3.1	33
WRTB12 Comp Rep 4	3.9	J	3.7	33	ND	U	4.0	33	7.5	JX	1.6	33	ND	U	1.6	33	ND	U	1.3	33	2.3	J	1.3	33	ND	Ui	2.8	33	ND	U	2.2	33	ND	U	3.2	33
WRTB12 Comp Rep 5	3.6	J	3.3	30	ND	U	3.6	30	7.5	JX	1.4	30	ND	U	1.4	30	ND	U	1.2	30	2.1	J	1.2	30	ND	Ui	2.6	30	ND	U	2.0	30	ND	U	2.8	30
DANW12 Comp Rep 1	ND	U	3.7	33	ND	U	4.0	33	6.5	JX	1.6	33	ND	U	1.6	33	ND	U	1.3	33	1.8	J	1.3	33	ND	U	2.4	33	ND	U	2.2	33	ND	U	3.2	33
DANW12 Comp Rep 2	ND	U	3.5	32	ND	U	3.8	32	4.9	JX	1.5	32	ND	U	1.5	32	ND	U	1.2	32	5.7	JX	1.2	32	ND	U	2.3	32	ND	U	2.1	32	ND	U	3.0	32
DANW12 Comp Rep 3	3.7	J	3.6	33	ND	U	3.9	33	7.5	JX	1.6	33	ND	U	1.5	33	ND	U	1.3	33	2.1	J	1.3	33	ND	Ui	3.2	33	ND	U	2.2	33	ND	U	3.1	33
DANW12 Comp Rep 4	3.6	J	3.5	32	ND	U	3.8	32	8.7	JX	1.5	32	ND	U	1.5	32	1.4	JX	1.2	32	2.9	J	1.2	32	ND	U	2.3	32	ND	U	2.1	32	ND	U	3.0	32
DANW12 Comp Rep 5	4.3	J	3.6	33	ND	U	4.0	33	11	JX	1.6	33	ND	U	1.6	33	ND	U	1.3	33	1.7	J	1.3	33	ND	U	2.4	33	ND	U	2.2	33	ND	U	3.2	33

TABLE 35
Analytical Results for Dry Weight PAHs in *Neanthes virens* Tissues

Analyte:	Benzo(k)fluoranthene				Chrysene^{HMW}				Dibenzo(a,h)anthracene^{HMW}				Fluoranthene^{HMW}				Fluorene^{LMW}				Indeno(1,2,3-cd)pyrene				Naphthalene^{LMW}				Phenanthrene^{LMW}				Pyrene^{HMW}			
Sample-Replicate #	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
DANI12 Comp Rep 1	ND	U	1.7	30	3.1	J	1.7	30	ND	U	2.6	30	7.0	J	1.5	30	5.1	JX	1.6	30	ND	U	2.9	30	7.1	J	4.4	30	3.8	J	2.0	30	5.6	J	1.5	30
DANI12 Comp Rep 2	ND	U	1.8	31	ND	UX	1.7	31	ND	U	2.7	31	3.3	J	1.5	31	6.4	JX	1.6	31	ND	U	3.0	31	8.5	J	4.6	31	3.1	J	2.1	31	2.5	J	1.6	31
DANI12 Comp Rep 3	ND	U	1.9	32	2.5	J	1.8	32	ND	U	2.8	32	5.6	J	1.6	32	8.5	JX	1.7	32	ND	U	3.1	32	5.5	J	4.8	32	4.5	J	2.2	32	4.4	J	1.6	32
DANI12 Comp Rep 4	ND	U	1.8	30	2.0	J	1.7	30	ND	U	2.6	30	5.4	J	1.5	30	5.8	JX	1.6	30	ND	U	2.9	30	5.3	J	4.5	30	3.5	J	2.0	30	4.5	J	1.5	30
DANI12 Comp Rep 5	ND	U	1.9	32	1.9	J	1.8	32	ND	U	2.8	32	4.9	J	1.6	32	5.2	JX	1.7	32	ND	U	3.1	32	ND	U	4.8	32	4.4	J	2.2	32	4.3	J	1.6	32
CCRK12 Comp Rep 1	ND	U	1.8	31	ND	UX	1.7	31	ND	U	2.7	31	6.0	J	1.6	31	7.3	JX	1.6	31	ND	U	3.0	31	6.5	J	4.7	31	4.2	J	2.1	31	6.2	J	1.6	31
CCRK12 Comp Rep 2	ND	U	1.7	30	ND	UX	1.7	30	ND	U	2.6	30	9.7	J	1.5	30	5.6	JX	1.6	30	ND	U	2.9	30	ND	U	4.5	30	4.6	J	2.0	30	11	J	1.5	30
CCRK12 Comp Rep 3	ND	U	1.9	32	ND	UX	1.8	32	ND	U	2.8	32	6.2	J	1.6	32	4.1	JX	1.7	32	ND	U	3.1	32	7.5	J	4.8	32	5.4	J	2.2	32	5.8	J	1.6	32
CCRK12 Comp Rep 4	ND	U	1.7	29	2.8	J	1.6	29	ND	U	2.5	29	14	J	1.4	29	8.8	JX	1.5	29	ND	U	2.8	29	7.2	J	4.3	29	5.6	J	1.9	29	14	J	1.5	29
CCRK12 Comp Rep 5	ND	U	1.8	31	ND	U	1.7	31	ND	U	2.7	31	5.3	J	1.6	31	7.4	JX	1.6	31	ND	U	3.0	31	9.0	J	4.6	31	5.0	J	2.1	31	6.6	J	1.6	31
UH12 Comp Rep 1	ND	U	1.9	32	2.9	J	1.8	32	ND	U	2.8	32	14	J	1.6	32	3.3	J	1.7	32	ND	U	3.1	32	20	J	4.8	32	6.0	J	2.2	32	16	JX	1.6	32
UH12 Comp Rep 2	ND	U	1.7	29	2.2	J	1.6	29	ND	U	2.5	29	9.0	J	1.5	29	3.1	J	1.5	29	ND	U	2.8	29	22	J	4.4	29	4.5	J	1.9	29	6.4	JX	1.5	29
UH12 Comp Rep 3	ND	U	1.9	33	2.1	J	1.8	33	ND	U	2.8	33	8.1	J	1.6	33	4.3	J	1.7	33	ND	U	3.1	33	26	J	4.9	33	6.1	J	2.2	33	5.8	JX	1.7	33
UH12 Comp Rep 4	ND	U	1.8	31	2.4	J	1.7	31	ND	U	2.7	31	8.1	J	1.5	31	3.4	J	1.6	31	ND	U	3.0	31	20	J	4.6	31	4.9	J	2.1	31	6.3	JX	1.6	31
UH12 Comp Rep 5	ND	U	1.8	32	2.1	J	1.8	32	ND	U	2.8	32	7.1	J	1.6	32	3.5	J	1.7	32	ND	U	3.1	32	ND	U	4.8	32	5.8	J	2.1	32	5.9	JX	1.6	32
ORDT12 Comp Rep 1	ND	U	1.9	32	3.9	J	1.8	32	ND	U	2.8	32	10	J	1.6	32	5.7	JX	1.7	32	ND	U	3.1	32	5.4	J	4.8	32	3.7	J	2.1	32	8.1	J	1.6	32
ORDT12 Comp Rep 2	ND	U	1.9	32	3.8	J	1.8	32	ND	U	2.8	32	10	J	1.6	32	4.0	JX	1.7	32	ND	U	3.1	32	5.3	J	4.8	32	3.5	J	2.1	32	6.7	J	1.6	32
ORDT12 Comp Rep 3	ND	U	1.7	29	3.0	J	1.6	29	ND	U	2.5	29	9.4	J	1.4	29	6.5	JX	1.5	29	ND	U	2.8	29	5.1	J	4.3	29	3.6	J	1.9	29	7.8	J	1.5	29
ORDT12 Comp Rep 4	ND	U	1.9	33	3.1	J	1.8	33	ND	U	2.8	33	8.1	J	1.6	33	6.5	JX	1.7	33	ND	U	3.1	33	6.6	J	4.9	33	3.4	J	2.2	33	5.4	J	1.7	33
ORDT12 Comp Rep 5	ND	U	1.8	32	3.5	J	1.8	32	ND	U	2.8	32	9.2	J	1.6	32	6.7	JX	1.7	32	ND	U	3.1	32	7.1	J	4.8	32	3.8	J	2.1	32	7.1	J	1.6	32
BENW12 Comp Rep 1	ND	U	1.9	32	ND	U	1.8	32	ND	U	2.8	32	3.0	J	1.6	32	3.2	JX	1.7	32	ND	U	3.1	32	6.0	J	4.8	32	4.1	J	2.2	32	2.0	J	1.6	32
BENW12 Comp Rep 2	ND	U	1.8	31	2.8	J	1.7	31	ND	U	2.7	31	5.5	J	1.6	31	4.1	JX	1.7	31	ND	U	3.0	31	7.9	J	4.7	31	4.7	J	2.1	31	6.5	J	1.6	31
BENW12 Comp Rep 3	ND	U	1.9	32	ND	UX	1.8	32	ND	U	2.8	32	3.4	J	1.6	32	3.1	JX	1.7	32	ND	U	3.1	32	8.2	J	4.8	32	4.2	J	2.2	32	2.8	J	1.6	32
BENW12 Comp Rep 4	ND	U	1.9	34	ND	UX	1.9	34	ND	U	2.9	34	3.4	J	1.7	34	4.4	JX	1.8	34	ND	U	3.2	34	15	J	5.0	34	4.0	J	2.2	34	2.1	J	1.7	34
BENW12 Comp Rep 5	ND	U	1.9	33	2.3	J	1.8	33	ND	U	2.8	33	3.0	J	1.6	33	4.9	JX	1.7	33	ND	U	3.2	33	6.6	J	4.9	33	4.4	J	2.2	33	2.0	J	1.7	33
HGIW12 Comp Rep 1	ND	U	1.8	32	ND	UX	1.8	32	ND	U	2.7	32	10	J	1.6	32	4.5	JX	1.7	32	ND	U	3.1	32	8.8	J	4.8	32	3.5	J	2.1	32	8.2	J	1.6	32
HGIW12 Comp Rep 2	ND	U	1.8	31	2.5	J	1.7	31	ND	U	2.7	31	4.9	J	1.5	31	4.0	JX	1.6	31	ND	U	3.0	31	6.2	J	4.6	31	3.6	J	2.1	31	4.4	J	1.6	31
HGIW12 Comp Rep 3	ND	U	1.9	33	3.6	J	1.9	33	ND	U	2.9	33	6.2	J	1.7	33	3.8	JX	1.8	33	ND	U	3.2	33	9.1	J	5.0	33	3.1	J	2.2	33	5.0	J	1.7	33
HGIW12 Comp Rep 4	ND	U	1.8	32	3.1	J	1.8	32	ND	U	2.7	32	6.6	J	1.6	32	4.4	JX	1.7	32	ND	U	3.0	32	7.2	J	4.7	32	2.6	J	2.1	32	5.6	J	1.6	32
HGIW12 Comp Rep 5	ND	U	2.0	34	3.6	J	1.9	34	ND	U	2.9	34	5.4	J	1.7	34	4.3	JX	1.8	34	ND	U	3.3	34	6.9	J	5.1	34	4.1	J	2.3	34	4.6	J	1.7	34
WRTB12 Comp Rep 1	ND	U	1.9	34	7.8	JX	1.9	34	ND	U	2.9	34	10	J	1.7	34	4.5	JX	1.8	34	ND	U	3.2	34	10	J	5.0	34	3.7	J	2.2	34	8.6	J	1.7	34
WRTB12 Comp Rep 2	ND	U	1.9	33	3.5	J	1.8	33	ND	U	2.8	33	7.4	J	1.6	33	5.0	JX	1.7	33	ND	U	3.2	33	5.1	J	4.9	33	4.2	J	2.2	33	5.3	J	1.7	33
WRTB12 Comp Rep 3	ND	U	1.9	33	3.7	J	1.8	33	ND	U	2.8	33	9.1	J	1.6	33	4.6	J	1.7	33	ND	U	3.2	33	8.3	J	4.9	33	4.8	J	2.2	33	7.7	J	1.7	33
WRTB12 Comp Rep 4	ND	U	1.9	33	2.8	J	1.9	33	ND	U	2.9	33	8.5	J	1.7	33	4.6	JX	1.8	33	ND	U	3.2	33	11	J	5.0	33	4.0	J	2.2	33	ND	Ui	7.8	33
WRTB12 Comp Rep 5	ND	U	1.7	30	3.1	J	1.7	30	ND	U	2.6	30	7.3	J	1.5	30	3.7	JX	1.6	30	ND	U	2.9	30	11	J	4.5	30	3.5	J	2.0	30	ND	Ui	6.0	30
DANW12 Comp Rep 1	ND	U	1.9	33	ND	U	1.9	33	ND	U	2.9	33	3.4	J	1.7	33	3.7	JX	1.8	33	ND	U	3.2	33	5.7	J	5.0	33	3.5	J	2.2	33	2.4	J	1.7	33
DANW12 Comp Rep 2	ND	U	1.8	32	ND	UX	1.8	32	ND	U	2.7	32	3.5	J	1.6	32	3.6	JX	1.7	32	ND	U	3.0	32	5.4	J	4.7	32	3.7	J	2.1	32	3.0	J	1.6	32
DANW12 Comp Rep 3	ND	U	1.9	33	ND	U	1.8	33	ND	U	2.8	33	5.6	J	1.6	33	4.9	JX	1.7	33	ND	U	3.1	33	7.7	J	4.9	33	4.1	J	2.2	33	6.3	J	1.7	33
DANW12 Comp Rep 4	ND	U	1.8	32	ND	U	1.8	32	ND	U	2.8	32	2.9	J	1.6	32	6.3	JX	1.7	32	ND	U	3.1	32	6.3	J	4.8	32	5.3	J	2.1	32	2.4	J	1.6	32
DANW12 Comp Rep 5	ND	U	1.9	33	ND	U	1.8	33	ND	U	2.9	33	3.1	J	1.6	33	7.7	JX	1.7	33	ND	U	3.2	33	6.6	J	4.9	33	5.7	J	2.2	33	2.5	J	1.7	33

TABLE 35
Analytical Results for Dry Weight PAHs in *Neanthes virens* Tissues

Analyte:	1-Methylnaphthalene[LMW]				2-Methylnaphthalene[LMW]				Acenaphthene[LMW]				Acenaphthylene				Anthracene[LMW]				Benzo(a)anthracene[HMW]				Benzo(a)pyrene[HMW]				Benzo(b)fluoranthene				Benzo(g,h,i)perylene			
Sample-Replicate #	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
WLRW12 Comp Rep 1	ND	U	3.5	32	ND	U	3.8	32	11	JX	1.5	32	1.7	J	1.5	32	1.2	JX	1.2	32	6.7	JX	1.2	32	ND	U	2.4	32	ND	U	2.1	32	ND	U	3.0	32
WLRW12 Comp Rep 2	3.5	J	3.4	31	ND	U	3.7	31	6.2	JX	1.5	31	ND	U	1.4	31	ND	U	1.2	31	1.9	J	1.2	31	ND	U	2.3	31	ND	U	2.1	31	ND	U	2.9	31
WLRW12 Comp Rep 3	ND	U	3.5	32	ND	U	3.9	32	8.0	JX	1.5	32	ND	U	1.5	32	ND	U	1.3	32	4.3	JX	1.3	32	ND	U	2.4	32	ND	U	2.1	32	ND	U	3.1	32
WLRW12 Comp Rep 4	ND	U	3.4	31	ND	U	3.7	31	5.6	JX	1.5	31	ND	U	1.4	31	ND	U	1.2	31	2.3	J	1.2	31	ND	Ui	2.4	31	ND	U	2.1	31	ND	U	2.9	31
WLRW12 Comp Rep 5	4.0	J	3.5	32	ND	U	3.9	32	8.0	JX	1.5	32	ND	U	1.5	32	ND	UX	1.3	32	2.1	J	1.3	32	ND	U	2.4	32	ND	U	2.1	32	ND	U	3.1	32
NCW12 Comp Rep 1	4.5	J	3.4	31	4.5	J	3.7	31	19	JX	1.5	31	2.3	J	1.5	31	3.6	J	1.2	31	4.7	J	1.2	31	2.8	JX	2.3	31	ND	U	2.1	31	ND	U	3.0	31
NCW12 Comp Rep 2	ND	U	3.5	32	ND	U	3.8	32	24	JX	1.5	32	ND	U	1.5	32	ND	U	1.2	32	ND	UX	1.2	32	ND	U	2.3	32	ND	U	2.1	32	ND	U	3.0	32
NCW12 Comp Rep 3	3.5	J	3.3	30	ND	U	3.6	30	16	JX	1.4	30	2.5	J	1.4	30	1.3	J	1.2	30	ND	UX	1.2	30	ND	U	2.2	30	ND	U	2.0	30	ND	U	2.9	30
NCW12 Comp Rep 4	3.9	J	3.6	32	ND	U	3.9	32	19	JX	1.6	32	ND	Ui	3.0	32	2.1	J	1.3	32	ND	U	1.3	32	ND	U	2.4	32	ND	U	2.2	32	ND	U	3.1	32
NCW12 Comp Rep 5	3.4	J	3.4	31	ND	U	3.7	31	22	JX	1.5	31	ND	U	1.5	31	ND	U	1.2	31	ND	UX	1.2	31	ND	U	2.3	31	ND	U	2.1	31	ND	U	2.9	31
ABMA12 Comp Rep 1	ND	U	3.1	28	ND	U	3.3	28	ND	Ui	36	36	3.5	J	1.3	28	2.3	J	1.1	28	ND	UX	1.1	28	ND	U	2.1	28	ND	U	1.9	28	ND	U	2.7	28
ABMA12 Comp Rep 2	ND	U	3.4	31	ND	U	3.7	31	ND	Ui	34	34	2.0	J	1.5	31	2.5	J	1.2	31	ND	UX	1.2	31	ND	U	2.3	31	ND	U	2.1	31	ND	U	3.0	31
ABMA12 Comp Rep 3	ND	U	3.1	28	ND	U	3.4	28	ND	Ui	19	28	6.8	J	1.3	28	2.7	J	1.1	28	ND	UX	1.1	28	ND	U	2.1	28	ND	U	1.9	28	ND	U	2.7	28
ABMA12 Comp Rep 4	ND	U	3.2	29	ND	U	3.5	29	ND	Ui	28	29	1.8	J	1.4	29	1.7	J	1.1	29	ND	UX	1.1	29	ND	U	2.1	29	ND	U	1.9	29	ND	U	2.8	29
ABMA12 Comp Rep 5	ND	U	3.2	29	ND	U	3.5	29	ND	Ui	21	29	2.1	J	1.4	29	1.9	J	1.1	29	ND	UX	1.1	29	ND	U	2.1	29	ND	U	1.9	29	ND	U	2.8	29
SHCR12 Comp Rep 1	3.7	J	3.6	33	ND	U	3.9	33	13	JX	1.6	33	4.0	J	1.5	33	ND	U	1.3	33	ND	UX	1.3	33	ND	U	2.4	33	ND	U	2.2	33	ND	U	3.1	33
SHCR12 Comp Rep 2	ND	U	3.7	34	ND	U	4.0	34	16	JX	1.6	34	ND	U	1.6	34	ND	U	1.3	34	1.8	J	1.3	34	ND	U	2.5	34	ND	U	2.2	34	ND	U	3.2	34
SHCR12 Comp Rep 3	ND	U	3.6	33	ND	U	3.9	33	13	JX	1.6	33	1.6	J	1.5	33	ND	U	1.3	33	2.1	J	1.3	33	ND	U	2.4	33	ND	U	2.2	33	ND	U	3.1	33
SHCR12 Comp Rep 4	3.7	J	3.6	32	ND	U	3.9	32	45	X	1.6	32	2.6	J	1.5	32	ND	U	1.3	32	ND	UX	1.3	32	3.1	JX	2.4	32	ND	U	2.2	32	ND	U	3.1	32
SHCR12 Comp Rep 5	3.8	J	3.4	31	ND	U	3.7	31	24	JX	1.5	31	1.7	J	1.5	31	ND	U	1.2	31	ND	UX	1.2	31	2.5	JX	2.3	31	ND	U	2.1	31	ND	U	2.9	31
RS-CH-A Rep 1	4.5	J	3.5	32	ND	U	3.8	32	ND	Ui	5.1	32	ND	U	1.5	32	ND	U	1.2	32	5.4	JX	1.2	32	ND	U	2.3	32	ND	U	2.1	32	ND	U	3.0	32
RS-CH-A Rep 2	4.1	J	3.6	33	ND	U	3.9	33	ND	Ui	4.9	33	ND	U	1.5	33	ND	U	1.3	33	6.4	JX	1.3	33	ND	U	2.4	33	ND	U	2.2	33	ND	U	3.1	33
RS-CH-A Rep 3	ND	U	3.5	32	ND	U	3.9	32	ND	Ui	4.2	32	ND	U	1.5	32	ND	U	1.3	32	ND	U	1.3	32	ND	U	2.4	32	ND	U	2.1	32	ND	U	3.1	32
RS-CH-A Rep 4	4.7	J	3.5	32	ND	U	3.9	32	ND	Ui	4.5	32	1.7	J	1.5	32	2.3	J	1.3	32	7.1	JX	1.3	32	ND	U	2.4	32	ND	U	2.1	32	ND	U	3.1	32
RS-CH-A Rep 5	ND	U	3.6	33	ND	U	3.9	33	ND	Ui	5.1	33	ND	U	1.5	33	ND	U	1.3	33	3.9	JX	1.3	33	ND	Ui	3.4	33	ND	U	2.2	33	ND	U	3.1	33
Pre-exposure Rep 1	5.1	J	3.6	33	ND	U	3.9	33	ND	Ui	4.4	33	2.2	J	1.5	33	ND	U	1.3	33	1.8	J	1.3	33	ND	U	2.4	33	ND	U	2.2	33	ND	U	3.1	33
Pre-exposure Rep 2	4.4	J	3.5	32	ND	U	3.9	32	ND	Ui	5.1	32	ND	U	1.5	32	ND	U	1.3	32	8.5	JX	1.3	32	ND	U	2.4	32	ND	U	2.1	32	ND	U	3.1	32
Pre-exposure Rep 3	ND	U	3.6	33	ND	U	3.9	33	ND	Ui	3.7	33	ND	U	1.5	33	ND	U	1.3	33	1.8	J	1.3	33	ND	U	2.4	33	ND	U	2.2	33	ND	U	3.1	33

TABLE 35
Analytical Results for Dry Weight PAHs in *Neanthes virens* Tissues

Analyte:	Benzo(k)fluoranthene				Chrysene[HMW]				Dibenzo(a,h)anthracene[HMW]				Fluoranthene[HMW]				Fluorene[LMW]				Indeno(1,2,3-cd)pyrene				Naphthalene[LMW]				Phenanthrene[LMW]				Pyrene[HMW]			
Sample-Replicate #	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
WLRW12 Comp Rep 1	ND	U	1.8	32	ND	UX	1.8	32	ND	U	2.8	32	3.4	J	1.6	32	6.7	JX	1.7	32	ND	U	3.1	32	7.7	J	4.8	32	3.2	J	2.1	32	2.9	J	1.6	32
WLRW12 Comp Rep 2	ND	U	1.8	31	2.3	J	1.7	31	ND	U	2.7	31	4.3	J	1.5	31	4.0	JX	1.6	31	ND	U	3.0	31	10	J	4.6	31	3.9	J	2.1	31	ND	Ui	3.0	31
WLRW12 Comp Rep 3	ND	U	1.9	32	ND	UX	1.8	32	ND	U	2.8	32	2.7	J	1.6	32	5.4	JX	1.7	32	ND	U	3.1	32	9.0	J	4.8	32	3.5	J	2.1	32	ND	Ui	2.3	32
WLRW12 Comp Rep 4	ND	U	1.8	31	3.1	J	1.7	31	ND	U	2.7	31	3.2	J	1.5	31	3.9	JX	1.6	31	ND	U	3.0	31	9.6	J	4.6	31	3.6	J	2.1	31	ND	Ui	3.6	31
WLRW12 Comp Rep 5	ND	U	1.9	32	2.1	J	1.8	32	ND	U	2.8	32	7.2	J	1.6	32	5.0	JX	1.7	32	ND	U	3.1	32	9.5	J	4.8	32	3.7	J	2.1	32	ND	Ui	7.0	32
NCW12 Comp Rep 1	ND	U	1.8	31	2.5	J	1.7	31	ND	U	2.7	31	8.2	J	1.5	31	3.2	J	1.6	31	ND	U	3.0	31	8.6	J	4.6	31	6.8	J	2.1	31	5.6	JX	1.6	31
NCW12 Comp Rep 2	ND	U	1.8	32	5.2	JX	1.8	32	ND	U	2.7	32	11	J	1.6	32	1.8	J	1.7	32	ND	U	3.0	32	4.9	J	4.7	32	5.5	J	2.1	32	9.8	J	1.6	32
NCW12 Comp Rep 3	ND	U	1.7	30	4.2	JX	1.7	30	ND	U	2.6	30	7.0	J	1.5	30	1.8	J	1.6	30	ND	U	2.9	30	6.1	J	4.5	30	5.0	J	2.0	30	5.5	J	1.5	30
NCW12 Comp Rep 4	ND	U	1.9	32	4.7	J	1.8	32	ND	U	2.8	32	11	J	1.6	32	2.1	J	1.7	32	ND	U	3.1	32	6.9	J	4.8	32	4.9	J	2.2	32	8.7	J	1.6	32
NCW12 Comp Rep 5	ND	U	1.8	31	5.7	JX	1.7	31	ND	U	2.7	31	12	J	1.5	31	1.8	J	1.6	31	ND	U	3.0	31	7.4	J	4.6	31	4.5	J	2.1	31	13	J	1.6	31
ABMA12 Comp Rep 1	ND	U	1.6	28	8.0	JX	1.6	28	ND	U	2.4	28	5.9	J	1.4	28	ND	Ui	16	28	ND	U	2.7	28	ND	U	4.2	28	3.3	J	1.9	28	6.1	J	1.4	28
ABMA12 Comp Rep 2	ND	U	1.8	31	6.8	JX	1.7	31	ND	U	2.7	31	6.1	J	1.6	31	ND	Ui	15	31	ND	U	3.0	31	ND	U	4.7	31	3.0	J	2.1	31	6.7	J	1.6	31
ABMA12 Comp Rep 3	ND	U	1.6	28	8.3	JX	1.6	28	ND	U	2.4	28	8.7	J	1.4	28	ND	Ui	8.8	28	ND	U	2.7	28	ND	U	4.2	28	4.2	J	1.9	28	8.0	J	1.4	28
ABMA12 Comp Rep 4	ND	U	1.7	29	7.3	JX	1.6	29	ND	U	2.5	29	5.6	J	1.5	29	ND	Ui	13	29	ND	U	2.8	29	ND	U	4.4	29	2.8	J	1.9	29	4.8	J	1.5	29
ABMA12 Comp Rep 5	ND	U	1.7	29	7.0	JX	1.6	29	ND	U	2.5	29	6.0	J	1.5	29	ND	Ui	9.7	29	ND	U	2.8	29	ND	U	4.4	29	3.0	J	1.9	29	4.8	J	1.5	29
SHCR12 Comp Rep 1	ND	U	1.9	33	6.8	JX	1.8	33	ND	U	2.8	33	15	J	1.6	33	1.9	J	1.7	33	ND	U	3.2	33	7.4	J	4.9	33	3.8	J	2.2	33	18	J	1.7	33
SHCR12 Comp Rep 2	ND	U	1.9	34	4.0	J	1.9	34	ND	U	2.9	34	9.5	J	1.7	34	2.1	J	1.8	34	ND	U	3.2	34	13	J	5.0	34	3.5	J	2.2	34	12	J	1.7	34
SHCR12 Comp Rep 3	ND	U	1.9	33	4.2	J	1.8	33	ND	U	2.8	33	13	J	1.6	33	2.4	J	1.7	33	ND	U	3.1	33	18	J	4.9	33	4.9	J	2.2	33	15	J	1.7	33
SHCR12 Comp Rep 4	ND	U	1.9	32	6.7	JX	1.8	32	ND	U	2.8	32	12	J	1.6	32	2.7	J	1.7	32	ND	U	3.1	32	10	J	4.8	32	5.5	J	2.2	32	13	J	1.6	32
SHCR12 Comp Rep 5	ND	U	1.8	31	5.1	JX	1.7	31	ND	U	2.7	31	8.9	J	1.5	31	2.9	J	1.6	31	ND	U	3.0	31	22	J	4.6	31	4.3	J	2.1	31	11	J	1.6	31
RS-CH-A Rep 1	ND	U	1.8	32	ND	UX	1.8	32	ND	U	2.7	32	5.1	J	1.6	32	ND	U	1.7	32	ND	U	3.1	32	ND	U	4.7	32	3.7	J	2.1	32	3.5	J	1.6	32
RS-CH-A Rep 2	ND	U	1.9	33	ND	UX	1.8	33	ND	U	2.8	33	4.2	J	1.6	33	ND	U	1.7	33	ND	U	3.2	33	ND	U	4.9	33	4.8	J	2.2	33	2.4	J	1.7	33
RS-CH-A Rep 3	ND	U	1.9	32	ND	U	1.8	32	ND	U	2.8	32	3.7	J	1.6	32	3.5	J	1.7	32	ND	U	3.1	32	ND	U	4.8	32	4.1	J	2.1	32	2.4	J	1.6	32
RS-CH-A Rep 4	ND	U	1.9	32	ND	UX	1.8	32	ND	U	2.8	32	6.6	J	1.6	32	4.0	J	1.7	32	ND	U	3.1	32	ND	U	4.8	32	6.0	J	2.1	32	3.5	J	1.6	32
RS-CH-A Rep 5	ND	U	1.9	33	ND	UX	1.8	33	ND	U	2.8	33	2.8	J	1.6	33	2.6	J	1.7	33	ND	U	3.2	33	ND	U	4.9	33	3.5	J	2.2	33	ND	Ui	3.3	33
Pre-exposure Rep 1	ND	U	1.9	33	5.5	JX	1.8	33	ND	U	2.8	33	5.7	J	1.6	33	3.8	J	1.7	33	ND	U	3.2	33	ND	U	4.9	33	5.4	J	2.2	33	4.0	J	1.7	33
Pre-exposure Rep 2	ND	U	1.9	32	ND	UX	1.8	32	ND	U	2.8	32	5.8	J	1.6	32	ND	Ui	5.7	32	ND	U	3.1	32	ND	U	4.8	32	5.7	J	2.1	32	4.3	J	1.6	32
Pre-exposure Rep 3	ND	U	1.9	33	ND	U	1.8	33	ND	U	2.8	33	5.8	J	1.6	33	ND	Ui	4.6	33	ND	U	3.2	33	ND	U	4.9	33	5.9	J	2.2	33	4.3	J	1.7	33

[LMW] Low Molecular Weight PAHs (NOAA 1989)
[HMW] High Molecular Weight PAHs (NOAA 1989)
i = The MRL/MDL is elevated due to a matrix interference.
J = The result is an estimated value.
U = The analyte was analyzed for, but not detected at or above the MRL/MDL.
X = The Results may contain a slight bias, due to the chromatograms indicating the presence of non-target background components. See the case narrative (Appendix E) for more information.

Source: ALS Environmental Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 36
Analytical Results for Dry Weight PAHs in *Macoma nasuta* Tissues

Analyte:	1-Methylnaphthalene[LMW]				2-Methylnaphthalene[LMW]				Acenaphthene[LMW]				Acenaphthylene				Anthracene[LMW]				Benzo(a)anthracene[HMW]				Benzo(a)pyrene[HMW]				Benzo(b)fluoranthene				Benzo(g,h,i)perylene			
Sample-Replicate #	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
CHEC12-1 Comp Rep 1	ND	U	2.9	26	ND	U	3.1	26	3.5	JX	1.3	26	ND	U	1.2	26	2.8	J	0.98	26	3.6	J	0.98	26	ND	U	1.9	26	3.3	J	1.7	26	ND	U	2.5	26
CHEC12-1 Comp Rep 2	ND	U	2.9	27	ND	U	3.2	27	2.7	JX	1.3	27	ND	U	1.3	27	2.5	J	1.0	27	3.3	J	1.0	27	3.0	JX	2.0	27	2.9	J	1.8	27	ND	U	2.5	27
CHEC12-1 Comp Rep 3	ND	U	3.0	28	ND	U	3.3	28	1.9	JX	1.3	28	ND	U	1.3	28	2.3	J	1.1	28	3.0	J	1.1	28	ND	U	2.0	28	3.5	J	1.8	28	ND	U	2.6	28
CHEC12-1 Comp Rep 4	ND	U	2.9	27	ND	U	3.2	27	2.2	JX	1.3	27	ND	U	1.3	27	2.3	J	1.0	27	3.0	J	1.0	27	5.9	JX	2.0	27	3.0	J	1.8	27	ND	U	2.5	27
CHEC12-1 Comp Rep 5	ND	U	3.0	27	ND	U	3.2	27	2.3	JX	1.3	27	ND	U	1.3	27	2.9	J	1.1	27	3.8	J	1.1	27	ND	U	2.0	27	3.7	J	1.8	27	ND	U	2.6	27
CHEC12-2 Comp Rep 1	ND	U	2.9	27	ND	U	3.2	27	3.1	JX	1.3	27	ND	U	1.3	27	1.8	J	1.1	27	3.3	J	1.1	27	3.6	JX	2.0	27	ND	U	1.8	27	ND	U	2.6	27
CHEC12-2 Comp Rep 2	ND	U	3.0	27	ND	U	3.3	27	1.8	JX	1.3	27	ND	U	1.3	27	1.4	J	1.1	27	2.3	J	1.1	27	4.2	JX	2.0	27	ND	U	1.8	27	ND	U	2.6	27
CHEC12-2 Comp Rep 3	ND	U	2.9	26	ND	U	3.1	26	2.7	JX	1.3	26	ND	U	1.2	26	1.3	J	0.98	26	2.1	J	0.98	26	4.0	JX	1.9	26	ND	U	1.7	26	ND	U	2.5	26
CHEC12-2 Comp Rep 4	ND	U	3.1	28	ND	U	3.3	28	2.1	JX	1.3	28	ND	U	1.3	28	1.4	J	1.1	28	2.7	J	1.1	28	2.4	JX	2.1	28	ND	U	1.9	28	ND	U	2.7	28
CHEC12-2 Comp Rep 5	ND	U	3.0	27	3.4	J	3.2	27	2.3	JX	1.3	27	ND	U	1.3	27	1.7	J	1.1	27	2.4	J	1.1	27	4.5	JX	2.0	27	ND	U	1.8	27	ND	U	2.6	27
MTPL12 Comp Rep 1	2.8	J	2.8	26	3.6	J	3.1	26	2.0	JX	1.2	26	ND	U	1.2	26	2.2	J	0.96	26	3.1	J	0.96	26	5.3	JX	1.9	26	ND	U	1.7	26	ND	U	2.4	26
MTPL12 Comp Rep 2	ND	U	3.0	27	3.9	J	3.2	27	2.3	JX	1.3	27	ND	U	1.3	27	1.6	J	1.1	27	2.7	J	1.1	27	4.7	JX	2.0	27	ND	U	1.8	27	ND	U	2.6	27
MTPL12 Comp Rep 3	ND	U	3.0	27	ND	U	3.3	27	2.6	JX	1.3	27	ND	U	1.3	27	1.4	J	1.1	27	2.7	J	1.1	27	4.2	JX	2.0	27	ND	U	1.8	27	ND	U	2.6	27
MTPL12 Comp Rep 4	ND	U	3.0	27	ND	U	3.3	27	1.7	JX	1.3	27	ND	U	1.3	27	1.4	J	1.1	27	2.7	J	1.1	27	3.7	JX	2.0	27	ND	U	1.8	27	ND	U	2.6	27
MTPL12 Comp Rep 5	ND	U	3.0	27	ND	U	3.2	27	2.2	JX	1.3	27	ND	U	1.3	27	1.7	J	1.1	27	3.0	J	1.1	27	5.2	JX	2.0	27	ND	U	1.8	27	ND	U	2.6	27
REHR12 Comp Rep 1	ND	U	3.2	29	ND	U	3.5	29	1.6	JX	1.4	29	ND	U	1.4	29	1.7	J	1.1	29	3.1	J	1.1	29	5.0	JX	2.1	29	ND	U	1.9	29	ND	U	2.8	29
REHR12 Comp Rep 2	ND	U	3.1	28	ND	U	3.4	28	2.7	JX	1.4	28	ND	U	1.3	28	1.6	J	1.1	28	2.9	J	1.1	28	ND	UX	2.1	28	ND	U	1.9	28	ND	U	2.7	28
REHR12 Comp Rep 3	ND	U	3.1	28	ND	U	3.3	28	2.5	JX	1.3	28	ND	U	1.3	28	1.6	J	1.1	28	3.4	J	1.1	28	4.5	JX	2.0	28	ND	U	1.9	28	ND	U	2.7	28
REHR12 Comp Rep 4	ND	U	3.4	31	ND	U	3.7	31	2.0	JX	1.5	31	ND	U	1.4	31	1.5	J	1.2	31	2.9	J	1.2	31	3.5	JX	2.2	31	ND	U	2.0	31	ND	U	2.9	31
REHR12 Comp Rep 5	ND	U	3.1	28	ND	U	3.4	28	2.1	JX	1.4	28	ND	U	1.3	28	1.6	J	1.1	28	3.8	J	1.1	28	7.0	JX	2.1	28	ND	U	1.9	28	ND	U	2.7	28
HGIS12 Comp Rep 1	ND	U	2.9	26	ND	U	3.1	26	2.3	JX	1.3	26	ND	U	1.2	26	2.1	J	0.98	26	4.0	J	0.98	26	4.1	JX	1.9	26	4.1	J	1.7	26	ND	U	2.5	26
HGIS12 Comp Rep 2	ND	U	2.8	25	ND	U	3.0	25	2.5	JX	1.2	25	ND	U	1.2	25	2.2	J	0.94	25	2.2	J	0.94	25	2.1	JX	1.9	25	2.9	J	1.7	25	ND	U	2.4	25
HGIS12 Comp Rep 3	ND	U	2.7	24	ND	U	2.9	24	3.9	JX	1.2	24	ND	U	1.2	24	2.4	J	0.91	24	3.0	J	0.91	24	3.1	JX	1.8	24	3.0	J	1.6	24	ND	U	2.3	24
HGIS12 Comp Rep 4	ND	U	2.8	26	ND	U	3.1	26	3.8	JX	1.2	26	ND	U	1.2	26	2.5	J	0.97	26	2.2	J	0.97	26	2.4	JX	1.9	26	2.9	J	1.7	26	ND	U	2.5	26
HGIS12 Comp Rep 5	ND	U	3.0	27	ND	U	3.3	27	2.0	JX	1.3	27	ND	U	1.3	27	2.4	J	1.1	27	2.0	J	1.1	27	3.3	JX	2.0	27	2.5	J	1.8	27	ND	U	2.6	27
DRMY12 Comp Rep 1	ND	U	2.9	27	ND	U	3.2	27	4.1	JX	1.3	27	ND	U	1.2	27	6.2	J	1.0	27	6.6	J	1.0	27	4.4	JX	2.0	27	6.1	J	1.8	27	ND	U	2.5	27
DRMY12 Comp Rep 2	ND	U	2.8	25	ND	U	3.0	25	4.5	JX	1.2	25	ND	U	1.2	25	6.2	J	0.95	25	6.7	J	0.95	25	3.9	JX	1.9	25	6.3	J	1.7	25	ND	U	2.4	25
DRMY12 Comp Rep 3	ND	U	2.8	26	ND	U	3.1	26	3.1	JX	1.2	26	ND	U	1.2	26	5.8	J	0.97	26	5.9	J	0.97	26	3.4	JX	1.9	26	5.7	J	1.7	26	ND	U	2.5	26
DRMY12 Comp Rep 4	ND	U	2.8	26	ND	U	3.1	26	3.3	JX	1.2	26	ND	U	1.2	26	4.9	J	0.97	26	7.0	J	0.97	26	4.0	JX	1.9	26	7.0	J	1.7	26	ND	U	2.5	26
DRMY12 Comp Rep 5	ND	U	3.1	29	ND	U	3.4	29	3.2	JX	1.4	29	ND	U	1.3	29	4.6	J	1.1	29	6.3	J	1.1	29	3.5	JX	2.1	29	6.3	J	1.9	29	ND	U	2.7	29
WLR12 Comp Rep 1	ND	U	2.9	27	ND	U	3.2	27	4.0	JX	1.3	27	ND	U	1.3	27	2.7	J	1.0	27	3.5	J	1.0	27	ND	U	2.0	27	2.4	J	1.8	27	ND	U	2.5	27
WLR12 Comp Rep 2	ND	U	3.0	27	ND	U	3.2	27	3.0	JX	1.3	27	ND	U	1.3	27	2.7	J	1.1	27	3.4	J	1.1	27	3.4	JX	2.0	27	2.1	J	1.8	27	ND	U	2.6	27
WLR12 Comp Rep 3	ND	U	2.8	25	ND	U	3.0	25	4.7	JX	1.2	25	ND	U	1.2	25	2.9	J	0.95	25	3.0	J	0.95	25	2.5	JX	1.9	25	2.5	J	1.7	25	ND	U	2.4	25
WLR12 Comp Rep 4	ND	U	2.9	26	ND	U	3.1	26	4.0	JX	1.3	26	ND	U	1.2	26	2.7	J	0.98	26	2.9	J	0.98	26	2.6	JX	1.9	26	2.4	J	1.8	26	ND	U	2.5	26
WLR12 Comp Rep 5	ND	U	2.8	26	ND	U	3.1	26	2.7	JX	1.2	26	ND	U	1.2	26	2.1	J	0.96	26	3.1	J	0.96	26	1.9	JX	1.9	26	2.5	J	1.7	26	ND	U	2.4	26
WUTB12 Comp Rep 1	ND	U	2.5	23	ND	U	2.7	23	2.9	JX	1.1	23	ND	U	1.1	23	3.8	J	0.85	23	4.6	J	0.85	23	2.4	JX	1.7	23	4.1	J	1.5	23	ND	U	2.2	23
WUTB12 Comp Rep 2	ND	U	2.8	25	ND	U	3.0	25	ND	U	1.2	25	ND	U	1.2	25	2.8	J	0.95	25	4.7	J	0.95	25	3.0	JX	1.9	25	4.6	J	1.7	25	ND	U	2.4	25
WUTB12 Comp Rep 3	6.3	JX	3.0	28	ND	U	3.3	28	ND	U	1.3	28	ND	U	1.3	28	ND	U	5.2	140	ND	U	5.2	140	ND	Ui	11	140	ND	U	9.0	140	ND	Ui	450	450
WUTB12 Comp Rep 4	ND	U	2.9	26	ND	U	3.2	26	ND	U	1.3	26	1.5	JX	1.2	26	3.3	J	0.99	26	4.9	J	0.99	26	2.7	JX	1.9	26	4.2	J	1.8	26	ND	U	2.5	26
WUTB12 Comp Rep 5	ND	U	2.9	26	ND	U	3.2	26	2.3	JX	1.3	26	ND	U	1.2	26	4.0	J	0.99	26	4.8	J	0.99	26	3.2	JX	1.9	26	4.2	J	1.8	26	ND	U	2.5	26

TABLE 36
Analytical Results for Dry Weight PAHs in *Macoma nasuta* Tissues

Analyte:	Benzo(k)fluoranthene				Chrysene[HMW]				Dibenzo(a,h)anthracene[HMW]				Fluoranthene[HMW]				Fluorene[LMW]				Indeno(1,2,3-cd)pyrene				Naphthalene[LMW]				Phenanthrene[LMW]				Pyrene[HMW]			
Sample-Replicate #	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
CHEC12-1 Comp Rep 1	2.0	J	1.5	26	7.9	J	1.5	26	ND	U	2.3	26	17	J	1.3	26	4.6	J	1.4	26	ND	U	2.5	26	11	J	3.9	26	9.2	J	1.7	26	10	JX	1.3	26
CHEC12-1 Comp Rep 2	ND	U	1.5	27	7.3	J	1.5	27	ND	U	2.3	27	17	J	1.3	27	4.4	J	1.4	27	ND	U	2.6	27	17	J	4.0	27	9.3	J	1.8	27	6.8	JX	1.4	27
CHEC12-1 Comp Rep 3	ND	U	1.6	28	7.2	J	1.5	28	ND	U	2.4	28	18	J	1.4	28	4.1	J	1.5	28	ND	U	2.7	28	14	J	4.1	28	8.1	J	1.8	28	8.6	J	1.4	28
CHEC12-1 Comp Rep 4	2.1	J	1.5	27	6.8	J	1.5	27	ND	U	2.3	27	17	J	1.3	27	4.2	J	1.4	27	ND	U	2.6	27	19	J	4.0	27	8.0	J	1.8	27	8.8	JX	1.4	27
CHEC12-1 Comp Rep 5	1.8	J	1.6	27	7.0	J	1.5	27	ND	U	2.3	27	16	J	1.3	27	3.3	J	1.4	27	ND	U	2.6	27	13	J	4.0	27	6.7	J	1.8	27	7.7	JX	1.4	27
CHEC12-2 Comp Rep 1	ND	U	1.6	27	6.0	J	1.5	27	ND	U	2.3	27	9.8	J	1.3	27	4.0	J	1.4	27	ND	U	2.6	27	16	J	4.0	27	5.8	J	1.8	27	5.9	JX	1.4	27
CHEC12-2 Comp Rep 2	ND	U	1.6	27	4.4	J	1.5	27	ND	U	2.4	27	8.4	J	1.4	27	3.8	J	1.4	27	ND	U	2.6	27	19	J	4.1	27	7.1	J	1.8	27	4.7	JX	1.4	27
CHEC12-2 Comp Rep 3	ND	U	1.5	26	5.2	J	1.5	26	ND	U	2.3	26	8.9	J	1.3	26	3.8	J	1.4	26	ND	U	2.5	26	17	J	3.9	26	5.4	J	1.7	26	4.3	JX	1.3	26
CHEC12-2 Comp Rep 4	ND	U	1.6	28	3.7	J	1.6	28	ND	U	2.4	28	5.9	J	1.4	28	3.5	J	1.5	28	ND	U	2.7	28	14	J	4.2	28	5.1	J	1.9	28	2.8	J	1.4	28
CHEC12-2 Comp Rep 5	ND	U	1.6	27	5.8	J	1.5	27	ND	U	2.3	27	9.8	J	1.3	27	4.1	J	1.4	27	ND	U	2.6	27	20	J	4.0	27	6.7	J	1.8	27	4.0	JX	1.4	27
MTPL12 Comp Rep 1	ND	U	1.5	26	6.5	J	1.4	26	ND	U	2.2	26	13	J	1.3	26	4.7	J	1.4	26	ND	U	2.5	26	17	J	3.8	26	11	J	1.7	26	6.5	J	1.3	26
MTPL12 Comp Rep 2	ND	U	1.6	27	5.2	J	1.5	27	ND	U	2.3	27	9.4	J	1.4	27	4.6	J	1.4	27	ND	U	2.6	27	19	J	4.0	27	11	J	1.8	27	4.6	JX	1.4	27
MTPL12 Comp Rep 3	ND	U	1.6	27	4.8	J	1.5	27	ND	U	2.4	27	6.0	J	1.4	27	4.0	J	1.4	27	ND	U	2.6	27	17	J	4.1	27	6.5	J	1.8	27	2.6	JX	1.4	27
MTPL12 Comp Rep 4	ND	U	1.6	27	4.9	J	1.5	27	ND	U	2.4	27	6.0	J	1.4	27	3.7	J	1.4	27	ND	U	2.6	27	15	J	4.1	27	6.5	J	1.8	27	3.0	JX	1.4	27
MTPL12 Comp Rep 5	ND	U	1.6	27	5.2	J	1.5	27	ND	U	2.3	27	9.0	J	1.3	27	4.4	J	1.4	27	ND	U	2.6	27	17	J	4.0	27	9.0	J	1.8	27	5.1	JX	1.4	27
REHR12 Comp Rep 1	ND	U	1.7	29	4.3	J	1.6	29	ND	U	2.5	29	5.2	J	1.5	29	4.5	J	1.5	29	ND	U	2.8	29	14	J	4.3	29	8.2	J	1.9	29	3.5	JX	1.5	29
REHR12 Comp Rep 2	ND	U	1.6	28	5.3	J	1.6	28	ND	U	2.4	28	5.1	J	1.4	28	4.3	J	1.5	28	ND	U	2.7	28	12	J	4.2	28	6.2	J	1.9	28	3.3	JX	1.4	28
REHR12 Comp Rep 3	ND	U	1.6	28	3.7	J	1.6	28	ND	U	2.4	28	4.0	J	1.4	28	4.3	J	1.5	28	ND	U	2.7	28	16	J	4.2	28	6.6	J	1.9	28	2.3	JX	1.4	28
REHR12 Comp Rep 4	ND	U	1.8	31	3.5	J	1.7	31	ND	U	2.6	31	4.1	J	1.5	31	4.5	J	1.6	31	ND	U	2.9	31	15	J	4.6	31	7.0	J	2.0	31	2.5	JX	1.6	31
REHR12 Comp Rep 5	ND	U	1.6	28	4.1	J	1.6	28	ND	U	2.4	28	4.3	J	1.4	28	4.7	J	1.5	28	ND	U	2.7	28	13	J	4.2	28	8.0	J	1.9	28	2.9	JX	1.4	28
HGIS12 Comp Rep 1	1.7	J	1.5	26	6.6	J	1.5	26	ND	U	2.3	26	11	J	1.3	26	2.8	J	1.4	26	ND	U	2.5	26	ND	U	3.9	26	8.8	J	1.7	26	8.4	J	1.3	26
HGIS12 Comp Rep 2	ND	U	1.5	25	7.6	JX	1.4	25	ND	U	2.2	25	10	J	1.3	25	2.9	J	1.3	25	ND	U	2.4	25	ND	U	3.8	25	7.8	J	1.7	25	7.8	J	1.3	25
HGIS12 Comp Rep 3	1.7	J	1.4	24	7.5	J	1.4	24	ND	U	2.1	24	11	J	1.2	24	3.6	J	1.3	24	ND	U	2.3	24	4.0	J	3.6	24	9.1	J	1.6	24	8.7	J	1.2	24
HGIS12 Comp Rep 4	1.9	J	1.5	26	6.4	JX	1.4	26	ND	U	2.2	26	13	J	1.3	26	3.4	J	1.4	26	ND	U	2.5	26	7.3	J	3.9	26	9.5	J	1.7	26	10	J	1.3	26
HGIS12 Comp Rep 5	ND	U	1.6	27	4.7	J	1.5	27	ND	U	2.4	27	12	J	1.4	27	3.2	J	1.4	27	ND	U	2.6	27	ND	U	4.1	27	7.1	J	1.8	27	9.0	J	1.4	27
DRMY12 Comp Rep 1	2.7	J	1.5	27	11	J	1.5	27	ND	U	2.3	27	41	--	1.3	27	5.0	J	1.4	27	ND	U	2.6	27	7.6	J	4.0	27	9.4	J	1.8	27	30	--	1.4	27
DRMY12 Comp Rep 2	2.8	J	1.5	25	13	J	1.4	25	ND	U	2.2	25	35	--	1.3	25	5.1	J	1.3	25	ND	U	2.4	25	ND	U	3.8	25	10	J	1.7	25	23	J	1.3	25
DRMY12 Comp Rep 3	2.8	J	1.5	26	11	J	1.4	26	ND	U	2.2	26	32	--	1.3	26	5.0	J	1.4	26	ND	U	2.5	26	ND	U	3.9	26	11	J	1.7	26	23	J	1.3	26
DRMY12 Comp Rep 4	2.9	J	1.5	26	13	J	1.4	26	ND	U	2.2	26	31	--	1.3	26	4.1	J	1.4	26	ND	U	2.5	26	ND	U	3.9	26	10	J	1.7	26	20	J	1.3	26
DRMY12 Comp Rep 5	2.8	J	1.7	29	10	J	1.6	29	ND	U	2.5	29	28	J	1.4	29	4.6	J	1.5	29	ND	U	2.7	29	12	J	4.3	29	9.9	J	1.9	29	19	J	1.5	29
WLR12 Comp Rep 1	1.7	J	1.5	27	7.1	J	1.5	27	ND	U	2.3	27	12	J	1.3	27	4.2	J	1.4	27	ND	U	2.6	27	ND	U	4.0	27	7.2	J	1.8	27	7.1	J	1.4	27
WLR12 Comp Rep 2	ND	U	1.6	27	6.4	J	1.5	27	ND	U	2.3	27	12	J	1.3	27	3.8	J	1.4	27	ND	U	2.6	27	ND	U	4.0	27	7.0	J	1.8	27	6.8	J	1.4	27
WLR12 Comp Rep 3	ND	U	1.5	25	6.7	JX	1.4	25	ND	U	2.2	25	13	J	1.3	25	2.6	J	1.3	25	ND	U	2.4	25	ND	U	3.8	25	7.1	J	1.7	25	7.3	J	1.3	25
WLR12 Comp Rep 4	ND	U	1.5	26	7.2	J	1.5	26	ND	U	2.3	26	14	J	1.3	26	4.5	J	1.4	26	ND	U	2.5	26	12	J	3.9	26	8.2	J	1.8	26	8.6	J	1.3	26
WLR12 Comp Rep 5	ND	U	1.5	26	6.5	J	1.4	26	ND	U	2.2	26	12	J	1.3	26	3.7	J	1.4	26	ND	U	2.5	26	ND	U	3.8	26	7.0	J	1.7	26	7.5	J	1.3	26
WUTB12 Comp Rep 1	2.0	J	1.3	23	9.2	J	1.3	23	ND	U	2.0	23	28	--	1.1	23	4.7	J	1.2	23	ND	U	2.2	23	11	J	3.4	23	8.8	J	1.5	23	17	J	1.2	23
WUTB12 Comp Rep 2	ND	U	1.5	25	8.2	JX	1.4	25	ND	U	2.2	25	27	--	1.3	25	3.2	J	1.3	25	ND	U	2.4	25	6.5	J	3.8	25	7.6	J	1.7	25	16	J	1.3	25
WUTB12 Comp Rep 3	ND	U	7.8	140	ND	Ui	250	250	ND	U	12	140	29	JD	6.7	140	3.6	J	1.5	28	ND	Ui	260	260	6.9	J	4.1	28	ND	Ui	9.5	140	19	JD	6.8	140
WUTB12 Comp Rep 4	1.8	J	1.5	26	7.6	J	1.5	26	ND	U	2.3	26	28	--	1.3	26	3.6	J	1.4	26	ND	U	2.5	26	ND	U	3.9	26	8.2	J	1.8	26	13	J	1.3	26
WUTB12 Comp Rep 5	1.9	J	1.5	26	8.3	J	1.5	26	ND	U	2.3	26	28	--	1.3	26	4.8	J	1.4	26	ND	U	2.5	26	ND	U	3.9	26	9.9	J	1.8	26	17	J	1.3	26

TABLE 36
Analytical Results for Dry Weight PAHs in *Macoma nasuta* Tissues

Analyte:	1-Methylnaphthalene[LMW]				2-Methylnaphthalene[LMW]				Acenaphthene[LMW]				Acenaphthylene				Anthracene[LMW]				Benzo(a)anthracene[HMW]				Benzo(a)pyrene[HMW]				Benzo(b)fluoranthene				Benzo(g,h,i)perylene			
Sample-Replicate #	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
DANI12 Comp Rep 1	ND	U	3.1	28	ND	U	3.3	28	2.7	JX	1.3	28	ND	U	1.3	28	3.7	J	1.1	28	3.7	J	1.1	28	5.6	JX	2.1	28	3.7	J	1.9	28	ND	U	2.7	28
DANI12 Comp Rep 2	ND	U	3.0	27	ND	U	3.3	27	1.6	JX	1.3	27	ND	U	1.3	27	3.1	J	1.1	27	3.0	J	1.1	27	4.3	JX	2.0	27	3.7	J	1.8	27	ND	U	2.6	27
DANI12 Comp Rep 3	ND	U	3.0	27	ND	U	3.2	27	2.3	JX	1.3	27	ND	U	1.3	27	3.5	J	1.1	27	3.3	J	1.1	27	4.9	JX	2.0	27	3.8	J	1.8	27	ND	U	2.6	27
DANI12 Comp Rep 4	ND	U	3.0	27	ND	U	3.3	27	2.2	JX	1.3	27	ND	U	1.3	27	3.3	J	1.1	27	5.0	JX	1.1	27	5.9	JX	2.0	27	4.5	J	1.8	27	ND	U	2.6	27
DANI12 Comp Rep 5	ND	U	2.8	25	ND	U	3.0	25	2.0	JX	1.2	25	ND	U	1.2	25	3.2	J	0.95	25	3.1	J	0.95	25	8.1	JX	1.9	25	4.3	J	1.7	25	ND	U	2.4	25
CCRK12 Comp Rep 1	ND	U	3.2	29	ND	U	3.5	29	1.8	JX	1.4	29	ND	U	1.4	29	3.6	J	1.1	29	4.3	J	1.1	29	4.3	JX	2.1	29	5.9	J	1.9	29	ND	U	2.7	29
CCRK12 Comp Rep 2	ND	U	2.9	26	ND	U	3.2	26	1.8	JX	1.3	26	1.4	JX	1.2	26	3.6	J	0.99	26	6.2	J	0.99	26	6.0	JX	1.9	26	7.3	J	1.8	26	ND	U	2.5	26
CCRK12 Comp Rep 3	ND	U	3.0	27	ND	U	3.2	27	2.2	JX	1.3	27	ND	U	1.3	27	3.8	J	1.1	27	4.6	J	1.1	27	4.4	JX	2.0	27	6.6	J	1.8	27	ND	U	2.6	27
CCRK12 Comp Rep 4	ND	U	2.9	27	ND	U	3.2	27	2.0	JX	1.3	27	ND	U	1.2	27	3.8	J	0.99	27	9.2	J	0.99	27	9.9	JX	1.9	27	14	J	1.8	27	2.8	J	2.5	27
CCRK12 Comp Rep 5	ND	U	3.1	28	ND	U	3.4	28	2.1	JX	1.4	28	ND	U	1.3	28	3.8	J	1.1	28	4.5	J	1.1	28	6.5	JX	2.1	28	5.8	J	1.9	28	ND	U	2.7	28
UH12 Comp Rep 1	3.4	J	3.4	31	ND	U	3.7	31	3.9	JX	1.5	31	1.9	J	1.4	31	5.5	J	1.2	31	6.5	J	1.2	31	5.9	JX	2.2	31	7.4	J	2.0	31	ND	U	2.9	31
UH12 Comp Rep 2	ND	U	3.3	30	ND	U	3.6	30	2.1	JX	1.4	30	ND	U	1.4	30	5.0	J	1.2	30	6.3	J	1.2	30	3.7	JX	2.2	30	6.1	J	2.0	30	ND	U	2.8	30
UH12 Comp Rep 3	ND	U	3.2	30	3.5	J	3.5	30	2.5	JX	1.4	30	ND	U	1.4	30	5.4	J	1.2	30	5.7	J	1.2	30	5.6	JX	2.2	30	6.4	J	2.0	30	ND	U	2.8	30
UH12 Comp Rep 4	ND	U	3.2	29	ND	U	3.5	29	3.0	JX	1.4	29	ND	U	1.4	29	4.8	J	1.1	29	6.0	J	1.1	29	5.1	JX	2.2	29	5.8	J	2.0	29	ND	U	2.8	29
UH12 Comp Rep 5	ND	U	3.3	30	ND	U	3.6	30	7.3	JX	1.4	30	ND	U	1.4	30	4.4	J	1.2	30	5.9	J	1.2	30	6.6	JX	2.2	30	6.2	J	2.0	30	ND	U	2.9	30
ORDT12 Comp Rep 1	ND	U	3.2	29	ND	U	3.5	29	1.7	JX	1.4	29	ND	U	1.4	29	6.7	J	1.1	29	7.1	J	1.1	29	3.6	JX	2.2	29	7.0	J	2.0	29	ND	U	2.8	29
ORDT12 Comp Rep 2	ND	U	3.1	29	ND	U	3.4	29	1.7	JX	1.4	29	ND	U	1.3	29	8.6	J	1.1	29	10	J	1.1	29	5.3	JX	2.1	29	9.5	J	1.9	29	ND	U	2.7	29
ORDT12 Comp Rep 3	ND	U	3.3	30	ND	U	3.6	30	1.7	JX	1.4	30	ND	U	1.4	30	7.5	J	1.2	30	8.0	J	1.2	30	3.9	JX	2.2	30	7.3	J	2.0	30	ND	U	2.8	30
ORDT12 Comp Rep 4	ND	U	3.2	29	ND	U	3.4	29	2.8	JX	1.4	29	1.5	JX	1.4	29	7.2	J	1.1	29	8.9	J	1.1	29	8.6	JX	2.1	29	8.0	J	1.9	29	ND	U	2.7	29
ORDT12 Comp Rep 5	ND	U	3.3	30	ND	U	3.6	30	2.0	JX	1.4	30	ND	U	1.4	30	8.1	J	1.2	30	8.7	J	1.2	30	6.6	JX	2.2	30	7.6	J	2.0	30	ND	U	2.9	30
BENW12 Comp Rep 1	ND	U	3.0	27	ND	U	3.3	27	1.9	JX	1.3	27	ND	U	1.3	27	1.7	J	1.1	27	1.6	J	1.1	27	ND	U	2.0	27	3.1	J	1.8	27	ND	U	2.6	27
BENW12 Comp Rep 2	ND	U	2.9	26	ND	U	3.1	26	2.1	JX	1.3	26	ND	U	1.2	26	1.8	J	0.99	26	1.8	J	0.99	26	2.9	JX	1.9	26	ND	U	1.8	26	ND	U	2.5	26
BENW12 Comp Rep 3	ND	U	3.1	28	ND	U	3.3	28	2.1	JX	1.3	28	ND	U	1.3	28	1.7	J	1.1	28	1.7	J	1.1	28	4.2	JX	2.1	28	2.4	JX	1.9	28	ND	U	2.7	28
BENW12 Comp Rep 4	ND	U	2.8	26	3.1	J	3.1	26	2.8	JX	1.2	26	ND	U	1.2	26	2.4	J	0.97	26	1.8	J	0.97	26	6.0	JX	1.9	26	3.3	JX	1.7	26	ND	U	2.5	26
BENW12 Comp Rep 5	ND	U	3.0	27	ND	U	3.2	27	2.0	JX	1.3	27	ND	U	1.3	27	1.5	J	1.1	27	1.4	J	1.1	27	2.2	JX	2.0	27	2.0	JX	1.8	27	ND	U	2.6	27
HGIW12 Comp Rep 1	ND	U	2.7	25	ND	U	3.0	25	3.9	JX	1.2	25	ND	U	1.2	25	2.2	J	0.93	25	4.4	J	0.93	25	ND	U	1.8	25	3.8	J	1.7	25	ND	U	2.4	25
HGIW12 Comp Rep 2	ND	U	2.9	27	ND	U	3.2	27	4.7	JX	1.3	27	ND	U	1.2	27	2.0	J	0.99	27	3.8	J	0.99	27	ND	U	2.0	27	3.5	J	1.8	27	ND	U	2.5	27
HGIW12 Comp Rep 3	ND	U	2.9	26	ND	U	3.2	26	4.9	JX	1.3	26	ND	U	1.2	26	2.8	J	0.99	26	6.1	J	0.99	26	3.6	JX	1.9	26	6.5	J	1.8	26	ND	U	2.5	26
HGIW12 Comp Rep 4	ND	U	2.8	26	ND	U	3.1	26	4.2	JX	1.2	26	ND	U	1.2	26	1.7	J	0.97	26	4.4	J	0.97	26	ND	U	1.9	26	3.9	J	1.7	26	ND	U	2.5	26
HGIW12 Comp Rep 5	ND	U	2.9	26	ND	U	3.1	26	4.5	JX	1.3	26	ND	U	1.2	26	2.4	J	0.98	26	5.0	J	0.98	26	ND	U	1.9	26	4.7	J	1.8	26	ND	U	2.5	26
WRTB12 Comp Rep 1	ND	U	2.8	25	ND	U	3.0	25	4.2	JX	1.2	25	ND	U	1.2	25	1.8	J	0.95	25	4.7	J	0.95	25	ND	U	1.9	25	4.7	J	1.7	25	ND	U	2.4	25
WRTB12 Comp Rep 2	ND	U	2.9	26	ND	U	3.2	26	4.1	JX	1.3	26	ND	U	1.2	26	2.6	J	0.99	26	6.0	J	0.99	26	3.1	JX	1.9	26	6.6	J	1.8	26	ND	U	2.5	26
WRTB12 Comp Rep 3	ND	U	2.7	24	ND	U	2.9	24	5.1	JX	1.2	24	ND	U	1.1	24	2.4	J	0.91	24	5.5	J	0.91	24	3.0	JX	1.8	24	6.1	J	1.6	24	ND	U	2.3	24
WRTB12 Comp Rep 4	ND	U	2.9	26	ND	U	3.2	26	3.5	JX	1.3	26	ND	U	1.2	26	2.0	J	0.99	26	5.9	J	0.99	26	2.7	JX	1.9	26	5.4	J	1.8	26	ND	U	2.5	26
WRTB12 Comp Rep 5	ND	U	2.8	26	ND	U	3.1	26	4.5	JX	1.2	26	ND	U	1.2	26	2.3	J	0.97	26	5.4	J	0.97	26	ND	U	1.9	26	5.0	J	1.7	26	ND	U	2.5	26
DANW12 Comp Rep 1	ND	U	2.9	26	ND	U	3.1	26	4.1	JX	1.2	26	ND	U	1.2	26	1.6	J	0.97	26	4.0	J	0.97	26	ND	U	1.9	26	ND	U	1.7	26	ND	U	2.5	26
DANW12 Comp Rep 2	ND	U	3.0	27	ND	U	3.3	27	3.0	JX	1.3	27	ND	U	1.3	27	1.5	J	1.1	27	2.8	J	1.1	27	ND	U	2.0	27	2.3	J	1.8	27	ND	U	2.6	27
DANW12 Comp Rep 3	ND	U	3.1	28	ND	U	3.4	28	3.7	JX	1.4	28	ND	U	1.3	28	2.2	J	1.1	28	3.9	J	1.1	28	ND	U	2.1	28	ND	U	1.9	28	ND	U	2.7	28
DANW12 Comp Rep 4	ND	U	3.1	28	ND	U	3.3	28	3.3	JX	1.3	28	ND	U	1.3	28	2.4	J	1.1	28	3.4	J	1.1	28	ND	U	2.0	28	ND	U	1.9	28	ND	U	2.6	28
DANW12 Comp Rep 5	ND	U	3.0	27	ND	U	3.3	27	3.8	JX	1.3	27	ND	U	1.3	27	2.4	J	1.1	27	3.0	J	1.1	27	ND	U	2.0	27	1.9	J	1.8	27	ND	U	2.6	27

