CHEMICAL AND BIOLOGICAL MEASURES OF SEDIMENT QUALITY AND TISSUE BIOACCUMULATION IN THE NORTH COAST REGION

BAY PROTECTION AND TOXIC CLEANUP PROGRAM

FINAL REPORT

California State Water Resources Control Board
Division of Water Quality

California Regional Water Quality Control Board
North Coast Region

California Department of Fish and Game
Marine Pollution Studies Laboratory

California State University
Moss Landing Marine Laboratories

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EXECUTIVE SUMMARY

This report describes and evaluates chemical and biological data collected from North Coast Region between November, 1992 and December, 1996. The study was conducted as part of the ongoing Bay Protection and Toxic Cleanup Program (BPTCP), a legislatively mandated program designed to assess the degree of chemical pollution and associated biological effects in California's bays and harbors. This Study was designed by the North Coast Regional Water Quality Control Board (RWQCB) staff. It was managed and coordinated by the State Water Resources Control Board's (SWRCB) Bays and Estuaries Unit and the California Department of Fish and Game's (CDFG) Marine Pollution Studies Laboratory. Funding was provided through the SWRCB by fees assessed by the BPTCP.

The purposes of the present study were to:

1. Determine presence or absence of statistically significant toxicity effects in representative areas of the North Coast Region;

2. Determine relative degree or severity of observed effects, and distinguish more severely impacted sediments from less severely impacted sediments;

3. Determine relationships between pollutants and measures of effects in these water bodies.

4. Identify stations where pollution may impact biological resources.

This study involved chemical analysis of sediments and tissues, benthic community analysis, and toxicity testing of sediments and sediment pore water. Chemical analyses and bioassays were performed using aliquots of homogenized sediment samples collected synoptically at each station. Analyses of the benthic community structure and tissue samples were made on a subset of the total number of stations sampled.

The program design resulted in 65 samples collected from 31 station locations in the Humboldt, Arcata, and Bodega Bay region. Analyses performed most consistently at a station were solid phase amphipod bioassays (n=57), grain size (n=54), and total organic carbon (n=54). Trace metal analysis and trace synthetic organic analyses were performed on 34 and 33 sediment samples, respectively. Eight sediment samples were analyzed for PAH, PCB, BTEX or TPH analyses only. Ten tissue samples were analyzed for trace metals and trace synthetic organics, and an additional ten tissue samples were analyzed for PAH, PCB, BTEX, and TPH analyses only. Benthic community analysis was performed on 14 stations with 3 replicate cores per station. One relatively "unpolluted" station had sediment and pore water collected as a control for bioassay tests.

Sediment quality guideline values were used for comparison with chemical concentrations found within the North Coast Region. Chromium, nickel, PAHs, and lindane were found most often to exceed ERM or PEL guideline values. Due to relatively low chemical concentrations within the region, ERL and TEL guideline values also were used to provide more relevant comparisons to the chemical composition of the North Coast Region. Copper, mercury, and zinc were found most often to exceed ERL and TEL guideline values. Although ERL and TEL values are considerably lower than ERM and PEL guidelines, multiple exceedances of ERL and TEL guidelines may indicate possible impacts on the relatively unpolluted environment of the North Coast Region.

The upper 90^{th} percentiles, for sediment summary quotient ranges, for the North Coast Region were ERMQ>0.201 and PELQ>0.422. These values are significantly lower than other summary quotient values calculated for the state (i.e., San Diego's 90^{th} percentile ERMQ>0.85 and PELQ>1.29). Nevertheless, these lower values are to be expected because the North Coast is not as heavily populated or industrialized as much of California. It should be noted that lower summary quotient values should not be used to infer chemical pollution does not exist at discrete locations within the region.

Tissue samples were collected from 10 stations and were analyzed for a variety of chemicals. Samples included both resident and transplanted mussels, oysters, crabs and polychaete worms. When applicable, corresponding State Mussel Watch Program (SMWP) stations also were assessed for chemical contamination and provided supplemental information about stations. Tissue chemical concentrations were evaluated based on recommended U.S. EPA human health risk screening values and additional criteria used in SMWP reports, such as, Elevated Detection Levels (EDLs) and Maximum Tissue Residual Levels (MTRLs). In general, measured tissue concentrations of organic contaminants, such as pesticides, BTEX and TPH, were below detection limits, indicating relatively low levels of tissue contamination in the North Coast Region. However, some trace metals were detected in patterns similar to those found in sediments. Metals that were detected in both sediments and tissues included chromium, nickel, copper, and mercury.

Toxicity within the region was examined using a variety of bioassays. Twenty-nine of 31 stations sampled were tested using solid phase amphipod survival tests. Of these stations, 9 were toxic at least once using either *Eohaustorius* or *Rhepoxynius*. Amphipod survival ranged from 38-99%. Stations shown to be toxic were scattered along the northern section of the Eureka waterfront, at the northern most station in Arcata Bay, and at the three marinas in Bodega Bay. All samples that were toxic, and had synoptic chemical analysis performed on them, had at least one ERM or PEL exceedance and at least 3 ERL or TEL exceedances. However, multiple regression analysis of data from throughout the region showed no significant relationships between amphipod toxicity and chemical concentrations.

In addition to amphipod bioassays, several supplemental bioassays were performed on selected samples from the North Coast Region. One of four sediment-water interface sea urchin development tests was found to be toxic; three out of seven *Mytilus* spp. embryo-larval development tests conducted in pore water were toxic, however, none of the *Mytilus* spp. subsurface water samples were toxic. None of the thirty-seven samples on which polychaete survival and growth tests were performed were toxic. No results from sea urchin porewater fertilization tests were used in station analysis due to methodology concerns with collection and storage of porewater samples.

Benthic community structure within the North Coast Region was analyzed using a Relative Benthic Index (RBI). The low and high ranges of the index indicate the relative "health" or pollution impact of a station compared to other stations within the data set. These ranges were used to classify 14 stations as degraded, transitional and undegraded. The RBI for the North Coast ranged between 0.4 and 0.9 and none were classified as degraded. Nine stations were classified as having transitional benthic communities. These stations were scattered throughout the study area, particularly in Bodega Bay. The three undegraded stations were located on the central portion of the Eureka Waterfront. Due to the relatively low pollution levels in this region, and the small benthic community sample size, distinct patterns or relationship between sediment chemistry and RBI values were not found.

Five stations, Porto Bodega Marina, Mason's Marina, H Street, J Street, and Humboldt Bay Coal Gas and Oil Plant were distinguished as stations of concern or interest for the region. These stations exhibited greater chemical concentrations, levels of toxicity, or biological impacts relative to the other stations analyzed in the region.

ACKNOWLEDGEMENTS

This study was completed thanks to the efforts of the following institutions and individuals:

State Water Resources Control Board- Division of Water Quality
Bay Protection and Toxic Cleanup Program

Craig Wilson	Mike Reid	Fred LaCaro
Syed Ali	Gita Kapahi	

Regional Water Quality Control Board- North Coast

Bruce Gwynne	Bill Rodriquez

California Department of Fish and Game
Oil Spill and Pollution Recovery Division
Trace Metal Analysis

Mark Stephenson	Max Puckett	Gary Ichikawa
Kim Paulson	Jon Goetzl	Mark Pranger
Jim Kanihan		

San Jose State University Foundation- Moss Landing Marine Laboratories
Sample Collection And Data Analysis

Russell Fairey	Eric Johnson	Cassandra Roberts
Ross Clark	James Downing	Michele Jacobi
Stewart Lamerdin	Eli Landrau	Brenda Konar
Lisa Kerr		

Total Organic Carbon and Grain Size Analyses

Pat Iampietro	Michelle White	Sean McDermott
Bill Chevalier	Criag Hunter	

Benthic Community Analysis

John Oliver	Jim Oakden	Carrie Bretz
Peter Slattery	Christine Elder	Nisse Goldberg

Acknowledgements (cont.)

University of California at Santa Cruz

Dept. of Chemistry and Biochemistry- Trace Organics Analyses

Ronald Tjeerdema	John Newman	Debora Holstad
Katharine Semsar	Thomas Shyka	Gloria J. Blondina
Linda Hannigan	Laura Zirelli	James Derbin
Matthew Stoetling	Raina Scott	Dana Longo
Jon Becker	Else Gladish-Wilson	

Institute of Marine Sciences- Toxicity Testing

John Hunt	Brian Anderson	Bryn Phillips
Witold Piekarski	Matt Englund	Shirley Tudor
Michelle Hester	Hilary McNulty	Steve Osborn
Steve Clark	Kelita Smith	Lisa Weetman

Funding was provided by:

State Water Resources Control Board- Division of Water Quality
Bay Protection and Toxic Cleanup Program

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LIST OF ABBREVIATIONS

AA	Atomic Absorption
ASTM	American Society for Testing Materials
AVS	Acid Volatile Sulfide
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
BPTCP	Bay Protection and Toxic Cleanup Program
CDFG	California Department of Fish and Game
CH	Chlorinated Hydrocarbon
COC	Chain of Custody
COR	Chain of Records
EDL	Elevated Data Levels
ERL	Effects Range Low
ERM	Effects Range Median
ERMQ	Effects Range Median Summary Quotient
EqP	Equilibrium Partitioning Coefficient
FAAS	Flame Atomic Absorption Spectroscopy
GC/ECD	Gas Chromatograph Electron Capture Detection
GFAAS	Graphite Furnace Atomic Absorption Spectroscopy
HCl	Hydrochloric Acid
HDPE	High-density Polyethylene
HMW PAH	High Molecular Weight Polynuclear Aromatic Hydrocarbons
HNO_3	Nitric Acid
HPLC/SEC	High Performance Liquid Chromatography Size Exclusion
H_2S	Hydrogen Sulfide
IDORG	Identification and Organizational Number
KCL	Potassium Chloride
LC_{50}	Lethal Concentration (to 50 percent of test organisms)
LMW PAH	Low Molecular Weight Polynuclear Aromatic Hydrocarbons
MDL	Method Detection Limit
MDS	Multi-Dimensional Scaling
MLML	Moss Landing Marine Laboratories
MPSL	Marine Pollution Studies Laboratory
MTRL	Maximum Tissue Residual Level
NH_3	Ammonia
NIST	National Institute of Standards and Technology
NOAA	National Oceanic and Atmospheric Administration
NOEC	No Observed Effect Concentration
NS&T	National Status and Trends Program
PAH	Polynuclear Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyl
PEL	Probable Effects Level
PELQ	Probable Effects Level Summary Quotient
PPE	Porous Polyethylene
PVC	Polyvinyl Chloride

List of Abbreviations (cont.)

QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
RBI	Relative Benthic Index
REF	Reference
RWQCB	Regional Water Quality Control Board
SMWP	State Mussel Watch Program
SPARC	Scientific Planning and Review Committee
SQC	Sediment Quality Criteria
SWRCB	State Water Resources Control Board
T	Temperature
TBT	Tributyltin
TEL	Threshold Effects Level
TFE	Tefzel Teflon®
TOC	Total Organic Carbon
TOF	Trace Organics Facility
UCSC	University of California Santa Cruz
USEPA	U.S. Environmental Protection Agency
WCS	Whole Core Squeezing

<u>Units</u>

liter = 1 l
milliliter = 1 ml
microliter = 1 μl
gram = 1 g
milligram = 1 mg
microgram = 1 μg
nanogram = 1 ng
kilogram = 1 kg
1 part per thousand (ppt) = 1 mg/g
1 part per million (ppm) = 1 mg/kg, 1 μg/g
1 part per billion (ppb) = 1 μg/kg, 1 ng/g

I. INTRODUCTION

Purpose

The California Water Code, Division 7, Chapter 5.6, Section 13390 mandates the State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards to provide the maximum protection of existing and future beneficial uses of bays and estuarine waters, and to plan for remedial actions at those identified toxic hot spots where the beneficial uses are being threatened by toxic pollutants.

In response to this mandate, the Bay Protection and Toxic Cleanup Program (BPTCP) investigated populated areas along California's northern coast. BPTCP has four major goals: provide protection of present and future beneficial uses of the bay and estuarine waters of California; identify and characterize toxic hot spots; plan for toxic hotspot cleanup or other remedial or mitigation actions; develop prevention and control strategies for toxic pollutants that will prevent creation of new toxic hot spots or the perpetuation of exiting ones within the bays and estuaries of the state. This report presents results from data collected in Region 1, which includes the area between Humboldt to Marin counties in Northern California.

The purposes of the present study were to:

1. Determine presence or absence of statistically significant toxic effects in representative areas of the North Coast Region;

2. Determine relative degree or severity of observed effects, and distinguish more severely impacted sediments from less severely impacted sediments;

3. Determine relationships between pollutants and measures of effects in these water bodies.

4. Identify stations where pollution may impact biological resources.

Programmatic Background and Needs

Due to a variety of human activities throughout northern California's bays and estuaries, there is a need to assess if any environmentally detrimental effects have been associated with those human activities. This study was designed to investigate these environmental effects by evaluating the biological and chemical state of northern California coastal sediments. The methods used to assess possible environmental impacts include sediment and interstitial water bioassays, sediment and tissue chemistry analysis, and benthic community analysis. This study was conducted along the coastal boundaries of Region 1, from Crescent City south to Estero de San Antonio. Although these water bodies are separated physically, and are different in character, for simplicity they often will be referred to collectively as the "North Coast Region" in this report (Figure 1).

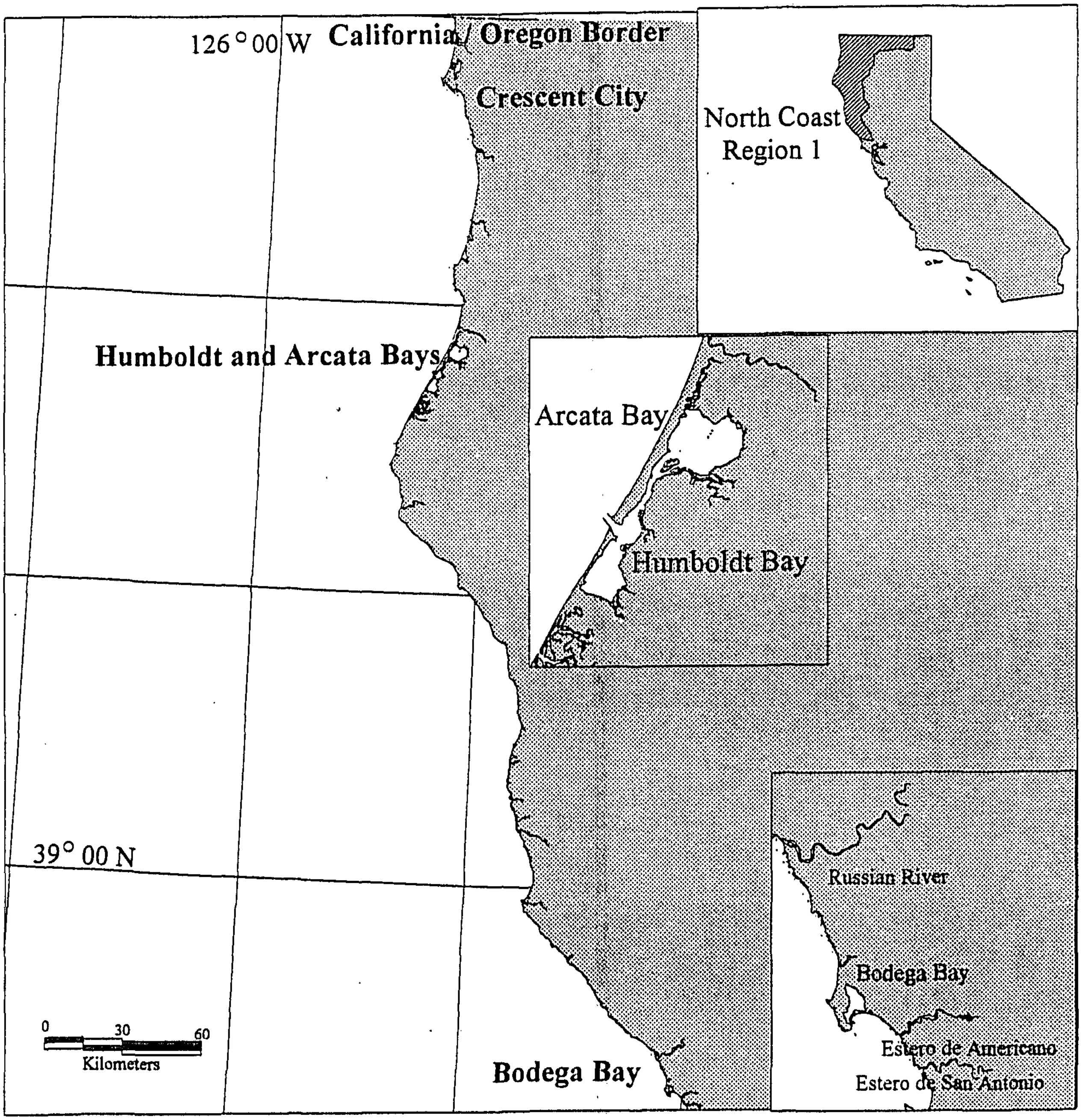

Figure 1. North Coast (Region 1) study area.

Sediment characterization approaches currently used by the BPTCP range from chemical or toxicity monitoring only, to monitoring designs that attempt to generally correlate the presence of pollutants with toxicity or benthic community degradation. Studies were designed, managed, and coordinated by the SWRCB's Bays and Estuaries Unit, and the California Department of Fish and Game's (CDFG) Marine Pollution Studies Laboratory (MPSL). Funding was provided by SWRCB through BPTCP assessed fees.

Sampling for the North Coast Region involved toxicity testing and chemical analysis of sediments, sediment pore water, and tissue samples, as well as, benthic community analysis. Toxicity tests and chemical analysis were performed using aliquots of homogenized sediment samples collected synoptically from each station, resulting in paired data. Analysis of benthic community structure, pore water, and tissue samples also were made on a subset of the total number of stations sampled.

Field and laboratory work was accomplished under interagency agreement with the CDFG. Staff of the San Jose State University Foundation at Moss Landing Marine Laboratories (MLML) performed sample collections. CDFG personnel at the MLML facility performed trace metals analyses. Synthetic organic pesticides, polycyclic aromatic hydrocarbons (PAHs), and polychlorinated biphenyls (PCBs) were analyzed at the University of California at Santa Cruz (UCSC) trace organics analytical facility at Long Marine Laboratory in Santa Cruz, California. Benzene, toluene, ethylbenzene, xylene (BTEX) and total Petroleum hydrocarbon (THP) analysis was performed by PACE Inc. Environmental Lab. MLML staff also performed total organic carbon (TOC) and grain size analyses, as well as benthic community analyses. Toxicity testing was conducted by the UCSC staff at the CDFG toxicity testing laboratory at Granite Canyon.

Study Area

The North Coast Region, as described by RWQCB (1992), is summarized in the following paragraphs. This region comprises all of Del Norte, Humboldt, Trinity, and Mendocino Counties, major portions of Siskiyou and Sonoma Counties, and small portions of Glenn, Lake, and Marin Counties. The North Coast Region is divided into two natural drainage basins, the Klamath River Basin and the North Coastal Basin. Total area encompassed by the North Coast Region is approximately 19,390 square miles, including 340 miles of scenic coastline and remote wilderness areas, as well as urbanized and agricultural areas.

This study included five main water bodies: Humboldt Bay, Bodega Harbor, Russian River estuary, Estero de Americano, and Estero de San Antonio. The following paragraphs will provide a brief description of the extent of each water body, as well as human activities of concern and are based upon the Regional Monitoring Plan (RWQCB 1992).

The Humboldt Bay water body includes Arcata Bay and three segments of Humboldt Bay. This area encompasses approximately 15,000 acres and is considered a shipping port, industrial center, and northern California population hub. The northern and central portions of the Bay are encircled by two cities and several small, unincorporated communities. Along with these communities there are associated industrial activities, such as pulp mills, bulk petroleum plants, fossil fuel and nuclear power plants, lumber mills, boat repair facilities and fish processing plants. Small commercial and sport marinas have been constructed in the Bay and agricultural lands surround much of the Bay. Two large landfills are located adjacent to the Bay. Coal and oil gasification plants historically have been operated at various locations on the edge of the Bay. Municipal wastewater, industrial wastes and stormwater runoff have been discharged into the Bay throughout its 150 year history. Because there is a very narrow opening connecting Humboldt Bay to the Pacific Ocean, circulation and flushing are severely restricted, resulting in a high potential for sediment and pollutant deposition.

Two previous studies indicated there may be areas of concern within Humboldt Bay. State Mussel Watch Reports showed accumulation of heavy metals, pentachlorophenol, and tetrachlorophenol in tissues from transplanted mussels (Rasmussen, 1995). Also a draft report of a US Army Corps of Engineers (1991) study on sediments in the Eureka shipping channel described mortality of flatfish and oyster larvae in sediment bioassays. For these reasons 15 stations were examined within Humboldt Bay.

The second major water body within this study is Bodega Harbor. Bodega Harbor is a wide shallow bay with extensive mud flats, which are exposed at low tide. It encompasses approximately 700 acres and the harbor is largely undeveloped. A small fishing village and agricultural community have developed along the easterly shore. The Bodega Harbor subdivision began development in 1970 and consists of scattered lots around a golf course and open space. This subdivision, as well as the town of Bodega Bay, are sewered with treated wastewater being discharged inland. Bodega Harbor, like Humboldt Bay, has a narrow opening between two jetties severely restricting circulation and flushing of the Harbor, therefore creating a high potential for sediment and pollutant deposition. Of primary interest are the harbor's three large boat mooring facilities and associated boat repair and refueling facilities. State Mussel Watch reports (Rasmussen 1995, 1996) and a winter 1990-1991 study by the University of California, Bodega Marine Laboratory (BML) indicated there were areas of potential concern. The BML study conducted short-term oyster spat bioassays and found spat mortality at these three marinas. Based on these two reports four stations were examined within Bodega Harbor.

The Russian River Estuary is the third major water body included in this study. This estuary is the deep and broad terminus of the Russian River and encompasses approximately 150 acres. Flushing and tidal exchange occur only during and after periods of rainfall, otherwise natural sandbars obstruct the mouth for much of the year. While the Russian River Estuary is largely undeveloped, it is an area of potential concern for various reasons. There are municipal discharges which enter into the Russian River Estuary from several communities, including those of the densely populated Santa Rosa Plain. In addition there are historic industrial discharges, urban runoff from Sonoma and Mendocino counties, and agricultural runoff. All of these factors have created a potential for sediment and pollutant deposition in this water body.

Estero de Americano and Estero de San Antonio are the two remaining major water bodies included in this study. Estero de Americano is the terminus of the coastal Americano Creek. It encompasses approximately 370 acres and is largely undeveloped. Estero de San Antonio is the terminus of the coastal Stemple Creek. It encompasses approximately 255 acres and like Estero de Americano is largely undeveloped. The land surrounding both Esteros is extensively grazed by livestock. For this reason, there are numerous confined animal discharges that generate high ammonia and low dissolved oxygen levels within the Esteros. These factors create a potential for pollutant deposition thus these areas were examined as part of this study.

II. METHODS

Sampling Design

Station selection was based upon a directed point sampling design and was used to address SWRCB's need to identify specific areas of concern. This sampling design required a two step process for station selection. First, Regional and State Board staff identified areas of interest for sampling during an initial "screening phase". Station locations (latitude & longitude) were predetermined by agreement with the SWRCB, RWQCB, and CDFG personnel. Changing of the station location during sediment collection was allowed only under the following conditions:

1. Lack of access to predetermined station,
2. Inadequate or unusable sediment (i.e. rocks or gravel)
3. Unsafe conditions
4. Agreement of appropriate staff

This screening phase was intended to give a broad assessment of toxicity throughout the North Coast Region's five main water bodies. Chemical analysis was performed on selected samples in which toxicity results prompted further analysis. Stations that met certain criteria during the screening phase, then were selected for a second round of sampling, termed the "confirmation phase". During this phase, the sampling was replicated and chemical analysis of samples was more extensive. In addition, benthic community analysis was performed on all confirmation stations sampled during 1996. Results from this two step process were used to establish a weight of evidence or higher level of certainty for stations that later may be identified as "toxic hot spots" or areas of concern.

The program design resulted in 65 samples collected from 31 station locations in the Humboldt, Arcata, and Bodega Bay Region (Figures 2, 3), between November, 1992 and December, 1996. Station locations that were sampled more than once were always resampled at the original location using navigational equipment and lineups. Analyses done most consistently at a station were solid phase amphipod survival (n=57), grain size (n=54), and total organic carbon (TOC) (n=54). Trace metal analysis and trace synthetic organic analyses were performed on 34 and 33 sediment samples, respectively. Eight sediment samples were analyzed for PAH, PCB, benzene, toluene, ethylbenzene, xylene (BTEX) and total petroleum hydrocarbon (TPH) analyses only. Ten tissue samples were analyzed for trace metals and trace synthetic organics, and an additional ten tissue samples were analyzed for PAH, PCB, BTEX and TPH analyses only. Benthic community analysis was performed on 14 stations with 3 replicate cores per station. One relatively "unpolluted" station had sediment and pore water collected as a control for bioassay tests.

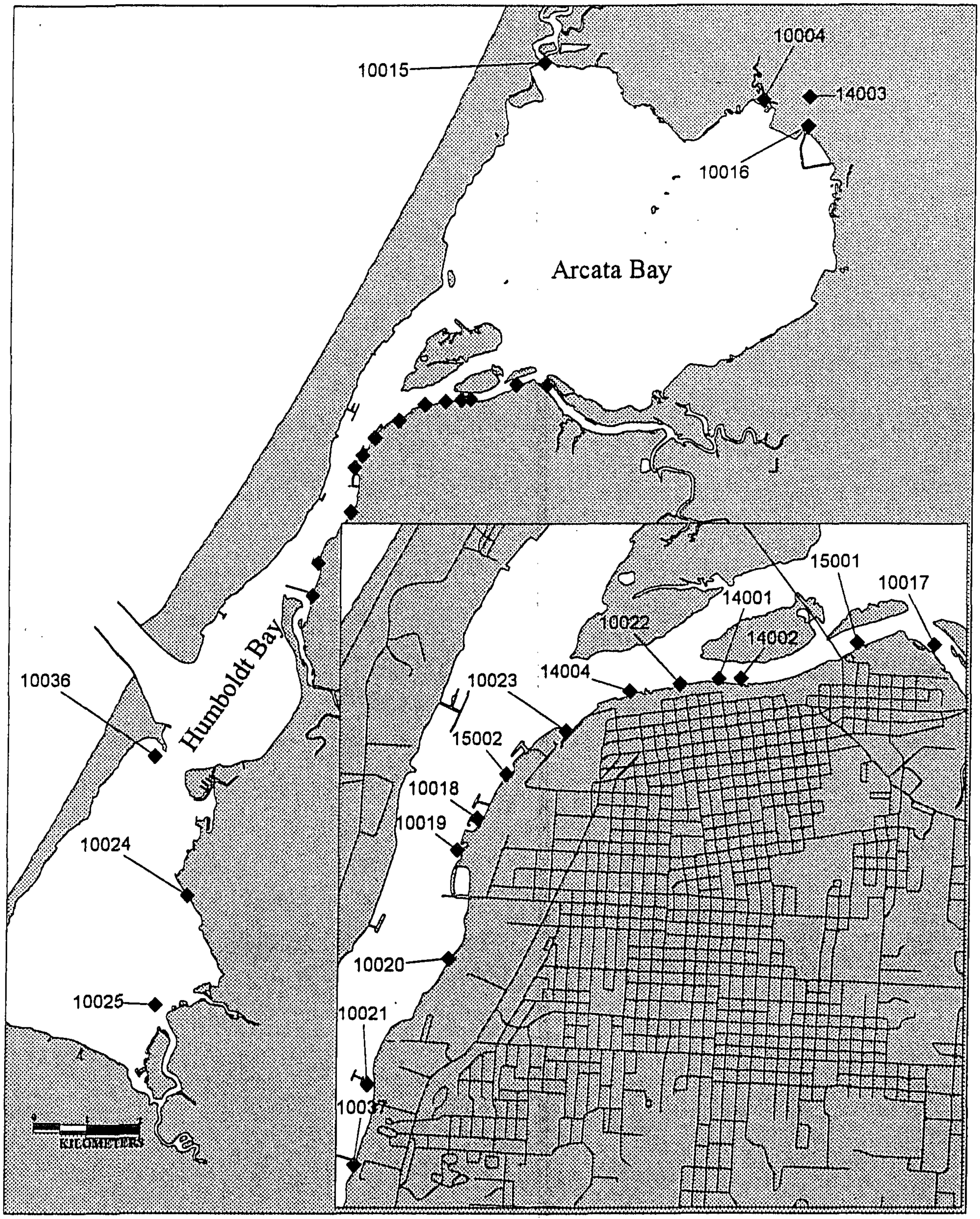

Figure 2. Humboldt and Arcata Bays sampling stations.

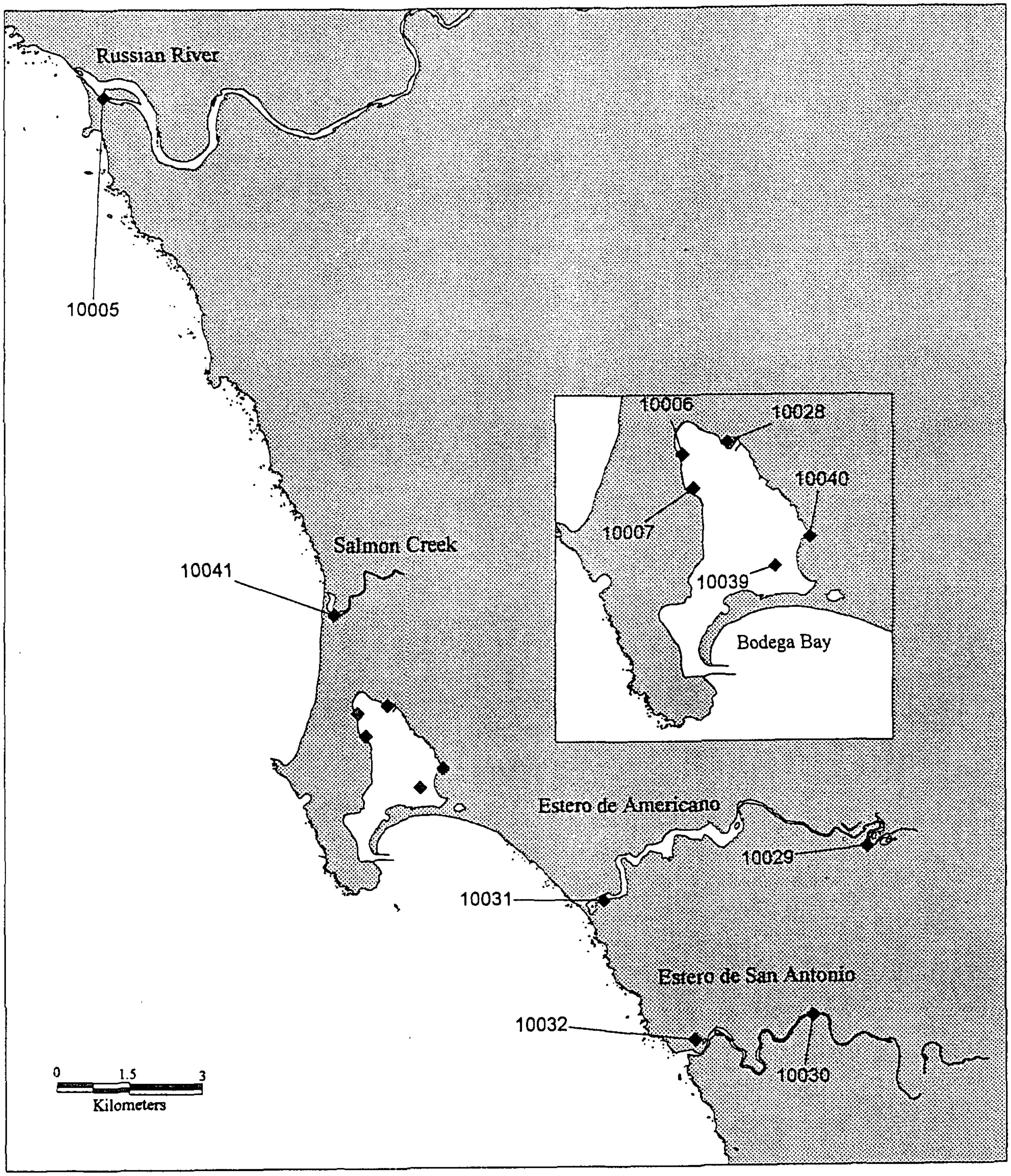

Figure 3. North coast and Bodega Bay sampling stations.

Sample Collection and Processing

Summary of Methods

Specific techniques used for collecting and processing samples are described in this section. Because collection of sediments influences the results of all subsequent laboratory and data analyses, it was important that samples be collected in a consistent and conventionally acceptable manner. Field and laboratory technicians were trained to conduct a wide variety of activities using standardized protocols to ensure comparability in sample collection among crews and across geographic areas. Sampling protocols in the field followed the accepted procedures of NS&T and ASTM, and included methods to avoid cross-contamination; methods to avoid contamination by the sampling activities, crew, and vessel; collection of representative samples of the target surficial sediments; careful temperature control, homogenization and subsampling; and chain of custody procedures.

Cleaning Procedures

All sampling equipment (*i.e.*, containers, container liners, scoops, water collection bottles) was made from non-contaminating materials and was precleaned and packaged protectively prior to entering the field. Sample collection gear and samples were handled only by personnel wearing non-contaminating polyethylene gloves. All sample collection equipment (excluding the sediment grab) was cleaned by using the following sequential process:

Two-day soak and wash in Micro® detergent, three tap-water rinses, three deionized water rinses, a three-day soak in 10% HCl, three ASTM Type II Milli-Q® water rinses, air dry, three petroleum ether rinses, and air dry.

All cleaning after the Micro® detergent step was performed in a positive pressure "clean" room to prevent airborne contaminants from contacting sample collection equipment. Air supplied to the clean room was filtered.

The sediment grab was cleaned prior to entering the field and between sampling stations, by utilizing the following sequential steps: a vigorous Micro® detergent wash and scrub, a seawater rinse, a 10% HCl rinse, and a methanol rinse. The sediment grab was scrubbed with seawater between successive deployments at the same station to remove adhering sediments from contact surfaces possibly originating below the sampled layer.

Sample storage containers were cleaned in accordance with the type of analysis to be performed upon its contents. All containers were cleaned in a positive pressure "clean" room with filtered air to prevent airborne contaminants from contacting sample storage containers.

Plastic containers (HDPE or TFE) for trace metal analysis media (sediment, archive sediment, porewater, and subsurface water) were cleaned by: a two-day Micro® detergent soak, three tap-water rinses, three deionized water rinses, a three-day soak in 10% HCl or HNO_3, three Type II Milli-Q® water rinses, and air dry.

Glass containers for total organic carbon, grain size or synthetic organic analysis media (sediment, archive sediment, porewater, and subsurface water), and additional teflon sheeting cap-liners were cleaned by: a two-day Micro® detergent soak, three tap-water rinses, three deionized water rinses, a three-day soak in 10% HCl or HNO_3, three Type II Milli-Q® water rinses, air dry, three petroleum ether rinses, and air dry.

Sediment Sample Collection

All sampling locations (latitude & longitude), whether altered in the field or predetermined, were verified using a Magellan NAV 5000 Global Positioning System, and recorded in the field logbook. The primary method of sediment collection was by use of a 0.1m² Young-modified Van Veen grab aboard a sampling vessel. Modifications included a non-contaminating Kynar coating, which covered the grab's sample box and jaws. After the filled grab sampler was secured on the boat gunnel, the sediment sample was inspected carefully. The following acceptability criteria were met prior to taking sediment samples. If a sample did not meet all the criteria, it was rejected and another sample was collected.

1. Grab sampler was not over-filled (*i.e.*, the sediment surface was not pressed against the top of the grab).
2. Overlying water was present, indicating minimal leakage.
3. Overlying water was not excessively turbid, indicating minimal sample disturbance.
4. Sediment surface was relatively flat, indicating minimal sample disturbance.
5. Sediment sample was not washed out due to an obstruction in the sampler jaws.
6. Desired penetration depth was achieved (*i.e.*, 10 cm).
7. Sample was muddy (>30% fines), not sandy or gravelly.
8. Sample did not include excessive shell, organic or man-made debris.

It was critical that sample contamination be avoided during sample collection. All sampling equipment (*i.e.*, siphon hoses, scoops, containers) was made of non-contaminating material and was cleaned appropriately before use. Samples were not touched with un-gloved fingers. In addition, potential airborne contamination (*e.g.*, from engine exhaust, cigarette smoke) was avoided. Before sub-samples from the grab sampler were taken, the overlying water was removed by slightly opening the sampler, being careful to minimize disturbance or loss of fine-grained surficial sediment. Once overlying water was removed, the top 2 cm of surficial sediment was sub-sampled from the grab. Sub-samples were taken using a pre-cleaned flat bottom scoop. This device allowed a relatively large sub-sample to be taken from a consistent depth. When subsampling surficial sediments, unrepresentative material (*e.g.*, large stones or vegetative material) was removed from the sample in the field. Such removals were noted on the field data sheet. Small rocks and other small foreign material remained in the sample. Determination of overall sample quality was determined by the chief scientist in the field. For the sediment sample, the top 2 cm was removed from the grab and placed in a pre-labeled polycarbonate container. Between grabs or cores, the sediment sample in the container was covered with a teflon sheet, and the container covered with a lid and kept cool. When a sufficient amount of sediment was collected, the sample was covered with a teflon sheet assuring no air bubbles. A second, larger teflon sheet was placed over the top of the container to ensure an air tight seal, and nitrogen was vented into the container to purge it of oxygen.

If water depth did not permit boat entrance to a station (*e.g.* <1 meter), personnel sampled that station using sediment cores (diver cores). Cores consisted of a 10 cm diameter polycarbonate tube, 30 cm in length, including plastic end caps to aid in transport. Samplers entered a study location from one end and sampled in one direction, so as to not disturb the sediment with feet. Cores were taken to a depth of at least 15 centimeters. Sediment was extruded out of the top end of the core to the prescribed depth of 2 cm, removed with a polycarbonate spatula and deposited into a cleaned polycarbonate tub. Additional samples were taken with the same seawater rinsed core tube until the required total sample volume was attained. Diver core samples were treated the same as grab samples, with teflon sheets covering the sample and nitrogen purging. All sample acceptability criteria were met as with the grab sampler.

Sediment Sample Collection for Bioassay Controls

In order to have a reference point, or sediment control for bioassay tests, three 12 L replicates of sediment were collected from a location that was considered to be relatively "unpolluted". The replicates were located at least 50 m from one another and locations were verified using a Magellan NAV 5000 Global Positioning System, and then recorded in the field logbook. Due to the large volume of sediment needed, these samples were collected using the diver core method described above. The top 2 cm of sediment was extruded out of the top end of the diver core, removed with a polycarbonate spatula and deposited into a pre-cleaned 12 L polycarbonate tub. The sediment then was covered with teflon sheets and purged with nitrogen as per the regularly collected sediment samples.

Interstitial water also was collected at this location in order to be used as a reference or control for porewater bioassays. Interstitial water was collected by using a pre-cleaned polycarbonate spatula to dig a shallow hole in sediments exposed at low tide. This hole then was allowed to fill with interstitial water, which was collected using pre-cleaned polycarbonate turkey basters and placed in trace clean teflon bottles.

Transport of Samples

Six-liter or 12 L sample containers were packed (two or three to an ice chest) with enough ice to keep them cool for 48 hours. Each container was sealed in pre-cleaned, large plastic bags closed with a cable tie to prevent contact with other samples or ice or water. Ice chests were driven back to the laboratory by the sampling crew or flown by air freight within 24 hours of collection.

Homogenization and Aliquoting of Samples

Samples remained in ice chests (on ice, in double-wrapped plastic bags) until the containers were brought back to the laboratory for homogenization. All sample identification information (station numbers, etc.) was recorded on Chain of Custody (COC) and Chain of Record (COR) forms prior to homogenizing and aliquoting. A single container was placed on plastic sheeting while also remaining in original plastic bags. The sample was stirred with a polycarbonate stirring rod until mud appeared homogeneous.

All pre-labeled jars were filled using a clean teflon or polycarbonate scoop and stored in freezer/refrigerator (according to media/analysis) until analysis. The sediment sample was aliquoted into appropriate containers for trace metal analysis, organic analysis, pore water extraction, and bioassay testing. Samples were placed in boxes sorted by analysis type and leg number. Sample containers for sediment bioassays were placed in a refrigerator (4°C) while sample containers for sediment chemistry (metals, organics, TOC and grain size) were stored in a freezer (-20°C).

Procedures for the Extraction of Sediment Pore water

The BPTCP primarily used whole core squeezing to extract sediment pore water. The whole core squeezing method, developed by Bender *et al.* (1987), utilizes low pressure mechanical force to squeeze pore water from interstitial spaces. The following squeezing technique was a modification of the original Bender design with some adaptations based on the work of Fairey (1992), Carr *et al.* (1989), and Long and Buchman (1989). The squeezer's major features consist of an aluminum support framework, 10 cm i.d. acrylic core tubes with sampling ports and a pressure regulated pneumatic ram with air supply valves. Acrylic subcore tubes were filled with approximately 1 liter of homogenized sediment and pressure was applied to the top piston by adjusting the air supply to the pneumatic ram. At no time during squeezing did air pressure exceed 200 psi. A porous prefilter (PPE or TFE) was inserted in the top piston and used to screen large (> 70 microns) sediment particles. Further filtration was accomplished with disposable TFE filters of 5 microns and 0.45 microns in-line with sample effluent. Sample effluent of the required volume was collected in TFE containers under refrigeration. Porewater was subsampled in the volumes and specific containers required for archiving, chemical or toxicological analysis. To avoid contamination, all sample containers, filters and squeezer surfaces in contact with the sample were plastics (acrylic, PVC, and TFE) and cleaned with previously discussed clean techniques.

Bioaccumulation Samples

Bioaccumulation in resident organisms was investigated by analyzing mussels, oysters, crabs, and polychaete worms from several stations. Transplanted mussels also were collected using State Mussel Watch Program (SMWP) deployment and retrieval procedures (CDFG, 1992). Samples were frozen and taken back to the laboratory for dissection and distribution to the appropriate analytical laboratory. As with sediment samples, tissue samples were collected using trace clean techniques (CDFG, 1992).

Benthic Samples

Replicate benthic samples (n=3) were obtained from separate deployments of the sampler at predetermined stations. The coring device was 10 cm in diameter and 14 cm in height, enclosing a 0.0075 m^2 area. Corers were placed into sediment with minimum disruption of the surface sediments, capturing essentially all surface-active fauna as well as species living deeper in the sediment. Corers were pushed about 12 cm into the sediment and retrieved by digging along one side, removing the corer and placing the intact sediment core into a PVC screening device. Sediment cores were sieved through a 0.5 mm screen and residues (*e.g.*, organisms and remaining sediments) were rinsed into pre-labeled storage bags and preserved with a 10% formalin solution. After 3 to 4 days, samples were rinsed and transferred into 70% isopropyl alcohol and stored for future taxonomy and enumeration.

Chain of Records & Custody

Chain-of-records documents were maintained for each station. Each form was a record of all sub-samples taken from each sample. IDORG (a unique identification number for only that sample), station numbers and station names, leg number (sample collection trip batch number), and date collected were included on each sheet. A Chain-of-Custody form accompanied every sample so that each person releasing or receiving a subsample signs and dates the form.

Authorization/Instructions to Process Samples

Standardized forms entitled "Authorization/Instructions to Process Samples" accompanied the receipt of any samples by any participating laboratory. These forms were completed by DFG personnel, or its authorized designee, and were signed and accepted by both the DFG authorized staff and the staff accepting samples on behalf of the particular laboratory. The forms contain all pertinent information necessary for the laboratory to process the samples, such as the exact type and number of tests to run, number of laboratory replicates, dilutions, exact eligible cost, deliverable products (including hard and soft copy specifications and formats), filenames for soft copy files, expected date of submission of deliverable products to DFG, and other information specific to the lab/analyses being performed.

Trace Organic Analysis (PCBs, Pesticides, and PAHs)

Summary of Methods

Analytical sets of 12 samples were scheduled such that extraction and analysis will occur within a 40 day window. Methods employed by UCSC-TOF were modifications of those described by Sloan *et al.* (1993). Tables 1-5 indicate the pesticides, PCBs, and PAHs currently analyzed, and list method detection limits for sediments and tissues on a dry weight basis.

Sediment Extraction

Samples were removed from the freezer and allowed to thaw. A 10 gram sample of sediment was removed for chemical analysis and an independent 10 gram aliquot was removed for dry weight determinations. The dry weight sample was placed into a pre-weighed aluminum pan and dried at 110°C for 24 hours. The dried sample was reweighed to determine the sample's percent moisture. The analytical sample was extracted 3 times with methylene chloride in a 250 mL amber Boston round bottle on a modified rock tumbler. Prior to rolling, sodium sulfate, copper, and extraction surrogates were added to the bottle. Sodium sulfate dehydrates the sample allowing for efficient sediment extraction. Copper, which was activated with hydrochloric acid, complexes free sulfur in the sediment. After combining the three extraction aliquots, the extract was divided into two portions, one for chlorinated hydrocarbon (CH) analysis and the other for polycyclic aromatic hydrocarbon (PAH) analysis.

Tissue Extraction

Samples were removed from the freezer and allowed to thaw. A 5 gram sample of tissue was removed for chemical analysis and an independent 5 gram aliquot was removed for dry weight determinations. The dry weight sample was placed into a pre-weighed aluminum pan and dried at 110°C for 24 hours. The dried sample was reweighed to determine the sample's percent moisture. The analytical sample was extracted twice with methylene chloride using a Tekmar™ Tissumizer. Prior to extraction, sodium sulfate and extraction surrogates were added to the sample and methylene chloride.

The two extraction aliquots were combined and brought to 100ml. A 25 ml aliquot was decanted through a Whatmann 12.5 cm #1 filter paper into a pre-weighed 50 ml flask for lipid weight determination. The filter was rinsed with ~15 ml of methylene chloride and the remaining solvent was removed by vacuum-rotary evaporation. The residue was dried for 2 hours at 110°C and the flask was re-weighed. The change in weight was taken as the total methylene chloride extractable mass. This weight then was used to calculate the samples "percent lipid".

Organic Analysis

The CH portion was eluted through a silica/alumina column, separating the analytes into two fractions. Fraction 1 (F1) was eluted with 1% methylene chloride in pentane and contained > 90% of p,p'-DDE and < 10% of p,p'-DDT. Fraction 2 (F2) analytes were eluted with 100% methylene chloride. The two fractions were exchanged into hexane and concentrated to 500 µL using a combination of rotary evaporation, controlled boiling on tube heaters, and dry nitrogen blow downs.

F1 and F2 fractions were analyzed on Hewlett-Packard 5890 Series gas chromatographs utilizing capillary columns and electron capture detection (GC/ECD). A single 2 µl splitless injection was directed onto two 60 m x 0.25 mm i.d. columns of different polarity (DB-17 & DB-5; J&W Scientific) using a glass Y-splitter to provide a two dimensional confirmation of each analyte. Analytes were quantified using internal standard methodologies. The extract's PAH portion was eluted through a silica/alumina column with methylene chloride. It then underwent additional cleanup using size-exclusion high performance liquid chromatography (HPLC/SEC). The collected PAH fraction was exchanged into hexane and concentrated to 250 µL in the same manner as the CH fractions.

Analytes and Detection Limits

Table 1. Dry Weight Detection Limits of Chlorinated Pesticides.

Analytes	Database Abbreviation	MDL, ng/g dry Sediment	MDL, ng/g dry Tissue
Fraction #1 Analytes †			
Aldrin	ALDRIN	0.5	1.0
alpha-Chlordene	ACDEN	0.5	1.0
gamma-Chlordene	GCDEN	0.5	1.0
o,p'-DDE	OPDDE	1.0	3.0
o,p'-DDT	OPDDT	1.0	4.0
Heptachlor	HEPTACHLOR	0.5	1.0
Hexachlorobenzene	HCB	0.2	1.0
Mirex	MIREX	0.5	1.0
Fraction #1 & #2 Analytes †, ‡			
p,p'-DDE	PPDDE	1.0	1.0
p,p'-DDT	PPDDT	1.0	4.0
p,p'-DDMU	PPDDMU	2.0	5.0
trans-Nonachlor	TNONA	0.5	1.0
Fraction #2 Analytes ‡			
cis-Chlordane	CCHLOR	0.5	1.0
trans-Chlordane	TCHLOR	0.5	1.0
Chlorpyrifos	CLPYR	1.0	4.0
Dacthal	DACTH	0.2	2.0
o,p'-DDD	OPDDD	1.0	5.0
p,p'-DDD	PPDDD	0.4	3.0
p,p'-DDMS	PPDDMS	3.0	20
p,p'-Dichlorobenzophenone	DICLB	3.0	25
Methoxychlor	METHOXY	1.5	15
Dieldrin	DIELDRIN	0.5	1.0
Endosulfan I	ENDO_I	0.5	1.0
Endosulfan II	ENDO_II	1.0	3.0
Endosulfan sulfate	ESO4	2.0	5.0
Endrin	ENDRIN	2.0	6.0
Ethion	ETHION	2.0	NA
alpha-HCH	HCHA	0.2	1.0
beta-HCH	HCHB	1.0	3.0
gamma-HCH	HCHG	0.2	0.8
delta-HCH	HCHD	0.5	2.0
Heptachlor Epoxide	HE	0.5	1.0
cis-Nonachlor	CNONA	0.5	1.0
Oxadiazon	OXAD	6	NA
Oxychlordane	OCDAN	0.5	0.2

† The quantitation surrogate is PCB 103.

‡ The quantitation surrogate is d8-p,p'-DD

***Note that all tissue MDLs are reported in dry weight units because wet weight MDLs are based on percent moisture of the individual sample.

Table 2. Dry Weight Detection Limits of NIST PCB Congeners.

Analytes[†]	Database Abbreviation	MDL, ng/g dry Sediment	MDL, ng/g dry Tissue
2,4'-dichlorobiphenyl	PCB8	0.5	1.0
2,2',5-trichlorobiphenyl	PCB18	0.5	1.0
2,4,4'-trichlorobiphenyl	PCB28	0.5	1.0
2,2',3,5'-tetrachlorobiphenyl	PCB44	0.5	1.0
2,2',5,5'-tetrachlorobiphenyl	PCB52	0.5	1.0
2,3',4,4'-tetrachlorobiphenyl	PCB66	0.5	1.0
2,2',3,4,5'-pentachlorobiphenyl	PCB87	0.5	1.0
2,2',4,5,5'-pentachlorobiphenyl	PCB101	0.5	1.0
2,3,3',4,4'-pentachlorobiphenyl	PCB105	0.5	1.0
2,3',4,4',5-pentachlorobiphenyl	PCB118	0.5	1.0
2,2',3,3',4,4'-hexachlorobiphenyl	PCB128	0.5	1.0
2,2',3,4,4',5'-hexachlorobiphenyl	PCB138	0.5	1.0
2,2',4,4',5,5'-hexachlorobiphenyl	PCB153	0.5	1.0
2,2',3,3',4,4',5-heptachlorobiphenyl	PCB170	0.5	1.0
2,2',3,4,4',5,5'-heptachlorobiphenyl	PCB180	0.5	1.0
2,2',3,4',5,5',6-heptachlorobiphenyl	PCB187	0.5	1.0
2,2',3,3',4,4',5,6-octachlorobiphenyl	PCB195	0.5	1.0
2,2',3,3',4,4',5,5',6-nonachlorobiphenyl	PCB206	0.5	1.0
2,2',3,3',4,4',5,5',6,6'-decachlorobiphenyl	PCB209	0.5	1.0

† PCB 103 is the surrogate used for PCBs with 1 - 6 chlorines per molecule. PCB 207 is used for all others.

*** Note that all tissue MDLs are reported in dry weight units because wet weight MDLs are based on percent moisture of the individual sample.

Table 3. Additional PCB Congeners and Their Dry Weight Detection Limits.

Analytes†	Database Abbreviation	MDL, ng/g dry Sediment	MDL, ng/g dry Tissue
2,3-dichlorobiphenyl	PCB5	0.5	1.0
4,4'-dichlorobiphenyl	PCB15	0.5	1.0
2,3',6-trichlorobiphenyl	PCB27	0.5	1.0
2,4,5-trichlorobiphenyl	PCB29	0.5	1.0
2,4',4-trichlorobiphenyl	PCB31	0.5	1.0
2,2,'4,5'-tetrachlorobiphenyl	PCB49	0.5	1.0
2,3',4',5-tetrachlorobiphenyl	PCB70	0.5	1.0
2,4,4',5-tetrachlorobiphenyl	PCB74	0.5	1.0
2,2',3,5',6-pentachlorobiphenyl	PCB95	0.5	1.0
2,2',3',4,5-pentachlorobiphenyl	PCB97	0.5	1.0
2,2',4,4',5-pentachlorobiphenyl	PCB99	0.5	1.0
2,3,3',4',6-pentachlorobiphenyl	PCB110	0.5	1.0
2,2',3,3',4,6'-hexachlorobiphenyl	PCB132	0.5	1.0
2,2',3,4,4',5-hexachlorobiphenyl	PCB137	0.5	1.0
2,2',3,4',5',6-hexachlorobiphenyl	PCB149	0.5	1.0
2,2',3,5,5',6-hexachlorobiphenyl	PCB151	0.5	1.0
2,3,3',4,4',5-hexachlorobiphenyl	PCB156	0.5	1.0
2,3,3',4,4',5'-hexachlorobiphenyl	PCB157	0.5	1.0
2,3,3',4,4',6-hexachlorobiphenyl	PCB158	0.5	1.0
2,2',3,3',4,5,6'-heptachlorobiphenyl	PCB174	0.5	1.0
2,2',3,3',4',5,6-heptachlorobiphenyl	PCB177	0.5	1.0
2,2',3,4,4',5',6-heptachlorobiphenyl	PCB183	0.5	1.0
2,3,3',4,4',5,5'-heptachlorobiphenyl	PCB189	0.5	1.0
2,2',3,3',4,4',5,5'-octachlorobiphenyl	PCB194	0.5	1.0
2,2',3,3',4,5',6,6'-octachlorobiphenyl	PCB201	0.5	1.0
2,2',3,4,4',5,5',6-octachlorobiphenyl	PCB203	0.5	1.0

† PCB 103 is the surrogate used for PCBs with 1 - 6 chlorines per molecule. PCB 207 is used for all others.

***Note that all tissue MDLs are reported in dry weight units because wet weight MDLs are based on percent moisture of the individual sample.

Table 4. Dry Weight Detection Limits of Chlorinated Technical Grade Mixtures.

Analyte	Database Abbreviation	MDL, ng/g dry Sediment	MDL, ng/g dry Tissue
Toxaphene‡	TOXAPH	50	100
Polychlorinated Biphenyl Aroclor 1248	ARO1248	5	100
Polychlorinated Biphenyl Aroclor 1254	ARO1254	5	50
Polychlorinated Biphenyl Aroclor 1260	ARO1260	5	50
Polychlorinated Terphenyl Aroclor 5460†	ARO5460	10	100

† The quantitation surrogate is PCB 207.

‡ The quantitation surrogate is d8-p,p'-DDD

*** Note that all tissue MDLs are reported in dry weight units because wet weight MDLs are based on percent moisture of the individual sample.

Table 5: Dry Weight Detection Limits of Polyaromatic Hydrocarbons.

Analytes†	Database Abbreviation	MDL, ng/g dry Sediment	MDL, ng/g dry Tissue
Naphthalene	NPH	5	10
2-Methylnaphthalene	MNP2	5	10
1-Methylnaphthalene	MNP1	5	10
Biphenyl	BPH	5	10
2,6-Dimethylnaphthalene	DMN	5	10
Acenaphthylene	ACY	5	10
Acenaphthene	ACE	5	10
2,3,5-Trimethylnaphthalene	TMN	5	10
Fluorene	FLU	5	10
Dibenzothiophene	DBT	5	10
Phenanthrene	PHN	5	10
Anthracene	ANT	5	10
1-Methylphenanthrene	MPH1	5	10
Fluoranthene	FLA	5	10
Pyrene	PYR	5	10
Benz[a]anthracene	BAA	5	10
Chrysene	CHR	5	10
Tryphenylene	TRY	5	10
Benzo[b]fluoranthene	BBF	5	10
Benzo[k]fluoranthene	BKF	5	10
Benzo[e]pyrene	BEP	5	10
Benzo[a]pyrene	BAP	5	10
Perylene	PER	5	10
Indeno[1,2,3-c,d]pyrene	IND	5	15
Dibenz[a,h]anthracene	DBA	5	15
Benzo[g,h,I]perylene	BGP	5	15
Coronene	COR	5	15

† See QA report for surrogate assignments.