TABLE 36
Analytical Results for Dry Weight PAHs in *Macoma nasuta* Tissues

Analyte:	Benzo(k)fluoranthene				Chrysene[HMW]				Dibenzo(a,h)anthracene[HMW]				Fluoranthene[HMW]				Fluorene[LMW]				Indeno(1,2,3-cd)pyrene				Naphthalene[LMW]				Phenanthrene[LMW]				Pyrene[HMW]			
Sample-Replicate #	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
DANI12 Comp Rep 1	1.8	J	1.6	28	8.5	J	1.6	28	ND	U	2.4	28	11	J	1.4	28	6.3	J	1.5	28	ND	U	2.7	28	32	--	4.2	28	8.5	J	1.9	28	9.0	JX	1.4	28
DANI12 Comp Rep 2	ND	U	1.6	27	7.5	J	1.5	27	ND	U	2.4	27	9.4	J	1.4	27	5.6	J	1.4	27	ND	U	2.6	27	ND	U	4.1	27	7.8	J	1.8	27	7.7	JX	1.4	27
DANI12 Comp Rep 3	1.6	J	1.6	27	7.2	J	1.5	27	ND	U	2.3	27	10	J	1.3	27	5.6	J	1.4	27	ND	U	2.6	27	ND	U	4.0	27	8.5	J	1.8	27	8.7	JX	1.4	27
DANI12 Comp Rep 4	1.8	J	1.6	27	7.8	J	1.5	27	ND	U	2.4	27	12	J	1.4	27	6.3	J	1.4	27	ND	U	2.6	27	27	--	4.1	27	8.5	J	1.8	27	9.5	JX	1.4	27
DANI12 Comp Rep 5	1.8	J	1.5	25	7.7	J	1.4	25	ND	U	2.2	25	15	J	1.3	25	5.5	J	1.3	25	ND	U	2.4	25	25	J	3.8	25	8.4	J	1.7	25	11	JX	1.3	25
CCRK12 Comp Rep 1	2.5	J	1.7	29	9.0	J	1.6	29	ND	U	2.5	29	14	J	1.4	29	5.6	J	1.5	29	ND	U	2.8	29	ND	U	4.3	29	7.6	J	1.9	29	15	JX	1.5	29
CCRK12 Comp Rep 2	3.1	J	1.5	26	9.7	J	1.5	26	ND	U	2.3	26	14	J	1.3	26	5.5	J	1.4	26	ND	U	2.5	26	ND	U	3.9	26	8.7	J	1.8	26	16	JX	1.3	26
CCRK12 Comp Rep 3	2.8	J	1.6	27	11	J	1.5	27	ND	U	2.3	27	14	J	1.4	27	5.9	J	1.4	27	ND	U	2.6	27	21	J	4.0	27	8.1	J	1.8	27	14	J	1.4	27
CCRK12 Comp Rep 4	5.2	J	1.5	27	14	J	1.5	27	ND	U	2.3	27	20	J	1.3	27	6.0	J	1.4	27	3.0	J	2.5	27	ND	U	4.0	27	10	J	1.8	27	18	JX	1.4	27
CCRK12 Comp Rep 5	2.5	J	1.6	28	11	J	1.6	28	ND	U	2.4	28	13	J	1.4	28	6.3	J	1.5	28	ND	U	2.7	28	31	--	4.2	28	8.9	J	1.9	28	12	JX	1.4	28
UH12 Comp Rep 1	2.8	J	1.8	31	12	J	1.7	31	ND	U	2.6	31	18	J	1.5	31	5.9	J	1.6	31	ND	U	2.9	31	29	J	4.6	31	8.2	J	2.0	31	16	JX	1.6	31
UH12 Comp Rep 2	2.9	J	1.7	30	9.6	J	1.7	30	ND	U	2.6	30	18	J	1.5	30	5.8	J	1.6	30	ND	U	2.9	30	22	J	4.5	30	7.8	J	2.0	30	14	JX	1.5	30
UH12 Comp Rep 3	2.7	J	1.7	30	11	J	1.6	30	ND	U	2.5	30	24	J	1.5	30	6.6	J	1.6	30	ND	U	2.8	30	29	J	4.4	30	9.1	J	2.0	30	18	JX	1.5	30
UH12 Comp Rep 4	2.5	J	1.7	29	11	J	1.6	29	ND	U	2.5	29	18	J	1.5	29	6.0	J	1.5	29	ND	U	2.8	29	27	J	4.4	29	8.0	J	2.0	29	16	JX	1.5	29
UH12 Comp Rep 5	3.3	J	1.7	30	11	J	1.7	30	ND	U	2.6	30	19	J	1.5	30	6.0	J	1.6	30	ND	U	2.9	30	35	--	4.5	30	8.5	J	2.0	30	16	JX	1.5	30
ORDT12 Comp Rep 1	3.0	J	1.7	29	12	J	1.6	29	ND	U	2.5	29	32	--	1.5	29	5.0	J	1.6	29	ND	U	2.8	29	ND	U	4.4	29	7.3	J	2.0	29	23	J	1.5	29
ORDT12 Comp Rep 2	3.5	J	1.6	29	17	J	1.6	29	ND	U	2.5	29	43	--	1.4	29	6.1	J	1.5	29	ND	U	2.7	29	ND	U	4.3	29	8.7	J	1.9	29	31	--	1.5	29
ORDT12 Comp Rep 3	3.3	J	1.7	30	14	J	1.7	30	ND	U	2.6	30	32	--	1.5	30	5.7	J	1.6	30	ND	U	2.9	30	ND	U	4.5	30	8.1	J	2.0	30	20	J	1.5	30
ORDT12 Comp Rep 4	3.6	J	1.7	29	14	J	1.6	29	ND	U	2.5	29	30	--	1.4	29	6.3	J	1.5	29	ND	U	2.8	29	29	J	4.3	29	7.9	J	1.9	29	18	JX	1.5	29
ORDT12 Comp Rep 5	3.6	J	1.7	30	13	J	1.7	30	ND	U	2.6	30	37	--	1.5	30	6.9	J	1.6	30	ND	U	2.9	30	28	J	4.5	30	10	J	2.0	30	26	JX	1.5	30
BENW12 Comp Rep 1	ND	U	1.6	27	7.4	J	1.5	27	ND	U	2.4	27	9.8	J	1.4	27	4.4	J	1.5	27	ND	U	2.6	27	ND	U	4.1	27	6.9	J	1.8	27	5.4	JX	1.4	27
BENW12 Comp Rep 2	ND	U	1.5	26	6.7	J	1.5	26	ND	U	2.3	26	9.2	J	1.3	26	4.6	J	1.4	26	ND	U	2.5	26	ND	U	3.9	26	7.2	J	1.8	26	4.9	JX	1.3	26
BENW12 Comp Rep 3	ND	UX	1.6	28	6.0	J	1.6	28	ND	U	2.4	28	7.8	J	1.4	28	4.4	J	1.5	28	ND	U	2.7	28	ND	U	4.2	28	7.4	J	1.9	28	4.1	JX	1.4	28
BENW12 Comp Rep 4	ND	UX	1.5	26	8.0	J	1.4	26	ND	U	2.2	26	14	J	1.3	26	5.3	J	1.4	26	ND	U	2.5	26	ND	U	3.9	26	9.7	J	1.7	26	7.7	JX	1.3	26
BENW12 Comp Rep 5	ND	UX	1.6	27	5.1	J	1.5	27	ND	U	2.3	27	6.2	J	1.3	27	3.4	J	1.4	27	ND	U	2.6	27	22	J	4.0	27	6.0	J	1.8	27	3.6	JX	1.4	27
HGIW12 Comp Rep 1	1.9	J	1.4	25	7.8	J	1.4	25	ND	U	2.1	25	21	J	1.2	25	3.6	J	1.3	25	ND	U	2.4	25	6.4	J	3.7	25	6.5	J	1.7	25	12	J	1.3	25
HGIW12 Comp Rep 2	1.9	J	1.5	27	6.6	J	1.5	27	ND	U	2.3	27	15	J	1.3	27	3.7	J	1.4	27	ND	U	2.6	27	6.5	J	4.0	27	5.3	J	1.8	27	8.4	J	1.4	27
HGIW12 Comp Rep 3	3.3	J	1.5	26	10	J	1.5	26	ND	U	2.3	26	19	J	1.3	26	4.0	J	1.4	26	ND	U	2.5	26	6.1	J	3.9	26	8.2	J	1.8	26	12	J	1.3	26
HGIW12 Comp Rep 4	1.7	J	1.5	26	7.0	J	1.4	26	ND	U	2.2	26	19	J	1.3	26	3.4	J	1.4	26	ND	U	2.5	26	6.3	J	3.8	26	6.0	J	1.7	26	11	J	1.3	26
HGIW12 Comp Rep 5	2.1	J	1.5	26	9.2	J	1.5	26	ND	U	2.3	26	21	J	1.3	26	3.8	J	1.4	26	ND	U	2.5	26	11	J	3.9	26	7.0	J	1.8	26	12	J	1.3	26
WRTB12 Comp Rep 1	2.3	J	1.5	25	9.5	J	1.4	25	ND	U	2.2	25	21	J	1.3	25	3.7	J	1.3	25	ND	U	2.4	25	7.5	J	3.8	25	6.1	J	1.7	25	13	J	1.3	25
WRTB12 Comp Rep 2	3.6	J	1.5	26	11	J	1.5	26	ND	U	2.3	26	31	--	1.3	26	4.7	J	1.4	26	ND	U	2.5	26	10	J	3.9	26	9.7	J	1.8	26	21	J	1.3	26
WRTB12 Comp Rep 3	3.1	J	1.4	24	10	J	1.4	24	ND	U	2.1	24	26	--	1.2	24	4.4	J	1.3	24	ND	U	2.3	24	7.5	J	3.6	24	8.5	J	1.6	24	18	J	1.2	24
WRTB12 Comp Rep 4	2.7	J	1.5	26	10	J	1.5	26	ND	U	2.3	26	26	--	1.3	26	4.2	J	1.4	26	ND	U	2.5	26	11	J	3.9	26	7.1	J	1.8	26	20	J	1.3	26
WRTB12 Comp Rep 5	2.6	J	1.5	26	11	J	1.4	26	ND	U	2.2	26	30	--	1.3	26	4.8	J	1.4	26	ND	U	2.5	26	8.3	J	3.8	26	11	J	1.7	26	21	J	1.3	26
DANW12 Comp Rep 1	ND	U	1.5	26	5.1	J	1.5	26	ND	U	2.2	26	5.4	J	1.3	26	4.3	J	1.4	26	ND	U	2.5	26	11	J	3.9	26	5.8	J	1.7	26	3.2	J	1.3	26
DANW12 Comp Rep 2	ND	U	1.6	27	3.2	J	1.5	27	ND	U	2.4	27	9.7	J	1.4	27	3.7	J	1.4	27	ND	U	2.6	27	6.2	J	4.1	27	6.7	J	1.8	27	6.8	J	1.4	27
DANW12 Comp Rep 3	ND	U	1.6	28	5.4	J	1.6	28	ND	U	2.5	28	5.7	J	1.4	28	5.0	J	1.5	28	ND	U	2.7	28	14	J	4.2	28	7.5	J	1.9	28	4.4	JX	1.4	28
DANW12 Comp Rep 4	ND	U	1.6	28	5.4	J	1.6	28	ND	U	2.4	28	5.4	J	1.4	28	4.9	J	1.5	28	ND	U	2.7	28	15	J	4.1	28	7.1	J	1.9	28	3.7	J	1.4	28
DANW12 Comp Rep 5	ND	U	1.6	27	6.1	J	1.5	27	ND	U	2.4	27	11	J	1.4	27	5.3	J	1.4	27	ND	U	2.6	27	14	J	4.1	27	11	J	1.8	27	6.9	J	1.4	27

TABLE 36
Analytical Results for Dry Weight PAHs in *Macoma nasuta* Tissues

Analyte:	1-Methylnaphthalene[LMW]				2-Methylnaphthalene[LMW]				Acenaphthene[LMW]				Acenaphthylene				Anthracene[LMW]				Benzo(a)anthracene[HMW]				Benzo(a)pyrene[HMW]				Benzo(b)fluoranthene				Benzo(g,h,i)perylene			
Sample-Replicate #	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
WLRW12 Comp Rep 1	ND	U	2.8	26	ND	U	3.1	26	3.1	JX	1.2	26	ND	U	1.2	26	1.1	J	0.97	26	2.3	J	0.97	26	ND	U	1.9	26	ND	U	1.7	26	ND	U	2.5	26
WLRW12 Comp Rep 2	ND	U	2.7	25	ND	U	3.0	25	3.0	JX	1.2	25	ND	U	1.2	25	1.4	J	0.93	25	2.5	J	0.93	25	ND	U	1.8	25	ND	U	1.7	25	ND	U	2.4	25
WLRW12 Comp Rep 3	ND	U	2.7	25	ND	U	3.0	25	3.0	JX	1.2	25	ND	U	1.2	25	1.3	J	0.93	25	2.1	J	0.93	25	ND	U	1.8	25	ND	U	1.6	25	ND	U	2.4	25
WLRW12 Comp Rep 4	ND	U	2.9	26	ND	U	3.2	26	4.4	JX	1.3	26	ND	U	1.2	26	2.0	J	0.99	26	2.9	J	0.99	26	ND	U	1.9	26	ND	U	1.8	26	ND	U	2.5	26
WLRW12 Comp Rep 5	ND	U	2.7	25	ND	U	2.9	25	3.7	JX	1.2	25	ND	U	1.2	25	1.6	J	0.92	25	2.5	J	0.92	25	ND	U	1.8	25	ND	U	1.6	25	ND	U	2.3	25
NCW12 Comp Rep 1	ND	U	3.1	28	ND	U	3.3	28	3.7	JX	1.3	28	ND	U	1.3	28	5.0	J	1.1	28	5.9	J	1.1	28	3.1	JX	2.1	28	5.2	J	1.9	28	ND	U	2.7	28
NCW12 Comp Rep 2	ND	U	3.2	29	ND	U	3.4	29	4.4	JX	1.4	29	ND	U	1.4	29	4.9	J	1.1	29	6.2	J	1.1	29	3.3	JX	2.1	29	5.1	J	1.9	29	ND	U	2.7	29
NCW12 Comp Rep 3	ND	U	3.0	28	ND	U	3.3	28	3.5	JX	1.3	28	ND	U	1.3	28	4.6	J	1.1	28	6.1	J	1.1	28	3.6	JX	2.0	28	6.0	J	1.8	28	ND	U	2.6	28
NCW12 Comp Rep 4	ND	U	3.2	29	ND	U	3.5	29	3.2	JX	1.4	29	ND	U	1.4	29	3.8	J	1.1	29	5.1	J	1.1	29	2.6	JX	2.2	29	4.3	J	2.0	29	ND	U	2.8	29
NCW12 Comp Rep 5	ND	U	3.1	28	ND	U	3.3	28	4.3	JX	1.3	28	ND	U	1.3	28	4.7	J	1.1	28	5.5	J	1.1	28	2.8	JX	2.0	28	5.0	J	1.9	28	ND	U	2.6	28
ABMA12 Comp Rep 1	ND	U	3.0	27	ND	U	3.3	27	ND	Ui	5.4	27	1.3	J	1.3	27	6.8	J	1.1	27	10	J	1.1	27	4.7	JX	2.0	27	8.6	J	1.8	27	2.6	J	2.6	27
ABMA12 Comp Rep 2	ND	U	2.9	26	ND	U	3.1	26	ND	Ui	4.2	26	1.3	J	1.2	26	5.7	J	0.98	26	6.8	J	0.98	26	3.8	JX	1.9	26	7.6	J	1.7	26	ND	U	2.5	26
ABMA12 Comp Rep 3	ND	U	3.0	27	ND	U	3.3	27	ND	Ui	4.5	27	1.7	J	1.3	27	6.5	J	1.1	27	9.3	J	1.1	27	3.7	JX	2.0	27	8.0	J	1.8	27	ND	U	2.6	27
ABMA12 Comp Rep 4	ND	U	3.0	27	ND	U	3.2	27	ND	Ui	4.6	27	1.3	J	1.3	27	5.9	J	1.1	27	8.2	J	1.1	27	3.8	JX	2.0	27	7.1	J	1.8	27	ND	U	2.6	27
ABMA12 Comp Rep 5	ND	U	3.1	28	ND	U	3.3	28	ND	Ui	5.0	28	1.6	J	1.3	28	5.7	J	1.1	28	7.1	J	1.1	28	3.4	JX	2.1	28	6.6	J	1.9	28	ND	U	2.7	28
SHCR12 Comp Rep 1	ND	U	2.7	25	ND	U	2.9	25	3.4	JX	1.2	25	ND	U	1.2	25	4.0	J	0.92	25	11	J	0.92	25	6.7	J	1.8	25	15	J	1.6	25	2.7	J	2.3	25
SHCR12 Comp Rep 2	ND	U	2.8	25	ND	U	3.0	25	3.8	JX	1.2	25	1.3	J	1.2	25	5.6	J	0.95	25	13	J	0.95	25	8.1	J	1.9	25	16	J	1.7	25	3.7	J	2.4	25
SHCR12 Comp Rep 3	ND	U	2.8	25	ND	U	3.0	25	3.8	JX	1.2	25	1.6	J	1.2	25	7.0	J	0.94	25	18	J	0.94	25	9.8	J	1.9	25	20	J	1.7	25	4.6	J	2.4	25
SHCR12 Comp Rep 4	ND	U	2.9	26	ND	U	3.2	26	4.0	JX	1.3	26	ND	U	1.2	26	4.4	J	0.99	26	10	J	0.99	26	6.3	JX	1.9	26	14	J	1.8	26	ND	U	2.5	26
SHCR12 Comp Rep 5	ND	U	2.9	26	ND	U	3.2	26	3.3	JX	1.3	26	ND	U	1.2	26	4.1	J	0.99	26	9.7	J	0.99	26	6.2	J	1.9	26	13	J	1.8	26	2.7	J	2.5	26
RS-CH-A Rep 1	ND	U	3.0	27	ND	U	3.3	27	ND	U	1.3	27	ND	U	1.3	27	2.4	J	1.1	27	3.0	J	1.1	27	ND	U	2.0	27	1.9	J	1.8	27	ND	U	2.6	27
RS-CH-A Rep 2	ND	U	2.9	27	ND	U	3.2	27	ND	U	1.3	27	ND	U	1.3	27	2.0	J	1.1	27	2.5	J	1.1	27	ND	Ui	4.6	27	ND	U	1.8	27	ND	U	2.6	27
RS-CH-A Rep 3	ND	U	3.0	28	ND	U	3.3	28	ND	Ui	1.7	28	ND	U	1.3	28	2.6	J	1.1	28	3.9	J	1.1	28	ND	U	2.0	28	2.0	J	1.8	28	ND	U	2.6	28
RS-CH-A Rep 4	ND	U	3.2	29	ND	U	3.5	29	ND	U	1.4	29	ND	U	1.4	29	2.2	J	1.1	29	3.2	J	1.1	29	ND	Ui	4.6	29	2.2	J	1.9	29	ND	U	2.8	29
RS-CH-A Rep 5	ND	U	3.0	27	ND	U	3.3	27	ND	Ui	1.9	27	1.7	J	1.3	27	3.8	J	1.1	27	3.9	J	1.1	27	ND	Ui	4.0	27	2.3	J	1.8	27	ND	U	2.6	27
Pre-exposure Rep 1	ND	U	2.9	26	ND	U	3.1	26	ND	U	1.3	26	ND	U	1.2	26	2.7	J	0.98	26	4.3	J	0.98	26	ND	Ui	2.1	26	3.9	J	1.7	26	ND	U	2.5	26
Pre-exposure Rep 2	ND	U	2.9	27	ND	U	3.2	27	1.5	J	1.3	27	ND	U	1.3	27	2.5	J	1.0	27	4.2	J	1.0	27	ND	Ui	3.8	27	4.0	J	1.8	27	ND	U	2.5	27
Pre-exposure Rep 3	ND	U	2.6	23	ND	U	2.8	23	ND	Ui	1.5	23	ND	U	1.1	23	2.6	J	0.87	23	4.9	J	0.87	23	ND	Ui	3.3	23	4.2	J	1.6	23	ND	U	2.2	23

TABLE 36
Analytical Results for Dry Weight PAHs in *Macoma nasuta* Tissues

Analyte:	Benzo(k)fluoranthene				Chrysene[HMW]				Dibenzo(a,h)anthracene[HMW]				Fluoranthene[HMW]				Fluorene[LMW]				Indeno(1,2,3-cd)pyrene				Naphthalene[LMW]				Phenanthrene[LMW]				Pyrene[HMW]			
Sample-Replicate #	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
WLRW12 Comp Rep 1	ND	U	1.5	26	4.1	J	1.4	26	ND	U	2.2	26	7.4	J	1.3	26	2.8	J	1.4	26	ND	U	2.5	26	6.5	J	3.9	26	5.1	J	1.7	26	3.6	JX	1.3	26
WLRW12 Comp Rep 2	ND	U	1.4	25	5.1	J	1.4	25	ND	U	2.2	25	7.5	J	1.2	25	3.3	J	1.3	25	ND	U	2.4	25	7.4	J	3.7	25	5.8	J	1.7	25	3.4	JX	1.3	25
WLRW12 Comp Rep 3	ND	U	1.4	25	5.1	J	1.4	25	ND	U	2.1	25	4.5	J	1.2	25	3.3	J	1.3	25	ND	U	2.4	25	8.2	J	3.7	25	4.5	J	1.6	25	2.1	J	1.3	25
WLRW12 Comp Rep 4	ND	U	1.5	26	5.6	J	1.5	26	ND	U	2.3	26	8.6	J	1.3	26	3.8	J	1.4	26	ND	U	2.5	26	4.5	J	3.9	26	6.3	J	1.8	26	3.7	J	1.3	26
WLRW12 Comp Rep 5	ND	U	1.4	25	4.2	J	1.4	25	ND	U	2.1	25	8.0	J	1.2	25	3.6	J	1.3	25	ND	U	2.4	25	7.6	J	3.7	25	6.7	J	1.6	25	2.9	J	1.3	25
NCW12 Comp Rep 1	2.6	J	1.6	28	8.1	J	1.6	28	ND	U	2.4	28	18	J	1.4	28	3.4	J	1.5	28	ND	U	2.7	28	5.7	J	4.2	28	6.6	J	1.9	28	16	J	1.4	28
NCW12 Comp Rep 2	2.1	J	1.7	29	7.9	J	1.6	29	ND	U	2.5	29	16	J	1.4	29	4.0	J	1.5	29	ND	U	2.8	29	ND	U	4.3	29	7.2	J	1.9	29	12	J	1.5	29
NCW12 Comp Rep 3	3.0	J	1.6	28	10	JX	1.5	28	ND	U	2.4	28	22	J	1.4	28	4.0	J	1.5	28	ND	U	2.6	28	5.6	J	4.1	28	8.8	J	1.8	28	20	J	1.4	28
NCW12 Comp Rep 4	2.3	J	1.7	29	7.9	J	1.6	29	ND	U	2.5	29	15	J	1.5	29	3.6	J	1.6	29	ND	U	2.8	29	7.7	J	4.4	29	6.1	J	2.0	29	13	J	1.5	29
NCW12 Comp Rep 5	2.7	J	1.6	28	9.3	J	1.6	28	ND	U	2.4	28	18	J	1.4	28	4.5	J	1.5	28	ND	U	2.7	28	9.7	J	4.2	28	7.7	J	1.9	28	14	J	1.4	28
ABMA12 Comp Rep 1	3.3	JX	1.6	27	20	J	1.5	27	ND	U	2.4	27	40	--	1.4	27	8.0	J	1.5	27	ND	U	2.6	27	ND	U	4.1	27	16	J	1.8	27	32	--	1.4	27
ABMA12 Comp Rep 2	3.1	JX	1.5	26	21	J	1.5	26	ND	U	2.3	26	32	--	1.3	26	7.0	J	1.4	26	ND	U	2.5	26	ND	U	3.9	26	10	J	1.7	26	30	--	1.3	26
ABMA12 Comp Rep 3	3.8	JX	1.6	27	20	J	1.5	27	ND	U	2.3	27	38	--	1.4	27	7.4	J	1.4	27	ND	U	2.6	27	ND	U	4.1	27	11	J	1.8	27	34	--	1.4	27
ABMA12 Comp Rep 4	3.1	JX	1.6	27	20	J	1.5	27	ND	U	2.3	27	33	--	1.4	27	8.0	J	1.4	27	ND	U	2.6	27	ND	U	4.0	27	11	J	1.8	27	26	J	1.4	27
ABMA12 Comp Rep 5	3.0	JX	1.6	28	20	J	1.6	28	ND	U	2.4	28	33	--	1.4	28	9.0	J	1.5	28	ND	U	2.7	28	ND	U	4.2	28	12	J	1.9	28	30	--	1.4	28
SHCR12 Comp Rep 1	5.5	J	1.4	25	7.2	J	1.4	25	ND	U	2.1	25	50	--	1.2	25	3.4	J	1.3	25	3.2	J	2.4	25	4.8	J	3.7	25	9.8	J	1.6	25	55	--	1.3	25
SHCR12 Comp Rep 2	7.1	J	1.5	25	21	J	1.4	25	ND	U	2.2	25	53	--	1.3	25	4.3	J	1.3	25	4.0	J	2.4	25	10	J	3.8	25	11	J	1.7	25	57	--	1.3	25
SHCR12 Comp Rep 3	8.8	J	1.5	25	25	--	1.4	25	ND	U	2.2	25	63	--	1.3	25	4.7	J	1.3	25	4.7	J	2.4	25	12	J	3.8	25	12	J	1.7	25	59	--	1.3	25
SHCR12 Comp Rep 4	5.5	J	1.5	26	16	J	1.5	26	ND	U	2.3	26	47	--	1.3	26	4.5	J	1.4	26	ND	U	2.5	26	11	J	3.9	26	9.9	J	1.8	26	50	--	1.3	26
SHCR12 Comp Rep 5	5.4	J	1.5	26	17	J	1.5	26	ND	U	2.3	26	43	--	1.3	26	3.7	J	1.4	26	2.6	J	2.5	26	8.5	J	3.9	26	7.8	J	1.8	26	46	--	1.3	26
RS-CH-A Rep 1	ND	U	1.6	27	4.0	J	1.5	27	ND	U	2.4	27	13	J	1.4	27	3.5	J	1.4	27	ND	U	2.6	27	ND	U	3.1	32	9.2	J	1.8	27	7.0	J	1.4	27
RS-CH-A Rep 2	ND	U	1.6	27	3.2	J	1.5	27	ND	U	2.3	27	12	J	1.3	27	3.2	J	1.4	27	ND	U	2.6	27	ND	U	3.2	33	10	J	1.8	27	ND	Ui	12	27
RS-CH-A Rep 3	ND	U	1.6	28	4.8	J	1.5	28	ND	U	2.4	28	15	J	1.4	28	4.2	J	1.5	28	ND	U	2.6	28	ND	U	3.1	32	12	J	1.8	28	9.3	J	1.4	28
RS-CH-A Rep 4	ND	U	1.7	29	3.7	J	1.6	29	ND	U	2.5	29	9.6	J	1.5	29	4.6	J	1.5	29	ND	U	2.8	29	ND	U	3.1	32	10	J	1.9	29	ND	Ui	7.0	29
RS-CH-A Rep 5	ND	U	1.6	27	11	J	1.5	27	ND	U	2.4	27	16	J	1.4	27	8.8	J	1.4	27	ND	U	2.6	27	ND	U	3.2	33	16	J	1.8	27	ND	Ui	12	27
Pre-exposure Rep 1	ND	Ui	1.8	26	4.8	J	1.5	26	ND	U	2.3	26	28	--	1.3	26	4.6	J	1.4	26	ND	U	2.5	26	ND	U	3.2	33	12	J	1.7	26	12	J	1.3	26
Pre-exposure Rep 2	ND	Ui	1.9	27	3.5	J	1.5	27	ND	U	2.3	27	23	J	1.3	27	4.1	J	1.4	27	ND	U	2.6	27	ND	U	3.1	32	12	J	1.8	27	ND	Ui	14	27
Pre-exposure Rep 3	ND	Ui	1.5	23	4.8	J	1.3	23	ND	U	2.0	23	28	--	1.2	23	3.9	J	1.2	23	ND	U	2.2	23	ND	U	3.2	33	11	J	1.6	23	16	J	1.2	23

[LMW] Low Molecular Weight PAHs (NOAA 1989)
[HMW] High Molecular Weight PAHs (NOAA 1989)
i = The MRL/MDL is elevated due to a matrix interference.
J = The result is an estimated value.
U = The analyte was analyzed for, but not detected at or above the MRL/MDL.
X = The Results may contain a slight bias, due to the chromatograms indicating the presense of non-target background components
-- = No Qualifier needed
Source: ALS Environmental Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 37
Analytical Results for Wet Weight PBDEs in *Neanthes virens* Tissues

Analyte:	PBDE 17				PBDE 28				PBDE 47				PBDE 66				PBDE 71				PBDE 85				PBDE 99				PBDE 100				PBDE 128			
Sample-Replicate #	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
WLR12 Comp Rep 1	ND	U	0.022	0.20	ND	U	0.040	0.20	1.7	X	0.12	0.20	ND	U	0.036	0.20	ND	U	0.015	0.20	ND	U	0.032	0.20	ND	U	0.014	0.20	ND	U	0.013	0.20	ND	U	0.034	0.20
WLR12 Comp Rep 2	ND	U	0.022	0.20	ND	U	0.040	0.20	2.6	X	0.12	0.20	ND	U	0.036	0.20	ND	U	0.015	0.20	ND	U	0.032	0.20	0.11	JX	0.014	0.20	ND	U	0.013	0.20	ND	U	0.034	0.20
WLR12 Comp Rep 3	ND	U	0.022	0.20	ND	U	0.039	0.20	1.5	X	0.11	0.20	ND	U	0.035	0.20	ND	U	0.014	0.20	ND	U	0.031	0.20	0.21	X	0.013	0.20	ND	U	0.013	0.20	ND	U	0.033	0.20
WLR12 Comp Rep 4	ND	U	0.022	0.20	ND	U	0.040	0.20	0.67	X	0.12	0.20	ND	U	0.036	0.20	ND	U	0.014	0.20	ND	U	0.032	0.20	ND	U	0.014	0.20	ND	U	0.013	0.20	ND	U	0.034	0.20
WLR12 Comp Rep 5	ND	U	0.022	0.20	ND	U	0.040	0.20	ND	U	0.11	0.20	ND	U	0.036	0.20	ND	U	0.014	0.20	ND	U	0.032	0.20	ND	U	0.014	0.20	ND	U	0.013	0.20	ND	U	0.034	0.20
WLR12 Comp Mean	0.022				0.040				**1.3**				0.04				0.014				0.032				0.072				0.01				0.034			
% of Reference Tissue	52				53				191				52				53				52				281				52				52			
RS-CH-A Rep 1	ND	U	0.044	0.40	ND	U	0.080	0.40	ND	U	0.23	0.40	ND	U	0.072	0.40	ND	U	0.029	0.40	ND	U	0.064	0.40	ND	U	0.027	0.40	ND	U	0.026	0.40	ND	U	0.068	0.40
RS-CH-A Rep 2	ND	U	0.043	0.39	ND	U	0.078	0.39	ND	U	0.22	0.39	ND	U	0.070	0.39	ND	U	0.028	0.39	ND	U	0.063	0.39	ND	U	0.026	0.39	ND	U	0.025	0.39	ND	U	0.066	0.39
RS-CH-A Rep 3	ND	U	0.044	0.40	ND	U	0.070	0.40	ND	Ui	1.5	0.40	ND	U	0.071	0.40	ND	U	0.028	0.40	ND	U	0.063	0.40	ND	U	0.027	0.4	ND	U	0.026	0.4	ND	U	0.067	0.4
RS-CH-A Rep 4	ND	U	0.039	0.35	ND	U	0.070	0.35	ND	U	0.2	0.35	ND	U	0.063	0.35	ND	U	0.025	0.35	ND	U	0.056	0.35	ND	U	0.024	0.35	ND	U	0.023	0.35	ND	U	0.060	0.35
RS-CH-A Rep 5	ND	U	0.041	0.37	ND	U	0.074	0.37	ND	U	1.3	1.3	ND	U	0.067	0.37	ND	U	0.027	0.37	ND	U	0.059	0.37	ND	U	0.025	0.37	ND	U	0.024	0.37	ND	U	0.063	0.37
RS-CH-A Mean	0.04				0.07				0.69				0.069				0.027				0.061				0.026				0.025				0.065			
Pre-exposure Rep 1	ND	U	0.042	0.39	ND	U	0.077	0.39	ND	Ui	3.7	3.7	ND	U	0.069	0.39	ND	U	0.028	0.39	ND	U	0.061	0.39	ND	U	0.026	0.39	ND	U	0.025	0.39	ND	U	0.065	0.39
Pre-exposure Rep 2	ND	U	0.040	0.37	ND	U	0.073	0.37	ND	U	0.21	0.37	ND	U	0.066	0.37	ND	U	0.026	0.37	ND	U	0.058	0.37	ND	U	0.025	0.37	ND	U	0.024	0.37	ND	U	0.062	0.37
Pre-exposure Rep 3	ND	U	0.044	0.40	ND	U	0.080	0.40	ND	U	0.23	0.40	ND	U	0.072	0.40	ND	U	0.029	0.40	ND	U	0.064	0.40	ND	U	0.027	0.40	ND	U	0.026	0.40	ND	U	0.068	0.40
Pre-exposure Mean	0.042				0.077				1.4				0.069				0.028				0.061				0.026				0.025				0.065			

Analyte:	PBDE 138				PBDE 153				PBDE 154				PBDE 183				PBDE 190				PBDE 203				PBDE 206				PBDE 209			
Sample-Replicate #	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
WLR12 Comp Rep 1	ND	U	0.015	0.20	ND	U	0.032	0.20	ND	U	0.022	0.20	ND	U	0.015	0.20	ND	U	0.036	0.20	ND	U	0.056	0.20	ND	U	0.066	2.0	ND	U	0.046	2.0
WLR12 Comp Rep 2	ND	U	0.015	0.20	ND	U	0.032	0.20	ND	U	0.022	0.20	ND	U	0.015	0.20	ND	U	0.036	0.20	ND	U	0.056	0.20	ND	U	0.066	2.0	ND	U	0.046	2.0
WLR12 Comp Rep 3	ND	U	0.015	0.20	ND	U	0.031	0.20	ND	U	0.022	0.20	ND	U	0.015	0.20	ND	U	0.035	0.20	ND	U	0.054	0.20	ND	U	0.064	2.0	ND	U	0.045	2.0
WLR12 Comp Rep 4	ND	U	0.015	0.20	ND	U	0.032	0.20	ND	U	0.022	0.20	ND	U	0.015	0.20	ND	U	0.036	0.20	ND	U	0.056	0.20	ND	U	0.066	2.0	ND	U	0.046	2.0
WLR12 Comp Rep 5	ND	U	0.015	0.20	ND	U	0.032	0.20	ND	U	0.022	0.20	ND	U	0.015	0.20	ND	U	0.036	0.20	ND	U	0.055	0.20	ND	U	0.065	2.0	ND	U	0.045	2.0
WLR12 Comp Mean	0.015				0.032				0.022				0.015				0.036				0.055				0.065				0.046			
% of Reference Tissue	56				52				52				52				52				49				50				52			
RS-CH-A Rep 1	ND	U	0.030	0.40	ND	U	0.064	0.40	ND	U	0.044	0.40	ND	U	0.030	0.40	ND	U	0.072	0.40	ND	U	0.12	0.40	ND	U	0.14	4.0	ND	U	0.092	4.0
RS-CH-A Rep 2	ND	U	0.030	0.39	ND	U	0.063	0.39	ND	U	0.043	0.40	ND	U	0.030	0.39	ND	U	0.070	0.40	ND	U	0.11	3.9	ND	U	0.13	3.9	ND	U	0.090	3.9
RS-CH-A Rep 3	ND	U	0.020	0.40	ND	U	0.063	0.40	ND	U	0.044	0.40	ND	U	0.030	0.4	ND	U	0.071	0.39	ND	U	0.11	4.0	ND	U	0.13	4.0	ND	U	0.090	4.0
RS-CH-A Rep 4	ND	U	0.027	0.35	ND	U	0.056	0.35	ND	U	0.039	0.35	ND	U	0.027	0.35	ND	U	0.063	0.39	ND	U	0.11	0.35	ND	U	0.12	3.5	ND	U	0.081	3.5
RS-CH-A Rep 5	ND	U	0.028	0.37	ND	U	0.057	0.37	ND	U	0.041	0.37	ND	U	0.028	0.37	ND	U	0.067	0.35	ND	U	0.11	0.37	ND	U	0.13	4.7	ND	U	0.085	3.7
RS-CH-A Mean	0.027				0.06				0.042				0.029				0.069				0.11				0.130				0.088			
Pre-exposure Rep 1	ND	U	0.029	0.39	ND	U	0.061	0.39	ND	U	0.042	0.39	ND	U	0.029	0.39	ND	U	0.069	0.39	ND	U	0.11	0.39	ND	U	0.13	3.9	ND	U	0.088	3.9
Pre-exposure Rep 2	ND	U	0.028	0.37	ND	U	0.058	0.37	ND	U	0.040	0.37	ND	U	0.028	0.37	ND	U	0.066	0.37	ND	U	0.11	0.37	ND	U	0.12	3.7	ND	U	0.084	3.7
Pre-exposure Rep 3	ND	U	0.030	0.40	ND	U	0.064	0.40	ND	U	0.044	0.40	ND	U	0.030	0.40	ND	U	0.072	0.40	ND	U	0.12	0.40	ND	U	0.14	4.0	ND	U	0.092	4.0
Pre-exposure Mean	0.029				0.061				0.042				0.029				0.069				0.11				0.13				0.088			

Bolded Values = The mean concentration of project tissues is statistically significantly greater than the reference tissues.
i = The MRL/MDL is elevated due to a matrix interference.
J = The result is an estimated value.
U = The analyte was analyzed for, but was not detected at or above the MDL.
X = The results may contain a slight bias, due to the chromatograms indicating the presense of non-target background components

Source: ALS Environmental
Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 38
Analytical Results for Wet Weight PBDEs in *Macoma nasuta* Tissues

Analyte:	PBDE 17				PBDE 28				PBDE 47				PBDE 66				PBDE 71				PBDE 85				PBDE 99				PBDE 100				PBDE 128			
Sample-Replicate #	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**
WLR12 Comp Rep 1	ND	U	0.021	0.20	ND	U	0.039	0.20	0.77	X	0.11	0.20	ND	U	0.035	0.20	ND	U	0.014	0.20	ND	U	0.031	0.20	0.091	JX	0.013	0.20	ND	U	0.013	0.20	ND	U	0.033	0.20
WLR12 Comp Rep 2	ND	U	0.022	0.20	ND	U	0.039	0.20	ND	U	0.11	0.20	ND	U	0.035	0.20	ND	U	0.014	0.20	ND	U	0.031	0.20	0.50	X	0.013	0.20	ND	U	0.013	0.20	ND	U	0.033	0.20
WLR12 Comp Rep 3	ND	U	0.021	0.19	ND	U	0.038	0.19	1.2	X	0.11	0.19	ND	U	0.035	0.19	ND	U	0.014	0.19	ND	U	0.031	0.19	0.36	X	0.013	0.19	ND	U	0.013	0.19	ND	U	0.033	0.19
WLR12 Comp Rep 4	ND	U	0.022	0.20	ND	U	0.040	0.20	ND	U	0.12	0.20	ND	U	0.036	0.20	ND	U	0.015	0.20	ND	U	0.032	0.20	0.13	JX	0.014	0.20	ND	U	0.013	0.20	ND	U	0.034	0.20
WLR12 Comp Rep 5	ND	U	0.021	0.19	ND	U	0.038	0.19	ND	U	0.11	0.19	ND	U	0.034	0.19	ND	U	0.014	0.19	ND	U	0.030	0.19	0.47	X	0.013	0.19	ND	U	0.012	0.19	ND	U	0.032	0.19
WLR12 Comp Mean	0.021				0.039				0.46				0.035				0.014				0.031				**0.31**				0.013				0.033			
% of Reference Tissue	51				52				216				52				52				51				1212				52				51			
RS-CH-A Rep 1	ND	U	0.041	0.37	ND	U	0.074	0.37	ND	U	0.21	0.37	ND	U	0.067	0.37	ND	U	0.027	0.37	ND	U	0.060	0.37	ND	U	0.025	0.37	ND	U	0.024	0.37	ND	U	0.063	0.37
RS-CH-A Rep 2	ND	U	0.043	0.40	ND	U	0.079	0.40	ND	U	0.22	0.40	ND	U	0.071	0.40	ND	U	0.028	0.40	ND	U	0.063	0.40	ND	U	0.027	0.40	ND	U	0.025	0.40	ND	U	0.067	0.40
RS-CH-A Rep 3	ND	U	0.043	0.39	ND	U	0.077	0.39	ND	U	0.22	0.39	ND	U	0.070	0.39	ND	U	0.028	0.39	ND	U	0.062	0.39	ND	U	0.026	0.39	ND	U	0.025	0.39	ND	U	0.066	0.39
RS-CH-A Rep 4	ND	U	0.043	0.39	ND	U	0.077	0.39	ND	U	0.22	0.39	ND	U	0.069	0.39	ND	U	0.028	0.39	ND	U	0.062	0.39	ND	U	0.026	0.39	ND	U	0.025	0.39	ND	U	0.066	0.39
RS-CH-A Rep 5	ND	U	0.038	0.35	ND	U	0.069	0.35	ND	U	0.20	0.35	ND	U	0.062	0.35	ND	U	0.025	0.35	ND	U	0.056	0.35	ND	U	0.024	0.35	ND	U	0.023	0.35	ND	U	0.059	0.35
RS-CH-A Mean	0.042				0.075				0.214				0.068				0.027				0.061				0.026				0.024				0.064			
Pre-exposure Rep 1	ND	U	0.040	0.37	ND	U	0.073	0.37	ND	U	0.21	0.37	ND	U	0.065	0.37	ND	U	0.026	0.37	ND	U	0.058	0.37	ND	U	0.025	0.37	ND	U	0.024	0.37	ND	U	0.062	0.37
Pre-exposure Rep 2	ND	U	0.032	0.29	ND	U	0.058	0.29	ND	U	0.17	0.29	ND	U	0.052	0.29	ND	U	0.021	0.29	ND	U	0.047	0.29	ND	U	0.020	0.29	ND	U	0.019	0.29	ND	U	0.049	0.29
Pre-exposure Rep 3	ND	U	0.039	0.35	ND	U	0.070	0.35	ND	U	0.20	0.35	ND	U	0.063	0.35	ND	U	0.025	0.35	ND	U	0.056	0.35	ND	Ui	0.35	0.35	ND	U	0.023	0.35	ND	U	0.059	0.35
Pre-exposure Mean	0.037				0.067				0.19				0.060				0.024				0.054				0.13				0.022				0.057			

Analyte:	PBDE 138				PBDE 153				PBDE 154				PBDE 183				PBDE 190				PBDE 203				PBDE 206				PBDE 209			
Sample-Replicate #	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**
WLR12 Comp Rep 1	ND	U	0.015	0.20	ND	U	0.031	0.20	ND	U	0.021	0.20	ND	U	0.015	0.20	ND	U	0.035	0.20	ND	U	0.054	0.20	ND	U	0.063	2.0	ND	U	0.044	2.0
WLR12 Comp Rep 2	ND	U	0.015	0.20	ND	U	0.031	0.20	ND	U	0.022	0.20	ND	U	0.015	0.20	ND	U	0.035	0.20	0.21	--	0.054	0.20	ND	UX	0.064	2.0	ND	U	0.045	2.0
WLR12 Comp Rep 3	ND	U	0.015	0.19	ND	U	0.031	0.19	ND	U	0.021	0.19	ND	U	0.015	0.19	ND	U	0.035	0.19	ND	U	0.053	0.19	ND	U	0.063	1.9	ND	U	0.044	1.9
WLR12 Comp Rep 4	ND	U	0.015	0.20	ND	U	0.032	0.20	ND	U	0.022	0.20	ND	U	0.015	0.20	ND	U	0.036	0.20	0.19	JX	0.056	0.20	ND	U	0.066	2.0	ND	U	0.046	2.0
WLR12 Comp Rep 5	ND	U	0.014	0.19	ND	U	0.030	0.19	ND	U	0.021	0.19	ND	U	0.014	0.19	ND	U	0.034	0.19	ND	U	0.053	0.19	ND	U	0.062	1.9	ND	U	0.043	1.9
WLR12 Comp Mean	0.015				0.031				0.021				0.015				0.035				0.11				0.064				0.044			
% of Reference Tissue	52				51				51				52				52				104				50				51			
RS-CH-A Rep 1	ND	U	0.028	0.37	ND	U	0.060	0.37	ND	U	0.041	0.37	ND	U	0.028	0.37	ND	U	0.067	0.37	ND	U	0.11	0.37	ND	U	0.13	3.7	ND	U	0.086	3.7
RS-CH-A Rep 2	ND	U	0.030	0.40	ND	U	0.063	0.40	ND	U	0.043	0.40	ND	U	0.030	0.40	ND	U	0.071	0.40	ND	U	0.11	0.40	ND	U	0.13	4.0	ND	U	0.090	4.0
RS-CH-A Rep 3	ND	U	0.029	0.39	ND	U	0.062	0.39	ND	U	0.043	0.39	ND	U	0.029	0.39	ND	U	0.070	0.39	ND	U	0.11	0.39	ND	U	0.13	3.9	ND	U	0.089	3.9
RS-CH-A Rep 4	ND	U	0.029	0.39	ND	U	0.062	0.39	ND	U	0.043	0.39	ND	U	0.029	0.39	ND	U	0.069	0.39	ND	U	0.11	0.39	ND	U	0.13	3.9	ND	U	0.089	3.9
RS-CH-A Rep 5	ND	U	0.026	0.35	ND	U	0.056	0.35	ND	U	0.038	0.35	ND	U	0.026	0.35	ND	U	0.062	0.35	ND	U	0.097	0.35	ND	U	0.12	3.5	ND	U	0.080	3.5
RS-CH-A Mean	0.028				0.061				0.042				0.028				0.068				0.11				0.13				0.087			
Pre-exposure Rep 1	ND	U	0.028	0.37	ND	U	0.058	0.37	ND	U	0.040	0.37	ND	U	0.028	0.37	ND	U	0.065	0.37	ND	U	0.11	0.37	ND	U	0.12	3.7	ND	U	0.084	3.7
Pre-exposure Rep 2	ND	U	0.022	0.29	ND	U	0.047	0.29	ND	U	0.032	0.29	ND	U	0.022	0.29	ND	U	0.052	0.29	ND	U	0.081	0.29	ND	U	0.096	2.9	ND	U	0.067	2.9
Pre-exposure Rep 3	ND	U	0.026	0.35	ND	U	0.056	0.35	ND	U	0.039	0.35	ND	U	0.026	0.35	ND	U	0.063	0.35	ND	U	0.097	0.35	ND	U	0.12	3.5	ND	U	0.080	3.5
Pre-exposure Mean	0.025				0.054				0.037				0.025				0.060				0.096				0.11				0.077			

Bolded Values = The mean concentration of project tissues is statistically significantly greater than the reference tissues.
i = The MRL/MDL is elevated due to a matrix interference.
J = The result is an estimated value.
U = The analyte was analyzed for, but was not detected at or above the MDL.
X = The Results may contain a slight bias, due to the chromatograms indicating the presense of non-target background components

Source: ALS Environmental
Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 39

Analytical Results for Dry Weight PBDEs in *Neanthes Virens* Tissues

Analyte:	PBDE 17				PBDE 28				PBDE 47				PBDE 66				PBDE 71				PBDE 85				PBDE 99				PBDE 100				PBDE 128			
Sample-Replicate #	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
WLR12 Comp Rep 1	ND	U	0.15	1.4	ND	U	0.27	1.4	12	X	0.75	1.4	ND	U	0.25	1.4	ND	U	0.096	1.4	ND	U	0.22	1.4	ND	U	0.090	1.4	ND	U	0.086	1.4	ND	U	0.23	1.4
WLR12 Comp Rep 2	ND	U	0.15	1.4	ND	U	0.27	1.4	18	X	0.74	1.4	ND	U	0.24	1.4	ND	U	0.093	1.4	ND	U	0.21	1.4	0.76	JX	0.088	1.4	ND	U	0.084	1.4	ND	U	0.23	1.4
WLR12 Comp Rep 3	ND	U	0.15	1.4	ND	U	0.27	1.4	10	X	0.75	1.4	ND	U	0.24	1.4	ND	U	0.095	1.4	ND	U	0.22	1.4	1.5	X	0.090	1.4	ND	U	0.086	1.4	ND	U	0.23	1.4
WLR12 Comp Rep 4	ND	U	0.15	1.4	ND	U	0.27	1.4	4.6	X	0.76	1.4	ND	U	0.25	1.4	ND	U	0.096	1.4	ND	U	0.22	1.4	ND	U	0.090	1.4	ND	U	0.086	1.4	ND	U	0.23	1.4
WLR12 Comp Rep 5	ND	U	0.15	1.3	ND	U	0.26	1.3	ND	U	0.73	1.3	ND	U	0.24	1.3	ND	U	0.092	1.3	ND	U	0.21	1.3	ND	U	0.087	1.3	ND	U	0.083	1.3	ND	U	0.23	1.3
RS-CH-A Rep 1	ND	U	0.29	2.6	ND	U	0.52	2.6	ND	U	1.5	2.6	ND	U	0.46	2.6	ND	U	0.19	2.6	ND	U	0.41	2.6	ND	U	0.18	2.6	ND	U	0.17	2.6	ND	U	0.44	2.6
RS-CH-A Rep 2	ND	U	0.28	2.6	ND	U	0.51	2.6	ND	U	1.5	2.6	ND	U	0.46	2.6	ND	U	0.18	2.6	ND	U	0.41	2.6	ND	U	0.17	2.6	ND	U	0.17	2.6	ND	U	0.44	2.6
RS-CH-A Rep 3	ND	U	0.28	2.6	ND	U	0.51	2.6	ND	Ui	9.2	9.2	ND	U	0.46	2.6	ND	U	0.18	2.6	ND	U	0.41	2.6	ND	U	0.17	2.6	ND	U	0.17	2.6	ND	U	0.43	2.6
RS-CH-A Rep 4	ND	U	0.25	2.3	ND	U	0.45	2.3	ND	U	1.3	2.3	ND	U	0.41	2.3	ND	U	0.16	2.3	ND	U	0.36	2.3	ND	U	0.15	2.3	ND	U	0.15	2.3	ND	U	0.38	2.3
RS-CH-A Rep 5	ND	U	0.27	2.5	ND	U	0.49	2.5	ND	Ui	8.4	8.4	ND	U	0.44	2.5	ND	U	0.18	2.5	ND	U	0.39	2.5	ND	U	0.17	2.5	ND	U	0.16	2.5	ND	U	0.42	2.5
Pre-exposure Rep 1	ND	U	0.28	2.5	ND	U	0.50	2.5	ND	Ui	24	24	ND	U	0.45	2.5	ND	U	0.18	2.5	ND	U	0.40	2.5	ND	U	0.17	2.5	ND	U	0.16	2.5	ND	U	0.43	2.5
Pre-exposure Rep 2	ND	U	0.27	2.4	ND	U	0.48	2.4	ND	U	1.4	2.4	ND	U	0.43	2.4	ND	U	0.17	2.4	ND	U	0.38	2.4	ND	U	0.16	2.4	ND	U	0.16	2.4	ND	U	0.41	2.4
Pre-exposure Rep 3	ND	U	0.29	2.6	ND	U	0.52	2.6	ND	U	1.5	2.6	ND	U	0.47	2.6	ND	U	0.19	2.6	ND	U	0.42	2.6	ND	U	0.18	2.6	ND	U	0.17	2.6	ND	U	0.44	2.6

Analyte:	PBDE 138				PBDE 153				PBDE 154				PBDE 183				PBDE 190				PBDE 203				PBDE 206				PBDE 209			
Sample-Replicate #	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
WLR12 Comp Rep 1	ND	U	0.11	1.4	ND	U	0.22	1.4	ND	U	0.15	1.4	ND	U	0.11	1.4	ND	U	0.25	1.4	ND	U	0.38	1.4	ND	U	0.45	14	ND	U	0.31	14
WLR12 Comp Rep 2	ND	U	0.099	1.4	ND	U	0.21	1.4	ND	U	0.15	1.4	ND	U	0.099	1.4	ND	U	0.24	1.4	ND	U	0.37	1.4	ND	U	0.44	14	ND	U	0.31	14
WLR12 Comp Rep 3	ND	U	0.10	1.4	ND	U	0.22	1.4	ND	U	0.15	1.4	ND	U	0.10	1.4	ND	U	0.24	1.4	ND	U	0.38	1.4	ND	U	0.44	14	ND	U	0.31	14
WLR12 Comp Rep 4	ND	U	0.11	1.4	ND	U	0.22	1.4	ND	U	0.15	1.4	ND	U	0.11	1.4	ND	U	0.25	1.4	ND	U	0.38	1.4	ND	U	0.45	14	ND	U	0.31	14
WLR12 Comp Rep 5	ND	U	0.098	1.3	ND	U	0.21	1.3	ND	U	0.15	1.3	ND	U	0.098	1.3	ND	U	0.24	1.3	ND	U	0.37	1.3	ND	U	0.43	13	ND	U	0.30	13
RS-CH-A Rep 1	ND	U	0.20	2.6	ND	U	0.41	2.6	ND	U	0.29	2.6	ND	U	0.20	2.6	ND	U	0.46	2.6	ND	U	0.72	2.6	ND	U	0.85	26	ND	U	0.59	26
RS-CH-A Rep 2	ND	U	0.19	2.6	ND	U	0.41	2.6	ND	U	0.28	2.6	ND	U	0.19	2.6	ND	U	0.46	2.6	ND	U	0.71	2.6	ND	U	0.84	26	ND	U	0.59	26
RS-CH-A Rep 3	ND	U	0.19	2.6	ND	U	0.41	2.6	ND	U	0.28	2.6	ND	U	0.19	2.6	ND	U	0.46	2.6	ND	U	0.71	2.6	ND	U	0.84	26	ND	U	0.59	26
RS-CH-A Rep 4	ND	U	0.17	2.3	ND	U	0.36	2.3	ND	U	0.25	2.3	ND	U	0.17	2.3	ND	U	0.41	2.3	ND	U	0.63	2.3	ND	U	0.74	23	ND	U	0.52	23
RS-CH-A Rep 5	ND	U	0.19	2.5	ND	U	0.39	2.5	ND	U	0.27	2.5	ND	U	0.19	2.5	ND	U	0.44	2.5	ND	U	0.68	2.5	ND	U	0.80	25	ND	U	0.56	25
Pre-exposure Rep 1	ND	U	0.19	2.5	ND	U	0.40	2.5	ND	U	0.28	2.5	ND	U	0.19	2.5	ND	U	0.45	2.5	ND	U	0.70	2.5	ND	U	0.82	25	ND	U	0.57	25
Pre-exposure Rep 2	ND	U	0.18	2.4	ND	U	0.38	2.4	ND	U	0.27	2.4	ND	U	0.18	2.4	ND	U	0.43	2.4	ND	U	0.67	2.4	ND	U	0.79	24	ND	U	0.55	24
Pre-exposure Rep 3	ND	U	0.20	2.6	ND	U	0.42	2.6	ND	U	0.29	2.6	ND	U	0.20	2.6	ND	U	0.47	2.6	ND	U	0.73	2.6	ND	U	0.86	26	ND	U	0.60	26

i = The MRL/MDL is elevated due to a matrix interference.

J = The result is an estimated value.

U = The analyte was analyzed for, but not detected at or above the MRL/MDL.

X = The Results may contain a slight bias, due to the chromatograms indicating the presense of non-target background components

Source: ALS Environmental

Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 40
Analytical Results for Dry Weight PDBEs in *Macoma nasuta* Tissues

Analyte:	PBDE 17				PBDE 28				PBDE 47				PBDE 66				PBDE 71				PBDE 85				PBDE 99				PBDE 100				PBDE 128			
Sample-Replicate #	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
WLR12 Comp Rep 1	ND	U	0.12	1.1	ND	U	0.21	1.1	4.2	X	0.59	1.1	ND	U	0.19	1.1	ND	U	0.075	1.1	ND	U	0.17	1.1	0.50	JX	0.071	1.1	ND	U	0.067	1.1	ND	U	0.18	1.1
WLR12 Comp Rep 2	ND	U	0.12	1.1	ND	U	0.21	1.1	ND	U	0.58	1.1	ND	U	0.19	1.1	ND	U	0.073	1.1	ND	U	0.17	1.1	2.7	X	0.069	1.1	ND	U	0.066	1.1	ND	U	0.18	1.1
WLR12 Comp Rep 3	ND	U	0.11	0.99	ND	U	0.20	0.99	6.2	X	0.56	0.99	ND	U	0.18	0.99	ND	U	0.071	0.99	ND	U	0.16	0.99	1.9	X	0.067	0.99	ND	U	0.064	0.99	ND	U	0.17	0.99
WLR12 Comp Rep 4	ND	U	0.12	1.1	ND	U	0.22	1.1	ND	U	0.60	1.1	ND	U	0.20	1.1	ND	U	0.076	1.1	ND	U	0.17	1.1	0.72	JX	0.071	1.1	ND	U	0.068	1.1	ND	U	0.18	1.1
WLR12 Comp Rep 5	ND	U	0.11	0.99	ND	U	0.20	0.99	ND	U	0.56	0.99	ND	U	0.18	0.99	ND	U	0.071	0.99	ND	U	0.16	0.99	2.5	X	0.067	0.99	ND	U	0.064	0.99	ND	U	0.17	0.99
RS-CH-A Rep 1	ND	U	0.23	2.1	ND	U	0.42	2.1	ND	U	1.2	2.1	ND	U	0.38	2.1	ND	U	0.15	2.1	ND	U	0.34	2.1	ND	U	0.14	2.1	ND	U	0.14	2.1	ND	U	0.36	2.1
RS-CH-A Rep 2	ND	U	0.25	2.3	ND	U	0.45	2.3	ND	U	1.3	2.3	ND	U	0.40	2.3	ND	U	0.16	2.3	ND	U	0.36	2.3	ND	U	0.15	2.3	ND	U	0.15	2.3	ND	U	0.38	2.3
RS-CH-A Rep 3	ND	U	0.24	2.2	ND	U	0.43	2.2	ND	U	1.2	2.2	ND	U	0.39	2.2	ND	U	0.16	2.2	ND	U	0.35	2.2	ND	U	0.15	2.2	ND	U	0.14	2.2	ND	U	0.37	2.2
RS-CH-A Rep 4	ND	U	0.25	2.3	ND	U	0.45	2.3	ND	U	1.3	2.3	ND	U	0.40	2.3	ND	U	0.16	2.3	ND	U	0.36	2.3	ND	U	0.15	2.3	ND	U	0.15	2.3	ND	U	0.38	2.3
RS-CH-A Rep 5	ND	U	0.22	2.0	ND	U	0.40	2.0	ND	U	1.2	2.0	ND	U	0.36	2.0	ND	U	0.15	2.0	ND	U	0.32	2.0	ND	U	0.14	2.0	ND	U	0.13	2.0	ND	U	0.34	2.0
Pre-exposure Rep 1	ND	U	0.22	2.0	ND	U	0.39	2.0	ND	U	1.1	2.0	ND	U	0.35	2.0	ND	U	0.14	2.0	ND	U	0.31	2.0	ND	U	0.13	2.0	ND	U	0.13	2.0	ND	U	0.33	2.0
Pre-exposure Rep 2	ND	U	0.18	1.6	ND	U	0.31	1.6	ND	U	0.87	1.6	ND	U	0.28	1.6	ND	U	0.11	1.6	ND	U	0.25	1.6	ND	U	0.11	1.6	ND	U	0.10	1.6	ND	U	0.27	1.6
Pre-exposure Rep 3	ND	U	0.21	1.9	ND	U	0.38	1.9	ND	U	1.1	1.9	ND	U	0.34	1.9	ND	U	0.14	1.9	ND	U	0.30	1.9	ND	Ui	1.9	1.9	ND	U	0.12	1.9	ND	U	0.32	1.9

Analyte:	PBDE 138				PBDE 153				PBDE 154				PBDE 183				PBDE 190				PBDE 203				PBDE 206				PBDE 209			
Sample-Replicate #	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
WLR12 Comp Rep 1	ND	U	0.079	1.1	ND	U	0.17	1.1	ND	U	0.12	1.1	ND	U	0.079	1.1	ND	U	0.19	1.1	ND	U	0.30	1.1	ND	U	0.35	11	ND	U	0.25	11
WLR12 Comp Rep 2	ND	U	0.077	1.1	ND	U	0.17	1.1	ND	U	0.12	1.1	ND	U	0.077	1.1	ND	U	0.19	1.1	1.1	--	0.29	1.1	ND	UX	0.34	11	ND	U	0.24	11
WLR12 Comp Rep 3	ND	U	0.075	0.99	ND	U	0.16	0.99	ND	U	0.11	0.99	ND	U	0.075	0.99	ND	U	0.18	0.99	ND	U	0.28	0.99	ND	U	0.33	9.9	ND	U	0.23	9.9
WLR12 Comp Rep 4	ND	U	0.080	1.1	ND	U	0.17	1.1	ND	U	0.12	1.1	ND	U	0.080	1.1	ND	U	0.20	1.1	1.0	JX	0.30	1.1	ND	U	0.35	11	ND	U	0.25	11
WLR12 Comp Rep 5	ND	U	0.075	0.99	ND	U	0.16	0.99	ND	U	0.11	0.99	ND	U	0.075	0.99	ND	U	0.18	0.99	ND	U	0.28	0.99	ND	U	0.33	9.9	ND	U	0.23	9.9
RS-CH-A Rep 1	ND	U	0.16	2.1	ND	U	0.34	2.1	ND	U	0.23	2.1	ND	U	0.16	2.1	ND	U	0.38	2.1	ND	U	0.59	2.1	ND	U	0.69	21	ND	U	0.49	21
RS-CH-A Rep 2	ND	U	0.17	2.3	ND	U	0.36	2.3	ND	U	0.25	2.3	ND	U	0.17	2.3	ND	U	0.40	2.3	ND	U	0.63	2.3	ND	U	0.74	23	ND	U	0.51	23
RS-CH-A Rep 3	ND	U	0.16	2.2	ND	U	0.35	2.2	ND	U	0.24	2.2	ND	U	0.16	2.2	ND	U	0.39	2.2	ND	U	0.60	2.2	ND	U	0.71	22	ND	U	0.49	22
RS-CH-A Rep 4	ND	U	0.17	2.3	ND	U	0.36	2.3	ND	U	0.25	2.3	ND	U	0.17	2.3	ND	U	0.40	2.3	ND	U	0.62	2.3	ND	U	0.74	23	ND	U	0.51	23
RS-CH-A Rep 5	ND	U	0.15	2.0	ND	U	0.32	2.0	ND	U	0.22	2.0	ND	U	0.15	2.0	ND	U	0.36	2.0	ND	U	0.56	2.0	ND	U	0.66	20	ND	U	0.46	20
Pre-exposure Rep 1	ND	U	0.15	2.0	ND	U	0.31	2.0	ND	U	0.22	2.0	ND	U	0.15	2.0	ND	U	0.35	2.0	ND	U	0.54	2.0	ND	U	0.64	20	ND	U	0.45	20
Pre-exposure Rep 2	ND	U	0.12	1.6	ND	U	0.25	1.6	ND	U	0.18	1.6	ND	U	0.12	1.6	ND	U	0.28	1.6	ND	U	0.44	1.6	ND	U	0.52	16	ND	U	0.36	16
Pre-exposure Rep 3	ND	U	0.14	1.9	ND	U	0.30	1.9	ND	U	0.21	1.9	ND	U	0.14	1.9	ND	U	0.34	1.9	ND	U	0.53	1.9	ND	U	0.62	19	ND	U	0.43	19

i = The MRL/MDL is elevated due to a matrix interference.
J = The result is an esimated value.
U = The analyte was analyzed for, but not detected at or above the MRL/MDL.
X = The Results may contain a slight bias, due to the chromatograms indicating the presense of non-target background components

Source: ALS Environmental
Compiled by: ANAMAR Environmental Consulting, Inc.

ANAMAR Environmental Consulting, Inc.

TABLE 41

Analytical Results for Wet Weight Organotins in *Neanthes virens* Tissues

Analyte:	Total Organotins as Tin	n-butyltin Cation				Di-n-butyltin Cation				Tri-n-butyltin Cation			
Sample-Replicate #	Result µg/kg	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
WLR12 Comp Rep 1	0.24	0.20	J	0.18	1.0	0.11	J	0.11	1.0	ND	U	0.11	1.0
WLR12 Comp Rep 2	0.73	0.66	J	0.18	1.0	0.42	J	0.11	1.0	0.18	J	0.11	1.0
WLR12 Comp Rep 3	0.30	0.28	J	0.18	0.99	0.12	J	0.11	0.99	ND	U	0.11	0.99
WLR12 Comp Rep 4	0.51	0.45	J	0.18	0.98	0.25	J	0.11	0.98	0.18	J	0.11	0.98
WLR12 Comp Rep 5	0.29	0.25	J	0.18	1.0	0.14	J	0.11	1.0	ND	U	0.11	1.0
WLR12 Comp Mean[1]	0.41	0.37				0.21				0.14			
% of reference tissue	61	160				22				125			
WUTB12 Comp Rep 1	0.22	ND	U	0.18	1.0	ND	U	0.11	1.0	ND	U	0.11	1.0
WUTB12 Comp Rep 2	0.22	ND	U	0.18	0.99	ND	U	0.11	0.99	ND	U	0.11	0.99
WUTB12 Comp Rep 3	0.24	ND	U	0.18	0.99	0.14	J	0.11	0.99	ND	U	0.11	0.99
WUTB12 Comp Rep 4	0.44	0.33	J	0.18	0.98	0.34	J	0.11	0.98	ND	U	0.11	0.98
WUTB12 Comp Rep 5	0.23	0.19	J	0.18	1.0	0.12	JP	0.11	1.0	ND	U	0.11	1.0
WUTB12 Comp Mean[1]	0.27	0.21				0.16				0.11			
% of reference tissue	40	92				18				100			
UH12 Comp Rep 1	1.1	ND	U	0.90	5.0	ND	U	0.55	5.0	ND	U	0.55	5.0
UH12 Comp Rep 2	1.1	ND	U	0.90	5.0	ND	U	0.55	5.0	ND	U	0.55	5.0
UH12 Comp Rep 3	9.3	4.5	JD	0.90	5.0	7.6	D	0.55	5.0	5.7	D	0.55	5.0
UH12 Comp Rep 4	1.2	ND	U	0.90	5.0	0.81	JD	0.55	5.0	ND	U	0.55	5.0
UH12 Comp Rep 5	1.1	ND	U	0.90	5.0	ND	U	0.55	5.0	ND	U	0.55	5.0
UH12 Comp Mean[1]	2.8	1.6				2.0				1.6			
% of reference tissue	409	704				215				1436			
NCW12 Comp Rep 1	0.79	0.34	J	0.18	0.98	1.0	--	0.11	0.98	ND	U	0.11	0.98
NCW12 Comp Rep 2	2.4	0.70	J	0.18	0.98	3.6	--	0.11	0.98	ND	U	0.11	0.98
NCW12 Comp Rep 3	2.6	0.86	J	0.18	1.0	3.9	--	0.11	1.0	ND	U	0.11	1.0
NCW12 Comp Rep 4	0.69	0.27	J	0.18	0.97	0.90	J	0.11	0.97	ND	U	0.11	0.97
NCW12 Comp Rep 5	0.26	0.18	U	0.18	0.98	0.19	J	0.11	0.98	ND	U	0.11	0.98
NCW12 Comp Mean[1]	1.3	0.47				1.9				0.11			
% of reference tissue	198	204				205				100			
SHCR12 Comp Rep 1	1.1	ND	U	0.90	5.0	ND	U	0.55	5.0	ND	U	0.55	5.0
SHCR12 Comp Rep 2	1.3	ND	U	0.90	5.0	0.85	JD	0.55	5.0	ND	U	0.55	5.0
SHCR12 Comp Rep 3	1.1	ND	U	0.90	5.0	ND	U	0.55	5.0	ND	U	0.55	5.0
SHCR12 Comp Rep 4	1.1	ND	U	0.90	4.9	ND	U	0.55	4.9	ND	U	0.55	4.9
SHCR12 Comp Rep 5	1.2	ND	U	0.90	5.0	0.68	JD	0.55	5.0	ND	U	0.55	5.0
SHCR12 Comp Mean[1]	1.2	0.90				0.64				0.55			
% of reference tissue	171	391				68				500			
RS-CH-A Rep 1	0.47	ND	U	0.18	0.97	0.60	J	0.11	0.97	ND	U	0.11	0.97
RS-CH-A Rep 2	0.69	0.25	J	0.18	0.97	0.93	J	0.11	0.97	ND	U	0.11	0.97
RS-CH-A Rep 3	1.1	0.33	J	0.18	0.98	1.7	--	0.11	0.98	ND	U	0.11	0.98
RS-CH-A Rep 4	0.56	0.19	J	0.18	0.98	0.76	J	0.11	0.98	ND	U	0.11	0.98
RS-CH-A Rep 5	0.53	0.20	J	0.18	0.99	0.68	J	0.11	0.99	ND	U	0.11	0.99
RS-CH-A Mean	0.68	0.23				0.93				0.11			
Pre-exposure Rep 1	0.61	0.76	J	0.18	1.0	ND	U	0.11	1.0	ND	U	0.11	1.0
Pre-exposure Rep 2	0.30	0.30	J	0.18	0.99	ND	U	0.11	0.99	ND	U	0.11	0.99
Pre-exposure Rep 3	0.30	0.29	J	0.18	0.95	ND	U	0.11	0.95	ND	U	0.11	0.95
Pre-exposure Mean	0.41	0.45				0.11				0.11			
Eco. Effects Threshold[1]	x	x				x				52.4			
South Atlantic Bight Background[1]	x	x				x				x			

Non-detect (ND) results use the MDL for calculating the average concentrations and total organotins.

[1] = Levels/Limits from Appendix H of SERIM (EPA/USACE 2008)

D = The reported result is from a dillution

J = The result is an estimated value.

P = The GC or HPLC confirmation criteria was exceeded. The relative difference is greater than 40% between the two analytical results.

U = The analyte was analyzed for, but not detected at or above the MRL/MDL.

x = No levels/limits published for parameter

-- = No qualifier needed.

Source: ALS Environmental Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 42

Analytical Results for Wet Weight Organotins in *Macoma nasuta* Tissues

Analyte:	Total Organotins as Tin	n-butyltin Cation				Di-n-butyltin Cation				Tri-n-butyltin Cation			
Sample-Replicate #	Result µg/kg	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL	Result µg/kg	Qualifier	MDL	MRL
WLR12 Comp Rep 1	0.76	ND	U	0.18	0.98	1.1	--	0.11	0.98	0.19	J	0.11	0.98
WLR12 Comp Rep 2	0.70	0.19	J	0.18	0.98	0.92	J	0.11	0.98	0.26	J	0.11	0.98
WLR12 Comp Rep 3	0.97	ND	U	0.38	2.1	1.1	J	0.23	2.1	0.38	J	0.23	2.1
WLR12 Comp Rep 4	0.64	ND	U	0.34	1.9	0.63	J	0.21	1.9	ND	U	0.21	1.9
WLR12 Comp Rep 5	1.0	ND	U	0.35	2.0	1.3	J	0.22	2.0	0.24	J	0.22	2.0
WLR12 Comp Mean[1]	0.81	0.29				1.0				0.26			
% of reference tissue	75	157				58				166			
WUTB12 Comp Rep 1	1.2	ND	U	0.18	0.98	1.9	--	0.11	0.98	0.22	J	0.11	0.98
WUTB12 Comp Rep 2	0.90	0.24	J	0.18	0.99	1.3	--	0.11	0.99	0.19	J	0.11	0.99
WUTB12 Comp Rep 3	1.5	0.26	J	0.18	0.99	2.4	--	0.11	0.99	0.24	J	0.11	0.99
WUTB12 Comp Rep 4	0.66	ND	U	0.18	0.99	0.89	J	0.11	0.99	0.21	J	0.11	0.99
WUTB12 Comp Rep 5	0.43	ND	U	0.18	0.98	0.44	J	0.11	0.98	0.20	J	0.11	0.98
WUTB12 Comp Mean[1]	0.93	0.21				1.4				0.21			
% of reference tissue	87	113				79				138			
UH12 Comp Rep 1	1.1	ND	U	0.90	4.7	ND	U	0.55	4.7	ND	U	0.55	4.7
UH12 Comp Rep 2	1.3	ND	U	0.90	5.0	0.83	JD	0.55	5.0	ND	U	0.55	5.0
UH12 Comp Rep 3	4.0	1.9	JD	0.90	5.0	3.3	JD	0.55	5.0	2.5	JD	0.55	5.0
UH12 Comp Rep 4	1.1	ND	U	0.90	5.0	ND	U	0.55	5.0	ND	U	0.55	5.0
UH12 Comp Rep 5	1.1	ND	U	0.90	5.0	0.62	JD	0.55	5.0	ND	U	0.55	5.0
UH12 Comp Mean[1]	1.7	1.1				1.2				0.94			
% of reference tissue	160	598				67				610			
NCW12 Comp Rep 1	0.45	0.35	U	0.35	2.0	0.25	J	0.22	2.0	0.22	U	0.22	2.0
NCW12 Comp Rep 2	0.76	0.35	U	0.35	2.0	0.84	J	0.22	2.0	0.22	U	0.22	2.0
NCW12 Comp Rep 3	1.0	0.36	J	0.36	2.0	1.4	J	0.22	2.0	0.22	U	0.22	2.0
NCW12 Comp Rep 4	0.48	0.35	J	0.35	2.0	0.31	J	0.21	2.0	0.21	U	0.21	2.0
NCW12 Comp Rep 5	1.0	0.47	J	0.35	2.0	1.2	J	0.22	2.0	0.22	U	0.22	2.0
NCW12 Comp Mean[1]	0.75	0.38				0.80				0.22			
% of reference tissue	70	204				46				142			
SHCR12 Comp Rep 1	0.56	0.35	U	0.35	2.0	0.45	J	0.22	2.0	0.22	U	0.22	2.0
SHCR12 Comp Rep 2	0.54	0.36	U	0.36	2.0	0.40	J	0.22	2.0	0.22	U	0.22	2.0
SHCR12 Comp Rep 3	0.44	0.35	U	0.35	2.0	0.23	J	0.22	2.0	0.22	U	0.22	2.0
SHCR12 Comp Rep 4	0.78	0.35	U	0.35	2.0	0.89	J	0.22	2.0	0.22	U	0.22	2.0
SHCR12 Comp Rep 5	1.2	0.36	U	0.36	2.0	1.7	J	0.22	2.0	0.22	U	0.22	2.0
SHCR12 Comp Mean[1]	0.70	0.35				0.73				0.22			
% of reference tissue	65	192				42				143			
RS-CH-A Rep 1	1.4	ND	U	0.18	0.99	2.3	--	0.11	0.99	0.14	J	0.11	0.99
RS-CH-A Rep 2	0.29	ND	U	0.18	0.99	0.23	J	0.11	0.99	0.12	J	0.11	0.99
RS-CH-A Rep 3	2.0	0.20	J	0.18	0.99	3.5	--	0.11	0.99	0.17	J	0.11	0.99
RS-CH-A Rep 4	0.57	ND	U	0.18	0.96	0.72	J	0.11	0.96	0.19	J	0.11	0.96
RS-CH-A Rep 5	1.2	ND	U	0.18	0.98	2.0	--	0.11	0.98	0.15	J	0.11	0.98
RS-CH-A Mean	1.1	0.18				1.8				0.15			
Pre-exposure Rep 1	0.24	ND	U	0.18	0.92	0.15	J	0.11	0.92	0.11	J	0.11	0.92
Pre-exposure Rep 2	0.26	ND	U	0.18	0.95	0.17	J	0.11	0.95	0.13	J	0.11	0.95
Pre-exposure Rep 3	0.24	ND	U	0.18	0.94	0.14	J	0.11	0.94	ND	U	0.11	0.94
Pre-exposure Mean	0.25	0.18				0.15				0.12			
Eco. Effects Threshold[1]	x	x				x				114.4			
South Atlantic Bight Background[1]	x	x				x				x			

Non-detect (ND) results use the MDL for calculating the average concentrations and total organotins.

[1] = Levels/Limits from Appendix H of SERIM (EPA/USACE 2008)

D = The reported result is from a dillution

J = The result is an estimated value.

U = The analyte was analyzed for, but not detected at or above the MRL/MDL.

x = No levels/limits published for parameter

-- = No qualifier needed.

Source: ALS Environmental Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 43

Analytical Results for Dry Weight Organotins in *Neanthes virens* Tissues

Analyte:	Total Organotins as Sn	n-butyltin Cation				Di-n-butyltin Cation				Tri-n-butyltin Cation			
Sample-Replicate #	**Result µg/kg**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**
WLR12 Comp Rep 1	1.6	1.4	J	1.3	6.7	0.75	J	0.74	6.7	ND	U	0.74	6.7
WLR12 Comp Rep 2	4.9	4.4	J	1.2	6.7	2.8	J	0.73	6.7	1.2	J	0.73	6.7
WLR12 Comp Rep 3	2.1	2.0	J	1.3	6.8	0.82	J	0.75	6.8	ND	U	0.75	6.8
WLR12 Comp Rep 4	3.5	3.1	J	1.2	6.7	1.7	J	0.73	6.7	1.2	J	0.73	6.7
WLR12 Comp Rep 5	1.9	1.6	J	1.2	6.7	0.96	J	0.73	6.7	ND	U	0.73	6.7
WUTB12 Comp Rep 1	1.6	ND	U	1.3	6.9	ND	U	0.76	6.9	ND	U	0.76	6.9
WUTB12 Comp Rep 2	1.6	ND	U	1.3	7.0	ND	U	0.77	7.0	ND	U	0.77	7.0
WUTB12 Comp Rep 3	1.6	ND	U	1.2	6.4	0.91	J	0.71	6.4	ND	U	0.71	6.4
WUTB12 Comp Rep 4	3.0	2.2	J	1.2	6.7	2.3	J	0.73	6.7	ND	U	0.73	6.7
WUTB12 Comp Rep 5	1.6	1.3	J	1.2	6.6	0.82	JP	0.73	6.6	ND	U	0.73	6.6
UH12 Comp Rep 1	1.3	ND	U	1.1	5.9	ND	U	0.65	5.9	ND	U	0.65	5.9
UH12 Comp Rep 2	1.4	ND	U	1.1	6.0	ND	U	0.66	6.0	ND	U	0.66	6.0
UH12 Comp Rep 3	11	5.3	JD	1.1	5.9	9.0	D	0.65	5.9	6.8	D	0.65	5.9
UH12 Comp Rep 4	1.5	ND	U	1.1	5.9	0.95	JD	0.65	5.9	ND	U	0.65	5.9
UH12 Comp Rep 5	1.3	ND	U	1.1	5.9	ND	U	0.65	5.9	ND	U	0.65	5.9
NCW12 Comp Rep 1	5.0	2.1	J	1.1	6.1	6.4		0.67	6.1	0.67	U	0.67	6.1
NCW12 Comp Rep 2	15	4.4	J	1.2	6.2	23		0.69	6.2	0.69	U	0.69	6.2
NCW12 Comp Rep 3	16	5.2	J	1.1	6.1	24		0.67	6.1	0.67	U	0.67	6.1
NCW12 Comp Rep 4	4.5	1.8	J	1.2	6.3	5.8	J	0.69	6.3	0.69	U	0.69	6.3
NCW12 Comp Rep 5	1.7	1.2	U	1.2	6.3	1.2	J	0.69	6.3	0.69	U	0.69	6.3
SHCR12 Comp Rep 1	7.3	ND	U	5.9	33	ND	U	3.6	33	ND	U	3.6	33
SHCR12 Comp Rep 2	8.5	ND	U	6.0	34	5.7	JD	3.7	34	ND	U	3.7	34
SHCR12 Comp Rep 3	7.3	ND	U	5.9	33	ND	U	3.6	33	ND	U	3.6	33
SHCR12 Comp Rep 4	7.3	ND	U	5.9	33	ND	U	3.6	33	ND	U	3.6	33
SHCR12 Comp Rep 5	7.9	ND	U	6.0	33	4.5	JD	3.7	33	ND	U	3.7	33
RS-CH-A Rep 1	3.1	ND	U	1.2	6.3	3.9	J	0.69	6.3	ND	U	0.69	6.3
RS-CH-A Rep 2	4.5	1.6	J	1.2	6.4	6.1	J	0.70	6.4	ND	U	0.70	6.4
RS-CH-A Rep 3	7.3	2.1	J	1.2	6.4	11	--	0.70	6.4	ND	U	0.70	6.4
RS-CH-A Rep 4	3.6	1.2	J	1.2	6.3	4.9	J	0.69	6.3	ND	U	0.69	6.3
RS-CH-A Rep 5	3.5	1.3	J	1.2	6.5	4.5	J	0.71	6.5	ND	U	0.71	6.5
Pre-exposure Rep 1	4.0	4.9	J	1.2	6.5	ND	U	0.71	6.5	ND	U	0.71	6.5
Pre-exposure Rep 2	2.0	2.0	J	1.2	6.5	ND	U	0.71	6.5	ND	U	0.71	6.5
Pre-exposure Rep 3	1.9	1.9	J	1.2	6.2	ND	U	0.68	6.2	ND	U	0.68	6.2

D = The reported result is from a dillution
J = The result is an estimated value.
U = The analyte was analyzed for, but not detected at or above the MRL/MDL.

Source: ALS Environmental
Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 44

Analytical Results for Dry Weight Organotins in *Macoma nasuta* Tissues

Analyte:	Total Organotins as Sn	n-butyltin Cation				Di-n-butyltin Cation				Tri-n-butyltin Cation			
Sample-Replicate #	**Result µg/kg**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**	**Result µg/kg**	**Qualifier**	**MDL**	**MRL**
WLR12 Comp Rep 1	4.1	ND	U	0.96	5.4	5.8	--	0.59	5.4	1.1	J	0.59	5.4
WLR12 Comp Rep 2	3.7	1.0	J	0.93	5.2	4.9	J	0.57	5.2	1.4	J	0.57	5.2
WLR12 Comp Rep 3	5.0	ND	U	2.0	11	5.6	J	1.3	11	2.0	J	1.3	11
WLR12 Comp Rep 4	3.5	ND	U	1.9	11	3.3	J	1.2	11	ND	U	1.2	11
WLR12 Comp Rep 5	5.3	ND	U	1.9	11	6.8	J	1.2	11	1.3	J	1.2	11
WUTB12 Comp Rep 1	6.0	ND	U	0.92	5.1	9.6	--	0.56	5.1	1.1	J	0.56	5.1
WUTB12 Comp Rep 2	4.8	1.3	J	0.95	5.3	6.8	--	0.58	5.3	1.0	J	0.58	5.3
WUTB12 Comp Rep 3	8.1	1.4	J	0.98	5.5	13	--	0.60	5.5	1.3	J	0.60	5.5
WUTB12 Comp Rep 4	3.6	ND	U	0.97	5.4	4.8	J	0.59	5.4	1.1	J	0.59	5.4
WUTB12 Comp Rep 5	2.3	ND	U	0.98	5.5	2.4	J	0.60	5.5	1.1	J	0.60	5.5
UH12 Comp Rep 1	1.3	ND	U	1.1	5.6	0.64	JD	0.62	5.6	ND	U	0.62	5.6
UH12 Comp Rep 2	1.5	ND	U	1.1	6.0	0.99	JD	0.66	6.0	ND	U	0.66	6.0
UH12 Comp Rep 3	4.8	2.3	JD	1.1	5.9	3.9	JD	0.65	5.9	3.0	JD	0.65	5.9
UH12 Comp Rep 4	1.4	ND	U	1.1	6.0	ND	U	0.66	6.0	ND	U	0.66	6.0
UH12 Comp Rep 5	1.4	ND	U	1.1	6.0	0.74	JD	0.66	6.0	ND	U	0.66	6.0
NCW12 Comp Rep 1	2.6	2.0	U	2.0	11	1.4	J	1.2	11	1.2	U	1.2	11
NCW12 Comp Rep 2	4.3	2.0	U	2.0	11	4.8	J	1.3	11	1.3	U	1.3	11
NCW12 Comp Rep 3	6.1	2.0	J	2.0	12	8.2	J	1.3	12	1.3	U	1.3	12
NCW12 Comp Rep 4	2.9	2.1	U	2.1	12	1.8	J	1.3	12	1.3	U	1.3	12
NCW12 Comp Rep 5	5.8	2.7	J	2.0	11	6.9	J	1.2	11	1.2	U	1.2	11
SHCR12 Comp Rep 1	2.8	1.8	U	1.8	9.8	2.3	J	1.1	9.8	1.1	U	1.1	9.8
SHCR12 Comp Rep 2	2.8	1.9	U	1.9	11	2.1	J	1.2	11	1.2	U	1.2	11
SHCR12 Comp Rep 3	2.3	1.8	U	1.8	9.8	1.2	J	1.1	9.8	1.1	U	1.1	9.8
SHCR12 Comp Rep 4	4.2	1.9	U	1.9	11	4.8	J	1.2	11	1.2	U	1.2	11
SHCR12 Comp Rep 5	6.4	2.0	U	2.0	11	9.0	J	1.2	11	1.2	U	1.2	11
RS-CH-A Rep 1	7.7	ND	U	1.1	5.6	13	--	0.62	5.6	0.80	J	0.62	5.6
RS-CH-A Rep 2	1.7	ND	U	1.1	5.6	1.3	J	0.62	5.6	0.70	J	0.62	5.6
RS-CH-A Rep 3	11	1.1	J	0.98	5.5	19	--	0.60	5.5	0.96	J	0.60	5.5
RS-CH-A Rep 4	3.2	ND	U	1.0	5.6	4.1	J	0.61	5.6	1.1	J	0.61	5.6
RS-CH-A Rep 5	6.7	ND	U	1.1	5.7	11	--	0.62	5.7	0.88	J	0.62	5.7
Pre-exposure Rep 1	1.2	ND	U	0.88	4.9	0.78	J	0.54	4.9	0.60	J	0.54	4.9
Pre-exposure Rep 2	1.4	ND	U	0.92	5.1	0.90	J	0.56	5.1	0.72	J	0.56	5.1
Pre-exposure Rep 3	1.2	ND	U	0.91	5.1	0.76	J	0.56	5.1	ND	U	0.56	5.1

D = The reported result is from a dilution
J = The result is an estimated value.
U = The analyte was analyzed for, but not detected at or above the MRL/MDL.

Source: ALS Environmental
Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 45
Analytical Results for Wet Weight Dioxins and Furans in *Neanthes virens* tissues

ANAMAR Environmental Consulting, Inc.

Analyte:		2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)				
Sample-Replicate #	Dioxin/Furan TEQ (ng/kg)	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ
CHEC12-1 Comp Rep 1	0.573	ND	U	0.193	0.981	0.193	ND	U	0.411	4.87	0.411	ND	U	0.0797	4.91	0.008	ND	U	0.0850	4.91	0.009	ND	U	0.0782	4.91	0.008	0.967	J	0.209	4.91	0.010
CHEC12-1 Comp Rep 2	0.552	ND	U	0.200	0.984	0.200	ND	U	0.114	4.90	0.114	ND	U	0.126	4.92	0.013	ND	U	0.134	4.92	0.013	ND	U	0.123	4.92	0.012	0.871	J	0.0636	4.92	0.009
CHEC12-1 Comp Rep 3	0.575	ND	U	0.139	0.983	0.139	ND	U	0.086	4.94	0.086	ND	U	0.158	4.92	0.016	ND	U	0.164	4.92	0.016	ND	U	0.152	4.92	0.015	1.57	JK	0.173	4.92	0.016
CHEC12-1 Comp Rep 4	0.551	ND	U	0.198	0.962	0.198	ND	U	0.158	4.81	0.158	ND	U	0.0909	4.81	0.009	ND	U	0.0955	4.81	0.010	ND	U	0.0884	4.81	0.009	1.13	JK	0.122	4.81	0.011
CHEC12-1 Comp Rep 5	0.596	ND	U	0.228	0.989	0.228	ND	U	0.215	4.95	0.215	ND	U	0.0638	4.95	0.006	ND	U	0.0653	4.95	0.007	ND	U	0.0612	4.95	0.006	1.18	JK	0.135	4.95	0.012
CHEC12-1 Comp Mean[1]	0.569	0.192					0.197					0.104					0.109					0.101					1.14				
% of reference tissue	68	77					109					130					26					68					30				
REHR12 Comp Rep 1	0.363	ND	U	0.110	0.974	0.110	ND	U	0.0411	4.87	0.0411	ND	U	0.0591	4.87	0.006	0.225	JK	0.0600	4.87	0.023	0.299	JK	0.0563	4.87	0.030	0.717	J	0.0858	4.87	0.007
REHR12 Comp Rep 2	0.497	0.220	JK	0.113	0.979	0.220	ND	U	0.114	4.90	0.114	ND	U	0.150	4.90	0.015	ND	U	0.155	4.90	0.016	ND	U	0.144	4.90	0.014	0.738	JK	0.175	4.90	0.007
REHR12 Comp Rep 3	0.508	0.259	JK	0.114	0.988	0.259	ND	U	0.0866	4.94	0.0866	ND	U	0.107	4.94	0.011	ND	U	0.103	4.94	0.010	ND	U	0.0984	4.94	0.010	0.752	J	0.103	4.94	0.008
REHR12 Comp Rep 4	0.470	ND	U	0.160	0.999	0.160	ND	U	0.0777	4.99	0.0777	ND	U	0.118	4.99	0.012	ND	U	0.118	4.99	0.012	ND	U	0.111	4.99	0.011	0.721	J	0.149	4.99	0.007
REHR12 Comp Rep 5	0.454	ND	U	0.126	0.993	0.126	ND	U	0.129	4.97	0.129	ND	U	0.132	4.97	0.013	ND	U	0.127	4.97	0.013	ND	U	0.122	4.97	0.012	0.908	J	0.123	4.97	0.009
REHR12 Comp Mean[1]	0.459	0.175					0.0897					0.113					0.146					0.155					0.767				
% of reference tissue	55	71					50					142					35					105					20				
WLR12 Comp Rep 1	1.10	ND	U	0.395	0.989	0.395	ND	U	0.360	4.94	0.360	ND	U	0.232	4.94	0.023	ND	U	0.270	4.94	0.027	ND	U	0.237	4.94	0.024	0.729	BJ	0.394	4.94	0.007
WLR12 Comp Rep 2	0.954	ND	U	0.322	0.995	0.322	ND	U	0.285	4.98	0.285	ND	U	0.280	4.98	0.028	ND	U	0.310	4.98	0.031	ND	U	0.278	4.98	0.028	0.612	BJ	0.260	4.98	0.006
WLR12 Comp Rep 3	0.906	ND	U	0.366	0.967	0.366	ND	U	0.286	4.84	0.286	ND	U	0.195	4.84	0.020	ND	U	0.216	4.84	0.022	ND	U	0.194	4.84	0.019	0.750	BJ	0.307	4.84	0.008
WLR12 Comp Rep 4	0.842	ND	U	0.273	0.992	0.273	ND	U	0.244	4.96	0.244	ND	U	0.235	4.96	0.024	ND	U	0.252	4.96	0.025	ND	U	0.229	4.96	0.023	0.829	BJ	0.274	4.96	0.008
WLR12 Comp Rep 5	0.873	ND	U	0.381	0.969	0.381	ND	U	0.291	4.85	0.291	ND	U	0.107	4.85	0.011	ND	U	0.113	4.85	0.011	ND	U	0.104	4.85	0.010	0.736	BJK	0.236	4.85	0.007
WLR12 Comp Mean[1]	0.934	0.347					0.293					0.210					0.232					0.208					0.731				
% of reference tissue	112	140					163					264					56					141					19				
WUTB12 Comp Rep 1	1.06	ND	U	0.379	0.980	0.379	ND	U	0.330	4.90	0.330	ND	U	0.219	4.90	0.022	ND	U	0.231	4.90	0.023	ND	U	0.212	4.90	0.021	0.742	BJ	0.253	4.90	0.007
WUTB12 Comp Rep 2	1.03	ND	U	0.360	0.989	0.360	ND	U	0.283	4.94	0.283	ND	U	0.297	4.94	0.030	ND	U	0.321	4.94	0.032	ND	U	0.291	4.94	0.029	0.864	BJ	0.280	4.94	0.009
WUTB12 Comp Rep 3	1.07	ND	U	0.412	0.956	0.412	ND	U	0.403	4.78	0.403	ND	U	0.200	4.78	0.020	ND	U	0.218	4.78	0.022	ND	U	0.197	4.78	0.020	0.858	BJK	0.378	4.78	0.009
WUTB12 Comp Rep 4	0.957	ND	U	0.393	0.981	0.393	ND	U	0.305	4.91	0.305	ND	U	0.241	4.91	0.024	ND	U	0.251	4.91	0.025	ND	U	0.232	4.91	0.023	0.722	BJK	0.294	4.91	0.007
WUTB12 Comp Rep 5	5.39	ND	U	1.94	1.94	1.940	ND	U	1.70	4.96	1.700	ND	U	1.20	4.96	0.120	ND	U	1.19	4.96	0.119	ND	U	1.13	4.96	0.113	ND	U	0.893	4.96	0.009
WUTB12 Comp Mean[1]	1.90	0.697					0.604					0.431					0.442					0.412					0.816				
% of reference tissue	228	282					336					543					106					279					21				

TABLE 45
Analytical Results for Wet Weight Dioxins and Furans in *Neanthes virens* tissues

ANAMAR Environmental Consulting, Inc.

Analyte:		2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)				
Sample-Replicate #	Dioxin/Furan TEQ (ng/kg)	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ
CCRK12 Comp Rep 1	3.57	ND	U	1.17	1.17	1.170	ND	U	1.33	4.72	1.330	ND	U	1.04	4.72	0.104	ND	U	1.03	4.72	0.103	ND	U	0.975	4.72	0.098	ND	U	1.63	4.72	0.016
CCRK12 Comp Rep 2	3.93	ND	U	1.26	1.26	1.260	ND	U	1.31	4.99	1.310	ND	U	1.48	4.99	0.148	ND	U	1.50	4.99	0.150	ND	U	1.41	4.99	0.141	ND	U	1.44	4.99	0.014
CCRK12 Comp Rep 3	1.07	ND	U	0.375	0.969	0.375	ND	U	0.352	4.84	0.352	ND	U	0.197	4.84	0.020	ND	U	0.212	4.84	0.021	ND	U	0.193	4.84	0.019	0.755	BJ	0.259	4.84	0.008
CCRK12 Comp Rep 4	1.19	ND	U	0.412	0.975	0.412	ND	U	0.426	4.87	0.426	ND	U	0.293	4.87	0.029	ND	U	0.313	4.87	0.031	ND	U	0.286	4.87	0.029	0.672	BJK	0.391	4.87	0.007
CCRK12 Comp Rep 5	0.858	ND	U	0.238	0.955	0.238	ND	U	0.361	4.78	0.361	ND	U	0.242	4.78	0.024	ND	U	0.265	4.78	0.027	ND	U	0.239	4.78	0.024	0.713	BJ	0.334	4.78	0.007
CCRK12 Comp Mean[1]	2.12	0.691					0.756					0.650					0.664					0.621					1.04				
% of reference tissue	255	279					420					819					159					420					27				
ORDT12 Comp Rep 1	0.872	ND	U	0.311	0.995	0.311	ND	U	0.257	4.97	0.257	ND	U	0.226	4.97	0.023	ND	U	0.246	4.97	0.025	ND	U	0.222	4.97	0.022	1.11	BJ	0.206	4.97	0.011
ORDT12 Comp Rep 2	0.959	ND	U	0.300	0.998	0.300	ND	U	0.292	4.99	0.292	ND	U	0.244	4.99	0.024	ND	U	0.269	4.99	0.027	ND	U	0.241	4.99	0.024	0.930	BJ	0.275	4.99	0.009
ORDT12 Comp Rep 3	0.680	ND	U	0.206	0.955	0.206	ND	U	0.221	4.78	0.221	ND	U	0.197	4.78	0.020	ND	U	0.222	4.78	0.022	ND	U	0.197	4.78	0.020	0.988	BJ	0.204	4.78	0.010
ORDT12 Comp Rep 4	0.765	ND	U	0.320	0.978	0.320	ND	U	0.224	4.89	0.224	ND	U	0.173	4.89	0.017	ND	U	0.188	4.89	0.019	ND	U	0.170	4.89	0.017	0.824	BJ	0.290	4.89	0.008
ORDT12 Comp Rep 5	1.07	ND	U	0.448	0.981	0.448	ND	U	0.324	4.90	0.324	ND	U	0.258	4.90	0.026	ND	U	0.286	4.90	0.029	ND	U	0.256	4.90	0.026	0.889	BJK	0.234	4.90	0.009
ORDT12 Comp Mean[1]	0.870	0.317					0.264					0.220					0.242					0.217					0.948				
% of reference tissue	104	128					147					276					58					147					24				
HGIW12 Comp Rep 1	0.620	ND	U	0.257	0.994	0.257	ND	U	0.163	4.97	0.163	ND	U	0.125	4.97	0.013	ND	U	0.143	4.97	0.014	ND	U	0.132	4.97	0.013	1.09	BJ	0.125	4.97	0.011
HGIW12 Comp Rep 2	0.571	ND	U	0.252	0.967	0.252	ND	U	0.155	4.84	0.155	ND	U	0.0989	4.84	0.010	ND	U	0.112	4.84	0.011	ND	U	0.104	4.84	0.010	0.874	BJK	0.132	4.84	0.009
HGIW12 Comp Rep 3	3.36	ND	U	0.901	0.983	0.901	ND	U	1.27	4.91	1.270	ND	U	1.01	4.91	0.101	ND	U	1.02	4.91	0.102	ND	U	0.952	4.91	0.095	ND	U	1.50	4.91	0.015
HGIW12 Comp Rep 4	3.52	ND	U	0.879	0.989	0.879	ND	U	1.32	4.94	1.320	ND	U	1.17	4.94	0.117	ND	U	1.19	4.94	0.119	ND	U	1.12	4.94	0.112	ND	U	2.15	4.94	0.022
HGIW12 Comp Rep 5	2.99	ND	U	0.812	0.997	0.812	ND	U	1.03	4.99	1.030	ND	U	0.911	4.99	0.091	ND	U	0.958	4.99	0.096	ND	U	0.887	4.99	0.089	ND	U	1.49	4.99	0.015
HGIW12 Comp Mean[1]	2.21	0.620					0.788					0.663					0.685					0.639					1.42				
% of reference tissue	266	251					438					834					164					433					37				
DANW12 Comp Rep 1	0.656	ND	U	0.224	0.982	0.224	ND	U	0.172	4.91	0.172	ND	U	0.187	4.91	0.019	ND	U	0.200	4.91	0.020	ND	U	0.191	4.91	0.019	0.879	BJ	0.232	4.91	0.009
DANW12 Comp Rep 2	0.713	ND	U	0.259	0.984	0.259	ND	U	0.187	4.92	0.187	ND	U	0.151	4.92	0.015	ND	U	0.170	4.92	0.017	ND	U	0.158	4.92	0.016	0.897	BJK	0.164	4.92	0.009
DANW12 Comp Rep 3	0.640	ND	U	0.279	0.994	0.279	ND	U	0.173	4.97	0.173	ND	U	0.119	4.97	0.012	ND	U	0.134	4.97	0.013	ND	U	0.124	4.97	0.012	0.976	BJK	0.224	4.97	0.010
DANW12 Comp Rep 4	0.718	ND	U	0.393	0.999	0.393	ND	U	0.159	5.00	0.159	ND	U	0.116	5.00	0.012	ND	U	0.121	5.00	0.012	ND	U	0.116	5.00	0.012	0.787	BJ	0.181	5.00	0.008
DANW12 Comp Rep 5	0.726	ND	U	0.298	0.971	0.298	0.241	J	0.159	4.86	0.241	ND	U	0.125	4.86	0.013	ND	U	0.134	4.86	0.013	ND	U	0.127	4.86	0.013	1.14	BJ	0.180	4.86	0.011
DANW12 Comp Mean[1]	0.691	0.291					0.186					0.140					0.152					0.143					0.936				
% of reference tissue	83	117					104					176					36					97					24				

TABLE 45
Analytical Results for Wet Weight Dioxins and Furans in *Neanthes virens* tissues

ANAMAR Environmental Consulting, Inc.

Analyte:		2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)				
Sample-Replicate #	Dioxin/Furan TEQ (ng/kg)	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ
WLRW12 Comp Rep 1	3.01	ND	U	0.989	0.991	0.989	ND	U	1.03	4.96	1.030	ND	U	0.926	4.96	0.093	ND	U	0.939	4.96	0.094	ND	U	0.883	4.96	0.088	ND	U	1.38	4.96	0.014
WLRW12 Comp Rep 2	3.15	ND	U	0.903	0.964	0.903	ND	U	1.19	4.82	1.190	ND	U	1.10	4.82	0.110	ND	U	1.14	4.82	0.114	ND	U	1.06	4.82	0.106	3.93	BJ	1.32	4.82	0.039
WLRW12 Comp Rep 3	2.84	ND	U	0.635	0.994	0.635	ND	U	1.16	4.97	1.160	ND	U	0.991	4.97	0.099	ND	U	1.01	4.97	0.101	ND	U	0.947	4.97	0.095	ND	U	1.26	4.97	0.013
WLRW12 Comp Rep 4	2.83	ND	U	0.848	0.991	0.848	ND	U	1.10	4.96	1.100	ND	U	0.796	4.96	0.080	ND	U	0.837	4.96	0.084	ND	U	0.774	4.96	0.077	ND	U	1.41	4.96	0.014
WLRW12 Comp Rep 5	3.15	ND	U	0.969	0.978	0.969	ND	U	1.17	4.89	1.170	ND	U	0.973	4.89	0.097	ND	U	0.999	4.89	0.100	ND	U	0.934	4.89	0.093	ND	U	1.24	4.89	0.012
WLRW12 Comp Mean[1]	3.00	0.869					1.13					0.957					0.985					0.920					1.84				
% of reference tissue	360	351					628					1205					236					623					48				
ABMA12 Comp Rep 1	1.03	ND	U	0.210	1.32	0.210	0.254	JK	0.148	6.60	0.254	0.175	JK	0.158	6.60	0.018	0.507	J	0.173	6.60	0.051	0.266	J	0.163	6.60	0.027	4.34	J	0.153	6.60	0.043
ABMA12 Comp Rep 2	0.907	ND	U	0.226	1.23	0.226	0.210	JK	0.146	6.15	0.210	0.152	JK	0.129	6.15	0.015	0.511	J	0.150	6.15	0.051	0.303	JK	0.137	6.15	0.030	4.17	J	0.229	6.15	0.042
ABMA12 Comp Rep 3	0.901	ND	U	0.230	1.34	0.230	0.209	JK	0.152	6.69	0.209	ND	U	0.198	6.69	0.020	0.438	J	0.227	6.69	0.044	ND	U	0.208	6.69	0.021	4.45	J	0.180	6.69	0.045
ABMA12 Comp Rep 4	0.754	ND	U	0.234	1.32	0.234	ND	U	0.102	6.58	0.102	ND	U	0.217	6.58	0.022	0.458	J	0.245	6.58	0.046	ND	U	0.227	6.58	0.023	4.30	J	0.241	6.58	0.043
ABMA12 Comp Rep 5	1.09	ND	U	0.266	1.22	0.266	0.285	JK	0.153	6.12	0.285	0.210	JK	0.145	6.12	0.021	0.541	J	0.162	6.12	0.054	0.325	JK	0.151	6.12	0.033	4.86	J	0.304	6.12	0.049
ABMA12 Comp Mean[1]	0.937	0.233					0.212					0.190					0.491					0.266					4.42				
% of reference tissue	112	94					118					240					118					180					114				
RS-CH-A Rep 1	0.761	ND	U	0.265	0.977	0.265	ND	U	0.103	4.89	0.103	ND	U	0.0921	4.89	0.009	0.579	BJK	0.0988	4.89	0.058	ND	U	0.0906	4.89	0.009	2.81	BJ	0.105	4.89	0.028
RS-CH-A Rep 2	0.833	ND	U	0.211	0.977	0.211	0.157	JK	0.0965	4.88	0.157	ND	U	0.0739	4.88	0.007	0.431	BJ	0.0801	4.88	0.043	0.270	JK	0.0729	4.88	0.027	2.67	BJ	0.175	4.88	0.027
RS-CH-A Rep 3	0.893	ND	U	0.297	0.982	0.297	ND	U	0.171	4.91	0.171	ND	U	0.0464	4.91	0.005	0.525	BJK	0.0488	4.91	0.053	ND	U	0.0450	4.91	0.005	4.07	BJ	0.0804	4.91	0.041
RS-CH-A Rep 4	0.805	ND	U	0.274	0.943	0.274	ND	U	0.187	4.72	0.187	ND	U	0.0519	4.72	0.005	ND	U	0.0536	4.72	0.005	ND	U	0.0500	4.72	0.005	2.91	BJK	0.0557	4.72	0.029
RS-CH-A Rep 5	0.872	ND	U	0.190	0.925	0.190	0.281	JK	0.0953	4.62	0.281	ND	U	0.133	4.62	0.013	0.499	BJ	0.144	4.62	0.050	0.283	J	0.136	4.62	0.028	6.91	B	0.142	4.62	0.069
RS-CH-A Mean[1]	0.833	0.247					0.180					0.0795					0.418					0.148					3.87				
Pretest Tissue Rep 1	0.83	ND	U	0.126	0.996	0.126	0.351	J	0.110	4.98	0.351	ND	U	0.0875	4.98	0.009	ND	U	0.0928	4.98	0.009	ND	U	0.0855	4.98	0.009	3.40	BJ	0.242	4.98	0.034
Pretest Tissue Rep 2	1.2	ND	U	0.267	0.990	0.267	0.280	J	0.119	4.95	0.280	ND	U	0.127	4.95	0.013	0.637	BJ	0.136	4.95	0.064	0.508	JK	0.125	4.95	0.051	3.76	BJ	0.147	4.95	0.038
Pretest Tissue Rep 3	0.72	ND	U	0.248	0.968	0.248	ND	U	0.0411	4.84	0.041	ND	U	0.0374	4.84	0.004	ND	U	0.0395	4.84	0.004	ND	U	0.0364	4.84	0.004	3.9	BJ	0.159	4.84	0.039
Pretest Mean[1]	0.912	0.214					0.224					0.0840					0.256					0.210					3.69				
Toxic Equivalency Factor (TEF)	--	1					1					0.1					0.1					0.1					0.01				
FDA Action Limits[2]	x	x					x					x					x					x					x				
Eco. Effects Threshold[2]	x	x					x					x					x					x					x				
S. Atlantic Bight Background[2]	0.18-0.44	x					x					x					x					x					x				

TABLE 45
Analytical Results for Wet Weight Dioxins and Furans in *Neanthes virens* tissues

ANAMAR Environmental Consulting, Inc.

Analyte:	Octachlorodibenzo-p-dioxin (OCDD)					2,3,7,8-Tetrachlorodibenzofuran (TCDF)					1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)				
Sample-Replicate #	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ
CHEC12-1 Comp Rep 1	6.00	BJ	0.0770	9.81	0.002	0.746	J	0.0970	0.981	0.075	ND	U	0.128	4.91	0.004	0.214	JK	0.121	4.91	0.064	ND	U	0.146	4.91	0.015
CHEC12-1 Comp Rep 2	5.22	BJ	0.142	9.84	0.002	1.04	C	0.123	0.984	0.104	ND	U	0.0981	4.92	0.003	ND	U	0.0936	4.92	0.028	ND	U	0.180	4.92	0.018
CHEC12-1 Comp Rep 3	14.3	B	0.0994	9.83	0.004	0.958	JK	0.111	0.983	0.096	ND	U	0.0765	4.92	0.002	ND	U	0.0750	4.92	0.023	ND	U	0.157	4.92	0.016
CHEC12-1 Comp Rep 4	6.28	BJK	0.155	9.62	0.002	0.541	JK	0.151	0.962	0.054	ND	U	0.088	4.81	0.003	ND	U	0.0807	4.81	0.024	ND	U	0.173	4.81	0.017
CHEC12-1 Comp Rep 5	7.04	BJ	0.0857	9.89	0.002	ND	U	0.193	0.989	0.019	ND	U	0.129	4.95	0.004	ND	U	0.127	4.95	0.038	ND	U	0.136	4.95	0.014
CHEC12-1 Comp Mean[1]	7.77					0.696					0.104					0.118					0.158				
% of reference tissue	27					55					94					87					115				
REHR12 Comp Rep 1	3.72	BJ	0.0600	9.74	0.001	0.764	JK	0.0550	0.974	0.076	ND	U	0.0359	4.87	0.001	ND	U	0.0351	4.87	0.011	ND	U	0.132	4.87	0.013
REHR12 Comp Rep 2	3.23	BJ	0.235	9.79	0.001	1.07	C	0.0936	0.979	0.107	0.159	J	0.0827	4.90	0.005	0.215	J	0.0788	4.90	0.065	ND	U	0.0948	4.90	0.009
REHR12 Comp Rep 3	4.30	BJ	0.148	9.88	0.001	1.03	C	0.103	0.988	0.103	0.179	JK	0.0674	4.94	0.005	0.215	J	0.0635	4.94	0.065	ND	U	0.109	4.94	0.011
REHR12 Comp Rep 4	4.83	BJ	0.244	9.99	0.001	0.758	J	0.0797	0.999	0.076	0.141	JK	0.0823	4.99	0.004	0.198	JK	0.0791	4.99	0.059	ND	U	0.105	4.99	0.011
REHR12 Comp Rep 5	7.44	BJ	0.198	9.93	0.002	1.31	C	0.0757	0.993	0.131	0.221	J	0.108	4.97	0.007	0.319	J	0.106	4.97	0.096	0.148	JK	0.0869	4.97	0.015
REHR12 Comp Mean[1]	4.70					0.986					0.147					0.196					0.118				
% of reference tissue	17					78					134					145					85				
WLR12 Comp Rep 1	3.97	BJ	0.649	9.89	0.001	0.785	J	0.293	0.989	0.079	ND	U	0.249	4.94	0.007	ND	U	0.254	4.94	0.076	ND	U	0.232	4.94	0.023
WLR12 Comp Rep 2	4.18	BJ	0.790	9.95	0.001	0.729	JK	0.312	0.995	0.073	ND	U	0.224	4.98	0.007	ND	U	0.222	4.98	0.067	ND	U	0.255	4.98	0.026
WLR12 Comp Rep 3	3.56	BJ	0.449	9.67	0.001	0.522	J	0.215	0.967	0.052	ND	U	0.203	4.84	0.006	ND	U	0.212	4.84	0.064	ND	U	0.145	4.84	0.015
WLR12 Comp Rep 4	5.07	BJ	0.420	9.92	0.002	0.893	J	0.276	0.992	0.089	ND	U	0.164	4.96	0.005	ND	U	0.170	4.96	0.051	ND	U	0.235	4.96	0.024
WLR12 Comp Rep 5	3.99	BJK	0.359	9.69	0.001	0.992	C	0.271	0.969	0.099	ND	U	0.213	4.85	0.006	ND	U	0.215	4.85	0.065	ND	U	0.164	4.85	0.016
WLR12 Comp Mean[1]	4.15					0.784					0.211					0.215					0.206				
% of reference tissue	15					62					191					158					149				
WUTB12 Comp Rep 1	4.92	BJ	0.609	9.80	0.001	0.876	J	0.313	0.980	0.088	ND	U	0.262	4.90	0.008	ND	U	0.279	4.90	0.084	ND	U	0.225	4.90	0.023
WUTB12 Comp Rep 2	5.71	BJ	0.844	9.89	0.002	0.755	JK	0.278	0.989	0.076	ND	U	0.296	4.94	0.009	ND	U	0.306	4.94	0.092	ND	U	0.254	4.94	0.025
WUTB12 Comp Rep 3	6.19	BJ	0.556	9.56	0.002	1.06	C	0.292	0.956	0.106	ND	U	0.294	4.78	0.009	ND	U	0.303	4.78	0.091	ND	U	0.183	4.78	0.018
WUTB12 Comp Rep 4	5.50	BJ	0.924	9.81	0.002	1.02	C	0.218	0.981	0.102	ND	U	0.179	4.91	0.005	ND	U	0.190	4.91	0.057	ND	U	0.199	4.91	0.020
WUTB12 Comp Rep 5	7.24	BJK	2.48	9.92	0.002	ND	U	1.98	1.98	0.198	ND	U	1.56	4.96	0.047	ND	U	1.70	4.96	0.510	ND	U	1.57	4.96	0.157
WUTB12 Comp Mean[1]	5.91					1.14					0.518					0.556					0.486				
% of reference tissue	21					90					470					409					352				

TABLE 45
Analytical Results for Wet Weight Dioxins and Furans in *Neanthes virens* tissues

ANAMAR Environmental Consulting, Inc.

Analyte:	Octachlorodibenzo-p-dioxin (OCDD)					2,3,7,8-Tetrachlorodibenzofuran (TCDF)					1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)				
Sample-Replicate #	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ
CCRK12 Comp Rep 1	ND	U	3.32	9.44	0.001	ND	U	1.24	1.24	0.124	ND	U	0.768	4.72	0.023	ND	U	0.836	4.72	0.251	ND	U	0.766	4.72	0.077
CCRK12 Comp Rep 2	ND	U	2.97	9.98	0.001	ND	U	1.14	1.14	0.114	ND	U	1.26	4.99	0.038	ND	U	1.31	4.99	0.393	ND	U	0.770	4.99	0.077
CCRK12 Comp Rep 3	3.45	BJ	0.601	9.69	0.001	0.902	J	0.304	0.969	0.090	ND	U	0.232	4.84	0.007	ND	U	0.238	4.84	0.071	ND	U	0.246	4.84	0.025
CCRK12 Comp Rep 4	3.77	BJ	0.569	9.75	0.001	1.32	C	0.382	0.975	0.132	ND	U	0.314	4.87	0.009	ND	U	0.325	4.87	0.098	ND	U	0.323	4.87	0.032
CCRK12 Comp Rep 5	2.95	BJ	0.445	9.55	0.001	1.06	C	0.267	0.955	0.106	ND	U	0.244	4.78	0.007	ND	U	0.249	4.78	0.075	ND	U	0.200	4.78	0.020
CCRK12 Comp Mean[1]	3.29					1.13					0.564					0.592					0.461				
% of reference tissue	12					90					511					436					334				
ORDT12 Comp Rep 1	6.72	BJ	0.608	9.95	0.002	1.16	C	0.259	0.995	0.116	ND	U	0.189	4.97	0.006	0.313	JK	0.191	4.97	0.094	ND	U	0.267	4.97	0.027
ORDT12 Comp Rep 2	5.42	BJ	0.436	9.98	0.002	0.852	J	0.220	0.998	0.085	ND	U	0.201	4.99	0.006	0.266	JK	0.208	4.99	0.080	ND	U	0.268	4.99	0.027
ORDT12 Comp Rep 3	4.79	BJ	0.432	9.55	0.001	0.993	C	0.211	0.955	0.099	ND	U	0.192	4.78	0.006	ND	U	0.196	4.78	0.059	ND	U	0.204	4.78	0.020
ORDT12 Comp Rep 4	4.41	BJ	0.605	9.78	0.001	1.09	CK	0.253	0.978	0.109	ND	U	0.188	4.89	0.006	0.320	JK	0.194	4.89	0.096	ND	U	0.154	4.89	0.015
ORDT12 Comp Rep 5	4.10	BJ	0.497	9.81	0.001	1.27	C	0.348	0.981	0.127	ND	U	0.243	4.90	0.007	0.410	JK	0.263	4.90	0.123	ND	U	0.234	4.90	0.023
ORDT12 Comp Mean[1]	5.09					1.07					0.203					0.301					0.225				
% of reference tissue	18					85					184					222					163				
HGIW12 Comp Rep 1	6.74	BJ	0.191	9.94	0.002	1.14	CK	0.182	0.994	0.114	ND	U	0.135	4.97	0.004	ND	U	0.135	4.97	0.041	ND	U	0.136	4.97	0.014
HGIW12 Comp Rep 2	7.12	BJ	0.318	9.67	0.002	1.15	C	0.229	0.967	0.115	ND	U	0.122	4.84	0.004	ND	U	0.123	4.84	0.037	ND	U	0.106	4.84	0.011
HGIW12 Comp Rep 3	7.63	BJ	2.82	9.83	0.002	ND	U	0.919	0.983	0.092	ND	U	1.01	4.91	0.030	ND	U	1.01	4.91	0.303	ND	U	1.02	4.91	0.102
HGIW12 Comp Rep 4	15.8	B	3.65	9.89	0.005	1.30	C	0.936	0.989	0.130	ND	U	1.27	4.94	0.038	ND	U	1.27	4.94	0.381	ND	U	1.02	4.94	0.102
HGIW12 Comp Rep 5	12.0	B	2.37	9.97	0.004	1.07	C	0.971	0.997	0.107	ND	U	0.875	4.99	0.026	ND	U	0.875	4.99	0.263	ND	U	1.04	4.99	0.104
HGIW12 Comp Mean[1]	9.86					1.12					0.682					0.683					0.664				
% of reference tissue	35					88					619					503					482				
DANW12 Comp Rep 1	6.75	BJ	0.334	9.82	0.002	0.905	J	0.169	0.982	0.091	ND	U	0.125	4.91	0.004	ND	U	0.125	4.91	0.038	ND	U	0.122	4.91	0.012
DANW12 Comp Rep 2	5.17	BJ	0.275	9.84	0.002	0.929	J	0.237	0.984	0.093	ND	U	0.136	4.92	0.004	ND	U	0.135	4.92	0.041	ND	U	0.164	4.92	0.016
DANW12 Comp Rep 3	5.09	BJK	0.233	9.94	0.002	1.07	C	0.182	0.994	0.116	ND	U	0.142	4.97	0.004	ND	U	0.142	4.97	0.043	ND	U	0.156	4.97	0.016
DANW12 Comp Rep 4	4.59	BJ	0.284	9.99	0.001	1.09	CK	0.165	0.999	0.140	ND	U	0.122	5.00	0.004	ND	U	0.121	5.00	0.036	ND	U	0.130	5.00	0.013
DANW12 Comp Rep 5	17.7	B	0.345	9.71	0.005	1.07	C	0.170	0.971	0.092	ND	U	0.135	4.86	0.004	ND	U	0.132	4.86	0.105	ND	U	0.131	4.86	0.013
DANW12 Comp Mean[1]	7.86					1.06					0.132					0.175					0.141				
% of reference tissue	28					84					120					129					102				

TABLE 45
Analytical Results for Wet Weight Dioxins and Furans in *Neanthes virens* tissues

ANAMAR Environmental Consulting, Inc.

Analyte:	Octachlorodibenzo-p-dioxin (OCDD)					2,3,7,8-Tetrachlorodibenzofuran (TCDF)					1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)				
Sample-Replicate #	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ
WLRW12 Comp Rep 1	5.77	BJK	2.07	9.91	0.002	1.35	CK	0.821	0.991	0.135	ND	U	0.798	4.96	0.024	ND	U	0.798	4.96	0.239	ND	U	0.795	4.96	0.080
WLRW12 Comp Rep 2	58.7	B	2.38	9.64	0.018	1.42	C	0.789	0.964	0.142	ND	U	0.878	4.82	0.026	ND	U	0.878	4.82	0.263	ND	U	0.732	4.82	0.073
WLRW12 Comp Rep 3	4.98	BJK	2.50	9.94	0.001	ND	U	0.875	0.994	0.088	ND	U	0.866	4.97	0.026	ND	U	0.866	4.97	0.260	ND	U	0.801	4.97	0.080
WLRW12 Comp Rep 4	4.23	BJK	2.75	9.91	0.001	ND	U	0.790	0.991	0.079	ND	U	0.616	4.96	0.018	ND	U	0.616	4.96	0.185	ND	U	0.782	4.96	0.078
WLRW12 Comp Rep 5	5.81	BJ	2.05	9.78	0.002	ND	U	0.880	0.978	0.088	ND	U	0.983	4.89	0.029	ND	U	0.983	4.89	0.295	ND	U	0.653	4.89	0.065
WLRW12 Comp Mean[1]	15.9					1.06					0.828					0.828					0.753				
% of reference tissue	56					84					751					610					545				
ABMA12 Comp Rep 1	31.4	--	0.553	13.2	0.009	2.07	CK	0.228	1.32	0.207	0.292	JK	0.153	6.60	0.009	0.355	J	0.157	6.60	0.107	0.262	J	0.154	6.60	0.026
ABMA12 Comp Rep 2	29.4	--	0.335	12.3	0.009	1.30	C	0.133	1.23	0.130	ND	U	0.148	6.15	0.004	0.353	JK	0.154	6.15	0.106	0.274	J	0.142	6.15	0.027
ABMA12 Comp Rep 3	37.6	--	0.317	13.4	0.011	1.74	C	0.401	1.34	0.174	ND	U	0.157	6.69	0.005	ND	U	0.160	6.69	0.048	0.283	JK	0.122	6.69	0.028
ABMA12 Comp Rep 4	31.7	--	0.332	13.2	0.010	1.34	C	0.113	1.32	0.134	ND	U	0.136	6.58	0.004	ND	U	0.137	6.58	0.041	0.248	JK	0.114	6.58	0.025
ABMA12 Comp Rep 5	40.8	--	0.327	12.2	0.012	1.76	C	0.160	1.22	0.176	0.387	J	0.163	6.12	0.012	0.401	J	0.165	6.12	0.120	ND	U	0.146	6.12	0.015
ABMA12 Comp Mean[1]	34.2					1.64					0.224					0.281					0.243				
% of reference tissue	120					130					203					207					176				
RS-CH-A Rep 1	18.2	B	0.189	9.77	0.005	1.50	C	0.114	0.977	0.150	ND	U	0.0720	4.89	0.002	ND	U	0.0718	4.89	0.022	ND	U	0.0915	4.89	0.009
RS-CH-A Rep 2	14.3	B	0.0821	9.77	0.004	1.22	CK	0.0997	0.977	0.122	0.196	J	0.0883	4.88	0.006	0.328	J	0.0885	4.88	0.098	0.234	JK	0.0530	4.88	0.023
RS-CH-A Rep 3	38.6	B	0.129	9.82	0.012	1.18	C	0.120	0.982	0.118	ND	U	0.105	4.91	0.003	ND	U	0.101	4.91	0.030	ND	U	0.122	4.91	0.012
RS-CH-A Rep 4	15.5	BK	0.118	9.43	0.005	1.37	C	0.112	0.943	0.137	ND	U	0.103	4.72	0.003	ND	U	0.102	4.72	0.031	ND	U	0.0404	4.72	0.004
RS-CH-A Rep 5	55.3	B	0.273	9.25	0.017	1.05	C	0.128	0.925	0.105	ND	U	0.0751	4.62	0.002	ND	U	0.0759	4.62	0.023	0.202	BJ	0.104	4.62	0.020
RS-CH-A Mean[1]	28.4					1.26					0.110					0.136					0.138				
Pretest Tissue Rep 1	23.0	B	0.182	9.96	0.007	1.34	CK	0.0455	0.996	0.134	ND	U	0.0996	4.98	0.003	ND	U	0.100	4.98	0.030	ND	U	0.227	4.98	4.98
Pretest Tissue Rep 2	30.6	B	0.245	9.90	0.009	1.49	CK	0.132	0.990	0.149	0.296	JK	0.141	4.95	0.009	ND	U	0.140	4.95	0.042	0.371	JK	0.124	4.95	0.037
Pretest Tissue Rep 3	28.4	B	0.180	9.68	0.009	1.38	--	0.136	0.968	0.138	ND	U	0.127	4.84	0.004	0.318	J	0.129	4.84	0.095	0.328	J	0.198	4.84	0.033
Pretest Mean[1]	27.3					1.40					0.174					0.186					0.309				
Toxic Equivalency Factor (TEF)	0.0003					0.1					0.03					0.3					0.1				
FDA Action Limits[2]	x					x					x					x					x				
Eco. Effects Threshold[2]	x					x					x					x					x				
S. Atlantic Bight Background[2]	x					x					x					x					x				

TABLE 45
Analytical Results for Wet Weight Dioxins and Furans in *Neanthes virens* tissues

ANAMAR Environmental Consulting, Inc.