BTEX and TPH Analysis

Eight sediment and nine tissue samples were analyzed by PACE Incorporated Environmental Laboratories for BTEX and TPH (diesel extraction). The methods for this extended organic analysis are summarized below and detection limits are given in Table 6 (Pace Analytical, 1997).

Samples are prepared for analysis using Method 5030A. This method is used to determine the concentration of volatile organic compounds in a variety of liquid and solid waste matrices using a purge and trap gas chromatographic procedure. Five grams of solid sample is dispersed in methanol to dissolve the volatile constituents and a portion of the methanol extract is combined with contaminant-free laboratory water. Then inert gas is bubbled through the 5-mL or 25-mL aqueous sample aliquot at ambient temperature to transfer the volatile components to the vapor phase. The vapor is swept to a sorbent column where the volatile components are trapped. After purging is completed, the sorbent column is flash heated and backflushed with inert gas to desorb and transfer the volatile components onto the head of a GC column. The column is heated to elute the volatile components, which are detected by the appropriate detector for the analytical method used.

Aromatic volatile organics in samples are analyzed using method 8020A, which is a gas chromatography (GC) method using purge and trap sample introduction (method 5030A). An inert gas is bubbled through a water matrix to transfer volatile aromatic hydrocarbons from the liquid to the vapor phase. Volatile aromatics are collected on a sorbent trap, then flash thermally desorbed and transferred to a GC column. Target analytes are detected using a photoionization detector (PID). Sediment samples may be heat purged directly in reagent water or are extracted with methanol; if extracted with methanol an aliquot of sample extract is added to blank reagent water for purge and trap GC analysis. Positive results are confirmed by GC analysis using a second GC column of dissimilar phase or by GC/MS. When a second column analysis is performed, peak Retention Times (RTs) on both columns must match expected RTs within the calculated RT windows. Also, calculated quantitations from each column should be in agreement with one another (generally they should match within a factor of two) for the presence of an analyte to be considered confirmed.

Gasoline and volatile aromatic compounds, including benzene, toluene, ethylbenzene, and the xylenes (BTEX), are analyzed by a modified method 8015A using the direct purge technique described above for method 5030A. Analysis is performed on a GC equipped with a photoionization detector (PID) and a flame ionization detector (FID) connected in series. If BTEX compounds are found without the associated presence of gasoline, confirmation analysis is performed with a second GC column of dissimilar phase and retention characteristics in accordance with the requirements of method 8020K.

Aqueous samples analyzed for diesel, kerosene, jet fuel, and motor oil are prepared using method 3510B (separatory funnel liquid/liquid extraction) or method 3520B (continuous liquid/liquid extraction). Solid samples are prepared using method 3540B (Soxhlet extraction), method 3550 (sonication extraction), or wrist action shaker extraction (California LUFT method). Thirty grams of sample is extracted and concentrated to a volume of 1 mL. Analysis is performed by a modified method 8015A on a GC equipped with a capillary or megabore column and FID detector.

Table 6. Dry Weight Detection Limits of BTEX and TPH.

Analytes	Database Abbreviation	MDL, ng/g dry Sediment	MDL, ng/g dry Tissue
Benzene	Benzene	5	300
Toluene	Toluene	5	300
Ethylbenze	EthBenzene	5	300
Xylene	Xlene	15	800
Total Petroleum Hydrocarbons	TPH_Diesel	1000	1000

Trace Metal Analysis

Summary of Methods

Trace metals analyses were conducted at the CDFG Trace Metals Facility at Moss Landing, CA. Table 7 indicates the trace metals analyzed and lists method detection limits for sediments and tissues. These methods were modifications of those described by Evans and Hanson (1993), as well as those developed by the CDFG (1990).

Table 7. Dry Weight Trace Metal Detection Limits.

Analytes	MDL µg/g dry	MDL µg/g dry
	Sediment	Tissue
Silver	0.002	0.01
Aluminum	1	1
Arsenic	0.1	0.25
Cadmium	0.002	0.01
Copper	0.003	0.1
Chromium	0.02	0.1
Iron	0.1	0.1
Mercury	0.03	0.03
Manganese	0.05	0.05
Nickel	0.1	0.1
Lead	0.03	0.1
Antimony	0.1	0.1
Tin	0.02	0.02
Selenium	0.1	0.1
Zinc	0.05	0.05

***Note that all tissue MDLs are reported in dry weight units because wet weight MDLs are based on percent moisture of the individual sample.

Sediment Digestion Procedures

One gram aliquot of sediment was placed in a pre-weighed teflon vessel, and one ml concentrated 4:1 nitric:perchloric acid mixture was added. Vessels were capped and heated in a vented oven at 130° C for four hours. Three ml hydrofluoric acid were added to the vessel, recapped and returned to an oven overnight. Twenty ml of 2.5% boric acid were added to the vessel and placed in oven for an additional 8 hours. Weights of teflon vessels and solution were recorded, and solution was poured into 30 ml polyethylene bottles.

Tissue Digestion Procedures

A three gram aliquot of tissue was placed in a pre-weighed teflon vessel, and three mls of concentrated 4:1 nitric:perchloric acid mixture were added. Samples then were capped and heated on hot plates for five hours. Caps were tightened and samples were heated in a vented oven at 130°C for four hours. Samples were allowed to cool and 15 mls of Type II water were added to the vessels. The solution then was quantitatively transferred to a pre weighed 30 ml polyethylene (HDPE) bottle and taken up to a final weight of 20 g with Type II water.

Atomic Absorption Methods

Samples were analyzed by furnace AA on a Perkin-Elmer Zeeman 3030 Atomic Absorption Spectrophotometer, with an AS60 auto sampler, or a flame AA Perkin Elmer Model 2280. Samples, blanks, matrix modifiers, and standards were prepared using clean techniques inside a clean laboratory. ASTM Type II water and ultra clean chemicals were used for all standard preparations. All elements were analyzed with platforms for stabilization of temperatures. Matrix modifiers were used when components of the matrix interfere with adsorption. The matrix modifier was used for Sn, Sb and Pb. Continuing calibration check standards (CLC) were analyzed with each furnace sheet, and calibration curves were run with three concentrations after every 10 samples. Blanks and standard reference materials, MESS1, PACS, BCSS1 or 1646 were analyzed with each set of samples for sediments.

Toxicity Testing

Summary of Methods

All toxicity tests were conducted at the California Department of Fish and Game's Marine Pollution Studies Laboratory (MPSL) at Granite Canyon. Toxicity tests were conducted by personnel from the Institute of Marine Sciences, University of California, Santa Cruz.

Sediment Samples

Bedded sediment samples were transported to MPSL from the sample-processing laboratory at Moss Landing in ice chests at 4°C. Transport time was one hour. Samples were held at 4°C, and all tests were initiated within 14 days of sample collection, unless otherwise noted in the Quality Assurance section. All sediment samples were handled according to procedures described in ASTM (1992) and BPTCP Quality Assurance Project Plan (Stephenson *et al.*, 1994). Samples were removed from refrigeration the day before the test, and loaded into test containers. Water quality was measured at the beginning and end of all tests. At these times, pH, temperature, salinity, and dissolved oxygen were measured in overlying water from all samples to verify that water quality criteria were within the limits defined for each test protocol. Total ammonia concentrations also were measured at these times. Samples of overlying water for hydrogen sulfide measurement were taken at the beginning and end of each toxicity test. Interstitial water sample measurements were taken at the beginning and end of each toxicity test after Leg 30. Hydrogen sulfide samples were preserved with zinc acetate and stored in the dark until time of measurement.

Porewater Samples

Once at MPSL, frozen porewater samples were stored in the dark at -12°C until required for testing. Experiments performed by the U.S. National Biological Survey have shown no effects of freezing pore water upon the results of toxicity tests (Carr and Chapman, 1995). Samples were equilibrated to test temperature (15°C) on the day of a test, and pH, temperature, salinity, and dissolved oxygen were measured in all samples to verify that water quality criteria were within the limits defined for the test protocol. Total ammonia and sulfide concentrations were also measured. Porewater samples with salinities outside specified ranges for each protocol were adjusted to within the acceptable range. Salinities were increased by the addition of hypersaline brine, 60 to 80‰, drawn from partially frozen seawater. Dilution water consisted of Granite Canyon seawater (32 to 34‰). Water quality parameters were measured at the beginning and end of each test.

Subsurface Water Samples

Abalone and mussel tests were performed on water column samples collected with the modified Van Veen grab. A polyethylene water sample bottle was attached to the frame of the grab and a bottle stopper was pulled as the jaws of the grab closed for a sediment sample. The water sample was consequently collected approximately 0.5 meters above the sediment surface. Subsurface water samples were held in the dark at 4°C until testing. Toxicity tests were initiated within 14 days of the sample collection date. Water quality parameters, including ammonia and sulfide concentrations, were measured in one replicate test container from each sample in the overlying water as described above. Measurements were taken at the beginning and end of all tests.

Measurement of Ammonia and Hydrogen Sulfide

Total ammonia concentrations were measured using an Orion Model 95-12 Ammonia Electrode. The concentration of unionized ammonia was derived from the concentration of total ammonia using the following equation (Whitfield 1974, 1978):

$$[NH_3] = [\text{total ammonia}] \times ((1 + \text{antilog}(pK_a^\circ - pH))^{-1}),$$

where pK_a° is the stoichiometric acidic hydrolysis constant for the test temperature and salinity. Values for pK_a° were experimentally derived by Khoo *et al.* (1977). Method detection limit for total ammonia was 0.1 mg/L.

Total sulfide concentrations were measured using an Orion Model 94-16 Silver/Sulfide Electrode, except samples tested after February, 1994, were measured on a spectrophotometer using a colorimetric method (Phillips *et al.* 1997). The concentration of hydrogen sulfide was derived from the concentration of total sulfide by using the following equation (ASCE 1989):

$$[H_2S] = [S^{2-}] \times (1 - ((1 + \text{antilog}(pK_a^\circ - pH))^{-1})),$$

where temperature and salinity dependent pK_a° values were taken from Savenko (1977). The method detection limit for total sulfide was 0.1 mg/L for the electrode method, and 0.01 mg/L for the colorimetric method. Values and corresponding detection limits for unionized ammonia and hydrogen sulfide were an order of magnitude lower than those for total ammonia and total sulfide, respectively. Care was taken with all sulfide and ammonia samples to minimize volatilization by keeping water quality sample containers capped tightly until analysis.

Marine and Estuarine Amphipod Survival Tests

Solid-phase sediment sample toxicity was assessed using the 10-day amphipod survival toxicity test protocols outlined in EPA 1994. All *Eohaustorius* and *Rhepoxynius* were obtained from Northwestern Aquatic Sciences in Yaquina Bay, Oregon. Animals were separated into groups of approximately 100 and placed in polyethylene boxes containing Yaquina Bay collection site sediment, then shipped on ice via overnight courier. Upon arrival at Granite Canyon, the *Eohaustorius* were acclimated to 20‰ (T=15°C), and *Rhepoxynius* were acclimated to 28‰ (T=15°C). Once acclimated, the animals were held for an additional 48-hours prior to addition to the test containers.

Test containers were one liter glass beakers or jars containing 2-cm of sediment and filled to the 700-ml line with control seawater adjusted to the appropriate salinity using spring water or distilled well water. Test sediments were not sieved for indigenous organisms prior to testing although at the conclusion of the test, the presence of any predators was noted and recorded on the data sheet. Test sediment and overlying water were allowed to equilibrate for 24 hours, after which 20 amphipods were placed in each beaker along with control seawater to fill test containers to the one-liter line. Test chambers were aerated gently and illuminated continuously at ambient laboratory light levels.

Five laboratory replicates of each sample were tested for ten days. A negative sediment control consisting of five lab replicates of Yaquina Bay home sediment for *Eohaustorius* and *Rhepoxynius* was included with each sediment test. After ten days, the sediments were sieved through a 0.5-mm Nitex screen to recover the test animals, and the number of survivors was recorded for each replicate.

Positive control reference tests were conducted concurrently with each sediment test using cadmium chloride as a reference toxicant. For these tests, amphipod survival was recorded in three replicates of four cadmium concentrations after a 96-hour water-only exposure. A negative seawater control consisting of one micron-filtered Granite Canyon seawater, diluted to the appropriate salinity was compared to all cadmium concentrations. Amphipod survival for each replicate was calculated as:

$$\frac{\text{Number of surviving amphipods}}{\text{Initial number of amphipods}} \times 100$$

Haliotis rufescens Embryo-Larval Development Test

The red abalone (*Haliotis rufescens*) embryo-larval development test was conducted on subsurface water samples. Details of the test protocol are given in US EPA 1995a. A brief description of the method follows.

Adult male and female abalone were induced to spawn separately using a dilute solution of hydrogen peroxide in seawater. Fertilized eggs were distributed to the test containers within one hour of fertilization. Test containers were polyethylene-capped, seawater leached, 20-ml glass scintillation vials containing 10 milliliters of sample. Each test container was inoculated with 100 embryos (10/mL). Samples tested at multiple concentrations were diluted with one micron-filtered Granite Canyon seawater. Laboratory controls were included with each set of samples tested. Controls include a dilution water control consisting of Granite Canyon seawater, and a brine control with all samples that require brine adjustment. Tests were conducted at ambient seawater salinity (33±2‰). A 48-h positive control reference test was conducted concurrently with each porewater test using a dilution series of zinc sulfate as a reference toxicant.

After a 48-h exposure period, developing larvae were fixed in 5% buffered formalin. All larvae in each container were examined using an inverted light microscope at 100x to determine the proportion of veliger larvae with normal shells, as described in US EPA 1995a. Percent normal development was calculated as:

$$\frac{\text{Number of normally developed larvae counted}}{\text{Total number of larvae counted}} \times 100$$

Mytilus spp. Embryo-Larval Development Test

The bay mussel (*Mytilus* spp.) embryo-larval development test was conducted on porewater and subsurface water samples. Details of the test protocol are given in US EPA 1995a. A brief description of the method follows.

Adult male and female mussels were induced to spawn separately using temperature shock by raising the ambient temperature by 10°C. Fertilized eggs were distributed to test containers within four hours of fertilization. Test containers were polyethylene-capped, seawater leached, 20-ml glass scintillation vials containing 10 milliliters of sample. Each test container was inoculated with 150 to 300 embryos (15-30/mL) consistent among replicates and treatments within a test set. Samples tested at multiple concentrations were diluted with one micron-filtered Granite Canyon seawater. Laboratory controls were included with each set of samples tested. Controls include a dilution water control consisting of Granite Canyon seawater, a brine control with all samples that require brine adjustment. Tests were conducted at 28±2‰. A 48-h positive control reference test was conducted concurrently with each test using a dilution series of cadmium chloride as a reference toxicant.

After a 48-h exposure period, developing larvae were fixed in 5% buffered formalin. All larvae in each container were examined using an inverted light microscope at 100x to determine the proportion of normal live prossidoconch larvae, as described in US EPA 1995a. Percent normal live larvae was calculated as:

$$\frac{\text{Number of normal larvae}}{\text{Initial embryo density}} \times 100$$

Neanthes arenaceodentata Survival and Growth Test

The *Neanthes* test followed procedures described in Puget Sound Protocols (1991). Emergent juvenile *Neanthes arenaceodentata* (2-3 weeks old) were obtained from Dr. Donald Reish of California State University, Long Beach. Worms were shipped in seawater in plastic bags at ambient temperature via overnight courier. Upon arrival at MPSL, worms were allowed to acclimate gradually to 28‰ salinity (<2‰ per day, T=15°C). Once acclimated, the worms were maintained at least 48 hours, and no longer than 10 days, before the start of the test.

Test containers were one-liter glass beakers or jars containing 2-cm of sediment and filled to the 700-ml line with seawater adjusted to 28‰ using spring water or distilled well water. Test sediments were not sieved for indigenous organisms prior to testing, but the presence of any predators was noted and recorded on the data sheet at the conclusion of the test. Test sediment and overlying water were allowed to equilibrate for 24 hours, after which 5 worms were placed in each beaker along with 28‰ seawater to fill test containers to the one-liter line. Test chambers were aerated gently and illuminated continuously at ambient laboratory light levels. Worms were fed TetraMin® every 2 days, and overlying water was renewed every 3 days. Water quality parameters were measured at the time of renewals.

After 20 days, samples were sieved through a 0.5-mm Nitex screen, and the number of surviving worms recorded. Surviving worms from each replicate were wrapped in a piece of pre-weighed aluminum foil, and placed in a drying oven until reaching a constant weight. Each foil packet was then weighed to the nearest 0.1 mg. Worm survival and mean weight/worm for each replicate was calculated as follows:

$$\text{Percent worm survival} = \frac{\text{Number of surviving worms}}{\text{Initial number of worms}} \times 100$$

$$\text{Mean weight per worm} = \frac{\text{Total weight - foil weight}}{\text{Number of surviving worms}} \times 100$$

Strongylocentrotus purpuratus Embryo-Larval Development Test

The sea urchin (*Strongylocentrotus purpuratus*) larval development test was conducted on porewater samples. Details of the test protocol are given in US EPA 1995a. A brief description of the method follows.

Sea urchins were collected from the Monterey County coast near Granite Canyon, and held at MPSL at ambient seawater temperature and salinity (33±2‰) until testing. Adult sea urchins were held in complete darkness to preserve gonadal condition. On the day of a test, urchins were induced to spawn in air by injection with 0.5M KCl. Eggs and sperm collected from the urchins were mixed in seawater at a 500 to 1 sperm to egg ratio, and embryos were distributed to test containers within 1 hour of fertilization. Test containers were polyethylene-capped, seawater leached, 20-ml glass scintillation vials containing 10 milliliters of sample. Each test container was inoculated with approximately 250 embryos (25/ml). All porewater samples were tested at three concentrations: 100, 50 and 25% pore water, with each concentration having three replicates. Porewater samples were diluted using one micron-filtered Granite Canyon seawater. Laboratory controls were included with each set of samples tested. Controls include a dilution water control consisting of Granite Canyon seawater, and a brine control with all samples that require brine adjustment. Tests were conducted at ambient seawater salinity (33±2‰). A 96-hour positive control reference test was conducted concurrently with each porewater test using a dilution series of copper chloride as a reference toxicant.

After a 96-hour exposure, larvae were fixed in 5% buffered formalin. Approximately 100 larvae in each container were examined under an inverted light microscope at 100x to determine the proportion of normally developed larvae as described in US EPA 1995a. Visual clues used to identify embryos as normal included development of skeletal rods (spicules) that extend beyond half the length of the larvae and normal development of a three-part gut. Embryos demonstrating retarded development were considered abnormal. Percent normal development was calculated as:

$$\frac{\text{Number of normally developed larvae counted}}{\text{Total number of larvae counted}} \times 100$$

***Strongylocentrotus purpuratus* Embryo-Larval Development Test using the Sediment-Water Interface Exposure System**

The purple sea urchin (*S. purpuratus*) embryo/larval development test at the sediment-water interface was conducted on intact core sediment samples taken with minimal disturbance from the Van Veen grab sampler. Details of the test protocol are given in the MPSL Standard Operating Procedure, which follows the US EPA methods manual (1995a). A brief description of the method follows.

Sea urchins were collected from the Monterey County coast near Granite Canyon, and held at MPSL at ambient seawater temperature and salinity until testing. Adult sea urchins were held in complete darkness to preserve gonadal condition. On the day of the test, urchins were induced to spawn in air by injection with 0.5 mL of 0.5M KCl. Eggs and sperm collected from the urchins were mixed in seawater at a 500 to 1 sperm to egg ratio, and embryos were distributed to the test containers within one hour of fertilization. Sediment-water interface test containers consisted of a polycarbonate tube with a 25-µm screened bottom placed so that the screen was within 1-cm of the surface of an intact sediment core (Anderson *et al.* 1996). Seawater at ambient salinity was poured into the core tube and allowed to equilibrate for 24 hours before the start of the test. After inserting the screen tube into the equilibrated cores, each tube was inoculated with approximately 250 embryos. The laboratory control consisted of Yaquina Bay amphipod home sediment from Northwestern Aquatic Sciences. Tests were conducted at ambient seawater salinity ± 2‰. Ambient salinity at Granite Canyon is usually 32 to 34‰. A positive control reference test was conducted concurrently with the test using a dilution series of copper chloride as a reference toxicant.

After an exposure period of 96 hours, larvae were fixed in 5% buffered formalin. One hundred larvae in each container were examined under an inverted light microscope at 100x to determine the proportion of normally developed larvae as described in US EPA 1995a. Percent normal development was calculated as:

$$\frac{\text{Number of normally developed larvae counted}}{\text{Total number of larvae counted}} \times 100$$

***Strongylocentrotus purpuratus* Fertilization Test**

The sea urchin (*S. purpuratus*) fertilization test was conducted on porewater samples. Details of the test protocol are described in Dinnel *et al.* (1987). Sea urchins were from the same stock described for the sea urchin larval development test. On the day of a test, urchins were induced to spawn in air by injection with 0.5M KCl. Sperm were exposed in test containers for sixty minutes before approximately 1000 eggs were added. After twenty minutes of fertilization, the test was fixed in a 5% buffered formalin solution. A constant sperm to egg ratio of 500 to 1 was used in all tests. This ratio maintained fertilization in the 70-90% range required by the test protocol. Fertilization was determined by the presence or absence of a fertilization membrane. Test containers were polyethylene-capped, seawater leached, 20-ml glass scintillation vials containing 5 milliliters of pore water. Porewater samples were diluted with one micron-filtered Granite

Canyon seawater. Laboratory controls were included with each set of samples tested. Controls included a dilution water control consisting of Granite Canyon seawater, a brine control with all samples that require brine adjustment. Tests were conducted at ambient seawater salinity (33±2 ppt). A positive control reference test (1-hour sperm exposure) was conducted concurrently with each porewater test using a dilution series of copper chloride as a reference toxicant. All eggs in each container were examined under an inverted light microscope at 100x, and counted as either fertilized or unfertilized. Percent fertilization was calculated as:

$$\frac{\text{Number of fertilized eggs}}{\text{Number of eggs observed}} \times 100$$

Statistical Analysis of Toxicity Test Data

Samples were defined as significantly more toxic than laboratory controls if the following criteria were met: 1) a separate-variance t-test determined there was a significant difference ($p<0.05$) in mean toxicity test organism response (e.g., percent survival) between the sample and the laboratory control and 2) mean organism response in the toxicity test was lower than a certain percentage of the control value, as determined using the 90th percentile Minimum Significant Difference (MSD).

Statistical significance in t-tests is determined by dividing an expression of the difference between sample and control by an expression of the variance among replicates. We used a "separate variance" t-test that adjusted the degrees of freedom to account for variance heterogeneity among samples. If the difference between sample and control is large relative to the variance among replicates, then the difference is determined to be significant. In many cases, however, low between-replicate variance will cause a comparison to be considered significant, even though the magnitude of the difference can be small. The magnitude of difference that can be identified as significant is termed the Minimum Significant Difference (MSD) which is dependent on the selected alpha level, the level of between-replicate variation, and the number of replicates specific to the experiment. With the number of replicates and alpha level held constant, the MSD varies with the degree of between-replicate variation. The "detectable difference" inherent to the toxicity test protocol can be determined by identifying the magnitude of difference that can be detected by the protocol 90% of the time (Schimmel *et al.*, 1994; Thursby and Schlekat, 1993). This is equivalent to setting the level of statistical power at 0.90 for these comparisons. This is accomplished by determining the MSD for each t-test conducted, ranking them in ascending order, and identifying the 90th percentile MSD, the MSD that is larger than or equal to 90% of the MSD values generated.

Current BPTCP detectable difference (90th percentile MSD) values are listed in Table 8. Samples with toxicity test results lower than the values given, as a percentage of control response, would be considered toxic if the results were also significantly different from the control in the individual t-test.

Table 8. Minimum significant differences used to calculate significant toxicity in the BPTCP toxicity test protocols (see text for complete MSD description).

Species	Name	MSD	% of Control	N
Ee	*Eohaustorius*	25	75	385
Hr	Abalone (all reps)	32	68	467
Me	*Mytilus*	20	80	223
Na Sv	*Neanthes* surv.	36	64	335
Na Wt	*Neanthes* wt.	56	44	335
Ra	*Rhepoxynius*	23	77	720
Sp Dev	Urchin dev.(all)	40	60	939
Sp Fert	Urchin fert.	12	88	79
SP SWI	Urchin SWI	41	59	109

Test Acceptability and Evaluation

Quality Assurance/Quality Control (QA/QC) guidelines, for the toxicity tests used in the BPTCP project, are summarized in the BPTCP Quality Assurance Project Plan (Stephenson *et al.*, 1994). Test acceptability criteria from published protocols were evaluated for all tests. Quality assurance checklists were compiled that noted compliance for all tests with each of these criteria.

Evaluation codes were assigned to each deviation from QA/QC guidelines, and can be summarized as follows:

-3: sample has minor exceedances of QA criteria that are unlikely to affect assessments.
-4: sample meets or exceeds control criteria requirements.
-5: data have exceedances, but are generally usable for most assessments and reporting purposes.
-6: sample has major exceedances of control criteria requirements and the data are not usable for most assessments and reporting purposes.
-7: sample has major exceedances of control criteria requirements and the data was not useable.
-9: not analyzed

It is recommended if assessments are made that are especially sensitive or critical, that the QA evaluations be consulted before using the data. Test data judged to be unacceptable are not reported, and samples from unacceptable tests are retested if necessary.

Total Organic Carbon Analysis of Sediments

Summary of Methods

Samples were received in the frozen state and allowed to thaw at room temperature. Source samples were gently stirred and sub-samples were removed with a stainless steel spatula and placed in labeled 20 ml polyethylene scintillation vials. Approximately 5 grams equivalent to dry weight of the wet sample was sub-sampled.

Sub-samples were treated with two, 5 ml additions of 0.5 N, reagent grade HCl to remove inorganic carbon (CO^{-3}), agitated, and centrifuged to a clear supernate. Some samples were retreated with HCl to remove residual inorganic carbon. The evolution of gas during HCl treatment indicates the direct presence of inorganic carbon (CO^{-3}). After HCl treatment and decanting, samples were washed with approximately 15 ml of deionized-distilled water, agitated, centrifuged to a clear supernate, and decanted. Two sample washings were required to remove weight determination and analysis interferences.

Prepared samples were placed in a 60° C convection oven and allowed to come to complete dryness (approx. 48 hrs.). Visual inspection of the dried sample before homogenization was used to ensure complete removal of carbonate containing materials (shell fragments). Two 61 mm (1/4") stainless steel solid balls were added to the dried sample, capped and agitated in a commercial available ball mill for three minutes to homogenize the dried sample.

A modification of the high temperature combustion method, utilizing a Weatstone bridge current differential was used in a commercially available instrument, (Control Equipment Co., 440 Elemental Analyzer) to determine carbon and nitrogen concentrations. The manufacture's suggested procedures were followed. The methods are comparable to the validation study of USEPA method MARPCPN I. Two to three aliquots of 5-10 mg of dried prepared sub-sample were used to determine carbon and nitrogen weight percent values. Calibration of the instrument was with known standards using Acetanilide or L-Cystine. Detection limits are 0.2 ug/mg carbon and 0.01 ug/mg nitrogen dry weight. The above methods and protocols are modifications of several published papers, reference procedures and analytical experimentation experience (Franson, 1981; Froelich, 1980; Hedges and Stern, 1983; MARPCPN I, 1992).

Quality Control/Quality Assurance

Quality control was tested by the analysis of National Research Council of Canada Marine Sediment Reference Material, BCSS-1 at the beginning and end of each sample analysis set (20-30 individual machine analyses). All analyzed values were within suggested criteria of $\pm$ 0.09% carbon (2.19% Average). Nitrogen was not reported on the standard data report, but was accepted at $\pm$ 0.008% nitrogen (0.195% Average) from the EPA study. Quality assurance was monitored by re-calibration of the instrument every twenty samples and by the analysis of a standard as an unknown and comparing known theoretical percentages with resultant analyzed percentages. Acceptable limits of standard unknowns were less than $\pm$ 2%. Duplicate or triplicate sample analysis variance (standard deviation/mean) greater than 7% is not accepted. Samples were re-homogenized and re-analyzed until the variance between individual runs fell below the acceptable limit of 7.0%.

Grain Size Analysis of Sediments

Summary of Methods

The procedure used combined wet and dry sieve techniques to determine particle size of sediment samples. Methods follow those of Folk (1974).

Sample Splitting and Preparation

Samples were thawed and thoroughly homogenized by stirring with a spatula. Spatulas were rinsed of all adhering sediment between samples. Size of the subsample for analysis was determined by the sand/silt ratio of the sample. During splitting, the sand/silt ratio was estimated and an appropriate sample weight was calculated. Subsamples were placed in clean, pre-weighed beakers. Debris was removed and any adhering sediment was washed into the beaker.

Wet Sieve Analysis (separation of coarse and fine fraction)

Beakers were placed in a drying oven and sediments were dried at less than 55°C until completely dry (approximately three days). Beakers were removed from drying oven and allowed to equilibrate to room temperature for a least a half-hour. Each beaker and its contents were weighed to the nearest 0.01 g. This weight minus the empty beaker weight was the total sample weight. Sediments in beakers were disaggregated using 100 ml of a dispersant solution in water (such as 50 g Calgon/L water), and the sample was stirred until completely mixed and all lumps disappeared. The amount and concentration of dispersant used was recorded on the data sheet for each sample. Sample beakers were placed in an ultrasonic cleaner for 15 minutes for disaggregation. Sediment dispersant slurry was poured into a 63 μm (ASTM #230, 4 phi) stainless steel or brass sieve in a large glass funnel suspended over a 1L hydrometer cylinder by a ring stand. All fine sediments were washed through the sieve with water. Fine sediments were captured in a 1L hydrometer cylinder. Coarse sediments remaining in sieve were collected and returned to the original sample beaker for quantification.

Dry Sieve Analysis (coarse fraction)

The coarse fraction was placed into a preweighed beaker, dried at 55-65°C, allowed to acclimate, and then weighed to 0.01 g. This weight, minus the empty beaker weight, was the coarse fraction weight. The coarse fraction was poured into the top sieve of a stack of ASTM sieves having the following sizes: No. 10 (2.0 mm), 18 (1.0 mm), 45 (0.354 mm), 60 (0.25 mm), 80 (0.177 mm), 120 (0.125 mm), and 170 (0.088 mm). The stack was placed on a mechanical shaker and shaken at medium intensity for 15 minutes. After shaking, each sieve was inverted onto a large piece of paper and tapped 5 times to free stuck particles. The sieve fractions were added cumulatively to a pretared weighing dish, and the cumulative weight after each addition determined to 0.01g. The sample was returned to its original beaker, and saved until sample computations were completed and checked for errors.

Analytical Procedures

Fractional weights and percentages for various particle size fractions were calculated. If only wet sieve analysis was used, weight of fine fraction was computed by subtracting coarse fraction from total sample weight, and percent fine composition was calculated using fine fraction and total sample weights. If dry sieve was employed as well, fractional weights and percentages for the sieve were calculated using custom software on a Macintosh computer. Calibration factors were stored in the computer.

Statistical Relationship Analysis

Relationships between toxicity (dependent) and chemistry (independent) were investigated in a two-step process. Pearson correlation coefficients were determined for chemical variables to screen for multicollinearity within each group of analytes (i.e., metals and organics) (Tabachnick and Fidell, 1996). Co-varying analytes (bivariate Pearson correlation >0.6) were removed. Multiple regression was then used to test the degree of dependence of amphipod toxicity on grain size, TOC and chemical concentrations. All data were transformed to meet assumptions of parametric tests by using log (x+1) or arcsin transformations when appropriate (Zar, 1984).

Benthic Community Analysis

Summary of Methods

Samples were selected for benthic community analysis by SWRCB staff based on results from toxicity tests. Each catalogued sample was processed individually in the laboratory to obtain an accurate assessment of species diversity and abundance. All macroinvertebrates were sorted from residues under a dissecting microscope, identified to lowest possible taxon, and counted. Laboratory processing of benthic cores consists of both rough and fine sorting. Initial sorting separates animals into large taxonomic groups such as polychaetes, crustaceans, mollusks and other (*e.g.*, phoronids). Bound laboratory logbooks were maintained and used to record number of samples processed by each technician, as well as results of any sample resorts, if necessary. Sorters were required to sign and date a Milestone Progress Checksheet for each replicate sample processed. Specimens of similar taxonomic groups were placed in vials and labeled internally and externally with project, date collected, station information, and IDORG. In-house senior taxonomists and outside specialists processed and verified the accuracy of species identification and enumeration. An archived voucher specimen collection was established at this time.

Relative Benthic Index

Benthic samples were sieved, sorted and the number of individuals of each species in each replicate core were identified. A number of summary statistics were calculated for each station, including summaries of total fauna, number of species, and the 4 major phyla (Polychaetes, Crustaceans, Molluscs, and Echinoderms).

The Relative Benthic Index (RBI) used in this study utilizes the above summarized fauna information in a refined version of the benthic index presented by Fairey *et al.* (1996). It is based on simple, realistic natural history concerning responses of marine benthic communities to anthropogenic and natural disturbances. Community patterns used in the index include number of species (all taxa, only molluscs, and only crustaceans); and the number of individuals of crustaceans, the number of individuals of selected species that are indicators of relatively disturbed benthic habitats, and the number of individuals of selected species that are indicators of relatively undisturbed benthic habitats. The RBI is developed for particular areas by selecting different indicator species. It does not require the presence of unpolluted reference stations, and does not refer to data beyond that collected in each study. Often the evaluation of community degradation depends on comparisons to unpolluted reference stations which are difficult to locate and vary for reasons that are unknown and unrelated to pollution.

Number of Species

The number of species often decreases with severe disturbances (Oliver *et al.* 1977, 1980; Lenihan and Oliver 1995) and is the best indicator of biodiversity, particularly when species are sampled in relation to habitat area (Hurlbert 1971; Jumars 1975, 1976; Abele and Walters 1979). Therefore, the first community parameter in the RBI is the total number of species found in a standard sample of habitat area. Among the more numerous large taxonomic groups, crustaceans are generally more sensitive to environmental contaminants and other anthropogenic disturbances than most other components of the infauna, particularly polychaetes (Pearson and Rosenberg 1978; Reish *et al.* 1980; Thistle 1981; Lenihan and Oliver 1995; Lenihan *et al.* 1995). Speciose and numerically abundant crustacean faunas on the Pacific coast of the United States generally are only found in uncontaminated environments (Barnard 1963), making the number of crustacean species an important indicator of overall environmental health. To a lesser degree, the number of mollusk species also increase with decreasing environmental stress (Stull *et al.* 1986; Swartz *et al.* 1986), and are thus also included in the RBI. Polychaetes, crustaceans, and molluscs are the three dominate groups of benthic macro-invertebrates from many nearshore communities (Oliver *et al.* 1980), but unlike the crustaceans and molluscs many of the most opportunistic or weedy species are polychaete (Grassle and Grassle 1974; McCall 1977; Sanders *et al.* 1980; Santos and Simon 1980; Rhoads *et al.* 1978,). As a result, the number of polychaete species was not used in the RBI, because they do not indicate as clearly either a relatively disturbed habitat or a relatively undisturbed habitat.

Number of Individuals

An increase in the number of crustacean individuals also is indicative of relatively healthy environments (Stull *et al.* 1986; Swartz *et al.* 1986; Oliver *et al.* 1977; Lenihan and Oliver 1995). Although sometimes one or two crustacean species can be abundant in disturbed habitats (Vetter 1995; Okey 1997), but less so than for other major taxonomic groups, particularly polychaete worms (Pearson and Rosenberg 1978; Grassle and Grassle 1974; Oliver *et al.* 1977). Therefore, the number of individuals of crustaceans also is used in the RBI, but not the number of individuals in any other major taxonomic group.

Indicator Species

The population sizes of selected indicator species are strongly associated with benthic habitats that are relatively disturbed or undisturbed (Grassle and Grassle 1974; Oliver *et al.* 1977; Davis and Spies 1980; Weston 1990; Lenihan and Oliver 1995; Okey 1997); even more so than the number of species or the number of crustacean individuals. Therefore, five species were used in the RBI as indicators of either highly disturbed or undisturbed benthic communities and habitats. The number and identity of indicator species can change from one regional study location to another. Selection of indicator species was based on known responses to anthropogenic and other disturbances (Grassle and Grassle 1974; McCall 1977; Oliver *et al.* 1977; Davis and Spies 1980; Sanders *et al.* 1980; Santos and Simon 1980; Thistle 1981) and related natural history such as life history traits (Grassle and Grassle 1974; Oliver *et al.* 1977; Rhoads and Boyer 1982; Lenihan and Oliver 1995) or abundance patterns along environmental gradients and among the study stations (Oliver *et al.* 1980; Stull *et al.* 1986; Swartz *et al.* 1986; Weston 1990). The 2 negative indicator species are highly opportunistic annelids which thrive in disturbed, polluted, or marginal environments, and generally are not found in less disturbed communities. The 3 positive indicator species generally are not found in polluted habitats and are characteristic of regions where anthropogenic and other severe disturbances do not play major roles in structuring communities. Each indicator species is discussed below:

Negative indicator species

Capitella capitata

The *Capitella* species complex is a cosmopolitan group which lives in a wide range of conditions: fouled or low oxygen, high organic matter, and fine sediments. They are abundant around outfalls discharging biological wastes, and have a rapid (1 to 2 month) life cycle. *Capitella* are capable of surviving for days with little or no oxygen, and they often are considered the best example of a "weedy", opportunistic species (Grassle and Grassle 1976; McCall 1977; Pearson and Rosenberg 1978; Lenihan and Oliver 1995; Okey 1997).

Oligochaetes

Oligochaetes are a poorly known group which typically found in peripheral/disturbed habitats such as, under decaying algae on beaches, and in fouled or low oxygen muds of back bays, estuaries, and harbors (Brinkhurst and Simmons 1968; Pearson and Rosenberg 1978; Brinkhurst and Cook 1980). They often occur in large masses near no other macrofauna. In San Francisco Bay they may comprise 100% of the fauna where there is gross pollution (i.e. large amounts of organic material from sewage). If oxygen levels are sufficient, and there is little toxic waste and high bacterial levels, oligochaete densities become extremely high (Brinkhurst and Simmons, 1968). They are well known indicators of relatively degraded freshwater ecosystems (Pearson and Rosenberg 1978; Brinkhurst and Cook 1980).

Positive Indicator Species

Ampelisca spp.

Ampelisca filter feed from vertical tubes which they build at the surface of clean, fine sediments. Tremendous densities of *Ampelisca* can form a dense carpet of tubes changing the physical structure of the sedimentary regime. The carpet also enhances habitat values and supports a very diverse fauna (Mills 1967; Oliver *et al.* 1983, 1984; Oliver and Slattery 1985a). Although *Ampelisca* can colonize open sediment patches (Mills 1967), they do not colonize disturbed locations as rapidly as the more motile and non-tube dwelling amphipod groups (Oliver and Slattery 1985b; Klaus *et al.* 1990).

Macoma spp.

The clams *Macoma* and *Tellina*, both in the Tellinidae, are small and live shallowly under the sediment surface. *Macoma* generally favor finer sediment, including bays, more so than *Tellina* do. Some *Macoma* filter feed, while others deposit feed by vacuuming sediment surface with their incurrent siphon (Reid and Reid 1969). They are not known to be early colonists in disturbed sedimentary habitats (Oliver *et al.* 1977).

Tellina spp.

Tellina live in clean, well-oxygenated sands of shallow water (Oliver *et al.* 1980). Species in Southern California attain great enough densities to be a major component of the shallow water, benthic infaunal community (Barnard 1963). They are not known to be early colonists in disturbed sedimentary habitats (Oliver *et al.* 1977).

Calculation of RBI

Previous versions of the Benthic Index have used individual impact thresholds for determination of degree of negative impact to Total Fauna and Number of Crustacean Species (Fairey *et al.* 1996). While these thresholds have been useful, the necessarily arbitrary nature of the selection process introduced potential artifacts for stations whose values for Total Fauna, Total Molluscs and Total Crustacea approached the threshold value. To address this problem, calculation of the Relative Benthic Index was revised to be based on percentages of the total range. The final threshold value for determination of impacted versus non-impacted stations was based on the overall Relative Benthic Index, and selected using best professional judgment. Justification for this critical threshold value of the RBI is discussed below.

For total fauna, number of mollusk species and number of crustacean species, the maximum and minimum values in these parameters over all the stations were determined. For each station, the total number of species, total mollusk species, and total number of crustacean species then were converted to the percentage of the total range for these parameters. Similarly, the number of crustacean individuals at each station is converted to a percentage of the total range, and is added to the total fauna, mollusk, and crustacean species numbers. The community numbers thus represent four-sixth of the Relative Benthic Index for each station.

For the positive and negative indicator indices, the final index was weighted towards presence and absence of key indicator species, with abundance of each species given additional incremental weight. Accordingly, the abundance of each indicator species was transformed using a double square-root transformation to compress the range of values. For each species, the transformed abundance was converted to a percentage of the total range. The transformed values of the negative indicator species were summed and subtracted from the sum of the values for the positive indicator species.

The overall Relative Benthic Index was calculated by summing the values of the Total Fauna, Total Molluscs, Crustacean Species, and Indicator Species, and standardizing it to the total range. This resulted in a range in values from 0.00 (Most Impacted) to 1.00 (Least Impacted).

Use of RBI

It is not possible to compare directly RBI values between different regions. The high and low ranges of values vary based on the extreme values within each data set. In addition, different indicator species often are used between regions. The RBI does however provide the relative "health" of each of the stations in a given data set compared to the other stations in the same data set.

The RBI does not indicate causality. While a low RBI value could be the result of chemical toxicity, it also could be the result of other types of anthropogenic disturbance, such as dredging. A low RBI also could result from a variety of natural disturbances, such as freshwater runoff, temperature stratification, or storm impacts.

It is not possible to test the RBI to determine significance levels or confidence levels, or to statistically determine what ranking indicates significant impact. However, since a degree of arbitrarity is incorporated into all determinations of significance, whether statistical or intuitive, this should not be considered a significant drawback. For this study, the threshold for significantly impacted benthic community structure was set at a Benthic Index less than or equal to 0.3. While this threshold is necessarily somewhat arbitrary, it is considered suitable based on the best professional judgment of the benthic ecologists who performed the analysis. Several factors were considered in deriving this threshold: the stations below the threshold have few overall species, few crustacean species, presence of negative indicator species, and absence of positive indicator species. These stations would be considered to be significantly degraded by the vast majority of naturalists familiar with the region's bays and estuaries. A Benthic Index of 0.4-0.6 was considered to be a transitional community. A transitional community did not show clear signs of community structure degradation however, these communities also were not clearly indicative of an undegraded community. An undegraded community was defined with a Benthic Index of 0.7-0.9. Undegraded communities have a greater number of species overall, several crustacean species, presence of positive indicator species, and the absence of negative indicator species. However, some degree of caution should be noted due to the arbitrary nature of using cutoffs from a condensed index to characterize a complex and dynamic benthic assemblage. The RBI can be used in combination with chemistry and toxicity test data to provide a "weight-of-evidence" for determination of the most impacted stations.

Quality Assurance/Quality Control

Summary of Methods

Summaries of quality assurance and quality control procedures are described under separate cover in the Bay Protection and Toxic Cleanup Program Quality Assurance Project Plan (QAPP)(Stephenson *et al.* 1994). This document describes procedures within the program, which ensure data quality and integrity. Quality assurance procedures follow those of the NS&T Program to ensure comparability with other NOAA survey areas nationwide. In addition, individual laboratories prepare quality assurance evaluations of each discrete set of samples analyzed and authorized by task order. These documents were submitted to the CDFG for review, then forwarded to the SWRCB for further review.

III. RESULTS AND DISCUSSION

Tabulated data for all chemical, benthic, and toxicological analyses are presented in Appendices C, D, E and F. The summary data presented in the following results section were used to present findings of ecological significance in the North Coast Region based on the analysis of the full data set.

Distribution of Chemical Pollutants

Chemical Specific Screening Values

Bioavailability is the key to understanding the relationship between sediment chemistry and biological impacts. However, using toxic identification evaluations (TIE's), bioaccumulation analyses, or other specialized methods to evaluate bioavailability were not possible on the large number of samples evaluated in the BPTCP studies to date. In order to assess large numbers of samples for their potential to impact biological resources, we compared sediment chemical concentrations to published guideline values derived from studies of approximately one thousand samples collected nationwide. These studies have used empirical observations of large data sets containing matching chemistry and biological data to provide guidance for evaluating the probability that measured contaminant concentrations may contribute to observed biological effects (MacDonald, 1994a,b; Long *et al.* 1995). While the reported guideline values were derived from sediments containing mixtures of chemicals, they were calculated individually for each chemical. Their application may be confounded in sediments where biological responses are affected by synergistic or antagonistic interactions among multiple compounds, by unmeasured or unidentified compounds, or by unconsidered physical factors. The following paragraphs provide a brief description of how these guideline values were calculated.

The National Status and Trends Program has used chemical and toxicological evidence from a number of modeling, field and laboratory studies to determine the ranges of chemical concentrations which are rarely, sometimes, or usually associated with toxicity (Long and Morgan, 1992). Evaluation of available data (Long *et al.*, 1995) has led to identification of three ranges in concentration for each chemical:

1) Minimal Effects Range: The range in concentration over which toxic effects are rarely observed;

2) Possible Effects Range: The range in concentrations over which toxic effects are occasionally observed;

3) Probable-Effects Range: The range in chemical concentrations over which toxic effects are frequently or always observed.

Two slightly different methods were used to determine these chemical ranges. One method developed by NOAA (Long and Morgan, 1990; Long *et al.*, 1995) used chemical data which were associated with a toxic biological effect. These data were used to determine the lower 10th percentile of ranked data, where the chemical level was associated with an effect (Effects Range-Low, or ERL). Sediment samples in which all chemical concentrations were below the 30 ERL values were not expected to be toxic. The Effects Range-Median (ERM) reflects the 50th percentile of ranked data and represents the level above which effects are expected to occur. Effects are expected to occur occasionally when chemical concentrations fall between the ERL and ERM (Figure 4). The probability of toxicity was expected to increase with the number and degree of exceedances of the ERM values.

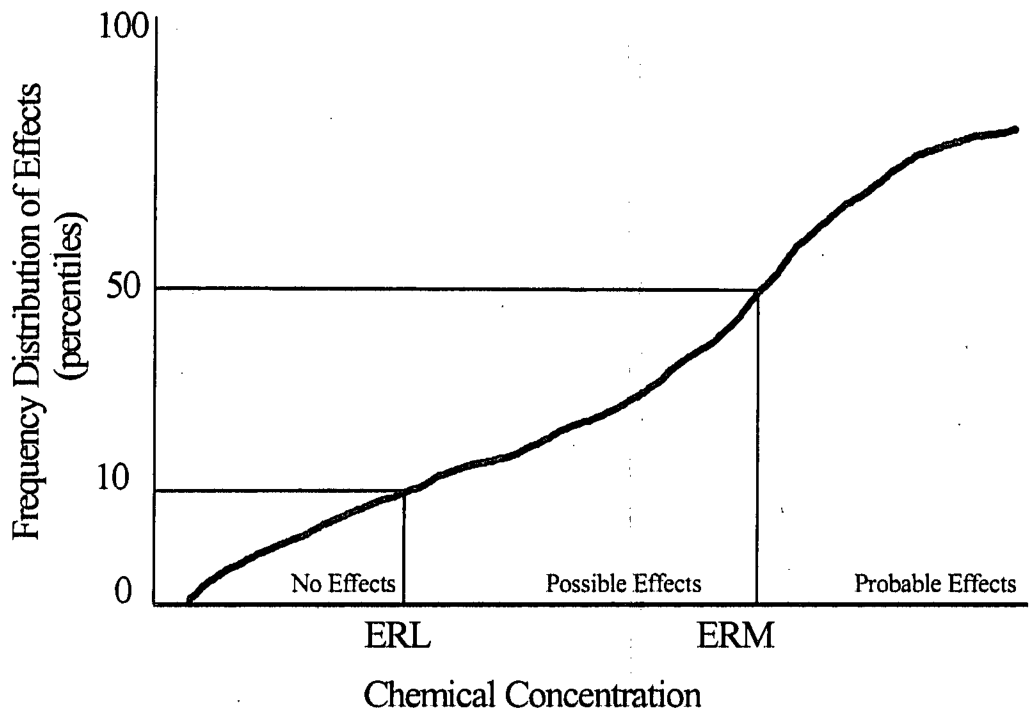

Figure 4 Conceptual Outline of the relationships between the no effects, possible effects and Probable effects ranges in chemical concentrations (from Long and MacDonald 1992).

Another method identifies ranges using chemical concentration data associated with both toxic biological effects and no observed effects (MacDonald, 1992; MacDonald, 1994a,b; MacDonald *et al.*, 1996). The ranges are identified as TEL (Threshold Effects Level) and the PEL (Probable Effects Level). TEL values were derived by taking the geometric mean of the 50th percentile of the "no effects" data and the 15th percentile of the "effects" data. The PEL values were derived by taking the geometric mean of the 85th percentile of the "no effects" data and the 50th percentile of the "effects" data. Although different percentiles were used for these two methods, they are in close agreement, usually within a factor of 2. Values reported for both methods are shown in Table 9. Neither of these methods is advocated over the use of the other in this report.

A cautionary note should be included; the degree of confidence which MacDonald (1994a,b) and Long *et al.* (1995) had in their respective guidelines varied considerably among chemicals. They express low confidence in the values derived for nickel, mercury, DDTs, chlordane, dieldrin, and endrin. When more data become available regarding these chemicals and their potential effects their guidelines may be revised, probably increasing for some substances. Due to low confidence in guideline values, in the case of DDT, the guideline value used was that of Swartz *et al.* (1994). This value was normalized to organic carbon, to which DDT strongly binds, therefore this TOC normalized value may be more reflective of DDT bioavailability in the environment.

Chemicals Without Screening Values

In order to evaluate those chemicals for which no guideline values have been calculated, individual chemical concentrations were compared to the range of chemical concentrations collected by BPTCP. This database contains approximately 120 analytes that were measured in sediments throughout California's bays and estuaries. Based upon the number of samples analyzed for a specific chemical, and the number of samples that exceeded the method detection limit, the 90^{th} and 95^{th} percentiles were calculated for each chemical using the range of samples above the MDL (Table 10). These percentiles then were used to compare individual chemical concentrations relative to the range of concentrations throughout the state.

Table 9. Comparisons of Sediment Quality Guideline Values Developed by the State of Florida and NOAA.

Substance	State of Florida (1) TEL	PEL	NOAA(2) ERL	ERM
Organics (ng/g- dry weight)				
Total PCBs	21.550	188.79	22.70	180.0
PAHs				
Acenaphthene	6.710	88.90	16.00	500.0
Acenaphthylene	5.870	127.89	44.00	640.0
Anthracene	46.850	245.00	85.30	1100.0
Fluorene	21.170	144.35	19.00	540.0
2-methylnaphthalene	20.210	201.28	70.00	670.0
Naphthalene	34.570	390.64	160.00	2100.0
Phenanthrene	86.680	543.53	240.00	1500.0
Total LMW-PAHs	311.700	1442.00	552.00	3160.0
Benz(a)anthracene	74.830	692.53	261.00	1600.0
Benzo(a)pyrene	88.810	763.22	430.00	1600.0
Chrysene	107.710	845.98	384.00	2800.0
Dibenz(a,h)ant hracene	6.220	134.61	63.40	260.0
Fluoranthene	112.820	1493.54	600.00	5100.0
Pyrene	152.660	1397.60	665.00	2600.0
Total HMW-PAHs	655.340	6676.14	1700.00	9600.0
Total PAHs	1684.060	16770.54	4022.00	44792.0
Pesticides				
p,p'-DDE	2.070	374.17	2.20	27.0
p,p'-DDT	1.190	4.77	n/a	n/a
Total DDT	3.890	51.70	1.58	46.1
Lindane	0.320	0.99	n/a	n/a
Chlordane	2.260	4.79	2.00	6.0
Dieldrin	0.715	4.30	n/a	8.0
Endrin	n/a	n/a	n/a	45.0
Metals (μg/g-dry weight)				
Arsenic	7.240	41.60	8.20	70.0
Antimony	n/a	n/a	2.00	25.0
Cadmium	0.676	4.21	1.20	9.6
Chromium	52.300	160.40	81.00	370.0
Copper	18.700	108.20	34.00	270.0
Lead	30.240	112.18	46.70	218.0
Mercury	0.130	0.70	0.15	0.7
Nickel	15.900	42.80	20.90	51.6
Silver	0.733	1.77	1.00	3.7
Zinc	124.000	271.00	150.00	410.0

(1) D.D. MacDonald, 1994; (2) Long *et al.* 1995 & Long and Morgan, 1990

Table 10. Individual Chemical Screening Values for the BPTCP.

Chemical Name	MDL	# Analyzed	# above MDL	Highest Value	90% Threshold	95% Threshold	ERM Guideline Value
Aluminum	1	603	603	165,000	83,000	101,000	n/a
Antimony	0.1	603	603	52.8	3.35	5.35	25
Arsenic	0.1	544	544	1140	21.2	26	70
Cadmium	0.002	603	603	27.9	1.76	2.67	9.6
Chromium	0.02	603	603	860	212	250	370
Copper	0.003	603	603	7,800	300	400	270
Iron	0.1	603	603	336,300	55,300	59,900	n/a
Lead	0.03	603	603	2100	120	171	218
Manganese	0.05	603	603	1190	630	682	n/a
Mercury	0.03	603	603	9.14	0.969	1.54	0.7
Nickel	0.1	550	550	167	88	109	51.6
Silver	0.002	603	603	35.7	1.58	2.22	3.7
Selenium	0.1	544	386	35.7	1.09	1.9	n/a
Tin	0.02	603	603	92.9	9.03	12	n/a
Zinc	0.05	603	603	6,000	490	630	410
Aldrin	0.5	621	22	8.2	4.7	8.2	n/a
Chloropyrifos	1	444	130	78	28	44.4	n/a
Total Chlordane	3	612	403	246	44.57	69.5	6
Dacthal	0.2	465	59	25.2	7.51	19	n/a
Total DDT	5.4	621	507	3,569	235.5	471.9	46.1, 100/OC
p',p'-Dichlorobenzophenone	3	465	46	63.3	30.6	35.2	n/a
Dieldrin	0.5	618	210	62.6	11.7	16.8	8
Endosulfan I	0.5	606	17	19.6	13.4	19.6	n/a
Endosulfan II	1	606	59	59.8	10.4	13.8	n/a
Endosulfan Sulfate	2	606	40	163	21	45.6	n/a
Endrin	2	618	15	21.8	16.4	21.8	45
Ethion	2	69	4	36.4	36.4	36.4	n/a
alpha-HCH	0.2	465	14	292	26.1	292	n/a
beta-HCH	1	465	6	56.8	56.8	56.8	n/a
gamma-HCH (Lindane)	0.2	618	43	8.4	2.82	8.24	0.99 (PEL)
delta-HCH	0.5	465	11	99.4	14.4	99.4	n/a
Heptachlor	0.5	621	58	15.8	4.5	7.3	n/a
Heptachlor Epoxide	0.5	618	27	17.8	2.5	3.1	n/a
Hexachlorobenzene	0.2	621	174	59.7	3.63	7.07	n/a
Methoxychlor	1.5	606	60	131	55.3	78.6	n/a
Mirex	0.5	620	25	103	2.6	3.74	n/a
Oxadiazon	6	465	12	114	45.8	114	n/a
Oxychlordane	0.5	465	37	30.3	10.7	12.3	n/a
Toxaphene	50	609	10	15,700	3,200	15,700	n/a
Tributyltin	0.003	555	555	6.21	0.422	0.724	n/a
Total PCB	9	684	628	19,901	497	865	180
Acenapthene	5	624	320	1,350	140	272	500
2-Methylnapthalene	5	624	446	15,700	131	243	670
Benzo[a]pyrene	5	628	610	47,300	1660	2720	1600
Dibenz[a,h]anthracene	5	628	498	15,500	343	541	260
LMW PAHs	60	624	473	92,097	2,585	4,253	3,160
HMW PAHs	60	628	606	225,740	15,727	24,473	9,600
Total PAHs	60	628	628	227,801	17,107	27,485	44,792
Total Organic Carbon	n/a	686	686	26.8	3	4.01	n/a
Grain Size	n/a	689	n/a	100	98.16	99.6	n/a
ERM Summary Quotient	n/a	546	n/a	3.94	1.01	1.3	n/a
PEL Summary Quotient	n/a	553	n/a	7.8	1.52	1.95	n/a

Primary Chemicals of Concern

Figure 5 presents a summary of the chemicals and chemical groups that exceeded sediment chemistry guideline values for the 34 trace metal samples and 33 trace organic samples on which sediment chemical analysis was performed (note the number of organic analytes measured varied among stations, refer to Appendix C). Based on the available data, the North Coast Region has relatively few chemicals that exceeded ERM or PEL guideline values. This is characteristic of the relatively pristine nature of the region. Preservation of the pristine nature of this region is an objective which validates use of guidelines which are more environmentally conservative than those used in more industrialized areas of the state. Therefore, to provide a more extensive evaluation of the chemical composition of this region it was necessary to include ERL and TEL guideline exceedances. These guideline values are substantially lower than their respective ERM and PEL counterparts. It should be stressed these values were intended to represent chemical concentrations towards the lower end of the effects range, the level below which biological effects were rarely observed (Long *et al.* 1998). However, in the case of the North Coast Region, these lower guideline values provide a cautious estimate for chemicals of potential concern in the environment. The chemicals that most often exceeded ERM or PEL guideline values were chromium, nickel, PAHs and lindane. Although copper, mercury, and zinc, did not exceed ERM or PEL guidelines values, these chemicals often exceeded ERL or TEL guideline values and may have a potential impact on the environment.