Analyte:	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					Octachlorodibenzofuran (OCDF)				
Sample-Replicate #	**Result ng/kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**
CHEC12-1 Comp Rep 1	ND	U	0.118	4.91	0.012	ND	U	0.166	4.91	0.017	ND	U	0.128	4.91	0.013	0.333	J	0.0913	4.91	0.003	ND	U	0.133	4.91	0.001	ND	U	0.212	9.81	0.000
CHEC12-1 Comp Rep 2	ND	U	0.152	4.92	0.015	ND	U	0.238	4.92	0.024	ND	U	0.169	4.92	0.017	0.269	JK	0.0642	4.92	0.003	ND	U	0.0829	4.92	0.001	ND	U	0.324	9.84	0.000
CHEC12-1 Comp Rep 3	ND	U	0.133	4.92	0.013	ND	U	0.197	4.92	0.020	ND	U	0.145	4.92	0.015	2.22	J	0.116	4.92	0.022	0.484	J	0.145	4.92	0.005	29.3	--	0.184	9.83	0.009
CHEC12-1 Comp Rep 4	ND	U	0.143	4.81	0.014	ND	U	0.217	4.81	0.022	ND	U	0.155	4.81	0.016	0.283	JK	0.0974	4.81	0.003	ND	U	0.127	4.81	0.001	ND	U	0.384	9.62	0.000
CHEC12-1 Comp Rep 5	ND	U	0.120	4.95	0.012	ND	U	0.174	4.95	0.017	ND	U	0.133	4.95	0.013	ND	U	0.116	4.95	0.001	ND	U	0.151	4.95	0.002	ND	U	0.265	9.89	0.000
CHEC12-1 Comp Mean[1]	0.133					0.198					0.146					0.644					0.196					6.10				
% of reference tissue	81					35					64					84					101					232				
REHR12 Comp Rep 1	ND	U	0.108	4.87	0.011	ND	U	0.176	4.87	0.018	ND	U	0.122	4.87	0.012	0.274	JK	0.0743	4.87	0.003	ND	U	0.108	4.87	0.001	0.471	J	0.184	9.74	0.000
REHR12 Comp Rep 2	ND	U	0.0803	4.90	0.008	ND	U	0.127	4.90	0.013	ND	U	0.0940	4.90	0.009	0.255	JK	0.0966	4.90	0.003	ND	U	0.125	4.90	0.001	0.226	J	0.173	9.79	0.000
REHR12 Comp Rep 3	ND	U	0.0937	4.94	0.009	ND	U	0.143	4.94	0.014	ND	U	0.107	4.94	0.011	0.282	JK	0.0822	4.94	0.003	ND	U	0.101	4.94	0.001	0.222	J	0.174	9.88	0.000
REHR12 Comp Rep 4	0.113	J	0.0873	4.99	0.011	ND	U	0.134	4.99	0.013	ND	U	0.102	4.99	0.010	0.269	J	0.0799	4.99	0.003	ND	U	0.0961	4.99	0.001	0.371	J	0.234	9.99	0.000
REHR12 Comp Rep 5	0.139	JK	0.0751	4.97	0.014	ND	U	0.112	4.97	0.011	ND	U	0.0845	4.97	0.008	0.340	J	0.0948	4.97	0.003	ND	U	0.111	4.97	0.001	0.491	J	0.196	9.93	0.000
REHR12 Comp Mean[1]	0.107					0.138					0.102					0.284					0.108					0.356				
% of reference tissue	65					24					45					37					56					14				
WLR12 Comp Rep 1	ND	U	0.195	4.94	0.020	ND	U	0.266	4.94	0.027	ND	U	0.224	4.94	0.022	ND	U	0.250	4.94	0.003	ND	U	0.360	4.94	0.004	ND	U	0.534	9.89	0.000
WLR12 Comp Rep 2	ND	U	0.212	4.98	0.021	ND	U	0.301	4.98	0.030	ND	U	0.256	4.98	0.026	ND	U	0.165	4.98	0.002	ND	U	0.256	4.98	0.003	ND	U	0.684	9.95	0.000
WLR12 Comp Rep 3	ND	U	0.121	4.84	0.012	ND	U	0.167	4.84	0.017	ND	U	0.141	4.84	0.014	0.292	BJ	0.170	4.84	0.003	ND	U	0.248	4.84	0.002	ND	U	0.381	9.67	0.000
WLR12 Comp Rep 4	ND	U	0.194	4.96	0.019	ND	U	0.273	4.96	0.027	ND	U	0.231	4.96	0.023	0.261	BJK	0.164	4.96	0.003	ND	U	0.247	4.96	0.002	ND	U	0.397	9.92	0.000
WLR12 Comp Rep 5	ND	U	0.135	4.85	0.014	ND	U	0.190	4.85	0.019	ND	U	0.160	4.85	0.016	0.273	BJ	0.161	4.85	0.003	ND	U	0.243	4.85	0.002	ND	U	0.428	9.69	0.000
WLR12 Comp Mean[1]	0.171					0.239					0.202					0.248					0.271					0.485				
% of reference tissue	105					42					88					32					140					18				
WUTB12 Comp Rep 1	ND	U	0.186	4.90	0.019	ND	U	0.261	4.90	0.026	ND	U	0.223	4.90	0.022	0.266	BJ	0.113	4.90	0.003	ND	U	0.168	4.90	0.002	ND	U	0.382	9.80	0.000
WUTB12 Comp Rep 2	ND	U	0.213	4.94	0.021	ND	U	0.296	4.94	0.030	ND	U	0.255	4.94	0.026	ND	U	0.180	4.94	0.002	ND	U	0.259	4.94	0.003	ND	U	0.614	9.89	0.000
WUTB12 Comp Rep 3	ND	U	0.149	4.78	0.015	ND	U	0.220	4.78	0.022	ND	U	0.185	4.78	0.019	0.282	BJ	0.180	4.78	0.003	ND	U	0.286	4.78	0.003	ND	U	0.637	9.56	0.000
WUTB12 Comp Rep 4	ND	U	0.167	4.91	0.017	ND	U	0.238	4.91	0.024	ND	U	0.205	4.91	0.021	0.245	BJ	0.185	4.91	0.002	ND	U	0.279	4.91	0.003	ND	U	0.597	9.81	0.000
WUTB12 Comp Rep 5	ND	U	1.32	4.96	0.132	ND	U	1.59	4.96	0.159	ND	U	1.58	4.96	0.158	ND	U	0.892	4.96	0.009	ND	U	1.30	4.96	0.013	ND	U	1.80	9.92	0.001
WUTB12 Comp Mean[1]	0.407					0.521					0.490					0.373					0.458					0.806				
% of reference tissue	249					91					214					48					236					31				

TABLE 45
Analytical Results for Wet Weight Dioxins and Furans in *Neanthes virens* tissues

ANAMAR Environmental Consulting, Inc.

Analyte:	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					Octachlorodibenzofuran (OCDF)				
Sample-Replicate #	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ
CCRK12 Comp Rep 1	ND	U	0.627	4.72	0.063	ND	U	1.13	4.72	0.113	ND	U	0.772	4.72	0.077	ND	U	0.807	4.72	0.008	ND	U	1.31	4.72	0.013	ND	U	2.04	9.44	0.001
CCRK12 Comp Rep 2	ND	U	0.616	4.99	0.062	ND	U	1.17	4.99	0.117	ND	U	0.773	4.99	0.077	ND	U	0.861	4.99	0.009	ND	U	1.42	4.99	0.014	ND	U	2.36	9.98	0.001
CCRK12 Comp Rep 3	ND	U	0.203	4.84	0.020	ND	U	0.284	4.84	0.028	ND	U	0.236	4.84	0.024	0.278	BJ	0.166	4.84	0.003	ND	U	0.266	4.84	0.003	ND	U	0.449	9.69	0.000
CCRK12 Comp Rep 4	ND	U	0.272	4.87	0.027	ND	U	0.359	4.87	0.036	ND	U	0.305	4.87	0.031	ND	U	0.194	4.87	0.002	ND	U	0.294	4.87	0.003	ND	U	0.568	9.75	0.000
CCRK12 Comp Rep 5	ND	U	0.165	4.78	0.017	ND	U	0.224	4.78	0.022	ND	U	0.188	4.78	0.019	ND	U	0.180	4.78	0.002	ND	U	0.284	4.78	0.003	ND	U	0.578	9.55	0.000
CCRK12 Comp Mean[1]	0.377					0.633					0.455					0.464					0.715					1.20				
% of reference tissue	230					110					199					60					368					46				
ORDT12 Comp Rep 1	ND	U	0.223	4.97	0.022	ND	U	0.288	4.97	0.029	ND	U	0.261	4.97	0.026	0.280	BJK	0.150	4.97	0.003	ND	U	0.229	4.97	0.002	ND	U	0.559	9.95	0.000
ORDT12 Comp Rep 2	ND	U	0.225	4.99	0.023	ND	U	0.297	4.99	0.030	ND	U	0.256	4.99	0.026	0.332	BJ	0.141	4.99	0.003	ND	U	0.208	4.99	0.002	ND	U	0.466	9.98	0.000
ORDT12 Comp Rep 3	ND	U	0.163	4.78	0.016	ND	U	0.216	4.78	0.022	ND	U	0.192	4.78	0.019	0.309	BJK	0.120	4.78	0.003	ND	U	0.177	4.78	0.002	ND	U	0.404	9.55	0.000
ORDT12 Comp Rep 4	ND	U	0.125	4.89	0.013	ND	U	0.163	4.89	0.016	ND	U	0.153	4.89	0.015	0.314	BJ	0.168	4.89	0.003	ND	U	0.251	4.89	0.003	ND	U	0.531	9.78	0.000
ORDT12 Comp Rep 5	ND	U	0.198	4.90	0.020	ND	U	0.259	4.90	0.026	ND	U	0.235	4.90	0.024	0.280	BJK	0.107	4.90	0.003	ND	U	0.161	4.90	0.002	ND	U	0.406	9.81	0.000
ORDT12 Comp Mean[1]	0.187					0.245					0.219					0.303					0.205					0.473				
% of reference tissue	114					43					96					39					106					18				
HGIW12 Comp Rep 1	ND	U	0.111	4.97	0.011	ND	U	0.168	4.97	0.017	ND	U	0.119	4.97	0.012	0.413	JK	0.0835	4.97	0.004	ND	U	0.128	4.97	0.001	ND	U	0.260	9.94	0.000
HGIW12 Comp Rep 2	ND	U	0.0844	4.84	0.008	ND	U	0.137	4.84	0.014	ND	U	0.0956	4.84	0.010	0.328	J	0.0852	4.84	0.003	ND	U	0.123	4.84	0.001	ND	U	0.314	9.67	0.000
HGIW12 Comp Rep 3	ND	U	0.804	4.91	0.080	ND	U	1.51	4.91	0.151	ND	U	0.948	4.91	0.095	ND	U	0.756	4.91	0.008	ND	U	1.20	4.91	0.012	ND	U	2.95	9.83	0.001
HGIW12 Comp Rep 4	ND	U	0.821	4.94	0.082	ND	U	1.54	4.94	0.154	ND	U	0.962	4.94	0.096	ND	U	0.942	4.94	0.009	ND	U	1.56	4.94	0.016	ND	U	3.00	9.89	0.001
HGIW12 Comp Rep 5	ND	U	0.812	4.99	0.081	ND	U	1.50	4.99	0.150	ND	U	0.944	4.99	0.094	ND	U	0.713	4.99	0.007	ND	U	1.18	4.99	0.012	ND	U	2.12	9.97	0.001
HGIW12 Comp Mean[1]	0.526					0.971					0.614					0.630					0.838					1.73				
% of reference tissue	322					169					268					82					432					66				
DANW12 Comp Rep 1	0.158	JK	0.0976	4.91	0.016	ND	U	0.156	4.91	0.016	ND	U	0.114	4.91	0.011	0.382	JK	0.0806	4.91	0.004	ND	U	0.118	4.91	0.001	ND	U	0.315	9.82	0.000
DANW12 Comp Rep 2	ND	U	0.129	4.92	0.013	ND	U	0.226	4.92	0.023	ND	U	0.148	4.92	0.015	0.282	JK	0.0733	4.92	0.003	ND	U	0.113	4.92	0.001	ND	U	0.364	9.84	0.000
DANW12 Comp Rep 3	ND	U	0.126	4.97	0.013	ND	U	0.201	4.97	0.020	ND	U	0.134	4.97	0.013	0.224	JK	0.0831	4.97	0.002	ND	U	0.125	4.97	0.001	ND	U	0.379	9.94	0.000
DANW12 Comp Rep 4	ND	U	0.107	5.00	0.011	ND	U	0.170	5.00	0.017	ND	U	0.113	5.00	0.011	0.243	J	0.0932	5.00	0.002	ND	U	0.135	5.00	0.001	ND	U	0.209	9.99	0.000
DANW12 Comp Rep 5	ND	U	0.107	4.86	0.011	ND	U	0.163	4.86	0.016	ND	U	0.113	4.86	0.011	0.247	JK	0.0980	4.86	0.002	ND	U	0.145	4.86	0.001	ND	U	0.336	9.71	0.000
DANW12 Comp Mean[1]	0.125					0.183					0.124					0.276					0.127					0.321				
% of reference tissue	77					32					54					36					66					12				

TABLE 45
Analytical Results for Wet Weight Dioxins and Furans in *Neanthes virens* tissues

ANAMAR Environmental Consulting, Inc.

Analyte:	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					Octachlorodibenzofuran (OCDF)				
Sample-Replicate #	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ
WLRW12 Comp Rep 1	ND	U	0.654	4.96	0.065	ND	U	1.17	4.96	0.117	ND	U	0.745	4.96	0.075	ND	U	0.742	4.96	0.007	ND	U	1.10	4.96	0.011	ND	U	2.04	9.91	0.001
WLRW12 Comp Rep 2	ND	U	0.581	4.82	0.058	ND	U	1.08	4.82	0.108	ND	U	0.691	4.82	0.069	ND	U	0.686	4.82	0.007	ND	U	1.09	4.82	0.011	ND	U	2.15	9.64	0.001
WLRW12 Comp Rep 3	ND	U	0.652	4.97	0.065	ND	U	1.19	4.97	0.119	ND	U	0.783	4.97	0.078	ND	U	0.698	4.97	0.007	ND	U	1.08	4.97	0.011	ND	U	2.23	9.94	0.001
WLRW12 Comp Rep 4	ND	U	0.641	4.96	0.064	ND	U	1.14	4.96	0.114	ND	U	0.731	4.96	0.073	ND	U	0.662	4.96	0.007	ND	U	1.03	4.96	0.010	ND	U	2.41	9.91	0.001
WLRW12 Comp Rep 5	ND	U	0.537	4.89	0.054	ND	U	0.909	4.89	0.091	ND	U	0.614	4.89	0.061	ND	U	0.632	4.89	0.006	ND	U	0.965	4.89	0.010	ND	U	1.70	9.78	0.001
WLRW12 Comp Mean[1]	0.613					1.10					0.713					0.684					1.05					2.11				
% of reference tissue	375					191					312					89					543					80				
ABMA12 Comp Rep 1	0.198	J	0.124	6.60	0.020	ND	U	0.221	6.60	0.022	0.199	JK	0.144	6.60	0.020	0.894	J	0.152	6.60	0.009	ND	U	0.236	6.60	0.002	2.53	J	0.388	13.2	0.001
ABMA12 Comp Rep 2	0.142	JK	0.116	6.15	0.014	ND	U	0.185	6.15	0.019	ND	U	0.134	6.15	0.013	0.910	J	0.115	6.15	0.009	ND	U	0.161	6.15	0.002	2.55	J	0.287	12.3	0.001
ABMA12 Comp Rep 3	0.164	JK	0.0996	6.69	0.016	ND	U	0.161	6.69	0.016	0.179	J	0.115	6.69	0.018	1.04	J	0.105	6.69	0.010	0.173	JK	0.142	6.69	0.002	3.23	JK	0.378	13.4	0.001
ABMA12 Comp Rep 4	0.183	JK	0.0932	6.58	0.018	ND	U	0.147	6.58	0.015	0.192	JK	0.106	6.58	0.019	0.834	J	0.126	6.58	0.008	ND	U	0.171	6.58	0.002	2.95	JK	0.288	13.2	0.001
ABMA12 Comp Rep 5	ND	U	0.118	6.12	0.012	ND	U	0.186	6.12	0.019	ND	U	0.132	6.12	0.013	1.02	J	0.112	6.12	0.010	ND	U	0.157	6.12	0.002	2.87	JK	0.301	12.2	0.001
ABMA12 Comp Mean[1]	0.161					0.180					0.167					0.940					0.180					2.83				
% of reference tissue	98					31					73					122					93					108				
RS-CH-A Rep 1	ND	U	0.0784	4.89	0.008	0.644	JK	0.110	4.89	0.064	0.470	BJK	0.0876	4.89	0.047	0.805	BJ	0.0454	4.89	0.008	0.301	JK	0.0597	4.89	0.003	2.08	BJ	0.302	9.77	0.001
RS-CH-A Rep 2	0.148	BJ	0.0461	4.88	0.015	0.579	JK	0.0637	4.88	0.058	0.147	BJK	0.0522	4.88	0.015	0.512	BJ	0.0163	4.88	0.005	ND	U	0.0206	4.88	0.000	1.37	BJ	0.233	9.77	0.000
RS-CH-A Rep 3	0.375	BJK	0.102	4.91	0.038	0.713	JK	0.154	4.91	0.071	0.389	BJK	0.117	4.91	0.039	0.985	BJ	0.0299	4.91	0.010	0.405	JK	0.0421	4.91	0.004	3.58	BJK	0.339	9.82	0.001
RS-CH-A Rep 4	ND	U	0.0346	4.72	0.003	0.812	JK	0.0519	4.72	0.081	ND	U	0.0381	4.72	0.004	0.641	BJK	0.0295	4.72	0.006	ND	U	0.0423	4.72	0.000	1.49	BJ	0.335	9.43	0.000
RS-CH-A Rep 5	0.182	JK	0.0897	4.62	0.018	ND	U	0.124	4.62	0.012	ND	U	0.0996	4.62	0.010	0.910	BJ	0.0507	4.62	0.009	0.201	JK	0.0585	4.62	0.002	4.61	BJ	0.167	9.25	0.001
RS-CH-A Mean[1]	0.164					0.574					0.229					0.771					0.194					2.63				
Pretest Tissue Rep 1	ND	U	0.190	4.98	0.019	ND	U	0.270	4.98	0.027	ND	U	0.219	4.98	0.022	1.09	BJK	0.0749	4.98	0.011	0.359	J	0.0940	4.98	0.004	2.79	BJ	0.266	9.96	0.001
Pretest Tissue Rep 2	0.465	BJ	0.104	4.95	0.047	0.809	JK	0.142	4.95	0.081	0.288	BJ	0.116	4.95	0.029	1.21	BJ	0.0616	4.95	0.012	0.244	J	0.0779	4.95	0.002	3.21	BJ	0.277	9.90	0.001
Pretest Tissue Rep 3	0.306	BJK	0.169	4.84	0.031	0.745	JK	0.229	4.84	0.075	ND	U	0.195	4.84	0.020	0.974	BJ	0.102	4.84	0.010	ND	U	0.132	4.84	0.001	3.24	BJ	0.300	9.68	0.001
Pretest Mean[1]	0.320					0.608					0.234					1.09					0.245					3.08				
Toxic Equivalency Factor (TEF)	0.1					0.1					0.1					0.01					0.01					0.0003				
FDA Action Limits[2]	x					x					x					x					x					x				
Eco. Effects Threshold[2]	x					x					x					x					x					x				
S. Atlantic Bight Background[2]	x					x					x					x					x					x				

TABLE 45
Analytical Results for Wet Weight Dioxins and Furans in *Neanthes virens* tissues

Analyte:	Total Tetra-Dioxins				Total Tetra-Furans				Total Penta-Dioxins				Total Penta-Furans				Total Hexa-Dioxins				Total Hexa-Furans				Total Hepta-Dioxins				Total Hepta-Furans			
Sample-Replicate #	Result ng/kg	Qualifier	MDL	MRL	Result ng/kg	Qualifier	MDL	MRL	Result ng/kg	Qualifier	MDL	MRL	Result ng/kg	Qualifier	MDL	MRL	Result ng/kg	Qualifier	MDL	MRL	Result ng/kg	Qualifier	MDL	MRL	Result ng/kg	Qualifier	MDL	MRL	Result ng/kg	Qualifier	MDL	MRL
CHEC12-1 Comp Rep 1	ND	U	0.193	0.981	0.746	J	0.0970	0.981	0.281	J	0.150	4.91	0.610	J	0.125	4.91	1.78	J	0.0811	4.91	ND	U	0.137	4.91	3.03	J	0.209	4.91	0.333	J	0.110	4.91
CHEC12-1 Comp Rep 2	ND	U	0.200	0.984	1.04	--	0.123	0.984	ND	U	0.150	4.92	0.445	J	0.0957	4.92	1.90	J	0.128	4.92	ND	U	0.180	4.92	0.871	J	0.0636	4.92	ND	U	0.0727	4.92
CHEC12-1 Comp Rep 3	ND	U	0.139	0.983	ND	U	0.111	0.983	ND	U	0.149	4.92	0.863	J	0.0758	4.92	0.715	J	0.158	4.92	ND	U	0.155	4.92	3.04	J	0.173	4.92	3.16	J	0.130	4.92
CHEC12-1 Comp Rep 4	ND	U	0.198	0.962	ND	U	0.151	0.962	ND	U	0.158	4.81	0.547	J	0.0843	4.81	ND	U	0.0918	4.81	ND	U	0.169	4.81	ND	U	0.122	4.81	ND	U	0.111	4.81
CHEC12-1 Comp Rep 5	ND	U	0.228	0.989	ND	U	0.193	0.989	ND	U	0.215	4.95	0.412	J	0.128	4.95	1.73	J	0.0636	4.95	ND	U	0.138	4.95	ND	U	0.135	4.95	ND	U	0.132	4.95
CHEC12-1 Comp Mean[1]	0.192				0.448				0.191				0.575				1.24				0.156				1.44				0.762			
% of reference tissue	77				35				146				40				146				21				21				51			
REHR12 Comp Rep 1	0.329	J	0.110	0.974	ND	U	0.0550	0.974	ND	U	0.0411	4.87	1.05	J	0.0355	4.87	0.977	J	0.0585	4.87	ND	U	0.131	4.87	0.717	J	0.0858	4.87	ND	U	0.0891	4.87
REHR12 Comp Rep 2	0.698	J	0.113	0.979	2.31	--	0.0936	0.979	ND	U	0.114	4.90	1.98	J	0.0807	4.90	0.770	J	0.150	4.90	0.127	J	0.0966	4.90	ND	U	0.175	4.90	0.138	J	0.110	4.90
REHR12 Comp Rep 3	ND	U	0.114	0.988	2.33	--	0.103	0.988	ND	U	0.0866	4.94	1.46	J	0.0654	4.94	0.378	J	0.103	4.94	ND	U	0.111	4.94	1.90	J	0.103	4.94	ND	U	0.0907	4.94
REHR12 Comp Rep 4	0.280	J	0.160	0.999	1.59	--	0.0797	0.999	ND	U	0.0777	4.99	0.715	J	0.0807	4.99	0.398	J	0.116	4.99	0.507	J	0.105	4.99	1.96	J	0.149	4.99	0.269	J	0.0875	4.99
REHR12 Comp Rep 5	0.745	J	0.126	0.993	3.40	--	0.0757	0.993	ND	U	0.129	4.97	2.28	J	0.107	4.97	1.36	J	0.127	4.97	0.513	J	0.0879	4.97	2.33	J	0.123	4.97	0.513	J	0.103	4.97
REHR12 Comp Mean[1]	0.433				1.94				0.0897				1.50				0.777				0.278				1.42				0.220			
% of reference tissue	175				151				69				105				91				38				21				15			
WLR12 Comp Rep 1	ND	U	0.395	0.989	0.785	J	0.293	0.989	ND	U	0.360	4.94	0.520	J	0.251	4.94	ND	U	0.247	4.94	ND	U	0.226	4.94	0.729	J	0.394	4.94	ND	U	0.299	4.94
WLR12 Comp Rep 2	ND	U	0.322	0.995	ND	U	0.312	0.995	ND	U	0.285	4.98	0.239	J	0.223	4.98	ND	U	0.289	4.98	ND	U	0.252	4.98	0.612	J	0.260	4.98	ND	U	0.205	4.98
WLR12 Comp Rep 3	ND	U	0.366	0.967	0.522	J	0.215	0.967	ND	U	0.286	4.84	0.539	J	0.207	4.84	ND	U	0.201	4.84	ND	U	0.142	4.84	1.75	J	0.307	4.84	ND	U	0.204	4.84
WLR12 Comp Rep 4	ND	U	0.273	0.992	1.23	--	0.276	0.992	ND	U	0.244	4.96	0.936	J	0.167	4.96	0.410	J	0.239	4.96	0.349	J	0.230	4.96	2.00	J	0.274	4.96	ND	U	0.200	4.96
WLR12 Comp Rep 5	ND	U	0.381	0.969	1.34	--	0.271	0.969	ND	U	0.291	4.85	1.55	J	0.214	4.85	ND	U	0.108	4.85	ND	U	0.160	4.85	1.14	J	0.236	4.85	0.273	J	0.197	4.85
WLR12 Comp Mean[1]	0.347				0.838				0.293				0.757				0.251				0.226				1.25				0.236			
% of reference tissue	140				65				225				53				29				31				18				16			
WUTB12 Comp Rep 1	ND	U	0.379	0.980	0.876	J	0.313	0.980	ND	U	0.330	4.90	0.746	J	0.270	4.90	1.03	J	0.221	4.90	ND	U	0.221	4.90	2.09	J	0.253	4.90	0.266	J	0.137	4.90
WUTB12 Comp Rep 2	ND	U	0.360	0.989	ND	U	0.278	0.989	ND	U	0.283	4.94	ND	U	0.301	4.94	0.719	J	0.303	4.94	ND	U	0.251	4.94	2.39	J	0.280	4.94	ND	U	0.215	4.94
WUTB12 Comp Rep 3	ND	U	0.412	0.956	1.06	--	0.292	0.956	ND	U	0.403	4.78	ND	U	0.299	4.78	0.809	J	0.206	4.78	ND	U	0.181	4.78	1.43	J	0.378	4.78	0.282	J	0.226	4.78
WUTB12 Comp Rep 4	ND	U	0.393	0.981	1.02	--	0.218	0.981	ND	U	0.305	4.91	0.835	J	0.184	4.91	0.948	J	0.241	4.91	ND	U	0.199	4.91	1.30	J	0.294	4.91	0.245	J	0.226	4.91
WUTB12 Comp Rep 5	ND	U	2.52	2.52	ND	U	2.22	2.22	ND	U	2.28	4.96	ND	U	2.06	4.96	ND	U	2.00	4.96	ND	U	1.50	4.96	ND	U	2.24	4.96	ND	U	1.07	4.96
WUTB12 Comp Mean[1]	0.813				1.09				0.720				0.848				1.10				0.470				1.89				0.416			
% of reference tissue	329				85				552				60				129				64				27				28			

TABLE 45
Analytical Results for Wet Weight Dioxins and Furans in *Neanthes virens* tissues

ANAMAR Environmental Consulting, Inc.

Analyte:	Total Tetra-Dioxins				Total Tetra-Furans				Total Penta-Dioxins				Total Penta-Furans				Total Hexa-Dioxins				Total Hexa-Furans				Total Hepta-Dioxins				Total Hepta-Furans			
Sample-Replicate #	Result ng/kg	Qualifier	MDL	MRL	Result ng/kg	Qualifier	MDL	MRL	Result ng/kg	Qualifier	MDL	MRL	Result ng/kg	Qualifier	MDL	MRL	Result ng/kg	Qualifier	MDL	MRL	Result ng/kg	Qualifier	MDL	MRL	Result ng/kg	Qualifier	MDL	MRL	Result ng/kg	Qualifier	MDL	MRL
CCRK12 Comp Rep 1	ND	U	1.17	1.17	ND	U	1.24	1.24	ND	U	1.33	4.72	1.85	J	0.800	4.72	ND	U	1.02	4.72	ND	U	0.790	4.72	ND	U	1.63	4.72	ND	U	1.02	4.72
CCRK12 Comp Rep 2	ND	U	1.26	1.26	ND	U	1.14	1.14	ND	U	1.31	4.99	ND	U	1.28	4.99	ND	U	1.46	4.99	ND	U	0.792	4.99	ND	U	1.44	4.99	ND	U	1.10	4.99
CCRK12 Comp Rep 3	ND	U	0.375	0.969	0.902	J	0.304	0.969	ND	U	0.352	4.84	1.32	J	0.235	4.84	0.399	J	0.201	4.84	ND	U	0.238	4.84	1.70	J	0.259	4.84	0.278	J	0.208	4.84
CCRK12 Comp Rep 4	ND	U	0.412	0.975	1.32	--	0.382	0.975	ND	U	0.426	4.87	0.990	J	0.319	4.87	ND	U	0.298	4.87	ND	U	0.311	4.87	1.10	J	0.391	4.87	ND	U	0.238	4.87
CCRK12 Comp Rep 5	ND	U	0.238	0.955	1.06	--	0.267	0.955	ND	U	0.361	4.78	0.581	J	0.247	4.78	ND	U	0.249	4.78	ND	U	0.192	4.78	1.65	J	0.334	4.78	ND	U	0.225	4.78
CCRK12 Comp Mean[1]	0.691				1.13				0.756				1.20				0.685				0.465				1.50				0.572			
% of reference tissue	279				88				579				85				80				63				22				38			
ORDT12 Comp Rep 1	0.962	J	0.311	0.995	1.16	--	0.259	0.995	ND	U	0.257	4.97	1.54	J	0.190	4.97	1.34	J	0.231	4.97	ND	U	0.257	4.97	2.93	J	0.206	4.97	ND	U	0.184	4.97
ORDT12 Comp Rep 2	ND	U	0.300	0.998	0.852	J	0.220	0.998	ND	U	0.292	4.99	0.572	J	0.204	4.99	1.66	J	0.251	4.99	0.316	J	0.259	4.99	2.50	J	0.275	4.99	0.332	J	0.170	4.99
ORDT12 Comp Rep 3	ND	U	0.206	0.955	0.993	--	0.211	0.955	ND	U	0.221	4.78	1.60	J	0.194	4.78	1.38	J	0.205	4.78	ND	U	0.192	4.78	2.44	J	0.204	4.78	0.190	J	0.145	4.78
ORDT12 Comp Rep 4	ND	U	0.320	0.978	ND	U	0.253	0.978	ND	U	0.224	4.89	0.729	J	0.191	4.89	1.95	J	0.177	4.89	ND	U	0.148	4.89	2.20	J	0.290	4.89	0.314	J	0.204	4.89
ORDT12 Comp Rep 5	ND	U	0.448	0.981	1.27	--	0.348	0.981	ND	U	0.324	4.90	1.02	J	0.253	4.90	1.80	J	0.267	4.90	ND	U	0.229	4.90	1.27	J	0.234	4.90	ND	U	0.130	4.90
ORDT12 Comp Mean[1]	0.447				0.906				0.264				1.09				1.63				0.228				2.27				0.230			
% of reference tissue	181				71				202				77				191				31				33				15			
HGIW12 Comp Rep 1	0.769	J	0.257	0.994	ND	U	0.182	0.994	ND	U	0.163	4.97	ND	U	0.134	4.97	ND	U	0.134	4.97	ND	U	0.130	4.97	2.78	J	0.125	4.97	0.216	J	0.106	4.97
HGIW12 Comp Rep 2	0.793	J	0.252	0.967	1.15	--	0.229	0.967	ND	U	0.155	4.84	0.932	J	0.123	4.84	1.45	J	0.105	4.84	0.312	J	0.103	4.84	1.88	J	0.132	4.84	0.328	J	0.105	4.84
HGIW12 Comp Rep 3	1.43	--	1.26	1.26	ND	U	0.919	0.983	ND	U	1.27	4.91	ND	U	1.02	4.91	1.61	J	0.988	4.91	ND	U	1.02	4.91	1.98	J	1.50	4.91	ND	U	0.946	4.91
HGIW12 Comp Rep 4	ND	U	1.72	1.72	1.30	--	0.936	0.989	ND	U	1.32	4.94	ND	U	1.27	4.94	2.48	J	1.16	4.94	ND	U	1.04	4.94	5.58	--	2.15	4.94	ND	U	1.21	4.94
HGIW12 Comp Rep 5	ND	U	1.02	1.02	1.07	--	0.971	0.997	ND	U	1.03	4.99	ND	U	0.876	4.99	ND	U	0.920	4.99	ND	U	1.03	4.99	1.91	J	1.49	4.99	ND	U	0.911	4.99
HGIW12 Comp Mean[1]	1.15				0.924				0.788				0.846				1.32				0.706				2.83				0.722			
% of reference tissue	463				72				603				60				155				96				41				49			
DANW12 Comp Rep 1	ND	U	0.224	0.982	0.905	J	0.169	0.982	ND	U	0.172	4.91	ND	U	0.125	4.91	1.06	J	0.193	4.91	ND	U	0.119	4.91	2.52	J	0.232	4.91	ND	U	0.0998	4.91
DANW12 Comp Rep 2	ND	U	0.259	0.984	0.929	J	0.237	0.984	ND	U	0.187	4.92	ND	U	0.135	4.92	0.434	J	0.160	4.92	ND	U	0.161	4.92	1.51	J	0.164	4.92	ND	U	0.0930	4.92
DANW12 Comp Rep 3	ND	U	0.279	0.994	1.07	--	0.182	0.994	ND	U	0.173	4.97	0.871	J	0.142	4.97	1.39	J	0.126	4.97	0.515	J	0.149	4.97	ND	U	0.224	4.97	ND	U	0.105	4.97
DANW12 Comp Rep 4	0.423	J	0.393	0.999	0.318	J	0.165	0.999	ND	U	0.159	5.00	0.916	J	0.121	5.00	ND	U	0.118	5.00	ND	U	0.126	5.00	1.98	J	0.181	5.00	0.243	J	0.115	5.00
DANW12 Comp Rep 5	ND	U	0.298	0.971	1.07	--	0.170	0.971	0.241	J	0.159	4.86	1.02	J	0.133	4.86	0.564	J	0.129	4.86	ND	U	0.125	4.86	8.12	--	0.180	4.86	ND	U	0.122	4.86
DANW12 Comp Mean[1]	0.297				0.858				0.186				0.613				0.713				0.209				2.87				0.133			
% of reference tissue	120				67				143				43				84				28				42				9			

TABLE 45
Analytical Results for Wet Weight Dioxins and Furans in *Neanthes virens* tissues

Analyte:	Total Tetra-Dioxins				Total Tetra-Furans				Total Penta-Dioxins				Total Penta-Furans				Total Hexa-Dioxins				Total Hexa-Furans				Total Hepta-Dioxins				Total Hepta-Furans			
Sample-Replicate #	**Result ng/kg**	**Qualifier**	**MDL**	**MRL**	**Result ng/kg**	**Qualifier**	**MDL**	**MRL**	**Result ng/kg**	**Qualifier**	**MDL**	**MRL**	**Result ng/kg**	**Qualifier**	**MDL**	**MRL**	**Result ng/kg**	**Qualifier**	**MDL**	**MRL**	**Result ng/kg**	**Qualifier**	**MDL**	**MRL**	**Result ng/kg**	**Qualifier**	**MDL**	**MRL**	**Result ng/kg**	**Qualifier**	**MDL**	**MRL**
WLRW12 Comp Rep 1	ND	U	0.989	0.991	ND	U	0.821	0.991	ND	U	1.03	4.96	1.14	J	0.800	4.96	ND	U	0.916	4.96	ND	U	0.806	4.96	ND	U	1.38	4.96	ND	U	0.897	4.96
WLRW12 Comp Rep 2	ND	U	1.02	1.02	1.42	--	0.789	0.964	ND	U	1.19	4.82	ND	U	0.876	4.82	10.8	--	1.10	4.82	ND	U	0.733	4.82	28.7	--	1.32	4.82	ND	U	0.858	4.82
WLRW12 Comp Rep 3	ND	U	1.03	1.03	ND	U	0.875	0.994	ND	U	1.16	4.97	ND	U	0.863	4.97	ND	U	0.983	4.97	ND	U	0.819	4.97	ND	U	0.983	4.97	ND	U	0.861	4.97
WLRW12 Comp Rep 4	ND	U	1.07	1.07	ND	U	0.790	0.991	ND	U	1.10	4.96	ND	U	0.613	4.96	ND	U	0.804	4.96	ND	U	0.787	4.96	ND	U	1.41	4.96	ND	U	0.820	4.96
WLRW12 Comp Rep 5	ND	U	0.969	0.978	ND	U	0.880	0.978	ND	U	1.17	4.89	0.991	J	0.987	4.89	ND	U	0.970	4.89	ND	U	0.655	4.89	ND	U	1.24	4.89	ND	U	0.777	4.89
WLRW12 Comp Mean[1]	1.02				0.957				1.13				0.897				2.89				0.760				6.74				0.843			
% of reference tissue	411				75				866				63				340				103				98				57			
ABMA12 Comp Rep 1	0.834	J	0.210	1.32	4.00	--	0.228	1.32	ND	U	0.148	6.60	3.57	J	0.155	6.60	4.90	J	0.164	6.60	2.21	J	0.154	6.60	9.81	--	0.153	6.60	2.83	J	0.194	6.60
ABMA12 Comp Rep 2	0.516	J	0.226	1.23	2.73	--	0.133	1.23	0.184	J	0.146	6.15	2.30	J	0.151	6.15	3.16	J	0.139	6.15	1.05	J	0.140	6.15	9.35	--	0.229	6.15	2.77	J	0.140	6.15
ABMA12 Comp Rep 3	1.32	J	0.230	1.34	5.36	--	0.194	1.34	0.533	J	0.152	6.69	2.17	J	0.159	6.69	4.01	J	0.211	6.69	1.38	J	0.121	6.69	10.4	--	0.180	6.69	3.40	J	0.125	6.69
ABMA12 Comp Rep 4	ND	U	0.234	1.32	2.86	--	0.113	1.32	0.232	J	0.102	6.58	2.41	J	0.137	6.58	2.97	J	0.230	6.58	1.50	J	0.112	6.58	9.77	--	0.241	6.58	2.84	J	0.151	6.58
ABMA12 Comp Rep 5	0.576	J	0.266	1.22	3.96	--	0.160	1.22	ND	U	0.153	6.12	3.79	J	0.164	6.12	1.81	J	0.152	6.12	0.254	J	0.141	6.12	12.3	--	0.304	6.12	3.32	J	0.136	6.12
ABMA12 Comp Mean[1]	0.696				**3.78**				0.250				2.85				3.37				1.28				10.33				3.03			
% of reference tissue	281				295				191				200				396				173				150				204			
RS-CH-A Rep 1	ND	U	0.265	0.977	1.74	--	0.114	0.977	ND	U	0.103	4.89	2.66	J	0.0718	4.89	ND	U	0.0939	4.89	0.731	J	0.0906	4.89	5.60	--	0.105	4.89	1.72	J	0.0518	4.89
RS-CH-A Rep 2	ND	U	0.211	0.977	0.381	J	0.0997	0.977	ND	U	0.0965	4.88	1.51	J	0.0885	4.88	0.431	J	0.0758	4.88	1.22	J	0.0530	4.88	2.67	J	0.175	4.88	1.27	J	0.0182	4.88
RS-CH-A Rep 3	ND	U	0.297	0.982	1.18	--	0.120	0.982	ND	U	0.171	4.91	0.726	J	0.103	4.91	0.950	J	0.0468	4.91	0.861	J	0.121	4.91	8.65	--	0.0804	4.91	0.985	J	0.0354	4.91
RS-CH-A Rep 4	ND	U	0.274	0.943	1.37	--	0.112	0.943	ND	U	0.187	4.72	ND	U	0.103	4.72	ND	U	0.0519	4.72	ND	U	0.0404	4.72	2.76	J	0.0557	4.72	ND	U	0.0351	4.72
RS-CH-A Rep 5	ND	U	0.190	0.925	1.73	--	0.128	0.925	ND	U	0.0953	4.62	2.11	J	0.0755	4.62	2.73	J	0.138	4.62	0.845	J	0.103	4.62	14.8	--	0.142	4.62	3.43	J	0.0544	4.62
RS-CH-A Mean[1]	0.247				1.28				0.131				1.42				0.851				0.739				6.90				1.49			
Pretest Tissue Rep 1	ND	U	0.126	0.996	0.315	J	0.0456	0.996	0.351	J	0.110	4.98	1.34	J	0.0998	4.98	1.02	J	0.0887	4.98	1.45	J	0.223	4.98	3.40	J	0.242	4.98	1.55	J	0.0835	4.98
Pretest Tissue Rep 2	ND	U	0.267	0.990	1.69	--	0.132	0.990	0.280	J	0.119	4.95	0.717	J	0.141	4.95	2.63	J	0.130	4.95	2.78	J	0.120	4.95	7.58	--	0.147	4.95	0.244	J	0.0690	4.95
Pretest Tissue Rep 3	ND	U	0.248	0.968	1.38	--	0.136	0.968	ND	U	0.0411	4.84	2.03	J	0.128	4.84	ND	U	0.0378	4.84	0.592	J	0.196	4.84	7.87	--	0.159	4.84	0.974	J	0.116	4.84
Pretest Mean[1]	0.214				1.13				0.224				1.36				1.23				1.61				6.28				0.923			
Toxic Equivalency Factor (TEF)	x				x				x				x				x				x				x				x			
FDA Action Limits[2]	x				x				x				x				x				x				x				x			
Eco. Effects Threshold[2]	x				x				x				x				x				x				x				x			
S. Atlantic Bight Background[2]	x				x				x				x				x				x				x				x			

[1] = Refer to Section 2.6.4 for an explanation of how the mean was calculated.
[2] Values and steady state factors are from Appendix H of the SERIM (EPA/USACE 2008)
Bolded Values = Mean concentrations of project tissues that are statistically significantly greater than the reference tissues.
x = No levels/limits published for parameter
B = Method blank contains contaminant above detection limit
C = Confirmation of the TCDF compound: When 2378-TCDF is detected on the DB-5 column, confirmation analyses are performed on a second column (DB-225). The confirmed result should be used in determining the TEQ value for TCDF.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
K = Ion abundances are outside laboratory control limits
ND = Non Detect
U = The compound was analyzed for, but was not detected at or above the MDL.
-- = no qualified or value needed

TABLE 46
Analytical Results for Wet Weight Dioxins and Furans in *Macoma nasuta* tissues

ANAMAR Environmental Consulting, Inc.

Analyte:		2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)				
Sample-Replicate #	Dioxin/Furan TEQ (ng/kg)	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ
CHEC12-1 Comp Rep 1	2.47	ND	U	0.554	0.968	0.554	ND	U	1.10	4.84	1.100	ND	U	1.91	4.84	0.191	ND	U	2.03	4.84	0.203	ND	U	1.87	4.84	0.187	4.18	J	2.78	4.84	0.042
CHEC12-1 Comp Rep 2	3.32	ND	U	0.522	0.944	0.522	ND	U	1.58	4.72	1.580	ND	U	3.04	4.72	0.304	ND	U	3.23	4.72	0.323	ND	U	2.98	4.72	0.298	ND	U	3.77	4.72	0.038
CHEC12-1 Comp Rep 3	3.06	ND	U	0.566	0.976	0.566	ND	U	1.46	4.88	1.460	ND	U	2.41	4.88	0.241	ND	U	2.56	4.88	0.256	ND	U	2.36	4.88	0.236	ND	U	3.96	4.88	0.040
CHEC12-1 Comp Rep 4	3.58	ND	U	0.719	0.961	0.719	ND	U	1.53	4.80	1.530	ND	U	3.39	4.80	0.339	ND	U	3.59	4.80	0.359	ND	U	3.31	4.80	0.331	ND	U	4.90	4.90	0.049
CHEC12-1 Comp Rep 5	3.05	ND	U	0.535	0.961	0.535	ND	U	1.41	4.81	1.410	ND	U	2.56	4.81	0.256	ND	U	2.81	4.81	0.281	ND	U	2.55	4.81	0.255	ND	U	4.09	4.81	0.041
CHEC12-1 Comp Mean[1]	**3.09**	0.579					1.42					2.66					2.84					2.61					4.18				
% of reference tissue	707	236					1592					5294					5350					3298					218				
REHR12 Comp Rep 1	4.41	ND	U	0.525	0.978	0.525	ND	U	2.40	4.89	2.400	ND	U	3.89	4.89	0.389	ND	U	4.20	4.89	0.420	ND	U	3.84	4.89	0.384	ND	U	4.85	4.89	0.049
REHR12 Comp Rep 2	3.88	ND	U	0.765	0.954	0.765	ND	U	1.87	4.77	1.870	ND	U	3.06	4.77	0.306	ND	U	3.18	4.77	0.318	ND	U	2.96	4.77	0.296	ND	U	4.07	4.77	0.041
REHR12 Comp Rep 3	3.75	ND	U	0.766	0.979	0.766	ND	U	1.78	4.90	1.780	ND	U	2.86	4.90	0.286	ND	U	3.12	4.90	0.312	ND	U	2.84	4.90	0.284	ND	U	4.63	4.90	0.046
REHR12 Comp Rep 4	3.71	ND	U	0.602	0.949	0.602	ND	U	1.94	4.74	1.940	ND	U	2.94	4.74	0.294	ND	U	3.16	4.74	0.316	ND	U	2.90	4.74	0.290	ND	U	4.43	4.74	0.044
REHR12 Comp Rep 5	3.33	ND	U	0.606	0.957	0.606	ND	U	1.49	4.79	1.490	ND	U	3.09	4.79	0.309	ND	U	3.33	4.79	0.333	ND	U	3.04	4.79	0.304	ND	U	4.29	4.79	0.043
REHR12 Comp Mean[1]	3.81	0.653					1.90					3.17					3.40					3.12					4.45				
% of reference tissue	871	266					2132					6301					6392					3931					232				
WLR12 Comp Rep 1	0.801	ND	U	0.453	0.969	0.453	ND	U	0.158	4.84	0.158	ND	U	0.138	4.84	0.014	ND	U	0.159	4.84	0.016	ND	U	0.146	4.84	0.015	0.793	J	0.156	4.84	0.008
WLR12 Comp Rep 2	0.655	ND	U	0.299	0.975	0.299	ND	U	0.166	4.88	0.166	ND	U	0.151	4.88	0.015	ND	U	0.184	4.88	0.018	ND	U	0.164	4.88	0.016	1.17	J	0.199	4.88	0.012
WLR12 Comp Rep 3	0.739	ND	U	0.348	0.968	0.348	ND	U	0.205	4.84	0.205	ND	U	0.123	4.84	0.012	ND	U	0.149	4.84	0.015	ND	U	0.133	4.84	0.013	0.817	JK	0.179	4.84	0.008
WLR12 Comp Rep 4	0.722	ND	U	0.318	0.948	0.318	ND	U	0.202	4.74	0.202	ND	U	0.163	4.74	0.016	ND	U	0.196	4.74	0.020	ND	U	0.176	4.74	0.018	0.692	JK	0.194	4.74	0.007
WLR12 Comp Rep 5	3.19	ND	U	0.792	0.969	0.792	ND	U	1.58	4.85	1.580	ND	U	1.87	4.85	0.187	ND	U	1.95	4.85	0.195	ND	U	1.81	4.85	0.181	ND	U	3.10	4.85	0.031
WLR12 Comp Mean[1]	1.22	0.442					0.462					0.489					0.528					0.486					1.31				
% of reference tissue	279	180					520					973					992					613					68				
WUTB12 Comp Rep 1	2.98	ND	U	0.652	0.975	0.652	ND	U	1.46	4.87	1.460	ND	U	1.84	4.87	0.184	ND	U	1.97	4.87	0.197	ND	U	1.81	4.87	0.181	6.86	--	2.67	4.87	0.069
WUTB12 Comp Rep 2	2.99	ND	U	0.565	0.970	0.565	ND	U	1.31	4.85	1.310	ND	U	2.17	4.85	0.217	ND	U	2.27	4.85	0.227	ND	U	2.10	4.85	0.210	9.89	K	2.55	4.85	0.099
WUTB12 Comp Rep 3	2.82	ND	U	0.541	0.959	0.541	ND	U	1.25	4.79	1.250	ND	U	1.97	4.79	0.197	ND	U	2.06	4.79	0.206	ND	U	1.91	4.79	0.191	10.0	--	3.34	4.79	0.100
WUTB12 Comp Rep 4	2.50	ND	U	0.486	0.959	0.486	ND	U	1.22	4.80	1.220	ND	U	1.92	4.80	0.192	ND	U	2.03	4.80	0.203	ND	U	1.87	4.80	0.187	ND	U	2.39	4.80	0.024
WUTB12 Comp Rep 5	3.08	ND	U	0.606	0.964	0.606	ND	U	1.38	4.82	1.380	ND	U	2.56	4.82	0.256	ND	U	2.73	4.82	0.273	ND	U	2.51	4.82	0.251	5.97	--	3.09	4.82	0.060
WUTB12 Comp Mean[1]	**2.88**	0.570					1.32					2.09					2.21					2.04					7.02				
% of reference tissue	657	232					1489					4161					4161					2574					365				

TABLE 46
Analytical Results for Wet Weight Dioxins and Furans in *Macoma nasuta* tissues

ANAMAR Environmental Consulting, Inc.

Analyte:		2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)				
Sample-Replicate #	Dioxin/Furan TEQ (ng/kg)	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ
CCRK12 Comp Rep 1	0.406	ND	U	0.264	0.979	0.264	ND	U	0.0457	4.90	0.046	ND	U	0.112	4.90	0.011	ND	U	0.122	4.90	0.012	ND	U	0.111	4.90	0.011	0.553	JK	0.0425	4.90	0.006
CCRK12 Comp Rep 2	0.300	ND	U	0.0968	0.975	0.097	ND	U	0.103	4.87	0.103	ND	U	0.0999	4.87	0.010	ND	U	0.106	4.87	0.011	ND	U	0.0975	4.87	0.010	0.656	JK	0.0642	4.87	0.007
CCRK12 Comp Rep 3	0.323	ND	U	0.175	0.980	0.175	ND	U	0.0687	4.90	0.069	ND	U	0.0677	4.90	0.007	ND	U	0.0700	4.90	0.007	ND	U	0.0653	4.90	0.007	0.642	J	0.0665	4.90	0.006
CCRK12 Comp Rep 4	0.325	ND	U	0.106	0.980	0.106	ND	U	0.0942	4.90	0.094	ND	U	0.130	4.90	0.013	ND	U	0.129	4.90	0.013	ND	U	0.122	4.90	0.012	0.722	J	0.158	4.90	0.007
CCRK12 Comp Rep 5	0.383	ND	U	0.161	0.973	0.161	ND	U	0.113	4.87	0.113	ND	U	0.0923	4.87	0.009	ND	U	0.0908	4.87	0.009	ND	U	0.0863	4.87	0.009	0.720	J	0.149	4.87	0.007
CCRK12 Comp Mean[1]	0.347	0.161					0.0849					0.100					0.104					0.0964					0.659				
% of reference tissue	79	65					95					200					195					122					34				
ORDT12 Comp Rep 1	0.592	ND	U	0.0940	0.966	0.094	0.179	J	0.0978	4.83	0.179	0.243	J	0.148	4.83	0.024	0.360	JK	0.136	4.83	0.036	0.478	JK	0.133	4.83	0.048	3.20	J	0.115	4.83	0.032
ORDT12 Comp Rep 2	0.372	ND	U	0.184	0.980	0.184	ND	U	0.0968	4.90	0.097	ND	U	0.120	4.90	0.012	ND	U	0.126	4.90	0.013	ND	U	0.116	4.90	0.012	0.836	J	0.0814	4.90	0.008
ORDT12 Comp Rep 3	0.415	ND	U	0.214	0.974	0.214	ND	U	0.0896	4.87	0.090	ND	U	0.117	4.87	0.012	ND	U	0.122	4.87	0.012	0.202	JK	0.113	4.87	0.020	0.850	JK	0.0540	4.87	0.009
ORDT12 Comp Rep 4	0.371	ND	U	0.176	0.963	0.176	ND	U	0.0885	4.82	0.089	ND	U	0.120	4.82	0.012	ND	U	0.125	4.82	0.013	ND	U	0.116	4.82	0.012	0.705	JK	0.106	4.82	0.007
ORDT12 Comp Rep 5	0.339	ND	U	0.174	0.975	0.174	ND	U	0.0921	4.88	0.092	ND	U	0.0586	4.88	0.006	ND	U	0.0601	4.88	0.006	ND	U	0.0562	4.88	0.006	0.633	JK	0.116	4.88	0.006
ORDT12 Comp Mean[1]	0.418	0.168					0.109					0.132					0.159					0.194					1.24				
% of reference tissue	95	69					123					262					298					244					65				
HGIW12 Comp Rep 1	1.10	ND	U	0.201	0.995	0.201	0.423	JK	0.105	4.97	0.423	0.392	J	0.141	4.97	0.039	0.461	J	0.144	4.97	0.046	0.469	JK	0.140	4.97	0.047	0.974	JK	0.0951	4.97	0.010
HGIW12 Comp Rep 2	0.349	ND	U	0.153	0.954	0.153	ND	U	0.0704	4.77	0.070	ND	U	0.0874	4.77	0.009	ND	U	0.0891	4.77	0.009	ND	U	0.0866	4.77	0.009	0.647	JK	0.111	4.77	0.006
HGIW12 Comp Rep 3	0.338	ND	U	0.152	0.946	0.152	ND	U	0.0530	4.73	0.053	ND	U	0.151	4.73	0.015	ND	U	0.159	4.73	0.016	ND	U	0.152	4.73	0.015	0.470	J	0.121	4.73	0.005
HGIW12 Comp Rep 4	0.447	ND	U	0.152	0.978	0.152	ND	U	0.144	4.89	0.144	ND	U	0.118	4.89	0.012	ND	U	0.143	4.89	0.014	ND	U	0.123	4.89	0.012	0.683	J	0.147	4.89	0.007
HGIW12 Comp Rep 5	0.463	ND	U	0.157	0.986	0.157	ND	U	0.157	4.93	0.157	ND	U	0.125	4.93	0.013	ND	U	0.156	4.93	0.016	ND	U	0.132	4.93	0.013	0.768	JK	0.202	4.93	0.008
HGIW12 Comp Mean[1]	0.538	0.163					0.169					0.175					0.202					0.193					0.708				
% of reference tissue	123	66					191					347					379					243					37				
DANW12 Comp Rep 1	0.456	ND	U	0.159	0.938	0.159	ND	U	0.137	4.69	0.137	ND	U	0.109	4.69	0.011	ND	U	0.140	4.69	0.014	ND	U	0.117	4.69	0.012	0.956	J	0.224	4.69	0.010
DANW12 Comp Rep 2	0.392	ND	U	0.172	0.941	0.172	ND	U	0.114	4.71	0.114	ND	U	0.120	4.71	0.012	ND	U	0.127	4.71	0.013	ND	U	0.117	4.71	0.012	0.438	JK	0.0383	4.71	0.004
DANW12 Comp Rep 3	0.316	ND	U	0.145	0.940	0.145	ND	U	0.0822	4.70	0.082	ND	U	0.0905	4.70	0.009	ND	U	0.0922	4.70	0.009	ND	U	0.0865	4.70	0.009	0.701	JK	0.0999	4.70	0.007
DANW12 Comp Rep 4	0.390	ND	U	0.227	0.941	0.227	ND	U	0.0490	4.71	0.049	ND	U	0.220	4.71	0.022	ND	U	0.225	4.71	0.023	ND	U	0.210	4.71	0.021	0.439	J	0.0769	4.71	0.004
DANW12 Comp Rep 5	0.260	ND	U	0.0992	0.992	0.099	ND	U	0.0707	4.96	0.071	ND	U	0.0806	4.96	0.008	ND	U	0.0834	4.96	0.008	ND	U	0.0776	4.96	0.008	ND	U	0.164	4.96	0.002
DANW12 Comp Mean[1]	0.363	0.160					0.0906					0.124					0.134					0.122					0.540				
% of reference tissue	83	65					102					247					251					153					28				

TABLE 46
Analytical Results for Wet Weight Dioxins and Furans in *Macoma nasuta* tissues

ANAMAR Environmental Consulting, Inc.

Analyte:		2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)				
Sample-Replicate #	Dioxin/Furan TEQ (ng/kg)	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ
WLRW12 Comp Rep 1	0.518	ND	U	0.209	0.983	0.209	ND	U	0.146	4.91	0.146	ND	U	0.168	4.91	0.017	ND	U	0.207	4.91	0.021	ND	U	0.176	4.91	0.018	0.337	J	0.210	4.91	0.003
WLRW12 Comp Rep 2	0.460	ND	U	0.153	0.990	0.153	ND	U	0.146	4.95	0.146	0.132	JK	0.0903	4.95	0.013	0.170	JK	0.103	4.95	0.017	0.211	J	0.0909	4.95	0.021	0.942	J	0.196	4.95	0.009
WLRW12 Comp Rep 3	0.426	ND	U	0.165	1.00	0.165	ND	U	0.138	5.00	0.138	ND	U	0.114	5.00	0.011	ND	U	0.130	5.00	0.013	ND	U	0.114	5.00	0.011	0.262	JK	0.149	5.00	0.003
WLRW12 Comp Rep 4	0.396	ND	U	0.154	0.983	0.154	ND	U	0.104	4.91	0.104	ND	U	0.140	4.91	0.014	ND	U	0.152	4.91	0.015	ND	U	0.137	4.91	0.014	0.527	J	0.140	4.91	0.005
WLRW12 Comp Rep 5	0.513	ND	U	0.188	0.998	0.188	ND	U	0.154	4.99	0.154	ND	U	0.186	4.99	0.019	ND	U	0.218	4.99	0.022	ND	U	0.191	4.99	0.019	0.269	J	0.158	4.99	0.003
WLRW12 Comp Mean[1]	0.463	0.174					0.138					0.148					0.175					0.166					0.467				
% of reference tissue	106	71					155					294					330					209					24				
ABMA12 Comp Rep 1	0.548	ND	U	0.200	1.18	0.200	ND	U	0.123	5.89	0.123	ND	U	0.161	5.89	0.016	0.278	J	0.180	5.89	0.028	ND	U	0.168	5.89	0.017	3.96	J	0.193	5.89	0.040
ABMA12 Comp Rep 2	0.642	ND	U	0.225	1.20	0.225	ND	U	0.192	5.98	0.192	ND	U	0.117	5.98	0.012	ND	U	0.131	5.98	0.013	0.324	J	0.122	5.98	0.032	4.03	J	0.220	5.98	0.040
ABMA12 Comp Rep 3	0.779	ND	U	0.380	1.40	0.380	ND	U	0.147	6.98	0.147	ND	U	0.187	6.98	0.019	ND	U	0.202	6.98	0.020	ND	U	0.192	6.98	0.019	4.48	J	0.202	6.98	0.045
ABMA12 Comp Rep 4	6.16	ND	U	0.641	1.10	0.641	ND	U	0.782	5.52	0.782	ND	U	0.980	5.52	0.098	6.09	--	1.02	5.52	0.609	3.32	JK	0.944	5.52	0.332	228	--	2.27	5.52	2.280
ABMA12 Comp Rep 5	1.72	ND	U	0.527	1.20	0.527	ND	U	0.712	5.98	0.712	ND	U	0.971	5.98	0.097	ND	U	1.02	5.98	0.102	ND	U	0.942	5.98	0.094	4.01	JK	0.847	5.98	0.040
ABMA12 Comp Mean[1]	**1.97**	0.395					0.391					0.483					1.54					0.989					48.9				
% of reference tissue	450	161					440					961					2905					1248					2545				
RS-CH-A Rep 1	0.404	ND	U	0.262	0.949	0.262	ND	U	0.0687	4.74	0.069	ND	U	0.0295	4.74	0.003	ND	U	0.0310	4.74	0.003	ND	U	0.0287	4.74	0.003	1.44	BJK	0.0947	4.74	0.014
RS-CH-A Rep 2	0.490	ND	U	0.280	0.962	0.280	ND	U	0.112	4.81	0.112	ND	U	0.0541	4.81	0.005	ND	U	0.0549	4.81	0.005	ND	U	0.0516	4.81	0.005	1.09	BJK	0.118	4.81	0.011
RS-CH-A Rep 3	0.377	ND	U	0.182	0.840	0.182	ND	U	0.101	4.20	0.101	ND	U	0.0219	4.20	0.002	ND	U	0.0226	4.20	0.002	ND	U	0.0210	4.20	0.002	0.838	BJ	0.141	4.20	0.008
RS-CH-A Rep 4	0.491	ND	U	0.281	0.980	0.281	ND	U	0.113	4.90	0.113	ND	U	0.0369	4.90	0.004	ND	U	0.0383	4.90	0.004	0.187	J	0.0357	4.90	0.019	1.13	BJK	0.0918	4.90	0.011
RS-CH-A Rep 5	0.427	ND	U	0.222	0.846	0.222	ND	U	0.0500	4.23	0.050	ND	U	0.109	4.23	0.011	ND	U	0.119	4.23	0.012	ND	U	0.108	4.23	0.011	5.11	B	0.146	4.23	0.051
RS-CH-A Mean[1]	0.438	0.245					0.0889					0.0503					0.0532					0.0793					1.92				
Pretest Tissue - 1	0.329	ND	U	0.162	0.773	0.162	ND	U	0.105	3.86	0.105	ND	U	0.0276	3.86	0.003	ND	U	0.0291	3.86	0.003	ND	U	0.0269	3.86	0.003	1.47	BJK	0.0461	3.86	0.015
Pretest Tissue - 2	0.428	ND	U	0.151	0.905	0.151	ND	U	0.194	4.52	0.194	ND	U	0.0491	4.52	0.005	ND	U	0.0513	4.52	0.005	ND	U	0.0476	4.52	0.005	1.03	BJK	0.0677	4.52	0.010
Pretest Tissue - 3	0.426	ND	U	0.218	0.747	0.218	ND	U	0.0967	3.73	0.097	ND	U	0.0658	3.73	0.007	ND	U	0.0684	3.73	0.007	ND	U	0.0637	3.73	0.006	1.67	BJ	0.130	3.73	0.017
Pretest Mean[1]	0.394	0.177					0.132					0.0475					0.0496					0.0461					1.39				
Toxic Equivalency Factor (TEF)	--	1.00					1.00					0.10					0.10					0.10					0.01				
FDA Action Limits[2]	x	x					x					x					x					x					x				
Eco. Effects Threshold[2]	x	x					x					x					x					x					x				
S. Atlantic Bight Background[2]	0.32-0.36	x					x					x					x					x					x				

TABLE 46
Analytical Results for Wet Weight Dioxins and Furans in *Macoma nasuta* tissues

ANAMAR Environmental Consulting, Inc.

Analyte:	Octachlorodibenzo-p-dioxin (OCDD)					2,3,7,8-Tetrachlorodibenzofuran (TCDF)					1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)				
Sample-Replicate #	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ
CHEC12-1 Comp Rep 1	29.5	B	1.92	9.68	0.009	ND	U	0.0723	0.968	0.007	ND	U	0.180	4.84	0.005	ND	U	0.173	4.84	0.052	ND	U	0.248	4.84	0.025
CHEC12-1 Comp Rep 2	17.4	B	3.08	9.44	0.005	ND	U	0.103	0.944	0.010	ND	U	0.189	4.72	0.006	ND	U	0.191	4.72	0.057	ND	U	0.391	4.72	0.039
CHEC12-1 Comp Rep 3	19.7	B	2.85	9.76	0.006	ND	U	0.0490	0.976	0.005	ND	U	0.194	4.88	0.006	ND	U	0.191	4.88	0.057	ND	U	0.430	4.88	0.043
CHEC12-1 Comp Rep 4	31.4	B	2.89	9.61	0.009	ND	U	0.0852	0.961	0.009	ND	U	0.208	4.80	0.006	ND	U	0.198	4.80	0.059	ND	U	0.370	4.80	0.037
CHEC12-1 Comp Rep 5	17.9	B	3.11	9.61	0.005	ND	U	0.154	0.961	0.015	ND	U	0.151	4.81	0.005	ND	U	0.146	4.81	0.044	ND	U	0.481	4.81	0.048
CHEC12-1 Comp Mean[1]	23.2					0.0927					0.184					0.180					0.384				
% of reference tissue	152					89					292					291					595				
REHR12 Comp Rep 1	13.0	BK	3.60	9.78	0.004	ND	U	0.154	0.978	0.015	ND	U	0.162	4.89	0.005	ND	U	0.165	4.89	0.050	ND	U	0.379	4.89	0.038
REHR12 Comp Rep 2	11.8	B	3.16	9.54	0.004	ND	U	0.133	0.954	0.013	ND	U	0.216	4.77	0.006	ND	U	0.219	4.77	0.066	ND	U	0.429	4.77	0.043
REHR12 Comp Rep 3	12.1	BK	2.98	9.79	0.004	ND	U	0.0886	0.979	0.009	ND	U	0.239	4.90	0.007	ND	U	0.249	4.90	0.075	ND	U	0.397	4.90	0.040
REHR12 Comp Rep 4	18.5	B	3.08	9.49	0.006	ND	U	0.174	0.949	0.017	ND	U	0.165	4.74	0.005	ND	U	0.157	4.74	0.047	ND	U	0.317	4.74	0.032
REHR12 Comp Rep 5	9.35	BJ	2.58	9.57	0.003	ND	U	0.212	0.957	0.021	ND	U	0.214	4.79	0.006	ND	U	0.219	4.79	0.066	ND	U	0.329	4.79	0.033
REHR12 Comp Mean[1]	13.0					0.152					0.199					0.202					0.370				
% of reference tissue	85					147					316					327					573				
WLR12 Comp Rep 1	5.62	BJ	0.214	9.69	0.002	ND	U	0.276	0.969	0.028	ND	U	0.137	4.84	0.004	ND	U	0.141	4.84	0.042	ND	U	0.143	4.84	0.014
WLR12 Comp Rep 2	8.32	BJ	0.288	9.75	0.002	ND	U	0.269	0.975	0.027	ND	U	0.121	4.88	0.004	ND	U	0.121	4.88	0.036	ND	U	0.133	4.88	0.013
WLR12 Comp Rep 3	5.56	BJ	0.234	9.68	0.002	ND	U	0.264	0.968	0.026	ND	U	0.126	4.84	0.004	ND	U	0.127	4.84	0.038	ND	U	0.151	4.84	0.015
WLR12 Comp Rep 4	7.28	BJ	0.316	9.48	0.002	ND	U	0.291	0.948	0.029	ND	U	0.138	4.74	0.004	ND	U	0.136	4.74	0.041	ND	U	0.145	4.74	0.015
WLR12 Comp Rep 5	12.8	B	2.14	9.69	0.004	ND	U	0.110	0.969	0.011	ND	U	0.250	4.85	0.008	ND	U	0.245	4.85	0.074	ND	U	0.271	4.85	0.027
WLR12 Comp Mean[1]	7.92					0.242					0.154					0.154					0.169				
% of reference tissue	52					233					245					250					261				
WUTB12 Comp Rep 1	36.9	B	1.61	9.75	0.011	ND	U	0.116	0.975	0.012	ND	U	0.170	4.87	0.005	ND	U	0.163	4.87	0.049	0.819	J	0.192	4.87	0.082
WUTB12 Comp Rep 2	103	B	1.69	9.70	0.031	ND	U	0.148	0.970	0.015	ND	U	0.165	4.85	0.005	ND	U	0.166	4.85	0.050	1.37	J	0.277	4.85	0.137
WUTB12 Comp Rep 3	95.4	B	1.36	9.59	0.029	ND	U	0.111	0.959	0.011	ND	U	0.161	4.79	0.005	ND	U	0.161	4.79	0.048	1.34	J	0.237	4.79	0.134
WUTB12 Comp Rep 4	17.6	B	2.06	9.59	0.005	ND	U	0.146	0.959	0.015	ND	U	0.134	4.80	0.004	ND	U	0.133	4.80	0.040	ND	U	0.280	4.80	0.028
WUTB12 Comp Rep 5	52.0	B	1.88	9.64	0.016	ND	U	0.140	0.964	0.014	ND	U	0.230	4.82	0.007	ND	U	0.229	4.82	0.069	0.567	J	0.245	4.82	0.057
WUTB12 Comp Mean[1]	**61.0**					0.132					0.172					0.170					0.875				
% of reference tissue	401					128					272					276					1356				

TABLE 46
Analytical Results for Wet Weight Dioxins and Furans in *Macoma nasuta* tissues

ANAMAR Environmental Consulting, Inc.

Analyte:	Octachlorodibenzo-p-dioxin (OCDD)					2,3,7,8-Tetrachlorodibenzofuran (TCDF)					1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)				
Sample-Replicate #	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ
CCRK12 Comp Rep 1	5.24	BJ	0.0970	9.79	0.002	ND	U	0.0768	0.979	0.008	ND	U	0.0441	4.90	0.001	ND	U	0.0441	4.90	0.013	ND	U	0.0745	4.90	0.007
CCRK12 Comp Rep 2	8.09	BJ	0.0521	9.75	0.002	ND	U	0.0517	0.975	0.005	ND	U	0.0599	4.87	0.002	ND	U	0.0585	4.87	0.018	ND	U	0.0851	4.87	0.009
CCRK12 Comp Rep 3	7.63	BJ	0.0332	9.80	0.002	ND	U	0.0683	0.980	0.007	ND	U	0.0618	4.90	0.002	ND	U	0.0598	4.90	0.018	ND	U	0.0524	4.90	0.005
CCRK12 Comp Rep 4	6.49	BJ	0.256	9.80	0.002	ND	U	0.0828	0.980	0.008	ND	U	0.0820	4.90	0.002	ND	U	0.0791	4.90	0.024	ND	U	0.101	4.90	0.010
CCRK12 Comp Rep 5	5.63	BJ	0.127	9.73	0.002	ND	U	0.0952	0.973	0.010	ND	U	0.0847	4.87	0.003	ND	U	0.0826	4.87	0.025	ND	U	0.0859	4.87	0.009
CCRK12 Comp Mean[1]	6.62					0.0750					0.0665					0.0648					0.0798				
% of reference tissue	43					72					105					105					124				
ORDT12 Comp Rep 1	27.1	B	0.157	9.66	0.008	ND	U	0.0675	0.966	0.007	0.181	J	0.0965	4.83	0.005	0.222	J	0.0946	4.83	0.067	0.218	JK	0.0932	4.83	0.022
ORDT12 Comp Rep 2	8.41	BJ	0.0729	9.80	0.003	ND	U	0.0770	0.980	0.008	ND	U	0.0451	4.90	0.001	ND	U	0.0445	4.90	0.013	ND	U	0.0475	4.90	0.005
ORDT12 Comp Rep 3	7.67	BJ	0.109	9.74	0.002	ND	U	0.0224	0.974	0.002	ND	U	0.0587	4.87	0.002	ND	U	0.0565	4.87	0.017	ND	U	0.0844	4.87	0.008
ORDT12 Comp Rep 4	11.7	B	0.0617	9.63	0.004	ND	U	0.0521	0.963	0.005	ND	U	0.0757	4.82	0.002	ND	U	0.0763	4.82	0.023	ND	U	0.0715	4.82	0.007
ORDT12 Comp Rep 5	7.96	BJ	0.0927	9.75	0.002	ND	U	0.0498	0.975	0.005	ND	U	0.0525	4.88	0.002	ND	U	0.0516	4.88	0.015	ND	U	0.0572	4.88	0.006
ORDT12 Comp Mean[1]	12.6					0.0538					0.0826					0.0902					0.0957				
% of reference tissue	83					52					131					146					148				
HGIW12 Comp Rep 1	7.99	J	0.123	9.95	0.002	ND	U	0.0947	0.995	0.009	0.438	JK	0.110	4.97	0.013	0.426	JK	0.106	4.97	0.128	0.468	J	0.0776	4.97	0.047
HGIW12 Comp Rep 2	8.03	J	0.144	9.54	0.002	ND	U	0.0706	0.954	0.007	ND	U	0.101	4.77	0.003	ND	U	0.0973	4.77	0.029	0.122	J	0.0559	4.77	0.012
HGIW12 Comp Rep 3	8.54	J	0.182	9.46	0.003	ND	U	0.119	0.946	0.012	ND	U	0.112	4.73	0.003	ND	U	0.108	4.73	0.032	ND	U	0.0767	4.73	0.008
HGIW12 Comp Rep 4	10.2	--	0.366	9.78	0.003	ND	U	0.114	0.978	0.011	ND	U	0.158	4.89	0.005	ND	U	0.141	4.89	0.042	ND	U	0.103	4.89	0.010
HGIW12 Comp Rep 5	12.2	--	0.411	9.86	0.004	ND	U	0.119	0.986	0.012	ND	U	0.109	4.93	0.003	ND	U	0.0947	4.93	0.028	ND	U	0.126	4.93	0.013
HGIW12 Comp Mean[1]	9.39					0.103					0.184					0.173					0.179				
% of reference tissue	62					100					291					281					277				
DANW12 Comp Rep 1	15.1	--	0.338	9.38	0.005	ND	U	0.153	0.938	0.015	ND	U	0.124	4.69	0.004	ND	U	0.111	4.69	0.033	ND	U	0.134	4.69	0.013
DANW12 Comp Rep 2	4.96	J	0.0693	9.41	0.001	ND	U	0.105	0.941	0.011	ND	U	0.0528	4.71	0.002	ND	U	0.0494	4.71	0.015	ND	U	0.0861	4.71	0.009
DANW12 Comp Rep 3	6.57	J	0.0606	9.40	0.002	ND	U	0.0595	0.940	0.006	ND	U	0.0713	4.70	0.002	ND	U	0.0689	4.70	0.021	ND	U	0.0581	4.70	0.006
DANW12 Comp Rep 4	7.27	J	0.0876	9.41	0.002	ND	U	0.0511	0.941	0.005	ND	U	0.0290	4.71	0.001	ND	U	0.0266	4.71	0.008	ND	U	0.0663	4.71	0.007
DANW12 Comp Rep 5	4.20	J	0.0709	9.92	0.001	ND	U	0.0943	0.992	0.009	ND	U	0.0671	4.96	0.002	ND	U	0.0647	4.96	0.019	ND	U	0.0724	4.96	0.007
DANW12 Comp Mean[1]	7.62					0.0926					0.0688					0.0641					0.0834				
% of reference tissue	50					89					109					104					129				

TABLE 46
Analytical Results for Wet Weight Dioxins and Furans in *Macoma nasuta* tissues

ANAMAR Environmental Consulting, Inc.

Analyte:	Octachlorodibenzo-p-dioxin (OCDD)					2,3,7,8-Tetrachlorodibenzofuran (TCDF)					1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)				
Sample-Replicate #	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ
WLRW12 Comp Rep 1	3.07	J	0.309	9.83	0.001	ND	U	0.116	0.983	0.012	ND	U	0.105	4.91	0.003	ND	U	0.0942	4.91	0.028	ND	U	0.144	4.91	0.014
WLRW12 Comp Rep 2	6.79	J	0.542	9.90	0.002	ND	U	0.128	0.990	0.013	ND	U	0.132	4.95	0.004	ND	U	0.116	4.95	0.035	0.117	JK	0.102	4.95	0.012
WLRW12 Comp Rep 3	3.36	J	0.253	10.0	0.001	ND	U	0.0940	1.00	0.009	ND	U	0.127	5.00	0.004	ND	U	0.107	5.00	0.032	ND	U	0.0926	5.00	0.009
WLRW12 Comp Rep 4	3.28	J	0.316	9.83	0.001	ND	U	0.102	0.983	0.010	ND	U	0.0936	4.91	0.003	ND	U	0.0848	4.91	0.025	ND	U	0.124	4.91	0.012
WLRW12 Comp Rep 5	2.55	J	0.214	9.98	0.001	ND	U	0.159	0.998	0.016	ND	U	0.128	4.99	0.004	ND	U	0.109	4.99	0.033	ND	U	0.134	4.99	0.013
WLRW12 Comp Mean[1]	3.81					0.120					0.117					0.102					0.122				
% of reference tissue	25					116					186					166					189				
ABMA12 Comp Rep 1	35.7	--	0.369	11.8	0.011	ND	U	0.159	1.18	0.016	ND	U	0.115	5.89	0.003	ND	U	0.119	5.89	0.036	0.216	JK	0.0908	5.89	0.022
ABMA12 Comp Rep 2	32.6	--	0.324	12.0	0.010	ND	U	0.190	1.20	0.019	ND	U	0.116	5.98	0.003	ND	U	0.115	5.98	0.035	ND	U	0.128	5.98	0.013
ABMA12 Comp Rep 3	41.2	--	0.481	14.0	0.012	ND	U	0.208	1.40	0.021	ND	U	0.164	6.98	0.005	ND	U	0.162	6.98	0.049	ND	U	0.131	6.98	0.013
ABMA12 Comp Rep 4	2970	--	0.489	11.0	0.891	ND	U	0.0672	1.10	0.007	0.287	JK	0.0745	5.52	0.009	0.356	JK	0.0721	5.52	0.107	1.31	JK	0.140	5.52	0.131
ABMA12 Comp Rep 5	37.8	--	0.660	12.0	0.011	ND	U	0.131	1.20	0.013	ND	U	0.129	5.98	0.004	ND	U	0.136	5.98	0.041	ND	U	0.171	5.98	0.017
ABMA12 Comp Mean[1]	623					0.151					0.162					0.178					0.391				
% of reference tissue	4099					146					257					288					606				
RS-CH-A Rep 1	10.3	B	0.0596	9.49	0.003	ND	U	0.109	0.949	0.011	ND	U	0.0761	4.74	0.002	ND	U	0.0752	4.74	0.023	ND	U	0.0141	4.74	0.001
RS-CH-A Rep 2	8.87	BJ	0.0691	9.62	0.003	ND	U	0.122	0.962	0.012	ND	U	0.0649	4.81	0.002	ND	U	0.0624	4.81	0.019	ND	U	0.0804	4.81	0.008
RS-CH-A Rep 3	6.10	BJ	0.0420	8.40	0.002	ND	U	0.0877	0.840	0.009	ND	U	0.0483	4.20	0.001	ND	U	0.0469	4.20	0.014	ND	U	0.118	4.20	0.012
RS-CH-A Rep 4	7.38	BJ	0.0879	9.80	0.002	ND	U	0.143	0.980	0.014	ND	U	0.0834	4.90	0.003	ND	U	0.0816	4.90	0.024	ND	U	0.0375	4.90	0.004
RS-CH-A Rep 5	43.4	B	0.199	8.46	0.013	ND	U	0.0567	0.846	0.006	ND	U	0.0429	4.23	0.001	ND	U	0.0425	4.23	0.013	ND	U	0.0728	4.23	0.007
RS-CH-A Mean[1]	15.2					0.104					0.0631					0.0617					0.0646				
Pretest Tissue - 1	9.63	B	0.0793	7.73	0.003	ND	U	0.0379	0.773	0.004	ND	U	0.0436	3.86	0.001	ND	U	0.0421	3.86	0.013	ND	U	0.0413	3.86	0.004
Pretest Tissue - 2	7.32	BJ	0.0951	9.05	0.002	ND	U	0.126	0.905	0.013	ND	U	0.0552	4.52	0.002	ND	U	0.0525	4.52	0.016	ND	U	0.0594	4.52	0.006
Pretest Tissue - 3	11.1	B	0.0414	7.47	0.003	ND	U	0.112	0.747	0.011	ND	U	0.0575	3.73	0.002	ND	U	0.0549	3.73	0.016	ND	U	0.0920	3.73	0.009
Pretest Mean[1]	9.35					0.0920					0.0521					0.0498					0.0642				
Toxic Equivalency Factor (TEF)	0.0003					0.10					0.03					0.30					0.10				
FDA Action Limits[2]	x					x					x					x					x				
Eco. Effects Threshold[2]	x					x					x					x					x				
S. Atlantic Bight Background[2]	x					x					x					x					x				

TABLE 46
Analytical Results for Wet Weight Dioxins and Furans in *Macoma nasuta* tissues

ANAMAR Environmental Consulting, Inc.

Analyte:	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					Octachlorodibenzofuran (OCDF)				
Sample-Replicate #	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**
CHEC12-1 Comp Rep 1	ND	U	0.208	4.84	0.021	ND	U	0.321	4.84	0.032	ND	U	0.231	4.84	0.023	1.00	JK	0.364	4.84	0.010	ND	U	0.525	4.84	0.005	2.94	J	0.509	9.68	0.001
CHEC12-1 Comp Rep 2	ND	U	0.332	4.72	0.033	ND	U	0.521	4.72	0.052	ND	U	0.374	4.72	0.037	ND	U	0.565	4.72	0.006	ND	U	0.830	4.72	0.008	ND	U	0.754	9.44	0.000
CHEC12-1 Comp Rep 3	ND	U	0.353	4.88	0.035	ND	U	0.560	4.88	0.056	ND	U	0.396	4.88	0.040	ND	U	0.612	4.88	0.006	ND	U	0.885	4.88	0.009	ND	U	0.921	9.76	0.000
CHEC12-1 Comp Rep 4	ND	U	0.310	4.80	0.031	ND	U	0.474	4.80	0.047	ND	U	0.366	4.80	0.037	ND	U	0.516	4.80	0.005	ND	U	0.727	4.80	0.007	3.23	J	0.673	9.61	0.001
CHEC12-1 Comp Rep 5	ND	U	0.388	4.81	0.039	ND	U	0.599	4.81	0.060	ND	U	0.451	4.81	0.045	ND	U	0.387	4.81	0.004	ND	U	0.532	4.81	0.005	1.22	JK	0.728	9.61	0.000
CHEC12-1 Comp Mean[1]	0.318					0.495					0.364					0.616					0.700					1.81				
% of reference tissue	581					635					595					179					890					111				
REHR12 Comp Rep 1	ND	U	0.311	4.89	0.031	ND	U	0.481	4.89	0.048	ND	U	0.380	4.89	0.038	ND	U	0.449	4.89	0.004	ND	U	0.648	4.89	0.006	ND	U	0.937	9.78	0.000
REHR12 Comp Rep 2	ND	U	0.359	4.77	0.036	ND	U	0.564	4.77	0.056	ND	U	0.434	4.77	0.043	ND	U	0.518	4.77	0.005	ND	U	0.712	4.77	0.007	ND	U	0.882	9.54	0.000
REHR12 Comp Rep 3	ND	U	0.334	4.90	0.033	ND	U	0.526	4.90	0.053	ND	U	0.404	4.90	0.040	ND	U	0.484	4.90	0.005	ND	U	0.691	4.90	0.007	1.11	J	0.798	9.79	0.000
REHR12 Comp Rep 4	ND	U	0.261	4.74	0.026	ND	U	0.426	4.74	0.043	ND	U	0.318	4.74	0.032	ND	U	0.475	4.74	0.005	ND	U	0.688	4.74	0.007	1.95	J	0.829	9.49	0.001
REHR12 Comp Rep 5	ND	U	0.278	4.79	0.028	ND	U	0.427	4.79	0.043	ND	U	0.330	4.79	0.033	ND	U	0.482	4.79	0.005	ND	U	0.686	4.79	0.007	ND	U	0.891	9.57	0.000
REHR12 Comp Mean[1]	0.309					0.485					0.373					0.482					0.685					1.15				
% of reference tissue	563					622					610					140					871					71				
WLR12 Comp Rep 1	ND	U	0.122	4.84	0.012	ND	U	0.186	4.84	0.019	ND	U	0.145	4.84	0.015	0.160	JK	0.0628	4.84	0.002	ND	U	0.0834	4.84	0.001	0.783	J	0.303	9.69	0.000
WLR12 Comp Rep 2	ND	U	0.112	4.88	0.011	ND	U	0.168	4.88	0.017	ND	U	0.136	4.88	0.014	0.235	J	0.114	4.88	0.002	ND	U	0.148	4.88	0.001	1.37	J	0.287	9.75	0.000
WLR12 Comp Rep 3	ND	U	0.133	4.84	0.013	ND	U	0.200	4.84	0.020	ND	U	0.157	4.84	0.016	0.218	J	0.0850	4.84	0.002	ND	U	0.110	4.84	0.001	1.00	J	0.405	9.68	0.000
WLR12 Comp Rep 4	ND	U	0.129	4.74	0.013	ND	U	0.193	4.74	0.019	ND	U	0.156	4.74	0.016	0.174	JK	0.0696	4.74	0.002	ND	U	0.0918	4.74	0.001	0.881	JK	0.386	9.48	0.000
WLR12 Comp Rep 5	ND	U	0.225	4.85	0.023	ND	U	0.359	4.85	0.036	ND	U	0.273	4.85	0.027	0.604	J	0.366	4.85	0.006	ND	U	0.546	4.85	0.005	1.90	J	0.485	9.69	0.001
WLR12 Comp Mean[1]	0.144					0.221					0.173					0.278					0.196					1.19				
% of reference tissue	263					284					284					81					249					73				
WUTB12 Comp Rep 1	ND	U	0.158	4.87	0.016	ND	U	0.241	4.87	0.024	ND	U	0.189	4.87	0.019	1.62	JK	0.369	4.87	0.016	ND	U	0.502	4.87	0.005	4.75	J	0.484	9.75	0.001
WUTB12 Comp Rep 2	ND	U	0.237	4.85	0.024	ND	U	0.359	4.85	0.036	ND	U	0.273	4.85	0.027	2.97	J	0.275	4.85	0.030	ND	U	0.378	4.85	0.004	9.31	J	0.354	9.70	0.003
WUTB12 Comp Rep 3	ND	U	0.197	4.79	0.020	ND	U	0.307	4.79	0.031	ND	U	0.241	4.79	0.024	2.77	J	0.404	4.79	0.028	ND	U	0.583	4.79	0.006	8.73	J	0.490	9.59	0.003
WUTB12 Comp Rep 4	ND	U	0.227	4.80	0.023	ND	U	0.354	4.80	0.035	ND	U	0.275	4.80	0.028	0.678	J	0.328	4.80	0.007	ND	U	0.460	4.80	0.005	1.59	JK	0.411	9.59	0.000
WUTB12 Comp Rep 5	ND	U	0.206	4.82	0.021	ND	U	0.314	4.82	0.031	ND	U	0.252	4.82	0.025	1.33	J	0.309	4.82	0.013	0.487	J	0.416	4.82	0.005	4.57	JK	0.467	9.64	0.001
WUTB12 Comp Mean[1]	0.205					0.315					0.246					1.87					0.482					5.79				
% of reference tissue	374					404					402					546					613					354				

TABLE 46
Analytical Results for Wet Weight Dioxins and Furans in *Macoma nasuta* tissues

ANAMAR Environmental Consulting, Inc.

Analyte:	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					Octachlorodibenzofuran (OCDF)				
Sample-Replicate #	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**
CCRK12 Comp Rep 1	ND	U	0.0608	4.90	0.006	ND	U	0.0974	4.90	0.010	ND	U	0.0666	4.90	0.007	ND	U	0.0835	4.90	0.001	ND	U	0.125	4.90	0.001	ND	U	0.258	9.79	0.000
CCRK12 Comp Rep 2	ND	U	0.0689	4.87	0.007	ND	U	0.108	4.87	0.011	ND	U	0.0776	4.87	0.008	ND	U	0.0804	4.87	0.001	ND	U	0.116	4.87	0.001	ND	U	0.222	9.75	0.000
CCRK12 Comp Rep 3	ND	U	0.0447	4.90	0.004	ND	U	0.0659	4.90	0.007	ND	U	0.0491	4.90	0.005	ND	U	0.0965	4.90	0.001	ND	U	0.129	4.90	0.001	ND	U	0.259	9.80	0.000
CCRK12 Comp Rep 4	ND	U	0.0848	4.90	0.008	ND	U	0.128	4.90	0.013	ND	U	0.0969	4.90	0.010	0.133	J	0.0781	4.90	0.001	ND	U	0.0953	4.90	0.001	ND	U	0.184	9.80	0.000
CCRK12 Comp Rep 5	ND	U	0.0760	4.87	0.008	ND	U	0.103	4.87	0.010	ND	U	0.0820	4.87	0.008	ND	U	0.0902	4.87	0.001	ND	U	0.111	4.87	0.001	ND	U	0.190	9.73	0.000
CCRK12 Comp Mean[1]	0.0670					0.100					0.0744					0.0967					0.115					0.223				
% of reference tissue	122					129					122					28					147					14				
ORDT12 Comp Rep 1	0.202	JK	0.0832	4.83	0.020	0.178	JK	0.120	4.83	0.018	0.233	J	0.0901	4.83	0.023	0.608	J	0.0791	4.83	0.006	0.183	JK	0.106	4.83	0.002	2.00	J	0.170	9.66	0.001
ORDT12 Comp Rep 2	ND	U	0.0398	4.90	0.004	ND	U	0.0616	4.90	0.006	ND	U	0.0445	4.90	0.004	ND	U	0.0951	4.90	0.001	ND	U	0.139	4.90	0.001	ND	U	0.370	9.80	0.000
ORDT12 Comp Rep 3	ND	U	0.0682	4.87	0.007	ND	U	0.108	4.87	0.011	ND	U	0.0758	4.87	0.008	ND	U	0.0873	4.87	0.001	ND	U	0.127	4.87	0.001	ND	U	0.148	9.74	0.000
ORDT12 Comp Rep 4	ND	U	0.0574	4.82	0.006	ND	U	0.0904	4.82	0.009	ND	U	0.0625	4.82	0.006	ND	U	0.0690	4.82	0.001	ND	U	0.0992	4.82	0.001	ND	U	0.130	9.63	0.000
ORDT12 Comp Rep 5	ND	U	0.0475	4.88	0.005	ND	U	0.0742	4.88	0.007	ND	U	0.0535	4.88	0.005	0.109	JK	0.0361	4.88	0.001	ND	U	0.0504	4.88	0.001	ND	U	0.180	9.75	0.000
ORDT12 Comp Mean[1]	0.0830					0.102					0.0939					0.194					0.120					0.566				
% of reference tissue	151					132					153					56					152					35				
HGIW12 Comp Rep 1	0.414	JK	0.0653	4.97	0.041	0.415	J	0.0935	4.97	0.042	0.403	J	0.0731	4.97	0.040	0.356	J	0.0571	4.97	0.004	0.332	JK	0.0778	4.97	0.003	0.936	J	0.223	9.95	0.000
HGIW12 Comp Rep 2	0.124	JK	0.0479	4.77	0.012	0.0999	JK	0.0700	4.77	0.010	0.135	J	0.0531	4.77	0.014	0.150	JK	0.0706	4.77	0.002	ND	U	0.0962	4.77	0.001	0.328	JK	0.145	9.54	0.000
HGIW12 Comp Rep 3	ND	U	0.0651	4.73	0.007	ND	U	0.0941	4.73	0.009	ND	U	0.0735	4.73	0.007	ND	U	0.0489	4.73	0.000	ND	U	0.0655	4.73	0.001	ND	U	0.123	9.46	0.000
HGIW12 Comp Rep 4	ND	U	0.0827	4.89	0.008	ND	U	0.128	4.89	0.013	ND	U	0.102	4.89	0.010	ND	U	0.101	4.89	0.001	ND	U	0.119	4.89	0.001	ND	U	0.313	9.78	0.000
HGIW12 Comp Rep 5	ND	U	0.102	4.93	0.010	ND	U	0.147	4.93	0.015	ND	U	0.116	4.93	0.012	ND	U	0.159	4.93	0.002	ND	U	0.187	4.93	0.002	ND	U	0.303	9.86	0.000
HGIW12 Comp Mean[1]	0.158					0.177					0.166					0.163					0.160					0.401				
% of reference tissue	288					227					271					47					203					24				
DANW12 Comp Rep 1	ND	U	0.110	4.69	0.011	ND	U	0.160	4.69	0.016	ND	U	0.134	4.69	0.013	ND	U	0.132	4.69	0.001	ND	U	0.142	4.69	0.001	ND	U	0.323	9.38	0.000
DANW12 Comp Rep 2	ND	U	0.0682	4.71	0.007	ND	U	0.117	4.71	0.012	ND	U	0.0757	4.71	0.008	ND	U	0.0686	4.71	0.001	ND	U	0.104	4.71	0.001	ND	U	0.210	9.41	0.000
DANW12 Comp Rep 3	ND	U	0.0474	4.70	0.005	ND	U	0.0771	4.70	0.008	ND	U	0.0549	4.70	0.005	ND	U	0.0305	4.70	0.000	ND	U	0.0444	4.70	0.000	ND	U	0.284	9.40	0.000
DANW12 Comp Rep 4	ND	U	0.0526	4.71	0.005	ND	U	0.0868	4.71	0.009	ND	U	0.0595	4.71	0.006	ND	U	0.0688	4.71	0.001	ND	U	0.0991	4.71	0.001	ND	U	0.184	9.41	0.000
DANW12 Comp Rep 5	ND	U	0.0619	4.96	0.006	ND	U	0.0964	4.96	0.010	ND	U	0.0711	4.96	0.007	ND	U	0.0724	4.96	0.001	ND	U	0.0974	4.96	0.001	ND	U	0.181	9.92	0.000
DANW12 Comp Mean[1]	0.0680					0.107					0.0790					0.0745					0.0974					0.236				
% of reference tissue	124					138					129					22					124					14				

TABLE 46
Analytical Results for Wet Weight Dioxins and Furans in *Macoma nasuta* tissues

ANAMAR Environmental Consulting, Inc.

Analyte:	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					Octachlorodibenzofuran (OCDF)				
Sample-Replicate #	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**
WLRW12 Comp Rep 1	ND	U	0.117	4.91	0.012	ND	U	0.179	4.91	0.018	ND	U	0.137	4.91	0.014	ND	U	0.123	4.91	0.001	ND	U	0.138	4.91	0.001	ND	U	0.265	9.83	0.000
WLRW12 Comp Rep 2	ND	U	0.0806	4.95	0.008	ND	U	0.121	4.95	0.012	0.108	J	0.0941	4.95	0.011	0.224	J	0.116	4.95	0.002	ND	U	0.133	4.95	0.001	ND	U	0.384	9.90	0.000
WLRW12 Comp Rep 3	ND	U	0.0762	5.00	0.008	ND	U	0.110	5.00	0.011	ND	U	0.0884	5.00	0.009	ND	U	0.0900	5.00	0.001	ND	U	0.104	5.00	0.001	ND	U	0.217	10.0	0.000
WLRW12 Comp Rep 4	ND	U	0.102	4.91	0.010	ND	U	0.139	4.91	0.014	ND	U	0.118	4.91	0.012	ND	U	0.0987	4.91	0.001	ND	U	0.108	4.91	0.001	ND	U	0.260	9.83	0.000
WLRW12 Comp Rep 5	ND	U	0.115	4.99	0.012	ND	U	0.158	4.99	0.016	ND	U	0.129	4.99	0.013	ND	U	0.111	4.99	0.001	ND	U	0.122	4.99	0.001	ND	U	0.290	9.98	0.000
WLRW12 Comp Mean[1]	0.0982					0.141					0.116					0.129					0.121					0.283				
% of reference tissue	179					182					190					38					154					17				
ABMA12 Comp Rep 1	ND	U	0.0753	5.89	0.008	ND	U	0.118	5.89	0.012	ND	U	0.0854	5.89	0.009	0.681	J	0.0998	5.89	0.007	0.194	JK	0.138	5.89	0.002	2.19	J	0.335	11.8	0.001
ABMA12 Comp Rep 2	ND	U	0.102	5.98	0.010	ND	U	0.167	5.98	0.017	ND	U	0.113	5.98	0.011	0.650	J	0.142	5.98	0.007	ND	U	0.212	5.98	0.002	2.12	J	0.232	12.0	0.001
ABMA12 Comp Rep 3	ND	U	0.106	6.98	0.011	ND	U	0.173	6.98	0.017	ND	U	0.115	6.98	0.012	0.753	J	0.123	6.98	0.008	ND	U	0.185	6.98	0.002	2.95	JK	0.327	14.0	0.001
ABMA12 Comp Rep 4	0.332	JK	0.124	5.52	0.033	ND	U	0.166	5.52	0.017	0.652	J	0.144	5.52	0.065	11.4	--	0.233	5.52	0.114	1.13	J	0.262	5.52	0.011	106	--	0.301	11.0	0.032
ABMA12 Comp Rep 5	ND	U	0.146	5.98	0.015	ND	U	0.229	5.98	0.023	ND	U	0.166	5.98	0.017	0.425	JK	0.144	5.98	0.004	ND	U	0.185	5.98	0.002	2.28	JK	0.248	12.0	0.001
ABMA12 Comp Mean[1]	0.152					0.171					0.226					2.78					0.381					23.1				
% of reference tissue	278					219					370					810					485					1413				
RS-CH-A Rep 1	ND	U	0.0116	4.74	0.001	ND	U	0.0173	4.74	0.002	ND	U	0.0133	4.74	0.001	0.414	BJK	0.0672	4.74	0.004	ND	U	0.0879	4.74	0.001	1.28	BJ	0.203	9.49	0.000
RS-CH-A Rep 2	ND	U	0.0662	4.81	0.007	ND	U	0.0952	4.81	0.010	ND	U	0.0768	4.81	0.008	0.202	BJK	0.0743	4.81	0.002	ND	U	0.0989	4.81	0.001	1.20	BJ	0.314	9.62	0.000
RS-CH-A Rep 3	ND	U	0.103	4.20	0.010	ND	U	0.144	4.20	0.014	ND	U	0.111	4.20	0.011	0.368	BJ	0.0827	4.20	0.004	ND	U	0.111	4.20	0.001	0.944	BJK	0.211	8.40	0.000
RS-CH-A Rep 4	ND	U	0.0320	4.90	0.003	ND	U	0.0449	4.90	0.004	ND	U	0.0351	4.90	0.004	ND	U	0.0373	4.90	0.000	ND	U	0.0491	4.90	0.000	0.944	BJ	0.177	9.80	0.000
RS-CH-A Rep 5	ND	U	0.0611	4.23	0.006	ND	U	0.0881	4.23	0.009	ND	U	0.0696	4.23	0.007	0.696	BJK	0.0354	4.23	0.007	ND	U	0.0463	4.23	0.000	3.81	BJK	0.108	8.46	0.001
RS-CH-A Mean[1]	0.0548					0.0779					0.0612					0.343					0.0786					1.64				
Pretest Tissue - 1	ND	U	0.0336	3.86	0.003	ND	U	0.0495	3.86	0.005	ND	U	0.0399	3.86	0.004	ND	U	0.0820	3.86	0.001	ND	U	0.111	3.86	0.001	ND	U	0.320	7.73	0.000
Pretest Tissue - 2	ND	U	0.0491	4.52	0.005	ND	U	0.0757	4.52	0.008	ND	U	0.0574	4.52	0.006	ND	U	0.0333	4.52	0.000	ND	U	0.0449	4.52	0.000	0.949	BJK	0.178	9.05	0.000
Pretest Tissue - 3	ND	U	0.0762	3.73	0.008	ND	U	0.111	3.73	0.011	ND	U	0.0864	3.73	0.009	0.417	BJ	0.0320	3.73	0.004	ND	U	0.0419	3.73	0.000	1.65	BJK	0.189	7.47	0.000
Pretest Mean[1]	0.0530					0.0787					0.0612					0.177					0.0659					0.973				
Toxic Equivalency Factor (TEF)	0.10					0.10					0.10					0.01					0.01					0.0003				
FDA Action Limits[2]	x					x					x					x					x					x				
Eco. Effects Threshold[2]	x					x					x					x					x					x				
S. Atlantic Bight Background[2]	x					x					x					x					x					x				

TABLE 46
Analytical Results for Wet Weight Dioxins and Furans in *Macoma nasuta* tissues

ANAMAR Environmental Consulting, Inc.

Analyte:	Total Tetra-Dioxins				Total Tetra-Furans				Total Penta-Dioxins				Total Penta-Furans				Total Hexa-Dioxins				Total Hexa-Furans				Total Hepta-Dioxins				Total Hepta-Furans			
Sample-Replicate #	Result ng/Kg	Qualifier	MDL	MRL	Result ng/Kg	Qualifier	MDL	MRL	Result ng/Kg	Qualifier	MDL	MRL	Result ng/Kg	Qualifier	MDL	MRL	Result ng/Kg	Qualifier	MDL	MRL	Result ng/Kg	Qualifier	MDL	MRL	Result ng/Kg	Qualifier	MDL	MRL	Result ng/Kg	Qualifier	MDL	MRL
CHEC12-1 Comp Rep 1	2.59	--	0.554	0.968	ND	U	0.072	0.968	ND	U	1.10	4.84	ND	U	0.176	4.84	7.39	--	1.94	4.84	2.24	J	0.247	4.84	7.16	--	2.78	4.84	3.22	J	0.436	4.84
CHEC12-1 Comp Rep 2	2.54	--	0.522	0.944	ND	U	0.103	0.944	ND	U	1.58	4.72	ND	U	0.190	4.72	8.71	--	3.09	4.72	ND	U	0.395	4.72	5.66	--	5.30	5.30	1.10	J	0.682	4.72
CHEC12-1 Comp Rep 3	ND	U	0.566	0.976	ND	U	0.0490	0.976	ND	U	1.46	4.88	ND	U	0.192	4.88	9.63	--	2.45	4.88	ND	U	0.424	4.88	6.53	--	3.96	4.88	1.07	J	0.734	4.88
CHEC12-1 Comp Rep 4	ND	U	0.719	0.961	ND	U	0.085	0.961	ND	U	1.53	4.80	ND	U	0.203	4.80	9.91	--	3.43	4.80	ND	U	0.372	4.80	ND	U	4.90	4.90	1.47	J	0.611	4.80
CHEC12-1 Comp Rep 5	ND	U	0.535	0.961	ND	U	0.154	0.961	ND	U	1.41	4.81	ND	U	0.149	4.81	9.57	--	2.65	4.81	ND	U	0.469	4.81	5.53	--	4.09	4.81	1.27	J	0.453	4.81
CHEC12-1 Comp Mean[1]	**1.39**				0.0927				1.42				0.182				**9.04**				0.780				5.96				1.63			
% of reference tissue	566				89				1592				292				3852				862				220				271			
REHR12 Comp Rep 1	ND	U	0.525	0.978	ND	U	0.154	0.978	ND	U	2.40	4.89	ND	U	0.164	4.89	8.55	--	3.98	4.89	0.506	J	0.380	4.89	ND	U	4.85	4.89	1.24	J	0.537	4.89
REHR12 Comp Rep 2	ND	U	0.765	0.954	ND	U	0.133	0.954	ND	U	1.87	4.77	ND	U	0.217	4.77	4.34	J	3.07	4.77	ND	U	0.436	4.77	ND	U	4.07	4.77	ND	U	0.605	4.77
REHR12 Comp Rep 3	ND	U	0.766	0.979	ND	U	0.089	0.979	ND	U	1.78	4.90	ND	U	0.244	4.90	ND	U	2.95	4.90	ND	U	0.405	4.90	ND	U	4.63	4.90	ND	U	0.576	4.90
REHR12 Comp Rep 4	0.922	J	0.602	0.949	ND	U	0.174	0.949	ND	U	1.94	4.74	ND	U	0.161	4.74	ND	U	3.01	4.74	ND	U	0.322	4.74	ND	U	4.43	4.74	1.86	J	0.569	4.74
REHR12 Comp Rep 5	ND	U	0.606	0.957	ND	U	0.212	0.957	ND	U	1.49	4.79	ND	U	0.217	4.79	ND	U	3.16	4.79	ND	U	0.334	4.79	ND	U	4.29	4.79	ND	U	0.572	4.79
REHR12 Comp Mean[1]	0.717				0.152				1.90				0.201				4.40				0.401				4.45				0.971			
% of reference tissue	292				147				2132				321				1875				443				164				162			
WLR12 Comp Rep 1	ND	U	0.453	0.969	ND	U	0.276	0.969	ND	U	0.158	4.84	ND	U	0.139	4.84	0.766	J	0.148	4.84	ND	U	0.146	4.84	0.793	J	0.156	4.84	0.380	J	0.074	4.84
WLR12 Comp Rep 2	ND	U	0.299	0.975	ND	U	0.269	0.975	ND	U	0.166	4.88	ND	U	0.121	4.88	ND	U	0.166	4.88	ND	U	0.134	4.88	1.17	J	0.199	4.88	0.693	J	0.134	4.88
WLR12 Comp Rep 3	ND	U	0.348	0.968	ND	U	0.264	0.968	ND	U	0.205	4.84	ND	U	0.127	4.84	ND	U	0.134	4.84	ND	U	0.157	4.84	1.36	J	0.179	4.84	0.567	J	0.099	4.84
WLR12 Comp Rep 4	ND	U	0.318	0.948	ND	U	0.291	0.948	ND	U	0.202	4.74	ND	U	0.137	4.74	ND	U	0.178	4.74	ND	U	0.153	4.74	1.69	J	0.194	4.74	ND	U	0.082	4.74
WLR12 Comp Rep 5	ND	U	0.792	0.969	ND	U	0.110	0.969	ND	U	1.58	4.85	ND	U	0.247	4.85	ND	U	1.88	4.85	0.813	J	0.275	4.85	ND	U	3.10	4.85	2.54	J	0.445	4.85
WLR12 Comp Mean[1]	0.442				0.242				0.462				0.154				0.625				0.281				1.62				0.852			
% of reference tissue	180				233				520				247				266				310				60				142			
WUTB12 Comp Rep 1	ND	U	0.652	0.975	ND	U	0.116	0.975	ND	U	1.46	4.87	ND	U	0.167	4.87	ND	U	1.88	4.87	4.80	J	0.191	4.87	13.0	--	2.67	4.87	5.49	--	0.429	4.87
WUTB12 Comp Rep 2	ND	U	0.565	0.970	ND	U	0.148	0.970	ND	U	1.31	4.85	ND	U	0.165	4.85	ND	U	2.18	4.85	6.27	--	0.281	4.85	9.82	--	2.55	4.85	14.4	--	0.322	4.85
WUTB12 Comp Rep 3	ND	U	0.541	0.959	ND	U	0.111	0.959	ND	U	1.25	4.79	ND	U	0.161	4.79	ND	U	1.99	4.79	8.05	--	0.240	4.79	9.26	--	3.34	4.79	12.9	--	0.484	4.79
WUTB12 Comp Rep 4	ND	U	0.486	0.959	ND	U	0.146	0.959	ND	U	1.22	4.80	ND	U	0.133	4.80	ND	U	1.94	4.80	ND	U	0.278	4.80	3.49	J	2.39	4.80	0.678	J	0.388	4.80
WUTB12 Comp Rep 5	ND	U	0.606	0.964	ND	U	0.140	0.964	ND	U	1.38	4.82	ND	U	0.230	4.82	ND	U	2.61	4.82	3.48	J	0.249	4.82	5.97	--	3.09	4.82	6.68	--	0.357	4.82
WUTB12 Comp Mean[1]	0.570				0.132				1.32				0.171				2.12				**4.58**				8.31				**8.03**			
% of reference tissue	232				128				1489				274				903				5057				306				1337			

TABLE 46
Analytical Results for Wet Weight Dioxins and Furans in *Macoma nasuta* tissues

ANAMAR Environmental Consulting, Inc.

Analyte:	Total Tetra-Dioxins				Total Tetra-Furans				Total Penta-Dioxins				Total Penta-Furans				Total Hexa-Dioxins				Total Hexa-Furans				Total Hepta-Dioxins				Total Hepta-Furans			
Sample-Replicate #	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**
CCRK12 Comp Rep 1	ND	U	0.264	0.979	ND	U	0.0768	0.979	ND	U	0.0457	4.90	ND	U	0.0441	4.90	1.62	J	0.115	4.90	ND	U	0.0729	4.90	1.87	J	0.0425	4.90	ND	U	0.102	4.90
CCRK12 Comp Rep 2	ND	U	0.0968	0.975	ND	U	0.0517	0.975	ND	U	0.103	4.87	ND	U	0.0593	4.87	1.81	J	0.102	4.87	ND	U	0.0829	4.87	2.59	J	0.0642	4.87	ND	U	0.0962	4.87
CCRK12 Comp Rep 3	0.585	J	0.175	0.980	ND	U	0.0683	0.980	ND	U	0.0687	4.90	ND	U	0.0608	4.90	1.28	J	0.0677	4.90	ND	U	0.0520	4.90	2.69	J	0.0665	4.90	ND	U	0.111	4.90
CCRK12 Comp Rep 4	0.498	J	0.106	0.980	ND	U	0.0828	0.980	0.227	J	0.0942	4.90	ND	U	0.0804	4.90	1.50	J	0.127	4.90	ND	U	0.101	4.90	2.66	J	0.158	4.90	0.133	J	0.0861	4.90
CCRK12 Comp Rep 5	0.352	J	0.161	0.973	ND	U	0.0952	0.973	0.157	J	0.113	4.87	ND	U	0.0836	4.87	1.10	J	0.0898	4.87	ND	U	0.0855	4.87	2.31	J	0.149	4.87	ND	U	0.0997	4.87
CCRK12 Comp Mean[1]	0.359				0.0750				0.120				0.0656				1.46				0.0789				2.42				0.108			
% of reference tissue	146				72				135				105				623				87				89				18			
ORDT12 Comp Rep 1	2.31	--	0.0940	0.966	0.221	J	0.0675	0.966	0.368	J	0.0978	4.83	0.404	J	0.0955	4.83	4.31	J	0.139	4.83	0.610	J	0.0946	4.83	7.16	--	0.115	4.83	2.05	J	0.0913	4.83
ORDT12 Comp Rep 2	0.579	J	0.184	0.980	ND	U	0.0770	0.980	ND	U	0.0968	4.90	ND	U	0.0447	4.90	3.80	J	0.121	4.90	ND	U	0.0473	4.90	3.59	J	0.0814	4.90	ND	U	0.115	4.90
ORDT12 Comp Rep 3	ND	U	0.214	0.974	ND	U	0.0224	0.974	1.05	J	0.0896	4.87	ND	U	0.0575	4.87	3.46	J	0.117	4.87	ND	U	0.0818	4.87	2.42	J	0.0540	4.87	ND	U	0.105	4.87
ORDT12 Comp Rep 4	ND	U	0.176	0.963	ND	U	0.0521	0.963	ND	U	0.0885	4.82	ND	U	0.0761	4.82	4.28	J	0.121	4.82	ND	U	0.0688	4.82	2.49	J	0.106	4.82	ND	U	0.0825	4.82
ORDT12 Comp Rep 5	2.81	--	0.174	0.975	ND	U	0.0498	0.975	0.714	J	0.0921	4.88	ND	U	0.0521	4.88	3.95	J	0.0584	4.88	ND	U	0.0566	4.88	2.49	J	0.116	4.88	ND	U	0.0426	4.88
ORDT12 Comp Mean[1]	1.22				0.0845				0.463				0.127				3.96				0.173				3.63				0.479			
% of reference tissue	496				81				521				203				1687				191				134				80			
HGIW12 Comp Rep 1	1.35	--	0.201	0.995	ND	U	0.0947	0.995	ND	U	0.105	4.97	ND	U	0.108	4.97	3.06	J	0.142	4.97	1.29	J	0.0758	4.97	1.70	J	0.0951	4.97	0.356	J	0.0685	4.97
HGIW12 Comp Rep 2	ND	U	0.153	0.954	ND	U	0.0706	0.954	0.444	J	0.0704	4.77	ND	U	0.0988	4.77	2.02	J	0.0878	4.77	0.257	J	0.0559	4.77	2.00	J	0.111	4.77	ND	U	0.0845	4.77
HGIW12 Comp Rep 3	1.56	--	0.152	0.946	ND	U	0.119	0.946	0.462	J	0.0530	4.73	ND	U	0.110	4.73	1.84	J	0.154	4.73	ND	U	0.0759	4.73	0.470	J	0.121	4.73	ND	U	0.0581	4.73
HGIW12 Comp Rep 4	1.78	--	0.152	0.978	ND	U	0.114	0.978	ND	U	0.144	4.89	ND	U	0.149	4.89	2.74	J	0.128	4.89	ND	U	0.102	4.89	3.01	J	0.147	4.89	ND	U	0.110	4.89
HGIW12 Comp Rep 5	1.54	--	0.157	0.986	ND	U	0.119	0.986	0.540	J	0.157	4.93	ND	U	0.102	4.93	2.77	J	0.138	4.93	ND	U	0.120	4.93	2.84	J	0.202	4.93	ND	U	0.173	4.93
HGIW12 Comp Mean[1]	1.28				0.103				0.339				0.114				2.49				0.369				2.00				0.156			
% of reference tissue	520				100				381				182				1059				408				74				26			
DANW12 Comp Rep 1	ND	U	0.159	0.938	ND	U	0.153	0.938	0.794	J	0.137	4.69	ND	U	0.118	4.69	3.27	J	0.122	4.69	ND	U	0.132	4.69	3.66	J	0.224	4.69	ND	U	0.137	4.69
DANW12 Comp Rep 2	0.566	J	0.172	0.941	ND	U	0.105	0.941	ND	U	0.114	4.71	ND	U	0.0511	4.71	1.80	J	0.122	4.71	ND	U	0.0836	4.71	1.46	J	0.0383	4.71	ND	U	0.0840	4.71
DANW12 Comp Rep 3	ND	U	0.145	0.940	ND	U	0.0595	0.940	ND	U	0.0822	4.70	ND	U	0.0702	4.70	2.49	J	0.0897	4.70	ND	U	0.0578	4.70	1.99	J	0.0999	4.70	ND	U	0.0367	4.70
DANW12 Comp Rep 4	ND	U	0.227	0.941	ND	U	0.0511	0.941	0.608	J	0.0490	4.71	ND	U	0.0279	4.71	2.56	J	0.218	4.71	ND	U	0.0644	4.71	2.40	J	0.0769	4.71	ND	U	0.0825	4.71
DANW12 Comp Rep 5	ND	U	0.0992	0.992	ND	U	0.0943	0.992	ND	U	0.0707	4.96	ND	U	0.0659	4.96	1.67	J	0.0806	4.96	ND	U	0.0736	4.96	ND	U	0.0806	4.96	ND	U	0.0839	4.96
DANW12 Comp Mean[1]	0.239				0.0926				0.334				0.0666				2.36				0.0823				1.92				0.0848			
% of reference tissue	97				89				375				107				1005				91				71				14			

TABLE 46
Analytical Results for Wet Weight Dioxins and Furans in *Macoma nasuta* tissues

ANAMAR Environmental Consulting, Inc.

Analyte:	Total Tetra-Dioxins				Total Tetra-Furans				Total Penta-Dioxins				Total Penta-Furans				Total Hexa-Dioxins				Total Hexa-Furans				Total Hepta-Dioxins				Total Hepta-Furans			
Sample-Replicate #	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**
WLRW12 Comp Rep 1	0.383	J	0.209	0.983	ND	U	0.116	0.983	0.185	J	0.146	4.91	ND	U	0.0993	4.91	0.733	J	0.184	4.91	ND	U	0.141	4.91	1.13	J	0.210	4.91	ND	U	0.131	4.91
WLRW12 Comp Rep 2	ND	U	0.153	0.990	ND	U	0.128	0.990	ND	U	0.146	4.95	ND	U	0.124	4.95	1.54	J	0.0951	4.95	0.108	J	0.0972	4.95	2.59	J	0.196	4.95	0.338	J	0.125	4.95
WLRW12 Comp Rep 3	0.463	J	0.165	1.00	ND	U	0.0940	1.00	ND	U	0.138	5.00	ND	U	0.116	5.00	0.965	J	0.120	5.00	ND	U	0.0902	5.00	0.829	J	0.149	5.00	ND	U	0.0970	5.00
WLRW12 Comp Rep 4	0.408	J	0.154	0.983	ND	U	0.102	0.983	ND	U	0.104	4.91	ND	U	0.0891	4.91	0.654	J	0.143	4.91	ND	U	0.120	4.91	1.38	J	0.140	4.91	ND	U	0.104	4.91
WLRW12 Comp Rep 5	0.418	J	0.188	0.998	ND	U	0.159	0.998	ND	U	0.154	4.99	ND	U	0.118	4.99	0.568	J	0.200	4.99	ND	U	0.132	4.99	1.00	J	0.158	4.99	ND	U	0.117	4.99
WLRW12 Comp Mean[1]	0.365				0.120				0.145				0.109				0.892				0.118				1.39				0.157			
% of reference tissue	149				116				163				175				380				131				51				26			
ABMA12 Comp Rep 1	0.614	J	0.200	1.18	ND	U	0.159	1.18	0.467	J	0.123	5.89	ND	U	0.117	5.89	5.12	J	0.170	5.89	0.648	J	0.0899	5.89	10.4	--	0.193	5.89	2.54	J	0.120	5.89
ABMA12 Comp Rep 2	0.761	J	0.225	1.20	ND	U	0.190	1.20	0.611	J	0.192	5.98	ND	U	0.116	5.98	3.83	J	0.124	5.98	ND	U	0.124	5.98	9.89	--	0.220	5.98	2.49	J	0.177	5.98
ABMA12 Comp Rep 3	0.670	J	0.380	1.40	ND	U	0.208	1.40	0.685	J	0.147	6.98	ND	U	0.163	6.98	5.06	J	0.194	6.98	1.13	J	0.127	6.98	11.5	--	0.202	6.98	2.14	J	0.154	6.98
ABMA12 Comp Rep 4	ND	U	0.641	1.10	ND	U	0.0672	1.10	ND	U	0.782	5.52	2.18	J	0.0732	5.52	42.1	--	0.980	5.52	17.9	--	0.142	5.52	630	--	2.27	5.52	60.0	--	0.246	5.52
ABMA12 Comp Rep 5	ND	U	0.527	1.20	ND	U	0.131	1.20	ND	U	0.712	5.98	ND	U	0.132	5.98	5.82	J	0.977	5.98	0.399	J	0.173	5.98	7.27	--	0.847	5.98	1.13	J	0.163	5.98
ABMA12 Comp Mean[1]	0.643				0.151				0.651				0.542				12.4				4.04				134				13.7			
% of reference tissue	262				146				732				868				5277				4465				4932				2275			
RS-CH-A Rep 1	ND	U	0.262	0.949	ND	U	0.109	0.949	ND	U	0.0687	4.74	ND	U	0.0756	4.74	ND	U	0.0297	4.74	ND	U	0.0137	4.74	ND	U	0.0947	4.74	ND	U	0.0765	4.74
RS-CH-A Rep 2	ND	U	0.280	0.962	ND	U	0.122	0.962	ND	U	0.112	4.81	ND	U	0.0635	4.81	0.225	J	0.0535	4.81	0.213	J	0.0785	4.81	1.44	J	0.118	4.81	0.525	J	0.0854	4.81
RS-CH-A Rep 3	ND	U	0.182	0.840	ND	U	0.0877	0.840	ND	U	0.101	4.20	ND	U	0.0476	4.20	ND	U	0.0219	4.20	ND	U	0.117	4.20	0.838	J	0.141	4.20	0.368	J	0.0951	4.20
RS-CH-A Rep 4	ND	U	0.281	0.980	ND	U	0.143	0.980	ND	U	0.113	4.90	ND	U	0.0826	4.90	0.187	J	0.0371	4.90	ND	U	0.0369	4.90	ND	U	0.0918	4.90	ND	U	0.0426	4.90
RS-CH-A Rep 5	ND	U	0.222	0.846	ND	U	0.0567	0.846	ND	U	0.0500	4.23	ND	U	0.0427	4.23	0.710	J	0.112	4.23	ND	U	0.0718	4.23	11.1	--	0.146	4.23	1.99	J	0.0403	4.23
RS-CH-A Mean[1]	0.245				0.104				0.0889				0.0624				0.235				0.0905				2.71				0.600			
Pretest Tissue - 1	ND	U	0.162	0.773	ND	U	0.0379	0.773	ND	U	0.105	3.86	ND	U	0.0429	3.86	ND	U	0.0279	3.86	ND	U	0.0404	3.86	ND	U	0.0461	3.86	0.723	J	0.0948	3.86
Pretest Tissue - 2	ND	U	0.151	0.905	ND	U	0.126	0.905	ND	U	0.194	4.52	ND	U	0.0540	4.52	ND	U	0.0493	4.52	ND	U	0.0592	4.52	ND	U	0.0677	4.52	ND	U	0.0384	4.52
Pretest Tissue - 3	ND	U	0.218	0.747	ND	U	0.112	0.747	ND	U	0.0967	3.73	ND	U	0.0562	3.73	0.147	J	0.0661	3.73	ND	U	0.0897	3.73	3.05	J	0.130	3.73	0.417	J	0.0365	3.73
Pretest Mean[1]	0.177				0.0920				0.132				0.0510				0.0747				0.0631				1.05				0.393			
Toxic Equivalency Factor (TEF)	x				x				x				x				x				x				x				x			
FDA Action Limits[2]	x				x				x				x				x				x				x				x			
Eco. Effects Threshold[2]	x				x				x				x				x				x				x				x			
S. Atlantic Bight Background[2]	x				x				x				x				x				x				x				x			

[1] = Refer to Section 2.6.4 for an explanation of how the mean was calculated.
[2] Values and steady state factors are from Appendix H of the SERIM (EPA/USACE 2008)
Bolded Values = Mean concentrations of project tissues that are statistically significantly greater than the reference tissues.
x = No levels/limits published for parameter
B = Method blank contains contaminant above detection limit
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
K = Ion abundances are outside laboratory control limits
U = The compound was analyzed for, but was not detected at or above the MDL.
-- = no qualified or value needed

Source: ALS Environmental
Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 47
Analytical Results for Dry Weight Dioxins and Furans in *Neanthes virens* tissues

ANAMAR Environmental Consulting, Inc.

Analyte:	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)				
Sample-Replicate #	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ
CHEC12-1 Comp Rep 1	ND	U	0.226	1.15	0.226	ND	U	0.165	5.76	0.165	ND	U	0.0937	5.76	0.009	ND	U	0.0999	5.76	0.010	ND	U	0.0918	5.76	0.009	1.14	J	0.245	5.76	0.011
CHEC12-1 Comp Rep 2	ND	U	0.236	1.16	0.236	ND	U	0.177	5.80	0.177	ND	U	0.148	5.80	0.015	ND	U	0.158	5.80	0.016	ND	U	0.145	5.80	0.015	1.03	J	0.0749	5.80	0.010
CHEC12-1 Comp Rep 3	ND	U	0.164	1.16	0.164	ND	U	0.176	5.81	0.176	ND	U	0.186	5.81	0.019	ND	U	0.193	5.81	0.019	ND	U	0.180	5.81	0.018	1.86	JK	0.204	5.81	0.019
CHEC12-1 Comp Rep 4	ND	U	0.233	1.13	0.233	ND	U	0.186	5.66	0.186	ND	U	0.107	5.66	0.011	ND	U	0.113	5.66	0.011	ND	U	0.105	5.66	0.011	1.34	JK	0.143	5.66	0.013
CHEC12-1 Comp Rep 5	ND	U	0.270	1.17	0.270	ND	U	0.254	5.85	0.254	ND	U	0.0754	5.85	0.008	ND	U	0.0773	5.85	0.008	ND	U	0.0724	5.85	0.007	1.40	JK	0.160	5.85	0.014
REHR12 Comp Rep 1	ND	U	0.129	1.15	0.129	ND	U	0.0486	5.76	0.049	ND	U	0.0698	5.76	0.007	0.266	JK	0.0710	5.76	0.027	0.354	JK	0.0666	5.76	0.035	0.848	J	0.102	5.76	0.008
REHR12 Comp Rep 2	0.260	JK	0.133	1.15	0.260	ND	U	0.135	5.77	0.135	ND	U	0.177	5.77	0.018	ND	U	0.182	5.77	0.018	ND	U	0.169	5.77	0.017	0.870	JK	0.206	5.77	0.009
REHR12 Comp Rep 3	0.307	JK	0.135	1.17	0.307	ND	U	0.103	5.85	0.103	ND	U	0.127	5.85	0.013	ND	U	0.122	5.85	0.012	ND	U	0.117	5.85	0.012	0.891	J	0.122	5.85	0.009
REHR12 Comp Rep 4	ND	U	0.189	1.18	0.189	ND	U	0.092	5.91	0.092	ND	U	0.139	5.91	0.014	ND	U	0.140	5.91	0.014	ND	U	0.131	5.91	0.013	0.853	J	0.176	5.91	0.009
REHR12 Comp Rep 5	ND	U	0.150	1.18	0.150	ND	U	0.154	5.92	0.154	ND	U	0.158	5.92	0.016	ND	U	0.151	5.92	0.015	ND	U	0.145	5.92	0.015	1.08	J	0.147	5.92	0.011
WLR12 Comp Rep 1	ND	U	0.464	1.16	0.464	ND	U	0.423	5.81	0.423	ND	U	0.273	5.81	0.027	ND	U	0.318	5.81	0.032	ND	U	0.278	5.81	0.028	0.857	BJ	0.463	5.81	0.009
WLR12 Comp Rep 2	ND	U	0.379	1.17	0.379	ND	U	0.336	5.86	0.336	ND	U	0.330	5.86	0.033	ND	U	0.365	5.86	0.037	ND	U	0.327	5.86	0.033	0.721	BJ	0.306	5.86	0.007
WLR12 Comp Rep 3	ND	U	0.429	1.13	0.429	ND	U	0.334	5.66	0.334	ND	U	0.228	5.66	0.023	ND	U	0.253	5.66	0.025	ND	U	0.226	5.66	0.023	0.877	BJ	0.359	5.66	0.009
WLR12 Comp Rep 4	ND	U	0.319	1.16	0.319	ND	U	0.286	5.82	0.286	ND	U	0.275	5.82	0.028	ND	U	0.296	5.82	0.030	ND	U	0.269	5.82	0.027	0.972	BJ	0.321	5.82	0.010
WLR12 Comp Rep 5	ND	U	0.448	1.14	0.448	ND	U	0.342	5.71	0.342	ND	U	0.126	5.71	0.013	ND	U	0.133	5.71	0.013	ND	U	0.122	5.71	0.012	0.867	BJK	0.278	5.71	0.009
WUTB12 Comp Rep 1	ND	U	0.443	1.15	0.443	ND	U	0.386	5.73	0.386	ND	U	0.256	5.73	0.026	ND	U	0.271	5.73	0.027	ND	U	0.248	5.73	0.025	0.868	BJ	0.296	5.73	0.009
WUTB12 Comp Rep 2	ND	U	0.419	1.15	0.419	ND	U	0.329	5.76	0.329	ND	U	0.345	5.76	0.035	ND	U	0.374	5.76	0.037	ND	U	0.339	5.76	0.034	1.01	BJ	0.325	5.76	0.010
WUTB12 Comp Rep 3	ND	U	0.488	1.13	0.488	ND	U	0.477	5.66	0.477	ND	U	0.237	5.66	0.024	ND	U	0.258	5.66	0.026	ND	U	0.233	5.66	0.023	1.02	BJK	0.447	5.66	0.010
WUTB12 Comp Rep 4	ND	U	0.461	1.15	0.461	ND	U	0.358	5.76	0.358	ND	U	0.283	5.76	0.028	ND	U	0.294	5.76	0.029	ND	U	0.272	5.76	0.027	0.848	BJK	0.345	5.76	0.008
WUTB12 Comp Rep 5	ND	U	2.29	2.29	2.290	ND	U	2.00	5.85	2.000	ND	U	1.42	5.85	0.142	ND	U	1.40	5.85	0.140	ND	U	1.33	5.85	0.133	ND	U	1.06	5.85	0.011
CCRK12 Comp Rep 1	ND	U	1.39	1.39	1.390	ND	U	1.59	5.62	1.590	ND	U	1.23	5.62	0.123	ND	U	1.23	5.62	0.123	ND	U	1.17	5.62	0.117	ND	U	1.93	5.62	0.019
CCRK12 Comp Rep 2	ND	U	1.49	1.49	1.490	ND	U	1.55	5.93	1.550	ND	U	1.76	5.93	0.176	ND	U	1.78	5.93	0.178	ND	U	1.68	5.93	0.168	ND	U	1.72	5.93	0.017
CCRK12 Comp Rep 3	ND	U	0.443	1.15	0.443	ND	U	0.416	5.73	0.416	ND	U	0.233	5.73	0.023	ND	U	0.250	5.73	0.025	ND	U	0.228	5.73	0.023	0.892	BJ	0.306	5.73	0.009
CCRK12 Comp Rep 4	ND	U	0.491	1.16	0.491	ND	U	0.507	5.80	0.507	ND	U	0.349	5.80	0.035	ND	U	0.373	5.80	0.037	ND	U	0.340	5.80	0.034	0.800	BJK	0.465	5.80	0.008
CCRK12 Comp Rep 5	ND	U	0.283	1.13	0.283	ND	U	0.429	5.67	0.429	ND	U	0.287	5.67	0.029	ND	U	0.315	5.67	0.032	ND	U	0.284	5.67	0.028	0.847	BJ	0.397	5.67	0.008
ORDT12 Comp Rep 1	ND	U	0.368	1.18	0.368	ND	U	0.304	5.88	0.304	ND	U	0.267	5.88	0.027	ND	U	0.291	5.88	0.029	ND	U	0.262	5.88	0.026	1.31	BJ	0.244	5.88	0.013
ORDT12 Comp Rep 2	ND	U	0.355	1.18	0.355	ND	U	0.345	5.91	0.345	ND	U	0.288	5.91	0.029	ND	U	0.318	5.91	0.032	ND	U	0.286	5.91	0.029	1.10	BJ	0.326	5.91	0.011
ORDT12 Comp Rep 3	ND	U	0.246	1.14	0.246	ND	U	0.263	5.69	0.263	ND	U	0.235	5.69	0.024	ND	U	0.265	5.69	0.027	ND	U	0.235	5.69	0.024	1.18	BJ	0.243	5.69	0.012
ORDT12 Comp Rep 4	ND	U	0.376	1.15	0.376	ND	U	0.263	5.75	0.263	ND	U	0.203	5.75	0.020	ND	U	0.221	5.75	0.022	ND	U	0.200	5.75	0.020	0.969	BJ	0.340	5.75	0.010
ORDT12 Comp Rep 5	ND	U	0.528	1.16	0.528	ND	U	0.381	5.78	0.381	ND	U	0.304	5.78	0.030	ND	U	0.337	5.78	0.034	ND	U	0.302	5.78	0.030	1.05	BJK	0.275	5.78	0.011
HGIW12 Comp Rep 1	ND	U	0.304	1.18	0.304	ND	U	0.193	5.90	0.193	ND	U	0.148	5.90	0.015	ND	U	0.170	5.90	0.017	ND	U	0.156	5.90	0.016	1.29	BJ	0.148	5.90	0.013
HGIW12 Comp Rep 2	ND	U	0.298	1.14	0.298	ND	U	0.183	5.72	0.183	ND	U	0.117	5.72	0.012	ND	U	0.132	5.72	0.013	ND	U	0.122	5.72	0.012	1.03	BJK	0.156	5.72	0.010
HGIW12 Comp Rep 3	ND	U	1.07	1.16	1.070	ND	U	1.49	5.79	1.490	ND	U	1.18	5.79	0.118	ND	U	1.20	5.79	0.120	ND	U	1.13	5.79	0.113	ND	U	1.77	5.79	0.018
HGIW12 Comp Rep 4	ND	U	1.04	1.16	1.040	ND	U	1.55	5.82	1.550	ND	U	1.38	5.82	0.138	ND	U	1.40	5.82	0.140	ND	U	1.32	5.82	0.132	ND	U	2.53	5.82	0.025
HGIW12 Comp Rep 5	ND	U	0.952	1.17	0.952	ND	U	1.20	5.85	1.200	ND	U	1.07	5.85	0.107	ND	U	1.13	5.85	0.113	ND	U	1.04	5.85	0.104	ND	U	1.74	5.85	0.017

TABLE 47
Analytical Results for Dry Weight Dioxins and Furans in *Neanthes virens* tissues

ANAMAR Environmental Consulting, Inc.