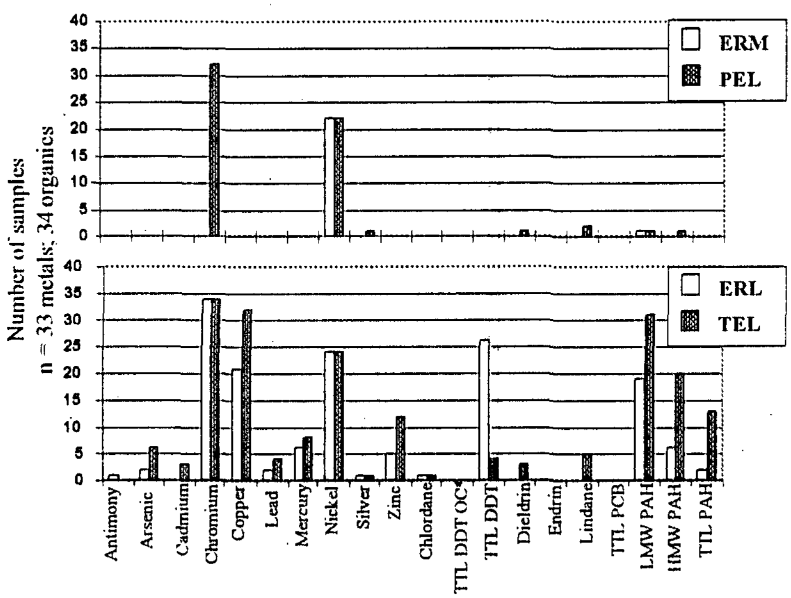

Figure 5. Samples with chemical guideline exceedances
* total DDT [n = 27] is normalized to TOC.

In addition to sediment chemical analysis, tissue samples were collected from 10 stations. Resident and transplanted mussels, oysters, crabs and polychaete worms were analyzed for a variety of chemicals, and results are shown in Appendix C, sections VI through X. To further evaluate the extent of chemical bioaccumulation within the North Coast Region, data collected by the California State Mussel Watch Program (SMWP) were reviewed. The SMWP has been evaluating bioaccumulation in mussels, fresh water clams, and oyster tissues since the mid 1970s and has 15 stations which correspond to BPTCP stations (Figures 6, 7). When applicable these SMWP stations also were assessed for chemical contamination and provided supplemental information about stations. Tissue chemical concentrations were evaluated based on recommended U.S. EPA human health risk screening values (USEPA, 1995b). These screening values are based on the general U.S. population's average consumption rate for fish and shellfish, although many North Coast residents naturally exceed those consumption rates. In addition to EPA screening values, two criteria used in SMWP reports (Rasmussen, 1995; 1996), Elevated Detection Levels (EDLs) and Maximum Tissue Residual Levels (MTRLs) were evaluated as well. SMWP EDLs were established to provide a comparative measure that ranks a given concentration of a particular substance with previous data collected by the SMWP (Rasmussen, 1996). An exceedance of the 85th or 95th percentile indicates the sample was significantly elevated above the median concentration values for the SMWP data set. MTRLs were set by the SWRCB staff for protection against consumption of fish and shellfish that contain substances at levels which could result in significant human health problems (SWRCB, 1990a; 1990b; 1991). These conservative estimates are important in protecting the sensitive seafood and shellfish industries. In general, tissue samples had organic compound concentration levels, such as pesticides, BTEX and TPH, which were below detection limits (Appendix C). Thereby indicating relatively low levels of tissue contamination in the North Coast Region. Nevertheless, tissue samples did have several trace metals detected in patterns similar to those found in sediment samples. For example both tissue and sediment samples had elevated levels of chromium and nickel at several stations and there were a few cases of relatively greater concentrations of copper and mercury in the two media types.

Chromium and nickel sediment concentrations within the North Coast exceeded PEL guideline values at a majority of stations analyzed. In fact, samples were often greater than the 90th percentile for sediment concentrations measured within the state (>212 ug/g and >88 ug/g for chromium and nickel respectively). There are many anthropogenic means by which chromium and nickel can be introduced in the environment. Both are commonly used in construction of metal alloys, protective coatings on other metals, magnetic tapes, paints, cement, wood preservatives, photochemical processing, coal gasification, petroleum refining, hydrogenation of fats and oils and municipal waste water discharges. Although these chemicals have the potential to adversely effect the environment, it is important to consider the distinction between natural and anthropogenic sources. Chromium and nickel are considered rare earth elements, and generally are found in greater concentrations due to crustal abundances (Mearnes and Young, 1977; Cornwall, 1966). Chromium is found in quantities sufficient to mine in 24 counties of California, with high grade ore deposits throughout much of northern California (Bradley *et al.* 1918). Nickel bearing rock formations also have been described throughout northern California (Cornwall, 1966; Foose, 1992).

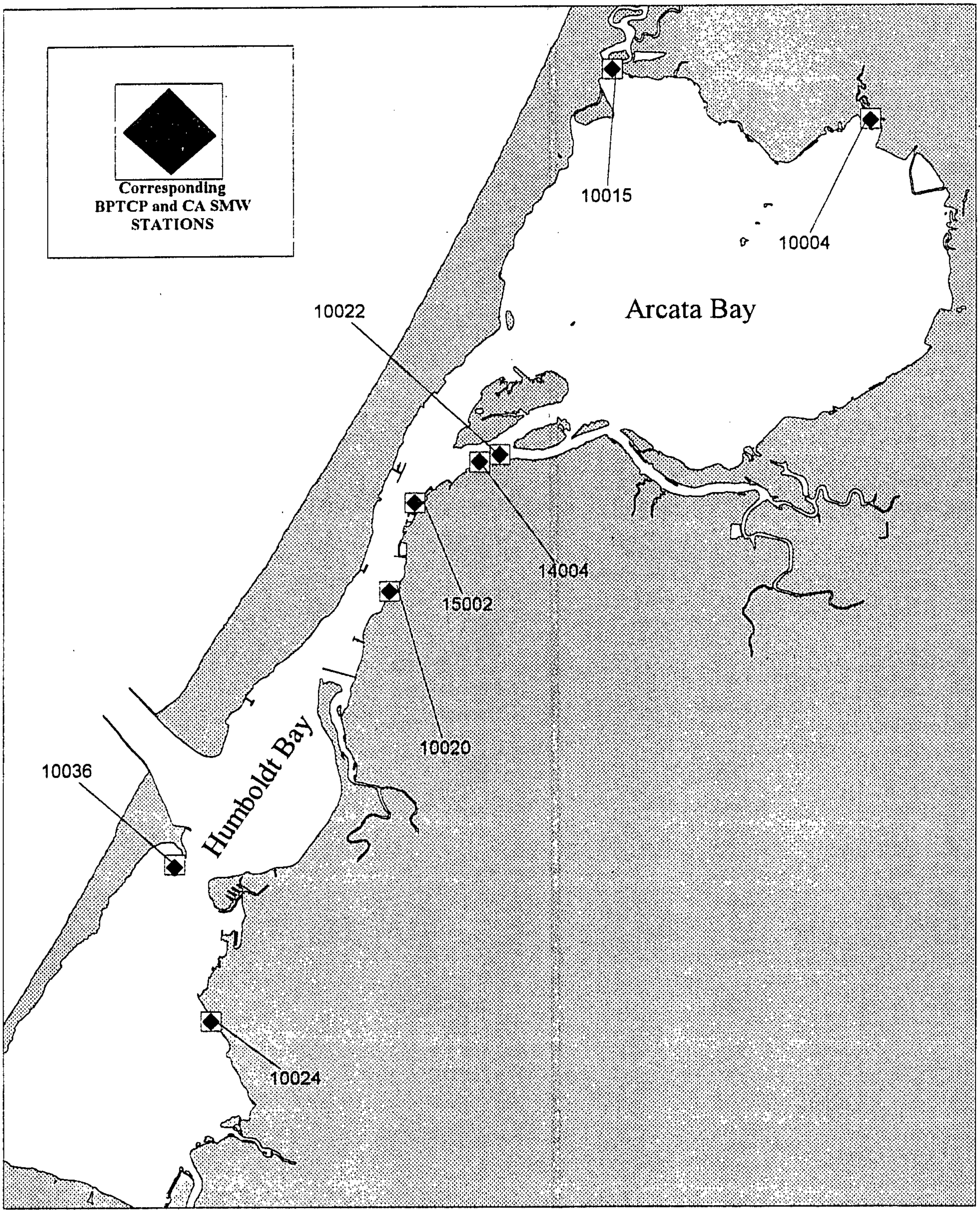

Figure 6. Bay Protection Toxic Cleanup Program stations which have corresponding State Mussel Watch stations. These stations were not sampled synoptically.

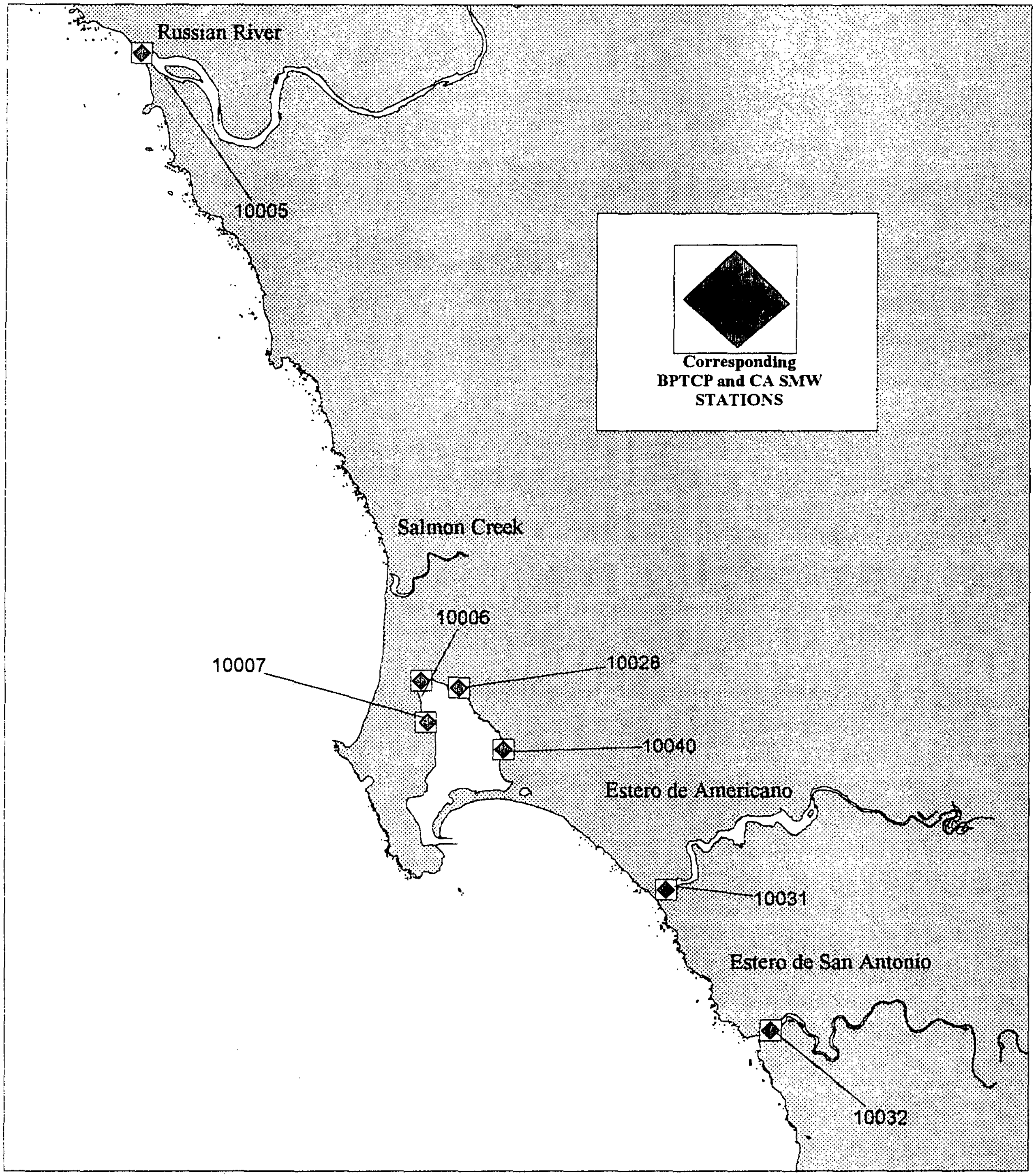

Figure 7. Bay Protection Toxic Cleanup Program stations which have corresponding State Mussel Watch stations. These stations were not sampled synoptically.

To definitively determine whether elevated metal concentrations are due to the geologic composition of an area or if they are a result of industrial activities, a more extensive chemical analysis must be performed than those completed for this study. However, a benthic surveillance survey conducted by NOAA (1994) attempted to distinguish between background metal concentrations and anthropogenic inputs at a variety of locations throughout the west coast of the United States, including Bodega Bay. The NOAA study evaluated extractable metal concentration ratios (Katz and Kaplan, 1981) and concluded Bodega Bay sediments had greater chromium concentrations due to the geological components of the area. Although nickel had a relatively greater concentration of extractable metal, it was determined not to be unusually great because of similar elevated concentrations throughout most of northern California. Thus it was concluded that these greater concentrations of nickel were probably due to the natural weathering of rock formations or possibly from river inputs. Based on the NOAA (1994) findings, it appears the North Coast Region's levels of both chromium and nickel could be caused by the geologic composition of the area rather than anthropogenic inputs. This distinction between acceptable background levels and anthropogenic inputs is further supported by the fact that several samples, which had elevated concentrations of both chromium and nickel, were non toxic during amphipod survival tests. Therefore, although found in elevated concentrations, chromium and nickel currently will not be considered pollutants of concern.

Polycyclic aromatic hydrocarbons (PAHs) were considered a chemical group of concern within the North Coast Region during this study. This is due to their frequent exceedances of lower level sediment quality guideline values and their potential for broad biological impacts. Because of their similar modes of toxic action, individual PAHs often are grouped into low and high molecular weight compounds. Individual PAHs used for the summations of low and high molecular weight PAHs and total PAHs are given in Appendix C -Section IV and X. Only station 14002, located on the northern most reach of the Eureka waterfront, exceeded both the ERM and PEL guideline values (4759.2 ng/g) for low molecular weight PAHs. Many other stations had low, high, and total PAHs concentrations greater than TEL and PEL guideline values. Figures 8, 9 depict those stations exceeding low molecular weight PAHs' sediment quality guidelines. Samples with greater PAH concentrations were found primarily near the central and northern portion of the Eureka Waterfront and within the northern boat harbors of Bodega Bay where vessel traffic is more concentrated. Similar distribution patterns also were displayed by individual PAH compounds, such as 2- methylnaphthalene, fluoranthene (FLA), phenanthrene (PHN), and Pyrene (PYR), in which PEL guideline values often were exceeded. SMWP data (Rasmussen 1995) also indicated PAH levels above MTRLs for transplanted mussels at corresponding stations along the Eureka Waterfront. In addition to these stations SMWP data further indicate stations 10007, 10015, 10024,10031, and 10036, which were not analyzed for PAHs during this study, may be of concern because they exceed total PAHs MTRLs for resident mussels. PAHs are components of crude and refined petroleum products and also are products of incomplete combustion of organic materials. Exposure to PAHs may result in a wide range of carcinogenic and mutagenic effects to terrestrial and aquatic organisms (Eisler, 1987). This is of particular concern in Humboldt Bay, Bodega Bay, and the Esteros vicinity with respect to commercial shellfish production and seafood harvesting.

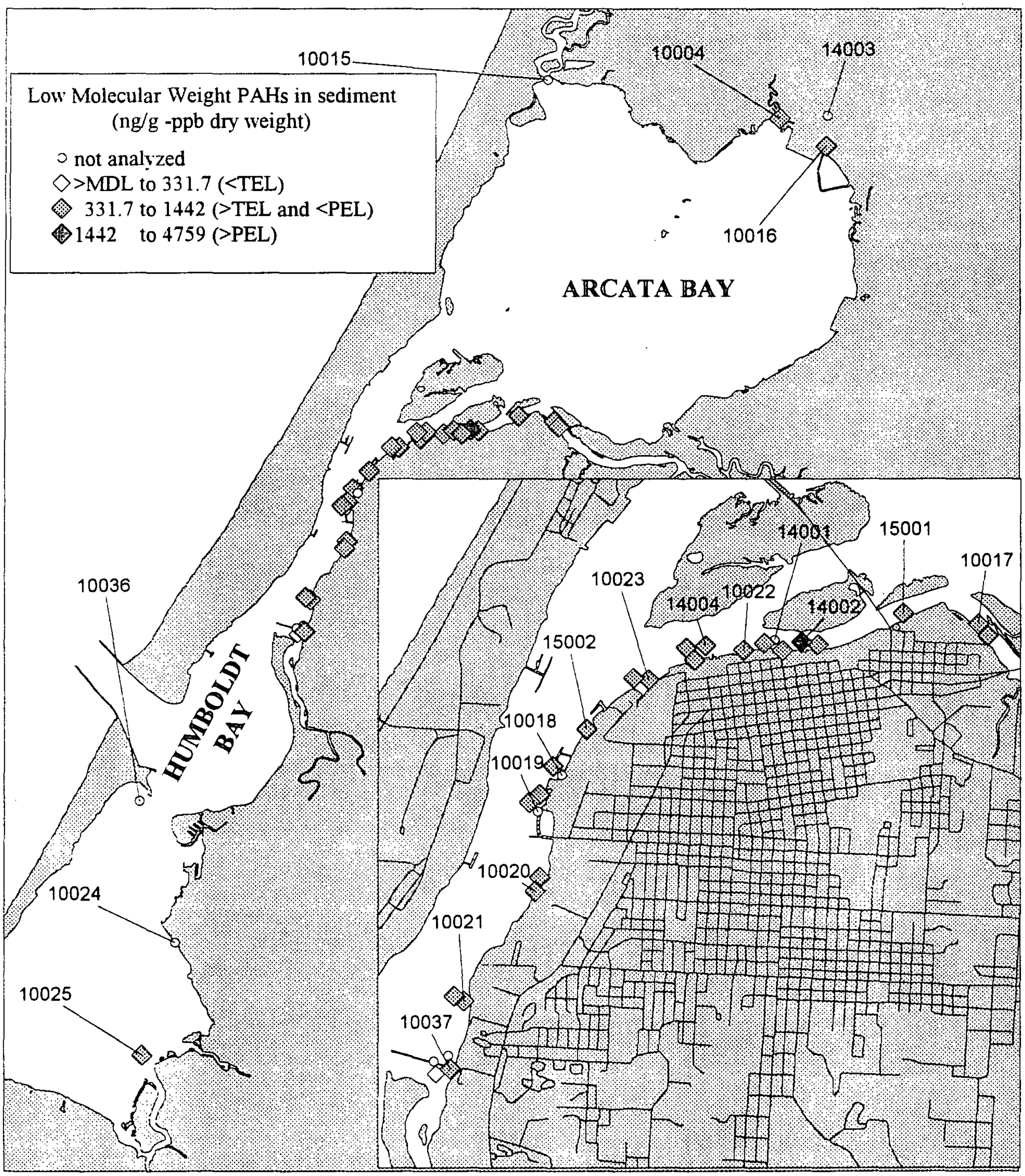

Figure 8. Low molecular weight PAHs concentration in sediments.

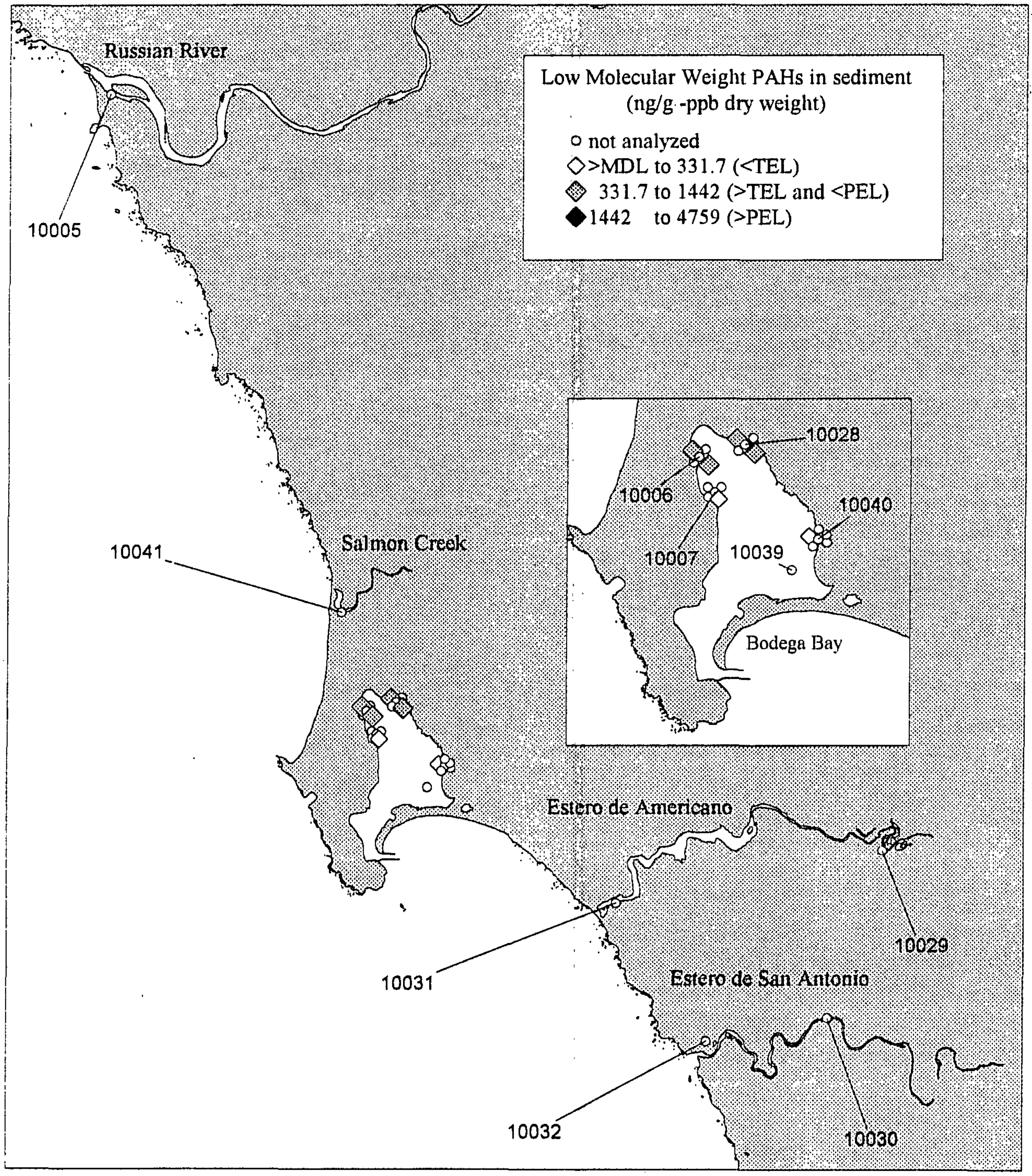

Figure 9. Low molecular weight PAHs concentration in sediments.

Lindane is considered a potential chemical of concern because it exceeded the PEL guideline value of 0.99 ng/g at two stations along the central portion of the Eureka waterfront (Figures 10, 11). There were three additional stations that had TEL exceedances (>0.320 ng/g). These TEL exceedances were located in the northern section of the Eureka waterfront and the southern most station in Arcata Bay. Tissue data were not analyzed for lindane during this study; nevertheless, recent SMWP data (Rasmussen, 1995) indicate one 85^{th} percentile EDL exceedance at station 10031. Sediment organic chemistry was not analyzed at this station therefore, lindane sediment concentrations can not be evaluated. Lindane is used primarily as an insecticide on hardwood logs and lumber, seeds, fruits, vegetables, hardwood forests, existing structures, and livestock and pets (for external parasite control). Since 1985, many uses of lindane have been banned or restricted because it is classified as a "probable/ possible" human carcinogen (Howard, 1991).

Although copper never exceeded ERM or PEL guideline values, it is considered a potential chemical of concern, for the region, due to multiple ERL and TEL exceedances. Copper concentrations were above ERL (>34.0 ug/g) or TEL (>18.7 ug/g) values throughout the Eureka waterfront and in Arcata Bay (Figures 12, 13). The two boat harbors in the northern portion of Bodega Bay also were found to exceed ERL and TEL values. Tissue samples from resident mussel collected along the Eureka waterfront, at stations 14002 and 14001, exceeded SMWP 95^{th} percentile EDLs. Furthermore, SMWP stations corresponding to BPTCP stations 10005, 10006, 10028, 10031, 10040 also were found to exceed the 85^{th} and 95^{th} percentile copper EDLs of 1.55 ug/g and 2.01 ug/g respectively. Copper is a broad spectrum biocide which may be associated with acute and chronic toxicity, reduction in growth, and a wide variety of sublethal effects (Spear and Pierce, 1979). Copper often is found to occur in excess concentrations at those stations associated with urbanization, shipyard operations and repair activities (NOAA, 1994). Several boat harbor exist along the Eureka waterfront and copper also is known to enter the environment through the dissolution of antifouling paints in boat harbors.

Zinc was another trace metal that never exceeded ERM or PEL guideline values, but did have several exceedances of ERL levels (>150 ug/g) or TEL levels (>124 ug/g). As with copper, greater concentration of zinc were found in the northern portion of the Eureka waterfront, the northeast corner of Arcata Bay and in the northern portion of Bodega Bay (Figures 12, 13). BPTCP resident mussel tissue samples collected in the northern end of the Eureka Waterfront (stations 14001, 14002, and 15001) exceeded SMWP 85^{th} percentile EDLs as did the SMWP data located in the southeastern portion of Bodega Bay. Zinc can be introduced into the environment by the pulp and paper industry and often is associated with industrial activities (Dexter *et al.* 1985) and harbors due to sacrificial zinc anodes on boats.

Mercury was not found to exceed ERM or PEL guideline values but could be of concern due to several ERL and TEL sediment guideline value exceedances. ERL exceedances (> 0.15 ng/g) and TEL exceedances (>0.130 ng/g) of mercury were found at seven stations, primarily along the Eureka waterfront and the eastern portion of Arcata Bay (Figures 12, 13). Mercury concentrations also exceeded ERL and TEL guideline values at the two northern most boat harbors in Bodega Bay (stations 10006 and 10028). Tissue data indicated mercury concentrations above Mussel Watch's 85^{th} percentile EDL for resident mussel tissue at station 14002, located on the Eureka waterfront. Recent SMWP data (SWRCB, unpublished) also indicate elevated mercury levels at stations which were not analyzed for tissue chemistry during this study

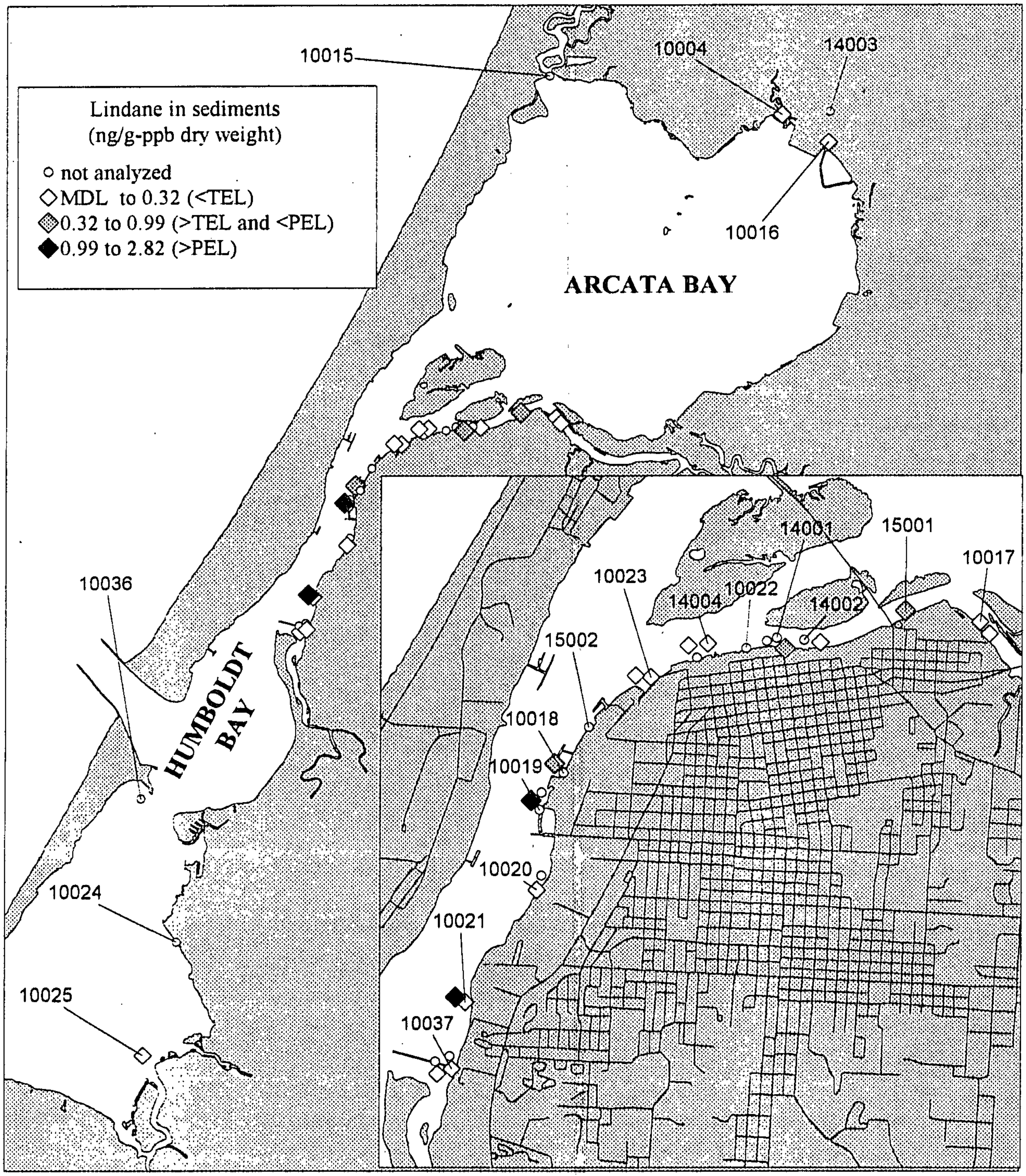

Figure 10. Lindane concentrations in sediments.

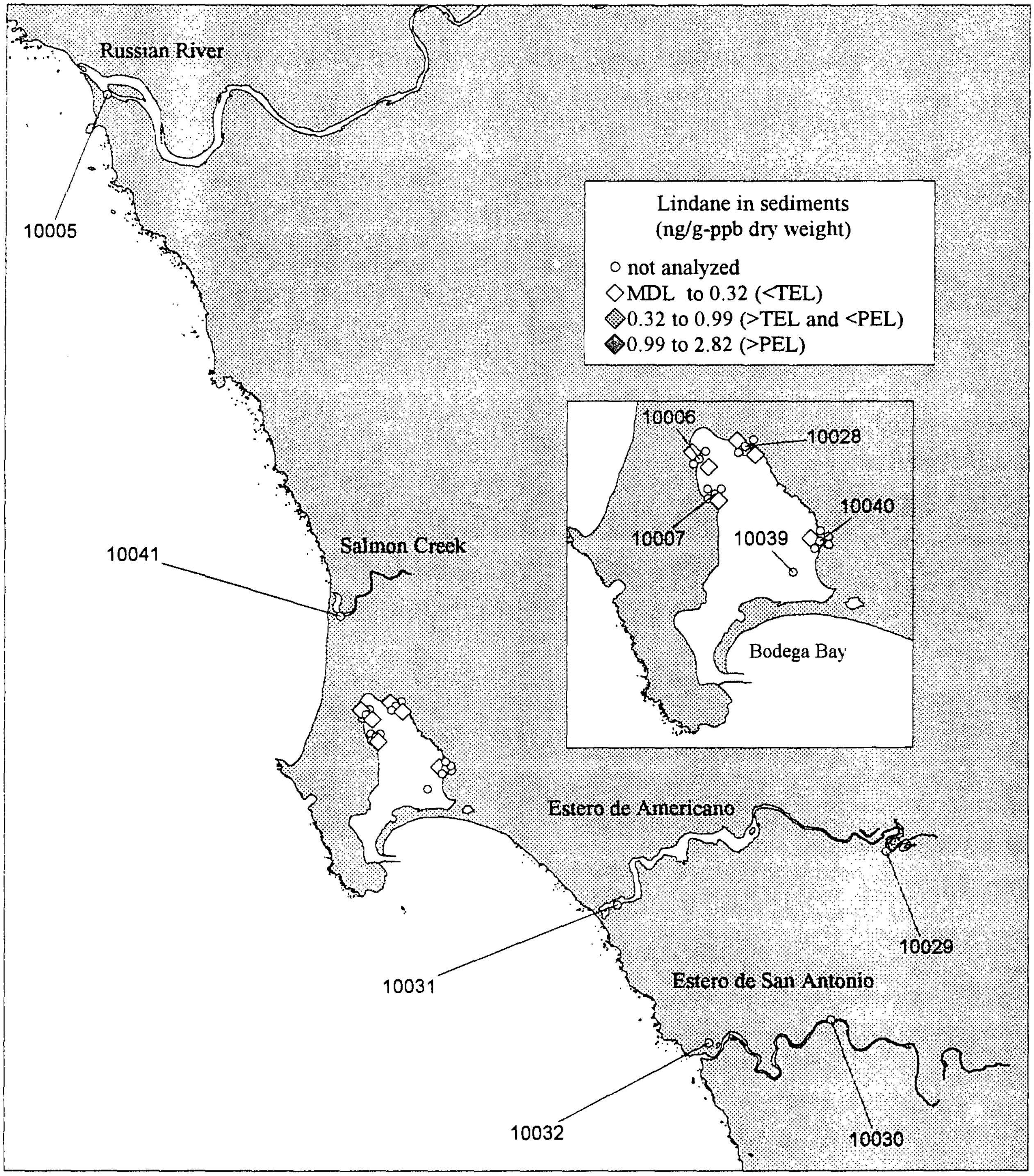

Figure 11. Lindane concentrations in sediments.

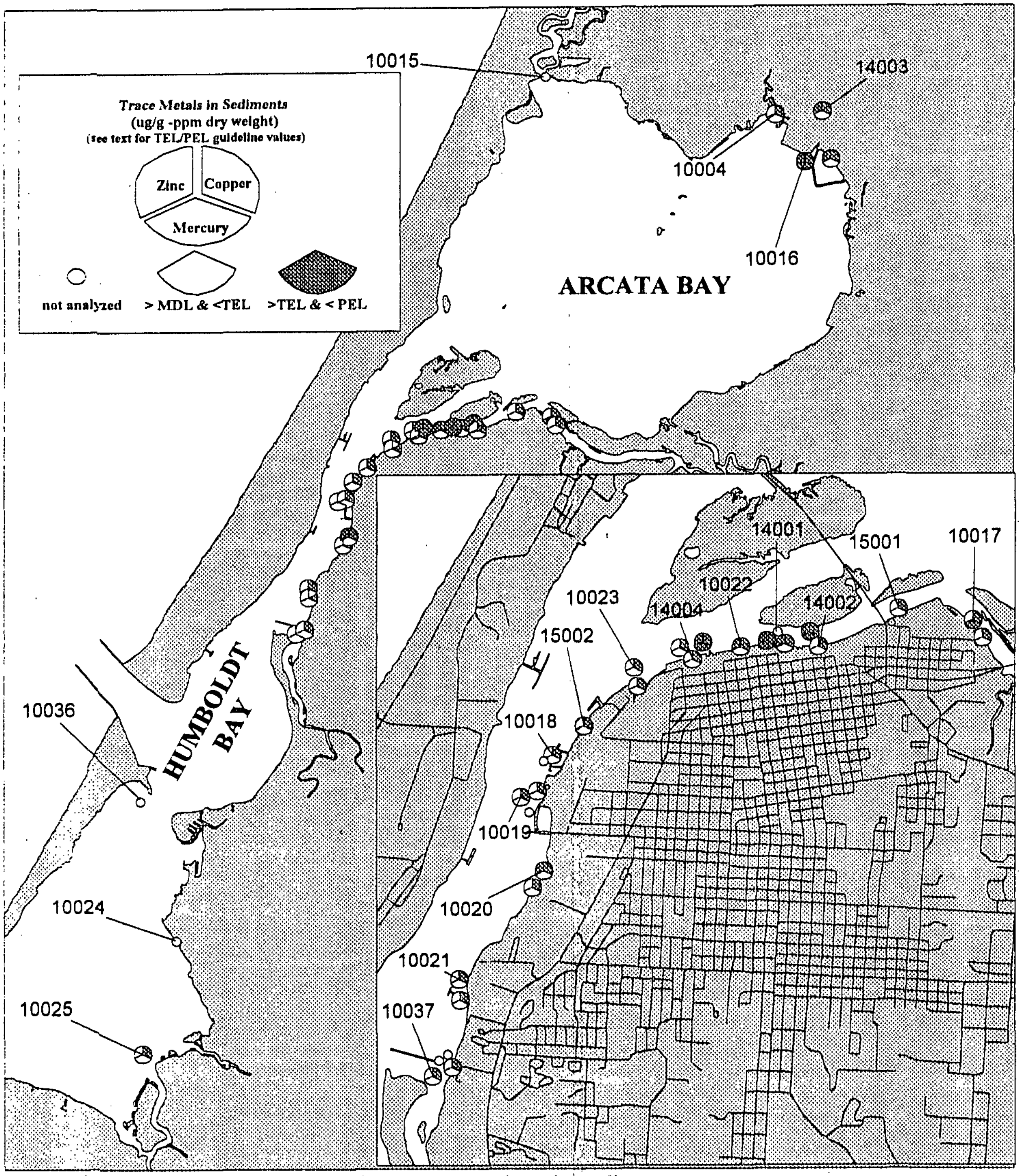

Figure 12. Copper, mercury and zinc concentrations in sediments.

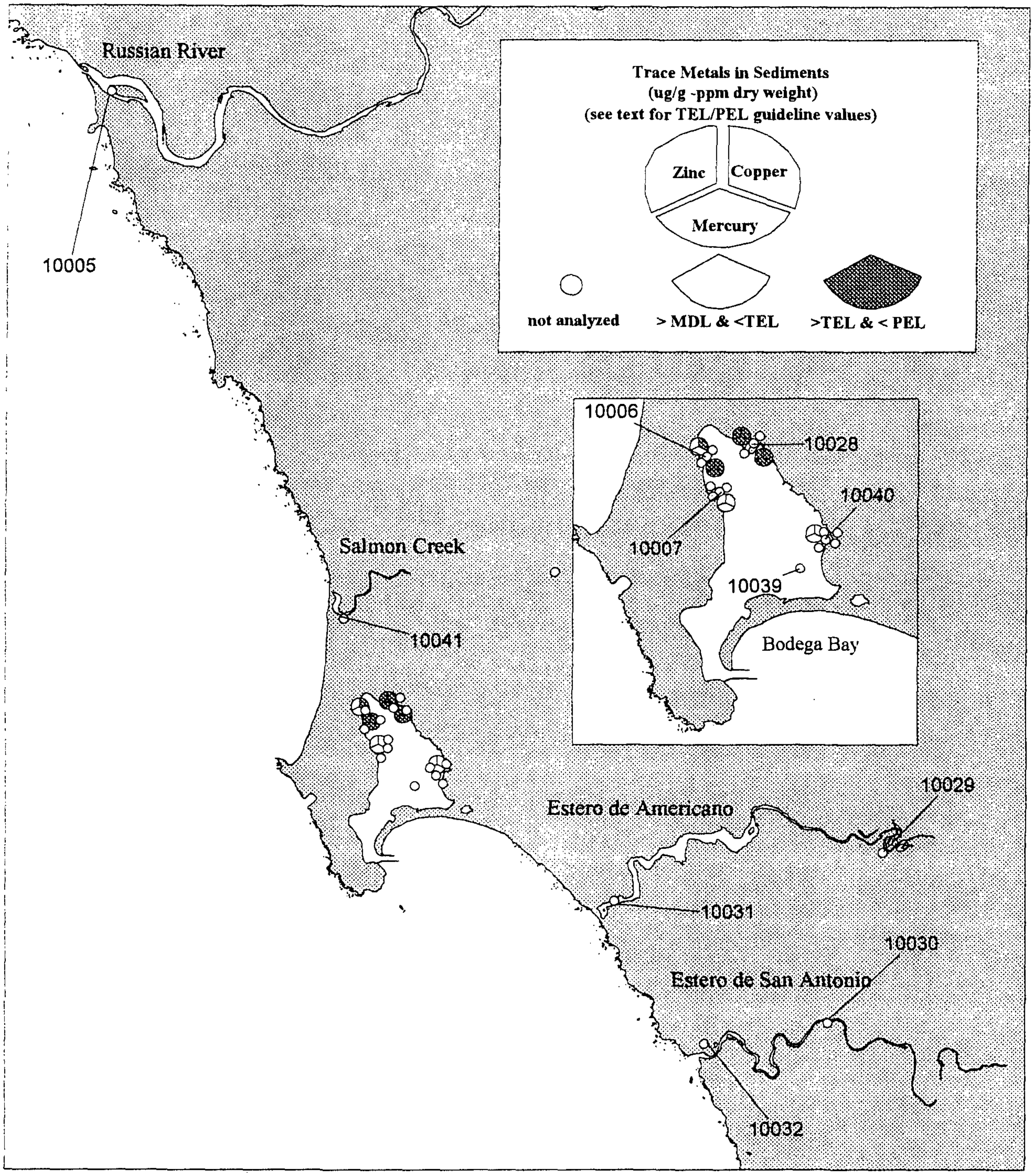

Figure 13. Copper, mercury, and zinc concentrations in sediments.

(stations 10006, 10007, and 10028). Mercury, particularly methylmercury, is highly toxic to aquatic biota. Although there is variability in sensitivity of different organisms to the substance, bioaccumulation of mercury in aquatic species has significant implications with respect to human health (U.S. EPA, 1995b).

ERM, PEL Summary Quotients

In this report, comparisons of the data to effects-based numerical guidelines (ERM and PEL) were made to assess how sediment pollution in the North Coast Region compares to sediment pollution on a state and national scale. Additionally, these guidelines were used to identify stations of concern for sediment quality management within the North Coast Region.

Comparisons were made in this report using chemical summary quotients (ERMQ & PELQ) as described previously by Fairey *et al.* (1998). Summary quotients are summations of chemical concentrations for chemicals listed in Table 9, divided by their respective ERM or PEL value, and then divided by total number of chemicals used. In samples where levels of measured chemicals were below the analytical method detection limit (MDL), a value of one-half the MDL was used for summations. Summary quotients are being employed to evaluate BPTCP data throughout the state. However, due to differences in the data set for Region 1 the calculation of the summary quotient has been modified slightly relative to other BPTCP summary quotient calculations. A more detailed description of methods and analytes used for summations and averaging are given in Appendix C- Section VI.

The use of summary quotients was a simple approach for addressing overall chemical pollution where there were multiple pollutants at a station, and was in addition to the standard chemical by chemical approach discussed earlier. This approach considered not only the presence of guideline exceedances, but the number and degree of multiple exceedances. Based upon analyses of the national NS&T and EMAP database, the incidence of toxicity has been shown to increase with increasing summary ERM and PEL quotients (Long *et al.* 1998). Synergistic effects are possible, but not implied by the quotient summations, therefore, this method should be recognized only as a categorization scheme meant to better focus management efforts on interpretation of ambient sediment chemistry data.

Long *et al.* (in press) examined the use of sediment quality guidelines and the probability of toxicity being associated with summary quotient ranges. This extensive national study developed four sediment categories to help prioritize areas of concern, based on the probability of toxicity being associated with summary quotient and ERM/PEL guideline exceedances. Medium-high and highest priority sites had ERM quotients >.0.51 or PEL quotients >1.51 because the probability of associated amphipod toxicity was greater than 46%. Sites with sediments having ERM quotients <0.5 or PEL quotients <1.5 were generally assigned to lower categories (medium-low or low priority) because the probability of associated toxicity was less than 30%. Sediment chemistry samples in the current study ranged from 0.095-0.243 for the ERM quotients and 0.187-0.528 for PEL quotients. Therefore, in a national comparison, North Coast stations could be considered low to medium-low priority sites because all samples fall below the ERMQ and PELQ thresholds of 0.5 and 1.5, respectively.

Summary quotients also were used in the current study to evaluate relative chemical concentrations at stations within California and the North Coast Region. Twenty-five sediment samples received the extensive chemical analyses from which summary quotients were derived. The upper 90th percentiles, for sediment summary quotient ranges, for the North Coast Region, were ERMQ> 0.201 and PELQ >0.422 (Figure 14). These values are used later in the report to help identify stations that exceeded regional chemistry screening levels. Although these values cannot be considered threshold levels with proven ecological significance, they can be used for comparative purposes to indicate the worst 10% of the samples in the region, with respect to concentrations of chemical mixtures. This approach has been used previously in the BPTCP in the San Diego Bay Region. The San Diego Region's upper 90th percentiles for summary quotients were ERMQ> 0.85 and PELQ> 1.29 (Fairey *et al.* 1998) (Table 10). Calculated summary quotient values allow for comparisons to be made between state regions. In this case, they indicate that the North Coast Region has relatively low pollutant levels relative to the highly urbanized and industrialized harbor environments of southern California. In fact, North Coast summary quotient values are less than a third of San Diego's values. Based on a state-wide comparison, the North Coast Region's summary quotients again are considerably less than California's 90th percentile summary quotient values (ERMQ>1.01 and PELQ>1.52). However, these low values are to be expected because California's north coast is not as heavily populated or industrialized as much of California. Although it is apparent that the North Coast Region's quotient values are lower than in other areas of the state they should not be used to infer that chemical pollution does not exist at discrete locations within the region. An in depth evaluation of individual pollutants must be made concurrently with this indicator of multiple chemical contaminants when station specific evaluations are made.

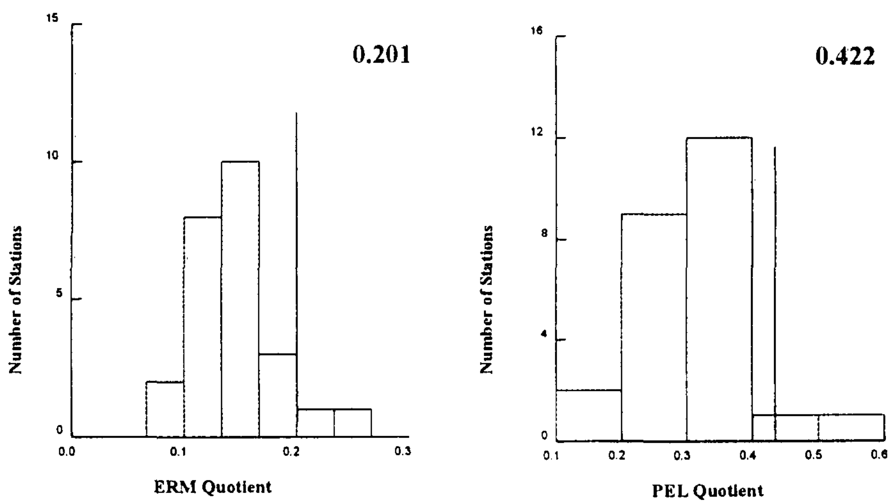

Figure 14. Frequency histogram of ERM and PEL Summary Quotient Exceedances. Vertical lines indicate 90th percentiles for 25 samples.

Distribution of Toxicity

The results of all toxicity tests conducted as part of this study are presented in Appendix E. These tables show means and standard deviations for each toxicity test response (*e.g.* percent survival of amphipods; percent normal development of larval sea urchins) for replicates of each sample tested. Associated ammonia and hydrogen sulfide concentrations also are presented in Appendix E. All samples were screened against water quality thresholds shown in Table 11. A sample was classified as toxic if the test response was significantly different from controls as indicated by a t-test and was lower than a threshold percentage of the control value calculated using the 90th percentile MSD for the particular toxicity test protocol (see methods section).

Table 11. Unionized NH_4 and H_2S Effects Thresholds for BPTCP Toxicity Test Protocols.

Species	Unionized NH_4 (mg/L)	Limit Definition	Reference
Eohaustorius	0.8	Application Limit	USEPA 1994
Haliotis	0.05	NOEC	MPSL
Mytilus	0.15	LOEC	Tang *et al.* 1997
Neanthes	1.25	LOEC	Dillon *et al* 1993
Rhepoxynius	0.4	Application Limit	USEPA 1994
Strongylocentrotus Devel.	0.07	NOEC	Bay *et al.* 1993
Strongylocentrotus Fert.	>0.4	NOEC	Bay *et al.* 1993
Species	H_2S (mg/L)	Limit Definition	Reference
Eohaustorius	0.114	LOEC	Knezovich *et al.* 1996
Mytilus	0.0053	LOEC	Knezovich *et al.* 1996
Rhepoxynius	0.087	LOEC	Knezovich *et al.* 1996
Strongylocentrotus Devel.	0.0076	LOEC	Knezovich *et al.* 1996
Strongylocentrotus Fert	0.007-0.014	NOEC	Bay *et al.* 1993

Twenty-nine of the 31 stations sampled were tested for toxicity using solid phase amphipod survival tests. Several stations were tested more than once, bringing the total amphipod test count to 57. Of those samples, 23% were found to be toxic to either *Eohaustorius* or *Rhepoxynius*, with amphipod survival ranging from 38-99%. Twenty-five percent (5 out of 20) *Eohaustorius* samples were toxic. Twenty-two percent (8 out of 37) samples tested using *Rhepoxynius* were toxic. Stations shown to be toxic were scattered along the northern section of the Eureka waterfront, at the northern most station in Arcata Bay, and at the three boating marinas in Bodega Bay (Figures 15, 16).

Samples that were toxic to amphipods, and had synoptic chemical analysis performed on them, all had at least one ERM or PEL exceedance and at least 3 ERL or TEL exceedances. Three samples, taken from stations 10019, 10028, and 14001, had ERMQ or PELQ exceeding the 90th percentile levels (ERMQ> 0.201 and PELQ >0.422). Two samples (stations 10028 and 14001) out of three were found to have amphipod toxicity corresponding to chemical concentrations exceeding regional chemistry screening levels. These corresponding chemistry and toxicity results are greater than those predicted in the Long *et al.* (in press) study, discussed previously. Long *et al.* found stations with a mean ERM quotient value of 0.11 to 0.5 were toxic in amphipod survival tests only 30% of the time, while stations with a mean PEL quotient value of 0.11 to 1.5 were toxic only 25% of the time.

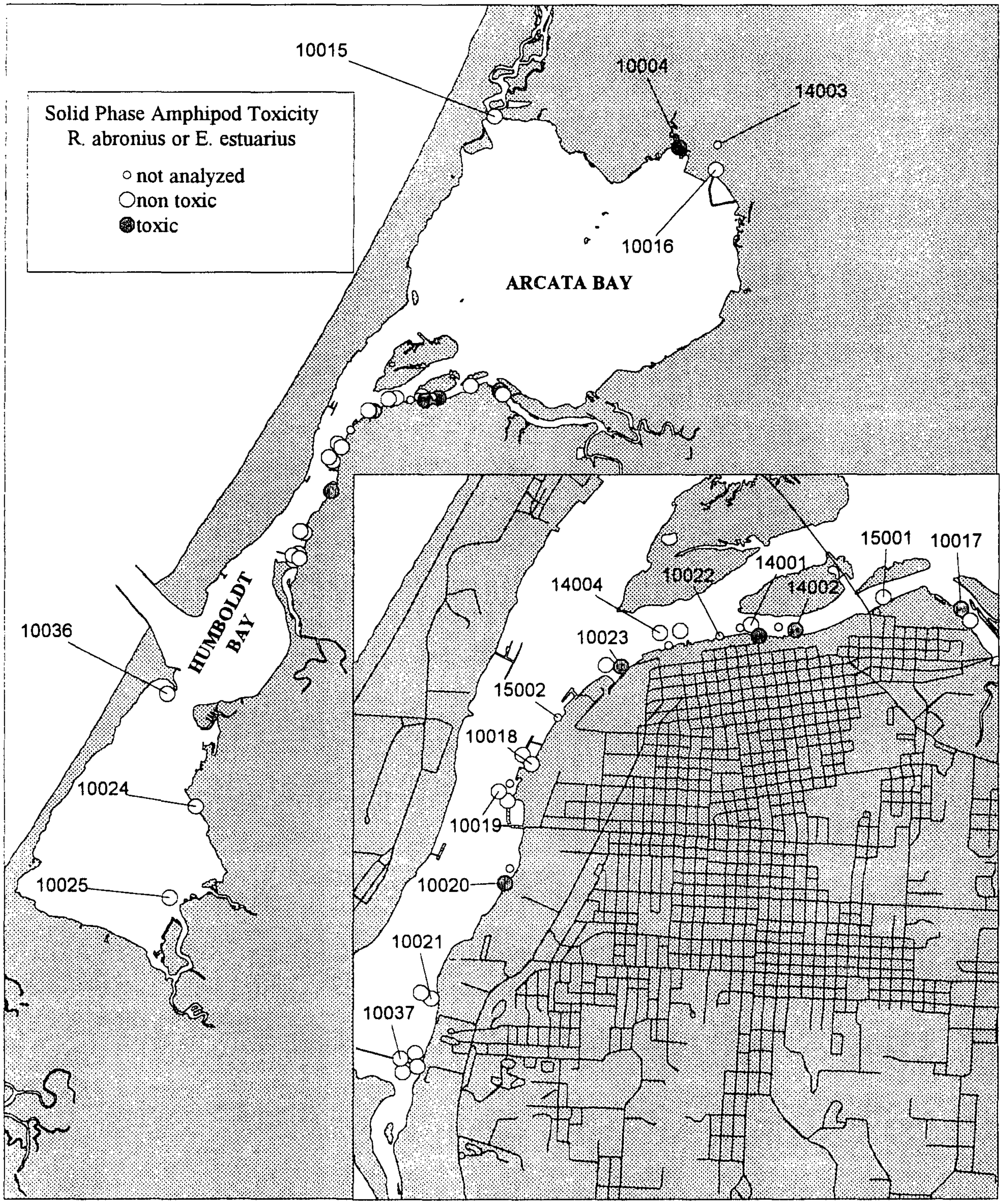

Figure 15. Humboldt and Arcata Bays toxicity. Samples were toxic if significantly different from controls using a t-test and less than control based MSD values (see text for toxicity definition).