Analyte:	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)				
Sample-Replicate #	**Result ng/kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**
DANW12 Comp Rep 1	ND	U	0.264	1.15	0.264	ND	U	0.202	5.77	0.202	ND	U	0.220	5.77	0.022	ND	U	0.235	5.77	0.024	ND	U	0.224	5.77	0.022	1.03	BJ	0.272	5.77	0.010
DANW12 Comp Rep 2	ND	U	0.306	1.16	0.306	ND	U	0.220	5.80	0.220	ND	U	0.178	5.80	0.018	ND	U	0.200	5.80	0.020	ND	U	0.186	5.80	0.019	1.06	BJK	0.194	5.80	0.011
DANW12 Comp Rep 3	ND	U	0.329	1.17	0.329	ND	U	0.203	5.86	0.203	ND	U	0.140	5.86	0.014	ND	U	0.158	5.86	0.016	ND	U	0.146	5.86	0.015	1.15	BJK	0.264	5.86	0.012
DANW12 Comp Rep 4	ND	U	0.463	1.18	0.463	ND	U	0.187	5.90	0.187	ND	U	0.137	5.90	0.014	ND	U	0.143	5.90	0.014	ND	U	0.137	5.90	0.014	0.929	BJ	0.214	5.90	0.009
DANW12 Comp Rep 5	ND	U	0.352	1.15	0.352	0.285	J	0.188	5.73	0.285	ND	U	0.148	5.73	0.015	ND	U	0.158	5.73	0.016	ND	U	0.150	5.73	0.015	1.35	BJ	0.213	5.73	0.014
WLRW12 Comp Rep 1	ND	U	1.18	1.18	1.180	ND	U	1.23	5.87	1.230	ND	U	1.10	5.87	0.110	ND	U	1.12	5.87	0.112	ND	U	1.05	5.87	0.105	ND	U	1.63	5.87	0.016
WLRW12 Comp Rep 2	ND	U	1.08	1.14	1.080	ND	U	1.41	5.72	1.410	ND	U	1.31	5.72	0.131	ND	U	1.35	5.72	0.135	ND	U	1.26	5.72	0.126	4.66	BJ	1.57	5.72	0.047
WLRW12 Comp Rep 3	ND	U	0.752	1.18	0.752	ND	U	1.37	5.89	1.370	ND	U	1.18	5.89	0.118	ND	U	1.20	5.89	0.120	ND	U	1.13	5.89	0.113	ND	U	1.49	5.89	0.015
WLRW12 Comp Rep 4	ND	U	0.999	1.17	0.999	ND	U	1.30	5.85	1.300	ND	U	0.938	5.85	0.094	ND	U	0.987	5.85	0.099	ND	U	0.913	5.85	0.091	ND	U	1.66	5.85	0.017
WLRW12 Comp Rep 5	ND	U	1.15	1.15	1.150	ND	U	1.38	5.77	1.380	ND	U	1.15	5.77	0.115	ND	U	1.18	5.77	0.118	ND	U	1.11	5.77	0.111	ND	U	1.47	5.77	0.015
ABMA12 Comp Rep 1	ND	U	0.253	1.59	0.253	0.306	JK	0.178	7.96	0.306	0.211	JK	0.190	7.96	0.021	0.612	J	0.208	7.96	0.061	0.321	J	0.196	7.96	0.032	5.23	J	0.184	7.96	0.052
ABMA12 Comp Rep 2	ND	U	0.268	1.46	0.268	0.249	JK	0.173	7.29	0.249	0.180	JK	0.153	7.29	0.018	0.605	J	0.177	7.29	0.061	0.359	JK	0.162	7.29	0.036	4.94	J	0.271	7.29	0.049
ABMA12 Comp Rep 3	ND	U	0.278	1.62	0.278	0.254	JK	0.184	8.11	0.254	ND	U	0.240	8.11	0.024	0.531	J	0.275	8.11	0.053	ND	U	0.253	8.11	0.025	5.39	J	0.218	8.11	0.054
ABMA12 Comp Rep 4	ND	U	0.282	1.58	0.282	ND	U	0.122	7.91	0.122	ND	U	0.260	7.91	0.026	0.550	J	0.295	7.91	0.055	ND	U	0.273	7.91	0.027	5.16	J	0.290	7.91	0.052
ABMA12 Comp Rep 5	ND	U	0.319	1.47	0.319	0.342	JK	0.184	7.33	0.342	0.252	JK	0.174	7.33	0.025	0.649	J	0.194	7.33	0.065	0.390	JK	0.181	7.33	0.039	5.83	J	0.365	7.33	0.058
RS-CH-A Rep 1	ND	U	0.314	1.16	0.314	ND	U	0.121	5.78	0.121	ND	U	0.109	5.78	0.011	0.685	BJK	0.117	5.78	0.069	ND	U	0.108	5.78	0.011	3.33	BJ	0.124	5.78	0.033
RS-CH-A Rep 2	ND	U	0.250	1.15	0.250	0.186	JK	0.114	5.76	0.186	ND	U	0.0872	5.76	0.009	0.508	BJ	0.0946	5.76	0.051	0.319	JK	0.0861	5.76	0.032	3.15	BJ	0.207	5.76	0.032
RS-CH-A Rep 3	ND	U	0.352	1.16	0.352	ND	U	0.202	5.81	0.202	ND	U	0.0549	5.81	0.005	0.621	BJK	0.0577	5.81	0.062	ND	U	0.0533	5.81	0.005	4.82	BJ	0.0951	5.81	0.048
RS-CH-A Rep 4	ND	U	0.324	1.12	0.324	ND	U	0.221	5.59	0.221	ND	U	0.0615	5.59	0.006	ND	U	0.0635	5.59	0.006	ND	U	0.0593	5.59	0.006	3.45	BJK	0.0660	5.59	0.035
RS-CH-A Rep 5	ND	U	0.224	1.09	0.224	0.331	JK	0.113	5.45	0.331	ND	U	0.157	5.45	0.016	0.589	BJ	0.170	5.45	0.059	0.333	J	0.161	5.45	0.033	8.14	B	0.167	5.45	0.081
Pre-exposure Rep 1	ND	U	0.149	1.18	0.149	0.415	J	0.130	5.88	0.415	ND	U	0.104	5.88	0.010	ND	U	0.110	5.88	0.011	ND	U	0.101	5.88	0.010	4.02	BJ	0.286	5.88	0.040
Pre-exposure Rep 2	ND	U	0.315	1.17	0.315	0.330	J	0.141	5.84	0.330	ND	U	0.150	5.84	0.015	0.753	BJ	0.161	5.84	0.075	0.600	JK	0.147	5.84	0.060	4.44	BJ	0.174	5.84	0.044
Pre-exposure Rep 3	ND	U	0.293	1.14	0.293	ND	U	0.0486	5.72	0.049	ND	U	0.0442	5.72	0.004	ND	U	0.0467	5.72	0.005	ND	U	0.0431	5.72	0.004	4.61	BJ	0.188	5.72	0.046
Toxic Equivalency Factor (TEF)	1					1					0.1					0.1					0.1					0.01				

TABLE 47
Analytical Results for Dry Weight Dioxins and Furans in *Neanthes virens* tissues

ANAMAR Environmental Consulting, Inc.

Analyte:	Octachlorodibenzo-p-dioxin (OCDD)					2,3,7,8-Tetrachlorodibenzofuran (TCDF)					1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)				
Sample-Replicate #	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ
CHEC12-1 Comp Rep 1	7.06	BJ	0.0904	11.5	0.002	0.876	J	0.114	1.15	0.088	ND	U	0.151	5.76	0.005	0.252	JK	0.142	5.76	0.076	ND	U	0.172	5.76	0.017
CHEC12-1 Comp Rep 2	6.15	BJ	0.167	11.6	0.002	1.22	C	0.144	1.16	0.122	ND	U	0.116	5.80	0.003	ND	U	0.111	5.80	0.033	ND	U	0.211	5.80	0.021
CHEC12-1 Comp Rep 3	16.9	B	0.118	11.6	0.005	1.13	JK	0.131	1.16	0.113	ND	U	0.0905	5.81	0.003	ND	U	0.0886	5.81	0.027	ND	U	0.185	5.81	0.019
CHEC12-1 Comp Rep 4	7.40	BJK	0.182	11.3	0.002	0.637	JK	0.178	1.13	0.064	ND	U	0.104	5.66	0.003	ND	U	0.0950	5.66	0.029	ND	U	0.203	5.66	0.020
CHEC12-1 Comp Rep 5	8.33	BJ	0.102	11.7	0.002	ND	U	0.229	1.17	0.023	ND	U	0.152	5.85	0.005	ND	U	0.151	5.85	0.045	ND	U	0.161	5.85	0.016
REHR12 Comp Rep 1	4.40	BJ	0.0710	11.5	0.001	0.903	JK	0.0650	1.15	0.090	ND	U	0.0424	5.76	0.001	ND	U	0.0415	5.76	0.012	ND	U	0.156	5.76	0.016
REHR12 Comp Rep 2	3.80	BJ	0.277	11.5	0.001	1.26	C	0.111	1.15	0.126	0.187	J	0.0974	5.77	0.006	0.253	J	0.0928	5.77	0.076	ND	U	0.112	5.77	0.011
REHR12 Comp Rep 3	5.10	BJ	0.176	11.7	0.002	1.22	C	0.122	1.17	0.122	0.212	JK	0.0799	5.85	0.006	0.255	J	0.0752	5.85	0.077	ND	U	0.129	5.85	0.013
REHR12 Comp Rep 4	5.71	BJ	0.288	11.8	0.002	0.897	J	0.0944	1.18	0.090	0.166	JK	0.0974	5.91	0.005	0.234	JK	0.0936	5.91	0.070	ND	U	0.124	5.91	0.012
REHR12 Comp Rep 5	8.87	BJ	0.236	11.8	0.003	1.56	C	0.0903	1.18	0.156	0.264	J	0.129	5.92	0.008	0.380	J	0.126	5.92	0.114	0.177	JK	0.104	5.92	0.018
WLR12 Comp Rep 1	4.66	BJ	0.763	11.6	0.001	0.922	J	0.344	1.16	0.092	ND	U	0.292	5.81	0.009	ND	U	0.298	5.81	0.089	ND	U	0.273	5.81	0.027
WLR12 Comp Rep 2	4.92	BJ	0.930	11.7	0.001	0.858	JK	0.367	1.17	0.086	ND	U	0.263	5.86	0.008	ND	U	0.262	5.86	0.079	ND	U	0.301	5.86	0.030
WLR12 Comp Rep 3	4.16	BJ	0.525	11.3	0.001	0.610	J	0.251	1.13	0.061	ND	U	0.237	5.66	0.007	ND	U	0.248	5.66	0.074	ND	U	0.170	5.66	0.017
WLR12 Comp Rep 4	5.95	BJ	0.492	11.6	0.002	1.05	J	0.324	1.16	0.105	ND	U	0.193	5.82	0.006	ND	U	0.199	5.82	0.060	ND	U	0.275	5.82	0.028
WLR12 Comp Rep 5	4.70	BJK	0.422	11.4	0.001	1.17	C	0.329	1.14	0.117	ND	U	0.251	5.71	0.008	ND	U	0.253	5.71	0.076	ND	U	0.193	5.71	0.019
WUTB12 Comp Rep 1	5.75	BJ	0.712	11.5	0.002	1.02	J	0.366	1.15	0.102	ND	U	0.306	5.73	0.009	ND	U	0.326	5.73	0.098	ND	U	0.263	5.73	0.026
WUTB12 Comp Rep 2	6.65	BJ	0.983	11.5	0.002	0.879	JK	0.323	1.15	0.088	ND	U	0.345	5.76	0.010	ND	U	0.356	5.76	0.107	ND	U	0.296	5.76	0.030
WUTB12 Comp Rep 3	7.32	BJ	0.658	11.3	0.002	1.25	C	0.345	1.13	0.125	ND	U	0.348	5.66	0.010	ND	U	0.359	5.66	0.108	ND	U	0.216	5.66	0.022
WUTB12 Comp Rep 4	6.46	BJ	1.09	11.5	0.002	1.20	C	0.256	1.15	0.120	ND	U	0.210	5.76	0.006	ND	U	0.223	5.76	0.067	ND	U	0.233	5.76	0.023
WUTB12 Comp Rep 5	8.54	BJK	2.93	11.7	0.003	ND	U	2.33	2.33	0.233	ND	U	1.84	5.85	0.055	ND	U	2.00	5.85	0.600	ND	U	1.85	5.85	0.185
CCRK12 Comp Rep 1	ND	U	3.95	11.2	0.001	ND	U	1.47	1.47	0.147	ND	U	0.914	5.62	0.027	ND	U	0.995	5.62	0.299	ND	U	0.911	5.62	0.091
CCRK12 Comp Rep 2	ND	U	3.54	11.9	0.001	ND	U	1.35	1.35	0.135	ND	U	1.50	5.93	0.045	ND	U	1.55	5.93	0.465	ND	U	0.915	5.93	0.092
CCRK12 Comp Rep 3	4.08	BJ	0.711	11.5	0.001	1.07	J	0.359	1.15	0.107	ND	U	0.274	5.73	0.008	ND	U	0.281	5.73	0.084	ND	U	0.291	5.73	0.029
CCRK12 Comp Rep 4	4.48	BJ	0.678	11.6	0.001	1.57	C	0.454	1.16	0.157	ND	U	0.373	5.80	0.011	ND	U	0.387	5.80	0.116	ND	U	0.385	5.80	0.039
CCRK12 Comp Rep 5	3.50	BJ	0.529	11.3	0.001	1.26	C	0.317	1.13	0.126	ND	U	0.290	5.67	0.009	ND	U	0.295	5.67	0.089	ND	U	0.237	5.67	0.024
ORDT12 Comp Rep 1	7.94	BJ	0.719	11.8	0.002	1.37	C	0.306	1.18	0.137	ND	U	0.223	5.88	0.007	0.370	JK	0.225	5.88	0.111	ND	U	0.315	5.88	0.032
ORDT12 Comp Rep 2	6.43	BJ	0.516	11.8	0.002	1.01	J	0.261	1.18	0.101	ND	U	0.238	5.91	0.007	0.315	JK	0.247	5.91	0.095	ND	U	0.317	5.91	0.032
ORDT12 Comp Rep 3	5.71	BJ	0.515	11.4	0.002	1.18	C	0.252	1.14	0.118	ND	U	0.229	5.69	0.007	ND	U	0.233	5.69	0.070	ND	U	0.243	5.69	0.024
ORDT12 Comp Rep 4	5.19	BJ	0.711	11.5	0.002	1.28	C	0.297	1.15	0.128	ND	U	0.221	5.75	0.007	0.376	JK	0.228	5.75	0.113	ND	U	0.181	5.75	0.018
ORDT12 Comp Rep 5	4.84	BJ	0.585	11.6	0.001	1.49	C	0.41	1.16	0.149	ND	U	0.286	5.78	0.009	0.484	JK	0.310	5.78	0.145	ND	U	0.276	5.78	0.028
HGIW12 Comp Rep 1	7.99	BJ	0.227	11.8	0.002	1.35	CK	0.216	1.21	0.135	ND	U	0.160	5.90	0.005	0.309	JK	0.157	5.90	0.093	ND	U	0.161	5.90	0.016
HGIW12 Comp Rep 2	8.41	BJ	0.376	11.4	0.003	1.36	C	0.270	1.14	0.136	ND	U	0.144	5.72	0.004	0.317	J	0.146	5.72	0.095	ND	U	0.125	5.72	0.013
HGIW12 Comp Rep 3	8.99	BJ	3.32	11.6	0.003	ND	U	1.09	1.16	0.109	ND	U	1.19	5.79	0.036	ND	U	1.21	5.79	0.363	ND	U	1.20	5.79	0.120
HGIW12 Comp Rep 4	18.6	B	4.30	11.6	0.006	1.53	C	1.11	1.16	0.153	ND	U	1.49	5.82	0.045	ND	U	1.49	5.82	0.447	ND	U	1.20	5.82	0.120
HGIW12 Comp Rep 5	14.0	B	2.78	11.7	0.004	1.25	C	1.14	1.17	0.125	ND	U	1.03	5.85	0.031	ND	U	1.03	5.85	0.309	ND	U	1.22	5.85	0.122

TABLE 47
Analytical Results for Dry Weight Dioxins and Furans in *Neanthes virens* tissues

ANAMAR Environmental Consulting, Inc.

Analyte:	Octachlorodibenzo-p-dioxin (OCDD)					2,3,7,8-Tetrachlorodibenzofuran (TCDF)					1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)				
Sample-Replicate #	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ	Result ng/kg	Qualifier	MDL	MRL	TEQ
DANW12 Comp Rep 1	7.95	BJ	0.392	11.5	0.002	1.06	J	0.199	1.15	0.106	ND	U	0.147	5.77	0.004	ND	U	0.147	5.77	0.044	ND	U	0.144	5.77	0.014
DANW12 Comp Rep 2	6.10	BJ	0.324	11.6	0.002	1.10	J	0.279	1.16	0.110	ND	U	0.160	5.80	0.005	ND	U	0.159	5.80	0.048	ND	U	0.193	5.80	0.019
DANW12 Comp Rep 3	6.01	BJK	0.275	11.7	0.002	1.27	C	0.214	1.17	0.127	ND	U	0.167	5.86	0.005	ND	U	0.167	5.86	0.050	ND	U	0.184	5.86	0.018
DANW12 Comp Rep 4	5.42	BJ	0.336	11.8	0.002	1.28	CK	0.195	1.18	0.128	ND	U	0.143	5.90	0.004	ND	U	0.143	5.90	0.043	ND	U	0.153	5.90	0.015
DANW12 Comp Rep 5	20.9	B	0.408	11.5	0.006	1.26	C	0.200	1.15	0.126	ND	U	0.159	5.73	0.005	0.413	J	0.156	5.73	0.124	ND	U	0.155	5.73	0.016
WLRW12 Comp Rep 1	6.84	BJK	2.45	11.7	0.002	1.60	CK	0.373	1.17	0.160	ND	U	0.945	5.87	0.028	ND	U	0.951	5.87	0.285	ND	U	0.942	5.87	0.094
WLRW12 Comp Rep 2	69.7	B	2.82	11.4	0.021	1.68	C	0.936	1.14	0.168	ND	U	1.05	5.72	0.032	ND	U	1.04	5.72	0.312	ND	U	0.868	5.72	0.087
WLRW12 Comp Rep 3	5.90	BJK	2.96	11.8	0.002	ND	U	1.04	1.18	0.104	ND	U	1.03	5.89	0.031	ND	U	1.02	5.89	0.306	ND	U	0.949	5.89	0.095
WLRW12 Comp Rep 4	4.99	BJK	3.24	11.7	0.001	ND	U	0.931	1.17	0.093	ND	U	0.726	5.85	0.022	ND	U	0.720	5.85	0.216	ND	U	0.922	5.85	0.092
WLRW12 Comp Rep 5	6.85	BJ	2.42	11.5	0.002	ND	U	1.04	1.15	0.104	ND	U	1.17	5.77	0.035	ND	U	1.17	5.77	0.351	ND	U	0.771	5.77	0.077
ABMA12 Comp Rep 1	37.9	--	0.667	15.9	0.011	2.50	K	0.664	1.59	0.250	0.352	JK	0.185	7.96	0.011	0.428	J	0.190	7.96	0.128	0.317	J	0.186	7.96	0.032
ABMA12 Comp Rep 2	34.9	--	0.397	14.6	0.010	1.53	--	0.535	1.46	0.153	ND	U	0.175	7.29	0.005	0.418	JK	0.182	7.29	0.125	0.325	J	0.168	7.29	0.033
ABMA12 Comp Rep 3	45.6	--	0.384	16.2	0.014	2.14	--	0.496	1.62	0.214	ND	U	0.191	8.11	0.006	ND	U	0.194	8.11	0.058	0.343	JK	0.147	8.11	0.034
ABMA12 Comp Rep 4	38.2	--	0.399	15.8	0.011	1.71	--	0.629	1.58	0.171	ND	U	0.163	7.91	0.005	ND	U	0.165	7.91	0.050	0.298	JK	0.137	7.91	0.030
ABMA12 Comp Rep 5	48.9	--	0.392	14.7	0.015	1.99	--	0.614	1.47	0.199	0.464	J	0.195	7.33	0.014	0.481	J	0.198	7.33	0.144	ND	U	0.175	7.33	0.018
RS-CH-A Rep 1	21.6	B	0.224	11.6	0.006	1.77	C	0.135	1.16	0.177	ND	U	0.0852	5.78	0.003	ND	U	0.0849	5.78	0.025	ND	U	0.109	5.78	0.011
RS-CH-A Rep 2	16.9	B	0.0969	11.5	0.005	1.44	CK	0.118	1.15	0.144	0.232	J	0.105	5.76	0.007	0.387	J	0.105	5.76	0.116	0.276	JK	0.0625	5.76	0.028
RS-CH-A Rep 3	45.7	B	0.153	11.6	0.014	1.40	C	0.142	1.16	0.140	ND	U	0.124	5.81	0.004	ND	U	0.120	5.81	0.036	ND	U	0.145	5.81	0.015
RS-CH-A Rep 4	18.3	BK	0.140	11.2	0.005	1.62	C	0.133	1.12	0.162	ND	U	0.122	5.59	0.004	ND	U	0.121	5.59	0.036	ND	U	0.0479	5.59	0.005
RS-CH-A Rep 5	65.2	B	0.321	10.9	0.020	1.24	C	0.151	1.09	0.124	ND	U	0.0886	5.45	0.003	ND	U	0.0895	5.45	0.027	0.238	BJ	0.122	5.45	0.024
Pre-exposure Rep 1	27.2	B	0.215	11.8	0.008	1.58	CK	0.0539	1.18	0.158	ND	U	0.118	5.88	0.004	ND	U	0.119	5.88	0.036	ND	U	0.268	5.88	0.027
Pre-exposure Rep 2	36.1	B	0.289	11.7	0.011	1.76	CK	0.155	1.17	0.176	0.349	JK	0.167	5.84	0.010	ND	U	0.166	5.84	0.050	0.438	JK	0.146	5.84	0.044
Pre-exposure Rep 3	33.6	B	0.213	11.4	0.010	1.63	C	0.160	1.14	0.163	ND	U	0.151	5.72	0.005	0.375	J	0.152	5.72	0.113	0.388	J	0.233	5.72	0.039
Toxic Equivalency Factor (TEF)	0.0003					0.1					0.03					0.3					0.1				

TABLE 47
Analytical Results for Dry Weight Dioxins and Furans in *Neanthes virens* tissues

ANAMAR Environmental Consulting, Inc.

Analyte:	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					Octachlorodibenzofuran (OCDF)				
Sample-Replicate #	**Result ng/kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**
CHEC12-1 Comp Rep 1	ND	U	0.139	5.76	0.014	ND	U	0.195	5.76	0.020	ND	U	0.151	5.76	0.015	0.391	J	0.108	5.76	0.004	ND	U	0.156	5.76	0.002	ND	U	0.249	11.5	0.0001
CHEC12-1 Comp Rep 2	ND	U	0.179	5.80	0.018	ND	U	0.281	5.800	0.028	ND	U	0.199	5.80	0.020	0.316	JK	0.0756	5.80	0.003	ND	U	0.0977	5.80	0.001	ND	U	0.381	11.6	0.0001
CHEC12-1 Comp Rep 3	ND	U	0.157	5.81	0.016	ND	U	0.233	5.81	0.023	ND	U	0.172	5.81	0.017	2.62	J	0.137	5.81	0.026	0.572	J	0.172	5.81	0.006	34.7	--	0.217	11.6	0.0104
CHEC12-1 Comp Rep 4	ND	U	0.169	5.66	0.017	ND	U	0.256	5.66	0.026	ND	U	0.182	5.66	0.018	0.334	JK	0.115	5.66	0.003	ND	U	0.149	5.66	0.001	ND	U	0.452	11.3	0.0001
CHEC12-1 Comp Rep 5	ND	U	0.141	5.85	0.014	ND	U	0.206	5.85	0.021	ND	U	0.157	5.85	0.016	ND	U	0.138	5.85	0.001	ND	U	0.179	5.85	0.002	ND	U	0.313	11.7	0.0001
REHR12 Comp Rep 1	ND	U	0.128	5.76	0.013	ND	U	0.208	5.76	0.021	ND	U	0.145	5.76	0.015	0.323	JK	0.0878	5.76	0.003	ND	U	0.128	5.76	0.001	0.556	J	0.218	11.5	0.0002
REHR12 Comp Rep 2	ND	U	0.0946	5.77	0.009	ND	U	0.149	5.77	0.015	ND	U	0.111	5.77	0.011	0.300	JK	0.114	5.77	0.003	ND	U	0.147	5.77	0.001	0.266	J	0.203	11.5	0.0001
REHR12 Comp Rep 3	ND	U	0.111	5.85	0.011	ND	U	0.170	5.85	0.017	ND	U	0.126	5.85	0.013	0.334	JK	0.0974	5.85	0.003	ND	U	0.119	5.85	0.001	0.263	J	0.206	11.7	0.0001
REHR12 Comp Rep 4	0.134	J	0.104	5.91	0.013	ND	U	0.158	5.91	0.016	ND	U	0.120	5.91	0.012	0.318	J	0.0946	5.91	0.003	ND	U	0.114	5.91	0.001	0.439	J	0.277	11.8	0.0001
REHR12 Comp Rep 5	0.166	JK	0.0895	5.92	0.017	ND	U	0.133	5.92	0.013	ND	U	0.101	5.92	0.010	0.406	J	0.113	5.92	0.004	ND	U	0.133	5.92	0.001	0.585	J	0.233	11.8	0.0002
WLR12 Comp Rep 1	ND	U	0.230	5.81	0.023	ND	U	0.313	5.81	0.031	ND	U	0.263	5.81	0.026	ND	U	0.294	5.81	0.003	ND	U	0.422	5.81	0.004	ND	U	0.627	11.6	0.0002
WLR12 Comp Rep 2	ND	U	0.249	5.86	0.025	ND	U	0.354	5.86	0.035	ND	U	0.301	5.86	0.030	ND	U	0.195	5.86	0.002	ND	U	0.301	5.86	0.003	ND	U	0.805	11.7	0.0002
WLR12 Comp Rep 3	ND	U	0.142	5.66	0.014	ND	U	0.195	5.66	0.020	ND	U	0.165	5.66	0.017	0.341	BJ	0.199	5.66	0.003	ND	U	0.290	5.66	0.003	ND	U	0.445	11.3	0.0001
WLR12 Comp Rep 4	ND	U	0.228	5.82	0.023	ND	U	0.320	5.82	0.032	ND	U	0.270	5.82	0.027	0.306	BJK	0.192	5.82	0.003	ND	U	0.290	5.82	0.003	ND	U	0.466	11.6	0.0001
WLR12 Comp Rep 5	ND	U	0.159	5.71	0.016	ND	U	0.224	5.71	0.022	ND	U	0.189	5.71	0.019	0.321	BJ	0.190	5.71	0.003	ND	U	0.286	5.71	0.003	ND	U	0.503	11.4	0.0002
WUTB12 Comp Rep 1	ND	U	0.217	5.73	0.022	ND	U	0.305	5.73	0.031	ND	U	0.261	5.73	0.026	0.311	BJ	0.133	5.73	0.003	ND	U	0.196	5.73	0.002	ND	U	0.446	11.5	0.0001
WUTB12 Comp Rep 2	ND	U	0.248	5.76	0.025	ND	U	0.345	5.76	0.035	ND	U	0.297	5.76	0.030	ND	U	0.210	5.76	0.002	ND	U	0.302	5.76	0.003	ND	U	0.715	11.5	0.0002
WUTB12 Comp Rep 3	ND	U	0.176	5.66	0.018	ND	U	0.261	5.66	0.026	ND	U	0.219	5.66	0.022	0.334	BJ	0.213	5.66	0.003	ND	U	0.338	5.66	0.003	ND	U	0.753	11.3	0.0002
WUTB12 Comp Rep 4	ND	U	0.196	5.76	0.020	ND	U	0.279	5.76	0.028	ND	U	0.241	5.76	0.024	0.288	BJ	0.217	5.76	0.003	ND	U	0.327	5.76	0.003	ND	U	0.701	11.5	0.0002
WUTB12 Comp Rep 5	ND	U	1.56	5.85	0.156	ND	U	1.87	5.85	0.187	ND	U	1.87	5.85	0.187	ND	U	1.06	5.85	0.011	ND	U	1.53	5.85	0.015	ND	U	2.12	11.7	0.0006
CCRK12 Comp Rep 1	ND	U	0.746	5.62	0.075	ND	U	1.34	5.62	0.134	ND	U	0.919	5.62	0.092	ND	U	0.961	5.62	0.010	ND	U	1.56	5.62	0.016	ND	U	2.43	11.2	0.0007
CCRK12 Comp Rep 2	ND	U	0.733	5.93	0.073	ND	U	1.39	5.93	0.139	ND	U	0.919	5.93	0.092	ND	U	1.03	5.93	0.010	ND	U	1.69	5.93	0.017	ND	U	2.81	11.9	0.0008
CCRK12 Comp Rep 3	ND	U	0.239	5.73	0.024	ND	U	0.336	5.73	0.034	ND	U	0.279	5.73	0.028	0.329	BJ	0.196	5.73	0.003	ND	U	0.315	5.73	0.003	ND	U	0.531	11.5	0.0002
CCRK12 Comp Rep 4	ND	U	0.324	5.80	0.032	ND	U	0.427	5.80	0.043	ND	U	0.363	5.80	0.036	ND	U	0.231	5.80	0.002	ND	U	0.350	5.80	0.004	ND	U	0.676	11.6	0.0002
CCRK12 Comp Rep 5	ND	U	0.196	5.67	0.020	ND	U	0.266	5.67	0.027	ND	U	0.224	5.67	0.022	ND	U	0.214	5.67	0.002	ND	U	0.338	5.67	0.003	ND	U	0.686	11.3	0.0002
ORDT12 Comp Rep 1	ND	U	0.264	5.88	0.026	ND	U	0.340	5.88	0.034	ND	U	0.308	5.88	0.031	0.331	BJK	0.177	5.88	0.003	ND	U	0.270	5.88	0.003	ND	U	0.660	11.8	0.0002
ORDT12 Comp Rep 2	ND	U	0.267	5.91	0.027	ND	U	0.352	5.91	0.035	ND	U	0.303	5.91	0.030	0.393	BJ	0.167	5.91	0.004	ND	U	0.247	5.91	0.002	ND	U	0.552	11.8	0.0002
ORDT12 Comp Rep 3	ND	U	0.194	5.69	0.019	ND	U	0.257	5.69	0.026	ND	U	0.228	5.69	0.023	0.369	BJK	0.143	5.69	0.004	ND	U	0.211	5.69	0.002	ND	U	0.481	11.4	0.0001
ORDT12 Comp Rep 4	ND	U	0.147	5.75	0.015	ND	U	0.192	5.75	0.019	ND	U	0.180	5.75	0.018	0.368	BJ	0.197	5.75	0.004	ND	U	0.295	5.75	0.003	ND	U	0.623	11.5	0.0002
ORDT12 Comp Rep 5	ND	U	0.233	5.78	0.023	ND	U	0.305	5.78	0.031	ND	U	0.276	5.78	0.028	0.330	BJK	0.126	5.78	0.003	ND	U	0.189	5.78	0.002	ND	U	0.478	11.6	0.0001
HGIW12 Comp Rep 1	ND	U	0.132	5.90	0.013	ND	U	0.200	5.90	0.020	ND	U	0.141	5.90	0.014	0.489	JK	0.0991	5.90	0.005	ND	U	0.152	5.90	0.002	ND	U	0.309	11.8	0.0001
HGIW12 Comp Rep 2	ND	U	0.0998	5.72	0.010	ND	U	0.161	5.72	0.016	ND	U	0.113	5.72	0.011	0.388	J	0.101	5.72	0.004	ND	U	0.145	5.72	0.001	ND	U	0.371	11.4	0.0001
HGIW12 Comp Rep 3	ND	U	0.946	5.79	0.095	ND	U	1.77	5.79	0.177	ND	U	1.12	5.79	0.112	ND	U	0.890	5.79	0.009	ND	U	1.41	5.79	0.014	ND	U	3.47	11.6	0.0010
HGIW12 Comp Rep 4	ND	U	0.966	5.82	0.097	ND	U	1.81	5.82	0.181	ND	U	1.14	5.82	0.114	ND	U	1.11	5.82	0.011	ND	U	1.83	5.82	0.018	ND	U	3.53	11.6	0.0011
HGIW12 Comp Rep 5	ND	U	0.952	5.85	0.095	ND	U	1.76	5.85	0.176	ND	U	1.11	5.85	0.111	ND	U	0.836	5.85	0.008	ND	U	1.38	5.85	0.014	ND	U	2.48	11.7	0.0007

TABLE 47
Analytical Results for Dry Weight Dioxins and Furans in *Neanthes virens* tissues

ANAMAR Environmental Consulting, Inc.

Analyte:	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					Octachlorodibenzofuran (OCDF)				
Sample-Replicate #	**Result ng/kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**
DANW12 Comp Rep 1	0.186	JK	0.115	5.77	0.019	ND	U	0.183	5.77	0.018	ND	U	0.134	5.77	0.013	0.449	JK	0.0948	5.77	0.004	ND	U	0.139	5.77	0.001	ND	U	0.371	11.5	0.0001
DANW12 Comp Rep 2	ND	U	0.152	5.80	0.015	ND	U	0.267	5.80	0.027	ND	U	0.174	5.80	0.017	0.333	JK	0.0864	5.80	0.003	ND	U	0.133	5.80	0.001	ND	U	0.430	11.6	0.0001
DANW12 Comp Rep 3	ND	U	0.148	5.86	0.015	ND	U	0.237	5.86	0.024	ND	U	0.158	5.86	0.016	0.264	JK	0.0980	5.86	0.003	ND	U	0.147	5.86	0.001	ND	U	0.446	11.7	0.0001
DANW12 Comp Rep 4	ND	U	0.126	5.90	0.013	ND	U	0.201	5.90	0.020	ND	U	0.134	5.90	0.013	0.286	J	0.110	5.90	0.003	ND	U	0.159	5.90	0.002	ND	U	0.247	11.8	0.0001
DANW12 Comp Rep 5	ND	U	0.126	5.73	0.013	ND	U	0.192	5.73	0.019	ND	U	0.134	5.73	0.013	0.292	JK	0.116	5.73	0.003	ND	U	0.171	5.73	0.002	ND	U	0.396	11.5	0.0001
WLRW12 Comp Rep 1	ND	U	0.775	5.87	0.078	ND	U	1.39	5.87	0.139	ND	U	0.883	5.87	0.088	ND	U	0.879	5.87	0.009	ND	U	1.30	5.87	0.013	ND	U	2.42	11.7	0.0007
WLRW12 Comp Rep 2	ND	U	0.689	5.72	0.069	ND	U	1.28	5.72	0.128	ND	U	0.819	5.72	0.082	ND	U	0.814	5.72	0.008	ND	U	1.30	5.72	0.013	ND	U	2.55	11.4	0.0008
WLRW12 Comp Rep 3	ND	U	0.773	5.89	0.077	ND	U	1.41	5.89	0.141	ND	U	0.928	5.89	0.093	ND	U	0.826	5.89	0.008	ND	U	1.28	5.89	0.013	ND	U	2.64	11.8	0.0008
WLRW12 Comp Rep 4	ND	U	0.755	5.85	0.076	ND	U	1.35	5.85	0.135	ND	U	0.862	5.85	0.086	ND	U	0.781	5.85	0.008	ND	U	1.21	5.85	0.012	ND	U	2.84	11.7	0.0009
WLRW12 Comp Rep 5	ND	U	0.634	5.77	0.063	ND	U	1.08	5.77	0.108	ND	U	0.725	5.77	0.073	ND	U	0.747	5.77	0.007	ND	U	1.14	5.77	0.011	ND	U	2.00	11.5	0.0006
ABMA12 Comp Rep 1	0.239	J	0.149	7.96	0.024	ND	U	0.267	7.96	0.027	0.239	JK	0.174	7.96	0.024	1.08	J	0.183	7.96	0.011	ND	U	0.285	7.96	0.003	3.05	J	0.467	15.9	0.0009
ABMA12 Comp Rep 2	0.168	JK	0.138	7.29	0.017	ND	U	0.219	7.29	0.022	ND	U	0.158	7.29	0.016	1.08	J	0.137	7.29	0.011	ND	U	0.191	7.29	0.002	3.02	J	0.341	14.6	0.0009
ABMA12 Comp Rep 3	0.199	JK	0.121	8.11	0.020	ND	U	0.194	8.11	0.019	0.217	J	0.139	8.11	0.022	1.25	J	0.127	8.11	0.013	0.210	JK	0.172	8.11	0.002	3.92	JK	0.458	16.2	0.0012
ABMA12 Comp Rep 4	0.220	JK	0.112	7.91	0.022	ND	U	0.176	7.91	0.018	0.231	JK	0.127	7.91	0.023	1.00	J	0.151	7.91	0.010	ND	U	0.206	7.91	0.002	3.55	JK	0.346	15.8	0.0011
ABMA12 Comp Rep 5	ND	U	0.141	7.33	0.014	ND	U	0.223	7.33	0.022	ND	U	0.158	7.33	0.016	1.23	J	0.134	7.33	0.012	ND	U	0.189	7.33	0.002	3.44	JK	0.361	14.7	0.0010
RS-CH-A Rep 1	ND	U	0.0928	5.78	0.009	0.762	JK	0.131	5.78	0.076	0.556	BJK	0.104	5.78	0.056	0.952	BJ	0.0537	5.78	0.010	0.356	JK	0.0706	5.78	0.004	2.46	BJ	0.358	11.6	0.0007
RS-CH-A Rep 2	0.175	BJ	0.0545	5.76	0.018	0.684	JK	0.0752	5.76	0.068	0.173	BJK	0.0616	5.76	0.017	0.605	BJ	0.0192	5.76	0.006	ND	U	0.0243	5.76	0.000	1.62	BJ	0.275	11.5	0.0005
RS-CH-A Rep 3	0.444	BJK	0.120	5.81	0.044	0.844	JK	0.182	5.81	0.084	0.460	BJK	0.138	5.81	0.046	1.17	BJ	0.0354	5.81	0.012	0.480	JK	0.0498	5.81	0.005	4.24	BJK	0.401	11.6	0.0013
RS-CH-A Rep 4	ND	U	0.0409	5.59	0.004	0.962	JK	0.0615	5.59	0.096	ND	U	0.0452	5.59	0.005	0.760	BJK	0.0349	5.59	0.008	ND	U	0.0501	5.59	0.001	1.77	BJ	0.396	11.2	0.0005
RS-CH-A Rep 5	0.215	JK	0.106	5.45	0.022	ND	U	0.146	5.45	0.015	ND	U	0.118	5.45	0.012	1.07	BJ	0.0598	5.45	0.011	0.237	JK	0.0690	5.45	0.002	5.44	BJ	0.197	10.9	0.0016
Pre-exposure Rep 1	ND	U	0.224	5.88	0.022	ND	U	0.319	5.88	0.032	ND	U	0.258	5.88	0.026	1.29	BJK	0.0885	5.88	0.013	0.424	J	0.112	5.88	0.004	3.29	BJ	0.314	11.8	0.0010
Pre-exposure Rep 2	0.548	BJ	0.123	5.84	0.055	0.955	JK	0.168	5.84	0.096	0.340	BJ	0.137	5.84	0.034	1.43	BJ	0.0728	5.84	0.014	0.288	J	0.0919	5.84	0.003	3.79	BJ	0.327	11.7	0.0011
Pre-exposure Rep 3	0.362	BJK	0.199	5.72	0.036	0.880	JK	0.271	5.72	0.088	ND	U	0.231	5.72	0.023	1.15	BJ	0.120	5.72	0.012	ND	U	0.156	5.72	0.002	3.83	BJ	0.354	11.4	0.0011
Toxic Equivalency Factor (TEF)	0.1					0.1					0.1					0.01					0.01					0.0003				

TABLE 47
Analytical Results for Dry Weight Dioxins and Furans in *Neanthes virens* tissues

ANAMAR Environmental Consulting, Inc.

Analyte:	Total Tetra-Dioxins				Total Tetra-Furans				Total Penta-Dioxins				Total Penta-Furans				Total Hexa-Dioxins				Total Hexa-Furans				Total Hepta-Dioxins				Total Hepta-Furans			
Sample-Replicate #	Result ng/kg	Qualifier	MDL	MRL	Result ng/kg	Qualifier	MDL	MRL	Result ng/kg	Qualifier	MDL	MRL	Result ng/kg	Qualifier	MDL	MRL	Result ng/kg	Qualifier	MDL	MRL	Result ng/kg	Qualifier	MDL	MRL	Result ng/kg	Qualifier	MDL	MRL	Result ng/kg	Qualifier	MDL	MRL
CHEC12-1 Comp Rep 1	ND	U	0.226	1.15	0.876	J	0.114	1.15	0.330	J	0.165	5.76	0.717	J	0.146	5.76	2.10	J	0.0953	5.76	ND	U	0.161	5.76	3.56	J	0.245	5.76	0.391	J	0.129	5.76
CHEC12-1 Comp Rep 2	ND	U	0.236	1.16	1.22	--	0.144	1.16	ND	U	0.177	5.80	0.524	J	0.113	5.80	2.23	J	0.151	5.80	ND	U	0.212	5.80	1.03	J	0.0749	5.80	ND	U	0.0856	5.80
CHEC12-1 Comp Rep 3	ND	U	0.164	1.16	ND	U	0.131	1.16	ND	U	0.176	5.81	1.02	J	0.0895	5.81	0.845	J	0.187	5.81	ND	U	0.183	5.81	3.59	J	0.204	5.81	3.74	J	0.153	5.81
CHEC12-1 Comp Rep 4	ND	U	0.233	1.13	ND	U	0.178	1.13	ND	U	0.186	5.66	0.644	J	0.0993	5.66	ND	U	0.109	5.66	ND	U	0.199	5.66	ND	U	0.143	5.66	ND	U	0.131	5.66
CHEC12-1 Comp Rep 5	ND	U	0.270	1.17	ND	U	0.229	1.17	ND	U	0.254	5.85	0.488	J	0.152	5.85	2.04	J	0.0752	5.85	ND	U	0.163	5.85	ND	U	0.16	5.85	ND	U	0.157	5.85
REHR12 Comp Rep 1	0.389	J	0.129	1.15	ND	U	0.0650	1.15	ND	U	0.0486	5.76	1.25	J	0.0420	5.76	1.15	J	0.0691	5.76	ND	U	0.155	5.76	0.848	J	0.102	5.76	ND	U	0.106	5.76
REHR12 Comp Rep 2	0.822	J	0.133	1.15	2.72	--	0.111	1.15	ND	U	0.135	5.77	2.33	J	0.0951	5.77	0.907	J	0.176	5.77	0.150	J	0.114	5.77	ND	U	0.206	5.77	0.163	J	0.129	5.77
REHR12 Comp Rep 3	ND	U	0.135	1.17	2.76	--	0.122	1.17	ND	U	0.103	5.85	1.73	J	0.0775	5.85	0.448	J	0.122	5.85	ND	U	0.131	5.85	2.25	J	0.122	5.85	ND	U	0.108	5.85
REHR12 Comp Rep 4	0.331	J	0.189	1.18	1.89	--	0.0944	1.18	ND	U	0.0920	5.91	0.846	J	0.0955	5.91	0.471	J	0.137	5.91	0.600	J	0.124	5.91	2.32	J	0.176	5.91	0.318	J	0.104	5.91
REHR12 Comp Rep 5	0.888	J	0.150	1.18	4.06	--	0.0903	1.18	ND	U	0.154	5.92	2.71	J	0.127	5.92	1.62	J	0.151	5.92	0.611	J	0.105	5.92	2.78	J	0.147	5.92	0.611	J	0.122	5.92
WLR12 Comp Rep 1	ND	U	0.464	1.16	0.922	J	0.344	1.16	ND	U	0.423	5.81	0.611	J	0.295	5.81	ND	U	0.290	5.81	ND	U	0.266	5.81	0.857	J	0.463	5.81	ND	U	0.351	5.81
WLR12 Comp Rep 2	ND	U	0.379	1.17	ND	U	0.367	1.17	ND	U	0.336	5.86	0.281	J	0.263	5.86	ND	U	0.340	5.86	ND	U	0.297	5.86	0.721	J	0.306	5.86	ND	U	0.241	5.86
WLR12 Comp Rep 3	ND	U	0.429	1.13	0.610	J	0.251	1.13	ND	U	0.334	5.66	0.630	J	0.242	5.66	ND	U	0.236	5.66	ND	U	0.165	5.66	2.05	J	0.359	5.66	ND	U	0.239	5.66
WLR12 Comp Rep 4	ND	U	0.319	1.16	1.45	--	0.324	1.16	ND	U	0.286	5.82	1.10	J	0.196	5.82	0.480	J	0.280	5.82	0.409	J	0.269	5.82	2.35	J	0.321	5.82	ND	U	0.235	5.82
WLR12 Comp Rep 5	ND	U	0.448	1.14	1.58	--	0.319	1.14	ND	U	0.342	5.71	1.82	J	0.252	5.71	ND	U	0.127	5.71	ND	U	0.188	5.71	1.34	J	0.278	5.71	0.321	J	0.232	5.71
WUTB12 Comp Rep 1	ND	U	0.443	1.15	1.02	J	0.366	1.15	ND	U	0.386	5.73	0.872	J	0.316	5.73	1.20	J	0.258	5.73	ND	U	0.258	5.73	2.44	J	0.296	5.73	0.311	J	0.160	5.73
WUTB12 Comp Rep 2	ND	U	0.419	1.15	ND	U	0.323	1.15	ND	U	0.329	5.76	ND	U	0.350	5.76	0.837	J	0.353	5.76	ND	U	0.292	5.76	2.78	J	0.325	5.76	ND	U	0.250	5.76
WUTB12 Comp Rep 3	ND	U	0.488	1.13	1.25	--	0.345	1.13	ND	U	0.477	5.66	ND	U	0.353	5.66	0.957	J	0.243	5.66	ND	U	0.214	5.66	1.70	J	0.447	5.66	0.334	J	0.267	5.66
WUTB12 Comp Rep 4	ND	U	0.461	1.15	1.20	--	0.256	1.15	ND	U	0.358	5.76	0.980	J	0.216	5.76	1.11	J	0.283	5.76	ND	U	0.234	5.76	1.52	J	0.345	5.76	0.288	J	0.265	5.76
WUTB12 Comp Rep 5	ND	U	2.97	2.97	ND	U	2.61	2.61	ND	U	2.69	5.85	ND	U	2.43	5.85	ND	U	2.36	5.85	ND	U	1.77	5.85	ND	U	2.64	5.85	ND	U	1.26	5.85
CCRK12 Comp Rep 1	ND	U	1.39	1.39	ND	U	1.47	1.47	ND	U	1.59	5.62	2.20	J	0.953	5.62	ND	U	1.21	5.62	ND	U	0.940	5.62	ND	U	1.93	5.62	ND	U	1.22	5.62
CCRK12 Comp Rep 2	ND	U	1.49	1.49	ND	U	1.35	1.35	ND	U	1.55	5.93	ND	U	1.53	5.93	ND	U	1.74	5.93	ND	U	0.941	5.93	ND	U	1.72	5.93	ND	U	1.31	5.93
CCRK12 Comp Rep 3	ND	U	0.443	1.15	1.07	J	0.359	1.15	ND	U	0.416	5.73	1.56	J	0.277	5.73	0.471	J	0.237	5.73	ND	U	0.282	5.73	2.00	J	0.306	5.73	0.329	J	0.246	5.73
CCRK12 Comp Rep 4	ND	U	0.491	1.16	1.57	--	0.454	1.16	ND	U	0.507	5.80	1.18	J	0.380	5.80	ND	U	0.354	5.80	ND	U	0.370	5.80	1.31	J	0.465	5.80	ND	U	0.283	5.80
CCRK12 Comp Rep 5	ND	U	0.283	1.13	1.26	--	0.317	1.13	ND	U	0.429	5.67	0.689	J	0.293	5.67	ND	U	0.296	5.67	ND	U	0.228	5.67	1.96	J	0.397	5.67	ND	U	0.267	5.67
ORDT12 Comp Rep 1	1.14	J	0.368	1.18	1.37	--	0.306	1.18	ND	U	0.304	5.88	1.82	J	0.224	5.88	1.58	J	0.274	5.88	ND	U	0.304	5.88	3.46	J	0.244	5.88	ND	U	0.217	5.88
ORDT12 Comp Rep 2	ND	U	0.355	1.18	1.01	J	0.261	1.18	ND	U	0.345	5.91	0.678	J	0.242	5.91	1.97	J	0.298	5.91	0.375	J	0.306	5.91	2.97	J	0.326	5.91	0.393	J	0.201	5.91
ORDT12 Comp Rep 3	ND	U	0.246	1.14	1.18	--	0.252	1.14	ND	U	0.263	5.69	1.91	J	0.231	5.69	1.65	J	0.245	5.69	ND	U	0.228	5.69	2.91	J	0.243	5.69	0.226	J	0.173	5.69
ORDT12 Comp Rep 4	ND	U	0.376	1.15	ND	U	0.297	1.15	ND	U	0.263	5.75	0.857	J	0.224	5.75	2.29	J	0.208	5.75	ND	U	0.174	5.75	2.59	J	0.340	5.75	0.368	J	0.240	5.75
ORDT12 Comp Rep 5	ND	U	0.528	1.16	1.49	--	0.410	1.16	ND	U	0.381	5.78	1.21	J	0.298	5.78	2.12	J	0.315	5.78	ND	U	0.270	5.78	1.50	J	0.275	5.78	ND	U	0.153	5.78
HGIW12 Comp Rep 1	0.912	J	0.304	1.18	ND	U	0.216	1.18	ND	U	0.193	5.90	ND	U	0.159	5.90	ND	U	0.158	5.90	ND	U	0.154	5.90	3.30	J	0.148	5.90	0.256	J	0.126	5.90
HGIW12 Comp Rep 2	0.937	J	0.298	1.14	1.36	--	0.270	1.14	ND	U	0.183	5.72	1.10	J	0.145	5.72	1.72	J	0.124	5.72	0.368	J	0.121	5.72	2.22	J	0.156	5.72	0.388	J	0.124	5.72
HGIW12 Comp Rep 3	1.69	--	1.49	1.49	ND	U	1.09	1.16	ND	U	1.49	5.79	ND	U	1.20	5.79	1.90	J	1.17	5.79	ND	U	1.20	5.79	2.33	J	1.77	5.79	ND	U	1.12	5.79
HGIW12 Comp Rep 4	ND	U	2.02	2.02	1.53	--	1.11	1.16	ND	U	1.55	5.82	ND	U	1.49	5.82	2.92	J	1.37	5.82	ND	U	1.22	5.82	6.57	--	2.53	5.82	ND	U	1.42	5.82
HGIW12 Comp Rep 5	ND	U	1.20	1.20	1.25	--	1.14	1.17	ND	U	1.20	5.85	ND	U	1.03	5.85	ND	U	1.08	5.85	ND	U	1.20	5.85	2.24	J	1.74	5.85	ND	U	1.07	5.85

TABLE 47
Analytical Results for Dry Weight Dioxins and Furans in *Neanthes virens* tissues

Analyte:	Total Tetra-Dioxins				Total Tetra-Furans				Total Penta-Dioxins				Total Penta-Furans				Total Hexa-Dioxins				Total Hexa-Furans				Total Hepta-Dioxins				Total Hepta-Furans			
Sample-Replicate #	Result ng/kg	Qualifier	MDL	MRL	Result ng/kg	Qualifier	MDL	MRL	Result ng/kg	Qualifier	MDL	MRL	Result ng/kg	Qualifier	MDL	MRL	Result ng/kg	Qualifier	MDL	MRL	Result ng/kg	Qualifier	MDL	MRL	Result ng/kg	Qualifier	MDL	MRL	Result ng/kg	Qualifier	MDL	MRL
DANW12 Comp Rep 1	ND	U	0.264	1.15	1.06	J	0.199	1.15	ND	U	0.202	5.77	ND	U	0.147	5.77	1.25	J	0.227	5.77	ND	U	0.140	5.77	2.97	J	0.272	5.77	ND	U	0.118	5.77
DANW12 Comp Rep 2	ND	U	0.306	1.16	1.10	J	0.279	1.16	ND	U	0.220	5.80	ND	U	0.160	5.80	0.512	J	0.188	5.80	ND	U	0.189	5.80	1.78	J	0.194	5.80	ND	U	0.110	5.80
DANW12 Comp Rep 3	ND	U	0.329	1.17	1.27	--	0.214	1.17	ND	U	0.203	5.86	1.03	J	0.167	5.86	1.64	J	0.148	5.86	0.607	J	0.176	5.86	ND	U	0.264	5.86	ND	U	0.123	5.86
DANW12 Comp Rep 4	0.499	J	0.463	1.18	0.376	J	0.195	1.18	ND	U	0.187	5.90	1.08	J	0.143	5.90	ND	U	0.139	5.90	ND	U	0.149	5.90	2.33	J	0.214	5.90	0.286	J	0.136	5.90
DANW12 Comp Rep 5	ND	U	0.352	1.15	1.26	--	0.200	1.15	0.285	J	0.188	5.73	1.20	J	0.157	5.73	0.666	J	0.152	5.73	ND	U	0.148	5.73	9.59	--	0.213	5.73	ND	U	0.144	5.73
WLRW12 Comp Rep 1	ND	U	1.18	1.18	ND	U	0.973	1.17	ND	U	1.23	5.87	1.35	J	0.948	5.87	ND	U	1.09	5.87	ND	U	0.955	5.87	ND	U	1.63	5.87	ND	U	1.07	5.87
WLRW12 Comp Rep 2	ND	U	1.21	1.21	1.68	--	0.936	1.14	ND	U	1.41	5.72	ND	U	1.04	5.72	12.8	--	1.31	5.72	ND	U	0.870	5.72	34.0	--	1.57	5.72	ND	U	1.02	5.72
WLRW12 Comp Rep 3	ND	U	1.22	1.22	ND	U	1.04	1.18	ND	U	1.37	5.89	ND	U	1.03	5.89	ND	U	1.17	5.89	ND	U	0.970	5.89	ND	U	1.49	5.89	ND	U	1.02	5.89
WLRW12 Comp Rep 4	ND	U	1.26	1.26	ND	U	0.931	1.17	ND	U	1.30	5.85	ND	U	0.723	5.85	ND	U	0.948	5.85	ND	U	0.928	5.85	ND	U	1.66	5.85	ND	U	0.967	5.85
WLRW12 Comp Rep 5	ND	U	1.15	1.15	ND	U	1.04	1.15	ND	U	1.38	5.77	1.17	J	1.17	5.77	ND	U	1.15	5.77	ND	U	0.773	5.77	ND	U	1.47	5.77	ND	U	0.917	5.77
ABMA12 Comp Rep 1	1.01	J	0.253	1.59	4.83	--	0.275	1.59	ND	U	0.178	7.96	4.30	J	0.187	7.96	5.91	J	0.198	7.96	2.67	J	0.186	7.96	11.8	--	0.184	7.96	3.42	J	0.234	7.96
ABMA12 Comp Rep 2	0.611	J	0.268	1.46	3.23	--	0.157	1.46	0.218	J	0.173	7.29	2.72	J	0.179	7.29	3.74	J	0.164	7.29	1.24	J	0.166	7.29	11.1	--	0.271	7.29	3.28	J	0.166	7.29
ABMA12 Comp Rep 3	1.60	J	0.278	1.62	6.49	--	0.235	1.62	0.646	J	0.184	8.11	2.63	J	0.193	8.11	4.86	J	0.256	8.11	1.67	J	0.146	8.11	4.86	J	0.256	8.11	4.12	J	0.152	8.11
ABMA12 Comp Rep 4	ND	U	0.282	1.58	3.44	--	0.136	1.58	0.278	J	0.122	7.91	2.90	J	0.164	7.91	3.57	J	0.276	7.91	1.80	J	0.135	7.91	11.7	--	0.290	7.91	3.42	J	0.181	7.91
ABMA12 Comp Rep 5	0.690	J	0.319	1.47	4.75	--	0.191	1.47	ND	U	0.184	7.33	4.54	J	0.196	7.33	2.17	J	0.183	7.33	0.305	J	0.169	7.33	14.8	--	0.365	7.33	3.98	J	0.163	7.33
RS-CH-A Rep 1	ND	U	0.314	1.16	2.06	--	0.135	1.16	ND	U	0.121	5.78	3.15	J	0.0849	5.78	ND	U	0.112	5.78	0.865	J	0.108	5.78	6.63	--	0.124	5.78	2.04	J	0.0613	5.78
RS-CH-A Rep 2	ND	U	0.250	1.15	0.450	J	0.118	1.15	ND	U	0.114	5.76	1.78	J	0.105	5.76	0.508	J	0.0895	5.76	1.44	J	0.0625	5.76	3.15	J	0.207	5.76	1.50	J	0.0215	5.76
RS-CH-A Rep 3	ND	U	0.352	1.16	1.40	--	0.142	1.16	ND	U	0.202	5.81	0.859	J	0.122	5.81	1.12	J	0.0554	5.81	1.02	J	0.143	5.81	10.2	--	0.0951	5.81	1.17	J	0.0419	5.81
RS-CH-A Rep 4	ND	U	0.324	1.12	1.62	--	0.133	1.12	ND	U	0.221	5.59	ND	U	0.121	5.59	ND	U	0.0615	5.59	ND	U	0.0479	5.59	3.26	J	0.0660	5.59	ND	U	0.0416	5.59
RS-CH-A Rep 5	ND	U	0.224	1.09	2.04	--	0.151	1.09	ND	U	0.113	5.45	2.48	J	0.0890	5.45	3.22	J	0.163	5.45	0.997	J	0.121	5.45	17.5	--	0.167	5.45	4.04	J	0.0642	5.45
Pre-exposure Rep 1	ND	U	0.149	1.18	0.372	J	0.0539	1.18	0.415	J	0.130	5.88	1.59	J	0.118	5.88	1.21	J	0.105	5.88	1.72	J	0.263	5.88	4.02	J	0.286	5.88	1.83	J	0.0987	5.88
Pre-exposure Rep 2	ND	U	0.315	1.17	2.00	--	0.155	1.17	0.330	J	0.141	5.84	0.847	J	0.166	5.84	3.11	J	0.153	5.84	3.28	J	0.142	5.84	8.95	--	0.174	5.84	0.288	J	0.0814	5.84
Pre-exposure Rep 3	ND	U	0.293	1.14	1.63	--	0.160	1.14	ND	U	0.0486	5.72	2.40	J	0.151	5.72	ND	U	0.0447	5.72	0.699	J	0.231	5.72	9.31	--	0.188	5.72	1.15	J	0.137	5.72
Toxic Equivalency Factor (TEF	x				x				x				x				x				x				x				x			

TEFs taken from Van den Berg et. Al. (2006)
B = Method blank contains contaminant above detection limit
C = Confirmation of the TCDF compound: When 2378-TCDF is detected on the DB-5 column, confirmation analyses are performed on a second column (DB-225). The confirmed result should be used in determining the TEQ value for TCDF.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
K = Ion abundances are outside laboratory control limits
U = The compound was analyzed for, but was not detected at or above the MDL.
x = No TEF published for parameter
-- = no qualified or value needed

Source: ALS Environmental
Compiled by: ANAMAR Environmental Consulting, Inc.