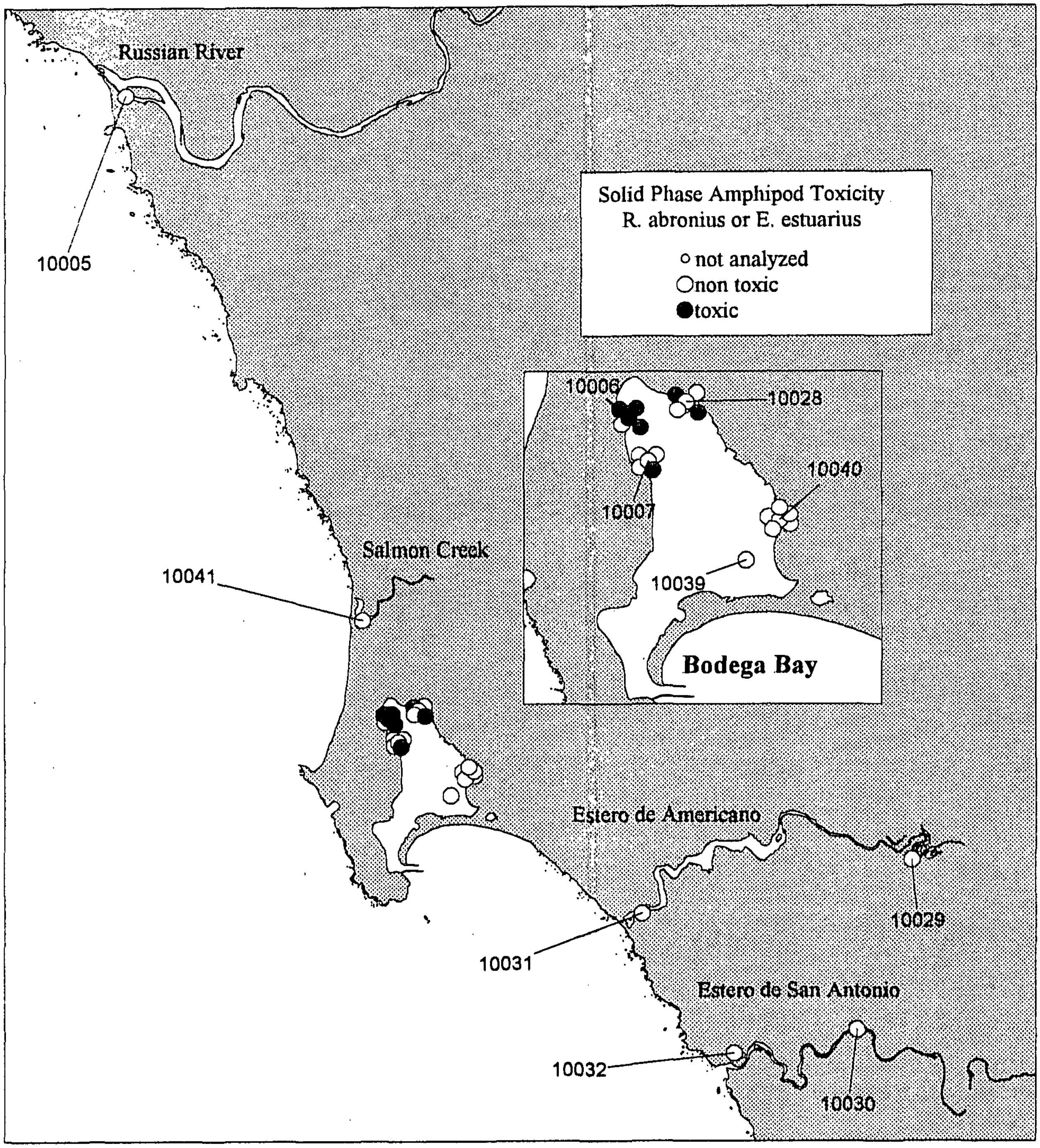

Figure 16. Humboldt and Arcata Bays toxicity. Samples were toxic if significantly different from controls using a t-test and less than control based MSD values (see text for toxicity definition).

In addition to amphipod toxicity testing, several supplemental toxicity tests were performed on selected stations within the North Coast Region. Nineteen subsurface water samples were tested with the red abalone (*Haliotis rufescens*) embryo-larval development test. None of these nineteen samples were found to be toxic. Twelve porewater samples, taken from the bioassay control station (station 10037), were tested using the sea urchin (*Strongylocentrotus purpuratus*) larval development test, and again none were found to be toxic at any three porewater concentrations. Thirty-one porewater samples had sea urchin fertilization tests performed, of these six were toxic. Although Carr and Chapman (1995) indicates no negative effects due to porewater sample freezing, frozen seawater controls used in this study were often found to inhibit sea urchin fertilization, presumably an artifact of freezing seawater in teflon bottles. Because all porewater samples were frozen prior to testing, sea urchin porewater fertilization test results were not used in station analysis. Four samples had sea urchin embryo-larval development test performed using the sediment-water interface exposure system (Figure 17). One of these four was found to be toxic; this sample also had amphipod toxicity. Seven samples had *Mytilus* spp. embryo-larval development test conducted in porewater and subsurface water (Figure 17). None of the subsurface water samples were found to be toxic; though, six out of seven porewater samples were shown to be toxic. Toxicity in several of these stations should be viewed with caution due to greater levels of unionized ammonia during the bioassays (unionized $NH_3 > 0.15$) (Tang *et al.* 1997). Stations located near Estero de Amercano, in south Bodega Bay, and in Salmon Creek Estuary (10032, 10040, and 10041), had acceptable unionized NH_3 levels and were found to be toxic. However, stations 10039 and 10029 greatly exceeded the unionized ammonia water criteria, and station 10030 was slightly greater than the criteria (unionized $NH_3=0.20$). Thirty-seven samples were tested with the polychaete, *Neanthes arenaceodentata,* survival and growth protocol, none were found to be toxic.

QA/QC Evaluation

Toxicity test data produced for this report were evaluated for acceptability using the Quality Assurance guidelines described in the BPTCP Quality Assurance Project Plan (Stephenson *et al.* 1994). With the exception of station 10037, there were no deviations from quality assurance criteria other than minor deviations of control criteria that were unlikely to affect sample assessment. IDORG numbers 900, 901, 902, 912, 913, and 914, all from station10037, had toxicity in brine controls. However, these IDORGs from station 10037 were not samples on which station evaluations were made. Instead they were primarily used for assessing test acceptability when examining subsequent samples from a southern California study. As stated previously, no sea urchin porewater fertilization tests were used in station analysis due to failures in frozen control tests.

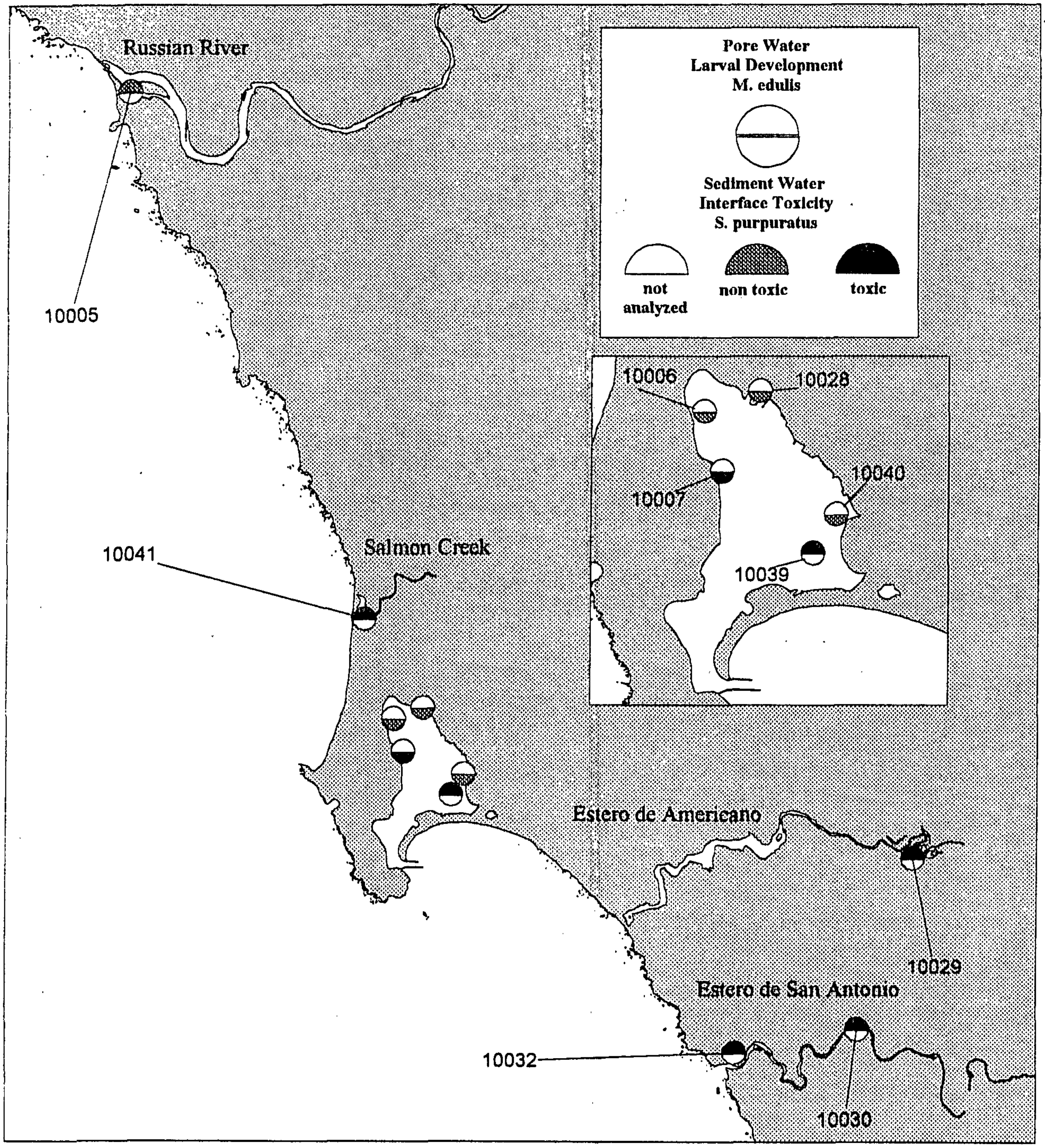

Figure 17. Humboldt and Arcata Bays toxicity. Samples were toxic if significantly different from controls using a t-test and less than control based MSD values (see text for toxicity definition).

Statistical Relationships Analysis

Multivariate statistics were used to assess relationships among variables. Screening for co-varying chemicals using Pearson correlation matrices, allowed the following variables to be used as independent variables in a multiple regression: aluminum (log (x+1) transformed), antimony, chromium, copper, iron (log(x+1)), lead (log(x+1)), manganese, mercury (log(x+1), tin (log(1+x)), total PAH (log(1+x)), total DDT (log(x+1)), fine grain size (arcsin transformed) and TOC (arcsin transformed).

Nickel, selenium, and arsenic were not included because there were less than 25 samples analyzed for each element. The results of the ANOVA for the multiple regression showed no significant relationship between amphipod survival and any of the independent variables (p=0.469, Table 12). Amphipod survival had a negative correlation with copper concentration (std. coefficient = -0.799), however, the relationship was not significant (p=0.157). Normalizing total DDT to TOC did not improve this relationship. Statistically significant relationships between chemicals and bioassay results can be difficult to test when a small number of stations are sampled and there are many variables measured.

Table 12. Multiple regression of relationship between amphipod survival (dependent variable) and chemicals and physical variables (independent variables).

Dep. Var: Amphipod survival N:25 Multiple R: 0.745 Squared Multiple R: 0.556
Adjusted squared Multiple R: 0.030 Standard error of estimate: 8.426

Effect	Coefficient	std. Error	std. Coefficient	Tolerance	t	p (2 tail)
constant	23.8	178.2	0.0		0.134	0.896
aluminum	-6.85	7.96	-0.284	0.370	-0.860	0.408
antimony	6.55	6.40	0.331	0.386	1.024	0.328
chromium	0.058	0.084	0.285	0.237	0.690	0.504
copper	-0.445	0.293	-0.799	0.146	-1.519	0.157
iron	8.80	17.1	0.303	0.117	0.515	0.617
lead	-1.42	3.90	-0.098	0.563	-0.365	0.722
manganese	-0.024	0.065	-0.195	0.147	-0.371	0.717
mercury	4.31	52.1	0.036	0.219	0.083	0.936
tin	3.48	10.4	0.142	0.223	0.333	0.746
total PAH	-3.00	4.15	-0.326	0.199	-0.723	0.485
total DDT	23.5	19.6	0.437	0.303	1.20	0.256
total organic carbon	2.35	1.84	0.510	0.255	1.28	0.227
fines	-0.005	0.335	-0.009	0.112	-0.015	0.988

Analysis of Variance

Source	Sum-of-Squares	df	Mean-square	F-ratio	p
Regression	976.326	13	75.102	1.058	0.469
Residual	781.039	11	71.004		

Distribution of Benthic Community Degradation

Data Analysis and Interpretation

The results of all benthic community analyses conducted as part of this study are presented in tables in Appendix F. These tables show the species, taxa, number of individuals per core, and summary statistics for each of the 14 stations sampled.

A benthic community's structure can be highly dynamic; however, it is important to assess benthic communities as an independent measure of the overall quality of a station. As stated previously, the high and low ranges of the Relative Benthic Index (RBI) vary based on the extreme values within each data set. The RBI does, however, indicate the relative "health" of each of the stations in a given data set compared to the other stations in the same data set. The RBI used in this study is a refined version of the indices used in southern California (Anderson *et al.* 1997) and San Diego (Fairey *et al.* 1996). The San Diego study had 75 samples from which to derive their data and used reference stations to generate classifications of degraded, transitional, and undegraded. The southern California study contained 43 samples and was a modified version of the San Diego study. The benthic index used in this study also is modified from the San Diego study. It combines the use of benthic community data with the presence or absence of positive and negative indicator species in order to provide a measure of the relative degree of degradation within the benthic fauna. This version of the index does not require the presence of an uncontaminated reference station and does not refer to data beyond that collected during this study. Because of small sample size (n=14) and the fact the index is based only on samples collected in the North Coast Region, it should be interpreted with some degree of caution.

A summary of data collected from the benthic sampling in the North Coast Region is provided in Table 13. Stations with greater numbers of negative indicator species, such as polychaetes and oligochaetes, in association with low species diversity generally denote an area of disturbance. In contrast, stations with a greater number of positive indicator species, such as gammarid amphipods or ostracods, and higher species diversity indicate a relatively undisturbed area with a mature benthic community.

The Relative Benthic Index for the North Coast Region ranged between 0.4 and 0.9. No stations had a RBI of 0.3 or less, thus none were classified as having degraded benthic communities. Nine stations were classified as having transitional benthic communities because their RBI value ranged between 0.4 and 0.6 (Table 13). These stations were scattered throughout the study area, particularly in Bodega Bay. The three highest RBI stations (RBI=0.8-0.9) were located on the central portion of the Eureka Waterfront. The RBI should not be used to indicate causality because a low RBI value could be the result of chemical toxicity, anthropogenic disturbance, such as dredging or natural disturbances, such as freshwater runoff, temperature stratification, or storm impacts. Due to the relatively low pollution levels and greater levels of precipitation runoff within this region, specific patterns or relationship between sediment chemistry and Relative Benthic Index values should not be expected (Fairey *et al.*, 1997).

Table 13. Benthic community analysis for 14 stations in the north coast region. Sample means are from three replicate cores.

						Total Taxa Individuals								
Station Number	Station Name	IDORG	Leg	Depth (m)	Salinity (ppt)	Gammarid mean SE	Other Crustaceans mean SE	Total Crustacean mean SE	Mollusc mean SE	Polychaete mean SE	Oligochaete mean SE	Total Individuals mean SE	Benthic Indices
14004.0	DAVENPORT MARINE	1578	42	3	26	2.7 0.3	21.0 11.3	23.7 11.6	7.7 1.2	96.0 22.8	132.3 102.3	279.0 129.0	0.8
10023.0	H. BAY EUREKA STORM 23	1579	42	2	22	6.7 6.2	46.3 41.9	53.0 48.1	23.7 16.3	153.7 35.7	373.3 342.0	615.3 315.9	0.9
10016.0	ARCATA BAY-JOLLY GIANT SL.	1580	42	0	15	363.0 39.2	0.7 0.3	363.7 39.6	0.7 0.7	286.0 4.0	74.7 69.2	725.0 35.4	0.5
10017.0	ARCATA BAY-EUREKA SL.	1581	42	3	22	3.0 0.6	14.3 3.3	17.3 2.7	1.3 0.9	136.0 51.8	1.3 0.7	156.7 53.3	0.5
10021.0	H. BAY-CHEVRON TERMINAL	1582	42	3	30	0.0 0.0	14.7 3.9	14.7 3.9	13.0 5.5	138.0 25.4	1713.0 1706.0	1882.7 1683.3	0.4
10019.0	H. BAY-COAL/OIL/GAS PLANT	1583	42	1	29	45.0 43.0	20.7 7.2	65.7 50.2	18.3 3.8	354.3 63.9	1750.0 1736.0	2215.0 1768.0	0.9
10018.0	H. BAY-UNION OIL PLANT	1584	42	1	28	6.7 2.9	92.7 22.9	99.3 24.0	26.0 5.5	234.7 92.1	97.3 77.8	466.3 10.3	0.6
15001.0	H. BAY- HALBERSON SHORELINE	1585	42	2	27	14.3 8.4	40.7 19.0	55.0 26.9	4.7 1.8	291.7 72.3	0.0 0.0	356.3 98.5	0.5
14002.0	EUREKA WATERFRONT- J STREET	1586	42	4	28	1.7 0.7	37.7 13.0	39.3 12.3	12.7 6.4	257.0 31.5	35.0 35.0	350.0 11.0	0.7
14001.0	EUREKA WATERFRONT- H STREET	1587	42	2	26	3.7 2.0	25.0 21.5	28.7 23.2	10.0 3.8	291.0 28.2	29.7 17.9	363.3 42.2	0.6
10006.0	BODEGA BAY MASON'S MARINA	1682	47	5	32	4.3 0.9	7.0 3.1	11.3 3.2	7.0 4.0	119.3 18.3	40.0 36.5	182.0 51.6	0.7
10007.0	BODEGA-SPUD POINT MARINA	1683	47	3	32	109.7 16.5	4.3 0.3	114.0 16.8	14.7 2.2	228.7 39.0	7.7 5.4	373.7 34.4	0.6
10028.0	PORTO BODEGA MARINA	1684	47	4	28	0.3 0.3	26.3 3.8	26.7 3.8	5.3 0.3	200.3 19.0	33.7 21.5	267.7 17.9	0.6
10040.0	UNCONTAMINATED SITE-33D	1685	47	0.1	31	0.7 0.3	7.7 0.9	8.3 0.9	20.7 3.8	23.7 0.9	13.3 12.3	66.0 9.0	0.4

						Number of Species						
Station Number	Station Name	IDORG	Leg	Depth (m)	Salinity (ppt)	Gammarid mean SE	Other Crustaceans mean SE	Total Crustacean mean SE	Mollusc mean SE	Polychaete mean SE	Total Species mean SE	Benthic Indices
14004.0	DAVENPORT MARINE	1578	42	3	26	2.3 0.3	2.7 0.9	5.0 1.0	2.7 0.3	12.0 0.6	23.0 0.6	0.8
10023.0	H. BAY EUREKA STORM 23	1579	42	2	22	1.3 0.9	2.0 1.2	3.3 2.0	3.7 1.9	18.0 2.1	27.7 6.1	0.9
10016.0	ARCATA BAY-JOLLY GIANT SL.	1580	42	0	15	2.0 0.0	0.7 0.3	2.7 0.3	0.7 0.7	6.7 0.3	11.0 1.2	0.5
10017.0	ARCATA BAY-EUREKA SL.	1581	42	3	22	1.7 0.3	1.3 0.3	3.0 0.6	1.0 0.6	8.7 0.9	14.0 0.0	0.5
10021.0	H. BAY-CHEVRON TERMINAL	1582	42	3	30	0.0 0.0	3.7 0.9	3.7 0.9	2.3 0.9	13.3 0.9	22.0 2.1	0.4
10019.0	H. BAY-COAL/OIL/GAS PLANT	1583	42	1	29	2.3 1.3	2.0 0.6	4.3 1.9	4.7 0.7	17.0 2.6	29.0 3.8	0.9
10018.0	H. BAY-UNION OIL PLANT	1584	42	1	28	1.7 0.3	2.0 0.0	3.7 0.3	4.3 0.9	16.7 3.2	28.7 2.3	0.6
15001.0	H. BAY- HALBERSON SHORELINE	1585	42	2	27	1.7 0.9	2.0 0.0	3.7 0.9	1.3 0.3	11.7 1.3	18.3 2.2	0.5
14002.0	EUREKA WATERFRONT- J STREET	1586	42	4	28	1.7 0.7	4.7 0.3	6.3 0.9	3.0 1.5	13.0 0.0	24.3 1.2	0.7
14001.0	EUREKA WATERFRONT- H STREET	1587	42	2	26	1.3 0.7	2.7 0.7	4.0 1.2	3.0 1.0	13.3 1.5	23.0 2.6	0.6
10006.0	BODEGA BAY MASON'S MARINA	1682	47	5	32	2.3 0.9	3.0 0.0	5.3 0.9	1.7 0.7	15.7 2.2	25.0 1.5	0.7
10007.0	BODEGA-SPUD POINT MARINA	1683	47	3	32	3.3 0.9	2.0 0.0	5.3 0.9	1.0 0.0	12.0 0.6	21.0 1.7	0.6
10028.0	PORTO BODEGA MARINA	1684	47	4	28	0.3 0.3	3.3 0.7	3.7 0.3	2.7 0.3	14.3 1.5	22.7 2.0	0.6
10040.0	UNCONTAMINATED SITE-33D	1685	47	0.1	31	0.7 0.3	2.0 0.0	2.7 0.3	1.0 0.0	6.3 1.2	11.0 1.2	0.4

Station Specific Sediment Quality Assessments

In order to assist the RWQCB in identifying potential stations of concern for the region, overall sediment quality was assessed. Station specific sediment quality assessments were based upon a weight of evidence approach using toxicity test results, sediment quality guideline exceedances, tissue bioaccumulation, and benthic community analysis. This approach is consistent with generally accepted methods of sediment quality assessment, such as the commonly used "sediment quality triad" approach described by Chapman *et al.* (1987). However, due to budgetary constraints, not all stations received evaluations of each triad leg.

Because these samples were collected over a four year period, a station's specific analytical results varied over time and were dependant upon the particular sampling event. A summary of each stations individual sampling results is shown in Table 14. This table reflects how some stations toxicity test results or chemical analysis may have changed over the course of this study and provides specific sample results.

For the purpose of identifying stations of concern, these temporal data were pooled and measured effects were summarized by station (Table 15). These evaluations are based on all toxicity, chemistry, and benthic community information collected by the BPTCP on a per station basis. "Repeated toxicity" is defined as a station that has been classified as toxic (significantly different from controls and less than MSD based thresholds) on at least two separate sampling dates, based on all available bioassays, but excluded sea urchin fertilization tests. As mentioned previously sea urchin fertilization tests were not included due to potential artifacts from sample freezing. Also individual toxicity test results were not included in this station evaluation if a water quality parameter, such as unionized ammonia, may have influenced test result interpretations. The "single toxicity" field refers to a station that has shown toxicity at one time during the study regardless of the number of times the station was visited. An exceedance of regional chemistry screening levels was defined as meeting any of the following criteria: a station's sample exceeded regional sediment guideline quotient values (ERMQ > 0.201 or PELQ > 0.422); had 5 or more ERM or PEL exceedances; or if an individual chemical concentration was greater than the 90th percentile of the BPTCP data set calculated for the state (Table 10). As explained in the discussion on sediment chemistry results, the ERMQ and PELQ values were derived based upon the 90th percentile of chemistry samples collected within this regional study and are relatively low based on national and state comparisons. Despite their relatively low value they are necessary to evaluate regional pollution. Because of the low number of ERM and PEL exceedances, ERL and TEL exceedances also are summarized to provide further insight into the station's chemical composition. However, as mentioned earlier, they should be interpreted with caution because these guidelines represent the level below which biological effects are not expected to occur. Station evaluation of bioaccumulation data was based solely on BPTCP tissue samples and data were interpreted using EPA and SMWP screening values as explained previously. When tissue screening value exceedances occurred the chemical of concern was noted, as well as, the screening value used for comparison. Tissue data collected at corresponding stations from the SMWP were not included in Table 15 because they were not specifically a part of this study's sampling design. However, due to the similar manner in which SWMP and BPTCP tissue samples were collected and analyzed, SWMP data provided valuable supplemental information about a station's chemical composition thus, it was included in station descriptions. The benthic field

Table 14. Sample summary of toxicity, sediment chemistry exceedances, benthic indices results. Only those bioassay protocols which showed toxicity are listed. Complete results are listed in the appendices (shaded survival indicates samples which were toxic; n/a indicates no chemical analyses)

Station number	Station	IDORG	Date	% Fines	TOC	*R. abronius* survival	*E. estuarius* survival	Sed/Water Inter Tox.	*M. edulis** porewater	ERM or PEL Exceedances	ERMQ	PELQ	ERL Exc.	TEL Exc.	Benthic Indices
10004.0	ARCATA BAY-MCDANIEL SL.	304	11/30/92	90.0	0.58	66	.	.	.	Cr, Ni	0.112	0.226	5	5	.
10005.0	RUSSIAN RIVER MOUTH SMW 280.0	305	2/25/93	48.0	0.99	.	92	.	NT (0.009	n/a	n/a	n/a	n/a	n/a	.
10006.0	BODEGA BAY-MASON'S MARINA	306	2/25/93	98.0	2.00	38	.	.	.	Ni, ACE, FLA, PHN, PYR	0.175	0.335	8	9	.
10006.0	BODEGA BAY-MASON'S MARINA REP1	1350	6/14/94	96.7	3.44	61	.	.	.	n/a	n/a	n/a	n/a	n/a	.
10006.0	BODEGA BAY-MASON'S MARINA REP2	1351	6/14/94	94.1	3.50	52	.	.	.	n/a	n/a	n/a	n/a	n/a	.
10006.0	BODEGA BAY-MASON'S MARINA REP3	1352	6/14/94	98.5	3.58	75	.	.	.	n/a	n/a	n/a	n/a	n/a	.
10006.0	BODEGA BAY MASON'S MARINA	1682	12/6/96	98.9	3.34	.	57	NT	.	Ni	0.165	0.312	6	9	0.7
10007.0	BODEGA BAY-SPUD POINT MARINA	307	2/25/93	27.0	1.00	80	.	.	.	n/a	n/a	n/a	n/a	n/a	.
10007.0	BODEGA-SPUD POINT MARINA REP1	1353	6/13/94	19.8	0.43	86	.	.	.	n/a	n/a	n/a	n/a	n/a	.
10007.0	BODEGA-SPUD POINT MARINA REP2	1354	6/13/94	17.1	0.48	75	.	.	.	n/a	n/a	n/a	n/a	n/a	.
10007.0	BODEGA-SPUD POINT MARINA REP3	1355	6/13/94	15.2	0.35	91	.	.	.	n/a	n/a	n/a	n/a	n/a	.
10007.0	BODEGA-SPUD POINT MARINA	1683	12/5/96	16.7	0.64	.	56	T	.	Cr	0.095	0.187	3	2	0.6
10015.0	ARCATA BAY-MAD RIVER SL.	315	11/30/92	60.0	0.65	81	.	.	.	n/a	n/a	n/a	n/a	n/a	.
10016.0	ARCATA BAY-JOLLY GIANT SL	316	11/30/92	61.0	0.75	78	.	.	.	Cr, Ni	0.153	0.301	5	10	.
10016.0	ARCATA BAY-JOLLY GIANT SL.	1580	4/18/96	79.5	2.68	.	80	.	.	Cr, Ni	0.188	0.362	6	10	0.5
10017.0	ARCATA BAY-EUREKA SL.	317	11/29/92	88.0	0.77	67	.	.	.	Cr, Ni	0.121	0.242	3	6	.
10017.0	ARCATA BAY-EUREKA SL.	1581	4/17/96	82.4	1.47	.	77	.	.	Cr, Ni	0.151	0.305	4	4	0.5
10018.0	H. BAY-UNION OIL PLANT	318	11/29/92	74.0	0.76	94	.	.	.	.	n/a	n/a	n/a	n/a	.
10018.0	H. BAY-UNION OIL PLANT	1584	4/17/96	79.3	1.71	.	81	.	.	Cr, Ni	0.164	0.360	4	6	0.6
10019.0	H. BAY-COAL/OIL/GAS PLANT	319	11/29/92	72.0	0.65	82	.	.	.	.	n/a	n/a	n/a	n/a	.
10019.0	H. BAY- COAL/OIL/GAS PLANT	1442	2/15/95	.	.	.	.	.	.	Cr, Ni, MNP2	n/a	n/a	4	6	.
10019.0	H. BAY-COAL/OIL/GAS PLANT	1583	4/17/96	72.1	1.73	.	94	.	.	Cr, Ni, lindane	0.143	0.482	3	6	0.9
10020.0	H. BAY-OLD PAC. LUMBER SITE	320	11/29/92	83.0	0.70	70	.	.	.	Cr, Ni	0.111	0.225	3	5	.
10020.0	H. BAY- OLD PAC. LUMBER SITE	1444	2/15/95	.	.	.	.	.	.	Cr, Ni, MNP2	n/a	n/a	4	7	.
10021.0	H. BAY-CHEVRON TERMINAL	321	11/29/92	50.0	0.56	76	.	.	.	Cr, Ni	0.114	0.237	3	5	.
10021.0	H. BAY-CHEVRON TERMINAL	1582	4/17/96	76.9	1.18	.	86	.	.	Cr, Ni, lindane	0.122	0.312	2	4	0.4
10022.0	HUMBOLDT BAY EUREKA SM.22	1448	2/15/95	.	.	.	.	.	.	Cr, Ni, MNP2	n/a	n/a	4	5	.
10023.0	H. BAY EUREKA STORM 23	323	11/29/92	67.0	1.00	74	.	.	.	Cr, Ni	0.137	0.274	5	6	.
10023.0	H. BAY EUREKA STORM 23	1579	4/17/96	36.1	1.82	.	92	.	.	Cr, Ni	0.129	0.268	3	5	0.9
10024.0	H. BAY FIELDS LANDING	324	11/29/92	75.0	0.60	86	.	.	.	n/a	n/a	n/a	n/a	n/a	.
10025.0	H. BAY HOOKTON SL.	325	11/29/92	94.0	0.54	80	.	.	.	Cr, Ni	0.107	0.220	3	6	.

* (interstitial unionized ammonia values for M. edulis (mg/L))

Table 14. Sample summary of toxicity, sediment chemistry exceedances, benthic indices results. Only those bioassay protocols which showed toxicity are listed. Complete results are listed in the appendices (shaded survival indicates samples which were toxic; n/a indicates no chemical analyses)

Station number	Station	IDORG	Date	% Fines	TOC	*R. abronius* survival	*E. estuarius* survival	Sed/Water Inter Tox.	*M. edulis** porewater	ERM or PEL Exceedances	ERMQ	PELQ	ERL Exc.	TEL Exc.	Benthic Indices
10004.0	ARCATA BAY-MCDANIEL SL.	304	11/30/92	90.0	0.58	56	.	.	.	Cr, Ni	0.112	0.226	5	5	.
10005.0	RUSSIAN RIVER MOUTH SMW 280.0	305	2/25/93	48.0	0.99	.	92	.	NT (0.009	n/a	n/a	n/a	n/a	n/a	.
10006.0	BODEGA BAY-MASON'S MARINA	306	2/25/93	98.0	2.00	38	.	.	.	Ni, ACE, FLA, PHN, PYR	0.175	0.335	8	9	.
10006.0	BODEGA BAY-MASON'S MARINA REP1	1350	6/14/94	96.7	3.44	61	.	.	.	n/a	n/a	n/a	n/a	n/a	.
10006.0	BODEGA BAY-MASON'S MARINA REP2	1351	6/14/94	94.1	3.50	52	.	.	.	n/a	n/a	n/a	n/a	n/a	.
10006.0	BODEGA BAY-MASON'S MARINA REP3	1352	6/14/94	98.5	3.58	75	.	.	.	n/a	n/a	n/a	n/a	n/a	.
10006.0	BODEGA BAY MASON'S MARINA	1682	12/6/96	98.9	3.34	.	57	NT	.	Ni	0.165	0.312	6	9	0.7
10007.0	BODEGA BAY-SPUD POINT MARINA	307	2/25/93	27.0	1.00	80	.	.	.	n/a	n/a	n/a	n/a	n/a	.
10007.0	BODEGA-SPUD POINT MARINA REP1	1353	6/13/94	19.8	0.43	86	.	.	.	n/a	n/a	n/a	n/a	n/a	.
10007.0	BODEGA-SPUD POINT MARINA REP2	1354	6/13/94	17.1	0.48	75	.	.	.	n/a	n/a	n/a	n/a	n/a	.
10007.0	BODEGA-SPUD POINT MARINA REP3	1355	6/13/94	15.2	0.35	91	.	.	.	n/a	n/a	n/a	n/a	n/a	.
10007.0	BODEGA-SPUD POINT MARINA	1683	12/5/96	16.7	0.64	.	56	T	.	Cr	0.095	0.187	3	2	0.6
10015.0	ARCATA BAY-MAD RIVER SL.	315	11/30/92	60.0	0.65	81	.	.	.	n/a	n/a	n/a	n/a	n/a	.
10016.0	ARCATA BAY-JOLLY GIANT SL	316	11/30/92	61.0	0.75	78	.	.	.	Cr, Ni	0.153	0.301	5	10	.
10016.0	ARCATA BAY-JOLLY GIANT SL.	1580	4/18/96	79.5	2.68	.	80	.	.	Cr, Ni	0.188	0.362	6	10	0.5
10017.0	ARCATA BAY-EUREKA SL.	317	11/29/92	88.0	0.77	67	.	.	.	Cr, Ni	0.121	0.242	3	6	.
10017.0	ARCATA BAY-EUREKA SL.	1581	4/17/96	82.4	1.47	.	77	.	.	Cr, Ni	0.151	0.305	4	4	0.5
10018.0	H. BAY-UNION OIL PLANT	318	11/29/92	74.0	0.76	94	.	.	.	.	n/a	n/a	n/a	n/a	.
10018.0	H. BAY-UNION OIL PLANT	1584	4/17/96	79.3	1.71	.	81	.	.	Cr, Ni	0.164	0.360	4	6	0.6
10019.0	H. BAY-COAL/OIL/GAS PLANT	319	11/29/92	72.0	0.65	82	.	.	.	.	n/a	n/a	n/a	n/a	.
10019.0	H. BAY- COAL/OIL/GAS PLANT	1442	2/15/95	.	.	.	.	.	.	Cr, Ni, MNP2	n/a	n/a	4	6	.
10019.0	H. BAY-COAL/OIL/GAS PLANT	1583	4/17/96	72.1	1.73	.	94	.	.	Cr, Ni, lindane	0.143	0.482	3	6	0.9
10020.0	H. BAY-OLD PAC. LUMBER SITE	320	11/29/92	83.0	0.70	70	.	.	.	Cr, Ni	0.111	0.225	3	5	.
10020.0	H. BAY- OLD PAC. LUMBER SITE	1444	2/15/95	.	.	.	.	.	.	Cr, Ni, MNP2	n/a	n/a	4	7	.
10021.0	H. BAY-CHEVRON TERMINAL	321	11/29/92	50.0	0.56	76	.	.	.	Cr, Ni	0.114	0.237	3	5	.
10021.0	H. BAY-CHEVRON TERMINAL	1582	4/17/96	76.9	1.18	.	86	.	.	Cr, Ni, lindane	0.122	0.312	2	4	0.4
10022.0	HUMBOLDT BAY EUREKA SM.22	1448	2/15/95	.	.	.	.	.	.	Cr, Ni, MNP2	n/a	n/a	4	5	.
10023.0	H. BAY EUREKA STORM 23	323	11/29/92	67.0	1.00	74	.	.	.	Cr, Ni	0.137	0.274	5	6	.
10023.0	H. BAY EUREKA STORM 23	1579	4/17/96	36.1	1.82	.	92	.	.	Cr, Ni	0.129	0.268	3	5	0.9
10024.0	H. BAY FIELDS LANDING	324	11/29/92	75.0	0.60	86	.	.	.	n/a	n/a	n/a	n/a	n/a	.
10025.0	H. BAY HOOKTON SL.	325	11/29/92	94.0	0.54	80	.	.	.	Cr, Ni	0.107	0.220	3	6	.

* (interstitial unionized ammonia values for M. edulis (mg/L))

Table 15. Station summary of chemistry, toxicity and benthic community results (** not used in station evaluations due to water quality exceedances, SV= screening values, see text for complete descriptions).

Station Number	Station	Sediment Chemistry	ERL/TEL Exceed.	Tissue Chemistry	Repeat Tox	Single Tox	Benthics	Comments
Stations which exceeded regional chemistry screening levels, toxicity measured one or more times, non-degraded benthic communities								
10028.0	PORTO BODEGA MARINA	ERMQ=0.214	11		X		Transitional	
10006.0	BODEGA BAY-MASON'S MARINA	5 PEL exceedances	9		X		Undegraded	
14001.0	EUREKA WATERFRONT- H STREET	ERMQ=0.243, PELQ=0.52	8	>EPA SV for PCBs & MW value for CU		X	Undegraded	AG in top 95% for the state
14002.0	EUREKA WATERFRONT J STREET	10 PEL exceedances	8	>EPA SV for PAHs & MW values for CU & HG		X	Undegraded	LMW PAHs in top 95% for the state
Stations which exceeded regional chemistry screening levels, non toxic, non-degraded benthic communities								
10019.0	H. BAY-COAL/OIL/GAS PLANT	PELQ= 0.482	6				Undegraded	Lindane in top 90% of the state
Stations with no regional chemistry screening level exceedances, single toxicity, non-degraded benthic communities								
10007.0	BODEGA-SPUD POINT MARINA		3			X	Transitional	Toxic once in both amphipod and SDI tests
10017.0	ARCATA BAY-EUREKA SL.		6			X	Transitional	
10023.0	H. BAY EUREKA STORM 23		6			X	Undegraded	
10040.0	UNCONTAMINATED SITE-33D		4			X	Transitional	
Stations with no regional chemistry screening level exceedances, non toxic, non-degraded benthic communities								
10016.0	ARCATA BAY-JOLLY GIANT SL.		10				Transitional	
10018.0	H. BAY-UNION OIL PLANT		6				Transitional	
10021.0	H. BAY-CHEVRON TERMINAL		5				Transitional	
14004.0	DAVENPORT MARINE		9				Undegraded	
15001.0	H. BAY- HALBERSON SHORELINE		4				Transitional	
Stations with no regional chemistry screening level exceedances, toxicty measured one or more times, benthic community not analyzed								
10004.0	ARCATA BAY-MCDANIEL SL.		5			X		toxic *R. abronius* test; but 90% Fines
10020.0	H. BAY-OLD PAC. LUMBER SITE		7			X		
10032.0	MOUTH OF ESTERO DE SAN ANTONIO					X		
Stations which exceeded regional chemistry screening levels, toxicity not analyzed, benthic community not analyzed								
14003.0	ARCATA BAY- JOLLY GIANT NORTH		4	> EPA SV for PCBs				
Stations with no regional chemistry screening level exceedances, non toxic, benthic community not analyzed								
10025.0	H. BAY HOOKTON SL.		6					
10037.0	H. BAY-MOUTH OF ELK RIVER		4					
Stations with no regional chemistry screening level exceedances, toxicty not analyzed, benthic community not analyzed								
10022.0	HUMBOLDT BAY EUREKA SM.22		5					
15002.0	H. BAY- WASHINGTON STREET		4					
Stations with no chemistry analyzed, toxicity measured one or more times, benthic community not analyzed								
10029.0	ESTERO AMERICANO-VALLEY FORD					X**		toxic *M. edulis* test; but exceeded NH3 by 4.2X
10030.0	ESTERO DE SAN ANTONIO-VALLEY F					X		
10039.0	UNCONTAMINATED SITE-33C					X**		toxic *M. edulis* test; but exceeded NH3 by 4.7X
10041.0	SALMON CREEK-34L					X		
Stations with no chemistry analyzed, non toxic, benthic community not analyzed								
10005.0	RUSSIAN RIVER MOUTH SMW 280.0							
10015.0	ARCATA BAY-MAD RIVER SL.							
10024.0	H. BAY FIELDS LANDING							
10031.0	MOUTH OF ESTERO AMERICANO							
10036.0	SOUTHPORT CHANNEL-33B							

noted the classification of a station as degraded, transitional, or undegraded based on the station's RBI value as described previously. The comment field was used to provide additional information about a station, such as extremely elevated chemical concentrations or toxicity test concerns. Based on this data evaluation the following stations were of particular interest:

Station 10028, Porto Bodega Marina, is a small boat marina located in the northeastern corner of Bodega Bay. It is one of the older marinas in Bodega Bay and has been in operation since the 1960's. Sediment from this station was toxic to amphipods in two of five sampling events. However, the station was not toxic using a sediment water interface sea urchin development test. This discrepancy in toxicity test results probably is caused by the varying chemical sensitivities within test organisms. Porto Bodega Marina also exceeded regional chemical screening levels (ERMQ=0.241) during the latest sampling event in December of 1996. Both times this station was analyzed for chemistry it had ERL or TEL guideline exceedances for low and high molecular weight PAHs, as well as, total PAHs. These PAH levels probably reflect vessel traffic and refueling operations within the harbor. Copper, mercury, and zinc also exceeded ERL or TEL guidelines both times sediment chemistry was analyzed. This station also had one of the highest aluminum sediment chemistry concentrations in the state (108,000 ug/g). Although BPTCP tissue samples were not collected at this station, corresponding SMWP data (SWRCB, unpublished data) have indicated 95th percentile EDL exceedances for copper and mercury and 85th percentile EDL exceedances for aluminum. These metal concentration levels could be due to historic boat maintenance, leeching of antifoulant paints and the relatively calm waters within the marina. The benthic community was classified as transitional (RBI=0.6) having very few gammarid amphipods or total crustaceans. For these reasons, Porto Bodega Marina is considered a station of concern for the region.

Another boat harbor of interest is station 10006, Bodega Bay- Mason's Marina. This station is located in the north west corner of Bodega Bay and, like Porto Bodega marina, has been in operation since the 1960's. The harbor has the capacity to hold 120 boats, however, generally operates at around 60% of capacity. Mason's Marina was tested for toxicity using both *Rhepoxynius* and *Eohaustorius* amphipod survival tests. It was classified as toxic in four out of five tests. Yet, the station was not toxic using a sediment water interface sea urchin development test. This station had 5 PEL sediment quality guideline exceedances including individual PAHs, such as acenaphathene and fluoranthene. It also exceeded several ERL and or TEL guideline exceedances for low and high molecular weight PAHs, total PAHs, copper, mercury, and zinc. Tissue samples were not collected at this station; however, Mussel Watch data indicate both copper and mercury exceeded 85th percentile EDL levels and aluminum exceeded the 95th percentile EDL level. As with Porto Bodega Marina, PAH levels may be due to vessel traffic and refueling operations. Metal concentration levels could be attributed to historical boat maintenance, leeching of antifoulant paints and the relatively calm waters within the marina. The benthic community was classified as undegraded (RBI=0.7), because it had one of the highest total number of species, including gammarid amphipods and crustaceans, yet still had relatively low numbers of individuals. Because of Mason Marina's repeated toxicity results and sediment quality guideline exceedances it is considered a station of concern for the region.

Station 14001, Eureka Waterfront- H Street is located near G & R Metals, a division of Levin Metals Corporation, however, the company has not been in operation since 1980 (RWQCB, 1997). Only one amphipod survival toxicity test was performed on this station and it was toxic to *Eohaustorius*. The station not only exceeded 90th percentile ERMQ and PELQ values, but had the greatest quotients in the region (ERMQ=0.243 and PELQ=0.528). Also there were ERL and TEL exceedances for copper, lindane, mercury, zinc, total PCB and PAHs. This sample also had a silver concentration of 3.57 ug/g, which was in the top 95th percentile for the state. Tissue samples were found to exceed EPA screening values in resident mussel tissue for PCBs and aluminum, copper and manganese levels exceeded SMWP 95th percentile EDLs. Contaminant levels may be due to the historical use of the location as a scrap metal facility. The benthic community had a RBI value of 0.6. The H street station benthic community was considered transitional because it had a great number of negative indicators species (polychaetes), however, it also had several different taxa species represented. Due to summary quotients which exceeded regional chemistry screening levels and multiple ERL and TEL sediment quality guidelines exceedances, toxic amphipod response, and bioaccumulation of PCBs and copper in tissues, it is considered a station of concern for the North Coast Region.

Station 14002, Eureka Waterfront- J Street, is located near a site called Adorni; this site has been previously identified as being polluted with petroleum (RWQCB, 1990). In 1989 the Adorni site was found to have extensive soil pollution with the groundwater being affected. J Street was tested for toxicity once, using *Eohaustorius*, and was toxic. The station had 10 PEL sediment quality guideline exceedances, primarily being individual PAHs such as acenaphthene, fluoranthene, 2-methylnaphalene, phenanthrene, and pyrene. Sediment samples had a low molecular weight PAH concentration of 4759.2 ng/g, which is in the top 95th percentile for the state. These PAH exceedances may be due to its proximity to the Adorni site. There also were copper, mercury, and zinc TEL and or ERL guideline exceedances. These metal concentration levels could be due to nearby storm drain runoff. Resident mussel tissue samples collected at the station found copper and mercury to exceed Mussel Watch 85th percentiles EDLs. The station's benthic community was classified as undegraded (RBI=0.7). It had one of the greatest numbers of crustacean species and many mollusc species as well. Due to the historic background of this location and its toxicity, chemistry and bioaccumulation results, J-Street is another station of concern for the North Coast Region.

Station 10019, Humboldt Bay Coal, Gas, and Oil Plant, is located near an old coal gas plant which was in operation around the turn of the century (RWQCB, 1990). Street construction activities in the early 1990's located an underground concrete tank containing heavy hydrocarbons and PG&E has been asked to completely investigate and clean up this polluted location (RWQCB, 1990). Station 10019 was found to be non toxic both times it was tested using amphipod bioassays. However, it did exceed the regions' 90th percentile's PELQ value (PELQ=0.482). There were multiple ERL and TEL sediment guideline exceedances for individual PAH compounds, as well as low, high, and total PAHs exceedances. Copper also was shown to exceed ERL and TEL guideline values. Lindane concentrations were greater than the 90th percentile for the state (>2.82 ng/g). These chemical levels may be due to historic hydrocarbon pollution and, in the case of lindane, the station's proximity to stormdrain runoff. Because it does not show evidence of a degraded benthic community (RBI=0.9) and the lack of tissue data collected, station 10019 should be investigated further to determine if it should be a station of concern for the region.

Limitations

As mentioned in the methods section, the two step sampling design of this study relied on an initial "screening phase" to give a broad assessment of toxicity in the North Coast Region. A full suite of analyses, including toxicity testing, chemical analysis and benthic community analysis, was performed only on selected stations (45% of the screened stations). Five of the 31 stations surveyed had toxic results from either amphipod survival tests or from *Mytilus* porewater tests yet did not receive full chemical analyses or benthic ecology due to limited funds. Therefore, statistical analysis, comparisons to chemical specific screening values, identification of undegraded and degraded habitats and summary analysis could not be performed on all stations sampled. This lack of data for stations 10005,10031, 10032, and 10041, is particularly troublesome because SMWP data indicate these areas have elevated levels of organics accumulating in mussel tissues. Unfortunately, none of these stations were analyzed for organic chemistry. Future monitoring work should stress a watershed type approach to pollution prevention and include stations, such as these, which may receive periodic influxes of pesticides or other contaminants.

It is recognized that any conclusions based on interpretation of these data should be considered preliminary because of the limited nature of the data set. As with any study of this scope, it is difficult to identify all variables that may be associated with biological responses at a particular location. For example, our characterization of organic chemical pollution is constrained by the limited number of contaminants measured. Samples often contained unidentified organic compounds which were not further characterized due to the limited scope of the study; these compounds could have contributed to the toxicity of the samples. In addition, no measures of interstitial water chemical concentrations were conducted for substances other than ammonia and hydrogen sulfide. Therefore, our ability to characterize bioactivity of the bulk-phase chemicals is confined to those stations that could be normalized to TOC. In addition, no measures of acid volatile sulfides and associated metals (AVS-SEM) were made, which limits our ability to predict bioavailability and toxicity of metals. Also conclusions regarding benthic community degradation were limited by the lack of in situ water quality parameters.

IV. CONCLUSIONS

Sediment quality guideline values were used for comparison with chemical concentrations found within the North Coast Region. Chromium, nickel, PAHs, and lindane were found most often to exceed ERM or PEL guideline values. Due to relatively low chemical concentrations within the region, ERL and TEL guideline values also were used to provide a more relevant comparison to the chemical composition of the North Coast Region. Copper, mercury, and zinc were found most often to exceed ERL and TEL guideline values. Although ERL and TEL values are considerably lower than ERM and PEL guidelines, multiple exceedances of ERL and TEL guidelines may indicate possible impacts on the relatively pristine environment of the North Coast Region.

The upper 90^{th} percentiles, for sediment quotient ranges, for the North Coast Region were ERMQ>0.201 and PELQ>0.422. These values are significantly lower than other summary quotient values calculated for the state (i.e., San Diego 90^{th} percentile ERMQ>0.85 and PELQ>1.29). Nevertheless, this is to be expected because the North Coast is not as heavily populated or industrialized as much of California. It should be noted that lower summary quotient values should not be used to infer that chemical pollution does not exist at discrete stations within the region. It should be noted that in contrast to the mitigation approach employed in more urban/industrial coastal regions, prevention and prohibition are the primary approaches employed in the protection of the relatively unpolluted coastal resources of California's North Coast. Therefore, any anthropogenic pollution is of great concern.

Tissue samples were collected from 10 stations and were analyzed for a variety of chemicals. Samples included both resident and transplanted mussels, oysters, crabs and polychaete worms. When applicable, relevant SMWP data were reviewed for chemical contamination and provided supplemental information about stations. In general, measured tissue concentrations of organic contaminants, such as pesticides, BTEX and TPH, were below detection limits, indicating relatively low levels of tissue contamination in the North Coast Region. However, some trace metals were detected in patterns similar to those found in sediments. Metals that were detected in both sediments and tissues included chromium, nickel, copper, and mercury.

Toxicity within the region was examined using a variety of bioassays. Twenty-nine of 31 stations sampled were tested using solid phase amphipod survival tests. Of these stations, 9 were toxic at least once using either *Eohaustorius* or *Rhepoxynius*; amphipod survival ranged from 38-99%. Stations shown to be toxic were scattered along the northern section of the Eureka waterfront, at the northern most station in Arcata Bay, and at the three marinas in Bodega Bay. All samples that were toxic, and had synoptic chemical analysis performed on them, had at least one ERM or PEL exceedance and at least 3 ERL or TEL exceedances. However, multiple regression analysis of data from throughout the region showed no significant relationships between amphipod toxicity and chemical concentrations.

Benthic community structure within the North Coast Region was analyzed using a Relative Benthic Index. The low and high ranges of the index indicate the relative "health" of a station compared to other stations within the data set and was used to classify stations as degraded, transitional and undegraded. The RBI for the North Coast ranged between 0.4 and 0.9 and none were classified as degraded. Nine stations were classified as having transitional benthic communities. These stations were scattered throughout the study area, particularly in Bodega Bay. The three undegraded stations were located on the central portion of the Eureka Waterfront. Due to the relatively low pollution levels in this region, and the small benthic community sample, size specific patterns or relationship between sediment chemistry and RBI values were not found.

Five stations, Porto Bodega Marina, Mason's Marina, H Street, J Street, and Humboldt Bay Coal, Gas and Oil Plant were distinguished as stations of concern or interest for the region. These stations exhibited greater level impacts of toxicity, greater chemical concentrations, or biological impacts compared to the remaining 31 stations analyzed in the region, and correspond with issues of regional concern.

V. REFERENCES

Abele, L.G. and K. Walters. 1979. Marine benthic diversity: a critique and alternate explanation. Journal Biogeography 6: 115-126.

American Society of Civil Engineers (ASCE). 1989. Manual 69. Manual of practice on sulfide in wastewater collection and treatment systems. Prepared by the Sulfide Task Group of the Water Pollution Management Committee of the Environmental Engineering Division of the ASCE. New York, NY.

American Society for Testing and Materials. 1992. Standard Guide for Collection, Storage, Characterization, and Manipulation of Sediments for Toxicological Testing. Guide No. E 1367-90. ASTM, Philadelphia, PA. Vol. 11.04, 1083-1106.

Anderson, B.S., J. Hunt, S. Tudor, J. Newman, R. Tjeerdema, R. Fairey, J. Oakden, C. Bretz, C. Wilson, F. La Caro, G. Kapahi, M. Stephenson, M. Puckett, J. Anderson, E. Long, and T. Flemming. 1997. Chemistry, toxicity and benthic community conditions in sediments of selected southern California bays and estuaries. 146pp. Final Report. California State Water Resources Control Board. Sacramento, CA, USA.

Anderson, B.S., J.W. Hunt, M.M. Hester, and B.M. Phillips. 1996. Assessment of sediment toxicity at the sediment-water interface. *In* Techniques in Aquatic Toxicology, G.K. Ostrander (ed). Lewis Publishers: Ann Arbor, MI.

Barnard, J. 1963. Relationship of benthic Amphipoda to invertebrate communities of inshore sublittoral sands of southern California. Pacific Naturalist 3: 437-467.

Bay, S., R. Burgess, and D. Nacci. 1993. Status and applications of echinoid (Phylum Echinodermata) toxicity test methods. In: W.G. Landis, J.S. Hughes, and M.A. Lewis, Eds., Environmental Toxicology and Risk Assessment, ASTM STP 1179. American Society for Testing and Materials, Philadelphia, PA. pp. 281-302.

Bender, M., W. Martin, J. Hess, F. Sayles, L. Ball, and C. Lambert. 1987. A Whole Core Squeezer for Interfacial Pore Water Sampling. Limnology and Oceanography 32 (6):1214-1255.

Bradley, W.W., E. Huguening, C.A. Logan, W.B. Tucker and C.A. Waring. 1918. Manganese and chromium in California. *In* California State Mining Bureau Bulletin no. 76. Sacramento, California State Printing Office. 248p.

Brinkhurst, R.O. and D.G. Cook. 1980. Aquatic oligochaete biology. Plenum Press, New York, 529p.

Brinkhurst, R.O. and M.L. Simmons. 1968. The aquatic Oligochaeta of the San Francisco Bay system. California Fish and Game 54: 180-194.

California Department of Fish and Game (CDFG). 1990. Water Pollution Control Laboratory Standard Operating Procedure for Determination of Selenium in Biological Tissue, Sediment, and Water.

California Department of Fish and Game (CDFG). 1992. Department of Fish and Game Environmental Services Division Laboratory Quality Assurance Program Plan.

Carr, R.S., and D.C. Chapman. 1995. Comparison of Methods for Conducting Marine and Estuarine Sediment Porewater Toxicity Tests- Extraction, Storage, and Handling Techniques. Arch. Environ. Contam. Toxicol. 28:69-77.

Carr, R.S., J. Williams and C.T. Fragata. 1989. Development and Evaluation of a Novel Marine Sediment Pore Water Toxicity Test with the Polychaete *Dinophilus gyrociliatus*. Environmental Toxicology and Chemistry. 8:533-543.

Chapman, P.M., R.N. Dexter, and E.R. Long. 1987. Synoptic measure of sediment contamination, toxicity and infaunal community composition (the Sediment Quality Triad) in San Francisco. Mar. Ecol. Prog. Ser. 37:75-96.

Cornwall, H.R. 1966. Nickel deposits of North America. USGS Bulletin. 1223:62p.

Davis, P.H. and R.B. Spies. 1980. Infaunal benthos of a natural petroleum seep: study of community structure. Marine Biology 59: 31-41.

Dexter, R.N., L.S. Goldstein, P.M. Chapman, and E.A. Quinlan. 1985. Temporal trends in selected environmental parameters monitored in Puget Sound. U.S. Department of Commerce. NOAA Technical Memorandum. NOS. OMA. 19. 166pp.

Dillon, T.M., D.W. Moore, and A.B. Gibson. 1993. Development of a chronic sublethal bioassay for evaluating contaminated sediment with the marine polychaete worm Nereis (Neanthes) arenaceodentata. Environ. Toxicol. Chem. 12: 589-605.

Dinnel, P.A., J.M. Link, and Q.J. Stober. 1987. Improved methodology for a sea urchin sperm cell bioassay for marine waters. Arch. Environ. Contam. Toxicol. 16:23-32.

Eisler, R. 1987. Polycyclic aromatic hydrocarbon hazards to fish, wildlife, and invertebrates: A synoptic review. Pollutant Hazard Reviews Report Number 11. U.S. Department of the Interior.