TABLE 48
Analytical Results for Dry Weight Dioxins and Furans in *Macoma nasuta* tissues

ANAMAR Environmental Consulting, Inc.

Analyte:	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)				
Sample-Replicate #	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ
CHEC12-1 Comp Rep 1	ND	U	0.687	1.20	0.687	ND	U	1.36	6.00	1.360	ND	U	2.37	6.00	0.237	ND	U	2.52	6.00	0.252	ND	U	2.32	6.00	0.232	5.17	J	3.44	6.00	0.052
CHEC12-1 Comp Rep 2	ND	U	0.643	1.16	0.643	ND	U	1.95	5.82	1.950	ND	U	3.74	5.82	0.374	ND	U	3.98	5.82	0.398	ND	U	3.66	5.82	0.366	ND	U	4.64	5.82	0.046
CHEC12-1 Comp Rep 3	ND	U	0.691	1.19	0.691	ND	U	1.78	5.96	1.780	ND	U	2.95	5.96	0.295	ND	U	3.12	5.96	0.312	ND	U	2.88	5.96	0.288	ND	U	4.83	5.96	0.048
CHEC12-1 Comp Rep 4	ND	U	0.889	1.19	0.889	ND	U	1.89	5.94	1.890	ND	U	4.19	5.94	0.419	ND	U	4.44	5.94	0.444	ND	U	4.09	5.94	0.409	ND	U	6.05	6.05	0.061
CHEC12-1 Comp Rep 5	ND	U	0.659	1.18	0.659	ND	U	1.73	5.92	1.730	ND	U	3.16	5.92	0.316	ND	U	3.46	5.92	0.346	ND	U	3.14	5.92	0.314	ND	U	5.04	5.92	0.050
REHR12 Comp Rep 1	ND	U	0.631	1.18	0.631	ND	U	2.89	5.88	2.890	ND	U	4.67	5.88	0.467	ND	U	5.04	5.88	0.504	ND	U	4.61	5.88	0.461	ND	U	5.83	5.88	0.058
REHR12 Comp Rep 2	ND	U	0.922	1.15	0.922	ND	U	2.26	5.75	2.260	ND	U	3.69	5.75	0.369	ND	U	3.83	5.75	0.383	ND	U	3.56	5.75	0.356	ND	U	4.90	5.75	0.049
REHR12 Comp Rep 3	ND	U	0.926	1.18	0.926	ND	U	2.15	5.92	2.150	ND	U	3.46	5.92	0.346	ND	U	3.77	5.92	0.377	ND	U	3.43	5.92	0.343	ND	U	5.60	5.92	0.056
REHR12 Comp Rep 4	ND	U	0.721	1.14	0.721	ND	U	2.33	5.68	2.330	ND	U	3.52	5.68	0.352	ND	U	3.78	5.68	0.378	ND	U	3.47	5.68	0.347	ND	U	5.30	5.68	0.053
REHR12 Comp Rep 5	ND	U	0.727	1.15	0.727	ND	U	1.78	5.75	1.780	ND	U	3.70	5.75	0.370	ND	U	4.00	5.75	0.400	ND	U	3.65	5.75	0.365	ND	U	5.15	5.75	0.052
WLR12 Comp Rep 1	ND	U	0.553	1.18	0.553	ND	U	0.193	5.92	0.193	ND	U	0.168	5.92	0.017	ND	U	0.194	5.92	0.019	ND	U	0.178	5.92	0.018	0.969	J	0.191	5.92	0.010
WLR12 Comp Rep 2	ND	U	0.368	1.20	0.368	ND	U	0.204	6.01	0.204	ND	U	0.187	6.01	0.019	ND	U	0.227	6.01	0.023	ND	U	0.202	6.01	0.020	1.45	J	0.245	6.01	0.015
WLR12 Comp Rep 3	ND	U	0.430	1.20	0.430	ND	U	0.253	5.98	0.253	ND	U	0.152	5.98	0.015	ND	U	0.184	5.98	0.018	ND	U	0.164	5.98	0.016	1.01	JK	0.222	5.98	0.010
WLR12 Comp Rep 4	ND	U	0.391	1.17	0.391	ND	U	0.248	5.83	0.248	ND	U	0.200	5.83	0.020	ND	U	0.242	5.83	0.024	ND	U	0.216	5.83	0.022	0.851	JK	0.239	5.83	0.009
WLR12 Comp Rep 5	ND	U	0.977	1.20	0.977	ND	U	1.94	5.98	1.940	ND	U	2.30	5.98	0.230	ND	U	2.40	5.98	0.240	ND	U	2.23	5.98	0.223	ND	U	3.82	5.98	0.038
WUTB12 Comp Rep 1	ND	U	0.807	1.21	0.807	ND	U	1.81	6.03	1.810	ND	U	2.28	6.03	0.228	ND	U	2.43	6.03	0.243	ND	U	2.24	6.03	0.224	8.48	--	3.31	6.03	0.085
WUTB12 Comp Rep 2	ND	U	0.695	1.19	0.695	ND	U	1.62	5.97	1.620	ND	U	2.66	5.97	0.266	ND	U	2.79	5.97	0.279	ND	U	2.58	5.97	0.258	12.2	K	3.14	5.97	0.122
WUTB12 Comp Rep 3	ND	U	0.661	1.17	0.661	ND	U	1.53	5.86	1.530	ND	U	2.41	5.86	0.241	ND	U	2.52	5.86	0.252	ND	U	2.34	5.86	0.234	12.3	--	4.09	5.86	0.123
WUTB12 Comp Rep 4	ND	U	0.596	1.18	0.596	ND	U	1.49	5.89	1.490	ND	U	2.36	5.89	0.236	ND	U	2.48	5.89	0.248	ND	U	2.30	5.89	0.230	ND	U	2.93	5.89	0.029
WUTB12 Comp Rep 5	ND	U	0.740	1.18	0.740	ND	U	1.69	5.89	1.690	ND	U	3.13	5.89	0.313	ND	U	3.34	5.89	0.334	ND	U	3.07	5.89	0.307	7.29	--	3.77	5.89	0.073
CCRK12 Comp Rep 1	0.320	U	0.320	1.19	0.320	0.0554	U	0.0554	5.93	0.055	0.136	U	0.136	5.93	0.014	0.147	U	0.147	5.93	0.015	0.135	U	0.135	5.93	0.014	0.670	JK	0.0516	5.93	0.007
CCRK12 Comp Rep 2	0.118	U	0.118	1.19	0.118	0.125	U	0.125	5.93	0.125	0.122	U	0.122	5.93	0.012	0.129	U	0.129	5.93	0.013	0.119	U	0.119	5.93	0.012	0.798	JK	0.0781	5.93	0.008
CCRK12 Comp Rep 3	0.213	U	0.213	1.19	0.213	0.0836	U	0.0836	5.97	0.084	0.0824	U	0.0824	5.97	0.008	0.0853	U	0.0853	5.97	0.009	0.0796	U	0.0796	5.97	0.008	0.782	J	0.0810	5.97	0.008
CCRK12 Comp Rep 4	0.129	U	0.129	1.20	0.129	0.115	U	0.115	5.99	0.115	0.159	U	0.159	5.99	0.016	0.158	U	0.158	5.99	0.016	0.149	U	0.149	5.99	0.015	0.882	J	0.193	5.99	0.009
CCRK12 Comp Rep 5	0.196	U	0.196	1.18	0.196	0.137	U	0.137	5.91	0.137	0.112	U	0.112	5.91	0.011	0.111	U	0.111	5.91	0.011	0.105	U	0.105	5.91	0.011	0.874	J	0.181	5.91	0.009
ORDT12 Comp Rep 1	0.114	U	0.114	1.17	0.114	0.216	J	0.119	5.84	0.216	0.293	J	0.179	5.84	0.029	0.435	JK	0.165	5.84	0.044	0.577	JK	0.161	5.84	0.058	3.86	J	0.138	5.84	0.039
ORDT12 Comp Rep 2	0.221	U	0.221	1.18	0.221	0.117	U	0.117	5.88	0.117	0.144	U	0.144	5.88	0.014	0.151	U	0.151	5.88	0.015	0.140	U	0.140	5.88	0.014	1.00	J	0.0977	5.88	0.010
ORDT12 Comp Rep 3	0.256	U	0.256	1.17	0.256	0.108	U	0.108	5.84	0.108	0.140	U	0.140	5.84	0.014	0.146	U	0.146	5.84	0.015	0.242	JK	0.136	5.84	0.024	1.02	JK	0.0648	5.84	0.010
ORDT12 Comp Rep 4	0.211	U	0.211	1.15	0.211	0.107	U	0.107	5.77	0.107	0.144	U	0.144	5.77	0.014	0.150	U	0.150	5.77	0.015	0.140	U	0.140	5.77	0.014	0.845	JK	0.128	5.77	0.008
ORDT12 Comp Rep 5	0.208	U	0.208	1.17	0.208	0.111	U	0.111	5.84	0.111	0.0701	U	0.0701	5.84	0.007	0.0720	U	0.0720	5.84	0.007	0.0673	U	0.0673	5.84	0.007	0.758	JK	0.138	5.84	0.008
HGIW12 Comp Rep 1	ND	U	0.252	1.25	0.252	0.529	JK	0.131	6.23	0.529	0.492	J	0.176	6.23	0.049	0.578	J	0.180	6.23	0.058	0.588	JK	0.175	6.23	0.059	1.22	JK	0.120	6.23	0.012
HGIW12 Comp Rep 2	ND	U	0.188	1.17	0.188	ND	U	0.0865	5.86	0.087	ND	U	0.108	5.86	0.011	ND	U	0.110	5.86	0.011	ND	U	0.107	5.86	0.011	0.795	JK	0.136	5.86	0.008
HGIW12 Comp Rep 3	ND	U	0.188	1.17	0.188	ND	U	0.0655	5.85	0.066	ND	U	0.186	5.85	0.019	ND	U	0.196	5.85	0.020	ND	U	0.188	5.85	0.019	0.581	J	0.150	5.85	0.006
HGIW12 Comp Rep 4	ND	U	0.188	1.21	0.188	ND	U	0.179	6.07	0.179	ND	U	0.146	6.07	0.015	ND	U	0.177	6.07	0.018	ND	U	0.152	6.07	0.015	0.848	J	0.182	6.07	0.008
HGIW12 Comp Rep 5	ND	U	0.194	1.22	0.194	ND	U	0.194	6.10	0.194	ND	U	0.154	6.10	0.015	ND	U	0.192	6.10	0.019	ND	U	0.163	6.10	0.016	0.950	JK	0.250	6.10	0.010

TABLE 48
Analytical Results for Dry Weight Dioxins and Furans in *Macoma nasuta* tissues

ANAMAR Environmental Consulting, Inc.

Analyte:	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)					1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)					1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)					1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)					1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)				
Sample-Replicate #	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ
DANW12 Comp Rep 1	ND	U	0.194	1.14	0.194	ND	U	0.167	5.72	0.167	ND	U	0.133	5.72	0.013	ND	U	0.170	5.72	0.017	ND	U	0.142	5.72	0.014	1.17	J	0.273	5.72	0.012
DANW12 Comp Rep 2	ND	U	0.210	1.15	0.210	ND	U	0.140	5.77	0.140	ND	U	0.148	5.77	0.015	ND	U	0.155	5.77	0.016	ND	U	0.144	5.77	0.014	0.538	JK	0.0469	5.77	0.005
DANW12 Comp Rep 3	ND	U	0.176	1.14	0.176	ND	U	0.0998	5.70	0.100	ND	U	0.110	5.70	0.011	ND	U	0.112	5.70	0.011	ND	U	0.105	5.70	0.011	0.850	JK	0.122	5.70	0.009
DANW12 Comp Rep 4	ND	U	0.278	1.15	0.278	ND	U	0.0599	5.75	0.060	ND	U	0.269	5.75	0.027	ND	U	0.274	5.75	0.027	ND	U	0.257	5.75	0.026	0.537	J	0.0939	5.75	0.005
DANW12 Comp Rep 5	ND	U	0.122	1.21	0.122	ND	U	0.0865	6.07	0.087	ND	U	0.0986	6.07	0.010	ND	U	0.102	6.07	0.010	ND	U	0.0950	6.07	0.010	ND	U	0.200	6.07	0.002
WLRW12 Comp Rep 1	ND	U	0.259	1.21	0.259	ND	U	0.180	6.07	0.180	ND	U	0.207	6.07	0.021	ND	U	0.256	6.07	0.026	ND	U	0.218	6.07	0.022	0.417	J	0.260	6.07	0.004
WLRW12 Comp Rep 2	ND	U	0.190	1.23	0.190	ND	U	0.182	6.16	0.182	0.165	JK	0.113	6.16	0.017	0.211	JK	0.129	6.16	0.021	0.263	J	0.114	6.16	0.026	1.17	J	0.244	6.16	0.012
WLRW12 Comp Rep 3	ND	U	0.204	1.23	0.204	ND	U	0.170	6.16	0.170	ND	U	0.140	6.16	0.014	ND	U	0.160	6.16	0.016	ND	U	0.141	6.16	0.014	0.324	JK	0.183	6.16	0.003
WLRW12 Comp Rep 4	ND	U	0.190	1.21	0.190	ND	U	0.129	6.06	0.129	ND	U	0.172	6.06	0.017	ND	U	0.187	6.06	0.019	ND	U	0.169	6.06	0.017	0.649	J	0.173	6.06	0.006
WLRW12 Comp Rep 5	ND	U	0.232	1.23	0.232	ND	U	0.190	6.14	0.190	ND	U	0.229	6.14	0.023	ND	U	0.268	6.14	0.027	ND	U	0.235	6.14	0.024	0.330	J	0.194	6.14	0.003
ABMA12 Comp Rep 1	ND	U	0.243	1.43	0.243	ND	U	0.150	7.16	0.150	ND	U	0.196	7.16	0.020	0.338	J	0.218	7.16	0.034	ND	U	0.204	7.16	0.020	4.81	J	0.235	7.16	0.048
ABMA12 Comp Rep 2	ND	U	0.277	1.47	0.277	ND	U	0.236	7.37	0.236	ND	U	0.144	7.37	0.014	ND	U	0.161	7.37	0.016	0.400	J	0.150	7.37	0.040	4.97	J	0.272	7.37	0.050
ABMA12 Comp Rep 3	ND	U	0.464	1.70	0.464	ND	U	0.179	8.51	0.179	ND	U	0.228	8.51	0.023	ND	U	0.247	8.51	0.025	ND	U	0.233	8.51	0.023	5.47	J	0.246	8.51	0.055
ABMA12 Comp Rep 4	ND	U	0.787	1.36	0.787	ND	U	0.961	6.79	0.961	ND	U	1.21	6.79	0.121	7.48	--	1.25	6.79	0.748	4.08	JK	1.16	6.79	0.408	281	--	2.78	6.79	2.810
ABMA12 Comp Rep 5	ND	U	0.642	1.46	0.642	ND	U	0.867	7.29	0.867	ND	U	1.19	7.29	0.119	ND	U	1.24	7.29	0.124	ND	U	1.15	7.29	0.115	4.89	JK	1.04	7.29	0.049
RS-CH-A Rep 1	ND	U	0.319	1.15	0.319	ND	U	0.0835	5.76	0.084	ND	U	0.0358	5.76	0.004	ND	U	0.0376	5.76	0.004	ND	U	0.0349	5.76	0.003	1.75	BJK	0.116	5.76	0.018
RS-CH-A Rep 2	ND	U	0.340	1.17	0.340	ND	U	0.136	5.83	0.136	ND	U	0.0656	5.83	0.007	ND	U	0.0666	5.83	0.007	ND	U	0.0626	5.83	0.006	1.32	BJK	0.143	5.83	0.013
RS-CH-A Rep 3	ND	U	0.222	1.03	0.222	ND	U	0.124	5.13	0.124	ND	U	0.0267	5.13	0.003	ND	U	0.0275	5.13	0.003	ND	U	0.0257	5.13	0.003	1.02	BJ	0.172	5.13	0.010
RS-CH-A Rep 4	ND	U	0.339	1.19	0.339	ND	U	0.136	5.93	0.136	ND	U	0.0446	5.93	0.004	ND	U	0.0463	5.93	0.005	0.226	J	0.0432	5.93	0.023	1.36	BJK	0.111	5.93	0.014
RS-CH-A Rep 5	ND	U	0.268	1.02	0.268	ND	U	0.0605	5.12	0.061	ND	U	0.132	5.12	0.013	ND	U	0.144	5.12	0.014	ND	U	0.131	5.12	0.013	6.19	B	0.177	5.12	0.062
Pretest Tissue - 1	ND	U	0.199	0.952	0.199	ND	U	0.129	4.76	0.129	ND	U	0.0339	4.76	0.003	ND	U	0.0358	4.76	0.004	ND	U	0.0332	4.76	0.003	1.82	BJK	0.0568	4.76	0.018
Pretest Tissue - 2	ND	U	0.186	1.11	0.186	ND	U	0.239	5.56	0.239	ND	U	0.0603	5.56	0.006	ND	U	0.0630	5.56	0.006	ND	U	0.0585	5.56	0.006	1.27	BJK	0.0832	5.56	0.013
Pretest Tissue - 3	ND	U	0.268	0.917	0.268	ND	U	0.119	4.59	0.119	ND	U	0.0808	4.59	0.008	ND	U	0.0841	4.59	0.008	ND	U	0.0782	4.59	0.008	2.05	BJ	0.159	4.59	0.021
Toxic Equivalency Factor (TEF)	1.00					1.00					0.10					0.10					0.10					0.01				

TABLE 48
Analytical Results for Dry Weight Dioxins and Furans in *Macoma nasuta* tissues

ANAMAR Environmental Consulting, Inc.

Analyte:	Octachlorodibenzo-p-dioxin (OCDD)					2,3,7,8-Tetrachlorodibenzofuran (TCDF)					1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)				
Sample-Replicate #	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ
CHEC12-1 Comp Rep 1	36.5	B	2.37	12.0	0.011	ND	U	0.0896	1.20	0.009	ND	U	0.223	6.00	0.007	ND	U	0.214	6.00	0.064	ND	U	0.307	6.00	0.031
CHEC12-1 Comp Rep 2	21.5	B	3.80	11.6	0.006	ND	U	0.127	1.16	0.013	ND	U	0.233	5.82	0.007	ND	U	0.235	5.82	0.071	ND	U	0.481	5.82	0.048
CHEC12-1 Comp Rep 3	24.1	B	3.48	11.9	0.007	ND	U	0.0599	1.19	0.006	ND	U	0.237	5.96	0.007	ND	U	0.233	5.96	0.070	ND	U	0.525	5.96	0.053
CHEC12-1 Comp Rep 4	38.8	B	3.57	11.9	0.012	ND	U	0.106	1.19	0.011	ND	U	0.258	5.94	0.008	ND	U	0.244	5.94	0.073	ND	U	0.457	5.94	0.046
CHEC12-1 Comp Rep 5	22.1	B	3.83	11.8	0.007	ND	U	0.190	1.18	0.019	ND	U	0.185	5.92	0.006	ND	U	0.180	5.92	0.054	ND	U	0.592	5.92	0.059
REHR12 Comp Rep 1	15.6	BK	4.32	11.8	0.005	ND	U	0.185	1.18	0.019	ND	U	0.195	5.88	0.006	ND	U	0.198	5.88	0.059	ND	U	0.456	5.88	0.046
REHR12 Comp Rep 2	14.3	B	3.81	11.5	0.004	ND	U	0.161	1.15	0.016	ND	U	0.260	5.75	0.008	ND	U	0.263	5.75	0.079	ND	U	0.517	5.75	0.052
REHR12 Comp Rep 3	14.6	BK	3.60	11.8	0.004	ND	U	0.108	1.18	0.011	ND	U	0.289	5.92	0.009	ND	U	0.301	5.92	0.090	ND	U	0.479	5.92	0.048
REHR12 Comp Rep 4	22.1	B	3.69	11.4	0.007	ND	U	0.208	1.14	0.021	ND	U	0.198	5.68	0.006	ND	U	0.188	5.68	0.056	ND	U	0.380	5.68	0.038
REHR12 Comp Rep 5	11.2	BJ	3.09	11.5	0.003	ND	U	0.254	1.15	0.025	ND	U	0.257	5.75	0.008	ND	U	0.263	5.75	0.079	ND	U	0.395	5.75	0.040
WLR12 Comp Rep 1	6.87	BJ	0.262	11.8	0.002	ND	U	0.337	1.18	0.034	ND	U	0.168	5.92	0.005	ND	U	0.173	5.92	0.052	ND	U	0.175	5.92	0.018
WLR12 Comp Rep 2	10.3	BJ	0.355	12.0	0.003	ND	U	0.332	1.20	0.033	ND	U	0.149	6.01	0.004	ND	U	0.150	6.01	0.045	ND	U	0.163	6.01	0.016
WLR12 Comp Rep 3	6.87	BJ	0.289	12.0	0.002	ND	U	0.326	1.20	0.033	ND	U	0.156	5.98	0.005	ND	U	0.157	5.98	0.047	ND	U	0.187	5.98	0.019
WLR12 Comp Rep 4	8.96	BJ	0.389	11.7	0.003	ND	U	0.358	1.17	0.036	ND	U	0.169	5.83	0.005	ND	U	0.167	5.83	0.050	ND	U	0.179	5.83	0.018
WLR12 Comp Rep 5	15.8	B	2.63	12.0	0.005	ND	U	0.136	1.20	0.014	ND	U	0.308	5.98	0.009	ND	U	0.302	5.98	0.091	ND	U	0.334	5.98	0.033
WUTB12 Comp Rep 1	45.6	B	2.00	12.1	0.014	ND	U	0.143	1.21	0.014	ND	U	0.210	6.03	0.006	ND	U	0.202	6.03	0.061	1.01	J	0.237	6.03	0.101
WUTB12 Comp Rep 2	126	B	2.07	11.9	0.038	ND	U	0.182	1.19	0.018	ND	U	0.202	5.97	0.006	ND	U	0.205	5.97	0.062	1.68	J	0.341	5.97	0.168
WUTB12 Comp Rep 3	117	B	1.66	11.7	0.035	ND	U	0.136	1.17	0.014	ND	U	0.196	5.86	0.006	ND	U	0.196	5.86	0.059	1.64	J	0.290	5.86	0.164
WUTB12 Comp Rep 4	21.5	B	2.53	11.8	0.006	ND	U	0.178	1.18	0.018	ND	U	0.165	5.89	0.005	ND	U	0.163	5.89	0.049	ND	U	0.343	5.89	0.034
WUTB12 Comp Rep 5	63.5	B	2.30	11.8	0.019	ND	U	0.171	1.18	0.017	ND	U	0.281	5.89	0.008	ND	U	0.280	5.89	0.084	0.693	J	0.299	5.89	0.069
CCRK12 Comp Rep 1	6.35	BJ	0.118	11.9	0.002	0.0931	U	0.0931	1.19	0.009	0.0535	U	0.0535	5.93	0.002	0.0535	U	0.0535	5.93	0.016	0.0902	U	0.0902	5.93	0.009
CCRK12 Comp Rep 2	9.85	BJ	0.0634	11.9	0.003	0.0629	U	0.0629	1.19	0.006	0.0729	U	0.0729	5.93	0.002	0.0712	U	0.0712	5.93	0.021	0.104	U	0.104	5.93	0.010
CCRK12 Comp Rep 3	9.29	BJ	0.0404	11.9	0.003	0.0831	U	0.0831	1.19	0.008	0.0753	U	0.0753	5.97	0.002	0.0729	U	0.0729	5.97	0.022	0.0638	U	0.0638	5.97	0.006
CCRK12 Comp Rep 4	7.92	BJ	0.312	12.0	0.002	0.102	U	0.102	1.20	0.010	0.101	U	0.101	5.99	0.003	0.0965	U	0.0965	5.99	0.029	0.124	U	0.124	5.99	0.012
CCRK12 Comp Rep 5	6.83	BJ	0.154	11.8	0.002	0.116	U	0.116	1.18	0.012	0.103	U	0.103	5.91	0.003	0.101	U	0.101	5.91	0.030	0.105	U	0.105	5.91	0.011
ORDT12 Comp Rep 1	32.7	B	0.190	11.7	0.010	0.0815	U	0.0815	1.17	0.008	0.219	J	0.117	5.84	0.007	0.268	J	0.115	5.84	0.080	0.263	JK	0.113	5.84	0.026
ORDT12 Comp Rep 2	10.1	BJ	0.0875	11.8	0.003	0.0925	U	0.0925	1.18	0.009	0.0541	U	0.0541	5.88	0.002	0.0534	U	0.0534	5.88	0.016	0.0570	U	0.0570	5.88	0.006
ORDT12 Comp Rep 3	9.20	BJ	0.131	11.7	0.003	0.0269	U	0.0269	1.17	0.003	0.0704	U	0.0704	5.84	0.002	0.0678	U	0.0678	5.84	0.020	0.102	U	0.102	5.84	0.010
ORDT12 Comp Rep 4	14.0	B	0.0740	11.5	0.004	0.0624	U	0.0624	1.15	0.006	0.0908	U	0.0908	5.77	0.003	0.0915	U	0.0915	5.77	0.027	0.0857	U	0.0857	5.77	0.009
ORDT12 Comp Rep 5	9.53	BJ	0.111	11.7	0.003	0.0596	U	0.0596	1.17	0.006	0.0629	U	0.0629	5.84	0.002	0.0617	U	0.0617	5.84	0.019	0.0685	U	0.0685	5.84	0.007
HGIW12 Comp Rep 1	10.0	J	0.154	12.5	0.003	ND	U	0.119	1.25	0.012	0.549	JK	0.137	6.23	0.016	0.533	JK	0.133	6.23	0.160	0.587	J	0.0973	6.23	0.059
HGIW12 Comp Rep 2	9.86	J	0.177	11.7	0.003	ND	U	0.0867	1.17	0.009	ND	U	0.124	5.86	0.004	ND	U	0.120	5.86	0.036	0.150	J	0.0687	5.86	0.015
HGIW12 Comp Rep 3	10.6	J	0.225	11.7	0.003	ND	U	0.146	1.17	0.015	ND	U	0.138	5.85	0.004	ND	U	0.134	5.85	0.040	ND	U	0.0948	5.85	0.009
HGIW12 Comp Rep 4	12.7	--	0.454	12.1	0.004	ND	U	0.141	1.21	0.014	ND	U	0.196	6.07	0.006	ND	U	0.175	6.07	0.053	ND	U	0.128	6.07	0.013
HGIW12 Comp Rep 5	15.2	--	0.509	12.2	0.005	ND	U	0.147	1.22	0.015	ND	U	0.134	6.10	0.004	ND	U	0.118	6.10	0.035	ND	U	0.155	6.10	0.016

TABLE 48
Analytical Results for Dry Weight Dioxins and Furans in *Macoma nasuta* tissues

ANAMAR Environmental Consulting, Inc.

Analyte:	Octachlorodibenzo-p-dioxin (OCDD)					2,3,7,8-Tetrachlorodibenzofuran (TCDF)					1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)					2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)					1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)				
Sample-Replicate #	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ
DANW12 Comp Rep 1	18.4	--	0.412	11.4	0.006	ND	U	0.186	1.14	0.019	ND	U	0.151	5.72	0.005	ND	U	0.136	5.72	0.041	ND	U	0.163	5.72	0.016
DANW12 Comp Rep 2	6.08	J	0.0851	11.5	0.002	ND	U	0.128	1.15	0.013	ND	U	0.0647	5.77	0.002	ND	U	0.0606	5.77	0.018	ND	U	0.106	5.77	0.011
DANW12 Comp Rep 3	7.97	J	0.0735	11.4	0.002	ND	U	0.0721	1.14	0.007	ND	U	0.0865	5.70	0.003	ND	U	0.0836	5.70	0.025	ND	U	0.0706	5.70	0.007
DANW12 Comp Rep 4	8.89	J	0.108	11.5	0.003	ND	U	0.0624	1.15	0.006	ND	U	0.0355	5.75	0.001	ND	U	0.0325	5.75	0.010	ND	U	0.0811	5.75	0.008
DANW12 Comp Rep 5	5.14	J	0.0867	12.1	0.002	ND	U	0.116	1.21	0.012	ND	U	0.0821	6.07	0.002	ND	U	0.0792	6.07	0.024	ND	U	0.0887	6.07	0.009
WLRW12 Comp Rep 1	3.80	J	0.382	12.1	0.001	ND	U	0.143	1.21	0.014	ND	U	0.130	6.07	0.004	ND	U	0.117	6.07	0.035	ND	U	0.178	6.07	0.018
WLRW12 Comp Rep 2	8.46	J	0.675	12.3	0.003	ND	U	0.159	1.23	0.016	ND	U	0.165	6.16	0.005	ND	U	0.145	6.16	0.044	0.146	JK	0.127	6.16	0.015
WLRW12 Comp Rep 3	4.14	J	0.311	12.3	0.001	ND	U	0.116	1.23	0.012	ND	U	0.156	6.16	0.005	ND	U	0.132	6.16	0.040	ND	U	0.115	6.16	0.012
WLRW12 Comp Rep 4	4.04	J	0.390	12.1	0.001	ND	U	0.126	1.21	0.013	ND	U	0.116	6.06	0.003	ND	U	0.105	6.06	0.032	ND	U	0.153	6.06	0.015
WLRW12 Comp Rep 5	3.14	J	0.263	12.3	0.001	ND	U	0.195	1.23	0.020	ND	U	0.157	6.14	0.005	ND	U	0.134	6.14	0.040	ND	U	0.165	6.14	0.017
ABMA12 Comp Rep 1	43.3	--	0.448	14.3	0.013	ND	U	0.193	1.43	0.019	ND	U	0.139	7.16	0.004	ND	U	0.144	7.16	0.043	0.263	JK	0.111	7.16	0.026
ABMA12 Comp Rep 2	40.2	--	0.399	14.7	0.012	ND	U	0.235	1.47	0.024	ND	U	0.143	7.37	0.004	ND	U	0.142	7.37	0.043	ND	U	0.158	7.37	0.016
ABMA12 Comp Rep 3	50.3	--	0.587	17.0	0.015	ND	U	0.254	1.70	0.025	ND	U	0.199	8.51	0.006	ND	U	0.198	8.51	0.059	ND	U	0.160	8.51	0.016
ABMA12 Comp Rep 4	3650	--	0.600	13.6	1.095	ND	U	0.0826	1.36	0.008	0.353	JK	0.0915	6.79	0.011	0.437	JK	0.0886	6.79	0.131	1.61	JK	0.172	6.79	0.161
ABMA12 Comp Rep 5	46.0	--	0.803	14.6	0.014	ND	U	0.159	1.46	0.016	ND	U	0.157	7.29	0.005	ND	U	0.165	7.29	0.050	ND	U	0.208	7.29	0.021
RS-CH-A Rep 1	12.5	B	0.0724	11.5	0.004	ND	U	0.133	1.15	0.013	ND	U	0.0925	5.76	0.003	ND	U	0.0914	5.76	0.027	ND	U	0.0171	5.76	0.002
RS-CH-A Rep 2	10.8	BJ	0.0838	11.7	0.003	ND	U	0.148	1.17	0.015	ND	U	0.0787	5.83	0.002	ND	U	0.0757	5.83	0.023	ND	U	0.0976	5.83	0.010
RS-CH-A Rep 3	7.45	BJ	0.0513	10.3	0.002	ND	U	0.108	1.03	0.011	ND	U	0.0589	5.13	0.002	ND	U	0.0573	5.13	0.017	ND	U	0.144	5.13	0.014
RS-CH-A Rep 4	8.93	BJ	0.107	11.9	0.003	ND	U	0.173	1.19	0.017	ND	U	0.101	5.93	0.003	ND	U	0.0986	5.93	0.030	ND	U	0.0453	5.93	0.005
RS-CH-A Rep 5	52.5	B	0.241	10.2	0.016	ND	U	0.0687	1.02	0.007	ND	U	0.0519	5.12	0.002	ND	U	0.0515	5.12	0.015	ND	U	0.0881	5.12	0.009
Pretest Tissue - 1	11.9	B	0.0977	9.52	0.004	ND	U	0.0467	0.952	0.005	ND	U	0.0537	4.76	0.002	ND	U	0.0518	4.76	0.016	ND	U	0.0509	4.76	0.005
Pretest Tissue - 2	9.00	BJ	0.117	11.1	0.003	ND	U	0.155	1.11	0.016	ND	U	0.0679	5.56	0.002	ND	U	0.0645	5.56	0.019	ND	U	0.0730	5.56	0.007
Pretest Tissue - 3	13.6	B	0.0509	9.17	0.004	ND	U	0.138	0.917	0.014	ND	U	0.0707	4.59	0.002	ND	U	0.0674	4.59	0.020	ND	U	0.114	4.59	0.011
Toxic Equivalency Factor (TEF)	0.0003					0.10					0.03					0.30					0.10				

TABLE 48
Analytical Results for Dry Weight Dioxins and Furans in *Macoma nasuta* tissues

ANAMAR Environmental Consulting, Inc.

Analyte:	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					Octachlorodibenzofuran (OCDF)				
Sample-Replicate #	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ	Result ng/Kg	Qualifier	MDL	MRL	TEQ
CHEC12-1 Comp Rep 1	ND	U	0.258	6.00	0.026	ND	U	0.398	6.00	0.040	ND	U	0.286	6.00	0.029	1.25	JK	0.451	6.00	0.013	ND	U	0.650	6.00	0.007	3.65	J	0.630	12.0	0.001
CHEC12-1 Comp Rep 2	ND	U	0.408	5.82	0.041	ND	U	0.642	5.82	0.064	ND	U	0.461	5.82	0.046	ND	U	0.695	5.82	0.007	ND	U	1.03	5.82	0.010	ND	U	0.928	11.6	0.000
CHEC12-1 Comp Rep 3	ND	U	0.431	5.96	0.043	ND	U	0.684	5.96	0.068	ND	U	0.483	5.96	0.048	ND	U	0.748	5.96	0.007	ND	U	1.08	5.96	0.011	ND	U	1.13	11.9	0.000
CHEC12-1 Comp Rep 4	ND	U	0.383	5.94	0.038	ND	U	0.586	5.94	0.059	ND	U	0.452	5.94	0.045	ND	U	0.637	5.94	0.006	ND	U	0.899	5.94	0.009	3.99	J	0.831	11.9	0.001
CHEC12-1 Comp Rep 5	ND	U	0.478	5.92	0.048	ND	U	0.737	5.92	0.074	ND	U	0.555	5.92	0.056	ND	U	0.477	5.92	0.005	ND	U	0.655	5.92	0.007	1.50	JK	0.896	11.8	0.000
REHR12 Comp Rep 1	ND	U	0.373	5.88	0.037	ND	U	0.578	5.88	0.058	ND	U	0.456	5.88	0.046	ND	U	0.540	5.88	0.005	ND	U	0.778	5.88	0.008	ND	U	1.13	11.8	0.000
REHR12 Comp Rep 2	ND	U	0.432	5.75	0.043	ND	U	0.680	5.75	0.068	ND	U	0.523	5.75	0.052	ND	U	0.624	5.75	0.006	ND	U	0.858	5.75	0.009	ND	U	1.07	11.5	0.000
REHR12 Comp Rep 3	ND	U	0.404	5.92	0.040	ND	U	0.636	5.92	0.064	ND	U	0.488	5.92	0.049	ND	U	0.585	5.92	0.006	ND	U	0.835	5.92	0.008	1.34	J	0.965	11.8	0.000
REHR12 Comp Rep 4	ND	U	0.313	5.68	0.031	ND	U	0.510	5.68	0.051	ND	U	0.380	5.68	0.038	ND	U	0.568	5.68	0.006	ND	U	0.824	5.68	0.008	2.33	J	0.993	11.4	0.001
REHR12 Comp Rep 5	ND	U	0.333	5.75	0.033	ND	U	0.512	5.75	0.051	ND	U	0.396	5.75	0.040	ND	U	0.579	5.75	0.006	ND	U	0.823	5.75	0.008	ND	U	1.07	11.5	0.000
WLR12 Comp Rep 1	ND	U	0.149	5.92	0.015	ND	U	0.227	5.92	0.023	ND	U	0.177	5.92	0.018	0.195	JK	0.0768	5.92	0.002	ND	U	0.102	5.92	0.001	0.957	J	0.371	11.8	0.000
WLR12 Comp Rep 2	ND	U	0.138	6.01	0.014	ND	U	0.207	6.01	0.021	ND	U	0.168	6.01	0.017	0.290	J	0.141	6.01	0.003	ND	U	0.183	6.01	0.002	1.69	J	0.354	12.0	0.001
WLR12 Comp Rep 3	ND	U	0.164	5.98	0.016	ND	U	0.247	5.98	0.025	ND	U	0.194	5.98	0.019	0.269	J	0.106	5.98	0.003	ND	U	0.136	5.98	0.001	1.24	J	0.500	12.0	0.000
WLR12 Comp Rep 4	ND	U	0.158	5.83	0.016	ND	U	0.237	5.83	0.024	ND	U	0.192	5.83	0.019	0.214	JK	0.0856	5.83	0.002	ND	U	0.113	5.83	0.001	1.08	JK	0.474	11.7	0.000
WLR12 Comp Rep 5	ND	U	0.278	5.98	0.028	ND	U	0.443	5.98	0.044	ND	U	0.336	5.98	0.034	0.745	J	0.451	5.98	0.007	ND	U	0.673	5.98	0.007	2.35	J	0.598	12.0	0.001
WUTB12 Comp Rep 1	ND	U	0.196	6.03	0.020	ND	U	0.298	6.03	0.030	ND	U	0.234	6.03	0.023	2.01	JK	0.457	6.03	0.020	ND	U	0.621	6.03	0.006	5.88	J	0.599	12.1	0.002
WUTB12 Comp Rep 2	ND	U	0.291	5.97	0.029	ND	U	0.442	5.97	0.044	ND	U	0.336	5.97	0.034	3.66	J	0.338	5.97	0.037	ND	U	0.465	5.97	0.005	11.5	J	0.435	11.9	0.003
WUTB12 Comp Rep 3	ND	U	0.240	5.86	0.024	ND	U	0.375	5.86	0.038	ND	U	0.294	5.86	0.029	3.39	J	0.494	5.86	0.034	ND	U	0.713	5.86	0.007	10.7	J	0.599	11.7	0.003
WUTB12 Comp Rep 4	ND	U	0.278	5.89	0.028	ND	U	0.435	5.89	0.044	ND	U	0.337	5.89	0.034	0.831	J	0.403	5.89	0.008	ND	U	0.564	5.89	0.006	1.96	JK	0.504	11.8	0.001
WUTB12 Comp Rep 5	ND	U	0.251	5.89	0.025	ND	U	0.383	5.89	0.038	ND	U	0.308	5.89	0.031	1.63	J	0.378	5.89	0.016	0.595	J	0.507	5.89	0.006	5.58	JK	0.570	11.8	0.002
CCRK12 Comp Rep 1	0.0736	U	0.0736	5.93	0.007	0.118	U	0.118	5.93	0.012	0.0807	U	0.0807	5.93	0.008	0.102	U	0.102	5.93	0.001	0.151	U	0.151	5.93	0.002	0.313	U	0.313	11.9	0.000
CCRK12 Comp Rep 2	0.0838	U	0.0838	5.93	0.008	0.132	U	0.132	5.93	0.013	0.0945	U	0.0945	5.93	0.009	0.0978	U	0.0978	5.93	0.001	0.141	U	0.141	5.93	0.001	0.270	U	0.270	11.9	0.000
CCRK12 Comp Rep 3	0.0545	U	0.0545	5.97	0.005	0.0803	U	0.0803	5.97	0.008	0.0597	U	0.0597	5.97	0.006	0.118	U	0.118	5.97	0.001	0.157	U	0.157	5.97	0.002	0.316	U	0.316	11.9	0.000
CCRK12 Comp Rep 4	0.104	U	0.104	5.99	0.010	0.156	U	0.156	5.99	0.016	0.119	U	0.119	5.99	0.012	0.162	J	0.0953	5.99	0.002	0.117	U	0.117	5.99	0.001	0.224	U	0.224	12.0	0.000
CCRK12 Comp Rep 5	0.0922	U	0.0922	5.91	0.009	0.125	U	0.125	5.91	0.013	0.0995	U	0.0995	5.91	0.010	0.110	U	0.110	5.91	0.001	0.134	U	0.134	5.91	0.001	0.230	U	0.230	11.8	0.000
ORDT12 Comp Rep 1	0.244	JK	0.101	5.84	0.024	0.215	JK	0.144	5.84	0.022	0.282	J	0.109	5.84	0.028	0.734	J	0.0955	5.84	0.007	0.221	JK	0.128	5.84	0.002	2.42	J	0.205	11.7	0.001
ORDT12 Comp Rep 2	0.0478	U	0.0478	5.88	0.005	0.0739	U	0.0739	5.88	0.007	0.0534	U	0.0534	5.88	0.005	0.115	U	0.115	5.88	0.001	0.166	U	0.166	5.88	0.002	0.444	U	0.444	11.8	0.000
ORDT12 Comp Rep 3	0.0819	U	0.0819	5.84	0.008	0.129	U	0.129	5.84	0.013	0.0910	U	0.0910	5.84	0.009	0.105	U	0.105	5.84	0.001	0.152	U	0.152	5.84	0.002	0.178	U	0.178	11.7	0.000
ORDT12 Comp Rep 4	0.0689	U	0.0689	5.77	0.007	0.109	U	0.109	5.77	0.011	0.0749	U	0.0749	5.77	0.007	0.0827	U	0.0827	5.77	0.001	0.119	U	0.119	5.77	0.001	0.156	U	0.156	11.5	0.000
ORDT12 Comp Rep 5	0.0568	U	0.0568	5.84	0.006	0.0888	U	0.0888	5.84	0.009	0.0641	U	0.0641	5.84	0.006	0.131	JK	0.0433	5.84	0.001	0.0603	U	0.0603	5.84	0.001	0.216	U	0.216	11.7	0.000
HGIW12 Comp Rep 1	0.519	JK	0.0818	6.23	0.052	0.520	J	0.118	6.23	0.052	0.505	J	0.0915	6.23	0.051	0.446	J	0.0716	6.23	0.004	0.416	JK	0.0975	6.23	0.004	1.17	J	0.279	12.5	0.000
HGIW12 Comp Rep 2	0.152	JK	0.0589	5.86	0.015	0.123	JK	0.0860	5.86	0.012	0.166	J	0.0652	5.86	0.017	0.184	JK	0.0867	5.86	0.002	ND	U	0.119	5.86	0.001	0.403	JK	0.178	11.7	0.000
HGIW12 Comp Rep 3	ND	U	0.0805	5.85	0.008	ND	U	0.117	5.85	0.012	ND	U	0.0908	5.85	0.009	ND	U	0.0604	5.85	0.001	ND	U	0.0810	5.85	0.001	ND	U	0.151	11.7	0.000
HGIW12 Comp Rep 4	ND	U	0.103	6.07	0.010	ND	U	0.159	6.07	0.016	ND	U	0.127	6.07	0.013	ND	U	0.126	6.07	0.001	ND	U	0.148	6.07	0.001	ND	U	0.388	12.1	0.000
HGIW12 Comp Rep 5	ND	U	0.126	6.10	0.013	ND	U	0.182	6.10	0.018	ND	U	0.143	6.10	0.014	ND	U	0.196	6.10	0.002	ND	U	0.231	6.10	0.002	ND	U	0.375	12.2	0.000

TABLE 48
Analytical Results for Dry Weight Dioxins and Furans in *Macoma nasuta* tissues

Analyte:	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)					1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)					2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)					1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)					1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)					Octachlorodibenzofuran (OCDF)				
Sample-Replicate #	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**	**Result ng/Kg**	**Qualifier**	**MDL**	**MRL**	**TEQ**
DANW12 Comp Rep 1	ND	U	0.134	5.72	0.013	ND	U	0.195	5.72	0.020	ND	U	0.163	5.72	0.016	ND	U	0.161	5.72	0.002	ND	U	0.173	5.72	0.002	ND	U	0.394	11.4	0.000
DANW12 Comp Rep 2	ND	U	0.0837	5.77	0.008	ND	U	0.143	5.77	0.014	ND	U	0.0929	5.77	0.009	ND	U	0.0841	5.77	0.001	ND	U	0.128	5.77	0.001	ND	U	0.258	11.5	0.000
DANW12 Comp Rep 3	ND	U	0.0575	5.70	0.006	ND	U	0.0936	5.70	0.009	ND	U	0.0667	5.70	0.007	ND	U	0.0370	5.70	0.000	ND	U	0.0539	5.70	0.001	ND	U	0.344	11.4	0.000
DANW12 Comp Rep 4	ND	U	0.0643	5.75	0.006	ND	U	0.107	5.75	0.011	ND	U	0.0728	5.75	0.007	ND	U	0.0841	5.75	0.001	ND	U	0.122	5.75	0.001	ND	U	0.225	11.5	0.000
DANW12 Comp Rep 5	ND	U	0.0758	6.07	0.008	ND	U	0.118	6.07	0.012	ND	U	0.0870	6.07	0.009	ND	U	0.0887	6.07	0.001	ND	U	0.120	6.07	0.001	ND	U	0.221	12.1	0.000
WLRW12 Comp Rep 1	ND	U	0.145	6.07	0.015	ND	U	0.221	6.07	0.022	ND	U	0.169	6.07	0.017	ND	U	0.152	6.07	0.002	ND	U	0.170	6.07	0.002	ND	U	0.327	12.1	0.000
WLRW12 Comp Rep 2	ND	U	0.101	6.16	0.010	ND	U	0.151	6.16	0.015	0.135	J	0.118	6.16	0.014	0.279	J	0.145	6.16	0.003	ND	U	0.165	6.16	0.002	ND	U	0.478	12.3	0.000
WLRW12 Comp Rep 3	ND	U	0.0940	6.16	0.009	ND	U	0.136	6.16	0.014	ND	U	0.109	6.16	0.011	ND	U	0.111	6.16	0.001	ND	U	0.128	6.16	0.001	ND	U	0.267	12.3	0.000
WLRW12 Comp Rep 4	ND	U	0.126	6.06	0.013	ND	U	0.172	6.06	0.017	ND	U	0.146	6.06	0.015	ND	U	0.122	6.06	0.001	ND	U	0.133	6.06	0.001	ND	U	0.320	12.1	0.000
WLRW12 Comp Rep 5	ND	U	0.141	6.14	0.014	ND	U	0.194	6.14	0.019	ND	U	0.159	6.14	0.016	ND	U	0.136	6.14	0.001	ND	U	0.150	6.14	0.002	ND	U	0.356	12.3	0.000
ABMA12 Comp Rep 1	ND	U	0.0914	7.16	0.009	ND	U	0.143	7.16	0.014	ND	U	0.104	7.16	0.010	0.827	J	0.122	7.16	0.008	0.236	JK	0.167	7.16	0.002	2.67	J	0.408	14.3	0.001
ABMA12 Comp Rep 2	ND	U	0.126	7.37	0.013	ND	U	0.206	7.37	0.021	ND	U	0.139	7.37	0.014	0.801	J	0.174	7.37	0.008	ND	U	0.261	7.37	0.003	2.62	J	0.287	14.7	0.001
ABMA12 Comp Rep 3	ND	U	0.129	8.51	0.013	ND	U	0.211	8.51	0.021	ND	U	0.140	8.51	0.014	0.918	J	0.150	8.51	0.009	ND	U	0.225	8.51	0.002	3.60	JK	0.398	17.0	0.001
ABMA12 Comp Rep 4	0.408	JK	0.152	6.79	0.041	ND	U	0.204	6.79	0.020	0.801	J	0.176	6.79	0.080	14.0	--	0.286	6.79	0.140	1.39	J	0.321	6.79	0.014	130	--	0.369	13.6	0.039
ABMA12 Comp Rep 5	ND	U	0.177	7.29	0.018	ND	U	0.279	7.29	0.028	ND	U	0.203	7.29	0.020	0.518	JK	0.176	7.29	0.005	ND	U	0.225	7.29	0.002	2.77	JK	0.301	14.6	0.001
RS-CH-A Rep 1	ND	U	0.0141	5.76	0.001	ND	U	0.0210	5.76	0.002	ND	U	0.0162	5.76	0.002	0.503	BJK	0.0817	5.76	0.005	ND	U	0.107	5.76	0.001	1.56	BJ	0.247	11.5	0.000
RS-CH-A Rep 2	ND	U	0.0803	5.83	0.008	ND	U	0.116	5.83	0.012	ND	U	0.0932	5.83	0.009	0.246	BJK	0.0901	5.83	0.002	ND	U	0.120	5.83	0.001	1.45	BJ	0.381	11.7	0.000
RS-CH-A Rep 3	ND	U	0.126	5.13	0.013	ND	U	0.176	5.13	0.018	ND	U	0.135	5.13	0.014	0.450	BJ	0.101	5.13	0.005	ND	U	0.135	5.13	0.001	1.15	BJK	0.258	10.3	0.000
RS-CH-A Rep 4	ND	U	0.0387	5.93	0.004	ND	U	0.0543	5.93	0.005	ND	U	0.0425	5.93	0.004	ND	U	0.0451	5.93	0.000	ND	U	0.0593	5.93	0.001	1.14	BJ	0.214	11.9	0.000
RS-CH-A Rep 5	ND	U	0.0740	5.12	0.007	ND	U	0.107	5.12	0.011	ND	U	0.0843	5.12	0.008	0.842	BJK	0.0429	5.12	0.008	ND	U	0.0560	5.12	0.001	4.62	BJK	0.131	10.2	0.001
Pretest Tissue - 1	ND	U	0.0414	4.76	0.004	ND	U	0.0610	4.76	0.006	ND	U	0.0492	4.76	0.005	ND	U	0.101	4.76	0.001	ND	U	0.136	4.76	0.001	ND	U	0.394	9.52	0.000
Pretest Tissue - 2	ND	U	0.0603	5.56	0.006	ND	U	0.0930	5.56	0.009	ND	U	0.0705	5.56	0.007	ND	U	0.0410	5.56	0.000	ND	U	0.0552	5.56	0.001	1.17	BJK	0.218	11.1	0.000
Pretest Tissue - 3	ND	U	0.0936	4.59	0.009	ND	U	0.136	4.59	0.014	ND	U	0.107	4.59	0.011	0.512	BJ	0.0393	4.59	0.005	ND	U	0.0514	4.59	0.001	2.03	BJK	0.232	9.17	0.001
Toxic Equivalency Factor (TEF)	0.10					0.10					0.10					0.01					0.01					0.0003				

TABLE 48
Analytical Results for Dry Weight Dioxins and Furans in *Macoma nasuta* tissues

ANAMAR Environmental Consulting, Inc.

Analyte:	Total Tetra-Dioxins				Total Tetra-Furans				Total Penta-Dioxins				Total Penta-Furans				Total Hexa-Dioxins				Total Hexa-Furans				Total Hepta-Dioxins				Total Hepta-Furans			
Sample-Replicate #	Result ng/Kg	Qualifier	MDL	MRL	Result ng/Kg	Qualifier	MDL	MRL	Result ng/Kg	Qualifier	MDL	MRL	Result ng/Kg	Qualifier	MDL	MRL	Result ng/Kg	Qualifier	MDL	MRL	Result ng/Kg	Qualifier	MDL	MRL	Result ng/Kg	Qualifier	MDL	MRL	Result ng/Kg	Qualifier	MDL	MRL
CHEC12-1 Comp Rep 1	3.20	--	0.687	1.20	ND	U	0.0896	1.20	ND	U	1.36	6.00	ND	U	0.218	6.00	9.15	--	2.41	6.00	2.78	J	0.306	6.00	8.87	--	3.44	6.00	3.99	J	0.540	6.00
CHEC12-1 Comp Rep 2	3.12	--	0.643	1.16	ND	U	0.127	1.16	ND	U	1.95	5.82	ND	U	0.234	5.82	10.7	--	3.80	5.82	ND	U	0.486	5.82	6.97	--	6.52	6.52	1.36	J	0.840	5.82
CHEC12-1 Comp Rep 3	ND	U	0.691	1.19	ND	U	0.0599	1.19	ND	U	1.78	5.96	ND	U	0.235	5.96	11.8	--	2.99	5.96	ND	U	0.517	5.96	7.97	--	4.83	5.96	1.31	J	0.896	5.96
CHEC12-1 Comp Rep 4	ND	U	0.889	1.19	ND	U	0.106	1.19	ND	U	1.89	5.94	ND	U	0.251	5.94	12.3	--	4.24	5.94	ND	U	0.459	5.94	ND	U	6.05	6.05	1.81	J	0.755	5.94
CHEC12-1 Comp Rep 5	ND	U	0.659	1.18	ND	U	0.190	1.18	ND	U	1.73	5.92	ND	U	0.183	5.92	11.8	--	3.26	5.92	ND	U	0.578	5.92	6.81	--	5.04	5.92	1.56	J	0.557	5.92
REHR12 Comp Rep 1	ND	U	0.631	1.18	ND	U	0.185	1.18	ND	U	2.89	5.88	ND	U	0.197	5.88	10.3	--	4.79	5.88	0.608	J	0.456	5.88	ND	U	5.83	5.88	1.50	J	0.645	5.88
REHR12 Comp Rep 2	ND	U	0.922	1.15	ND	U	0.161	1.15	ND	U	2.26	5.75	ND	U	0.262	5.75	5.23	J	3.70	5.75	ND	U	0.525	5.75	ND	U	4.90	5.75	ND	U	0.728	5.75
REHR12 Comp Rep 3	ND	U	0.926	1.18	ND	U	0.108	1.18	ND	U	2.15	5.92	ND	U	0.295	5.92	ND	U	3.56	5.92	ND	U	0.489	5.92	ND	U	5.60	5.92	ND	U	0.697	5.92
REHR12 Comp Rep 4	1.10	J	0.721	1.14	ND	U	0.208	1.14	ND	U	2.33	5.68	ND	U	0.193	5.68	ND	U	3.60	5.68	ND	U	0.386	5.68	ND	U	5.30	5.68	2.22	J	0.681	5.68
REHR12 Comp Rep 5	ND	U	0.727	1.15	ND	U	0.254	1.15	ND	U	1.78	5.75	ND	U	0.260	5.75	ND	U	3.79	5.75	ND	U	0.400	5.75	ND	U	5.15	5.75	ND	U	0.687	5.75
WLR12 Comp Rep 1	ND	U	0.553	1.18	ND	U	0.337	1.18	ND	U	0.193	5.92	ND	U	0.170	5.92	0.936	J	0.180	5.92	ND	U	0.178	5.92	0.969	J	0.191	5.92	0.465	J	0.0908	5.92
WLR12 Comp Rep 2	ND	U	0.368	1.20	ND	U	0.332	1.20	ND	U	0.204	6.01	ND	U	0.149	6.01	ND	U	0.205	6.01	ND	U	0.166	6.01	1.45	J	0.245	6.01	0.854	J	0.165	6.01
WLR12 Comp Rep 3	ND	U	0.430	1.20	ND	U	0.326	1.20	ND	U	0.253	5.98	ND	U	0.156	5.98	ND	U	0.166	5.98	ND	U	0.194	5.98	1.69	J	0.222	5.98	0.701	J	0.123	5.98
WLR12 Comp Rep 4	ND	U	0.391	1.17	ND	U	0.358	1.17	ND	U	0.248	5.83	ND	U	0.168	5.83	ND	U	0.219	5.83	ND	U	0.188	5.83	2.07	J	0.239	5.83	ND	U	0.101	5.83
WLR12 Comp Rep 5	ND	U	0.977	1.20	ND	U	0.136	1.20	ND	U	1.94	5.98	ND	U	0.305	5.98	ND	U	2.31	5.98	1.00	J	0.339	5.98	ND	U	3.82	5.98	3.13	J	0.548	5.98
WUTB12 Comp Rep 1	ND	U	0.807	1.21	ND	U	0.143	1.21	ND	U	1.81	6.03	ND	U	0.206	6.03	ND	U	2.32	6.03	5.94	J	0.236	6.03	16.0	--	3.31	6.03	6.80	--	0.531	6.03
WUTB12 Comp Rep 2	ND	U	0.695	1.19	ND	U	0.182	1.19	ND	U	1.62	5.97	ND	U	0.203	5.97	ND	U	2.68	5.97	7.71	--	0.346	5.97	12.1	--	3.14	5.97	17.7	--	0.396	5.97
WUTB12 Comp Rep 3	ND	U	0.661	1.17	ND	U	0.136	1.17	ND	U	1.53	5.86	ND	U	0.196	5.86	ND	U	2.43	5.86	9.85	--	0.294	5.86	11.3	--	4.09	5.86	15.8	--	0.592	5.86
WUTB12 Comp Rep 4	ND	U	0.596	1.18	ND	U	0.178	1.18	ND	U	1.49	5.89	ND	U	0.164	5.89	ND	U	2.38	5.89	ND	U	0.341	5.89	4.29	J	2.93	5.89	0.831	J	0.476	5.89
WUTB12 Comp Rep 5	ND	U	0.740	1.18	ND	U	0.171	1.18	ND	U	1.69	5.89	ND	U	0.280	5.89	ND	U	3.18	5.89	4.25	J	0.304	5.89	7.29	--	3.77	5.89	8.16	--	0.436	5.89
CCRK12 Comp Rep 1	0.320	U	0.320	1.19	0.0931	U	0.0931	1.19	0.0554	U	0.0554	5.93	0.0535	U	0.0535	5.93	1.96	J	0.140	5.93	0.0883	U	0.0883	5.93	2.27	J	0.0516	5.93	0.124	U	0.124	5.93
CCRK12 Comp Rep 2	0.118	U	0.118	1.19	0.0629	U	0.0629	1.19	0.125	U	0.125	5.93	0.0722	U	0.0722	5.93	2.20	J	0.124	5.93	0.101	U	0.101	5.93	3.15	J	0.0781	5.93	0.117	U	0.117	5.93
CCRK12 Comp Rep 3	0.713	J	0.213	1.19	0.0831	U	0.0831	1.19	0.0836	U	0.0836	5.97	0.0741	U	0.0741	5.97	1.56	J	0.0824	5.97	0.0633	U	0.0633	5.97	3.28	J	0.0810	5.97	0.135	U	0.135	5.97
CCRK12 Comp Rep 4	0.608	J	0.129	1.20	0.102	U	0.102	1.20	0.277	J	0.115	5.99	0.0982	U	0.0982	5.99	1.83	J	0.155	5.99	0.123	U	0.123	5.99	3.25	J	0.193	5.99	0.162	J	0.106	5.99
CCRK12 Comp Rep 5	0.427	J	0.196	1.18	0.116	U	0.116	1.18	0.190	J	0.137	5.91	0.102	U	0.102	5.91	1.34	J	0.109	5.91	0.104	U	0.104	5.91	2.80	J	0.181	5.91	0.121	U	0.121	5.91
ORDT12 Comp Rep 1	2.79		0.114	1.17	0.266	J	0.0815	1.17	0.444	J	0.119	5.84	0.488	J	0.116	5.84	5.20	J	0.168	5.84	0.737	J	0.115	5.84	8.65		0.138	5.84	2.48	J	0.111	5.84
ORDT12 Comp Rep 2	0.695	J	0.221	1.18	0.0925	U	0.0925	1.18	0.117	U	0.117	5.88	0.0537	U	0.0537	5.88	4.57	J	0.145	5.88	0.0567	U	0.0567	5.88	4.31	J	0.0977	5.88	0.138	U	0.138	5.88
ORDT12 Comp Rep 3	0.256	U	0.256	1.17	0.0269	U	0.0269	1.17	1.26	J	0.108	5.84	0.0690	U	0.0690	5.84	4.15	J	0.141	5.84	0.0982	U	0.0982	5.84	2.91	J	0.0648	5.84	0.126	U	0.126	5.84
ORDT12 Comp Rep 4	0.211	U	0.211	1.15	0.0624	U	0.0624	1.15	0.107	U	0.107	5.77	0.0913	U	0.0913	5.77	5.13	J	0.145	5.77	0.0825	U	0.0825	5.77	2.98	J	0.128	5.77	0.0989	U	0.0989	5.77
ORDT12 Comp Rep 5	3.36	--	0.208	1.17	0.0596	U	0.0596	1.17	0.856	J	0.111	5.84	0.0624	U	0.0624	5.84	4.73	J	0.0699	5.84	0.0678	U	0.0678	5.84	2.98	J	0.138	5.84	0.0510	U	0.0510	5.84
HGIW12 Comp Rep 1	1.69	--	0.252	1.25	ND	U	0.119	1.25	ND	U	0.131	6.23	ND	U	0.135	6.23	3.83	J	0.177	6.23	1.61	J	0.0950	6.23	2.13	J	0.120	6.23	0.446	J	0.0858	6.23
HGIW12 Comp Rep 2	ND	U	0.188	1.17	ND	U	0.0867	1.17	0.546	J	0.0865	5.86	ND	U	0.122	5.86	2.48	J	0.108	5.86	0.316	J	0.0687	5.86	2.46	J	0.136	5.86	ND	U	0.104	5.86
HGIW12 Comp Rep 3	1.93	--	0.188	1.17	ND	U	0.146	1.17	0.571	J	0.0655	5.85	ND	U	0.136	5.85	2.27	J	0.190	5.85	ND	U	0.0938	5.85	0.581	J	0.150	5.85	ND	U	0.0718	5.85
HGIW12 Comp Rep 4	2.21	--	0.188	1.21	ND	U	0.141	1.21	ND	U	0.179	6.07	ND	U	0.185	6.07	3.40	J	0.159	6.07	ND	U	0.127	6.07	3.74	J	0.182	6.07	ND	U	0.137	6.07
HGIW12 Comp Rep 5	1.91	--	0.194	1.22	ND	U	0.147	1.22	0.668	J	0.194	6.10	ND	U	0.126	6.10	3.43	J	0.170	6.10	ND	U	0.149	6.10	3.52	J	0.250	6.10	ND	U	0.214	6.10

TABLE 48
Analytical Results for Dry Weight Dioxins and Furans in *Macoma nasuta* tissues

ANAMAR Environmental Consulting, Inc.