Evans, D. and P. Hanson. 1993. Analytical methods for trace elements in sediments by atomic absorption spectrophotometry. In Sampling and Analytical Methods of the National Status and Trends Program National Benthic Surveillance and Mussel Watch Project 1984-1992, vol. 3. Lauenstein, G. and A. Cantillo (eds.). NOAA Tech. Mem. NOS ORCA 71. 53-81.

Fairey, R. 1992. Sampling and Analysis of Trace Metals in Sediment Interstitial Waters. American Geophysical Union. Fall Meeting, 042A-06.

Fairey, R., C. Roberts, M. Jacobi, S. Lamerdin, R. Clark, J. Downing, E. Long, J. Hunt, B. Anderson, J. Newman, R. Tjeerdema, M. Stephenson, C. Wilson. 1998. An assessment of sediment toxicity and chemical concentrations in the San Diego Bay region. Environmental Toxicology and Chemistry 17(8).

Fairey, R., J. Oakden, and S. Lamerdin. 1997. Assessing ecological impacts on benthic community structure from sediments contaminated with multiple pollutants. SETAC 18th Annual Meeting, Bridging the Global Environment: Technology, Communication, and Education. Poster presentation no. PHA151. San Francisco, CA. 16-20 November 1997.

Fairey, R., C. Bretz, S. Lamerdin, J. Hunt, B. Anderson, S. Tudor, C. Wilson, F. La Caro, M. Stephenson, M. Puckett, E. Long. 1996. Chemistry, ecotoxicology, and benthic community conditions in sediments of San Diego Bay region (Final Report). California State Water Resources Control Board. Sacramento, CA. 169pp.

Folk, R. 1974. Petrology of Sedimentary Rocks. Hemphill Publ. Co., Austin, TX. 182pp.

Foose, M.P. 1992. Nickel, mineralogy and chemical composition of some nickel-bearing laterites in southern Oregon and northern California. USGS Bulletin 1877.

Franson, M.A. (ed), 1981. 505 Organic carbon (total) p. 471-475. *In* Standard Methods For the Examination of Water and Wastewater. 15th ed. Am. Public Health Asso.

Froelich, P.M. 1980. Analysis of organic carbon in marine sediments. Limnology and Oceanography. 25:564-572.

Grassle, J.F. and J.P. Grassle. 1974. Opportunistic life histories and genetic systems in marine benthic polychaetes. Journal of Marine Research 32(2): 253-283.

Grassle, J.P. and J.F. Grassle. 1976. Sibling species in the marine pollution indicator *Capitella* (Polychaeta). Science 192: 567-569.

Hedges, J.I. and Stern, J.H. 1983. Carbon and nitrogen determination of carbonate containing solids. Limnology and Oceanography. 29:658-663.

Howard, P. H., Ed. 1991. Handbook of Environmental Fate and Exposure Data for Organic Chemicals. Pesticides. Lewis Publishers, Chelsea, MI.6-13

Hurlbert, S.N. 1971. The non-concept of species diversity: a critique and alternate parameters. Ecology 52: 577-586.

Jumars, P.A. 1976. Deep-sea species diversity: does it have a characteristic scale? Journal of Marine Research 34:217-246.

Jumars, P.A. 1975. Environmental grain and polychaete species diversity in a bathyal benthic community. Marine Biology 30: 253-266.

Katz, A. and I.R. Kaplan. 1981. Heavy metals behavior in coastal sediments of southern California: A critical review and synthesis. Mar. Chem. 10(4):261-299.

Khoo, K.H., C.H. Culberson, and R.G. Bates. 1977. Thermodynamics of dissociation of ammonium ion in seawater from 5° to 40°C. J. Solution Chem. 6:281-290.

Klaus, A.D., J.S. Oliver and R.G. Kvitek. 1990. The effects of gray whale, walrus, and ice gouging disturbance on benthic communities in the Bering Sea and Chukchi Sea, Alaska. National Geographic research 694): 470-484.

Knezovich, J.P., D.J. Steichen, J.A. Jelinski, and S.L. Anderson. 1996. Sulfide tolerance of four marine species used to evaluate sediment and pore water toxicity. Bull. Environ. Contam. Toxicol. 57:450-457.

Lenihan, H. S. and J.S. Oliver. 1995. Anthropogenic and natural disturbances to marine benthic communities in Antarctica. Ecological Applications 5(2): 311-326.

Lenihan, H.L., K.A. Kiest, K.E. Conlan, P.N. Slattery, B.H. Konar and J.S. Oliver. 1995. Patterns of survival and behavior in Antarctic benthic invertebrates exposed to contaminated sediments: field and laboratory bioassay experiments. Journal of Experimental Marine Biology and Ecology 192: 233-255.

Long, E.R. M.F. Buchman. 1989. The potential for biological effects of sediment-sorbed contaminants tested in the National Status and Trends Program. NOAA Technical Memorandum NOS OMA 45.

Long, E.R. and D.D. MacDonald. *In Press*. Recommended uses of empirically-derived, sediment quality guidelines for marine and estuarine ecosystems. Human and Ecological Risk Assessment.

Long, E.R. and L.G. Morgan. 1992. National Status and Trends Approach. In: Sediment Classification Methods Compendium. EPA 823-R-92-006. Office of Water. United States Environmental Protection Agency. Washington, District of Columbia.

Long, E.R. and L.G. Morgan. 1990. The potential for biological effects of sediment-sorbed contaminants tested in the National Status and Trends Program. NOAA Technical Memorandum NOS OMA 62. National Oceanic and Atmospheric Administration, Seattle, WA. 86 pp.

Long, E.R., L.J. Field, D.D. MacDonald. 1998. Predicting toxicity in marine sediments with numerical sediment quality guidelines. Environmental Toxicology and Chemistry 17(4):714-727.

Long, E.R., D.L. MacDonald, S.L. Smith and F.D. Calder. 1995. Incidence of Adverse Biological Effects Within Ranges of Chemical Concentration in Marine and Estuarine Sediments. Environmental Management. 19 (1): 81-97.

MacDonald, D.D. 1994a. Approach to the Assessment of Sediment Quality in Florida Coastal Waters. Volume 1- Development and Evaluation of Sediment Quality Assessment Guidelines. Prepared for the Florida Department of Environmental Regulation. MacDonald Environmental

Services, Ltd. Ladysmith, British Columbia. 126 pp.

MacDonald, D.D. 1994b. Approach to the Assessment of Sediment Quality in Florida Coastal Waters. Volume 2- Application of the Sediment Quality Assessment Guidelines. Prepared for the Florida Department of Environmental Regulation. MacDonald Environmental Services, Ltd. Ladysmith, British Columbia. 52 pp.

MacDonald, D.D. 1992. Development of an integrated approach to the assessment of sediment quality in Florida. Prepared for the Florida Department of Environmental Regulation. MacDonald Environmental Services, Ltd. Ladysmith, British Columbia. 114 pp.

MacDonald, D.D., R.S. Carr, F.D. Calder, E.R. Long, and G. Ingersoll. 1996. Development and evaluation of sediment quality guidelines for Florida coastal waters. Ecotoxicology 5:253-278.

MARCPN I. 1992. The analysis of carbon and nitrogen from sediments and the particulate fraction of water from estuarine/coastal systems using elemental analysis. Method MARPCPN I. University of Maryland System for Environmental and Estuarine Studies, Chesapeake Biological Laboratory. Revision 1.1. Environmental Monitoring Systems Laboratory, Office of Research and Development, U.S. Environmental Protection Agency.

McCall, P.L. 1977. Community patterns and adaptive strategies of the infaunal benthos of Long Island Sound. Journal of Marine Research 35: 221-226.

Mearns, A.J. and D.R. Young. 1977. Chromium in the southern California marine environment. *In* Pollutant Effects on Marine Organisms, C.S. Giam (ed). *Presented at* Workshop on Pollutants Effects on Marine Organisms, Texas A&M Univ., TX (USA), 16 May 1976.

Mills, E. 1967. Biology of an ampelscid amphipod crustacean sibling species pair. J. Fish. Res. Bd. Canada. 24:305-355.

National Oceanic and Atmospheric Administration (NOAA). 1994. National Status and Trends Program for National Benthic Surveillance Project: Pacific Coast. Analyses of elements in sediments and tissue cycles I to V (1984-88). NOAA Technical Memorandum NMFS-NWFSC-16, Seattle, Washington.

Okey, T.A. 1997. Sediment flushing observations, earthquake slumping, and benthic community changes in Monterey Canyon head. Continental Shelf research 17: 877-897.

Oliver, J.S. and P.N. Slattery. 1985a. Effects of crustacean predators on species composition and population structure of soft-bodied infauna from McMurdo Sound, Antarctica. Ophelia 24: 155-175.

Oliver, J.S. and P.N. Slattery. 1985b. Destruction and opportunity on the sea floor: effects of gray whale feeding. Ecology 66(6): 1966-1975.

Oliver, J.S., P.N. Slattery, L.W. Hulberg and J.W. Nybakken. 1980. Relationships between wave disturbance and zonation of benthic invertebrate communities along a subtidal high energy beach in Monterey Bay, California. Fishery Bulletin 78: 437-454.

Oliver, J.S., P.N. Slattery, L.W. Hulberg and J.W. Nybakken. 1977. Patterns of succession in benthic infaunal communities following dredging and dredged material disposal in Monterey Bay. Dredged Material Research Program, U.S. Army Engineers Waterways Experiment Station, Technical Report 0-77-27, Vickberg, Mississippi.

Oliver, J.S., P.N. Slattery, M.A. Silberstein and E.F. O'Connor. 1984. Gray whale feeding on dense ampleliscid amphipod communities near Bamfield, British Columbia. Canadian Journal of Zoology 62: 41-49.

Oliver, J.S., P.N. Slattery, M.A. Silberstein and E.F. O'Connor. 1983. A comparison of gray whale, *Eschrichtius robutus*, feeding in the Bering Sea and Baja California. Fishery Bulletin 81: 513-522.

Pace Analytical. 1997. Laboratory Quality Assurance Plan. Pace Incorporated Environmental Laboratories. Camarillo, CA.

Pearson, T.H. and R. Rosenberg. 1978. Macrobenthic succession in relation to organic enrichment and pollution of the marine environment. Oceanographic and Marine Biology Annual Review 16: 229-311.

Phillips, B.M., B.S. Anderson, and J.W. Hunt. 1997. Measurement and distribution of interstitial and overlying water ammonia and hydrogen sulfide in sediment toxicity tests. Mar. Environ. Res. 44: 117-126.

PSEP. 1991. Interim final recommended guidelines for conducting laboratory bioassays on Puget Sound sediments. US Environmental Protection Agency, Region 10, Office of Puget Sound, Seattle, WA.

Rasmussen, D. 1996. State Mussel Watch Program Data Report 1993-1995. State Water Resources Control Board Water Quality Report 96-2 WQ 75pp.

Rasmussen, D. 1995. State Mussel Watch Program Data Report 1987-1993. State Water Resources Control Board Water Quality Report 94-1 WQ 303pp.

Regional Water Quality Control Board (RWQCB). 1997. Proposed regional toxic hot spot cleanup plan. Regional Water Quality Control Board North Coast Region. December 1997.

Regional Water Quality Control Board (RWQCB). 1992. Regional Monitoring Plan For Region 1. North Coast Regional Water Control Board North Coast Region.

Regional Water Quality Control Board (RWQCB). 1990. Summary report on Humboldt Bay toxic site investigations. Regional Water Quality Control Board North Coast Region Executive Officer's Summary Report. December 6, 1990.

Reid, G. and A. Reid. 1969. Feeding processes of members of the genus *Macoma* (Mollusca: Bivalvia). Can. J. Zool. 47: 649-657.

Reish, D.J., D.F. Soule and J.D. Soule. 1980. The benthic biological conditions of Los Angeles-Long Beach Harbors: results of 28 years of investigations and monitoring. Helgolander Meersunters 34: 193-205.

Rhoads, D.C. and L.F. Boyer. 1982. The effects of marine benthos on the physical properties of sediment: a successional perspective. In Animal-Sediment Relations: The Biogenic Alteration of Sediments, ed. P.L. McCall and M.J.S. Tevesz, pp. 3-43. Plenum Press, New York.

Rhoads, D.C., P.L. McCall, and Y.Y. Yingst. 1978. Disturbance and production on the estuarine seafloor. American Scientist 66: 577-586.

Sanders, H.L., J.F. Grassle, G.R. Hampson, L.S. Morse, S. Garner-Price and C.C. Jones. 1980. Anatomy of an oil spill: long-term effects from the grounding of the barge *Florida* off West Falmouth, Massachusetts. Journal of Marine Research 38: 265-380.

Santos, S.L. and J.L. Simon. 1980. Response of soft-bottom benthos to annual catastrophic disturbance in a south Florida estuary. Marine Ecology Progress Series 3: 347-355.

Savenko, V.S. 1977. Marine chemistry: the dissociation of hydrogen sulfide in seawater. Oceanology. 16:347-350.

Schimmel, S.C., B.D. Melzian, D.E. Campbell, C.J. Strobel, S.J. Benyi, J.S. Rosen, H.W. Buffum, and N.I. Rubinstein. 1994. Statistical Summary EMAP-Estuaries Virginian Province - 1991. EPA/620/R-94/005.

Sloan, C.A., N.G. Adams, R.W. Pearce, D.W. Brown, and S.L. Chan. 1993. Northwest Fisheries Science Center Organic Analytical Procedures. In Sampling and Analytical Methods of The National Status and Trends Program National Benthic Surveillance and Mussel Watch Projects 1984-1992 - Volume VI Comprehensive descriptions of the trace organic analytical methods. G.G. Lauenstein and A.Y. Cantillo (Eds). NOAA Technical Memorandum NOS ORCA 71, p 53-97.

Spear, P.A. and R.C. Pierce. 1979. Copper in the aquatic environment: Chemistry, distribution, and toxicology. NRCC Report Number 16454. National Research Council of Canada. Ottawa, Canada. 227 pp.

State Water Resources Control Board (SWRCB). Unpublished Data. Staff Report: State Mussel Watch Program Data 1996-1997. Division of Water Quality. Sacramento, CA.

State Water Resources Control Board (SWRCB). 1991. Draft Supplement Functional Equivalent Document – Development of Statewide Water Quality Control Plans: (1). Inland Surface Waters of California and (2). Enclosed Bays and Estuaries of California. April 9, 1991. State Water Resources Control Board, California Environmental Protection Agency, Sacramento, CA.

State Water Resources Control Board (SWRCB). 1990a. California Ocean Plan – Water Quality Control Plan, Ocean Waters of California. March 22, 1990. State Water Resources Control Board, California Environmental Protection Agency, Sacramento, CA.

State Water Resources Control Board (SWRCB). 1990b. Draft Functional Equivalent Document – Development of Water Quality Plans For: Inland Surface Waters of California and Enclosed Bays and Estuaries of California. November 26, 1990. State Water Resources Control Board, California Environmental Protection Agency, Sacramento, CA.

Stephenson, M.D., M. Puckett, N. Morgan, and M. Reid. 1994. Bay Protection and Toxic Cleanup Program: Quality Assurance Project Plan. Bay Protection and Toxic Cleanup Program, State Water Resources Control Board, Sacramento, CA.

Stull, J.K., Haydock, C.I., Smith, R.W. and D.E. Montagne. 1986. Long-term changes in the benthic community on the coastal shelf off Palos Verdes, southern California. Marine Biology 91:539-551.

Swartz, R.C., F.A. Cole, J.O. Lambers, S.P. Ferrarao, D.W. Schults, W.A. DeBen, H. Lee II, P.J. Ozretten. 1994. Sediment toxicity, contamination and amphipod abundance at a DDT and dieldrin- contaminated site in San Francisco Bay. Environmental Toxicology and Chemistry. 6(6):949-962.

Swartz, R.C., Cole, F.A., Shults, D.W. and W.A. Deben. 1986. Ecological changes in the southern California bight near a large sewage outfall; benthic conditions 1980-1983. Marine Ecology Progress Series 31:1-13.

Tabachnick, B.G. and L.S. Fidell. 1996. Using Multivariate Statistics 3rd Edition. Harper Collins College Publishers: New York. 880pp.

Tang, A., J.G. Kalocai, S. Santos, B. Jamil, J. Stewart. 1997. Sensitivity of blue mussel and purple sea urchin larvae to ammonia. Poster, Society of Environmental Toxicology and Chemistry, 18th Annual Meeting, San Francisco.

Thistle, D. 1981. Natural physical disturbances and communities of marine soft bottoms. Marine Ecology Progress Series 6: 223-228.

Thursby, G.B. and C.E. Schlekat. 1993. Statistical analysis of 10-day solid phase toxicity data for amphipods. Abstract, 14th Annual Meeting, Society of Environmental Toxicology and Chemistry.

U.S. Army Corps of Engineers. 1991. Bioassay, bioaccumulation, and chemistry of sediments from Humboldt Bay Harbor (Draft Report). E.V.S._Project no: 4/274-10.9. Prepared by E.V.S. Consultants, Inc. for U.S. Army Corp San Francisco Division.

U.S. Environmental Protection Agency. 1995a. Short term methods for estimating the chronic toxicity of effluent and receiving waters to west coast marine and estuarine organisms. EPA/600/R-95/136. Office of Research and Development. Washington, D.C., U.S.A.

U.S. Environmental Protection Agency. 1995b. Guidance For Assessing Chemical Contaminant Data For Use In Fish Advisories. Volume 1. Fish Sampling and Analysis. Second Edition. EPA 823-R-95-007. Office of Water, Washington, D.C., U.S.A.

U.S. Environmental Protection Agency. 1994. Methods for assessing the toxicity of sediment-associated contaminants with estuarine and marine amphipods. EPA 600/R-94/025.

Vetter, E.W. 1995. Detritus-based patches of high secondary production in the nearshore benthos. Marine Ecology Progress Series 120: 251-262.

Weston, D.P. 1990. Quantitative examination of macro-benthic community changes along an organic enrichment gradient. Marine Ecology Progress Series 61: 233-244.

Whitfield, M. 1978. The hydrolysis of ammonium ions in seawater - experimental confirmation of predicted constants at one atmosphere pressure. J. Mar. Biol. Ass. U.K. 58:781-787.

Whitfield, M. 1974. The hydrolysis of ammonium ions in sea water - a theoretical approach. J. Mar. Biol. Ass. U.K. 54:565-580.

Zar, J.H. 1984. Biostatistical Analysis: Second Edition. Prentice Hall: Englewood Cliffs, New Jersey.

APPENDIX A

Database Description

DATABASE DESCRIPTION

for the

Bay Protection and Toxic Cleanup Program

Prepared for:

California State Water Resources Control Board
Bays and Estuaries Unit

and

California Department of Fish and Game
Marine Pollution Studies Laboratories

by

Moss Landing Marine Laboratories

I. OVERVIEW OF THE BAY PROTECTION PROGRAM

The California State Water Resources Control Board (SWRCB) has contracted the California Department of Fish and Game (CDFG) to coordinate the scientific aspects of the Bay Protection and Toxic Cleanup Program (BPTCP), a SWRCB program mandated by the California Legislature. The BPTCP is a comprehensive, long-term effort to regulate toxic pollutants in California's enclosed bays and estuaries. The program consists of both short-term and long-term activities. The short-term activities include the identification and priority ranking of toxic hot spots, development and implementation of regional monitoring programs designed to identify toxic hot spots, development of narrative sediment quality objectives, development and implementation of cleanup plans, revision of waste discharge requirements as needed to alleviate impacts of toxic pollutants, and development of a comprehensive database containing information pertinent to describing and managing toxic hot spots. The long-term activities include development of numeric sediment quality objectives; development and implementation of strategies to prevent the formation of new toxic hot spots and to reduce the severity of effects from existing toxic hot spots; revision of water quality control plans, cleanup plans, and monitoring programs; and maintenance of the comprehensive database.

Actual field and laboratory work is performed under contract by the California Department of Fish and Game (CDFG). The CDFG subcontracts the toxicity testing to Dr. Ron Tjeerdema at the University of California at Santa Cruz (UCSC) and the laboratory testing is performed at the CDFG toxicity testing laboratory at Granite Canyon, south of Carmel. The CDFG contracts the majority of the sample collection activities to Dr. John Oliver of San Jose State University at the Moss Landing Marine Laboratories (MLML) in Moss Landing. Dr. Oliver also is subcontracted to perform the TOC and grain size analyses, as well as to perform the benthic community analyses. CDFG personnel perform the trace metals analyses at the trace metals facility at Moss Landing Marine Laboratories in Moss Landing. The synthetic organic pesticides, PAHs and PCBs are contracted by CDFG to Dr. Ron Tjeerdema at the UCSC trace organics facility at Long Marine Laboratory in Santa Cruz. MLML currently maintains the Bay Protection and Toxic Cleanup Database for the SWRCB. Described below is a description of that database system.

II. DESCRIPTION OF COMPUTER FILES

The sample collection/field information, chemical, and toxicity data are stored on hard copy, computer disks and on a 486DX PC at Moss Landing Marine Laboratories. Access is limited to Russell Fairey. Contact Russell Fairey at (408) 633-6035 for copies of data. The data are stored in a dBase 4 program and can be exported to a variety of formats. There are three backups of this database stored in two different laboratories. The data are entered into 1 of 4 files. 1CHEM1_56.DBF file contains a collection of chemical analyses data in sediments. 1TOX1_56.DBF file contains toxicity test data and associated water quality data. 1TISS1_56.DBF file contains a collection of chemical analyses in tissue matrix. 1BEN1_56.XLS file contains a summary of benthic community analyses. This file is stored in Excel 5.0. A hardcopy printout of the dBase database structure is attached, showing precise characteristics of each field.

The 1CHEM1_56.DBF file contains the following fields (the number at the start of each field is the field number):

1. STANUM. This numeric field is 7 characters wide with 1 decimal place and contains the CDFG station numbers that are used statewide. The format is YXXXX.Z where Y is the Regional Water Quality Control Board Region number and XXXX is the number that corresponds to a given location or site and Z is the number of the station within that site. An example is San Pablo Bay- Island #1, in San Francisco Bay, where the STANUM is 20007.0. The 2 indicates Region 2. The 0007 indicates it is Site 7 and the .0 is the replicate (if any) at the station within Site 7.
2. STATION. This character field is 30 characters wide and contains the exact name of the station.
3. IDORG. This numeric field is 8 characters wide and contains the unique i.d. organizational number for the sample. For each station collected on a unique date, an idorg sample number is assigned. This should be the field that links the collection, toxicity, chemical, and other databases.
4. DATE. This date field is 8 characters wide and is the date that each sample was collected in the field. It is listed as MM/DD/YY.
5. LEG. This numeric field is 6 characters wide with 1 decimal place, and is the leg number of the project in which the sample was collected.
6. LATITUDE. This character field is 12 characters wide and contains the latitude of the center of the station sampled. The format is a character field as follows: XX,YY,ZZ, where XX is in degrees, YY is in minutes, and ZZ is in seconds or hundreds.
7. LONGITUDE. This character field is 14 characters wide and contains the longitude of the center of the station sampled. The format is a character field as follows: XXX,YY,ZZ, where XXX is in degrees, YY is in minutes, and ZZ is in seconds or hundreds.
8. HUND_SECS. This character field is 3 characters wide and contains the designation "h" if the latitude and longitude are given in degrees, minutes, hundredths of a minute. If differential accuracy was achieved with the GPS at the station the designation is given as "h/d". The designation "s" is given when latitude and longitude are given in degrees, minutes, seconds.
9. GISLAT. This numeric field is 12 characters wide with 8 decimal places and contains the latitude of the station sampled in Geographical Information System format. The format is a numeric field as follows: XX.YYYYYYYY, where XX is in degrees and YYYYYYYY is a decimal fraction of the preceding degree.
10. GISLONG. This numeric field is 14 characters wide with 8 decimal places and contains the longitude of the station sampled. The format is a character field as follows: XXXX.YYYYYYYY where XXXX is in degrees and YYYYYYYY is a decimal fraction of the preceding degree.
11. DEPTH. This character field is 4 characters wide and contains the depth at which the sediment sample was collected, in meters to the nearest one half meter.
12. METADATA. This is a text index directing the user to tables or files of ancillary data pertinent to the associated data file. Character field, width 12.

TRACE METALS IN SEDIMENT are presented in fields 13 through 32. All sediment trace metal results are reported on a dry weight basis in parts per million (ppm).

A. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed.
B. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected.

Sediment trace metals are numeric fields of varying character width, and including the following elements, listed by field number, then field name as it appears in the database, then numeric character width and number of decimal places:

13. TMMOIST. 6.2
14. ALUMINUM. 9.2
15. ANTIMONY. 7.3
16. ARSENIC. 6.3
17. CADMIUM. 7.4
18. CHROMIUM. 8.3
19. COPPER. 7.2
20. IRON. 7.1
21. LEAD. 7.3
22. MANGANESE. 7.2
23. MERCURY. 7.4
24. NICKEL. 7.3
25. SILVER. 7.4
26. SELENIUM. 6.3
27. TIN. 8.4
28. ZINC. 9.4
29. ASBATCH. 5.1
30. SEBATCH. 5.1
31. TMBATCH. The Batch number that the sample was digested in, numeric field width of 5 with 2 decimal place.
32. TMDATAQC. Data qualifier codes are notations used by data reviewers to briefly describe, or qualify data and the systems producing data, numeric field width 3. Data qualifier codes are as follows:
    A. When the sample meets or exceeds the control criteria requirements, the value is reported as "-4".
    B. When the sample has minor exceedences of control criteria but is generally usable for most assessments and reporting purposes, the value is reported as "-5". For samples coded "-5" it is recommended that if assessments are made that are especially sensitive or critical, the QA evaluations should be consulted before using the data.
    C. When the QA samples has major exceedences of control criteria requirements and the data are not usable for most assessments and reporting purposes, the value is reported as "-6".
    D. When the sample has minor exceedences of control criteria and is unlikely to affect assessments, the value is reported as "-3".

SYNTHETIC ORGANICS are presented in fields 33 through 151 . All synthetic organic results are reported on a dry weight basis in parts per billion (ppb or ng/g).

A. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed.
B. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected.

Synthetic organics are reported on a dry weight basis in parts per billion (ppb or ng/g) and are numeric fields of varying width, and include the following compounds, listed by field number, then field name as it appears in database (and followed by the compound name if not obvious), and then finally, the numeric character width and number of decimal places is given:

32. SOWEIGHT. This numeric field is 6 characters wide with 2 decimal places and contains the weight of the sample extracted for analysis.
33. SOMOIST. This numeric field is 6 characters wide with 2 decimal places and contains the percent moisture of the sample extracted.
34. ALDRIN. 9.3
35. CCHLOR. cis-Chlordane. 9.3
36. TCHLOR. trans-Chlordane. 9.3
37. ACDEN. alpha-Chlordene. 9.3
38. GCDEN. gamma-Chlordene. 9.3
39. CLPYR. Chlorpyrifos (Dursban). 8.2
40. DACTH. Dacthal. 9.3
41. OPDDD. o,p'-DDD. 8.2
42. PPDDD. p,p'-DDD. 9.3
43. OPDDE. o,p'-DDE. 8.2
44. PPDDE. p,p'-DDE. 8.2
45. PPDDMS. p,p'-DDMS. 8.2
46. PPDDMU. p,p'-DDMU. 8.2
47. OPDDT. o,p'-DDT. 8.2
48. PPDDT. p,p'-DDT. 8.2
49. DICLB. p,p'-Dichlorobenzophenone. 8.2
50. DIELDRIN. 9.3
51. ENDO_I. Endosulfan I. 9.3
52. ENDO_II. Endosulfan II. 8.2
53. ESO4. Endosulfan sulfate. 8.2
54. ENDRIN. 8.2
55. ETHION. 8.2
56. HCHA. alpha HCH 9.3
57. HCHB. beta HCH 8.2
58. HCHG. gamma HCH (Lindane) 9.3
59. HCHD. delta HCH 9.3
60. HEPTACHLOR. 9.3
61. HE. Heptachlor Epoxide. 9.3
62. HCB. Hexachlorobenzene. 9.3
63. METHOXY. Methoxychlor. 8.2

64. MIREX. 9.3
65. CNONA. cis-Nonachlor. 9.3
66. TNONA. trans-Nonachlor. 9.3
67. OXAD. Oxadiazon. 8.2
68. OCDAN. Oxychlordane. 9.3
69. TOXAPH. Toxaphene. 7.2
70. PESBATCH. The batch number that the sample was extracted in, character field width 11.
71. TBT. Tributyltin. 8.4
72. TBTBATCH. The batch number that the sample was extracted in, numeric field width 5 and 1 decimal places.
73. PCB5. 9.3
74. PCB8. 9.3
75. PCB15. 9.3
76. PCB18. 9.3
77. PCB27. 9.3
78. PCB28. 9.3
79. PCB29. 9.3
80. PCB31. 9.3
81. PCB44. 9.3
82. PCB49. 9.3
83. PCB52. 9.3
84. PCB66. 9.3
85. PCB70. 9.3
86. PCB74. 9.3
87. PCB87. 9.3
88. PCB95. 9.3
89. PCB97. 9.3
90. PCB99. 9.3
91. PCB101. 9.3
92. PCB105. 9.3
93. PCB110. 9.3
94. PCB118. 9.3
95. PCB128. 9.3
96. PCB132. 9.3
97. PCB137. 9.3
98. PCB138. 9.3
99. PCB149. 9.3
100. PCB151. 9.3
101. PCB153. 9.3
102. PCB156. 9.3
103. PCB157. 9.3
104. PCB158. 9.3
105. PCB170. 9.3
106. PCB174. 9.3
107. PCB177. 9.3

108. PCB180. 9.3
109. PCB183. 9.3
110. PCB187. 9.3
111. PCB189. 9.3
112. PCB194. 9.3
113. PCB195. 9.3
114. PCB201. 9.3
115. PCB203. 9.3
116. PCB206. 9.3
117. PCB209. 9.3
118. ARO1248. 9.3
119. ARO1254. 9.3
120. ARO1260. 9.3
121. ARO5460. 9.3
122. PCBBATCH. The batch number that the sample was extracted in, character field width 11.
123. ACY. Acenaphthylene. 8.2
124. ACE. Acenaphthene. 8.2
125. ANT. Anthracene. 8.2
126. BAA. Benz[a]anthracene. 8.2
127. BAP. Benzo[a]pyrene. 8.2
128. BBF. Benzo[b]fluoranthene. 8.2
129. BKF. Benzo[k]fluoranthene. 8.2
130. BGP. Benzo[ghi]perylene. 8.2
131. BEP. Benzo[e]pyrene. 8.2
132. BPH. Biphenyl. 8.2
133. CHR. Chrysene. 8.2
134. COR. Coronene. 8.2
135. DBA. Dibenz[a,h]anthracene. 8.2
136. DBT. Dibenzothiophene. 8.2
137. DMN. 2,6-Dimethylnaphthalene. 8.2
138. FLA. Fluoranthene. 8.2
139. FLU. Fluorene. 8.2
140. IND. Indeno[1,2,3-cd]pyrene. 8.2
141. MNP1. 1-Methylnaphthalene. 8.2
142. MNP2. 2-Methylnaphthalene. 8.2
143. MPH1. 1-Methylphenanthrene. 8.2
144. NPH. Naphthalene. 8.2
145. PHN. Phenanthrene. 8.2
146. PER. Perylene. 8.2
147. PYR. Pyrene. 8.2
148. TMN. 2,3,5-Trimethylnaphthalene. 8.2
149. TRY. Triphenylene 8.2
150. PAHBATCH. The batch number that the sample was extracted in, character field width 11.

151. SODATAQA. Data qualifier codes are notations used by data reviewers to briefly describe, or qualify data and the systems producing data, numeric field width 3. Data qualifier codes are as follows:

A. When the sample meets or exceeds the control criteria requirements, the value is reported as "-4".
B. When the sample has minor exceedences of control criteria but is generally usable for most assessments and reporting purposes, the value is reported as "-5". For samples coded "-5" it is recommended that if assessments are made that are especially sensitive or critical, the QA evaluations should be consulted before using the data.
C. When QA samples have major exceedences of control criteria requirements and the data are not usable for most assessments and reporting purposes, the value is reported as "-6".
D. When the sample has minor exceedences of control criteria and is unlikely to affect assessments, the value is reported as "-3".

SEDIMENT PARTICULATE SIZE ANALYSES DATA are presented in fields 152-154. The grain size results are reported as follows:

A. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed.
B. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected.

152. FINES. Sediment grain size for each station, reported as percent fines. Numeric field, width 5 with 2 decimal places.
153. FINEBATCH. The batch number that the sample was analyzed in, character field, width 6.
154. FINEDATAQC. Data qualifier codes are notations used by data reviewers to briefly describe, or qualify data and the systems producing data, numeric field, width 3. Data qualifier codes are as follows:

A. When the sample meets or exceeds the control criteria requirements, the value is reported as "-4".
B. When the sample has minor exceedences of control criteria but is generally usable for most assessments and reporting purposes, the value is reported as "-5". For samples coded "-5" it is recommended that if assessments are made that are especially sensitive or critical, QA evaluations should be consulted before using the data.
C. When QA samples have major exceedences of control criteria requirements and the data are not usable for most assessments and reporting purposes, the value is reported as "-6".
D. When the sample has minor exceedences of control criteria and is unlikely to affect assessments, the value is reported as "-3".

SEDIMENT TOTAL ORGANIC CARBON (TOC) ANALYSES DATA. Field 155-157 presents the levels of total organic carbon detected in the sediment samples at each station. All TOC results are reported as percent of dry weight.

155. TOC. Total Organic Carbon (TOC) levels (percent of dry weight) in sediment, for each station. Numeric field, width 6 and 2 decimal places.

A. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed.

B. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected.

156. TOCBATCH. The batch number that the sample was analyzed in, numeric field width 4.

157. TOCDATAQC. Data qualifier codes are notations used by data reviewers to briefly describe, or qualify data and the systems producing data, numeric field width 3. Data qualifier codes are as follows:

A. When the sample meets or exceeds the control criteria requirements, the value is reported as "-4".

B. When the sample has minor exceedences of control criteria but is generally usable for most assessments and reporting purposes, the value is reported as "-5". For samples coded "-5" it is recommended that if assessments are made that are especially sensitive or critical, the QA evaluations should be consulted before using the data.

C. When QA samples have major exceedences of control criteria requirements and the data are not usable for most assessments and reporting purposes, the value is reported as "-6".

D. When the sample has minor exceedences of control criteria and is unlikely to affect assessments, the value is reported as "-3".

The 1TOX1_56.DBF file is the toxicity data file which contains the following fields (the number at the start of each field is the field number):

1. STANUM. This numeric field is 7 characters wide with 1 decimal place and contains the CDFG station numbers that are used statewide. The format is YXXXX.Z where Y is the Regional Water Quality Control Board Region number and XXXX is the number that corresponds to a given location or site and Z is the number of the station within that site. An example is Southwest Slip in Los Angeles Harbor where the STANUM is 40001.1. The 4 indicates Region 4. The 0001 indicates that it is Site #1 and the .1 is the replicate station within Site #1. A site with a .0 designation indicates this is the only station at the site.
2. STATION. This character field is 30 characters wide and contains the exact name of the station.
3. IDORG. This numeric field is 8 characters wide and contains the unique i.d. organizational number for the sample. For each station collected on a unique date, an idorg sample number is assigned. This should be the field that links the collection, toxicity, chemical, and other databases.
4. DATE. This date field is 8 characters wide and is the date that each sample was collected in the field. It is listed as MM/DD/YY.
5. LEG. This numeric field is 6 characters wide and is the leg number of the project in which the sample was collected.
6. TYPE. This character field is 7 characters wide and describes whether the sample was a field sample, replicate or control.
7. METADATA. This is an index directing the user to tables or files of ancillary data pertinent to associated test. Character field, width 12.
8. CTRL. This character field is 5 characters wide and indicates the type of control sample used for the test.

9. LATITUDE. This character field is 12 characters wide and contains the latitude of the center of the station sampled. The format is a character field as follows: XX,YY,ZZ, where XX is in degrees, YY is in minutes, and ZZ is in seconds or hundreds.
10. LONGITUDE. This character field is 14 characters wide and contains the longitude of the center of the station sampled. The format is a character field as follows: XXX,YY,ZZ, where XXX is in degrees, YY is in minutes, and ZZ is in seconds or hundreds.
11. HUND_SECS. This character is 3 character wide and contains the designation "h" if the latitude and longitude are given in degrees, minutes, hundredths of a minute. The designation "h/d" is given if differential accuracy is achieved with the GPS unit. The designation "s" is given when latitude and longitude are given in degrees, minutes, seconds.
12. GISLAT. This numeric field is 12 characters wide with 8 decimal places and contains the latitude of the station sampled in Geographical Information System format. The format is a numeric field as follows: XX.YYYYYYYY, where XX is in degrees and YYYYYYYY is a decimal fraction of the preceding degree.
13. GISLONG. This numeric field is 14 characters wide with 8 decimal places and contains the longitude of the station sampled. The format is a character field as follows: XXXX.YYYYYYYY where XXXX is in degrees and YYYYYYYY is a decimal fraction of the preceding degree.

AMPHIPOD SURVIVAL TOXICITY TEST DATA. The following are descriptions of the field headings for the amphipod *Rhepoxynius abronius* (RA) toxicity test using homogenized sediment samples; presented in fields 14 through 25.

14. RA_MN. Station mean percent survival. Numeric field width 6, with 2 decimal places..
15. RA_SD. Station standard deviation of percent survival. Numeric field, width 6 with 2 decimal places.
16. RA_SG. Station statistical significance, representing the significance of the statistical test between the home sediment and the sample. A single * represents significance at the .05 level, and double ** represents significance at the .01 level. ns = not statistically significant. A "-9" indicates no statistics were run. Character field, width 5.
17. RA_TOX. Sample is considered toxic and denoted with a "T" if: 1) Sample mean is significantly different from control mean when compared using a t-test (þ = 0.05). 2) If sample mean as a percent of the control mean is less than 77% of the control (MSD as a percent of the control). "NT" signifies non-toxic. Character field, width 3.
18. RA_OTNH3. Total ammonia concentration (ppm in water) in overlying water (water above bedded sediment) for each station analyzed using amphipod toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 3 decimal places.
19. RA_OUNH3. Unionized ammonia concentration (ppm in water) in overlying water (water above bedded sediment) for each station analyzed using amphipod toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed.

When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 3 decimal places.

20. RA_OH2S. Hydrogen sulfide concentration (ppm in water) in overlying water (water above bedded sediment) for each station analyzed using amphipod toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 4 decimal places.
21. RA_ITNH3. Total ammonia concentration (ppm in water) in interstitial water (water within bedded sediment) for each station analyzed using amphipod toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 3 decimal places.
22. RA_IUNH3. Unionized ammonia concentration (ppm in water) interstitial water (water within bedded sediment) for each station analyzed using amphipod toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 3 decimal places.
23. RA_IH2S. Hydrogen sulfide concentration (ppm in water) in interstitial water (water within bedded sediment) for each station analyzed using amphipod toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 4 decimal places.
24. RA_BATCH. The batch number that the sample were run in, character width 10.
25. RAQC. Data qualifier codes are notations used by data reviewers to briefly describe, or qualify data and the systems producing data, numeric width 4. Data qualifier codes are as follows:
    A. When the sample meets or exceeds the control criteria requirements, the value is reported as "-4".
    B. When the sample has minor exceedences of control criteria but is generally usable for most assessments and reporting purposes, the value is reported as "-5". For samples coded "-5" it is recommended that if assessments are made that are especially sensitive or critical, the QA evaluations should be consulted before using the data.
    C. When the QA sample has major exceedences of control criteria requirements and the data are not usable for most assessments and reporting purposes, the value is reported as "-6".
    D. When the sample has minor exceedences of control criteria and is unlikely to affect assessments, the value is reported as "-3".

AMPHIPOD SURVIVAL TOXICITY TEST DATA. The following are descriptions of the field headings for the amphipod *Eohaustorius estuarius* (EE) toxicity test using homogenized sediment samples; presented in fields 26 through 37.

26. EE_MN. Station mean percent survival. Numeric field, width 6 and 2 decimal places.
27. EE_SD. Station standard deviation of percent survival. Numeric field, width 6 and 2 decimal places.

28. EE_SG. Station statistical significance, representing the significance of the statistical test between the home sediment and the sample. A single * represents significance at the .05 level, and double ** represents significance at the .01 level. ns = not statistically significant. Character field, width 5.

29. EE_TOX. Sample is considered toxic and denoted with a "T" if: 1) Sample mean is significantly different from control mean when compared using a t-test (þ = 0.05). 2) If sample mean as a percent of the control mean is less than 75% of the control (MSD as a percent of the control). "NT" signifies non-toxic. Character field, width 3.

30. EE_BATCH. The batch number that the sample were run in, character width 10.

31. EEQC. Data qualifier codes are notations used by data reviewers to briefly describe, or qualify data and the systems producing data, numeric width 4. Data qualifier codes are as follows:

   A. When the sample meets or exceeds the control criteria requirements, the value is reported as "-4".

   B. When the sample has minor exceedences of control criteria but is generally usable for most assessments and reporting purposes, the value is reported as "-5". For samples coded "-5" it is recommended that if assessments are made that are especially sensitive or critical, the QA evaluations should be consulted before using the data.

   C. When the QA sample has major exceedences of control criteria requirements and the data are not usable for most assessments and reporting purposes, the value is reported as "-6".

   D. When the sample has minor exceedences of control criteria and is unlikely to affect assessments, the value is reported as "-3".

32. EE_OTNH3. Total ammonia concentration (ppm in water) in overlying water (water above bedded sediment) for each station analyzed using amphipod toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 3 decimal places.

33. EE_OUNH3. Unionized ammonia concentration (ppm in water) in overlying water (water above bedded sediment) for each station analyzed using amphipod toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 3 decimal places.

34. EE_OH2S. Hydrogen sulfide concentration (ppm in water) in overlying water (water above bedded sediment) for each station analyzed using amphipod toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 4 decimal places.

35. EE_ITNH3. Total ammonia concentration (ppm in water) in interstitial water (water within bedded sediment) for each station analyzed using amphipod toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 3 decimal places.

36. EE_IUNH3. Unionized ammonia concentration (ppm in water) interstitial water (water within bedded sediment) for each station analyzed using amphipod toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When

the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 3 decimal places.

37. EE_IH2S. Hydrogen sulfide concentration (ppm in water) in interstitial water (water within bedded sediment) for each station analyzed using amphipod toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 4 decimal places.

ABALONE LARVAL SHELL DEVELOPMENT TOXICITY TEST DATA. The following are descriptions of the field headings for the abalone larval (*Haliotis rufescens*) shell development toxicity tests, presented in fields 38 through 46. Results are given for undiluted subsurface water (100%).

38. HRS100_MN. Station mean percent normal development in 100% subsurface water. Numeric field, width 6 and 2 decimal places.
39. HRS100_SD. Station standard deviation of percent normal development in 100% subsurface water. Numeric field, width 6 and 2 decimal places.
40. HRS100_SG. Station statistical significance, representing the significance of the statistical test between the home sediment and the sample. A single * represents significance at the .05 level, and double ** represents significance at the .01 level. ns = not statistically significant. Character field, width 5.
41. HRS100_TOX. Sample is considered toxic and denoted with a "T" if: 1) Sample mean is significantly different from control mean when compared using a t-test (þ= 0.05). 2) If sample mean as a percent of the control mean is less than 80% of the control. "NT" signifies non-toxic. Character field, width 3.
42. HRS_OUNH3. Unionized ammonia concentration (ppm in water) in overlying water for each station analyzed in abalone toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 3 decimal places.
43. HRS_OTNH3. Total ammonia concentration (ppm in water) in overlying water for each station analyzed in abalone toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 3 decimal places.
44. HRS_OH2S. Hydrogen sulfide concentration (ppm in water) in overlying water for each station analyzed in abalone toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0"= not detected. Numeric field, width 7 and 4 decimal places.
45. HRS_BATCH. The batch number that the sample were run in, character field width 10.
46. HRSQC. Data qualifier codes are notations used by data reviewers to briefly describe, or qualify data and the systems producing data, numeric field width 4. Data qualifier codes are as follows:

A When the sample meets or exceeds the control criteria requirements, the value is reported as "-4".

B. When the sample has minor exceedences of control criteria but is generally usable for most assessments and reporting purposes, the value is reported as "-5". For samples coded "-5" it is recommended that if assessments are made that are especially sensitive or critical, the QA evaluations should be consulted before using the data.

C. When the QA samples has major exceedences of control criteria requirements and the data are not usable for most assessments and reporting purposes, the value is reported as "-6".

D. When the sample has minor exceedences of control criteria and is unlikely to affect assessments, the value is reported as "-3".

The following are descriptions of the field headings for the sea urchin (*Strongylocentrotus purpuratus*) fertilization toxicity tests (SPPF) using sediment pore (interstitial) water samples; presented in fields 47 through 63. Results are given for undiluted porewater (100% porewater) and diluted porewater (50% and 25% porewater).

47. SPPF100_MN. Station mean percent fertilization in 100% porewater. Numeric field, width 6 and 2 decimal places.
48. SPPF100_SD. Station standard deviation of percent fertilization in 100% pore- water. Numeric field, width 6 and 2 decimal places.
49. SPPF100_SG. Station statistical significance, representing the significance of the statistical test between the home sediment and the sample. A single * represents significance at the .05 level, and double ** represents significance at the .01 level. ns = not statistically significant. A "-9" indicates that no statistics were run. Character field, width 5.
50. SPPF100TOX. Sample is considered toxic and denoted with a "T" if: 1) Sample mean is significantly different from control mean when compared using a t-test (= 0.05). 2) If sample mean as a percent of the control mean is less than 80% of the control. "NT" signifies non-toxic. Character field, width 3.
51. SPPF50_MN. Station mean percent fertilization in 50% porewater. Numeric field, width 6 and 2 decimal places.
52. SPPF50_SD. Station standard deviation of percent fertilization in 50% pore- water. Numeric field, width 6 and 2 decimal places.
53. SPPF50_SG. Station statistical significance, representing the significance of the statistical test between the home sediment and the sample. A single * represents significance at the .05 level, and double ** represents significance at the .01 level. ns = not statistically significant. A "-9" indicates that no statistics were run. Character field, width 5.
54. SPPF50_TOX. Sample is considered toxic and denoted with a "T" if: 1) Sample mean is significantly different from control mean when compared using a t-test (þ= 0.05). 2) If sample mean as a percent of the control mean is less than 80% of the control. "NT" signifies non-toxic. Character field, width 3.
55. SPPF25_MN. Station mean percent fertilization in 25% porewater. Numeric field, width 6 and 2 decimal places.
56. SPPF25_SD. Station standard deviation of percent fertilization in 25% pore- water. Numeric field, width 6 and 2 decimal places.
57. SPPF25_SG. Station statistical significance, representing the significance of the statistical test between the home sediment and the sample. A single * represents significance at the

.05 level, and double ** represents significance at the .01 level. ns = not statistically significant. A "-9" indicates that no statistics were run. Character field, width 5.

58. SPPF25_TOX. Sample is considered toxic and denoted with a "T" if: 1) Sample mean is significantly different from control mean when compared using a t-test (þ= 0.05). 2) If sample mean as a percent of the control mean is less than 80% of the control. "NT" signifies non-toxic. Character field, width 3.

59. SPPF_ITNH3. Total ammonia concentration (ppm) in porewater for each station analyzed using urchin toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 3 decimal places.

60. SPPF_IUNH3. Unionized ammonia concentration (ppm) in porewater for each station analyzed using urchin toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 3 decimal places.

61. SPPF_IH2S. Hydrogen sulfide concentration (ppm) in porewater for each station analyzed using urchin toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0"= not detected. Numeric field, width 7 and 4 decimal places.

62. SPPF_BATCH. The batch number that the samples were analyzed in, character width 10.

63. SPPFQC. Data qualifier codes are notations used by data reviewers to briefly describe, or qualify data and the systems producing data, numeric field width 4. Data qualifier codes are as follows:

A. When the sample meets or exceeds the control criteria requirements, the value is reported as "-4".

B. When the sample has minor exceedences of control criteria but is generally usable for most assessments and reporting purposes, the value is reported as "-5". For samples coded "-5" it is recommended that if assessments are made that are especially sensitive or critical, the QA evaluations should be consulted before using the data.

C. When the QA sample has major exceedences of control criteria requirements and the data are not usable for most assessments and reporting purposes, the value is reported as "-6".

D. When the sample has minor exceedences of control criteria and is unlikely to affect assessments, the value is reported as "-3".

The following are descriptions of the field headings for the sea urchin (*Strongylocentrotus purpuratus*) development toxicity tests (SPPD) using sediment pore (interstitial) water samples; presented in fields 64 through 80. Results are given for undiluted interstitial water (100% porewater) and diluted (50% and 25% porewater).

64. SPPD100_MN. Station mean percent normal development in 100% porewater. Numeric field, width 6 and 2 decimal places.

65. SPPD100_SD. Station standard deviation of percent normal development in 100% porewater. Numeric field, width 6 and 2 decimal places.

66. SPPD100_SG. Station statistical significance, representing the significance of the statistical test between the home sediment and the sample. A single * represents significance at the .05 level, and double ** represents significance at the .01 level. ns = not statistically significant. Character field, width 5.

67. SPPD100TOX. Sample is considered toxic and denoted with a "T" if: 1) Sample mean if significantly different from control mean when compared using a t-test (þ = 0.05). 2) If sample mean as a percent of the control mean is less than 68% of the control (MSD as a percent of the control). "NT" signifies non-toxic. Character field, width 3.

68. SPPD50_MN. Station mean percent normal development in 50% porewater. Numeric field, width 6 and 2 decimal places.

69. SPPD50_SD. Station standard deviation of percent normal development in 50% porewater. Numeric field, width 6 and 2 decimal places.

70. SPPD50_SG. Station statistical significance, representing the significance of the statistical test between the home sediment and the sample. A single * represents significance at the .05 level, and double ** represents significance at the .01 level. ns = not statistically significant. A "-9" indicates that no statistics were run. Character field, width 5.

71. SPPD50_TOX. Sample is considered toxic and denoted with a "T" if: 1) Sample mean if significantly different from control mean when compared using a t-test (þ = 0.05). 2) If sample mean as a percent of the control mean is less than 68% of the control (MSD as a percent of the control). "NT" signifies non-toxic. Character field, width 3.

72. SPPD25_MN. Station mean percent normal development in 25% porewater. Numeric field, width 6 and 2 decimal places.

73. SPPD25_SD. Station standard deviation of percent normal development in 25% porewater. Numeric field, width 6 and 2 decimal places.

74. SPPD25_SG. Station statistical significance, representing the significance of the statistical test between the home sediment and the sample. A single * represents significance at the .05 level, and double ** represents significance at the .01 level. ns = not statistically significant. A "-9" indicates that no statistics were run. Character field, width 5.

75. SPPD25_TOX. Sample is considered toxic and denoted with a "T" if: 1) Sample mean if significantly different from control mean when compared using a t-test (þ = 0.05). 2) If sample mean as a percent of the control mean is less than 68% of the control (MSD as a percent of the control). "NT" signifies non-toxic. Character field, width 3.

76. SPPD_BATCH. The batch number that the samples were analyzed in, character width 10.

77. SPPDQC. Data qualifier codes are notations used by data reviewers to briefly describe, or qualify data and the systems producing data, numeric field width 4. Data qualifier codes are as follows:

   A. When the sample meets or exceeds the control criteria requirements, the value is reported as "-4".

   B. When the sample has minor exceedences of control criteria but is generally usable for most assessments and reporting purposes, the value is reported as "-5". For samples coded "-5" it is recommended that if assessments are made that are especially sensitive or critical, the QA evaluations should be consulted before using the data.

C. When the QA sample has major exceedences of control criteria requirements and the data are not usable for most assessments and reporting purposes, the value is reported as "-6".

D. When the sample has minor exceedences of control criteria and is unlikely to affect assessments, the value is reported as "-3".

78. SPPD_ITNH3. Total ammonia concentration (ppm) in porewater for each station analyzed using urchin toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 3 decimal places.

79. SPPD_IUNH3. Unionized ammonia concentration (ppm) in porewater for each station analyzed using urchin toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 3 decimal places.

80. SPPD_IH2S. Hydrogen sulfide concentration (ppm) in porewater for each station analyzed using urchin toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0"= not detected. Numeric field, width 7 and 4 decimal places.

The following are descriptions of the field headings for the sea urchin (*Strongylocentrotus purpuratus*) development toxicity tests (SPDI), using the sediment/water interface exposure to intact sediment cores; presented in fields 81 through 89.

81. SPDI_MN. Station mean percent normal development in the sediment/water interface exposure. Numeric field, width 6 and 2 decimal places.

82. SPDI_SD. Station standard deviation of percent normal development in the sediment/water interface exposure. Numeric field, width 6 and 2 decimal places.

83. SPDI_SG. Station statistical significance, representing the significance of the statistical test between the home sediment and the sample. A single * represents significance at the .05 level, and double ** represents significance at the .01 level. ns = not statistically significant. Character field, width 5.

84. SPDI_TOX. Sample is considered toxic and denoted with a "T" if: 1) Sample mean is significantly different from control mean when compared using a t-test (þ= 0.05). 2) If sample mean as a percent of the control mean is less than 59% of the control (MSD as a percent of the control). "NT" signifies non-toxic. Character field, width 3.

85. SPDI_BATCH. The batch number that the samples were analyzed in, character field width 10.

86. SPDIQC. Data qualifier codes are notations used by data reviewers to briefly describe, or qualify data and the systems producing data, numeric field width 4. Data qualifier codes are as follows:

A. When the sample meets or exceeds the control criteria requirements, the value is reported as "-4".

B. When the sample has minor exceedences of control criteria but is generally usable for most assessments and reporting purposes, the value is reported as "-5". For samples coded "-5" it is recommended that if assessments are made that are especially sensitive or critical, the QA evaluations should be consulted before using the data.

C. When the QA sample has major exceedences of control criteria requirements and the data are not usable for most assessments and reporting purposes, the value is reported as "-6".

D. When the sample has minor exceedences of control criteria and is unlikely to affect assessments, the value is reported as "-3".

87. SPDI_OTNH3. Total ammonia concentration (ppm in water) in overlying water samples (water above bedded sediment used for urchin toxicity tests). When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 3 decimal places.

88. SPDI_OUNH3. Unionized ammonia concentration (ppm in water) in overlying water samples (water above bedded sediment) for each station analyzed using urchin toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 3 decimal places.

89. SPDI_OH2S. Hydrogen sulfide concentration (ppm in water) in overlying water (water above bedded sediment) for each station analyzed using urchin toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 4 decimal places.

The following are descriptions of the field headings for the mussel larval (*Mytilus* spp.) shell development toxicity tests, (MES) using subsurface water samples; presented in fields 90 through 98. Results are given for undiluted subsurface water (100% subsurface water).

90. MES100_MN. Station mean percent normal development in 100% subsurface water. Numeric field, width 6 and 2 decimal places.

91. MES100_SD. Station standard deviation of percent normal development in 100% subsurface water. Numeric field, width 6 and 2 decimal places.

92. MES100_SG. Station statistical significance, representing the significance of the statistical test between the home sediment and the sample. A single * represents significance at the .05 level, and double ** represents significance at the .01 level. ns = not statistically significant. Character field, width 5.

93. MES100_TOX. Sample is considered toxic and denoted with a "T" if: 1) Sample mean is significantly different from control mean when compared using a t-test (þ= 0.05). 2) If sample mean as a percent of the control mean is less than 80% of the control. "NT" signifies non-toxic. Character field, width 3.

94. MES_OUNH3. Unionized ammonia concentration (ppm in water) in overlying water samples (water above bedded sediment) used for mussel toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 3 decimal places.

95. MES_OTNH3. Total ammonia concentration (ppm in water) in overlying water samples (water above bedded sediment) used for mussel toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 3 decimal places.

96. MES_OH2S. Hydrogen sulfide concentration (ppm in water) in subsurface water samples (water above bedded sediment) used for mussel toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0"= not detected. Numeric field, width 7 and 4 decimal places.

97. MES_BATCH. The batch number that the samples were analyzed in, character field width 10.

98. MESQC. Data qualifier codes are notations used by data reviewers to briefly describe, or qualify data and the systems producing data, numeric width 4. Data qualifier codes are as follows:

   A. When the sample meets or exceeds the control criteria requirements, the value is reported as "-4".
   B. When the sample has minor exceedences of control criteria but is generally usable for most assessments and reporting purposes, the value is reported as "-5". For samples coded "-5" it is recommended that if assessments are made that are especially sensitive or critical, the QA evaluations should be consulted before using the data.
   C. When the QA sample has major exceedences of control criteria requirements and the data are not usable for most assessments and reporting purposes, the value is reported as "-6".
   D. When the sample has minor exceedences of control criteria and is unlikely to affect assessments, the value is reported as "-3"

The following are descriptions of the field headings for the mussel larval (*Mytilus* spp.) shell development toxicity tests, (MEP) using pore (interstitial) water samples; presented in fields 99 through 107. Results are given for undiluted interstitial water (100% porewater).

99. MEP100_MN. Station mean percent normal development in 100% porewater. Numeric field, width 6 and 2 decimal places.

100. MEP100_SD. Station standard deviation of percent normal development in 100% porewater. Numeric field, width 6 and 2 decimal places.

101. MEP100_SG. Station statistical significance, representing the significance of the statistical test between the home sediment and the sample. A single * represents significance at the .05 level, and double ** represents significance at the .01 level. ns = not statistically significant. Character field, width 5.

102. MEP100_TOX. Sample is considered toxic and denoted with a "T" if: 1) Sample mean is significantly different from control mean when compared using a t-test (þ= 0.05). 2) If sample mean as a percent of the control mean is less than 80% of the control. "NT" signifies non-toxic. Character field, width 3

103. MEP_ITNH3. Total ammonia concentration (ppm in water) in interstitial water samples (water within bedded sediment) used for mussel toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than

the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 3 decimal places.

104. MEP_IUNH3. Unionized ammonia concentration (ppm in water) in interstitial water samples (water within bedded sediment) used for mussel toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 3 decimal places.

105. MEP_IH2S. Hydrogen sulfide concentration (ppm in water) in interstitial water samples (water within bedded sediment) used for mussel toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0"= not detected. Numeric field, width 7 and 4 decimal places.

106. MEP_BATCH. The batch number that the samples were analyzed in, character field width 10.

107. MEPQC. Data qualifier codes are notations used by data reviewers to briefly describe, or qualify data and the systems producing data, numeric width 4. Data qualifier codes are as follows:
   A. When the sample meets or exceeds the control criteria requirements, the value is reported as "-4".
   B. When the sample has minor exceedences of control criteria but is generally usable for most assessments and reporting purposes, the value is reported as "-5". For samples coded "-5" it is recommended that if assessments are made that are especially sensitive or critical, the QA evaluations should be consulted before using the data.
   C. When the QA sample has major exceedences of control criteria requirements and the data are not usable for most assessments and reporting purposes, the value is reported as "-6".
   D. When the sample has minor exceedences of control criteria and is unlikely to affect assessments, the value is reported as "-3".

POLYCHAETE SURVIVAL TOXICITY TEST DATA. The following are descriptions of the field headings for the polychaete worm *Neanthes arenaceodentata* (NA), survival tests presented in fields 108 through 111.

108. NASURV_MN. Station mean percent survival of 5 replicates. Numeric field, width 6 with 2 decimal places.

109. NASURV_SD. Station standard deviation of percent survival. Numeric field, width 6 with 2 decimal places.

110. NASURV_SG. Station statistical significance, representing the significance of the statistical test between the home sediment and the sample. A single * represents significance at the .05 level, and double ** represents significance at the .01 level. ns = not statistically significant. Character field, width 5.

111. NASURV_TOX. Sample is considered toxic and denoted with a "T" if: 1) Sample mean is significantly different from control mean when compared using a t-test (þ = 0.05). 2) If sample mean as a percent of the control mean is less than 64% of the control (MSD as a percent of the control). "NT" signifies non-toxic. Character field, width 3.

POLYCHAETE WEIGHT CHANGE TOXICITY TEST DATA. The following are descriptions of the field headings for the polychaete worm *Neanthes arenaceodentata* (NAWT) weight change toxicity test using homogenized sediment samples; presented in fields 112 through 124.

112. NAWT_MN. Station mean weight (gm). Numeric field, width 6 and 2 decimal places.
113. NAWT_SD. Station standard deviation of weight (gm). Numeric field, width 6 and 2 decimal places.
114. NAWT_SG. Station statistical significance, representing the significance of the statistical test between the home sediment and the sample. A single * represents significance at the .05 level, and double ** represents significance at the .01 level. ns = not statistically significant. Character field, width 5.
115. NAWT_TOX. Sample is considered toxic and denoted with a "T" if: 1) Sample mean is significantly different from control mean when compared using a t-test
116. 0.05). 2) If sample mean as a percent of the control mean is less than 44% of the control (MSD as a percent of the control). "NT" signifies non-toxic. Character field, width 3.
117. NA_OTNH3. Total ammonia concentration (ppm in water) in overlying water (water above bedded sediment) for each station analyzed using polychaete toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 3 decimal places.
118. NA_OUNH3. Unionized ammonia concentration (ppm in water) in overlying water (water above bedded sediment) for each station analyzed using polychaete toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 3 decimal places.
119. NA_OH2S. Hydrogen sulfide concentration (ppm in water) in overlying water (water above bedded sediment) for each station analyzed using polychaete toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 4 decimal places.
120. NA_ITNH3. Total ammonia concentration (ppm in water) in interstitial water (water within bedded sediment) for each station analyzed using polychaete toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 3 decimal places.
121. NA_IUNH3. Unionized ammonia concentration (ppm in water) in interstitial water (water within bedded sediment) for each station analyzed using polychaete toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 3 decimal places.
122. NA_IH2S. Hydrogen sulfide concentration (ppm in water) in interstitial water (water within bedded sediment) for each station analyzed using polychaete toxicity tests. When the value is missing or not analyzed, the value is reported as "-9.0" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8.0" = not detected. Numeric field, width 7 and 4 decimal places.

123. NA_BATCH. The batch number that the samples were analyzed in, character field width 10.

124. NAQC. Data qualifier codes are notations used by data reviewers to briefly describe, or qualify data and the systems producing data, numeric field width 4. Data qualifier codes are as follows:

A. When the sample meets or exceeds the control criteria requirements, the value is reported as "-4".

B. When the sample has minor exceedences of control criteria but is generally usable for most assessments and reporting purposes, the value is reported as "-5". For samples coded "-5" it is recommended that if assessments are made that are especially sensitive or critical, the QA evaluations should be consulted before using the data.

C. When the QA sample has major exceedences of control criteria requirements and the data are not usable for most assessments and reporting purposes, the value is reported as "-6".

D. When the sample has minor exceedences of control criteria and is unlikely to affect assessments, the value is reported as "-3".

The 1TISS1_56.DBF file contains the same fields as CHEM1_56.DBF file with the exception of the following fields (the number at the start of each field is the field number):

1. TISS_TYPE. This character field is 25 characters wide and describes what type of tissue was analyzed.
2. NO_IN_COMP. The number of fish in each composite making up each sample. Numeric field, width 5.

The following purgeable aromatic hydrocarbons (BTEX) and extractable petroleum hydrocarbons (TPH) are reported on a dry weight basis in parts per billion (ppb or ng/g) and are numeric fields of varying width, and include the following compounds, listed by field number, then field name as it appears in database (and followed by the compound name if not obvious), and then by the numeric character width and number of decimal places is given:

1. BENZENE. 8.2
2. TOLUENE. 8.2
3. ETHBENZENE. Ethylbenzene. 8.2
4. XYLENES. (Total). 8.2
5. TPH_DIESEL. Total Petroleum Hydrocarbons (Diesel). 8.2

The 1BEN1_56.XLS file contains the following fields (the number at the start of each field is the field number):

1. STANUM. This field contains the CDFG station numbers that are used statewide. The format is YXXXX.Z where Y is the Regional Water Quality Control Board Region number and XXXX is the number that corresponds to a given location or site and Z is the number of the station within that site. An example is San Pablo Bay- Island #1, in San Francisco Bay, where the STANUM is 20007.0. The 2 indicates Region 2. The 0007 indicates it is Site 7 and the .0 is the replicate (if any) at the station within Site 7.
2. STATION. This field contains the exact name of the station.
3. IDORG. This field contains the unique i.d. organizational number for the sample. For each station collected on a unique date, an idorg sample number is assigned. This should be the field that links the collection, toxicity, chemical, and other databases.
4. DATE. This field is the date that each sample was collected in the field. It is listed as MM/DD/YY.
5. LEG. This field is the leg number of the project in which the sample was collected.
6. SPECIES. This field contains the different organisms found at a station, genus is given, and species if available.
7. TOTAL INDIVIDUALS. This field contains the total number of individuals found at a station.
8. TOTAL SPECIES. This field contains the total number of species found at a station.
9. TOTAL CRUST. INDIV. This field contains the total number of individuals in the Subphylum Crustacea found at a station.
10. TOTAL CRUST. SP. This field contains the total number of species in the Subphylum Crustacea found at a station.
    - A. GAMMARID INDIV. This field contains the number of individuals in the Suborder Gammaridea found at a station.
    - B. GAMMARID SP. This field contains the number of species in the Suborder Gammaridea found at a station.
    - C. OTHER CRUSTACEAN INDIV. This field contains the number of individuals, other than in the Suborder Gammaridea, in the Subphylum Crustacea, found at a station.
    - D. OTHER CRUSTACEAN SP. This field contains the number of species, other than in the Suborder Gammaridea, in the Subphylum Crustacea, found at a station.

15. TOTAL ECHINODERM INDIV. This field contains the number of individuals in the Phylum Echinodermata found at a station.
16. TOTAL ECHINODERM SP. This field contains the number of species in the Phylum Echinodermata found at a station.
17. TOTAL MOLLUSC INDIV. This field contains the number of individuals in the Phylum Mollusca found at a station.
18. TOTAL MOLLUSC SP. This field contains the number of species in the Phylum Mollusca found at a station.
19. TOTAL POLYCHAETE INDIV. This field contains the number of individuals in the Class Polychaeta found at a station.
20. TOTAL POLYCHAETE SP. This field contains the number of species in the Class Polychaeta found at a station.
21. TAXA. This field contains the different taxa found at a station.

22. # OF SPECIES. This field contains number of species found at a station.
23. NUMBER PER CORE. Number of individuals/species found in a numbered replicate core.
24. SUMMARY STATISTICS. This field contains a summary of statistical analyses. This field refers to fields 6-23.
    A. MEAN. Mean value of individuals/species in all cores analyzed.
    B. MEDIAN. Median of individuals/species in all cores analyzed.
    C. MIN. Minimum number of individuals/species found in any core.
    D. MAX. Maximum number of individuals/species found in any core.
    E. ST. DEV. Standard deviation of the above mean value.
    F. S.E. Standard error of the above mean value.
    G. 95%CL. 95% Confidence limit.
    H. SUM. This field contains the sum of individuals/species found in all cores analyzed.

APPENDIX B

Sampling Data

BPTCP SAMPLING DATES, LOCATIONS, DEPTH (m), SALINITY (ppt), and SEDIMENT TEXTURE

STANUM	STATION	IDORG	DATE	LEG	LATITUDE	LONGITUDE	HUND_SECS	GISLAT	GISLONG
10004.0	ARCATA BAY-MCDANIEL SL.	304	11/30/92	8.0	40,51,37N	124,06,02W	s	40.86027800	124.10055600
10015.0	ARCATA BAY-MAD RIVER SL.	315	11/30/92	8.0	40,51,54N	124,09,00W	s	40.86500000	124.15000000
10016.0	ARCATA BAY-JOLLY GIANT SL	316	11/30/92	8.0	40,51,22N	124,05,26W	s	40.85611100	124.09055600
10017.0	ARCATA BAY-EUREKA SL.	317	11/29/92	8.0	40,48,34N	124,08,45W	s	40.80944400	124.14583300
10018.0	H. BAY-UNION OIL PLANT	318	11/29/92	8.0	40,47,46N	124,11,11W	s	40.79611100	124.18638900
10019.0	H. BAY-COAL/OIL/GAS PLANT	319	11/29/92	8.0	40,47,38N	124,11,17W	s	40.79388800	124.18802500
10020.0	H. BAY-OLD PAC. LUMBER SITE	320	11/29/92	8.0	40,47,11N	124,11,18W	s	40.78638900	124.18833300
10021.0	H. BAY-CHEVRON TERMINAL	321	11/29/92	8.0	40,46,39N	124,11,42W	s	40.77750000	124.19500000
14001.0	EUREKA WATERFRONT - H STREET	322	11/29/92	8.0	40,48,23N	124,09,54W	s	40.80638900	124.16500000
10023.0	H. BAY EUREKA STORM 23	323	11/29/92	8.0	40,48,08N	124,10,43W	s	40.80233500	124.17865900
10024.0	H. BAY FIELDS LANDING	324	11/29/92	8.0	40,43,12N	124,13,13W	s	40.71999300	124.22029300
10025.0	H. BAY HOOKTON SL.	325	11/29/92	8.0	40,42,04N	124,13,34W	s	40.70111100	124.22611100
10036.0	SOUTHPORT CHANNEL-33B	336	11/30/92	8.0	40,44,35N	124,13,45W	s	40.74314200	124.22914800
10037.0	H. BAY-MOUTH OF ELK RIVER	337	11/30/92	8.0	40,46,19N	124,11,45W	s	40.77194400	124.19583300
14004.0	DAVENPORT MARINE	338	11/30/92	8.0	40,48,19N	124,10,23W	s	40.80527800	124.17305600
10005.0	RUSSIAN RIVER MOUTH SMW 280.0	305	2/25/93	14.0	38,26,48N	123,07,25W	s	38.44666700	123.12361100
10006.0	BODEGA BAY-MASON'S MARINA	306	2/25/93	14.0	38,19,56N	123,03,31W	s	38.33222200	123.05861100
10007.0	BODEGA BAY-SPUD POINT MARINA	307	2/25/93	14.0	38,19,41N	123,03,24W	s	38.32805600	123.05666700
10028.0	BODEGA BAY PORTO BODEGA MARINA	328	2/25/93	14.0	38,20,02N	123,03,06W	s	38.33388900	123.05166700
10029.0	ESTERO AMERICANO-VALLEY FORD	329	2/25/93	14.0	38,18,34N	122,56,12W	s	38.30944400	122.93666700
10030.0	ESTERO DE SAN ANTONIO-VALLEY F	330	2/25/93	14.0	38,16,40N	122,56,53W	s	38.27777800	122.94805600
10031.0	MOUTH OF ESTERO AMERICANO	331	2/26/93	14.0	38,17,53N	122,59,54W	s	38.29805600	122.99833300
10032.0	MOUTH OF ESTERO DE SAN ANTONIO	332	2/26/93	14.0	38,16,22N	122,58,34W	s	38.27277800	122.97611100
10039.0	UNCONTAMINATED SITE-33C	339	2/25/93	14.0	38,19,07N	123,02,36W	s	38.31861100	123.04333300
10040.0	UNCONTAMINATED SITE-33D	340	2/26/93	14.0	38,19,21N	123,02,17W	s	38.32240000	123.03800800
10041.0	SALMON CREEK-34L	341	2/25/93	14.0	38,21,02N	123,03,54W	s	38.35055600	123.06500000
10037.0	MEGAMUD-HUMBOLDT-(ELK)-REP 1	900	6/22/93	20.0	40,46,21N	124,11,46W	s	40.77250000	124.19611100
10037.0	MEGAMUD-HUMBOLDT-(ELK)-REP 2	901	6/22/93	20.0	40,46,21N	124,11,46W	s	40.77250000	124.19611100
10037.0	MEGAMUD-HUMBOLDT-(ELK)-REP 3	902	6/22/93	20.0	40,46,21N	124,11,46W	s	40.77250000	124.19611100
10040.0	UNCONTAMINATED SITE-33D	1321	5/16/94	32.0	38,19,21N	123,02,17W	s	38.32241900	123.03803700
10031.0	MOUTH OF ESTERO AMERICANO	1322	5/16/94	32.0	38,17,53N	122,59,54W	s	38.29805600	122.99833300
10006.0	BODEGA BAY-MASON'S MARINA REP1	1350	6/14/94	33.0	38,19,94N	123,03,53W	h	38.33233300	123.05883300
10006.0	BODEGA BAY-MASON'S MARINA REP2	1351	6/14/94	33.0	38,19,93N	123,03,54W	h	38.33212600	123.05901500
10006.0	BODEGA BAY-MASON'S MARINA REP3	1352	6/14/94	33.0	38,19,91N	123,03,53W	h	38.33183300	123.05883300
10007.0	BODEGA-SPUD POINT MARINA REP1	1353	6/13/94	33.0	38,19,66N	123,03,35W	h	38.32766700	123.05583300
10007.0	BODEGA-SPUD POINT MARINA REP2	1354	6/13/94	33.0	38,19,64N	123,03,36W	h	38.32733300	123.05600000
10007.0	BODEGA-SPUD POINT MARINA REP3	1355	6/13/94	33.0	38,19,66N	123,03,38W	h	38.32766700	123.05633300
10028.0	PORTO BODEGA MARINA REP1	1356	6/14/94	33.0	38,20,04N	123,03,04W	h	38.33400000	123.05066700

BPTCP SAMPLING DATES, LOCATIONS, DEPTH (m), SALINITY (ppt), and SEDIMENT TEXTURE

STANUM	STATION	IDORG	DATE	LEG	LATITUDE	LONGITUDE	HUND_SECS	GISLAT	GISLONG
10028.0	PORTO BODEGA MARINA REP2	1357	6/14/94	33.0	38,20,04N	123,03,06W	h	38.33400000	123.05100000
10028.0	PORTO BODEGA MARINA REP3	1358	6/14/94	33.0	38,20,04N	123,03,08W	h	38.33400000	123.05133300
10040.0	UNCONTAMINATED SITE-33D REP1	1359	6/13/94	33.0	38,19,34N	123,02,31W	h	38.32230100	123.03853700
10040.0	UNCONTAMINATED SITE-33D REP2	1360	6/13/94	33.0	38,19,35N	123,02,32W	h	38.32245500	123.03861300
10040.0	UNCONTAMINATED SITE-33D REP3	1361	6/13/94	33.0	38,19,36N	123,02,33W	h	38.32262900	123.03875600
14003.0	ARCATA BAY- JOLLY GIANT NORTH	1438	2/14/95	36.5	40,51,667N	124,05,433W	h	40.86111100	124.09055550
15002.0	H. BAY- WASHINGTON STREET	1440	2/15/95	36.5	40,47,952N	124,11,034W	h	40.79920000	124.18390000
10019.0	H. BAY-COAL/OIL/GAS	1442	2/15/95	36.5	40,47,646N	124,11,261W	h	40.79410000	124.18768300
10020.0	H. BAY- OLD PAC. LUMBER SITE	1444	2/15/95	36.5	40,47,266N	124,11,236W	h	40.78776600	124.18726600
14004.0	DAVENPORT MARINE	1446	2/15/95	36.5	40,48,292N	124,10,404W	h	40.80486600	124.17340000
10022.0	HUMBOLDT BAY EUREKA SM.22	1448	2/15/95	36.5	40,48,356N	124,10,111W	h	40.80593300	124.16851670
14001.0	EUREKA WATERFRONT- H STREET	1450	2/15/95	36.5	40,48,382N	124,09,921W	h	40.80636600	124.16535000
14002.0	EUREKA WATERFRONT- J STREET	1452	2/14/95	36.5	40,48,391N	124,09,779W	h	40.80651700	124.16298300
14004.0	DAVENPORT MARINE	1578	4/17/96	42.0	40,48,307N	124,10,410W	h	40.80511667	124.17350000
10023.0	H. BAY EUREKA STORM 23	1579	4/17/96	42.0	40,48,164N	124,10,755W	h	40.80273333	124.17925000
10016.0	ARCATA BAY-JOLLY GIANT SL.	1580	4/18/96	42.0	40,51,365N	124,05,440W	h	40.85608333	124.09066667
10017.0	ARCATA BAY-EUREKA SL.	1581	4/17/96	42.0	40,48,405N	124,08,604W	h	40.80675400	124.14339300
10021.0	H. BAY-CHEVRON TERMINAL	1582	4/17/96	42.0	40,46,698N	124,11,717W	h	40.77830000	124.19528333
10019.0	H. BAY-COAL/OIL/GAS PLANT	1583	4/17/96	42.0	40,47,653N	124,11,290W	h	40.79421667	124.18816667
10018.0	H. BAY-UNION OIL PLANT	1584	4/17/96	42.0	40,47,725N	124,11,209W	h	40.79541667	124.18681667
15001.0	H. BAY- HALBERSON SHORELINE	1585	4/17/96	42.0	40,48,562N	124,09,167W	h	40.80936667	124.15278333
14002.0	EUREKA WATERFRONT- J.STREET	1586	4/17/96	42.0	40,48,380N	124,09,735W	h	40.80633333	124.16225000
14001.0	EUREKA WATERFRONT- H STREET	1587	4/17/96	42.0	40,48,379N	124,09,867W	h	40.80631667	124.16445000
10006.0	BODEGA BAY MASON'S MARINA	1682	12/6/96	47.0	38,19,926N	123,03,506W	h	38.33210000	123.05843330
10007.0	BODEGA-SPUD POINT MARINA	1683	12/5/96	47.0	38,19,611N	123,03,280W	h	38.32685000	123.05466670
10028.0	PORTO BODEGA MARINA	1684	12/6/96	47.0	38,20,068N	123,03,032W	h	38.33446670	123.05053330
10040.0	UNCONTAMINATED SITE-33D	1685	12/6/96	47.0	38,19,350N	123,02,439W	h	38.32250000	123.04065000

BPTCP SAMPLING DATES, LOCATIONS, DEPTH (m), SALINITY (ppt), and SEDIMENT TEXTURE

STANUM	STATION	IDORG	DATE	LEG	DEPTH	TEMP_C	SALINITY	SED_TEXTUR
10004.0	ARCATA BAY-MCDANIEL SL.	304	11/30/92	8.0	1.0	9.7	26	GREY, SOME CLAY
10015.0	ARCATA BAY-MAD RIVER SL.	315	11/30/92	8.0	0.5	9.6	30	MEDIUM TEXTURE
10016.0	ARCATA BAY-JOLLY GIANT SL	316	11/30/92	8.0	1.0	9.9	21	FINE, GRITTY, STICKY
10017.0	ARCATA BAY-EUREKA SL.	317	11/29/92	8.0	1.0	9.7	30	FIRM
10018.0	H. BAY-UNION OIL PLANT	318	11/29/92	8.0	1.0	10.1	32	MUD
10019.0	H. BAY-COAL/OIL/GAS PLANT	319	11/29/92	8.0	1.0	10.5	33	FINE MUD
10020.0	H. BAY-OLD PAC. LUMBER SITE	320	11/29/92	8.0	1.0	9.0	33	FINE
10021.0	H. BAY-CHEVRON TERMINAL	321	11/29/92	8.0	1.0	9.6	34	FINE SAND
10022.0	HUMBOLDT BAY EUREKA SM.22	322	11/29/92	8.0	1.0	9.7	29	SOFT
10023.0	H. BAY EUREKA STORM 23	323	11/29/92	8.0	2.0	10.2	32	SANDY
10024.0	H. BAY FIELDS LANDING	324	11/29/92	8.0	1.5	10.3	33	MEDIUM FINE
10025.0	H. BAY HOOKTON SL.	325	11/29/92	8.0	1.0	10.3	34	FINE, SILTY
10036.0	SOUTHPORT CHANNEL-33B	336	11/30/92	8.0	1.0	9.7	34	MEDIUM TEXTURE, FINE SAND
10037.0	H. BAY-MOUTH OF ELK RIVER	337	11/30/92	8.0	1.0	12.1	33	MIXED GRADATION, TIGHT
10038.0	H. BAY EUR.WAT.FT. FUEL D	338	11/30/92	8.0	1.0	10.3	30	FINE, SANDY
10005.0	RUSSIAN RIVER MOUTH SMW 280.0	305	2/25/93	14.0	0.5	9.5	0	SANDY W/UPPER MUD LAYER
10006.0	BODEGA BAY-MASON'S MARINA	306	2/25/93	14.0	5.0	11.1	30	GOOEY, VERY FINE
10007.0	BODEGA BAY-SPUD POINT MARINA	307	2/25/93	14.0	4.5	10.9	30	VERY FINE GRAIN, SHELL DEB
10028.0	BODEGA BAY PORTO BODEGA MARINA	328	2/25/93	14.0	3.5	11.2	30	MEDIUM FINE
10029.0	ESTERO AMERICANO-VALLEY FORD	329	2/25/93	14.0	0.5	9.2	0	SOFT, LOW WATER CONTENT
10030.0	ESTERO DE SAN ANTONIO-VALLEY F	330	2/25/93	14.0	0.5	10.2	0	COW PIE FIBERS PRESENT
10031.0	MOUTH OF ESTERO AMERICANO	331	2/26/93	14.0	0.5	18.9	27	SANDY
10032.0	MOUTH OF ESTERO DE SAN ANTONIO	332	2/26/93	14.0	0.5	9.5	1	SANDY
10039.0	UNCONTAMINATED SITE-33C	339	2/25/93	14.0	0.5	10.5	18	SANDY
10040.0	UNCONTAMINATED SITE-33D	340	2/26/93	14.0	0.5	18.0	20	CLAYEY
10041.0	SALMON CREEK-34L	341	2/25/93	14.0	1.0	8.1	0	MUDDY, 1 CM OXIC LAYER
10037.0	MEGAMUD-HUMBOLDT-(ELK)-REP 1	900	6/22/93	20.0	-9	-9	-9	-9
10037.0	MEGAMUD-HUMBOLDT-(ELK)-REP 2	901	6/22/93	20.0	-9	-9	-9	-9
10037.0	MEGAMUD-HUMBOLDT-(ELK)-REP 3	902	6/22/93	20.0	-9	-9	-9	-9
10040.0	UNCONTAMINATED SITE-33D	1321	5/16/94	32.0	0.5	-9	37	SAND AND CLAY
10031.0	MOUTH OF ESTERO AMERICANO	1322	5/16/94	32.0	0.5	-9	34	SAND AND MUD
10006.0	BODEGA BAY-MASON'S MARINA REP1	1350	6/14/94	33.0	4	13.3	36	FINE MUD WITH SAND
10006.0	BODEGA BAY-MASON'S MARINA REP2	1351	6/14/94	33.0	4	13.3	36	FINE MUD WITH SAND
10006.0	BODEGA BAY-MASON'S MARINA REP3	1352	6/14/94	33.0	4	13.3	36	FINE MUD WITH SAND
10007.0	BODEGA-SPUD POINT MARINA REP1	1353	6/13/94	33.0	1.5	14.2	36	SANDY MUD
10007.0	BODEGA-SPUD POINT MARINA REP2	1354	6/13/94	33.0	1	13.2	36	SANDY MUD
10007.0	BODEGA-SPUD POINT MARINA REP3	1355	6/13/94	33.0	1	13.4	36	SANDY MUD
10028.0	PORTO BODEGA MARINA REP1	1356	6/14/94	33.0	2	13.4	36	FINE MUD ON SANDY/CLAYISH

BPTCP SAMPLING DATES, LOCATIONS, DEPTH (m), SALINITY (ppt), and SEDIMENT TEXTURE

STANUM	STATION	IDORG	DATE	LEG	DEPTH	TEMP_C	SALINITY	SED_TEXTUR
10028.0	PORTO BODEGA MARINA REP2	1357	6/14/94	33.0	2	13.2	36	FINE MUD ON SANDY/CLAYISH
10028.0	PORTO BODEGA MARINA REP3	1358	6/14/94	33.0	3	13.3	36	FINE MUD ON SANDY/CLAYISH
10040.0	UNCONTAMINATED SITE-33D REP1	1359	6/13/94	33.0	0.4	16.0	38	MUD AND FINE SAND
10040.0	UNCONTAMINATED SITE-33D REP2	1360	6/13/94	33.0	0.4	16.0	38	MUD AND FINE SAND
10040.0	UNCONTAMINATED SITE-33D REP3	1361	6/13/94	33.0	0.4	16.0	38	MUD AND FINE SAND
14003.0	ARCATA BAY- JOLLY GIANT NORTH	1438	2/14/95	36.5	1	10.1	6	MUDDY
10018.0	H. BAY- UNION OIL PLANT	1440	2/15/95	36.5	2	12.1	32	MUDDY
10019.0	H. BAY-COAL/OIL/GAS	1442	2/15/95	36.5	1.5	12.3	30	MUDDY
10020.0	H. BAY- OLD PAC. LUMBER SITE	1444	2/15/95	36.5	1	12.0	28	MUDDY
14004.0	DAVENPORT MARINE- C STREET	1446	2/15/95	36.5	2	11.3	32	MUDDY
10022.0	HUMBOLDT BAY EUREKA SM.22	1448	2/15/95	36.5	2	11.0	32	MUDDY
14001.0	EUREKA WATERFRONT- H STREET	1450	2/15/95	36.5	1.5	11.2	-9	MUDDY
14002.0	EUREKA WATERFRONT- J STREET	1452	2/14/95	36.5	3	11.1	30	MUDDY
10038.0	H. BAY EUR.WAT.FT. FUEL D	1578	4/17/96	42.0	3	13.0	26	FINE MUD
10023.0	H. BAY EUREKA STORM 23	1579	4/17/96	42.0	2	13.0	22	GRITTY SHELL DEBRIS
10016.0	ARCATA BAY-JOLLY GIANT SL.	1580	4/18/96	42.0	0	9.0	15	GOOEY
10017.0	ARCATA BAY-EUREKA SL.	1581	4/17/96	42.0	3	12.0	22	GOOEY FINE
10021.0	H. BAY-CHEVRON TERMINAL	1582	4/17/96	42.0	3	12.0	30	FINE
10019.0	H. BAY-COAL/OIL/GAS PLANT	1583	4/17/96	42.0	1	11.0	29	-9
10018.0	H. BAY-UNION OIL PLANT	1584	4/17/96	42.0	1	11.0	28	FINE
15001.0	H. BAY- HALBERSON SHORELINE	1585	4/17/96	42.0	2	13.0	27	CLAY
14002.0	EUREKA WATERFRONT- J STREET	1586	4/17/96	42.0	4	13.0	28	FINE
14001.0	EUREKA WATERFRONT- H STREET	1587	4/17/96	42.0	2	13.0	26	GOOEY FINE
10006.0	BODEGA BAY MASON'S MARINA	1682	12/6/96	47.0	5	12.0	32	GOOEY THIN OXIC LAYER
10007.0	BODEGA-SPUD POINT MARINA	1683	12/5/96	47.0	3	11.0	32	SANDY THIN OXIC LAYER
10028.0	PORTO BODEGA MARINA	1684	12/6/96	47.0	4	12.0	28	NICE MUD THIN OXIC
10040.0	UNCONTAMINATED SITE-33D	1685	12/6/96	47.0	0.1	16.0	31	DANDY HARD

APPENDIX C

Analytical Chemistry Data

SECTION I

Trace Metal Analysis of Sediments

TRACE METAL ANALYSIS OF SEDIMENTS (dry weight-ppm-ug/g)

STANUM	STATION	IDORG	DATE	LEG	METADATA	TMMOIST	ALUMINUM	ANTIMONY	ARSENIC	CADMIUM
10004.0	ARCATA BAY-MCDANIEL SL.	304	11/30/92	8.0	QA5_23.TXT	-9.00	26000.00	0.470	8.800	0.1100
10015.0	ARCATA BAY-MAD RIVER SL.	315	11/30/92	8.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
10016.0	ARCATA BAY-JOLLY GIANT SL	316	11/30/92	8.0	QA5_23.TXT	-9.00	51000.00	0.430	7.300	0.2400
10017.0	ARCATA BAY-EUREKA SL.	317	11/29/92	8.0	QA5_23.TXT	-9.00	52000.00	0.600	7.300	0.1100
10018.0	H. BAY-UNION OIL PLANT	318	11/29/92	8.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
10019.0	H. BAY-COAL/OIL/GAS PLANT	319	11/29/92	8.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
10020.0	H. BAY-OLD PAC. LUMBER SITE	320	11/29/92	8.0	QA5_23.TXT	-9.00	45000.00	0.520	5.600	0.1700
10021.0	H. BAY-CHEVRON TERMINAL	321	11/29/92	8.0	QA5_23.TXT	-9.00	69000.00	0.350	5.500	0.2400
14001.0	EUREKA WATERFRONT - H STREET	322	11/29/92	8.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
10023.0	H. BAY EUREKA STORM 23	323	11/29/92	8.0	QA5_23.TXT	-9.00	44000.00	0.620	6.000	0.2300
10024.0	H. BAY FIELDS LANDING	324	11/29/92	8.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
10025.0	H. BAY HOOKTON SL.	325	11/29/92	8.0	QA5_23.TXT	-9.00	43000.00	0.390	8.000	0.1000
10036.0	SOUTHPORT CHANNEL-33B	336	11/30/92	8.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
10037.0	H. BAY-MOUTH OF ELK RIVER	337	11/30/92	8.0	QA5_23.TXT	-9.00	62000.00	0.130	6.700	0.1600
14004.0	DAVENPORT MARINE	338	11/30/92	8.0	QA5_23.TXT	-9.00	54000.00	2.100	6.800	0.2400
10005.0	RUSSIAN RIVER MOUTH SMW 280.0	305	2/25/93	14.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
10006.0	BODEGA BAY-MASON'S MARINA	306	2/25/93	14.0	QA5_23.TXT	-9.00	38000.00	0.240	11.000	0.8500
10007.0	BODEGA BAY-SPUD POINT MARINA	307	2/25/93	14.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
10028.0	BODEGA BAY PORTO BODEGA MARINA	328	2/25/93	14.0	QA5_23.TXT	-9.00	37000.00	0.340	8.200	0.4500
10029.0	ESTERO AMERICANO-VALLEY FORD	329	2/25/93	14.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
10030.0	ESTERO DE SAN ANTONIO-VALLEY F	330	2/25/93	14.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
10031.0	MOUTH OF ESTERO AMERICANO	331	2/26/93	14.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
10032.0	MOUTH OF ESTERO DE SAN ANTONIO	332	2/26/93	14.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
10039.0	UNCONTAMINATED SITE-33C	339	2/25/93	14.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
10040.0	UNCONTAMINATED SITE-33D	340	2/26/93	14.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
10041.0	SALMON CREEK-34L	341	2/25/93	14.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	900	6/22/93	20.0	QA5_23.TXT	-9.00	60000.00	0.480	5.200	0.1500
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	901	6/22/93	20.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	902	6/22/93	20.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	906	6/22/93	21.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	907	6/22/93	21.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	908	6/22/93	21.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	912	6/22/93	22.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000

TRACE METAL ANALYSIS OF SEDIMENTS (dry weight-ppm-ug/g)

STANUM	STATION	IDORG	DATE	LEG	METADATA	TMMOIST	ALUMINUM	ANTIMONY	ARSENIC	CADMIUM
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	913	6/22/93	22.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	914	6/22/93	22.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	915	6/22/93	23.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	916	6/22/93	23.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	917	6/22/93	23.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
10040.0	UNCONTAMINATED SITE-33D	1321	5/16/94	32.0	chmmeta2.txt	-9.00	-9.00	-9.000	-9.000	-9.0000
10031.0	MOUTH OF ESTERO AMERICANO	1322	5/16/94	32.0	chmmeta2.txt	-9.00	-9.00	-9.000	-9.000	-9.0000
10006.0	BODEGA BAY-MASON'S MARINA REP1	1350	6/14/94	33.0	chmmeta2.txt	-9.00	-9.00	-9.000	-9.000	-9.0000
10006.0	BODEGA BAY-MASON'S MARINA REP2	1351	6/14/94	33.0	chmmeta2.txt	-9.00	-9.00	-9.000	-9.000	-9.0000
10006.0	BODEGA BAY-MASON'S MARINA REP3	1352	6/14/94	33.0	chmmeta2.txt	-9.00	-9.00	-9.000	-9.000	-9.0000
10007.0	BODEGA-SPUD POINT MARINA REP1	1353	6/13/94	33.0	chmmeta2.txt	-9.00	-9.00	-9.000	-9.000	-9.0000
10007.0	BODEGA-SPUD POINT MARINA REP2	1354	6/13/94	33.0	chmmeta2.txt	-9.00	-9.00	-9.000	-9.000	-9.0000
10007.0	BODEGA-SPUD POINT MARINA REP3	1355	6/13/94	33.0	chmmeta2.txt	-9.00	-9.00	-9.000	-9.000	-9.0000
10028.0	PORTO BODEGA MARINA REP1	1356	6/14/94	33.0	chmmeta2.txt	-9.00	-9.00	-9.000	-9.000	-9.0000
10028.0	PORTO BODEGA MARINA REP2	1357	6/14/94	33.0	chmmeta2.txt	-9.00	-9.00	-9.000	-9.000	-9.0000
10028.0	PORTO BODEGA MARINA REP3	1358	6/14/94	33.0	chmmeta2.txt	-9.00	-9.00	-9.000	-9.000	-9.0000
10040.0	UNCONTAMINATED SITE-33D REP1	1359	6/13/94	33.0	chmmeta2.txt	-9.00	-9.00	-9.000	-9.000	-9.0000
10040.0	UNCONTAMINATED SITE-33D REP2	1360	6/13/94	33.0	chmmeta2.txt	-9.00	-9.00	-9.000	-9.000	-9.0000
10040.0	UNCONTAMINATED SITE-33D REP3	1361	6/13/94	33.0	chmmeta2.txt	-9.00	-9.00	-9.000	-9.000	-9.0000
14003.0	ARCATA BAY- JOLLY GIANT NORTH	1438	2/14/95	36.5	region1.dbf	52.00	63600.00	0.380	-9.000	0.1030
15002.0	H. BAY- WASHINGTON STREET	1440	2/15/95	36.5	region1.dbf	41.00	54900.00	1.080	-9.000	0.1530
10019.0	H. BAY- COAL/OIL/GAS PLANT	1442	2/15/95	36.5	region1.dbf	39.00	47700.00	0.780	-9.000	0.1740
10020.0	H. BAY- OLD PAC. LUMBER SITE	1444	2/15/95	36.5	region1.dbf	49.50	65300.00	0.990	-9.000	0.1750
14004.0	DAVENPORT MARINE	1446	2/15/95	36.5	region1.dbf	40.80	64000.00	0.730	-9.000	0.1510
10022.0	HUMBOLDT BAY EUREKA SM.22	1448	2/15/95	36.5	region1.dbf	46.00	59900.00	1.170	-9.000	0.1490
14001.0	EUREKA WATERFRONT H STREET	1450	2/15/95	36.5	region1.dbf	47.20	55700.00	1.500	-9.000	0.1980
14002.0	EUREKA WATERFRONT J STREET	1452	2/15/95	36.5	region1.dbf	42.50	57900.00	0.870	-9.000	0.1830
14004.0	DAVENPORT MARINE	1578	4/17/96	42.0	CHEM3846.TXT	41.90	53600.00	0.433	-9.000	0.1330
10023.0	H. BAY EUREKA STORM 23	1579	4/17/96	42.0	CHEM3846.TXT	31.80	35500.00	1.060	-9.000	0.2690
10016.0	ARCATA BAY-JOLLY GIANT SL.	1580	4/18/96	42.0	CHEM3846.TXT	52.10	51100.00	0.242	-9.000	0.2590
10017.0	ARCATA BAY-EUREKA SL.	1581	4/17/96	42.0	CHEM3846.TXT	42.70	56500.00	0.664	-9.000	0.1540
10021.0	H. BAY-CHEVRON TERMINAL	1582	4/17/96	42.0	CHEM3846.TXT	36.00	57400.00	0.933	-9.000	0.1400
10019.0	H. BAY-COAL/OIL/GAS PLANT	1583	4/17/96	42.0	CHEM3846.TXT	39.30	53000.00	1.030	-9.000	0.1890

TRACE METAL ANALYSIS OF SEDIMENTS (dry weight-ppm-ug/g)

STANUM	STATION	IDORG	DATE	LEG	METADATA	TMMOIST	ALUMINUM	ANTIMONY	ARSENIC	CADMIUM
10018.0	H. BAY-UNION OIL PLANT	1584	4/17/96	42.0	CHEM3846.TXT	40.00	49800.00	0.886	-9.000	0.2460
15001.0	H. BAY- HALBERSON SHORELINE .	1585	4/17/96	42.0	CHEM3846.TXT	41.10	62300.00	0.508	-9.000	0.1320
14002.0	EUREKA WATERFRONT- J STREET	1586	4/17/96	42.0	CHEM3846.TXT	45.00	52400.00	1.170	-9.000	0.1360
14001.0	EUREKA WATERFRONT- H STREET	1587	4/17/96	42.0	CHEM3846.TXT	44.70	54900.00	1.250	-9.000	0.2260
10006.0	BODEGA BAY MASON'S MARINA	1682	12/6/96	47.0	CHM47_56.TXT	67.70	154000.00	1.110	-9.000	0.9610
10007.0	BODEGA-SPUD POINT MARINA	1683	12/5/96	47.0	CHM47_56.TXT	36.00	75000.00	0.368	-9.000	0.3830
10028.0	PORTO BODEGA MARINA	1684	12/6/96	47.0	CHM47_56.TXT	56.60	108000.00	0.608	-9.000	0.8070
10040.0	UNCONTAMINATED SITE-33D	1685	12/6/96	47.0	CHM47_56.TXT	31.00	38400.00	0.545	-9.000	0.1500

TRACE METAL ANALYSIS OF SEDIMENTS (dry weight-ppm-ug/g)

STANUM	STATION	IDORG	DATE	LEG	CHROMIUM	COPPER	IRON	LEAD	MANGANESE	MERCURY	NICKEL	SILVER
10004.0	ARCATA BAY-MCDANIEL SL.	304	11/30/92	8.0	200.000	38.00	47000.0	15.800	450.00	0.1020	98.000	0.1900
10015.0	ARCATA BAY-MAD RIVER SL.	315	11/30/92	8.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
10016.0	ARCATA BAY-JOLLY GIANT SL	316	11/30/92	8.0	280.000	38.00	40000.0	37.000	390.00	0.1220	128.000	0.2100
10017.0	ARCATA BAY-EUREKA SL.	317	11/29/92	8.0	240.000	33.00	55000.0	12.000	430.00	0.1490	93.000	0.1200
10018.0	H. BAY-UNION OIL PLANT	318	11/29/92	8.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
10019.0	H. BAY-COAL/OIL/GAS PLANT	319	11/29/92	8.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
10020.0	H. BAY-OLD PAC. LUMBER SITE	320	11/29/92	8.0	230.000	27.00	38000.0	6.800	400.00	0.0890	75.000	0.1100
10021.0	H. BAY-CHEVRON TERMINAL	321	11/29/92	8.0	270.000	20.00	29000.0	19.500	310.00	0.0660	87.000	0.0600
14001.0	EUREKA WATERFRONT - H STREET	322	11/29/92	8.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
10023.0	H. BAY EUREKA STORM 23	323	11/29/92	8.0	230.000	32.00	34000.0	21.800	360.00	0.0960	70.000	0.2000
10024.0	H. BAY FIELDS LANDING	324	11/29/92	8.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
10025.0	H. BAY HOOKTON SL.	325	11/29/92	8.0	240.000	28.00	35000.0	9.800	400.00	0.1030	110.000	0.0800
10036.0	SOUTHPORT CHANNEL-33B	336	11/30/92	8.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
10037.0	H. BAY-MOUTH OF ELK RIVER	337	11/30/92	8.0	200.000	22.00	29000.0	19.800	300.00	0.0740	87.000	0.0600
14004.0	DAVENPORT MARINE	338	11/30/92	8.0	240.000	39.00	35000.0	34.000	410.00	0.4530	98.000	0.1000
10005.0	RUSSIAN RIVER MOUTH SMW 280.0	305	2/25/93	14.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
10006.0	BODEGA BAY-MASON'S MARINA	306	2/25/93	14.0	160.000	50.00	34000.0	16.800	530.00	0.1270	71.000	0.0800
10007.0	BODEGA BAY-SPUD POINT MARINA	307	2/25/93	14.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
10028.0	BODEGA BAY PORTO BODEGA MARINA	328	2/25/93	14.0	250.000	62.00	34000.0	26.900	290.00	0.2370	55.000	0.0800
10029.0	ESTERO AMERICANO-VALLEY FORD	329	2/25/93	14.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
10030.0	ESTERO DE SAN ANTONIO-VALLEY F	330	2/25/93	14.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
10031.0	MOUTH OF ESTERO AMERICANO	331	2/26/93	14.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
10032.0	MOUTH OF ESTERO DE SAN ANTONIO	332	2/26/93	14.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
10039.0	UNCONTAMINATED SITE-33C	339	2/25/93	14.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
10040.0	UNCONTAMINATED SITE-33D	340	2/26/93	14.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
10041.0	SALMON CREEK-34L	341	2/25/93	14.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	900	6/22/93	20.0	240.000	21.00	30000.0	27.200	340.00	0.0480	78.000	0.0400
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	901	6/22/93	20.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	902	6/22/93	20.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	906	6/22/93	21.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	907	6/22/93	21.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	908	6/22/93	21.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	912	6/22/93	22.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000

TRACE METAL ANALYSIS OF SEDIMENTS (dry weight-ppm-ug/g)

STANUM	STATION	IDORG	DATE	LEG	CHROMIUM	COPPER	IRON	LEAD	MANGANESE	MERCURY	NICKEL	SILVER
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	913	6/22/93	22.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	914	6/22/93	22.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	915	6/22/93	23.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	916	6/22/93	23.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	917	6/22/93	23.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
10040.0	UNCONTAMINATED SITE-33D	1321	5/16/94	32.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
10031.0	MOUTH OF ESTERO AMERICANO	1322	5/16/94	32.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
10006.0	BODEGA BAY-MASON'S MARINA REP1	1350	6/14/94	33.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
10006.0	BODEGA BAY-MASON'S MARINA REP2	1351	6/14/94	33.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
10006.0	BODEGA BAY-MASON'S MARINA REP3	1352	6/14/94	33.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
10007.0	BODEGA-SPUD POINT MARINA REP1	1353	6/13/94	33.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
10007.0	BODEGA-SPUD POINT MARINA REP2	1354	6/13/94	33.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
10007.0	BODEGA-SPUD POINT MARINA REP3	1355	6/13/94	33.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
10028.0	PORTO BODEGA MARINA REP1	1356	6/14/94	33.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
10028.0	PORTO BODEGA MARINA REP2	1357	6/14/94	33.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
10028.0	PORTO BODEGA MARINA REP3	1358	6/14/94	33.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
10040.0	UNCONTAMINATED SITE-33D REP1	1359	6/13/94	33.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
10040.0	UNCONTAMINATED SITE-33D REP2	1360	6/13/94	33.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
10040.0	UNCONTAMINATED SITE-33D REP3	1361	6/13/94	33.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
14003.0	ARCATA BAY- JOLLY GIANT NORTH	1438	2/14/95	36.5	210.000	35.80	41400.0	18.600	471.00	0.1020	143.000	0.1570
15002.0	H. BAY- WASHINGTON STREET	1440	2/15/95	36.5	211.000	38.40	42200.0	12.000	653.00	0.0940	131.000	0.1110
10019.0	H. BAY- COAL/OIL/GAS PLANT	1442	2/15/95	36.5	193.000	37.10	42200.0	14.500	631.00	0.1040	148.000	0.0960
10020.0	H. BAY- OLD PAC. LUMBER SITE	1444	2/15/95	36.5	194.000	41.40	42800.0	14.500	692.00	0.1060	151.000	0.1180
14004.0	DAVENPORT MARINE	1446	2/15/95	36.5	220.000	40.70	43900.0	14.900	664.00	0.1040	167.000	0.1020
10022.0	HUMBOLDT BAY EUREKA SM.22	1448	2/15/95	36.5	211.000	50.50	65700.0	16.700	779.00	0.1060	157.000	0.1120
14001.0	EUREKA WATERFRONT H STREET	1450	2/15/95	36.5	206.000	52.70	43300.0	62.300	735.00	0.1550	159.000	0.1310
14002.0	EUREKA WATERFRONT J STREET	1452	2/15/95	36.5	182.000	40.70	41800.0	30.200	584.00	0.1520	126.000	0.1390
14004.0	DAVENPORT MARINE	1578	4/17/96	42.0	258.000	37.00	40400.0	7.660	444.00	0.1010	-9.000	0.1070
10023.0	H. BAY EUREKA STORM 23	1579	4/17/96	42.0	244.000	22.00	28900.0	10.900	330.00	0.0790	-9.000	0.0858
10016.0	ARCATA BAY-JOLLY GIANT SL.	1580	4/18/96	42.0	305.000	47.40	46100.0	21.300	356.00	0.1390	-9.000	0.0922
10017.0	ARCATA BAY-EUREKA SL.	1581	4/17/96	42.0	313.000	37.80	42800.0	9.130	332.00	0.1270	-9.000	0.1290
10021.0	H. BAY-CHEVRON TERMINAL	1582	4/17/96	42.0	263.000	28.70	37300.0	6.460	383.00	0.0861	-9.000	0.0754
10019.0	H. BAY-COAL/OIL/GAS PLANT	1583	4/17/96	42.0	262.000	31.00	35900.0	6.640	354.00	0.1140	-9.000	0.0797

TRACE METAL ANALYSIS OF SEDIMENTS (dry weight-ppm-ug/g)

STANUM	STATION	IDORG	DATE	LEG	CHROMIUM	COPPER	IRON	LEAD	MANGANESE	MERCURY	NICKEL	SILVER
10018.0	H. BAY-UNION OIL PLANT	1584	4/17/96	42.0	301.000	31.50	36600.0	7.970	384.00	0.1120	-9.000	0.0930
15001.0	H. BAY- HALBERSON SHORELINE	1585	4/17/96	42.0	277.000	36.30	40500.0	9.440	363.00	0.1040	-9.000	0.1050
14002.0	EUREKA WATERFRONT- J STREET	1586	4/17/96	42.0	291.000	37.90	45700.0	8.280	455.00	0.1060	-9.000	0.0877
14001.0	EUREKA WATERFRONT- H STREET	1587	4/17/96	42.0	284.000	44.60	43500.0	24.200	390.00	0.1260	-9.000	3.5700
10006.0	BODEGA BAY MASON'S MARINA	1682	12/6/96	47.0	151.000	73.90	40900.0	18.500	325.00	0.2060	85.700	0.0710
10007.0	BODEGA-SPUD POINT MARINA	1683	12/5/96	47.0	230.000	13.20	15800.0	5.340	228.00	0.1080	35.300	0.0111
10028.0	PORTO BODEGA MARINA	1684	12/6/96	47.0	199.000	66.40	37400.0	14.900	370.00	0.3090	92.900	0.0512
10040.0	UNCONTAMINATED SITE-33D	1685	12/6/96	47.0	213.000	8.18	15000.0	61.400	228.00	0.0438	25.200	0.0104

TRACE METAL ANALYSIS OF SEDIMENTS (dry weight-ppm-ug/g)

STANUM	STATION	IDORG	DATE	LEG	SELENIUM	TIN	ZINC	ASBATCH	SEBATCH	TMBATCH	TMDATAQC
10004.0	ARCATA BAY-MCDANIEL SL.	304	11/30/92	8.0	-8.000	1.5000	110.0000	2.20	2.20	2.10	-4
10015.0	ARCATA BAY-MAD RIVER SL.	315	11/30/92	8.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
10016.0	ARCATA BAY-JOLLY GIANT SL	316	11/30/92	8.0	-8.000	1.3000	139.0000	3.20	3.20	3.10	-4
10017.0	ARCATA BAY-EUREKA SL.	317	11/29/92	8.0	-8.000	2.2000	100.0000	2.20	2.20	2.10	-4
10018.0	H. BAY-UNION OIL PLANT	318	11/29/92	8.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
10019.0	H. BAY-COAL/OIL/GAS PLANT	319	11/29/92	8.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
10020.0	H. BAY-OLD PAC. LUMBER SITE	320	11/29/92	8.0	-8.000	2.3000	85.0000	2.20	2.20	2.10	-4
10021.0	H. BAY-CHEVRON TERMINAL	321	11/29/92	8.0	-8.000	1.0500	90.0000	3.20	3.20	3.10	-4
14001.0	EUREKA WATERFRONT - H STREET	322	11/29/92	8.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
10023.0	H. BAY EUREKA STORM 23	323	11/29/92	8.0	-8.000	2.4000	110.0000	2.20	2.20	2.10	-4
10024.0	H. BAY FIELDS LANDING	324	11/29/92	8.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
10025.0	H. BAY HOOKTON SL.	325	11/29/92	8.0	-8.000	0.7400	94.0000	3.20	3.20	3.10	-4
10036.0	SOUTHPORT CHANNEL-33B	336	11/30/92	8.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
10037.0	H. BAY-MOUTH OF ELK RIVER	337	11/30/92	8.0	-8.000	1.2500	89.0000	3.20	3.20	3.10	-4
14004.0	DAVENPORT MARINE	338	11/30/92	8.0	0.210	1.0100	130.0000	3.20	3.20	3.10	-4
10005.0	RUSSIAN RIVER MOUTH SMW 280.0	305	2/25/93	14.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
10006.0	BODEGA BAY-MASON'S MARINA	306	2/25/93	14.0	0.230	2.4000	110.0000	2.10	2.10	2.10	-4
10007.0	BODEGA BAY-SPUD POINT MARINA	307	2/25/93	14.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
10028.0	BODEGA BAY PORTO BODEGA MARINA	328	2/25/93	14.0	-8.000	1.9000	140.0000	2.10	2.10	2.10	-4
10029.0	ESTERO AMERICANO-VALLEY FORD	329	2/25/93	14.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
10030.0	ESTERO DE SAN ANTONIO-VALLEY F	330	2/25/93	14.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
10031.0	MOUTH OF ESTERO AMERICANO	331	2/26/93	14.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
10032.0	MOUTH OF ESTERO DE SAN ANTONIO	332	2/26/93	14.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
10039.0	UNCONTAMINATED SITE-33C	339	2/25/93	14.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
10040.0	UNCONTAMINATED SITE-33D	340	2/26/93	14.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
10041.0	SALMON CREEK-34L	341	2/25/93	14.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	900	6/22/93	20.0	-8.000	1.1600	82.0000	5.50	5.50	5.20	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	901	6/22/93	20.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	902	6/22/93	20.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	906	6/22/93	21.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	907	6/22/93	21.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	908	6/22/93	21.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	912	6/22/93	22.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9

TRACE METAL ANALYSIS OF SEDIMENTS (dry weight-ppm-ug/g)

STANUM	STATION	IDORG	DATE	LEG	SELENIUM	TIN	ZINC	ASBATCH	SEBATCH	TMBATCH	TMDATAQC
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	913	6/22/93	22.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	914	6/22/93	22.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	915	6/22/93	23.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	916	6/22/93	23.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	917	6/22/93	23.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
10040.0	UNCONTAMINATED SITE-33D	1321	5/16/94	32.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
10031.0	MOUTH OF ESTERO AMERICANO	1322	5/16/94	32.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
10006.0	BODEGA BAY-MASON'S MARINA REP1	1350	6/14/94	33.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
10006.0	BODEGA BAY-MASON'S MARINA REP2	1351	6/14/94	33.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
10006.0	BODEGA BAY-MASON'S MARINA REP3	1352	6/14/94	33.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
10007.0	BODEGA-SPUD POINT MARINA REP1	1353	6/13/94	33.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
10007.0	BODEGA-SPUD POINT MARINA REP2	1354	6/13/94	33.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
10007.0	BODEGA-SPUD POINT MARINA REP3	1355	6/13/94	33.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
10028.0	PORTO BODEGA MARINA REP1	1356	6/14/94	33.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
10028.0	PORTO BODEGA MARINA REP2	1357	6/14/94	33.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
10028.0	PORTO BODEGA MARINA REP3	1358	6/14/94	33.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
10040.0	UNCONTAMINATED SITE-33D REP1	1359	6/13/94	33.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
10040.0	UNCONTAMINATED SITE-33D REP2	1360	6/13/94	33.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
10040.0	UNCONTAMINATED SITE-33D REP3	1361	6/13/94	33.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
14003.0	ARCATA BAY- JOLLY GIANT NORTH	1438	2/14/95	36.5	-9.000	1.0000	141.0000	-9.00	-9.00	94.10	-4
15002.0	H. BAY- WASHINGTON STREET	1440	2/15/95	36.5	-9.000	0.9200	120.0000	-9.00	-9.00	94.10	-4
10019.0	H. BAY- COAL/OIL/GAS PLANT	1442	2/15/95	36.5	-9.000	1.0000	110.0000	-9.00	-9.00	94.10	-4
10020.0	H. BAY- OLD PAC. LUMBER SITE	1444	2/15/95	36.5	-9.000	1.2300	132.0000	-9.00	-9.00	94.10	-4
14004.0	DAVENPORT MARINE	1446	2/15/95	36.5	-9.000	1.0200	121.0000	-9.00	-9.00	94.10	-4
10022.0	HUMBOLDT BAY EUREKA SM.22	1448	2/15/95	36.5	-9.000	1.3900	133.0000	-9.00	-9.00	94.10	-4
14001.0	EUREKA WATERFRONT H STREET	1450	2/15/95	36.5	-9.000	2.8100	228.0000	-9.00	-9.00	94.10	-4
14002.0	EUREKA WATERFRONT J STREET	1452	2/15/95	36.5	-9.000	1.1300	129.0000	-9.00	-9.00	94.10	-4
14004.0	DAVENPORT MARINE	1578	4/17/96	42.0	-9.000	1.2700	123.0000	-9.00	-9.00	17.30	-4
10023.0	H. BAY EUREKA STORM 23	1579	4/17/96	42.0	-9.000	0.8580	97.8000	-9.00	-9.00	17.30	-4
10016.0	ARCATA BAY-JOLLY GIANT SL.	1580	4/18/96	42.0	-9.000	1.6500	156.0000	-9.00	-9.00	17.30	-4
10017.0	ARCATA BAY-EUREKA SL.	1581	4/17/96	42.0	-9.000	1.2000	123.0000	-9.00	-9.00	17.30	-4
10021.0	H. BAY-CHEVRON TERMINAL	1582	4/17/96	42.0	-9.000	0.8980	88.6000	-9.00	-9.00	17.30	-4
10019.0	H. BAY-COAL/OIL/GAS PLANT	1583	4/17/96	42.0	-9.000	0.8300	107.0000	-9.00	-9.00	17.30	-4