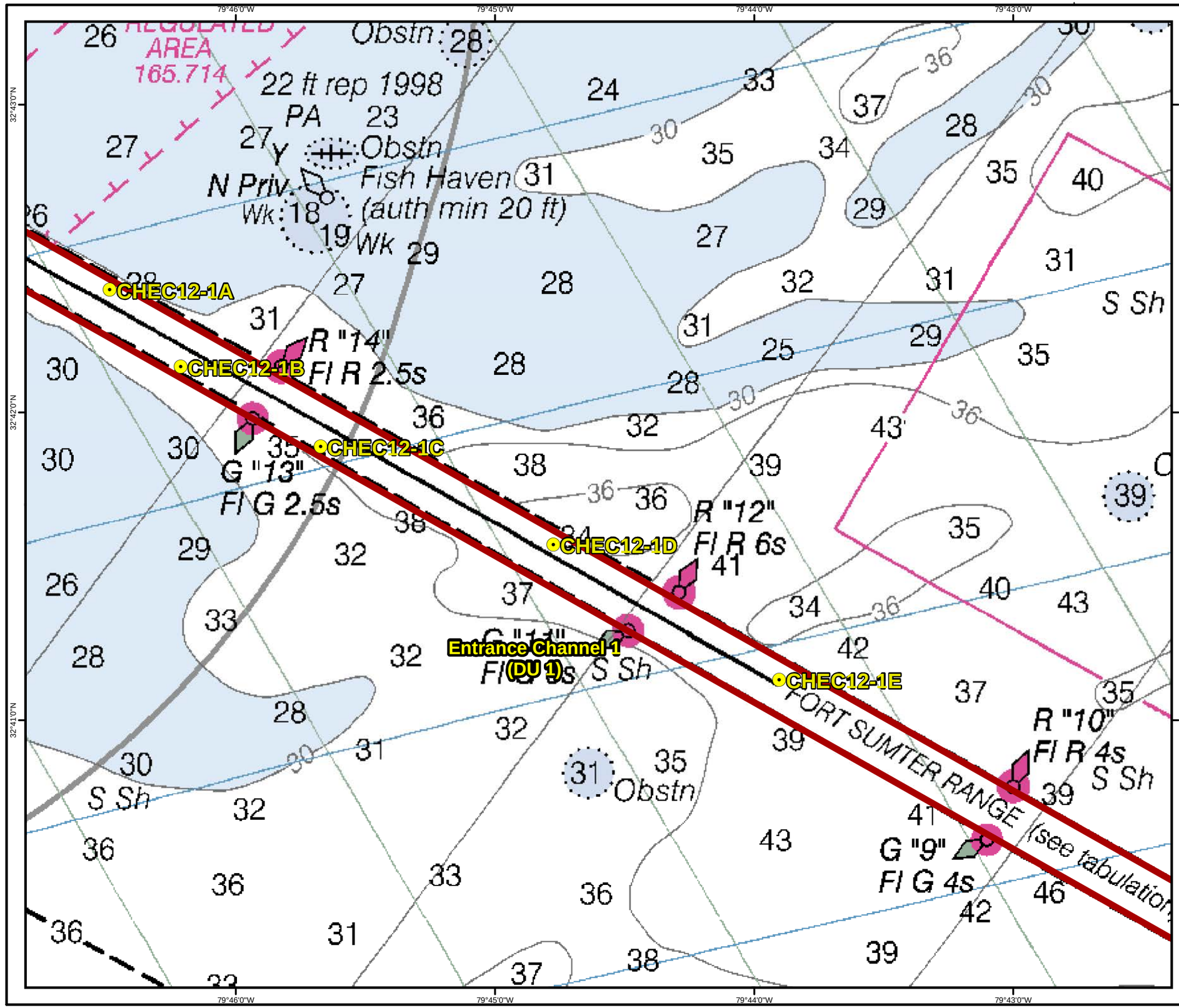
Analyte:	Total Tetra-Dioxins				Total Tetra-Furans				Total Penta-Dioxins				Total Penta-Furans				Total Hexa-Dioxins				Total Hexa-Furans				Total Hepta-Dioxins				Total Hepta-Furans			
Sample-Replicate #	Result ng/Kg	Qualifier	MDL	MRL	Result ng/Kg	Qualifier	MDL	MRL	Result ng/Kg	Qualifier	MDL	MRL	Result ng/Kg	Qualifier	MDL	MRL	Result ng/Kg	Qualifier	MDL	MRL	Result ng/Kg	Qualifier	MDL	MRL	Result ng/Kg	Qualifier	MDL	MRL	Result ng/Kg	Qualifier	MDL	MRL
DANW12 Comp Rep 1	ND	U	0.194	1.14	ND	U	0.186	1.14	0.969	J	0.167	5.72	ND	U	0.143	5.72	3.99	J	0.149	5.72	ND	U	0.161	5.72	4.46	J	0.273	5.72	ND	U	0.167	5.72
DANW12 Comp Rep 2	0.695	J	0.210	1.15	ND	U	0.128	1.15	ND	U	0.140	5.77	ND	U	0.0626	5.77	2.21	J	0.149	5.77	ND	U	0.103	5.77	1.80	J	0.0469	5.77	ND	U	0.104	5.77
DANW12 Comp Rep 3	ND	U	0.176	1.14	ND	U	0.0721	1.14	ND	U	0.0998	5.70	ND	U	0.0852	5.70	3.02	J	0.109	5.70	ND	U	0.0701	5.70	2.42	J	0.122	5.70	ND	U	0.0445	5.70
DANW12 Comp Rep 4	ND	U	0.278	1.15	ND	U	0.0624	1.15	0.743	J	0.0599	5.75	ND	U	0.0341	5.75	3.13	J	0.267	5.75	ND	U	0.0788	5.75	2.93	J	0.0939	5.75	ND	U	0.101	5.75
DANW12 Comp Rep 5	ND	U	0.122	1.21	ND	U	0.116	1.21	ND	U	0.0865	6.07	ND	U	0.0806	6.07	2.04	J	0.0986	6.07	ND	U	0.0901	6.07	ND	U	0.200	6.07	ND	U	0.103	6.07
WLRW12 Comp Rep 1	0.473	J	0.259	1.21	ND	U	0.143	1.21	0.229	J	0.180	6.07	ND	U	0.123	6.07	0.906	J	0.228	6.07	ND	U	0.175	6.07	1.40	J	0.260	6.07	ND	U	0.161	6.07
WLRW12 Comp Rep 2	ND	U	0.190	1.23	ND	U	0.159	1.23	ND	U	0.182	6.16	ND	U	0.154	6.16	1.92	J	0.119	6.16	0.135	J	0.122	6.16	3.22	J	0.244	6.16	0.421	J	0.155	6.16
WLRW12 Comp Rep 3	0.571	J	0.204	1.23	ND	U	0.116	1.23	ND	U	0.170	6.16	ND	U	0.143	6.16	1.19	J	0.147	6.16	ND	U	0.112	6.16	1.02	J	0.183	6.16	ND	U	0.120	6.16
WLRW12 Comp Rep 4	0.502	J	0.190	1.21	ND	U	0.126	1.21	ND	U	0.129	6.06	ND	U	0.110	6.06	0.807	J	0.177	6.06	ND	U	0.147	6.06	1.70	J	0.173	6.06	ND	U	0.128	6.06
WLRW12 Comp Rep 5	0.514	J	0.232	1.23	ND	U	0.195	1.23	ND	U	0.190	6.14	ND	U	0.145	6.14	0.699	J	0.245	6.14	ND	U	0.163	6.14	1.23	J	0.194	6.14	ND	U	0.143	6.14
ABMA12 Comp Rep 1	0.746	J	0.243	1.43	ND	U	0.193	1.43	0.567	J	0.150	7.16	ND	U	0.142	7.16	6.23	J	0.206	7.16	0.787	J	0.110	7.16	12.6	--	0.235	7.16	3.08	J	0.146	7.16
ABMA12 Comp Rep 2	0.938	J	0.277	1.47	ND	U	0.235	1.47	0.753	J	0.236	7.37	ND	U	0.142	7.37	4.72	J	0.152	7.37	ND	U	0.152	7.37	12.2	--	0.272	7.37	3.06	J	0.218	7.37
ABMA12 Comp Rep 3	0.818	J	0.464	1.70	ND	U	0.254	1.70	0.836	J	0.179	8.51	ND	U	0.199	8.51	6.17	J	0.236	8.51	1.38	J	0.155	8.51	14.1	--	0.246	8.51	2.61	J	0.188	8.51
ABMA12 Comp Rep 4	ND	U	0.787	1.36	ND	U	0.0826	1.36	ND	U	0.961	6.79	2.67	J	0.0899	6.79	51.7	--	1.21	6.79	21.9	--	0.175	6.79	774	--	2.78	6.79	73.7	--	0.302	6.79
ABMA12 Comp Rep 5	ND	U	0.642	1.46	ND	U	0.159	1.46	ND	U	0.867	7.29	ND	U	0.161	7.29	7.09	J	1.19	7.29	0.487	J	0.211	7.29	8.86	--	1.04	7.29	1.38	J	0.198	7.29
RS-CH-A Rep 1	ND	U	0.319	1.15	ND	U	0.133	1.15	ND	U	0.0835	5.76	ND	U	0.0918	5.76	ND	U	0.0360	5.76	ND	U	0.0167	5.76	ND	U	0.116	5.76	ND	U	0.0930	5.76
RS-CH-A Rep 2	ND	U	0.340	1.17	ND	U	0.148	1.17	ND	U	0.136	5.83	ND	U	0.0771	5.83	0.274	J	0.0649	5.83	0.258	J	0.0953	5.83	1.75	J	0.143	5.83	0.637	J	0.104	5.83
RS-CH-A Rep 3	ND	U	0.222	1.03	ND	U	0.108	1.03	ND	U	0.124	5.13	ND	U	0.0581	5.13	ND	U	0.0267	5.13	ND	U	0.143	5.13	1.02	J	0.172	5.13	0.450	J	0.117	5.13
RS-CH-A Rep 4	ND	U	0.339	1.19	ND	U	0.173	1.19	ND	U	0.136	5.93	ND	U	0.0998	5.93	0.226	J	0.0448	5.93	ND	U	0.0446	5.93	ND	U	0.111	5.93	ND	U	0.0515	5.93
RS-CH-A Rep 5	ND	U	0.268	1.02	ND	U	0.0687	1.02	ND	U	0.0605	5.12	ND	U	0.0517	5.12	0.860	J	0.136	5.12	ND	U	0.0869	5.12	13.4	--	0.177	5.12	2.40	J	0.0488	5.12
Pretest Tissue - 1	ND	U	0.199	0.952	ND	U	0.0467	0.952	ND	U	0.129	4.76	ND	U	0.0528	4.76	ND	U	0.0343	4.76	ND	U	0.0497	4.76	ND	U	0.0568	4.76	0.890	J	0.117	4.76
Pretest Tissue - 2	ND	U	0.186	1.11	ND	U	0.155	1.11	ND	U	0.239	5.56	ND	U	0.0663	5.56	ND	U	0.0605	5.56	ND	U	0.0727	5.56	ND	U	0.0832	5.56	ND	U	0.0472	5.56
Pretest Tissue - 3	ND	U	0.268	0.917	ND	U	0.138	0.917	ND	U	0.119	4.59	ND	U	0.0690	4.59	0.181	J	0.0811	4.59	ND	U	0.111	4.59	3.75	J	0.159	4.59	0.512	J	0.0448	4.59
Toxic Equivalency Factor (TEF)	x				x				x				x				x				x				x				x			

TEFs taken from Van den Berg et. Al. (2006)
B = Method blank contains contaminant above detection limit
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
K = Ion abundances are outside laboratory control limits
U = The compound was analyzed for, but was not detected at or above the MDL.
x = No TEF published for parameter
-- = no qualified or value needed

Source: ALS Environmental
Compiled by: ANAMAR Environmental Consulting, Inc.

FIGURES

Figure 1
Entrance Channel 1
Sampling Locations
Charleston Harbor 103



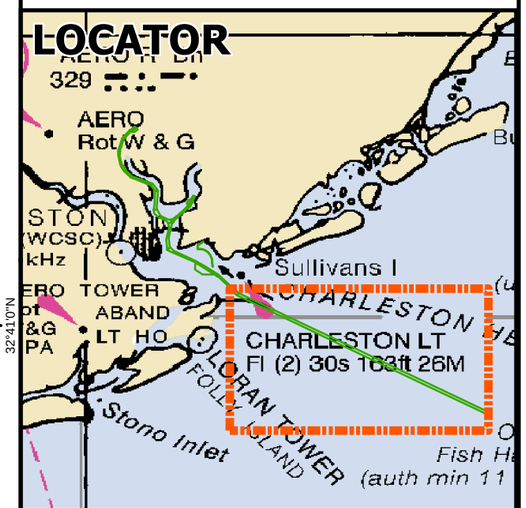
Legend

- Sampling Locations
- Dredging Unit Boundary

N
W E
S

Feet
0 1,500 3,000

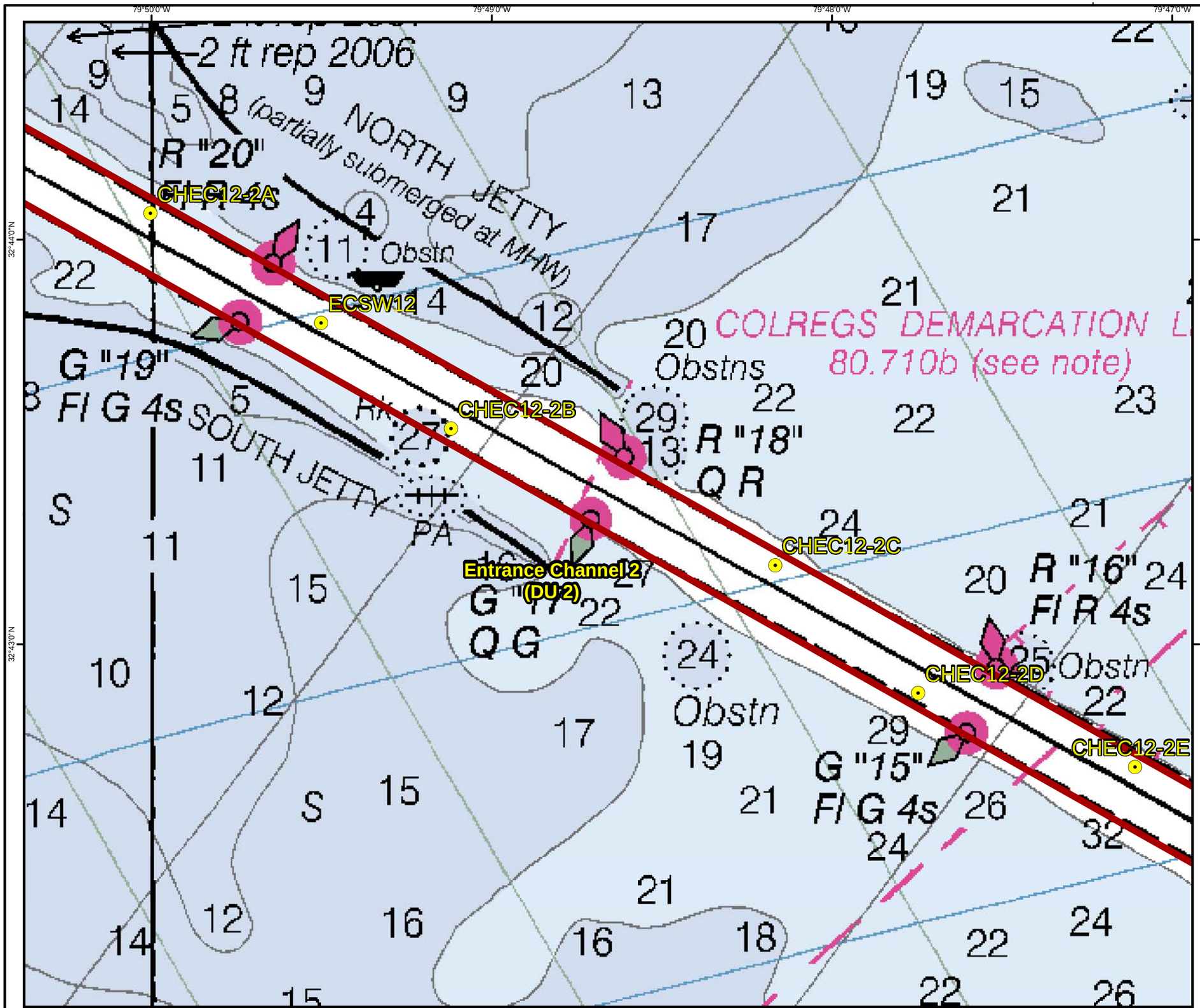
LOCATOR



ANAMAR
Environmental Consulting, Inc.

This map and/or digital data is for planning purposes only and should not be used to determine the precise location of any feature. Data provided as-is.
Q:\GIS PROJECTS\12-0003 Charleston Post 45\
Proposed Sampling Locations\DU_1
Data sources: ANAMAR, USACE, NOAA

Figure 2
Entrance Channel 2
Sampling Locations
Charleston Harbor 103



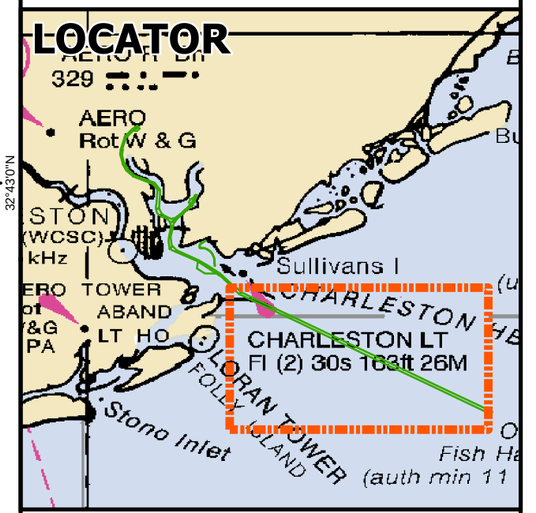
Legend

- Sampling Locations
- Dredging Unit Boundary

N
W E
S

Feet
0 1,500 3,000

LOCATOR



ANAMAR
Environmental Consulting, Inc.

This map and/or digital data is for planning purposes only and should not be used to determine the precise location of any feature. Data provided as-is.
Q:\GIS PROJECTS\12-0003 Charleston Post 45\
Actual Sampling Locations\DU_2
Data sources: ANAMAR, USACE, NOAA

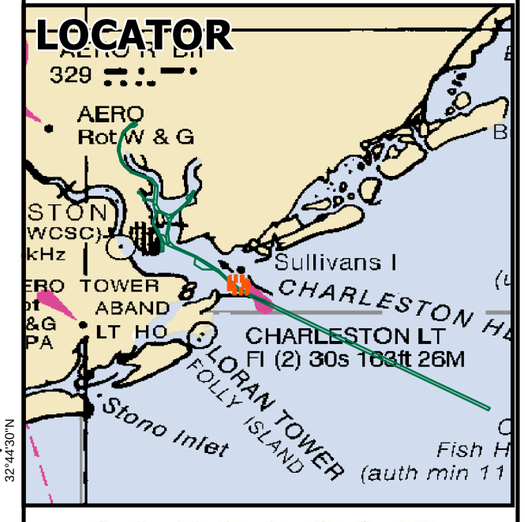
Figure 3
Mount Pleasant Reach Sampling Locations Charleston Harbor 103

Legend

- Sampling Locations
- Dredging Unit Boundary
- Channel Boundary

N
W E
S

Feet
0 1,000 2,000



ANAMAR
Environmental Consulting, Inc.

This map and/or digital data is for planning purposes only and should not be used to determine the precise location of any feature. Data provided as-is.
Q:\GIS PROJECTS\12-0003 Charleston Post 45\
Actual Sampling Locations\DU_3
Data sources: ANAMAR, USACE, NOAA

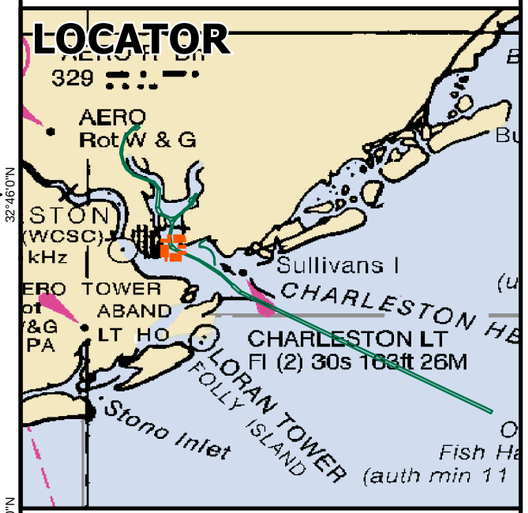
Figure 4
Rebellion, Bennis, and Horse Reach Sampling Locations Charleston Harbor 103

Legend

- Sampling Locations
- Dredging Unit Boundary
- Channel Boundary

N
W E
S

Feet
0 1,500 3,000



ANAMAR
Environmental Consulting, Inc.

This map and/or digital data is for planning purposes only and should not be used to determine the precise location of any feature. Data provided as-is.
Q:\GIS PROJECTS\12-0003 Charleston Post 45\
Actual Sampling Locations\DU_4
Data sources: ANAMAR, USACE, NOAA.

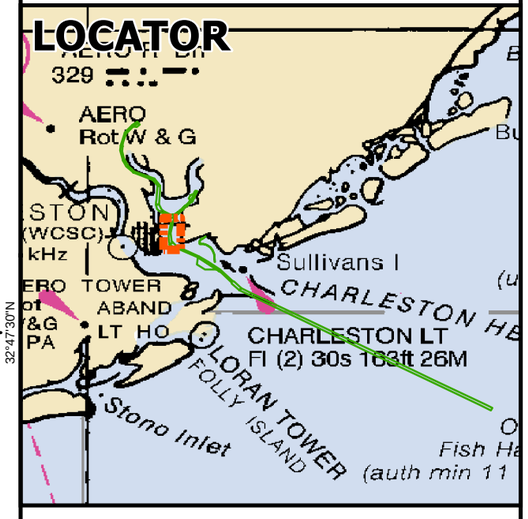
Figure 5
Hog Island Reach
Sampling Locations
Charleston Harbor 103

Legend

- Sampling Locations
- Dredging Unit Boundary
- Channel Boundary

N
W E
S

Feet
0 1,000 2,000



ANAMAR
Environmental Consulting, Inc.

This map and/or digital data is for planning purposes only and should not be used to determine the precise location of any feature. Data provided as-is.
Q:\GIS PROJECTS\12-0003 Charleston Post 45\
Actual Sampling Locations\DU_5
Data sources: ANAMAR, USACE, NOAA.

Figure 6
Drum Island and Myer's Bend Reach Sampling Locations Charleston Harbor 103

79°56'0"W
79°55'30"W
79°55'0"W
32°49'30"N
32°49'0"N

DRMY12-A
DRMY12-B
DRMY12-C
DRMY12-D
DRMY12-E

Drum Island Reach, Meyers Bend, &
Drum Island Reach Widener
(DU 6)

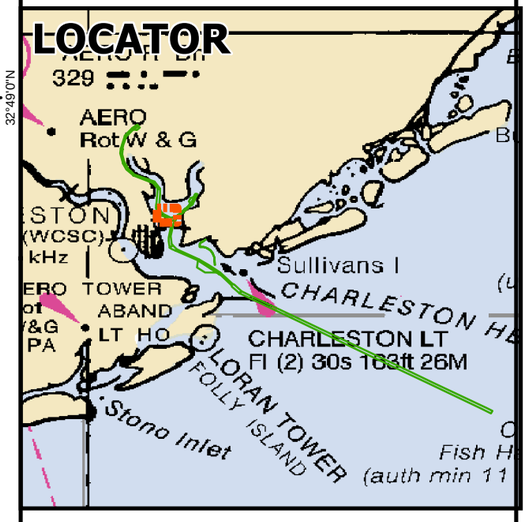
Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Legend

- Sampling Locations
- Dredging Unit Boundary
- Widener Area Boundary
- Channel Boundary

N
W
E
S

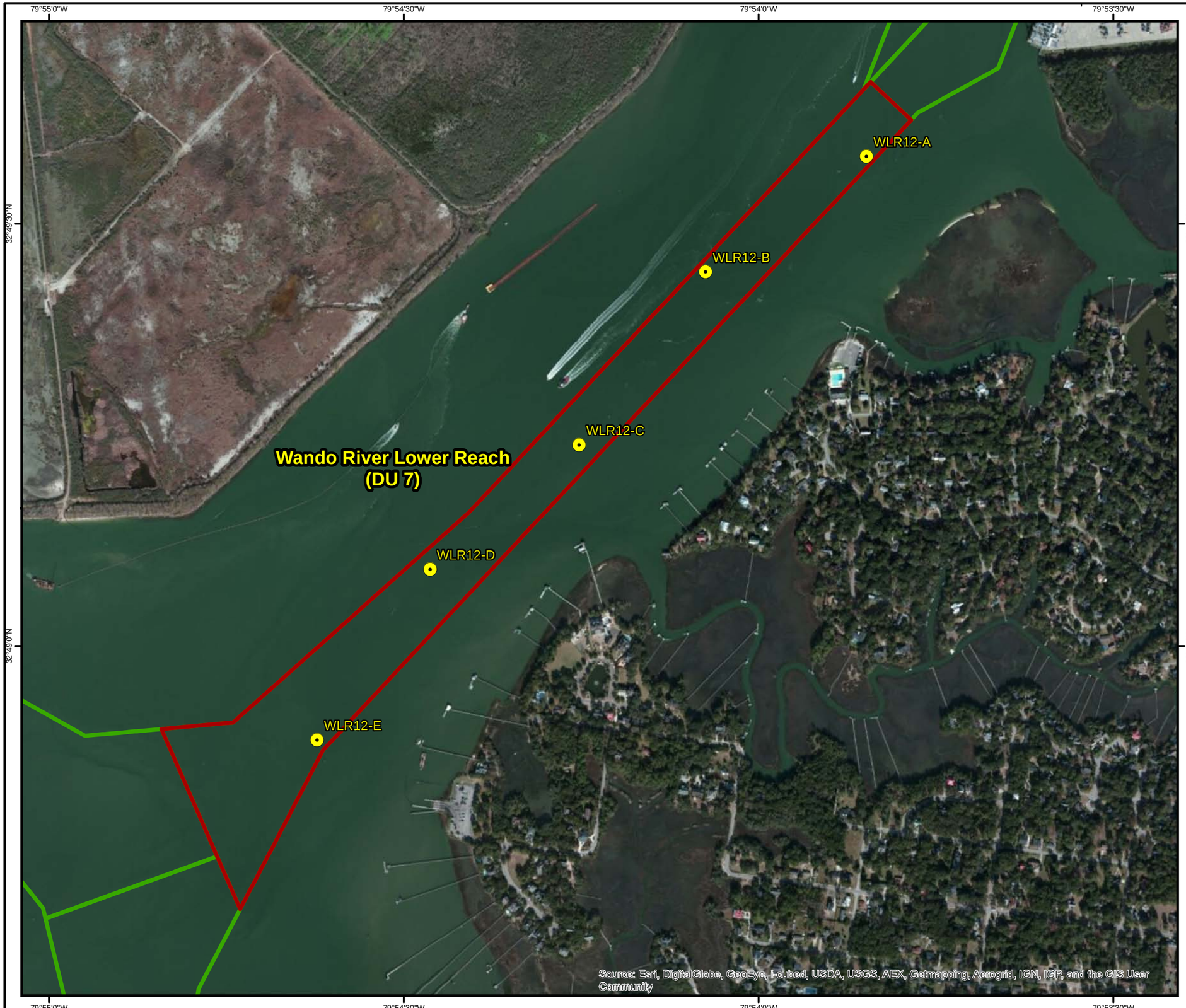
Feet
0
500
1,000



ANAMAR
Environmental Consulting, Inc.

This map and/or digital data is for planning purposes only and should not be used to determine the precise location of any feature. Data provided as-is.
Q:\GIS PROJECTS\12-0003 Charleston Post 45\
Actual Sampling Locations\Du_6
Data sources: ANAMAR, USACE, NOAA

Figure 7
Wando River Lower Reach
Sampling Locations
Charleston Harbor 103



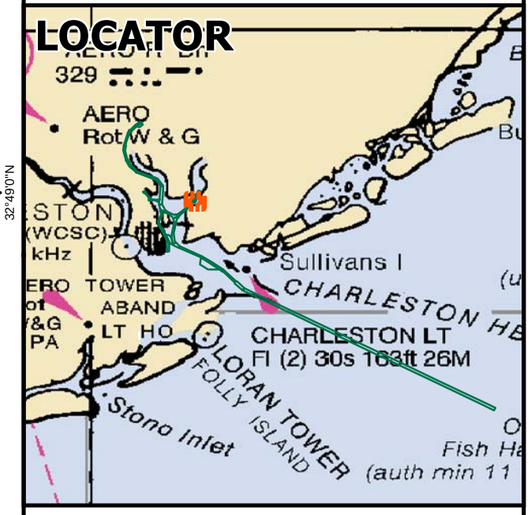
Legend

- Sampling Locations
- Dredging Unit Boundary
- Channel Boundary

N
W E
S

Feet
0 500 1,000

LOCATOR



ANAMAR
Environmental Consulting, Inc.

This map and/or digital data is for planning purposes only and should not be used to determine the precise location of any feature. Data provided as-is.
Q:\GIS PROJECTS\12-0003 Charleston Post 45\
Actual Sampling Locations\Du_7
Data sources: ANAMAR, USACE, NOAA

Figure 8
Wando River Upper Reach
Sampling Locations
Charleston Harbor 103

79°54'0"W

79°53'30"W

32°50'0"N

Wando River Upper Reach
and Turning Basin (DU 8)

WUTB12-A

WUTB12-B

WUTB12-C

WUTB12-D

WUTB12-E

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

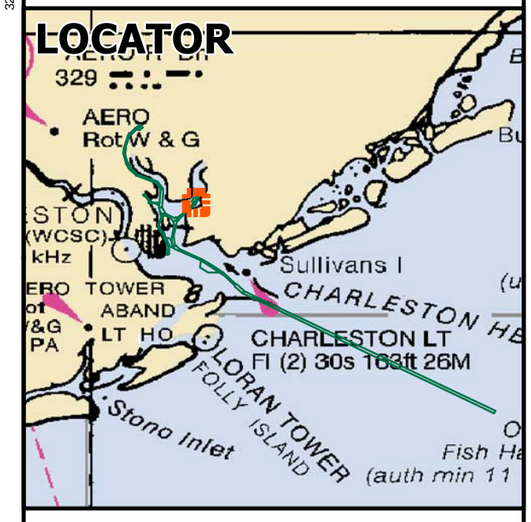
Legend

- Sampling Locations
- Dredging Unit Boundary
- Channel Boundary

N
W E
S

Feet
0 500 1,000

LOCATOR



ANAMAR
Environmental Consulting, Inc.

This map and/or digital data is for planning purposes only and should not be used to determine the precise location of any feature. Data provided as-is.
Q:\GIS PROJECTS\12-0003 Charleston Post 45\
Actual Sampling Locations\DU_8

79°56'30"W
79°56'0"W
79°55'30"W
79°55'0"W
32°50'30"N
32°50'0"N
32°49'30"N

DANI12-A
DANI12-B
DANI12-C
DANI12-D
DANI12-E

Daniel Island Reach
(DU 9)

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

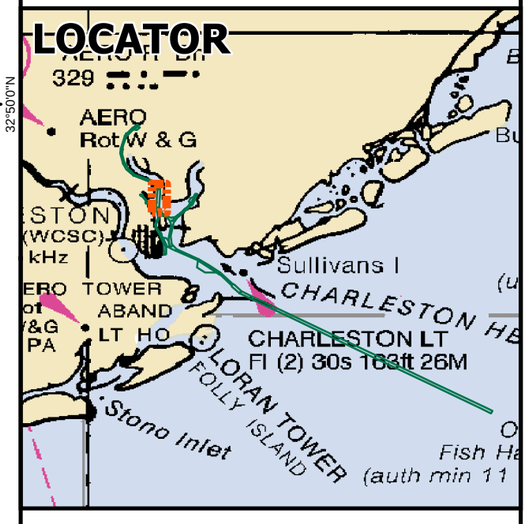
Figure 9
Daniel Island Reach
Sampling Locations
Charleston Harbor 103

Legend

- Sampling Locations
- Dredging Unit Boundary
- Channel Boundary

N
W E
S

Feet
0 500 1,000



ANAMAR
Environmental Consulting, Inc.

This map and/or digital data is for planning purposes only and should not be used to determine the precise location of any feature. Data provided as-is.
Q:\GIS PROJECTS\12-0003 Charleston Post 45\
Actual Sampling Locations\DU_9
Data sources: ANAMAR, USACE, NOAA

Figure 10
Daniel Island Bend/ Clouter Creek Reach Sampling Locations Charleston Harbor 103

79°57'0"W
79°56'30"W
79°56'0"W
79°55'30"W
32°51'30"N
32°51'0"N

CCRK12-A
UHSW12
CCRK12-B
CCRK12-C
CCRK12-D
CCRK12-E

Daniel Island Bend/Clouter Creek Reach & Clouter Creek Widener (DU 10)

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

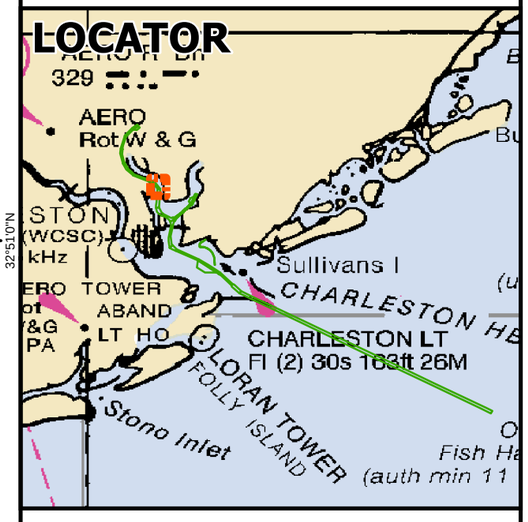
Legend

- Sampling Locations
- Dredging Unit Boundary
- Widener Area Boundary
- Channel Boundary

N
W E
S

Feet
0 1,000 2,000

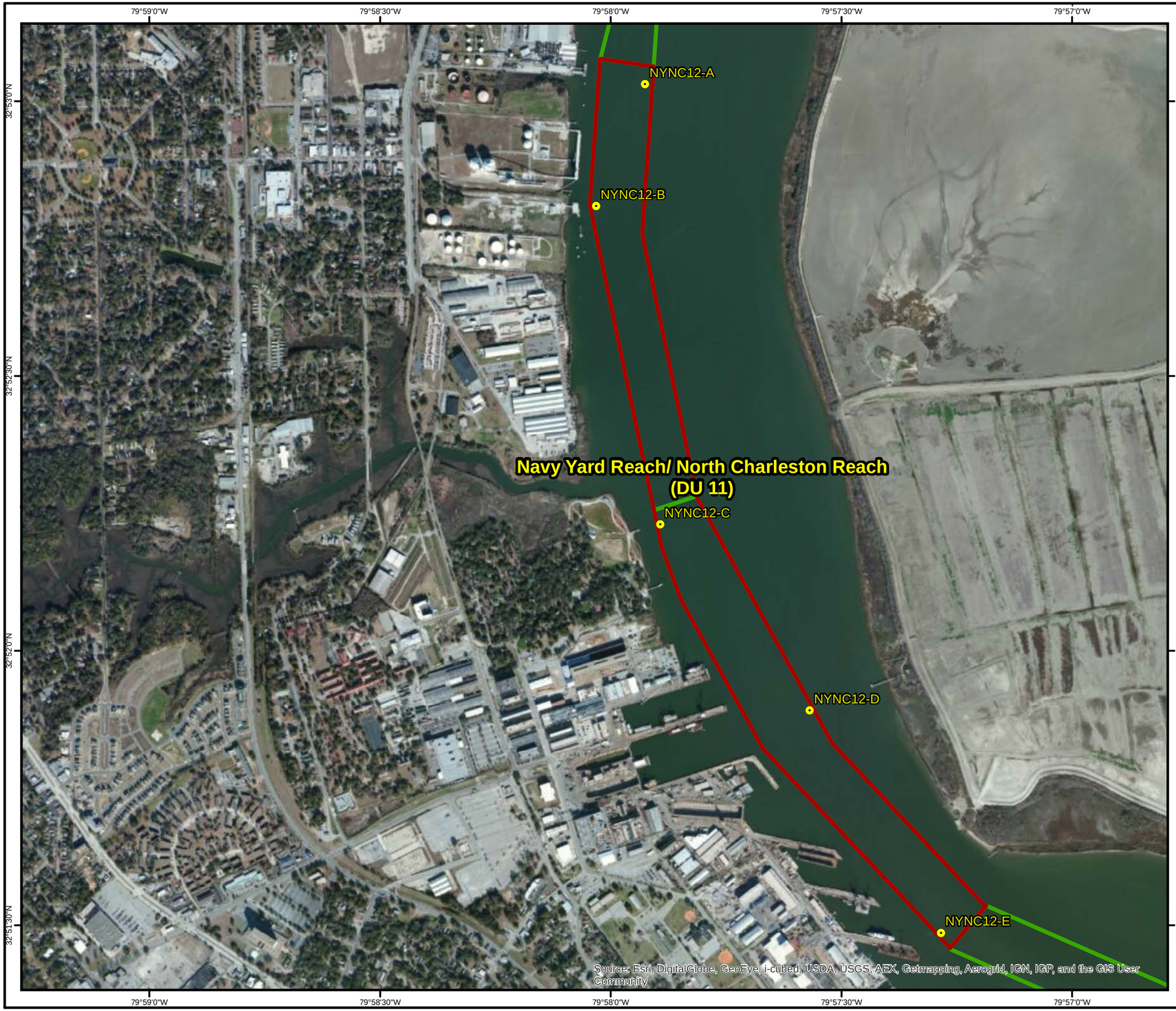
LOCATOR



ANAMAR
Environmental Consulting, Inc.

This map and/or digital data is for planning purposes only and should not be used to determine the precise location of any feature. Data provided as-is.
Q:\GIS PROJECTS\12-0003 Charleston Post 45\ Actual Sampling Locations\DU_10
Data sources: ANAMAR, USACE, NOAA.

Figure 11
Navy Yard Reach/ North Charleston Reach Sampling Locations Charleston Harbor 103



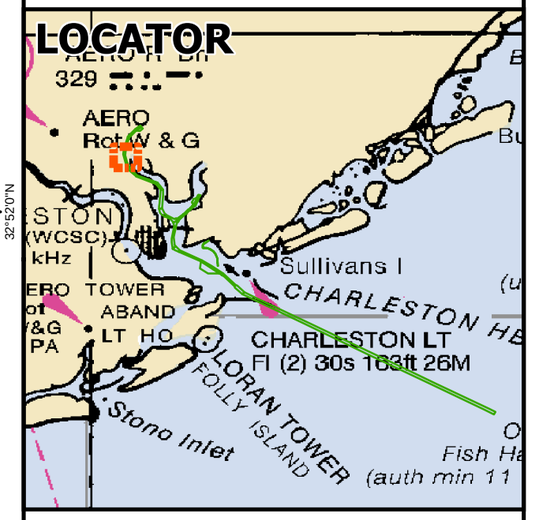
Legend

- Sampling Locations
- Dredging Unit Boundary
- Channel Boundary

N
W E
S

Feet
0 1,000 2,000

LOCATOR



ANAMAR
Environmental Consulting, Inc.

This map and/or digital data is for planning purposes only and should not be used to determine the precise location of any feature. Data provided as-is.
Q:\GIS PROJECTS\12-0003 Charleston Post 45\
Actual Sampling Locations\DU_11
Data sources: ANAMAR, USACE, NOAA

Figure 12
Port Terminal, Filbin Creek & Ordnance Reach Sampling Locations Charleston Harbor 103

79°58'30"W 79°58'0"W 79°57'30"W 79°57'0"W 79°56'30"W

32°54'30"N 32°54'0"N 32°53'30"N

PTFC12-A

PTFC12-B

PTFC12-C

PTFC12-D

PTFC12-E

Port Terminal Reach, Filbin Creek Reach & Ordnance Reach (DU 12)

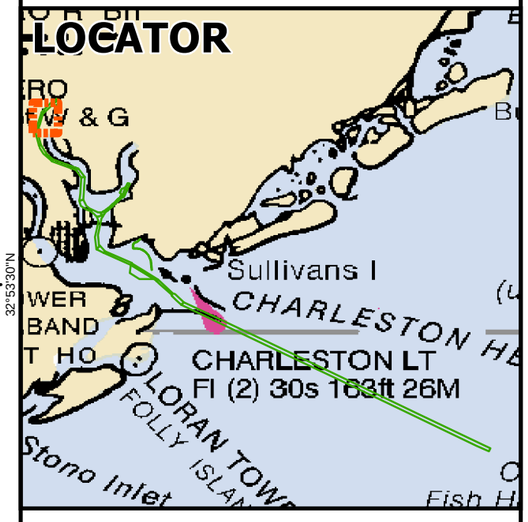
Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Legend

- Sampling Locations
- Dredging Unit Boundary
- Channel Boundary

N
W E
S

Feet
0 1,000 2,000



ANAMAR
Environmental Consulting, Inc.

This map and/or digital data is for planning purposes only and should not be used to determine the precise location of any feature. Data provided as-is.
Q:\GIS PROJECTS\12-0003 Charleston Post 45 \Actual Sampling Locations\DU_12
Data sources: ANAMAR, USACE, NOAA

Figure 13
Ordnance Reach Turning Basin & Widener Sampling Locations Charleston Harbor 103

79°57'0"W

32°54'30"N

ORDT12-A

ORDT12-B

ORDT12-C

ORDT12-D

ORDT12-E

Ordnance Reach Turning Basin
& Ordnance Reach Turning Basin Widener
(DU 13)

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

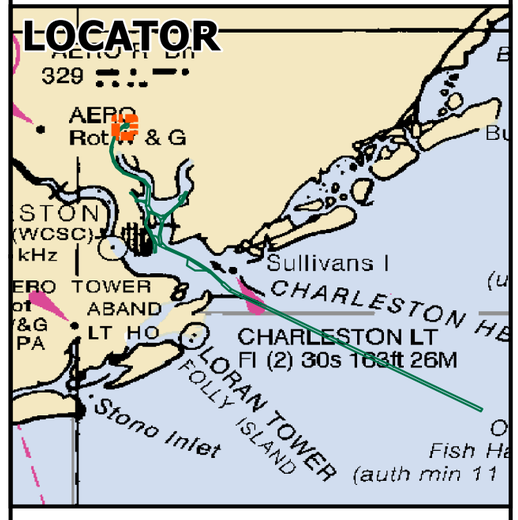
Legend

- Sampling Locations
- Widener Area
- Dredging Unit Boundary
- Channel Boundary

N
W E
S

Feet
0 400 800

LOCATOR



ANAMAR
Environmental Consulting, Inc.

This map and/or digital data is for planning purposes only and should not be used to determine the precise location of any feature. Data provided as-is.
Q:\GIS PROJECTS\12-0003 Charleston Post 45\Actual Sampling Locations\DU_13
Data sources: ANAMAR, USACE, NOAA

Figure 14
Bennis Reach Widener Sampling Locations Charleston Harbor 103

79°54'30"W 79°54'0"W 79°53'30"W 79°53'0"W

32°47'0"N 32°46'30"N 32°46'0"N

BENW12-A
BENW12-C
BENW12-B
BENW12-D
BENW12-E
BENW12-F

Bennis Reach Widener (DU 14)

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

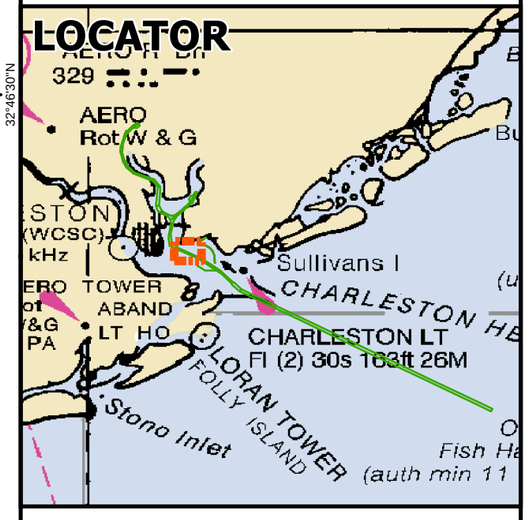
Legend

- Sampling Locations
- Widener/Dredging Unit Boundary
- Channel Boundary

N W E S

Feet
0 500 1,000

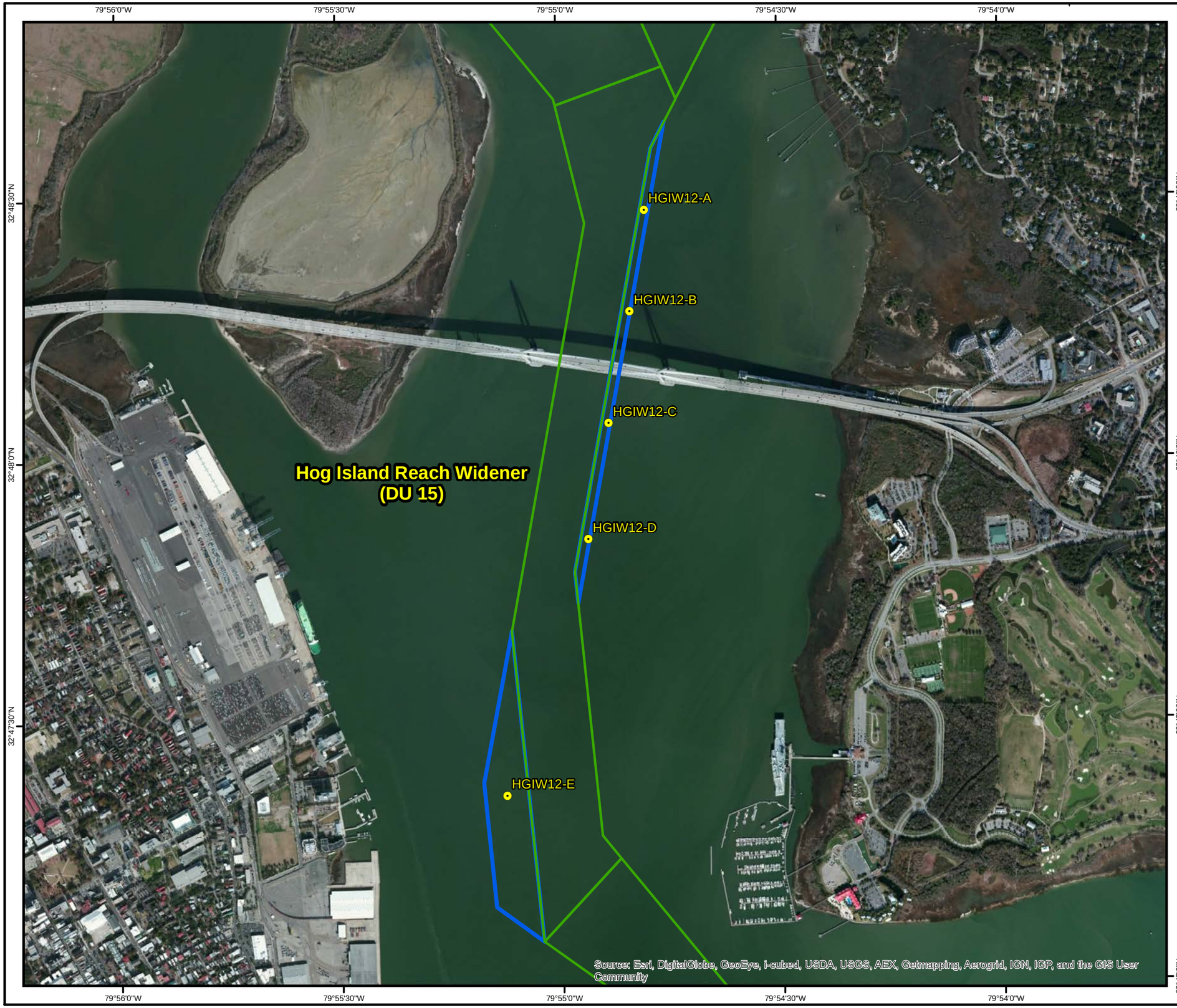
LOCATOR



ANAMAR
Environmental Consulting, Inc.

This map and/or digital data is for planning purposes only and should not be used to determine the precise location of any feature. Data provided as-is.
Q:\GIS PROJECTS\12-0003 Charleston Post 45\
Actual Sampling Locations\DU_14
Data sources: ANAMAR, USACE, NOAA

Figure 15
Hog Island Reach Widener
Sampling Locations
Charleston Harbor 103

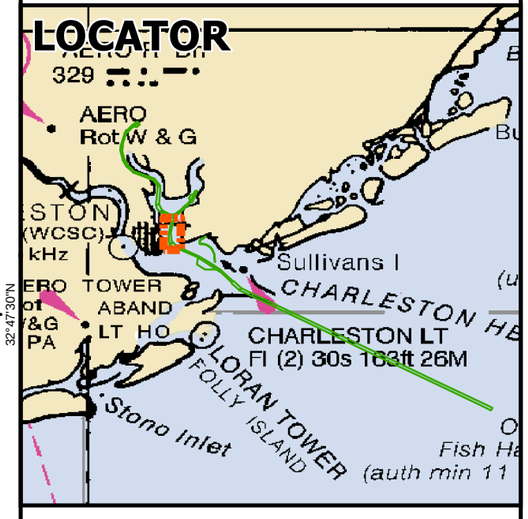


Legend

- Sampling Locations
- Widener/Dredging Unit Boundary
- Channel Boundary

N
W E
S

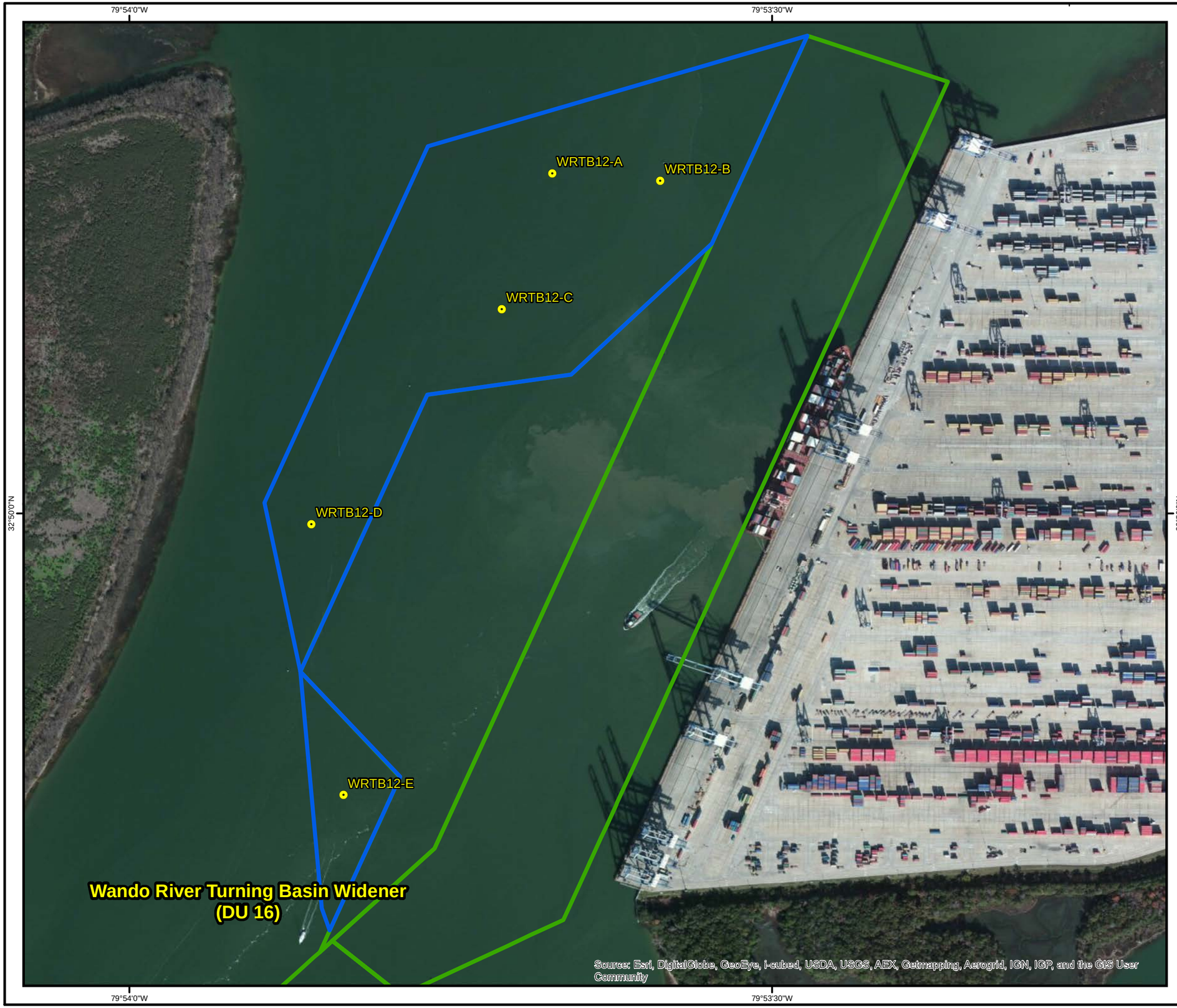
Feet
0 1,000 2,000



ANAMAR
Environmental Consulting, Inc.

This map and/or digital data is for planning purposes only
and should not be used to determine the
precise location of any feature. Data provided as-is.
Q:\GIS PROJECTS\12-0003 Charleston Post 45
\Actual Sampling Locations\DU_15
Data sources: ANAMAR, USACE, NOAA

Figure 16
Wando River Turning Basin Widener
Sampling Locations
Charleston Harbor 103

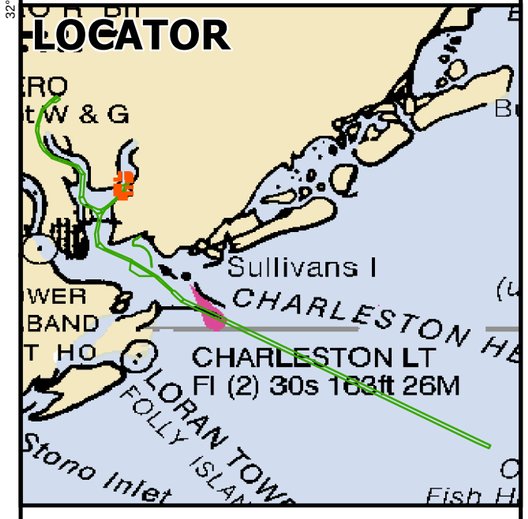


Legend

- Sampling Locations
- Widener/Dredging Unit Boundary
- Channel Boundary

N
W E
S

Feet
0 500 1,000



ANAMAR
Environmental Consulting, Inc.

This map and/or digital data is for planning purposes only
and should not be used to determine the
precise location of any feature. Data provided as-is.
Q:\GIS PROJECTS\12-0003 Charleston Post 45
\Actual Sampling Locations\DU_16
Data sources: ANAMAR, USACE, NOAA.

Figure 17
Daniel Island Reach Widener Sampling Locations Charleston Harbor 103

79°56'0"W
79°55'30"W
79°55'0"W
32°50'30"N
32°50'0"N
32°49'30"N

DANW12-A
DANW12-B
DANW12-C
Daniel Island Reach Widener (DU 17)

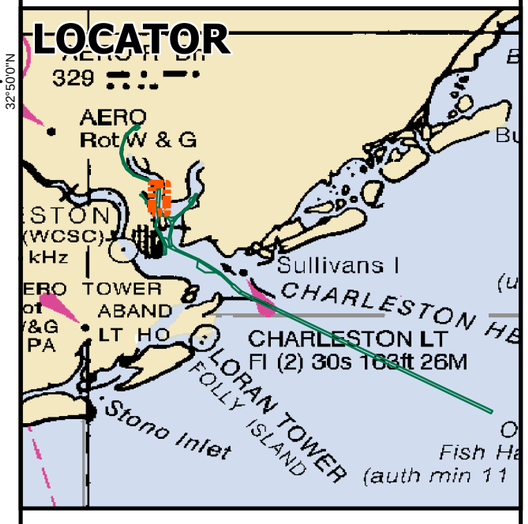
Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Legend

- Sampling Locations
- Widener/Dredging Unit Boundary
- Channel Boundary

N
W E
S

Feet
0 500 1,000



ANAMAR
Environmental Consulting, Inc.

This map and/or digital data is for planning purposes only and should not be used to determine the precise location of any feature. Data provided as-is.
Q:\GIS PROJECTS\12-0003 Charleston Post 45\ Actual Sampling Locations\DU_17
Data sources: ANAMAR, USACE, NOAA

Figure 18
Wando River Lower Reach
Widener
Sampling Locations
Charleston Harbor 103

79°55'0"W
79°54'30"W
79°54'0"W
32°49'30"N
32°49'0"N

WLRW12-A
WLRW12-B
WLRW12-C
WLRW12-D
WLRW12-E

Wando River Lower Reach
Widener
(DU 18)

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

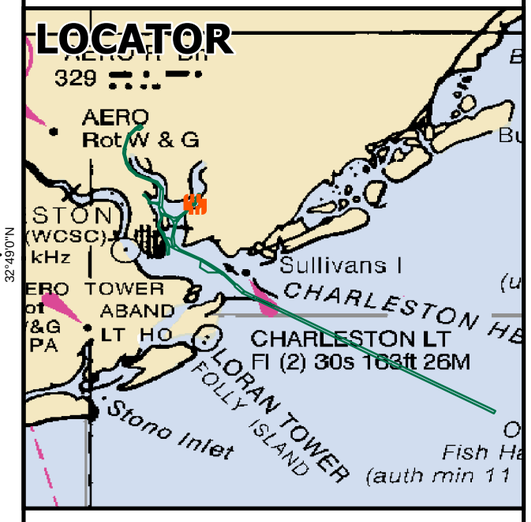
Legend

- Sampling Locations
- Widener/Dredging Unit Boundary
- Channel Boundary

N
W E
S

Feet
0 500 1,000

LOCATOR



ANAMAR
Environmental Consulting, Inc.

This map and/or digital data is for planning purposes only and should not be used to determine the precise location of any feature. Data provided as-is.
Q:\GIS PROJECTS\12-0003 Charleston Post 45\
Actual Sampling Locations\DU_18.mxd
Data sources: ANAMAR, USACE, NOAA.

Figure 19
North Charleston Reach & Filbin Creek Reach Widener Sampling Locations Charleston Harbor 103

79°58'30"W 79°58'0"W 79°57'30"W 79°57'0"W

32°53'30"N 32°53'0"N 32°52'30"N 32°52'0"N

NCW12-A
NCW12-B
NCW12-C
NCW12-D
NCW12-E

North Charleston Reach
& Filbin Creek Reach Widener
(DU 19)

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

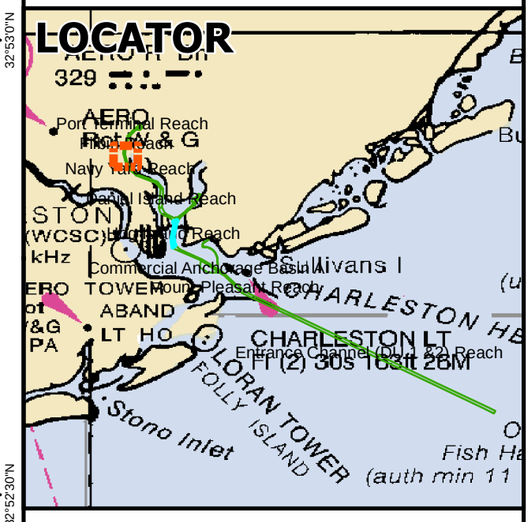
Legend

- Sampling Locations
- Widener/Dredging Unit Boundary
- Channel Boundary

N
W E
S

Feet
0 1,000 2,000

LOCATOR



ANAMAR
Environmental Consulting, Inc.

This map and/or digital data is for planning purposes only and should not be used to determine the precise location of any feature. Data provided as-is.
Q:\GIS PROJECTS\12-0003 Charleston Post 45\
Actual Sampling Locations\DU_19
Data sources: ANAMAR, USACE, NOAA

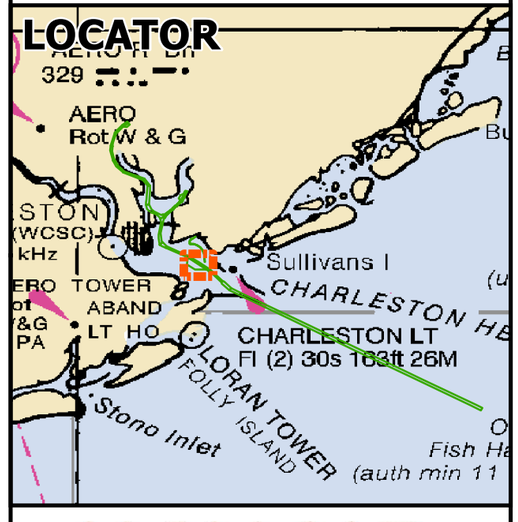
Figure 20
Anchorage Basin
Sampling Locations
Charleston Harbor 103

Legend

- Sampling Locations
- Dredging Unit Boundary
- Channel Boundary

N
W E
S

Feet
0 500 1,000



ANAMAR
Environmental Consulting, Inc.

This map and/or digital data is for planning purposes only and should not be used to determine the precise location of any feature. Data provided as-is.
Q:\GIS PROJECTS\12-0003 Charleston Post 45\
Proposed Sampling Locations\DU_20
Data sources: ANAMAR, USACE, NOAA

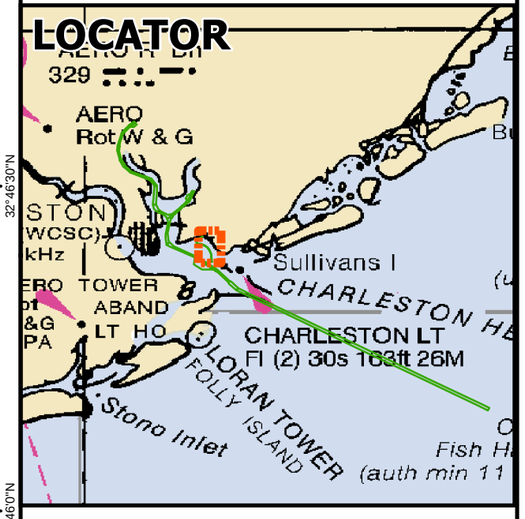
Figure 21
Shem Creek
Sampling Locations
Charleston Harbor 103

Legend

- Sampling Locations
- Dredging Unit Boundary

N
W E
S

Feet
0 750 1,500



ANAMAR
Environmental Consulting, Inc.

This map and/or digital data is for planning purposes only and should not be used to determine the precise location of any feature. Data provided as-is.
Q:\GIS PROJECTS\12-0003 Charleston Post 45\ Proposed Sampling Locations\SCreach.mxd
Data sources: ANAMAR, USACE, NOAA.

Figure 22
ODMDS & Reference Station Sampling Locations
Charleston Harbor 103

Legend

- Sampling Locations
- Dredging Unit Boundary

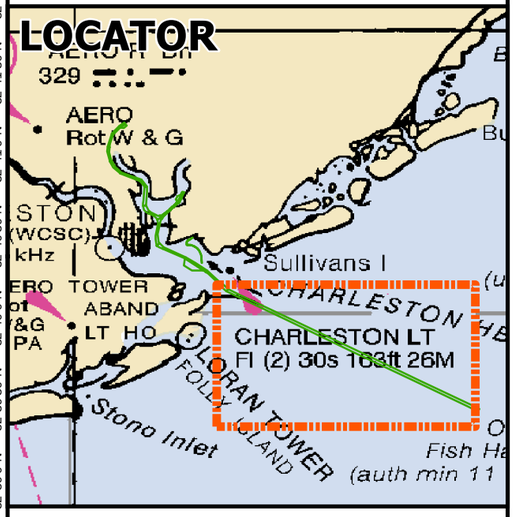
N
W E
S

Feet
0 3,000 6,000

CHEC12-2A
ECSW12 ECSW12
CHEC12-2B
CHEC12-2C
CHEC12-2D
CHEC12-2E
CHEC12-1A
CHEC12-1B
CHEC12-1C
CHEC12-1D
CHEC12-1E
ODMDS & Reference Station
ODMSSW12
RS-CH-A-B
RS-CH-A-D
RS-CH-A-E

Breach Inlet
Rattlesnake Shoal
CHARLESTON LT
(2) 30s 163ft 26M
Fish Haven
(auth min 20 ft)
ANCHORAGE AREA
(anchor at your own risk)
(see note B)
DANGER AREA
(see note B)
Pilot Area "B"
Dump Site
(dredged material)
(see note S)
Depths from surveys of 1873-1996
FORT SUMTER RANGE (see tabulation)
REGULATED AREA 165.714
COLREGS DEMARCATION LINE 80.710b (see note)
COLREGS 80.710a (see note A)

LOCATOR



ANAMAR
Environmental Consulting, Inc.

This map and/or digital data is for planning purposes only and should not be used to determine the precise location of any feature. Data provided as-is.
Q:\GIS PROJECTS\12-0003 Charleston Post 45\Actual Sampling Locations\ODMDS_Reference.mxd
Data sources: ANAMAR, USACE, NOAA.

NOTE:

Appendices are provided in electronic format only
and may be found on the accompanying CD.