TRACE METAL ANALYSIS OF SEDIMENTS (dry weight-ppm-ug/g)

STANUM	STATION	IDORG	DATE	LEG	SELENIUM	TIN	ZINC	ASBATCH	SEBATCH	TMBATCH	TMDATAQC
10018.0	H. BAY-UNION OIL PLANT	1584	4/17/96	42.0	-9.000	1.0600	109.0000	-9.00	-9.00	17.30	-4
15001.0	H. BAY- HALBERSON SHORELINE	1585	4/17/96	42.0	-9.000	1.1200	117.0000	-9.00	-9.00	17.30	-4
14002.0	EUREKA WATERFRONT- J STREET	1586	4/17/96	42.0	-9.000	1.0700	120.0000	-9.00	-9.00	17.30	-4
14001.0	EUREKA WATERFRONT- H STREET	1587	4/17/96	42.0	-9.000	0.3760	217.0000	-9.00	-9.00	17.30	-4
10006.0	BODEGA BAY MASON'S MARINA	1682	12/6/96	47.0	-9.000	6.2800	169.0000	-9.00	-9.00	97.30	-4
10007.0	BODEGA-SPUD POINT MARINA	1683	12/5/96	47.0	-9.000	0.4050	54.5000	-9.00	-9.00	97.30	-4
10028.0	PORTO BODEGA MARINA	1684	12/6/96	47.0	-9.000	1.1600	179.0000	-9.00	-9.00	97.30	-4
10040.0	UNCONTAMINATED SITE-33D	1685	12/6/96	47.0	-9.000	0.4770	45.9000	-9.00	-9.00	97.30	-4

SECTION II

Pesticide Analysis of Sediments

PESTICIDE ANALYSIS OF SEDIMENTS (dry weight-ppb-ng/g); TBT ANALYSIS OF SEDIMENTS (dry weight-ppm-ug/g)

STANUM	STATION	IDORG	DATE	LEG	METADATA	SOWEIGHT	SOMOIST	ALDRIN	CCHLOR	TCHLOR	ACDEN
10004.0	ARCATA BAY-MCDANIEL SL.	304	11/30/92	8.0	QA5_23.TXT	-9.00	-9.00	-8.000	-8.000	-9.000	-8.000
10015.0	ARCATA BAY-MAD RIVER SL.	315	11/30/92	8.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000
10016.0	ARCATA BAY-JOLLY GIANT SL	316	11/30/92	8.0	QA5_23.TXT	-9.00	-9.00	-8.000	-8.000	-9.000	-8.000
10017.0	ARCATA BAY-EUREKA SL.	317	11/29/92	8.0	QA5_23.TXT	-9.00	-9.00	-8.000	-8.000	-9.000	-8.000
10018.0	H. BAY-UNION OIL PLANT	318	11/29/92	8.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000
10019.0	H. BAY-COAL/OIL/GAS PLANT	319	11/29/92	8.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000
10020.0	H. BAY-OLD PAC. LUMBER SITE	320	11/29/92	8.0	QA5_23.TXT	-9.00	-9.00	-8.000	-8.000	-9.000	-8.000
10021.0	H. BAY-CHEVRON TERMINAL	321	11/29/92	8.0	QA5_23.TXT	-9.00	-9.00	-8.000	-8.000	-9.000	-8.000
14001.0	EUREKA WATERFRONT - H STREET	322	11/29/92	8.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000
10023.0	H. BAY EUREKA STORM 23	323	11/29/92	8.0	QA5_23.TXT	-9.00	-9.00	-8.000	-8.000	-9.000	-8.000
10024.0	H. BAY FIELDS LANDING	324	11/29/92	8.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000
10025.0	H. BAY HOOKTON SL.	325	11/29/92	8.0	QA5_23.TXT	-9.00	-9.00	-8.000	-8.000	-9.000	-8.000
10036.0	SOUTHPORT CHANNEL-33B	336	11/30/92	8.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000
10037.0	H. BAY-MOUTH OF ELK RIVER	337	11/30/92	8.0	QA5_23.TXT	-9.00	-9.00	-8.000	-8.000	-9.000	-8.000
14004.0	DAVENPORT MARINE	338	11/30/92	8.0	QA5_23.TXT	-9.00	-9.00	-8.000	-8.000	-9.000	-8.000
10005.0	RUSSIAN RIVER MOUTH SMW 280.0	305	2/25/93	14.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000
10006.0	BODEGA BAY-MASON'S MARINA	306	2/25/93	14.0	QA5_23.TXT	-9.00	-9.00	-8.000	-8.000	-9.000	-8.000
10007.0	BODEGA BAY-SPUD POINT MARINA	307	2/25/93	14.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000
10028.0	BODEGA BAY PORTO BODEGA MARINA	328	2/25/93	14.0	QA5_23.TXT	-9.00	-9.00	-8.000	-8.000	-9.000	-8.000
10029.0	ESTERO AMERICANO-VALLEY FORD	329	2/25/93	14.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000
10030.0	ESTERO DE SAN ANTONIO-VALLEY F	330	2/25/93	14.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000
10031.0	MOUTH OF ESTERO AMERICANO	331	2/26/93	14.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000
10032.0	MOUTH OF ESTERO DE SAN ANTONIO	332	2/26/93	14.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000
10039.0	UNCONTAMINATED SITE-33C	339	2/25/93	14.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000
10040.0	UNCONTAMINATED SITE-33D	340	2/26/93	14.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000
10041.0	SALMON CREEK-34L	341	2/25/93	14.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	900	6/22/93	20.0	QA5_23.TXT	12.14	28.97	-8.000	-8.000	-9.000	-8.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	901	6/22/93	20.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	902	6/22/93	20.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	906	6/22/93	21.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	907	6/22/93	21.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	908	6/22/93	21.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	912	6/22/93	22.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000

PESTICIDE ANALYSIS OF SEDIMENTS (dry weight-ppb-ng/g); TBT ANALYSIS OF SEDIMENTS (dry weight-ppm-ug/g)

STANUM	STATION	IDORG	DATE	LEG	METADATA	SOWEIGHT	SOMOIST	ALDRIN	CCHLOR	TCHLOR	ACDEN
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	913	6/22/93	22.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	914	6/22/93	22.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	915	6/22/93	23.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	916	6/22/93	23.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	917	6/22/93	23.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000
10040.0	UNCONTAMINATED SITE-33D	1321	5/16/94	32.0	chmmeta2.txt	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000
10031.0	MOUTH OF ESTERO AMERICANO	1322	5/16/94	32.0	chmmeta2.txt	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000
10006.0	BODEGA BAY-MASON'S MARINA REP1	1350	6/14/94	33.0	chmmeta2.txt	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000
10006.0	BODEGA BAY-MASON'S MARINA REP2	1351	6/14/94	33.0	chmmeta2.txt	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000
10006.0	BODEGA BAY-MASON'S MARINA REP3	1352	6/14/94	33.0	chmmeta2.txt	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000
10007.0	BODEGA-SPUD POINT MARINA REP1	1353	6/13/94	33.0	chmmeta2.txt	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000
10007.0	BODEGA-SPUD POINT MARINA REP2	1354	6/13/94	33.0	chmmeta2.txt	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000
10007.0	BODEGA-SPUD POINT MARINA REP3	1355	6/13/94	33.0	chmmeta2.txt	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000
10028.0	PORTO BODEGA MARINA REP1	1356	6/14/94	33.0	chmmeta2.txt	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000
10028.0	PORTO BODEGA MARINA REP2	1357	6/14/94	33.0	chmmeta2.txt	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000
10028.0	PORTO BODEGA MARINA REP3	1358	6/14/94	33.0	chmmeta2.txt	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000
10040.0	UNCONTAMINATED SITE-33D REP1	1359	6/13/94	33.0	chmmeta2.txt	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000
10040.0	UNCONTAMINATED SITE-33D REP2	1360	6/13/94	33.0	chmmeta2.txt	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000
10040.0	UNCONTAMINATED SITE-33D REP3	1361	6/13/94	33.0	chmmeta2.txt	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000
14003.0	ARCATA BAY- JOLLY GIANT NORTH	1438	2/14/95	36.5	region1.dbf	10.40	53.40	-9.000	-9.000	-9.000	-9.000
15002.0	H. BAY- WASHINGTON STREET	1440	2/15/95	36.5	region1.dbf	10.41	47.05	-9.000	-9.000	-9.000	-9.000
10019.0	H. BAY- COAL/OIL/GAS PLANT	1442	2/15/95	36.5	region1.dbf	10.33	39.96	-9.000	-9.000	-9.000	-9.000
10020.0	H. BAY- OLD PAC. LUMBER SITE	1444	2/15/95	36.5	region1.dbf	10.52	50.10	-9.000	-9:000	-9.000	-9.000
14004.0	DAVENPORT MARINE	1446	2/15/95	36.5	region1.dbf	10.42	41.22	-9.000	-9.000	-9.000	-9.000
10022.0	HUMBOLDT BAY EUREKA SM.22	1448	2/15/95	36.5	region1.dbf	10.00	45.45	-9.000	-9.000	-9.000	-9.000
14001.0	EUREKA WATERFRONT H STREET	1450	2/15/95	36.5	region1.dbf	10.11	47.73	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT J STREET	1452	2/15/95	36.5	region1.dbf	10.01	43.59	-9.000	-9.000	-9.000	-9.000
14004.0	DAVENPORT MARINE	1578	4/17/96	42.0	CHEM3846.TXT	11.49	43.20	-8.000	-8.000	-8.000	-8.000
10023.0	H. BAY EUREKA STORM 23	1579	4/17/96	42.0	CHEM3846.TXT	14.29	31.00	-8.000	-8.000	-8.000	-8.000
10016.0	ARCATA BAY-JOLLY GIANT SL.	1580	4/18/96	42.0	CHEM3846.TXT	9.81	51.50	-8.000	-8.000	0.560	-8.000
10017.0	ARCATA BAY-EUREKA SL.	1581	4/17/96	42.0	CHEM3846.TXT	11.75	42.00	-8.000	-8.000	-8.000	-8.000
10021.0	H. BAY-CHEVRON TERMINAL	1582	4/17/96	42.0	CHEM3846.TXT	13.23	34.80	-8.000	-8.000	-8.000	-8.000
10019.0	H. BAY-COAL/OIL/GAS PLANT	1583	4/17/96	42.0	CHEM3846.TXT	12.38	40.20	-8.000	-8.000	-8.000	-8.000

PESTICIDE ANALYSIS OF SEDIMENTS (dry weight-ppb-ng/g); TBT ANALYSIS OF SEDIMENTS (dry weight-ppm-ug/g)

STANUM	STATION	IDORG	DATE	LEG	METADATA	SOWEIGHT	SOMOIST	ALDRIN	CCHLOR	TCHLOR	ACDEN
10018.0	H. BAY-UNION OIL PLANT	1584	4/17/96	42.0	CHEM3846.TXT	12.14	39.80	-8.000	-8.000	-8.000	-8.000
15001.0	H. BAY- HALBERSON SHORELINE	1585	4/17/96	42.0	CHEM3846.TXT	12.47	39.30	-8.000	-8.000	-8.000	-8.000
14002.0	EUREKA WATERFRONT- J STREET	1586	4/17/96	42.0	CHEM3846.TXT	11.31	44.80	-8.000	-8.000	-8.000	-8.000
14001.0	EUREKA WATERFRONT- H STREET	1587	4/17/96	42.0	CHEM3846.TXT	11.07	44.70	-8.000	-8.000	-8.000	-8.000
10006.0	BODEGA BAY MASON'S MARINA	1682	12/6/96	47.0	CHM47_56.TXT	30.68	64.73	-8.000	-8.000	-8.000	-8.000
10007.0	BODEGA-SPUD POINT MARINA	1683	12/5/96	47.0	CHM47_56.TXT	30.17	27.61	-8.000	-8.000	-8.000	-8.000
10028.0	PORTO BODEGA MARINA	1684	12/6/96	47.0	CHM47_56.TXT	30.43	54.42	-8.000	-8.000	-8.000	-8.000
10040.0	UNCONTAMINATED SITE-33D	1685	12/6/96	47.0	CHM47_56.TXT	30.86	24.39	-8.000	-8.000	-8.000	-8.000

PESTICIDE ANALYSIS OF SEDIMENTS (dry weight-ppb-ng/g); TBT ANALYSIS OF SEDIMENTS (dry weight-ppm-ug/g)

STANUM	STATION	IDORG	DATE	LEG	GCDEN	CLPYR	DACTH	OPDDD	PPDDD	OPDDE	PPDDE	PPDDMS	PPDDMU
10004.0	ARCATA BAY-MCDANIEL SL.	304	11/30/92	8.0	-9.000	-9.00	-9.000	-8.00	-8.000	-8.00	-8.00	-9.00	-9.00
10015.0	ARCATA BAY-MAD RIVER SL.	315	11/30/92	8.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10016.0	ARCATA BAY-JOLLY GIANT SL	316	11/30/92	8.0	-9.000	-9.00	-9.000	-8.00	1.700	-8.00	-8.00	-9.00	-9.00
10017.0	ARCATA BAY-EUREKA SL.	317	11/29/92	8.0	-9.000	-9.00	-9.000	-8.00	-8.000	-8.00	-8.00	-9.00	-9.00
10018.0	H. BAY-UNION OIL PLANT	318	11/29/92	8.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10019.0	H. BAY-COAL/OIL/GAS PLANT	319	11/29/92	8.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10020.0	H. BAY-OLD PAC. LUMBER SITE	320	11/29/92	8.0	-9.000	-9.00	-9.000	-8.00	-8.000	-8.00	-8.00	-9.00	-9.00
10021.0	H. BAY-CHEVRON TERMINAL	321	11/29/92	8.0	-9.000	-9.00	-9.000	-8.00	-8.000	-8.00	-8.00	-9.00	-9.00
14001.0	EUREKA WATERFRONT - H STREET	322	11/29/92	8.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10023.0	H. BAY EUREKA STORM 23	323	11/29/92	8.0	-9.000	-9.00	-9.000	-8.00	-8.000	-8.00	-8.00	-9.00	-9.00
10024.0	H. BAY FIELDS LANDING	324	11/29/92	8.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10025.0	H. BAY HOOKTON SL.	325	11/29/92	8.0	-9.000	-9.00	-9.000	-8.00	-8.000	-8.00	-8.00	-9.00	-9.00
10036.0	SOUTHPORT CHANNEL-33B	336	11/30/92	8.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10037.0	H. BAY-MOUTH OF ELK RIVER	337	11/30/92	8.0	-9.000	-9.00	-9.000	-8.00	2.300	-8.00	-8.00	-9.00	-9.00
14004.0	DAVENPORT MARINE	338	11/30/92	8.0	-9.000	-9.00	-9.000	-8.00	0.800	-8.00	-8.00	-9.00	-9.00
10005.0	RUSSIAN RIVER MOUTH SMW 280.0	305	2/25/93	14.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10006.0	BODEGA BAY-MASON'S MARINA	306	2/25/93	14.0	-9.000	-9.00	-9.000	-8.00	-8.000	-8.00	-8.00	-9.00	-9.00
10007.0	BODEGA BAY-SPUD POINT MARINA	307	2/25/93	14.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10028.0	BODEGA BAY PORTO BODEGA MARINA	328	2/25/93	14.0	-9.000	-9.00	-9.000	-8.00	0.400	-8.00	1.80	-9.00	-9.00
10029.0	ESTERO AMERICANO-VALLEY FORD	329	2/25/93	14.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10030.0	ESTERO DE SAN ANTONIO-VALLEY F	330	2/25/93	14.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10031.0	MOUTH OF ESTERO AMERICANO	331	2/26/93	14.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10032.0	MOUTH OF ESTERO DE SAN ANTONIO	332	2/26/93	14.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10039.0	UNCONTAMINATED SITE-33C	339	2/25/93	14.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10040.0	UNCONTAMINATED SITE-33D	340	2/26/93	14.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10041.0	SALMON CREEK-34L	341	2/25/93	14.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	900	6/22/93	20.0	-9.000	-9.00	-9.000	-8.00	0.500	-8.00	-8.00	-9.00	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	901	6/22/93	20.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	902	6/22/93	20.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	906	6/22/93	21.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	907	6/22/93	21.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	908	6/22/93	21.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	912	6/22/93	22.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00

PESTICIDE ANALYSIS OF SEDIMENTS (dry weight-ppb-ng/g); TBT ANALYSIS OF SEDIMENTS (dry weight-ppm-ug/g)

STANUM	STATION	IDORG	DATE	LEG	GCDEN	CLPYR	DACTH	OPDDD	PPDDD	OPDDE	PPDDE	PPDDMS	PPDDMU
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	913	6/22/93	22.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	914	6/22/93	22.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	915	6/22/93	23.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	916	6/22/93	23.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	917	6/22/93	23.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10040.0	UNCONTAMINATED SITE-33D	1321	5/16/94	32.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10031.0	MOUTH OF ESTERO AMERICANO	1322	5/16/94	32.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10006.0	BODEGA BAY-MASON'S MARINA REP1	1350	6/14/94	33.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10006.0	BODEGA BAY-MASON'S MARINA REP2	1351	6/14/94	33.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10006.0	BODEGA BAY-MASON'S MARINA REP3	1352	6/14/94	33.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10007.0	BODEGA-SPUD POINT MARINA REP1	1353	6/13/94	33.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10007.0	BODEGA-SPUD POINT MARINA REP2	1354	6/13/94	33.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10007.0	BODEGA-SPUD POINT MARINA REP3	1355	6/13/94	33.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10028.0	PORTO BODEGA MARINA REP1	1356	6/14/94	33.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10028.0	PORTO BODEGA MARINA REP2	1357	6/14/94	33.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10028.0	PORTO BODEGA MARINA REP3	1358	6/14/94	33.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10040.0	UNCONTAMINATED SITE-33D REP1	1359	6/13/94	33.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10040.0	UNCONTAMINATED SITE-33D REP2	1360	6/13/94	33.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10040.0	UNCONTAMINATED SITE-33D REP3	1361	6/13/94	33.0	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
14003.0	ARCATA BAY- JOLLY GIANT NORTH	1438	2/14/95	36.5	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
15002.0	H. BAY- WASHINGTON STREET	1440	2/15/95	36.5	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10019.0	H. BAY- COAL/OIL/GAS PLANT	1442	2/15/95	36.5	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10020.0	H. BAY- OLD PAC. LUMBER SITE	1444	2/15/95	36.5	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
14004.0	DAVENPORT MARINE	1446	2/15/95	36.5	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
10022.0	HUMBOLDT BAY EUREKA SM.22	1448	2/15/95	36.5	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
14001.0	EUREKA WATERFRONT H STREET	1450	2/15/95	36.5	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
14002.0	EUREKA WATERFRONT J STREET	1452	2/15/95	36.5	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00
14004.0	DAVENPORT MARINE	1578	4/17/96	42.0	-8.000	-8.00	-8.000	-8.00	-8.000	-8.00	-8.00	-9.00	-8.00
10023.0	H. BAY EUREKA STORM 23	1579	4/17/96	42.0	-8.000	2.65	-8.000	-8.00	-8.000	-8.00	-8.00	-9.00	-8.00
10016.0	ARCATA BAY-JOLLY GIANT SL.	1580	4/18/96	42.0	-8.000	1.03	-8.000	-8.00	-8.000	-8.00	-8.00	-9.00	-8.00
10017.0	ARCATA BAY-EUREKA SL.	1581	4/17/96	42.0	-8.000	-8.00	-8.000	-8.00	-8.000	-8.00	-8.00	-9.00	-8.00
10021.0	H. BAY-CHEVRON TERMINAL	1582	4/17/96	42.0	-8.000	-8.00	-8.000	-8.00	-8.000	-8.00	-8.00	-9.00	-8.00
10019.0	H. BAY-COAL/OIL/GAS PLANT	1583	4/17/96	42.0	-8.000	-8.00	0.270	-8.00	-8.000	-8.00	-8.00	-9.00	-8.00

PESTICIDE ANALYSIS OF SEDIMENTS (dry weight-ppb-ng/g); TBT ANALYSIS OF SEDIMENTS (dry weight-ppm-ug/g)

STANUM	STATION	IDORG	DATE	LEG	GCDEN	CLPYR	DACTH	OPDDD	PPDDD	OPDDE	PPDDE	PPDDMS	PPDDMU
10018.0	H. BAY-UNION OIL PLANT	1584	4/17/96	42.0	-8.000	-8.00	-8.000	-8.00	-8.000	-8.00	-8.00	-9.00	-8.00
15001.0	H. BAY- HALBERSON SHORELINE	1585	4/17/96	42.0	-8.000	-8.00	0.210	-8.00	-8.000	-8.00	-8.00	-9.00	-8.00
14002.0	EUREKA WATERFRONT- J STREET	1586	4/17/96	42.0	-8.000	-8.00	0.220	-8.00	-8.000	-8.00	-8.00	-9.00	-8.00
14001.0	EUREKA WATERFRONT- H STREET	1587	4/17/96	42.0	-8.000	-8.00	-8.000	-8.00	-8.000	-8.00	-8.00	-9.00	-8.00
10006.0	BODEGA BAY MASON'S MARINA	1682	12/6/96	47.0	-9.000	-8.00	-8.000	-8.00	-8.000	-8.00	0.72	-9.00	-8.00
10007.0	BODEGA-SPUD POINT MARINA	1683	12/5/96	47.0	-9.000	-8.00	-8.000	-8.00	-8.000	-8.00	0.18	-9.00	-8.00
10028.0	PORTO BODEGA MARINA	1684	12/6/96	47.0	-9.000	-8.00	-8.000	-8.00	0.828	-8.00	1.95	-9.00	-8.00
10040.0	UNCONTAMINATED SITE-33D	1685	12/6/96	47.0	-9.000	-8.00	-8.000	-8.00	-8.000	-8.00	-8.00	-9.00	-8.00

PESTICIDE ANALYSIS OF SEDIMENTS (dry weight-ppb-ng/g); TBT ANALYSIS OF SEDIMENTS (dry weight-ppm-ug/g)

STANUM	STATION	IDORG	DATE	LEG	OPDDT	PPDDT	DICLB	DIELDRIN	ENDO_I	ENDO_II	ESO4	ENDRIN	ETHION	HCHA
10004.0	ARCATA BAY-MCDANIEL SL.	304	11/30/92	8.0	-8.00	-8.00	-9.00	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-9.000
10015.0	ARCATA BAY-MAD RIVER SL.	315	11/30/92	8.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10016.0	ARCATA BAY-JOLLY GIANT SL	316	11/30/92	8.0	-8.00	-8.00	-9.00	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-9.000
10017.0	ARCATA BAY-EUREKA SL.	317	11/29/92	8.0	-8.00	-8.00	-9.00	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-9.000
10018.0	H. BAY-UNION OIL PLANT	318	11/29/92	8.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10019.0	H. BAY-COAL/OIL/GAS PLANT	319	11/29/92	8.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10020.0	H. BAY-OLD PAC. LUMBER SITE	320	11/29/92	8.0	-8.00	-8.00	-9.00	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-9.000
10021.0	H. BAY-CHEVRON TERMINAL	321	11/29/92	8.0	-8.00	-8.00	-9.00	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-9.000
14001.0	EUREKA WATERFRONT - H STREET	322	11/29/92	8.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10023.0	H. BAY EUREKA STORM 23	323	11/29/92	8.0	-8.00	-8.00	-9.00	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-9.000
10024.0	H. BAY FIELDS LANDING	324	11/29/92	8.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10025.0	H. BAY HOOKTON SL.	325	11/29/92	8.0	-8.00	-8.00	-9.00	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-9.000
10036.0	SOUTHPORT CHANNEL-33B	336	11/30/92	8.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10037.0	H. BAY-MOUTH OF ELK RIVER	337	11/30/92	8.0	-8.00	-8.00	-9.00	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-9.000
14004.0	DAVENPORT MARINE	338	11/30/92	8.0	-8.00	-8.00	-9.00	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-9.000
10005.0	RUSSIAN RIVER MOUTH SMW 280.0	305	2/25/93	14.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10006.0	BODEGA BAY-MASON'S MARINA	306	2/25/93	14.0	-8.00	-8.00	-9.00	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-9.000
10007.0	BODEGA BAY-SPUD POINT MARINA	307	2/25/93	14.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10028.0	BODEGA BAY PORTO BODEGA MARINA	328	2/25/93	14.0	-8.00	-8.00	-9.00	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-9.000
10029.0	ESTERO AMERICANO-VALLEY FORD	329	2/25/93	14.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10030.0	ESTERO DE SAN ANTONIO-VALLEY F	330	2/25/93	14.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10031.0	MOUTH OF ESTERO AMERICANO	331	2/26/93	14.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10032.0	MOUTH OF ESTERO DE SAN ANTONIO	332	2/26/93	14.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10039.0	UNCONTAMINATED SITE-33C	339	2/25/93	14.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10040.0	UNCONTAMINATED SITE-33D	340	2/26/93	14.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10041.0	SALMON CREEK-34L	341	2/25/93	14.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	900	6/22/93	20.0	-8.00	-8.00	-9.00	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	901	6/22/93	20.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	902	6/22/93	20.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	906	6/22/93	21.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	907	6/22/93	21.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	908	6/22/93	21.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	912	6/22/93	22.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000

PESTICIDE ANALYSIS OF SEDIMENTS (dry weight-ppb-ng/g); TBT ANALYSIS OF SEDIMENTS (dry weight-ppm-ug/g)

STANUM	STATION	IDORG	DATE	LEG	OPDDT	PPDDT	DICLB	DIELDRIN	ENDO_I	ENDO_II	ESO4	ENDRIN	ETHION	HCHA
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	913	6/22/93	22.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	914	6/22/93	22.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	915	6/22/93	23.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	916	6/22/93	23.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	917	6/22/93	23.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10040.0	UNCONTAMINATED SITE-33D	1321	5/16/94	32.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10031.0	MOUTH OF ESTERO AMERICANO	1322	5/16/94	32.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10006.0	BODEGA BAY-MASON'S MARINA REP1	1350	6/14/94	33.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10006.0	BODEGA BAY-MASON'S MARINA REP2	1351	6/14/94	33.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10006.0	BODEGA BAY-MASON'S MARINA REP3	1352	6/14/94	33.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10007.0	BODEGA-SPUD POINT MARINA REP1	1353	6/13/94	33.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10007.0	BODEGA-SPUD POINT MARINA REP2	1354	6/13/94	33.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10007.0	BODEGA-SPUD POINT MARINA REP3	1355	6/13/94	33.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10028.0	PORTO BODEGA MARINA REP1	1356	6/14/94	33.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10028.0	PORTO BODEGA MARINA REP2	1357	6/14/94	33.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10028.0	PORTO BODEGA MARINA REP3	1358	6/14/94	33.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10040.0	UNCONTAMINATED SITE-33D REP1	1359	6/13/94	33.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10040.0	UNCONTAMINATED SITE-33D REP2	1360	6/13/94	33.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10040.0	UNCONTAMINATED SITE-33D REP3	1361	6/13/94	33.0	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
14003.0	ARCATA BAY- JOLLY GIANT NORTH	1438	2/14/95	36.5	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
15002.0	H. BAY- WASHINGTON STREET	1440	2/15/95	36.5	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10019.0	H. BAY- COAL/OIL/GAS PLANT	1442	2/15/95	36.5	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10020.0	H. BAY- OLD PAC. LUMBER SITE	1444	2/15/95	36.5	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
14004.0	DAVENPORT MARINE	1446	2/15/95	36.5	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
10022.0	HUMBOLDT BAY EUREKA SM.22	1448	2/15/95	36.5	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
14001.0	EUREKA WATERFRONT H STREET	1450	2/15/95	36.5	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
14002.0	EUREKA WATERFRONT J STREET	1452	2/15/95	36.5	-9.00	-9.00	-9.00	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000
14004.0	DAVENPORT MARINE	1578	4/17/96	42.0	-8.00	-8.00	-8.00	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000
10023.0	H. BAY EUREKA STORM 23	1579	4/17/96	42.0	-8.00	-8.00	-8.00	0.610	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000
10016.0	ARCATA BAY-JOLLY GIANT SL.	1580	4/18/96	42.0	-8.00	-8.00	-8.00	0.800	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000
10017.0	ARCATA BAY-EUREKA SL.	1581	4/17/96	42.0	-8.00	-8.00	-8.00	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000
10021.0	H. BAY-CHEVRON TERMINAL	1582	4/17/96	42.0	-8.00	-8.00	-8.00	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000
10019.0	H. BAY-COAL/OIL/GAS PLANT	1583	4/17/96	42.0	-8.00	-8.00	-8.00	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000

PESTICIDE ANALYSIS OF SEDIMENTS (dry weight-ppb-ng/g); TBT ANALYSIS OF SEDIMENTS (dry weight-ppm-ug/g)

STANUM	STATION	IDORG	DATE	LEG	OPDDT	PPDDT	DICLB	DIELDRIN	ENDO_I	ENDO_II	ESO4	ENDRIN	ETHION	HCHA
10018.0	H. BAY-UNION OIL PLANT	1584	4/17/96	42.0	-8.00	-8.00	-8.00	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000
15001.0	H. BAY- HALBERSON SHORELINE	1585	4/17/96	42.0	-8.00	-8.00	-8.00	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000
14002.0	EUREKA WATERFRONT- J STREET	1586	4/17/96	42.0	-8.00	-8.00	-8.00	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000
14001.0	EUREKA WATERFRONT- H STREET	1587	4/17/96	42.0	-8.00	-8.00	-8.00	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000
10006.0	BODEGA BAY MASON'S MARINA	1682	12/6/96	47.0	-8.00	-8.00	-8.00	1.740	-8.000	0.66	-8.00	-8.00	-8.00	-8.000
10007.0	BODEGA-SPUD POINT MARINA	1683	12/5/96	47.0	-8.00	-8.00	-8.00	-8.000	-8.000	-8.00	-8.00	-8.00	-8.00	-8.000
10028.0	PORTO BODEGA MARINA	1684	12/6/96	47.0	-8.00	0.92	-8.00	4.696	-8.000	1.92	-8.00	-8.00	-8.00	-8.000
10040.0	UNCONTAMINATED SITE-33D	1685	12/6/96	47.0	-8.00	-8.00	-8.00	-8.000	-8.000	-8.00	-8.00	-8.00	-8.00	-8.000

PESTICIDE ANALYSIS OF SEDIMENTS (dry weight-ppb-ng/g); TBT ANALYSIS OF SEDIMENTS (dry weight-ppm-ug/g)

STANUM	STATION	IDORG	DATE	LEG	HCHB	HCHG	HCHD	HEPTACHLOR	HE	HCB	METHOXY	MIREX	CNONA
10004.0	ARCATA BAY-MCDANIEL SL.	304	11/30/92	8.0	-9.00	-8.000	-9.000	-8.000	-8.000	-8.000	-8.00	-8.000	-9.000
10015.0	ARCATA BAY-MAD RIVER SL.	315	11/30/92	8.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10016.0	ARCATA BAY-JOLLY GIANT SL	316	11/30/92	8.0	-9.00	-8.000	-9.000	-8.000	-8.000	-8.000	-8.00	-8.000	-9.000
10017.0	ARCATA BAY-EUREKA SL.	317	11/29/92	8.0	-9.00	-8.000	-9.000	-8.000	-8.000	-8.000	-8.00	-8.000	-9.000
10018.0	H. BAY-UNION OIL PLANT	318	11/29/92	8.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10019.0	H. BAY-COAL/OIL/GAS PLANT	319	11/29/92	8.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10020.0	H. BAY-OLD PAC. LUMBER SITE	320	11/29/92	8.0	-9.00	-8.000	-9.000	-8.000	-8.000	-8.000	-8.00	-8.000	-9.000
10021.0	H. BAY-CHEVRON TERMINAL	321	11/29/92	8.0	-9.00	-8.000	-9.000	-8.000	-8.000	-8.000	-8.00	-8.000	-9.000
14001.0	EUREKA WATERFRONT - H STREET	322	11/29/92	8.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10023.0	H. BAY EUREKA STORM 23	323	11/29/92	8.0	-9.00	-8.000	-9.000	-8.000	-8.000	0.800	-8.00	-8.000	-9.000
10024.0	H. BAY FIELDS LANDING	324	11/29/92	8.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10025.0	H. BAY HOOKTON SL.	325	11/29/92	8.0	-9.00	-8.000	-9.000	-8.000	-8.000	-8.000	-8.00	-8.000	-9.000
10036.0	SOUTHPORT CHANNEL-33B	336	11/30/92	8.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10037.0	H. BAY-MOUTH OF ELK RIVER	337	11/30/92	8.0	-9.00	-8.000	-9.000	-8.000	-8.000	-8.000	-8.00	-8.000	-9.000
14004.0	DAVENPORT MARINE	338	11/30/92	8.0	-9.00	-8.000	-9.000	-8.000	-8.000	-8.000	-8.00	-8.000	-9.000
10005.0	RUSSIAN RIVER MOUTH SMW 280.0	305	2/25/93	14.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10006.0	BODEGA BAY-MASON'S MARINA	306	2/25/93	14.0	-9.00	-8.000	-9.000	-8.000	-8.000	-8.000	-8.00	-8.000	-9.000
10007.0	BODEGA BAY-SPUD POINT MARINA	307	2/25/93	14.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10028.0	BODEGA BAY PORTO BODEGA MARINA	328	2/25/93	14.0	-9.00	-8.000	-9.000	-8.000	-8.000	-8.000	-8.00	-8.000	-9.000
10029.0	ESTERO AMERICANO-VALLEY FORD	329	2/25/93	14.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10030.0	ESTERO DE SAN ANTONIO-VALLEY F	330	2/25/93	14.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10031.0	MOUTH OF ESTERO AMERICANO	331	2/26/93	14.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10032.0	MOUTH OF ESTERO DE SAN ANTONIO	332	2/26/93	14.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10039.0	UNCONTAMINATED SITE-33C	339	2/25/93	14.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10040.0	UNCONTAMINATED SITE-33D	340	2/26/93	14.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10041.0	SALMON CREEK-34L	341	2/25/93	14.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	900	6/22/93	20.0	-9.00	-8.000	-9.000	-8.000	-8.000	-8.000	-8.00	-8.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	901	6/22/93	20.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	902	6/22/93	20.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	906	6/22/93	21.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	907	6/22/93	21.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	908	6/22/93	21.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	912	6/22/93	22.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000

PESTICIDE ANALYSIS OF SEDIMENTS (dry weight-ppb-ng/g); TBT ANALYSIS OF SEDIMENTS (dry weight-ppm-ug/g)

STANUM	STATION	IDORG	DATE	LEG	HCHB	HCHG	HCHD	HEPTACHLOR	HE	HCB	METHOXY	MIREX	CNONA
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	913	6/22/93	22.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	914	6/22/93	22.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	915	6/22/93	23.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	916	6/22/93	23.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	917	6/22/93	23.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10040.0	UNCONTAMINATED SITE-33D	1321	5/16/94	32.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10031.0	MOUTH OF ESTERO AMERICANO	1322	5/16/94	32.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10006.0	BODEGA BAY-MASON'S MARINA REP1	1350	6/14/94	33.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10006.0	BODEGA BAY-MASON'S MARINA REP2	1351	6/14/94	33.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10006.0	BODEGA BAY-MASON'S MARINA REP3	1352	6/14/94	33.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10007.0	BODEGA-SPUD POINT MARINA REP1	1353	6/13/94	33.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10007.0	BODEGA-SPUD POINT MARINA REP2	1354	6/13/94	33.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10007.0	BODEGA-SPUD POINT MARINA REP3	1355	6/13/94	33.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10028.0	PORTO BODEGA MARINA REP1	1356	6/14/94	33.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10028.0	PORTO BODEGA MARINA REP2	1357	6/14/94	33.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10028.0	PORTO BODEGA MARINA REP3	1358	6/14/94	33.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10040.0	UNCONTAMINATED SITE-33D REP1	1359	6/13/94	33.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10040.0	UNCONTAMINATED SITE-33D REP2	1360	6/13/94	33.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10040.0	UNCONTAMINATED SITE-33D REP3	1361	6/13/94	33.0	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
14003.0	ARCATA BAY- JOLLY GIANT NORTH	1438	2/14/95	36.5	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
15002.0	H. BAY- WASHINGTON STREET	1440	2/15/95	36.5	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10019.0	H. BAY- COAL/OIL/GAS PLANT	1442	2/15/95	36.5	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10020.0	H. BAY- OLD PAC. LUMBER SITE	1444	2/15/95	36.5	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
14004.0	DAVENPORT MARINE	1446	2/15/95	36.5	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
10022.0	HUMBOLDT BAY EUREKA SM.22	1448	2/15/95	36.5	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
14001.0	EUREKA WATERFRONT H STREET	1450	2/15/95	36.5	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
14002.0	EUREKA WATERFRONT J STREET	1452	2/15/95	36.5	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000
14004.0	DAVENPORT MARINE	1578	4/17/96	42.0	-8.00	-8.000	-8.000	-8.000	-8.000	-8.000	-8.00	-8.000	-8.000
10023.0	H. BAY EUREKA STORM 23	1579	4/17/96	42.0	-8.00	0.290	-8.000	-8.000	-8.000	0.260	2.78	-8.000	-8.000
10016.0	ARCATA BAY-JOLLY GIANT SL.	1580	4/18/96	42.0	-8.00	-8.000	-8.000	-8.000	-8.000	-8.000	5.86	-8.000	1.230
10017.0	ARCATA BAY-EUREKA SL.	1581	4/17/96	42.0	-8.00	-8.000	-8.000	-8.000	-8.000	-8.000	3.28	-8.000	-8.000
10021.0	H. BAY-CHEVRON TERMINAL	1582	4/17/96	42.0	-8.00	1.030	-8.000	-8.000	-8.000	-8.000	2.68	-8.000	-8.000
10019.0	H. BAY-COAL/OIL/GAS PLANT	1583	4/17/96	42.0	-8.00	2.820	-8.000	-8.000	-8.000	-8.000	4.16	-8.000	-8.000

PESTICIDE ANALYSIS OF SEDIMENTS (dry weight-ppb-ng/g); TBT ANALYSIS OF SEDIMENTS (dry weight-ppm-ug/g)

STANUM	STATION	IDORG	DATE	LEG	HCHB	HCHG	HCHD	HEPTACHLOR	HE	HCB	METHOXY	MIREX	CNONA
10018.0	H. BAY-UNION OIL PLANT	1584	4/17/96	42.0	-8.00	0.560	-8.000	-8.000	-8.000	-8.000	7.52	-8.000	-8.000
15001.0	H. BAY- HALBERSON SHORELINE	1585	4/17/96	42.0	-8.00	0.800	-8.000	-8.000	-8.000	-8.000	2.83	-8.000	-8.000
14002.0	EUREKA WATERFRONT- J STREET	1586	4/17/96	42.0	-8.00	0.280	-8.000	-8.000	-8.000	-8.000	5.61	-8.000	-8.000
14001.0	EUREKA WATERFRONT- H STREET	1587	4/17/96	42.0	-8.00	0.600	-8.000	-8.000	0.500	-8.000	6.23	-8.000	-8.000
10006.0	BODEGA BAY MASON'S MARINA	1682	12/6/96	47.0	-8.00	-8.000	-8.000	-8.000	-8.000	0.654	-8.00	-8.000	-8.000
10007.0	BODEGA-SPUD POINT MARINA	1683	12/5/96	47.0	-8.00	-8.000	-8.000	-8.000	-8.000	-8.000	-8.00	-8.000	-8.000
10028.0	PORTO BODEGA MARINA	1684	12/6/96	47.0	-8.00	-8.000	-8.000	-8.000	-8.000	0.383	-8.00	-8.000	-8.000
10040.0	UNCONTAMINATED SITE-33D	1685	12/6/96	47.0	-8.00	-8.000	-8.000	-8.000	-8.000	-8.000	-8.00	-8.000	-8.000

PESTICIDE ANALYSIS OF SEDIMENTS (dry weight-ppb-ng/g); TBT ANALYSIS OF SEDIMENTS (dry weight-ppm-ug/g)

STANUM	STATION	IDORG	DATE	LEG	TNONA	OXAD	OCDAN	TOXAPH	PESBATCH	TBT	TBTBATCH
10004.0	ARCATA BAY-MCDANIEL SL.	304	11/30/92	8.0	-8.000	-9.00	-9.000	-8.00	-9.00	-8.0000	2.1
10015.0	ARCATA BAY-MAD RIVER SL.	315	11/30/92	8.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0
10016.0	ARCATA BAY-JOLLY GIANT SL	316	11/30/92	8.0	-8.000	-9.00	-9.000	-8.00	-9.00	-8.0000	3.2
10017.0	ARCATA BAY-EUREKA SL.	317	11/29/92	8.0	-8.000	-9.00	-9.000	-8.00	-9.00	-8.0000	2.2
10018.0	H. BAY-UNION OIL PLANT	318	11/29/92	8.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0
10019.0	H. BAY-COAL/OIL/GAS PLANT	319	11/29/92	8.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0
10020.0	H. BAY-OLD PAC. LUMBER SITE	320	11/29/92	8.0	-8.000	-9.00	-9.000	-8.00	-9.00	-8.0000	2.1
10021.0	H. BAY-CHEVRON TERMINAL	321	11/29/92	8.0	-8.000	-9.00	-9.000	-8.00	-9.00	-8.0000	3.2
14001.0	EUREKA WATERFRONT - H STREET	322	11/29/92	8.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0
10023.0	H. BAY EUREKA STORM 23	323	11/29/92	8.0	-8.000	-9.00	-9.000	-8.00	-9.00	0.0600	2.1
10024.0	H. BAY FIELDS LANDING	324	11/29/92	8.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0
10025.0	H. BAY HOOKTON SL.	325	11/29/92	8.0	-8.000	-9.00	-9.000	-8.00	-9.00	-8.0000	5.1
10036.0	SOUTHPORT CHANNEL-33B	336	11/30/92	8.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0
10037.0	H. BAY-MOUTH OF ELK RIVER	337	11/30/92	8.0	-8.000	-9.00	-9.000	-8.00	-9.00	-8.0000	3.2
14004.0	DAVENPORT MARINE	338	11/30/92	8.0	-8.000	-9.00	-9.000	-8.00	-9.00	-8.0000	3.2
10005.0	RUSSIAN RIVER MOUTH SMW 280.0	305	2/25/93	14.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0
10006.0	BODEGA BAY-MASON'S MARINA	306	2/25/93	14.0	-8.000	-9.00	-9.000	-8.00	-9.00	0.0200	2.1
10007.0	BODEGA BAY-SPUD POINT MARINA	307	2/25/93	14.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0
10028.0	BODEGA BAY PORTO BODEGA MARINA	328	2/25/93	14.0	-8.000	-9.00	-9.000	-8.00	-9.00	0.0800	2.1
10029.0	ESTERO AMERICANO-VALLEY FORD	329	2/25/93	14.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0
10030.0	ESTERO DE SAN ANTONIO-VALLEY F	330	2/25/93	14.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0
10031.0	MOUTH OF ESTERO AMERICANO	331	2/26/93	14.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0
10032.0	MOUTH OF ESTERO DE SAN ANTONIO	332	2/26/93	14.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0
10039.0	UNCONTAMINATED SITE-33C	339	2/25/93	14.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0
10040.0	UNCONTAMINATED SITE-33D	340	2/26/93	14.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0
10041.0	SALMON CREEK-34L	341	2/25/93	14.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	900	6/22/93	20.0	-8.000	-9.00	-9.000	-8.00	73.50	-8.0000	5.4
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	901	6/22/93	20.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	902	6/22/93	20.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	906	6/22/93	21.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	907	6/22/93	21.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	908	6/22/93	21.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	912	6/22/93	22.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0

PESTICIDE ANALYSIS OF SEDIMENTS (dry weight-ppb-ng/g); TBT ANALYSIS OF SEDIMENTS (dry weight-ppm-ug/g)

STANUM	STATION	IDORG	DATE	LEG	TNONA	OXAD	OCDAN	TOXAPH	PESBATCH	TBT	TBTBATCH
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	913	6/22/93	22.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	914	6/22/93	22.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	915	6/22/93	23.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	916	6/22/93	23.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	917	6/22/93	23.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0
10040.0	UNCONTAMINATED SITE-33D	1321	5/16/94	32.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0
10031.0	MOUTH OF ESTERO AMERICANO	1322	5/16/94	32.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0
10006.0	BODEGA BAY-MASON'S MARINA REP1	1350	6/14/94	33.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0
10006.0	BODEGA BAY-MASON'S MARINA REP2	1351	6/14/94	33.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0
10006.0	BODEGA BAY-MASON'S MARINA REP3	1352	6/14/94	33.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0
10007.0	BODEGA-SPUD POINT MARINA REP1	1353	6/13/94	33.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0
10007.0	BODEGA-SPUD POINT MARINA REP2	1354	6/13/94	33.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0
10007.0	BODEGA-SPUD POINT MARINA REP3	1355	6/13/94	33.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0
10028.0	PORTO BODEGA MARINA REP1	1356	6/14/94	33.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0
10028.0	PORTO BODEGA MARINA REP2	1357	6/14/94	33.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0
10028.0	PORTO BODEGA MARINA REP3	1358	6/14/94	33.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0
10040.0	UNCONTAMINATED SITE-33D REP1	1359	6/13/94	33.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0
10040.0	UNCONTAMINATED SITE-33D REP2	1360	6/13/94	33.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0
10040.0	UNCONTAMINATED SITE-33D REP3	1361	6/13/94	33.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.0000	-9.0
14003.0	ARCATA BAY- JOLLY GIANT NORTH	1438	2/14/95	36.5	-9.000	-9.00	-9.000	-9.00	-9	-9.0000	-9.0
15002.0	H. BAY- WASHINGTON STREET	1440	2/15/95	36.5	-9.000	-9.00	-9.000	-9.00	-9	-9.0000	-9.0
10019.0	H. BAY- COAL/OIL/GAS PLANT	1442	2/15/95	36.5	-9.000	-9.00	-9.000	-9.00	-9	-9.0000	-9.0
10020.0	H. BAY- OLD PAC. LUMBER SITE	1444	2/15/95	36.5	-9.000	-9.00	-9.000	-9.00	-9	-9.0000	-9.0
14004.0	DAVENPORT MARINE	1446	2/15/95	36.5	-9.000	-9.00	-9.000	-9.00	-9	-9.0000	-9.0
10022.0	HUMBOLDT BAY EUREKA SM.22	1448	2/15/95	36.5	-9.000	-9.00	-9.000	-9.00	-9	-9.0000	-9.0
14001.0	EUREKA WATERFRONT H STREET	1450	2/15/95	36.5	-9.000	-9.00	-9.000	-9.00	-9	-9.0000	-9.0
14002.0	EUREKA WATERFRONT J STREET	1452	2/15/95	36.5	-9.000	-9.00	-9.000	-9.00	-9	-9.0000	-9.0
14004.0	DAVENPORT MARINE	1578	4/17/96	42.0	-8.000	-8.00	-8.000	-8.00	L-107-96	-9.0000	-9.0
10023.0	H. BAY EUREKA STORM 23	1579	4/17/96	42.0	-8.000	-8.00	-8.000	-8.00	L-107-96	-9.0000	-9.0
10016.0	ARCATA BAY-JOLLY GIANT SL.	1580	4/18/96	42.0	-8.000	-8.00	-8.000	-8.00	L-107-96	-9.0000	-9.0
10017.0	ARCATA BAY-EUREKA SL.	1581	4/17/96	42.0	-8.000	-8.00	-8.000	-8.00	L-107-96	-9.0000	-9.0
10021.0	H. BAY-CHEVRON TERMINAL	1582	4/17/96	42.0	-8.000	-8.00	-8.000	-8.00	L-107-96	-9.0000	-9.0
10019.0	H. BAY-COAL/OIL/GAS PLANT	1583	4/17/96	42.0	-8.000	-8.00	-8.000	-8.00	L-107-96	-9.0000	-9.0

PESTICIDE ANALYSIS OF SEDIMENTS (dry weight-ppb-ng/g); TBT ANALYSIS OF SEDIMENTS (dry weight-ppm-ug/g)

STANUM	STATION	IDORG	DATE	LEG	TNONA	OXAD	OCDAN	TOXAPH	PESBATCH	TBT	TBTBATCH
10018.0	H. BAY-UNION OIL PLANT	1584	4/17/96	42.0	-8.000	-8.00	-8.000	-8.00	L-107-96	-9.0000	-9.0
15001.0	H. BAY- HALBERSON SHORELINE	1585	4/17/96	42.0	-8.000	-8.00	-8.000	-8.00	L-107-96	-9.0000	-9.0
14002.0	EUREKA WATERFRONT- J STREET	1586	4/17/96	42.0	-8.000	-8.00	-8.000	-8.00	L-107-96	-9.0000	-9.0
14001.0	EUREKA WATERFRONT- H STREET	1587	4/17/96	42.0	-8.000	-8.00	-8.000	-8.00	L-107-96	-9.0000	-9.0
10006.0	BODEGA BAY MASON'S MARINA	1682	12/6/96	47.0	-8.000	-8.00	-8.000	-8.00	97-359	0.0340	32.0
10007.0	BODEGA-SPUD POINT MARINA	1683	12/5/96	47.0	-8.000	-8.00	-8.000	-8.00	97-359	-8.0000	32.0
10028.0	PORTO BODEGA MARINA	1684	12/6/96	47.0	-8.000	-8.00	-8.000	-8.00	97-359	0.0220	32.0
10040.0	UNCONTAMINATED SITE-33D	1685	12/6/96	47.0	-8.000	-8.00	-8.000	-8.00	97-359	-8.0000	32.0

SECTION III

PCB and Aroclor Analysis of Sediments

PCB CONGENER AND AROCLOR ANALYSIS OF SEDIMENTS (dry weight-ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	PCB5	PCB8	PCB15	PCB18	PCB27	PCB28	PCB29	PCB31	PCB44	PCB49	PCB52
10004.0	ARCATA BAY-MCDANIEL SL.	304	11/30/92	8.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000
10015.0	ARCATA BAY-MAD RIVER SL.	315	11/30/92	8.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10016.0	ARCATA BAY-JOLLY GIANT SL	316	11/30/92	8.0	-9.000	-8.000	-9.000	1.700	-9.000	1.700	-9.000	-9.000	1.200	-9.000	1.800
10017.0	ARCATA BAY-EUREKA SL.	317	11/29/92	8.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000
10018.0	H. BAY-UNION OIL PLANT	318	11/29/92	8.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10019.0	H. BAY-COAL/OIL/GAS PLANT	319	11/29/92	8.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10020.0	H. BAY-OLD PAC. LUMBER SITE	320	11/29/92	8.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000
10021.0	H. BAY-CHEVRON TERMINAL	321	11/29/92	8.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000
14001.0	EUREKA WATERFRONT - H STREET	322	11/29/92	8.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10023.0	H. BAY EUREKA STORM 23	323	11/29/92	8.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000
10024.0	H. BAY FIELDS LANDING	324	11/29/92	8.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10025.0	H. BAY HOOKTON SL.	325	11/29/92	8.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000
10036.0	SOUTHPORT CHANNEL-33B	336	11/30/92	8.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	H. BAY-MOUTH OF ELK RIVER	337	11/30/92	8.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000
14004.0	DAVENPORT MARINE	338	11/30/92	8.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	0.600
10005.0	RUSSIAN RIVER MOUTH SMW 280.0	305	2/25/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10006.0	BODEGA BAY-MASON'S MARINA	306	2/25/93	14.0	-9.000	-8.000	-9.000	-8.000	-9.000	0.900	-9.000	-9.000	1.300	-9.000	2.400
10007.0	BODEGA BAY-SPUD POINT MARINA	307	2/25/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10028.0	BODEGA BAY PORTO BODEGA MARINA	328	2/25/93	14.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	1.200	-9.000	2.100
10029.0	ESTERO AMERICANO-VALLEY FORD	329	2/25/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10030.0	ESTERO DE SAN ANTONIO-VALLEY F	330	2/25/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10031.0	MOUTH OF ESTERO AMERICANO	331	2/26/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10032.0	MOUTH OF ESTERO DE SAN ANTONIO	332	2/26/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10039.0	UNCONTAMINATED SITE-33C	339	2/25/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10040.0	UNCONTAMINATED SITE-33D	340	2/26/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10041.0	SALMON CREEK-34L	341	2/25/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	900	6/22/93	20.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	901	6/22/93	20.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	902	6/22/93	20.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	906	6/22/93	21.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	907	6/22/93	21.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	908	6/22/93	21.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	912	6/22/93	22.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000

PCB CONGENER AND AROCLOR ANALYSIS OF SEDIMENTS (dry weight-ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	PCB5	PCB8	PCB15	PCB18	PCB27	PCB28	PCB29	PCB31	PCB44	PCB49	PCB52
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	913	6/22/93	22.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	914	6/22/93	22.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	915	6/22/93	23.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	916	6/22/93	23.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	917	6/22/93	23.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10040.0	UNCONTAMINATED SITE-33D	1321	5/16/94	32.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10031.0	MOUTH OF ESTERO AMERICANO	1322	5/16/94	32.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10006.0	BODEGA BAY-MASON'S MARINA REP1	1350	6/14/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10006.0	BODEGA BAY-MASON'S MARINA REP2	1351	6/14/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10006.0	BODEGA BAY-MASON'S MARINA REP3	1352	6/14/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10007.0	BODEGA-SPUD POINT MARINA REP1	1353	6/13/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10007.0	BODEGA-SPUD POINT MARINA REP2	1354	6/13/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10007.0	BODEGA-SPUD POINT MARINA REP3	1355	6/13/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10028.0	PORTO BODEGA MARINA REP1	1356	6/14/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10028.0	PORTO BODEGA MARINA REP2	1357	6/14/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10028.0	PORTO BODEGA MARINA REP3	1358	6/14/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10040.0	UNCONTAMINATED SITE-33D REP1	1359	6/13/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10040.0	UNCONTAMINATED SITE-33D REP2	1360	6/13/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10040.0	UNCONTAMINATED SITE-33D REP3	1361	6/13/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14003.0	ARCATA BAY- JOLLY GIANT NORTH	1438	2/14/95	36.5	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000
15002.0	H. BAY- WASHINGTON STREET	1440	2/15/95	36.5	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10019.0	H. BAY- COAL/OIL/GAS PLANT	1442	2/15/95	36.5	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10020.0	H. BAY- OLD PAC. LUMBER SITE	1444	2/15/95	36.5	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14004.0	DAVENPORT MARINE	1446	2/15/95	36.5	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10022.0	HUMBOLDT BAY EUREKA SM.22	1448	2/15/95	36.5	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14001.0	EUREKA WATERFRONT H STREET	1450	2/15/95	36.5	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT J STREET	1452	2/15/95	36.5	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14004.0	DAVENPORT MARINE	1578	4/17/96	42.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000
10023.0	H. BAY EUREKA STORM 23	1579	4/17/96	42.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000
10016.0	ARCATA BAY-JOLLY GIANT SL.	1580	4/18/96	42.0	-9.000	0.710	-9.000	0.720	-9.000	1.610	-9.000	-9.000	0.840	-9.000	0.860
10017.0	ARCATA BAY-EUREKA SL.	1581	4/17/96	42.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000
10021.0	H. BAY-CHEVRON TERMINAL	1582	4/17/96	42.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000
10019.0	H. BAY-COAL/OIL/GAS PLANT	1583	4/17/96	42.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000

PCB CONGENER AND AROCLOR ANALYSIS OF SEDIMENTS (dry weight-ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	PCB5	PCB8	PCB15	PCB18	PCB27	PCB28	PCB29	PCB31	PCB44	PCB49	PCB52
10018.0	H. BAY-UNION OIL PLANT	1584	4/17/96	42.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000
15001.0	H. BAY- HALBERSON SHORELINE	1585	4/17/96	42.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000
14002.0	EUREKA WATERFRONT- J STREET	1586	4/17/96	42.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000
14001.0	EUREKA WATERFRONT- H STREET	1587	4/17/96	42.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	0.760
10006.0	BODEGA BAY MASON'S MARINA	1682	12/6/96	47.0	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	0.689	0.373
10007.0	BODEGA-SPUD POINT MARINA	1683	12/5/96	47.0	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000
10028.0	PORTO BODEGA MARINA	1684	12/6/96	47.0	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	0.128	-8.000	-8.000	-8.000
10040.0	UNCONTAMINATED SITE-33D	1685	12/6/96	47.0	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	0.130	-8.000	-8.000	-8.000

PCB CONGENER AND AROCLOR ANALYSIS OF SEDIMENTS (dry weight-ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	PCB66	PCB70	PCB74	PCB87	PCB95	PCB97	PCB99	PCB101	PCB105	PCB110
10004.0	ARCATA BAY-MCDANIEL SL.	304	11/30/92	8.0	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000	-9.000	-8.000	-8.000	-9.000
10015.0	ARCATA BAY-MAD RIVER SL.	315	11/30/92	8.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10016.0	ARCATA BAY-JOLLY GIANT SL	316	11/30/92	8.0	1.600	-9.000	-9.000	-8.000	-9.000	-9.000	-9.000	1.000	-8.000	-9.000
10017.0	ARCATA BAY-EUREKA SL.	317	11/29/92	8.0	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000	-9.000	-8.000	-8.000	-9.000
10018.0	H. BAY-UNION OIL PLANT	318	11/29/92	8.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10019.0	H. BAY-COAL/OIL/GAS PLANT	319	11/29/92	8.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10020.0	H. BAY-OLD PAC. LUMBER SITE	320	11/29/92	8.0	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000	-9.000	-8.000	-8.000	-9.000
10021.0	H. BAY-CHEVRON TERMINAL	321	11/29/92	8.0	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000	-9.000	-8.000	-8.000	-9.000
14001.0	EUREKA WATERFRONT - H STREET	322	11/29/92	8.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10023.0	H. BAY EUREKA STORM 23	323	11/29/92	8.0	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000	-9.000	0.700	-8.000	-9.000
10024.0	H. BAY FIELDS LANDING	324	11/29/92	8.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10025.0	H. BAY HOOKTON SL.	325	11/29/92	8.0	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000	-9.000	-8.000	-8.000	-9.000
10036.0	SOUTHPORT CHANNEL-33B	336	11/30/92	8.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	H. BAY-MOUTH OF ELK RIVER	337	11/30/92	8.0	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000	-9.000	-8.000	-8.000	-9.000
14004.0	DAVENPORT MARINE	338	11/30/92	8.0	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000	-9.000	-8.000	-8.000	-9.000
10005.0	RUSSIAN RIVER MOUTH SMW 280.0	305	2/25/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10006.0	BODEGA BAY-MASON'S MARINA	306	2/25/93	14.0	1.700	-9.000	-9.000	1.100	-9.000	-9.000	-9.000	2.500	0.900	-9.000
10007.0	BODEGA BAY-SPUD POINT MARINA	307	2/25/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10028.0	BODEGA BAY PORTO BODEGA MARINA	328	2/25/93	14.0	2.000	-9.000	-9.000	1.000	-9.000	-9.000	-9.000	2.600	0.900	-9.000
10029.0	ESTERO AMERICANO-VALLEY FORD	329	2/25/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10030.0	ESTERO DE SAN ANTONIO-VALLEY F	330	2/25/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10031.0	MOUTH OF ESTERO AMERICANO	331	2/26/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10032.0	MOUTH OF ESTERO DE SAN ANTONIO	332	2/26/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10039.0	UNCONTAMINATED SITE-33C	339	2/25/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10040.0	UNCONTAMINATED SITE-33D	340	2/26/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10041.0	SALMON CREEK-34L	341	2/25/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	900	6/22/93	20.0	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000	-9.000	-8.000	-8.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	901	6/22/93	20.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	902	6/22/93	20.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	906	6/22/93	21.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	907	6/22/93	21.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	908	6/22/93	21.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	912	6/22/93	22.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000

PCB CONGENER AND AROCLOR ANALYSIS OF SEDIMENTS (dry weight-ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	PCB66	PCB70	PCB74	PCB87	PCB95	PCB97	PCB99	PCB101	PCB105	PCB110
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	913	6/22/93	22.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	914	6/22/93	22.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	915	6/22/93	23.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	916	6/22/93	23.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	917	6/22/93	23.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10040.0	UNCONTAMINATED SITE-33D	1321	5/16/94	32.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10031.0	MOUTH OF ESTERO AMERICANO	1322	5/16/94	32.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10006.0	BODEGA BAY-MASON'S MARINA REP1	1350	6/14/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10006.0	BODEGA BAY-MASON'S MARINA REP2	1351	6/14/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10006.0	BODEGA BAY-MASON'S MARINA REP3	1352	6/14/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10007.0	BODEGA-SPUD POINT MARINA REP1	1353	6/13/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10007.0	BODEGA-SPUD POINT MARINA REP2	1354	6/13/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10007.0	BODEGA-SPUD POINT MARINA REP3	1355	6/13/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10028.0	PORTO BODEGA MARINA REP1	1356	6/14/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10028.0	PORTO BODEGA MARINA REP2	1357	6/14/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10028.0	PORTO BODEGA MARINA REP3	1358	6/14/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10040.0	UNCONTAMINATED SITE-33D REP1	1359	6/13/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10040.0	UNCONTAMINATED SITE-33D REP2	1360	6/13/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10040.0	UNCONTAMINATED SITE-33D REP3	1361	6/13/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14003.0	ARCATA BAY- JOLLY GIANT NORTH	1438	2/14/95	36.5	-8.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-8.000	-8.000	-9.000
15002.0	H. BAY- WASHINGTON STREET	1440	2/15/95	36.5	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10019.0	H. BAY- COAL/OIL/GAS PLANT	1442	2/15/95	36.5	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10020.0	H. BAY- OLD PAC. LUMBER SITE	1444	2/15/95	36.5	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14004.0	DAVENPORT MARINE	1446	2/15/95	36.5	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10022.0	HUMBOLDT BAY EUREKA SM.22	1448	2/15/95	36.5	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14001.0	EUREKA WATERFRONT H STREET	1450	2/15/95	36.5	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT J STREET	1452	2/15/95	36.5	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14004.0	DAVENPORT MARINE	1578	4/17/96	42.0	-8.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-8.000	-8.000	-9.000
10023.0	H. BAY EUREKA STORM 23	1579	4/17/96	42.0	-8.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-8.000	-8.000	-9.000
10016.0	ARCATA BAY-JOLLY GIANT SL.	1580	4/18/96	42.0	0.700	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	0.740	-8.000	-9.000
10017.0	ARCATA BAY-EUREKA SL.	1581	4/17/96	42.0	0.510	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-8.000	-8.000	-9.000
10021.0	H. BAY-CHEVRON TERMINAL	1582	4/17/96	42.0	-8.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-8.000	-8.000	-9.000
10019.0	H. BAY-COAL/OIL/GAS PLANT	1583	4/17/96	42.0	-8.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-8.000	-8.000	-9.000

PCB CONGENER AND AROCLOR ANALYSIS OF SEDIMENTS (dry weight-ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	PCB66	PCB70	PCB74	PCB87	PCB95	PCB97	PCB99	PCB101	PCB105	PCB110
10018.0	H. BAY-UNION OIL PLANT	1584	4/17/96	42.0	-8.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-8.000	-8.000	-9.000
15001.0	H. BAY- HALBERSON SHORELINE	1585	4/17/96	42.0	-8.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-8.000	-8.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1586	4/17/96	42.0	-8.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-8.000	-8.000	-9.000
14001.0	EUREKA WATERFRONT- H STREET	1587	4/17/96	42.0	-8.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	1.660	-8.000	-9.000
10006.0	BODEGA BAY MASON'S MARINA	1682	12/6/96	47.0	-8.000	0.395	-8.000	-9.000	-8.000	-8.000	1.260	0.443	-8.000	0.864
10007.0	BODEGA-SPUD POINT MARINA	1683	12/5/96	47.0	-8.000	-8.000	-8.000	-9.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000
10028.0	PORTO BODEGA MARINA	1684	12/6/96	47.0	-8.000	0.229	-8.000	-9.000	1.875	-8.000	1.156	0.768	-8.000	0.951
10040.0	UNCONTAMINATED SITE-33D	1685	12/6/96	47.0	-8.000	-8.000	-8.000	-9.000	-8.000	-8.000	0.108	-8.000	-8.000	-8.000

PCB CONGENER AND AROCLOR ANALYSIS OF SEDIMENTS (dry weight-ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	PCB118	PCB128	PCB132	PCB137	PCB138	PCB149	PCB151	PCB153	PCB156	PCB157
10004.0	ARCATA BAY-MCDANIEL SL.	304	11/30/92	8.0	-8.000	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000
10015.0	ARCATA BAY-MAD RIVER SL.	315	11/30/92	8.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10016.0	ARCATA BAY-JOLLY GIANT SL	316	11/30/92	8.0	1.100	-8.000	-9.000	-9.000	1.700	-9.000	-9.000	1.300	-9.000	-9.000
10017.0	ARCATA BAY-EUREKA SL.	317	11/29/92	8.0	-8.000	-8.000	-9.000	-9.000	0.600	-9.000	-9.000	0.600	-9.000	-9.000
10018.0	H. BAY-UNION OIL PLANT	318	11/29/92	8.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10019.0	H. BAY-COAL/OIL/GAS PLANT	319	11/29/92	8.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10020.0	H. BAY-OLD PAC. LUMBER SITE	320	11/29/92	8.0	-8.000	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000
10021.0	H. BAY-CHEVRON TERMINAL	321	11/29/92	8.0	-8.000	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000
14001.0	EUREKA WATERFRONT - H STREET	322	11/29/92	8.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10023.0	H. BAY EUREKA STORM 23	323	11/29/92	8.0	0.500	-8.000	-9.000	-9.000	1.000	-9.000	-9.000	0.700	-9.000	-9.000
10024.0	H. BAY FIELDS LANDING	324	11/29/92	8.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10025.0	H. BAY HOOKTON SL.	325	11/29/92	8.0	-8.000	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000
10036.0	SOUTHPORT CHANNEL-33B	336	11/30/92	8.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	H. BAY-MOUTH OF ELK RIVER	337	11/30/92	8.0	-8.000	-8.000	-9.000	-9.000	0.500	-9.000	-9.000	-8.000	-9.000	-9.000
14004.0	DAVENPORT MARINE	338	11/30/92	8.0	-8.000	-8.000	-9.000	-9.000	0.900	-9.000	-9.000	-8.000	-9.000	-9.000
10005.0	RUSSIAN RIVER MOUTH SMW 280.0	305	2/25/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10006.0	BODEGA BAY-MASON'S MARINA	306	2/25/93	14.0	2.400	-8.000	-9.000	-9.000	2.300	-9.000	-9.000	1.500	-9.000	-9.000
10007.0	BODEGA BAY-SPUD POINT MARINA	307	2/25/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10028.0	BODEGA BAY PORTO BODEGA MARINA	328	2/25/93	14.0	2.300	-8.000	-9.000	-9.000	2.900	-9.000	-9.000	2.100	-9.000	-9.000
10029.0	ESTERO AMERICANO-VALLEY FORD	329	2/25/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10030.0	ESTERO DE SAN ANTONIO-VALLEY F	330	2/25/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10031.0	MOUTH OF ESTERO AMERICANO	331	2/26/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10032.0	MOUTH OF ESTERO DE SAN ANTONIO	332	2/26/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10039.0	UNCONTAMINATED SITE-33C	339	2/25/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10040.0	UNCONTAMINATED SITE-33D	340	2/26/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10041.0	SALMON CREEK-34L	341	2/25/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	900	6/22/93	20.0	-8.000	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	901	6/22/93	20.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	902	6/22/93	20.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	906	6/22/93	21.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	907	6/22/93	21.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	908	6/22/93	21.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	912	6/22/93	22.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000

PCB CONGENER AND AROCLOR ANALYSIS OF SEDIMENTS (dry weight-ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	PCB118	PCB128	PCB132	PCB137	PCB138	PCB149	PCB151	PCB153	PCB156	PCB157
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	913	6/22/93	22.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	914	6/22/93	22.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	915	6/22/93	23.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	916	6/22/93	23.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	917	6/22/93	23.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10040.0	UNCONTAMINATED SITE-33D	1321	5/16/94	32.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10031.0	MOUTH OF ESTERO AMERICANO	1322	5/16/94	32.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10006.0	BODEGA BAY-MASON'S MARINA REP1	1350	6/14/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10006.0	BODEGA BAY-MASON'S MARINA REP2	1351	6/14/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10006.0	BODEGA BAY-MASON'S MARINA REP3	1352	6/14/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10007.0	BODEGA-SPUD POINT MARINA REP1	1353	6/13/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10007.0	BODEGA-SPUD POINT MARINA REP2	1354	6/13/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10007.0	BODEGA-SPUD POINT MARINA REP3	1355	6/13/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10028.0	PORTO BODEGA MARINA REP1	1356	6/14/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10028.0	PORTO BODEGA MARINA REP2	1357	6/14/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10028.0	PORTO BODEGA MARINA REP3	1358	6/14/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10040.0	UNCONTAMINATED SITE-33D REP1	1359	6/13/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10040.0	UNCONTAMINATED SITE-33D REP2	1360	6/13/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10040.0	UNCONTAMINATED SITE-33D REP3	1361	6/13/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14003.0	ARCATA BAY- JOLLY GIANT NORTH	1438	2/14/95	36.5	-8.000	-8.000	-9.000	-9.000	0.597	-9.000	-9.000	0.667	-9.000	-9.000
15002.0	H. BAY- WASHINGTON STREET	1440	2/15/95	36.5	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10019.0	H. BAY- COAL/OIL/GAS PLANT	1442	2/15/95	36.5	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10020.0	H. BAY- OLD PAC. LUMBER SITE	1444	2/15/95	36.5	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14004.0	DAVENPORT MARINE	1446	2/15/95	36.5	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10022.0	HUMBOLDT BAY EUREKA SM.22	1448	2/15/95	36.5	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14001.0	EUREKA WATERFRONT H STREET	1450	2/15/95	36.5	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT J STREET	1452	2/15/95	36.5	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14004.0	DAVENPORT MARINE	1578	4/17/96	42.0	-8.000	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000
10023.0	H. BAY EUREKA STORM 23	1579	4/17/96	42.0	-8.000	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000
10016.0	ARCATA BAY-JOLLY GIANT SL.	1580	4/18/96	42.0	0.910	-8.000	-9.000	-9.000	0.910	-9.000	-9.000	0.870	-9.000	-9.000
10017.0	ARCATA BAY-EUREKA SL.	1581	4/17/96	42.0	0.740	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000
10021.0	H. BAY-CHEVRON TERMINAL	1582	4/17/96	42.0	-8.000	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000
10019.0	H. BAY-COAL/OIL/GAS PLANT	1583	4/17/96	42.0	-8.000	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000

PCB CONGENER AND AROCLOR ANALYSIS OF SEDIMENTS (dry weight-ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	PCB118	PCB128	PCB132	PCB137	PCB138	PCB149	PCB151	PCB153	PCB156	PCB157
10018.0	H. BAY-UNION OIL PLANT	1584	4/17/96	42.0	-8.000	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000
15001.0	H. BAY- HALBERSON SHORELINE	1585	4/17/96	42.0	-8.000	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1586	4/17/96	42.0	-8.000	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000
14001.0	EUREKA WATERFRONT- H STREET	1587	4/17/96	42.0	1.450	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000	1.340	-9.000	-9.000
10006.0	BODEGA BAY MASON'S MARINA	1682	12/6/96	47.0	0.713	-8.000	-8.000	-8.000	1.400	-8.000	-8.000	-8.000	-8.000	-8.000
10007.0	BODEGA-SPUD POINT MARINA	1683	12/5/96	47.0	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000
10028.0	PORTO BODEGA MARINA	1684	12/6/96	47.0	1.091	-8.000	-8.000	-8.000	1.493	0.576	-8.000	1.022	-8.000	-8.000
10040.0	UNCONTAMINATED SITE-33D	1685	12/6/96	47.0	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000

PCB CONGENER AND AROCLOR ANALYSIS OF SEDIMENTS (dry weight-ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	PCB158	PCB170	PCB174	PCB177	PCB180	PCB183	PCB187	PCB189	PCB194	PCB195
10004.0	ARCATA BAY-MCDANIEL SL.	304	11/30/92	8.0	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000
10015.0	ARCATA BAY-MAD RIVER SL.	315	11/30/92	8.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10016.0	ARCATA BAY-JOLLY GIANT SL	316	11/30/92	8.0	-9.000	-8.000	-9.000	-9.000	1.700	-9.000	1.000	-9.000	-9.000	-8.000
10017.0	ARCATA BAY-EUREKA SL.	317	11/29/92	8.0	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000
10018.0	H. BAY-UNION OIL PLANT	318	11/29/92	8.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10019.0	H. BAY-COAL/OIL/GAS PLANT	319	11/29/92	8.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10020.0	H. BAY-OLD PAC. LUMBER SITE	320	11/29/92	8.0	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000
10021.0	H. BAY-CHEVRON TERMINAL	321	11/29/92	8.0	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000
14001.0	EUREKA WATERFRONT - H STREET	322	11/29/92	8.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10023.0	H. BAY EUREKA STORM 23	323	11/29/92	8.0	-9.000	-8.000	-9.000	-9.000	0.600	-9.000	-8.000	-9.000	-9.000	-8.000
10024.0	H. BAY FIELDS LANDING	324	11/29/92	8.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10025.0	H. BAY HOOKTON SL.	325	11/29/92	8.0	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000
10036.0	SOUTHPORT CHANNEL-33B	336	11/30/92	8.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	H. BAY-MOUTH OF ELK RIVER	337	11/30/92	8.0	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000
14004.0	DAVENPORT MARINE	338	11/30/92	8.0	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000
10005.0	RUSSIAN RIVER MOUTH SMW 280.0	305	2/25/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10006.0	BODEGA BAY-MASON'S MARINA	306	2/25/93	14.0	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000
10007.0	BODEGA BAY-SPUD POINT MARINA	307	2/25/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10028.0	BODEGA BAY PORTO BODEGA MARINA	328	2/25/93	14.0	-9.000	-8.000	-9.000	-9.000	0.600	-9.000	-8.000	-9.000	-9.000	-8.000
10029.0	ESTERO AMERICANO-VALLEY FORD	329	2/25/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10030.0	ESTERO DE SAN ANTONIO-VALLEY F	330	2/25/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10031.0	MOUTH OF ESTERO AMERICANO	331	2/26/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10032.0	MOUTH OF ESTERO DE SAN ANTONIO	332	2/26/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10039.0	UNCONTAMINATED SITE-33C	339	2/25/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10040.0	UNCONTAMINATED SITE-33D	340	2/26/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10041.0	SALMON CREEK-34L	341	2/25/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	900	6/22/93	20.0	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	901	6/22/93	20.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	902	6/22/93	20.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	906	6/22/93	21.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	907	6/22/93	21.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	908	6/22/93	21.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	912	6/22/93	22.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000

PCB CONGENER AND AROCLOR ANALYSIS OF SEDIMENTS (dry weight-ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	PCB158	PCB170	PCB174	PCB177	PCB180	PCB183	PCB187	PCB189	PCB194	PCB195
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	913	6/22/93	22.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	914	6/22/93	22.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	915	6/22/93	23.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	916	6/22/93	23.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	917	6/22/93	23.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10040.0	UNCONTAMINATED SITE-33D	1321	5/16/94	32.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10031.0	MOUTH OF ESTERO AMERICANO	1322	5/16/94	32.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10006.0	BODEGA BAY-MASON'S MARINA REP1	1350	6/14/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10006.0	BODEGA BAY-MASON'S MARINA REP2	1351	6/14/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10006.0	BODEGA BAY-MASON'S MARINA REP3	1352	6/14/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10007.0	BODEGA-SPUD POINT MARINA REP1	1353	6/13/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10007.0	BODEGA-SPUD POINT MARINA REP2	1354	6/13/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10007.0	BODEGA-SPUD POINT MARINA REP3	1355	6/13/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10028.0	PORTO BODEGA MARINA REP1	1356	6/14/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10028.0	PORTO BODEGA MARINA REP2	1357	6/14/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10028.0	PORTO BODEGA MARINA REP3	1358	6/14/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10040.0	UNCONTAMINATED SITE-33D REP1	1359	6/13/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10040.0	UNCONTAMINATED SITE-33D REP2	1360	6/13/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10040.0	UNCONTAMINATED SITE-33D REP3	1361	6/13/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14003.0	ARCATA BAY- JOLLY GIANT NORTH	1438	2/14/95	36.5	-9.000	-8.000	-9.000	-9.000	1.320	-9.000	0.674	-9.000	-9.000	-8.000
15002.0	H. BAY- WASHINGTON STREET	1440	2/15/95	36.5	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10019.0	H. BAY- COAL/OIL/GAS PLANT	1442	2/15/95	36.5	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10020.0	H. BAY- OLD PAC. LUMBER SITE	1444	2/15/95	36.5	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14004.0	DAVENPORT MARINE	1446	2/15/95	36.5	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10022.0	HUMBOLDT BAY EUREKA SM.22	1448	2/15/95	36.5	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14001.0	EUREKA WATERFRONT H STREET	1450	2/15/95	36.5	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT J STREET	1452	2/15/95	36.5	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14004.0	DAVENPORT MARINE	1578	4/17/96	42.0	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000
10023.0	H. BAY EUREKA STORM 23	1579	4/17/96	42.0	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000
10016.0	ARCATA BAY-JOLLY GIANT SL.	1580	4/18/96	42.0	-9.000	-8.000	-9.000	-9.000	0.900	-9.000	-8.000	-9.000	-9.000	-8.000
10017.0	ARCATA BAY-EUREKA SL.	1581	4/17/96	42.0	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000
10021.0	H. BAY-CHEVRON TERMINAL	1582	4/17/96	42.0	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000
10019.0	H. BAY-COAL/OIL/GAS PLANT	1583	4/17/96	42.0	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000

PCB CONGENER AND AROCLOR ANALYSIS OF SEDIMENTS (dry weight-ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	PCB158	PCB170	PCB174	PCB177	PCB180	PCB183	PCB187	PCB189	PCB194	PCB195
10018.0	H. BAY-UNION OIL PLANT	1584	4/17/96	42.0	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000
15001.0	H. BAY- HALBERSON SHORELINE	1585	4/17/96	42.0	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000
14002.0	EUREKA WATERFRONT- J STREET	1586	4/17/96	42.0	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000
14001.0	EUREKA WATERFRONT- H STREET	1587	4/17/96	42.0	-9.000	-8.000	-9.000	-9.000	0.620	-9.000	-8.000	-9.000	-9.000	-8.000
10006.0	BODEGA BAY MASON'S MARINA	1682	12/6/96	47.0	-8.000	-8.000	-8.000	-8.000	0.641	-8.000	-8.000	-8.000	-8.000	-8.000
10007.0	BODEGA-SPUD POINT MARINA	1683	12/5/96	47.0	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000
10028.0	PORTO BODEGA MARINA	1684	12/6/96	47.0	-8.000	-8.000	-8.000	-8.000	1.025	-8.000	-8.000	-8.000	1.405	-8.000
10040.0	UNCONTAMINATED SITE-33D	1685	12/6/96	47.0	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000

PCB CONGENER AND AROCLOR ANALYSIS OF SEDIMENTS (dry weight-ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	PCB201	PCB203	PCB206	PCB209	ARO1248	ARO1254	ARO1260	ARO5460	PCBBATCH
10004.0	ARCATA BAY-MCDANIEL SL.	304	11/30/92	8.0	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000	-9.000	72.70
10015.0	ARCATA BAY-MAD RIVER SL.	315	11/30/92	8.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
10016.0	ARCATA BAY-JOLLY GIANT SL	316	11/30/92	8.0	-9.000	-9.000	0.800	-8.000	-9.000	-9.000	-9.000	-9.000	73.30
10017.0	ARCATA BAY-EUREKA SL.	317	11/29/92	8.0	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000	-9.000	72.60
10018.0	H. BAY-UNION OIL PLANT	318	11/29/92	8.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
10019.0	H. BAY-COAL/OIL/GAS PLANT	319	11/29/92	8.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
10020.0	H. BAY-OLD PAC. LUMBER SITE	320	11/29/92	8.0	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000	-9.000	72.60
10021.0	H. BAY-CHEVRON TERMINAL	321	11/29/92	8.0	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000	-9.000	73.30
14001.0	EUREKA WATERFRONT - H STREET	322	11/29/92	8.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
10023.0	H. BAY EUREKA STORM 23	323	11/29/92	8.0	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000	-9.000	72.80
10024.0	H. BAY FIELDS LANDING	324	11/29/92	8.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
10025.0	H. BAY HOOKTON SL.	325	11/29/92	8.0	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000	-9.000	73.30
10036.0	SOUTHPORT CHANNEL-33B	336	11/30/92	8.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
10037.0	H. BAY-MOUTH OF ELK RIVER	337	11/30/92	8.0	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000	-9.000	73.30
14004.0	DAVENPORT MARINE	338	11/30/92	8.0	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000	-9.000	73.30
10005.0	RUSSIAN RIVER MOUTH SMW 280.0	305	2/25/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
10006.0	BODEGA BAY-MASON'S MARINA	306	2/25/93	14.0	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000	-9.000	72.10
10007.0	BODEGA BAY-SPUD POINT MARINA	307	2/25/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
10028.0	BODEGA BAY PORTO BODEGA MARINA	328	2/25/93	14.0	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000	-9.000	72.90
10029.0	ESTERO AMERICANO-VALLEY FORD	329	2/25/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
10030.0	ESTERO DE SAN ANTONIO-VALLEY F	330	2/25/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
10031.0	MOUTH OF ESTERO AMERICANO	331	2/26/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
10032.0	MOUTH OF ESTERO DE SAN ANTONIO	332	2/26/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
10039.0	UNCONTAMINATED SITE-33C	339	2/25/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
10040.0	UNCONTAMINATED SITE-33D	340	2/26/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
10041.0	SALMON CREEK-34L	341	2/25/93	14.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	900	6/22/93	20.0	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000	-9.000	73.50
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	901	6/22/93	20.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	902	6/22/93	20.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	906	6/22/93	21.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	907	6/22/93	21.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	908	6/22/93	21.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	912	6/22/93	22.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00

PCB CONGENER AND AROCLOR ANALYSIS OF SEDIMENTS (dry weight-ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	PCB201	PCB203	PCB206	PCB209	ARO1248	ARO1254	ARO1260	ARO5460	PCBBATCH
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	913	6/22/93	22.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	914	6/22/93	22.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	915	6/22/93	23.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	916	6/22/93	23.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	917	6/22/93	23.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
10040.0	UNCONTAMINATED SITE-33D	1321	5/16/94	32.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
10031.0	MOUTH OF ESTERO AMERICANO	1322	5/16/94	32.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
10006.0	BODEGA BAY-MASON'S MARINA REP1	1350	6/14/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
10006.0	BODEGA BAY-MASON'S MARINA REP2	1351	6/14/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
10006.0	BODEGA BAY-MASON'S MARINA REP3	1352	6/14/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
10007.0	BODEGA-SPUD POINT MARINA REP1	1353	6/13/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
10007.0	BODEGA-SPUD POINT MARINA REP2	1354	6/13/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
10007.0	BODEGA-SPUD POINT MARINA REP3	1355	6/13/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
10028.0	PORTO BODEGA MARINA REP1	1356	6/14/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
10028.0	PORTO BODEGA MARINA REP2	1357	6/14/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
10028.0	PORTO BODEGA MARINA REP3	1358	6/14/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
10040.0	UNCONTAMINATED SITE-33D REP1	1359	6/13/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
10040.0	UNCONTAMINATED SITE-33D REP2	1360	6/13/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
10040.0	UNCONTAMINATED SITE-33D REP3	1361	6/13/94	33.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
14003.0	ARCATA BAY- JOLLY GIANT NORTH	1438	2/14/95	36.5	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000	-8.000	73.5
15002.0	H. BAY- WASHINGTON STREET	1440	2/15/95	36.5	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	73.5
10019.0	H. BAY- COAL/OIL/GAS PLANT	1442	2/15/95	36.5	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	73.5
10020.0	H. BAY- OLD PAC. LUMBER SITE	1444	2/15/95	36.5	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	73.5
14004.0	DAVENPORT MARINE	1446	2/15/95	36.5	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	73.5
10022.0	HUMBOLDT BAY EUREKA SM.22	1448	2/15/95	36.5	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	73.5
14001.0	EUREKA WATERFRONT H STREET	1450	2/15/95	36.5	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	73.5
14002.0	EUREKA WATERFRONT J STREET	1452	2/15/95	36.5	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	73.5
14004.0	DAVENPORT MARINE	1578	4/17/96	42.0	-9.000	-9.000	-8.000	-9.000	-9.000	-9.000	-9.000	-8.000	L-107-96
10023.0	H. BAY EUREKA STORM 23	1579	4/17/96	42.0	-9.000	-9.000	-8.000	-9.000	-9.000	-9.000	-9.000	-8.000	L-107-96
10016.0	ARCATA BAY-JOLLY GIANT SL.	1580	4/18/96	42.0	-9.000	-9.000	-8.000	-9.000	-9.000	-9.000	-9.000	24.600	L-107-96
10017.0	ARCATA BAY-EUREKA SL.	1581	4/17/96	42.0	-9.000	-9.000	-8.000	-9.000	-9.000	-9.000	-9.000	-8.000	L-107-96
10021.0	H. BAY-CHEVRON TERMINAL	1582	4/17/96	42.0	-9.000	-9.000	-8.000	-9.000	-9.000	-9.000	-9.000	-8.000	L-107-96
10019.0	H. BAY-COAL/OIL/GAS PLANT	1583	4/17/96	42.0	-9.000	-9.000	-8.000	-9.000	-9.000	-9.000	-9.000	-8.000	L-107-96

PCB CONGENER AND AROCLOR ANALYSIS OF SEDIMENTS (dry weight-ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	PCB201	PCB203	PCB206	PCB209	ARO1248	ARO1254	ARO1260	ARO5460	PCBBATCH
10018.0	H. BAY-UNION OIL PLANT	1584	4/17/96	42.0	-9.000	-9.000	-8.000	-9.000	-9.000	-9.000	-9.000	-8.000	L-107-96
15001.0	H. BAY- HALBERSON SHORELINE	1585	4/17/96	42.0	-9.000	-9.000	-8.000	-9.000	-9.000	-9.000	-9.000	-8.000	L-107-96
14002.0	EUREKA WATERFRONT- J STREET	1586	4/17/96	42.0	-9.000	-9.000	-8.000	-9.000	-9.000	-9.000	-9.000	-8.000	L-107-96
14001.0	EUREKA WATERFRONT- H STREET	1587	4/17/96	42.0	-9.000	-9.000	-8.000	-9.000	-9.000	-9.000	-9.000	-8.000	L-107-96
10006.0	BODEGA BAY MASON'S MARINA	1682	12/6/96	47.0	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-9.000	97-359
10007.0	BODEGA-SPUD POINT MARINA	1683	12/5/96	47.0	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-9.000	97-359
10028.0	PORTO BODEGA MARINA	1684	12/6/96	47.0	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-9.000	97-359
10040.0	UNCONTAMINATED SITE-33D	1685	12/6/96	47.0	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-9.000	97-359

SECTION IV

PAH Analysis of Sediments

PAH ANALYSIS OF SEDIMENTS (dry weight-ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	ACY	ACE	ANT	BAA	BAP	BBF	BKF	BGP	BEP	BPH	CHR	COR
10004.0	ARCATA BAY-MCDANIEL SL.	304	11/30/92	8.0	-9.00	-8.00	5.10	10.10	8.80	-9.00	-9.00	-9.00	38.10	36.20	27.90	-9.00
10015.0	ARCATA BAY-MAD RIVER SL.	315	11/30/92	8.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10016.0	ARCATA BAY-JOLLY GIANT SL	316	11/30/92	8.0	-9.00	10.60	19.10	39.10	47.20	-9.00	-9.00	-9.00	64.40	28.10	72.80	-9.00
10017.0	ARCATA BAY-EUREKA SL.	317	11/29/92	8.0	-9.00	10.70	13.60	49.90	35.70	-9.00	-9.00	-9.00	60.80	36.80	69.20	-9.00
10018.0	H. BAY-UNION OIL PLANT	318	11/29/92	8.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10019.0	H. BAY-COAL/OIL/GAS PLANT	319	11/29/92	8.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10020.0	H. BAY-OLD PAC. LUMBER SITE	320	11/29/92	8.0	-9.00	12.10	40.10	78.10	141.00	-9.00	-9.00	-9.00	92.20	29.90	82.10	-9.00
10021.0	H. BAY-CHEVRON TERMINAL	321	11/29/92	8.0	-9.00	13.30	20.40	52.60	36.00	-9.00	-9.00	-9.00	43.90	26.10	77.30	-9.00
14001.0	EUREKA WATERFRONT - H STREET	322	11/29/92	8.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10023.0	H. BAY EUREKA STORM 23	323	11/29/92	8.0	-9.00	26.00	38.70	133.00	139.00	-9.00	-9.00	-9.00	129.00	34.20	203.00	-9.00
10024.0	H. BAY FIELDS LANDING	324	11/29/92	8.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10025.0	H. BAY HOOKTON SL.	325	11/29/92	8.0	-9.00	-8.00	-8.00	6.70	7.60	-9.00	-9.00	-9.00	19.30	27.10	13.60	-9.00
10036.0	SOUTHPORT CHANNEL-33B	336	11/30/92	8.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10037.0	H. BAY-MOUTH OF ELK RIVER	337	11/30/92	8.0	-9.00	13.60	23.10	68.20	60.10	-9.00	-9.00	-9.00	70.80	27.70	76.80	-9.00
14004.0	DAVENPORT MARINE	338	11/30/92	8.0	-9.00	71.00	51.50	141.00	87.80	-9.00	-9.00	-9.00	95.50	59.20	150.00	-9.00
10005.0	RUSSIAN RIVER MOUTH SMW 280.0	305	2/25/93	14.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10006.0	BODEGA BAY-MASON'S MARINA	306	2/25/93	14.0	-9.00	112.00	140.00	304.00	165.00	-9.00	-9.00	-9.00	202.00	29.40	618.00	-9.00
10007.0	BODEGA BAY-SPUD POINT MARINA	307	2/25/93	14.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	9.00	-9.00	-9.00	-9.00	-9.00
10028.0	BODEGA BAY PORTO BODEGA MARINA	328	2/25/93	14.0	-9.00	6.60	16.50	52.30	53.50	-9.00	-9.00	-9.00	78.80	21.00	103.00	-9.00
10029.0	ESTERO AMERICANO-VALLEY FORD	329	2/25/93	14.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10030.0	ESTERO DE SAN ANTONIO-VALLEY F	330	2/25/93	14.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10031.0	MOUTH OF ESTERO AMERICANO	331	2/26/93	14.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10032.0	MOUTH OF ESTERO DE SAN ANTONIO	332	2/26/93	14.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10039.0	UNCONTAMINATED SITE-33C	339	2/25/93	14.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10040.0	UNCONTAMINATED SITE-33D	340	2/26/93	14.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10041.0	SALMON CREEK-34L	341	2/25/93	14.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	900	6/22/93	20.0	-9.00	8.00	15.80	49.10	46.20	-9.00	-9.00	-9.00	51.50	17.10	69.40	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	901	6/22/93	20.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	902	6/22/93	20.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	906	6/22/93	21.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	907	6/22/93	21.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	908	6/22/93	21.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	912	6/22/93	22.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00

PAH ANALYSIS OF SEDIMENTS (dry weight-ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	ACY	ACE	ANT	BAA	BAP	BBF	BKF	BGP	BEP	BPH	CHR	COR
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	913	6/22/93	22.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	914	6/22/93	22.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	915	6/22/93	23.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	916	6/22/93	23.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	917	6/22/93	23.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10040.0	UNCONTAMINATED SITE-33D	1321	5/16/94	32.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10031.0	MOUTH OF ESTERO AMERICANO	1322	5/16/94	32.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10006.0	BODEGA BAY-MASON'S MARINA REP1	1350	6/14/94	33.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10006.0	BODEGA BAY-MASON'S MARINA REP2	1351	6/14/94	33.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10006.0	BODEGA BAY-MASON'S MARINA REP3	1352	6/14/94	33.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10007.0	BODEGA-SPUD POINT MARINA REP1	1353	6/13/94	33.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10007.0	BODEGA-SPUD POINT MARINA REP2	1354	6/13/94	33.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10007.0	BODEGA-SPUD POINT MARINA REP3	1355	6/13/94	33.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10028.0	PORTO BODEGA MARINA REP1	1356	6/14/94	33.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10028.0	PORTO BODEGA MARINA REP2	1357	6/14/94	33.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10028.0	PORTO BODEGA MARINA REP3	1358	6/14/94	33.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10040.0	UNCONTAMINATED SITE-33D REP1	1359	6/13/94	33.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10040.0	UNCONTAMINATED SITE-33D REP2	1360	6/13/94	33.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10040.0	UNCONTAMINATED SITE-33D REP3	1361	6/13/94	33.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
14003.0	ARCATA BAY- JOLLY GIANT NORTH	1438	2/14/95	36.5	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
15002.0	H. BAY- WASHINGTON STREET	1440	2/15/95	36.5	9.24	11.90	19.70	22.10	36.30	77.10	17.00	39.80	46.40	72.30	39.50	-9.00
10019.0	H. BAY- COAL/OIL/GAS PLANT	1442	2/15/95	36.5	7.47	17.30	26.20	33.80	59.60	92.10	24.60	52.80	54.40	66.00	62.00	-9.00
10020.0	H. BAY- OLD PAC. LUMBER SITE	1444	2/15/95	36.5	13.50	11.10	25.20	57.70	171.00	169.00	50.20	171.00	115.00	69.90	72.60	-9.00
14004.0	DAVENPORT MARINE	1446	2/15/95	36.5	6.76	17.00	15.10	22.70	25.40	58.80	12.30	33.50	38.30	67.80	38.70	-9.00
10022.0	HUMBOLDT BAY EUREKA SM.22	1448	2/15/95	36.5	-8.00	15.10	17.50	23.40	33.20	72.20	16.50	36.30	41.50	69.90	62.20	-9.00
14001.0	EUREKA WATERFRONT H STREET	1450	2/15/95	36.5	22.80	12.00	34.50	75.60	147.00	162.00	51.30	129.00	103.00	70.20	78.80	-9.00
14002.0	EUREKA WATERFRONT J STREET	1452	2/15/95	36.5	27.10	624.00	212.00	564.00	438.00	604.00	258.00	258.00	301.00	181.00	512.00	-9.00
14004.0	DAVENPORT MARINE	1578	4/17/96	42.0	10.20	22.50	13.10	28.60	25.80	50.40	10.50	-8.00	47.40	44.70	49.80	-9.00
10023.0	H. BAY EUREKA STORM 23	1579	4/17/96	42.0	9.52	15.70	19.80	76.90	78.80	112.00	10.20	83.80	74.50	20.10	103.00	-9.00
10016.0	ARCATA BAY-JOLLY GIANT SL.	1580	4/18/96	42.0	12.00	14.90	24.00	118.00	115.00	213.00	20.20	206.00	160.00	31.10	165.00	-9.00
10017.0	ARCATA BAY-EUREKA SL.	1581	4/17/96	42.0	9.69	12.70	149.00	49.10	52.10	89.40	10.00	91.90	72.30	33.80	80.50	-9.00
10021.0	H. BAY-CHEVRON TERMINAL	1582	4/17/96	42.0	7.58	-8.00	10.20	18.70	22.30	34.00	8.59	-8.00	26.10	34.70	32.80	-9.00
10019.0	H. BAY-COAL/OIL/GAS PLANT	1583	4/17/96	42.0	12.20	38.00	155.00	108.00	74.20	105.00	11.30	59.90	67.10	48.40	141.00	-9.00

PAH ANALYSIS OF SEDIMENTS (dry weight-ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	ACY	ACE	ANT	BAA	BAP	BBF	BKF	BGP	BEP	BPH	CHR	COR
10018.0	H. BAY-UNION OIL PLANT	1584	4/17/96	42.0	24.90	33.40	68.10	153.00	154.00	229.00	16.70	168.00	141.00	36.70	297.00	-9.00
15001.0	H. BAY- HALBERSON SHORELINE	1585	4/17/96	42.0	7.77	14.70	10.80	34.70	33.90	69.90	-8.00	44.80	44.10	32.00	60.20	-9.00
14002.0	EUREKA WATERFRONT- J STREET	1586	4/17/96	42.0	-8.00	22.00	11.40	32.40	28.90	67.30	-8.00	54.80	47.30	53.50	54.10	-9.00
14001.0	EUREKA WATERFRONT- H STREET	1587	4/17/96	42.0	16.20	24.00	21.60	66.80	63.00	93.00	12.00	94.70	72.70	60.10	97.70	-9.00
10006.0	BODEGA BAY MASON'S MARINA	1682	12/6/96	47.0	3.46	7.19	95.85	71.93	53.10	120.62	43.14	40.34	65.53	13.46	199.99	8.19
10007.0	BODEGA-SPUD POINT MARINA	1683	12/5/96	47.0	-8.00	-8.00	-8.00	2.68	2.09	5.90	1.03	3.30	3.62	3.27	6.01	-8.00
10028.0	PORTO BODEGA MARINA	1684	12/6/96	47.0	4.11	9.70	24.35	74.07	63.60	161.81	61.25	50.64	85.91	19.89	230.65	11.06
10040.0	UNCONTAMINATED SITE-33D	1685	12/6/96	47.0	-8.00	-8.00	-8.00	1.06	0.75	2.33	0.50	1.15	1.69	1.53	3.57	-8.00

PAH ANALYSIS OF SEDIMENTS (dry weight-ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	DBA	DBT	DMN	FLA	FLU	IND	MNP1	MNP2	MPH1	NPH	PHN
10004.0	ARCATA BAY-MCDANIEL SL	304	11/30/92	8.0	-8.00	-9.00	32.80	37.30	41.40	-9.00	69.70	106.00	43.30	-9.00	143.00
10015.0	ARCATA BAY-MAD RIVER SL	315	11/30/92	8.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10016.0	ARCATA BAY-JOLLY GIANT SL	316	11/30/92	8.0	11.70	-9.00	29.30	176.00	36.30	-9.00	53.20	94.90	36.40	-9.00	145.00
10017.0	ARCATA BAY-EUREKA SL	317	11/29/92	8.0	7.10	-9.00	35.20	166.00	41.40	-9.00	56.30	89.30	48.70	-9.00	184.00
10018.0	H. BAY-UNION OIL PLANT	318	11/29/92	8.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10019.0	H. BAY-COAL/OIL/GAS PLANT	319	11/29/92	8.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10020.0	H. BAY-OLD PAC. LUMBER SITE	320	11/29/92	8.0	17.20	-9.00	27.90	302.00	42.60	-9.00	47.80	77.60	29.00	-9.00	168.00
10021.0	H. BAY-CHEVRON TERMINAL	321	11/29/92	8.0	6.50	-9.00	25.10	225.00	38.60	-9.00	52.80	88.10	26.50	-9.00	146.00
14001.0	EUREKA WATERFRONT - H STREET	322	11/29/92	8.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10023.0	H. BAY EUREKA STORM 23	323	11/29/92	8.0	21.60	-9.00	38.00	536.00	53.70	-9.00	58.00	102.00	56.40	-9.00	404.00
10024.0	H. BAY FIELDS LANDING	324	11/29/92	8.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10025.0	H. BAY HOOKTON SL	325	11/29/92	8.0	-8.00	-9.00	31.00	36.00	32.60	-9.00	66.70	103.00	36.90	-9.00	115.00
10036.0	SOUTHPORT CHANNEL-33B	336	11/30/92	8.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10037.0	H. BAY-MOUTH OF ELK RIVER	337	11/30/92	8.0	13.30	-9.00	31.30	204.00	40.00	-9.00	61.30	103.00	36.00	-9.00	173.00
14004.0	DAVENPORT MARINE	338	11/30/92	8.0	14.10	-9.00	61.70	648.00	113.00	-9.00	86.00	173.00	54.30	-9.00	393.00
10005.0	RUSSIAN RIVER MOUTH SMW 280.0	305	2/25/93	14.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10006.0	BODEGA BAY-MASON'S MARINA	306	2/25/93	14.0	17.60	-9.00	25.60	2110.00	142.00	-9.00	41.40	69.40	87.50	-9.00	768.00
10007.0	BODEGA BAY-SPUD POINT MARINA	307	2/25/93	14.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10028.0	BODEGA BAY PORTO BODEGA MARINA	328	2/25/93	14.0	14.90	-9.00	18.60	258.00	22.80	-9.00	37.30	55.50	28.80	-9.00	134.00
10029.0	ESTERO AMERICANO-VALLEY FORD	329	2/25/93	14.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10030.0	ESTERO DE SAN ANTONIO-VALLEY F	330	2/25/93	14.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10031.0	MOUTH OF ESTERO AMERICANO	331	2/26/93	14.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10032.0	MOUTH OF ESTERO DE SAN ANTONIO	332	2/26/93	14.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10039.0	UNCONTAMINATED SITE-33C	339	2/25/93	14.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10040.0	UNCONTAMINATED SITE-33D	340	2/26/93	14.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10041.0	SALMON CREEK-34L	341	2/25/93	14.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	900	6/22/93	20.0	11.50	-9.00	19.40	169.00	25.90	-9.00	38.40	65.10	29.10	-9.00	124.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	901	6/22/93	20.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	902	6/22/93	20.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	906	6/22/93	21.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	907	6/22/93	21.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	908	6/22/93	21.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	912	6/22/93	22.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00

PAH ANALYSIS OF SEDIMENTS (dry weight-ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	DBA	DBT	DMN	FLA	FLU	IND	MNP1	MNP2	MPH1	NPH	PHN
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	913	6/22/93	22.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	914	6/22/93	22.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	915	6/22/93	23.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	916	6/22/93	23.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	917	6/22/93	23.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10040.0	UNCONTAMINATED SITE-33D	1321	5/16/94	32.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10031.0	MOUTH OF ESTERO AMERICANO	1322	5/16/94	32.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10006.0	BODEGA BAY-MASON'S MARINA REP1	1350	6/14/94	33.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10006.0	BODEGA BAY-MASON'S MARINA REP2	1351	6/14/94	33.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10006.0	BODEGA BAY-MASON'S MARINA REP3	1352	6/14/94	33.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10007.0	BODEGA-SPUD POINT MARINA REP1	1353	6/13/94	33.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10007.0	BODEGA-SPUD POINT MARINA REP2	1354	6/13/94	33.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10007.0	BODEGA-SPUD POINT MARINA REP3	1355	6/13/94	33.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10028.0	PORTO BODEGA MARINA REP1	1356	6/14/94	33.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10028.0	PORTO BODEGA MARINA REP2	1357	6/14/94	33.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10028.0	PORTO BODEGA MARINA REP3	1358	6/14/94	33.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10040.0	UNCONTAMINATED SITE-33D REP1	1359	6/13/94	33.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10040.0	UNCONTAMINATED SITE-33D REP2	1360	6/13/94	33.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10040.0	UNCONTAMINATED SITE-33D REP3	1361	6/13/94	33.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
14003.0	ARCATA BAY- JOLLY GIANT NORTH	1438	2/14/95	36.5	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
15002.0	H. BAY- WASHINGTON STREET	1440	2/15/95	36.5	-8.00	-9.00	81.30	98.00	75.40	25.70	138.00	249.00	80.30	126.00	232.00
10019.0	H. BAY- COAL/OIL/GAS PLANT	1442	2/15/95	36.5	11.90	-9.00	76.00	217.00	70.90	42.50	125.00	226.00	71.40	113.00	276.00
10020.0	H. BAY- OLD PAC. LUMBER SITE	1444	2/15/95	36.5	21.70	-9.00	70.30	277.00	70.90	149.00	129.00	230.00	77.20	137.00	257.00
14004.0	DAVENPORT MARINE	1446	2/15/95	36.5	7.74	-9.00	72.60	120.00	77.00	19.00	131.00	237.00	72.30	112.00	250.00
10022.0	HUMBOLDT BAY EUREKA SM.22	1448	2/15/95	36.5	-8.00	-9.00	76.80	82.10	71.10	24.50	135.00	243.00	82.10	111.00	239.00
14001.0	EUREKA WATERFRONT H STREET	1450	2/15/95	36.5	28.20	-9.00	77.80	239.00	75.20	115.00	135.00	243.00	89.60	130.00	270.00
14002.0	EUREKA WATERFRONT J STREET	1452	2/15/95	36.5	95.40	-9.00	90.10	2260.00	445.00	288.00	268.00	572.00	122.00	266.00	1920.00
14004.0	DAVENPORT MARINE	1578	4/17/96	42.0	-8.00	-9.00	83.00	80.80	51.80	-8.00	91.90	155.00	48.50	88.90	170.00
10023.0	H. BAY EUREKA STORM 23	1579	4/17/96	42.0	14.70	-9.00	35.70	269.00	30.10	65.20	34.80	61.30	-8.00	76.10	242.00
10016.0	ARCATA BAY-JOLLY GIANT SL.	1580	4/18/96	42.0	-8.00	-9.00	57.80	312.00	35.10	-8.00	52.20	92.00	52.90	54.80	209.00
10017.0	ARCATA BAY-EUREKA SL.	1581	4/17/96	42.0	-8.00	-9.00	62.70	124.00	37.60	-8.00	67.00	112.00	26.60	65.00	147.00
10021.0	H. BAY-CHEVRON TERMINAL	1582	4/17/96	42.0	-8.00	-9.00	62.40	53.30	39.70	-8.00	67.40	113.00	-8.00	70.90	108.00
10019.0	H. BAY-COAL/OIL/GAS PLANT	1583	4/17/96	42.0	-8.00	-9.00	73.50	294.00	89.60	52.20	68.90	131.00	-8.00	109.00	224.00

PAH ANALYSIS OF SEDIMENTS (dry weight-ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	DBA	DBT	DMN	FLA	FLU	IND	MNP1	MNP2	MPH1	NPH	PHN
10018.0	H. BAY-UNION OIL PLANT	1584	4/17/96	42.0	-8.00	-9.00	56.10	689.00	67.70	118.00	55.00	95.40	-8.00	128.00	525.00
15001.0	H. BAY- HALBERSON SHORELINE	1585	4/17/96	42.0	-8.00	-9.00	61.20	150.00	43.00	36.20	57.30	105.00	25.70	62.40	180.00
14002.0	EUREKA WATERFRONT- J STREET	1586	4/17/96	42.0	-8.00	-9.00	102.00	119.00	61.90	30.90	104.00	182.00	65.60	95.40	222.00
14001.0	EUREKA WATERFRONT- H STREET	1587	4/17/96	42.0	-8.00	-9.00	111.00	211.00	73.90	74.00	108.00	194.00	70.20	115.00	218.00
10006.0	BODEGA BAY MASON'S MARINA	1682	12/6/96	47.0	8.70	11.09	25.43	295.35	22.51	40.56	36.09	53.53	27.71	29.44	133.09
10007.0	BODEGA-SPUD POINT MARINA	1683	12/5/96	47.0	-8.00	1.92	5.36	11.94	2.41	2.06	5.98	10.19	4.93	6.58	16.92
10028.0	PORTO BODEGA MARINA	1684	12/6/96	47.0	8.65	11.80	31.64	494.55	22.91	48.23	38.97	58.17	36.42	34.34	186.33
10040.0	UNCONTAMINATED SITE-33D	1685	12/6/96	47.0	-8.00	1.00	2.43	3.55	1.86	0.75	3.58	5.00	3.23	2.81	11.19

PAH ANALYSIS OF SEDIMENTS (dry weight-ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	PER	PYR	TMN	TRY	PAHBATCH	SODATAQA
10004.0	ARCATA BAY-MCDANIEL SL.	304	11/30/92	8.0	149.00	51.40	-9.00	-9.00	72.70	-4
10015.0	ARCATA BAY-MAD RIVER SL.	315	11/30/92	8.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9
10016.0	ARCATA BAY-JOLLY GIANT SL	316	11/30/92	8.0	44.20	220.00	-9.00	-9.00	73.30	-4
10017.0	ARCATA BAY-EUREKA SL.	317	11/29/92	8.0	70.00	161.00	-9.00	-9.00	72.60	-4
10018.0	H. BAY-UNION OIL PLANT	318	11/29/92	8.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9
10019.0	H. BAY-COAL/OIL/GAS PLANT	319	11/29/92	8.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9
10020.0	H. BAY-OLD PAC. LUMBER SITE	320	11/29/92	8.0	101.00	363.00	-9.00	-9.00	72.60	-4
10021.0	H. BAY-CHEVRON TERMINAL	321	11/29/92	8.0	38.50	210.00	-9.00	-9.00	73.30	-4
14001.0	EUREKA WATERFRONT - H STREET	322	11/29/92	8.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9
10023.0	H. BAY EUREKA STORM 23	323	11/29/92	8.0	76.50	495.00	-9.00	-9.00	72.80	-4
10024.0	H. BAY FIELDS LANDING	324	11/29/92	8.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9
10025.0	H. BAY HOOKTON SL.	325	11/29/92	8.0	57.10	42.60	-9.00	-9.00	73.30	-4
10036.0	SOUTHPORT CHANNEL-33B	336	11/30/92	8.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9
10037.0	H. BAY-MOUTH OF ELK RIVER	337	11/30/92	8.0	86.40	224.00	-9.00	-9.00	73.30	-4
14004.0	DAVENPORT MARINE	338	11/30/92	8.0	64.30	533.00	-9.00	-9.00	73.30	-4
10005.0	RUSSIAN RIVER MOUTH SMW 280.0	305	2/25/93	14.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9
10006.0	BODEGA BAY-MASON'S MARINA	306	2/25/93	14.0	92.40	1760.00	-9.00	-9.00	72.10	-4
10007.0	BODEGA BAY-SPUD POINT MARINA	307	2/25/93	14.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9
10028.0	BODEGA BAY PORTO BODEGA MARINA	328	2/25/93	14.0	31.80	293.00	-9.00	-9.00	72.90	-4
10029.0	ESTERO AMERICANO-VALLEY FORD	329	2/25/93	14.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9
10030.0	ESTERO DE SAN ANTONIO-VALLEY F	330	2/25/93	14.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9
10031.0	MOUTH OF ESTERO AMERICANO	331	2/26/93	14.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9
10032.0	MOUTH OF ESTERO DE SAN ANTONIO	332	2/26/93	14.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9
10039.0	UNCONTAMINATED SITE-33C	339	2/25/93	14.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9
10040.0	UNCONTAMINATED SITE-33D	340	2/26/93	14.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9
10041.0	SALMON CREEK-34L	341	2/25/93	14.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	900	6/22/93	20.0	37.00	153.00	-9.00	-9.00	73.50	-4
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	901	6/22/93	20.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	902	6/22/93	20.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	906	6/22/93	21.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	907	6/22/93	21.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	908	6/22/93	21.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	912	6/22/93	22.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9

PAH ANALYSIS OF SEDIMENTS (dry weight-ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	PER	PYR	TMN	TRY	PAHBATCH	SODATAQA
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	913	6/22/93	22.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	914	6/22/93	22.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	915	6/22/93	23.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	916	6/22/93	23.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	917	6/22/93	23.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9
10040.0	UNCONTAMINATED SITE-33D	1321	5/16/94	32.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9
10031.0	MOUTH OF ESTERO AMERICANO	1322	5/16/94	32.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9
10006.0	BODEGA BAY-MASON'S MARINA REP1	1350	6/14/94	33.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9
10006.0	BODEGA BAY-MASON'S MARINA REP2	1351	6/14/94	33.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9
10006.0	BODEGA BAY-MASON'S MARINA REP3	1352	6/14/94	33.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9
10007.0	BODEGA-SPUD POINT MARINA REP1	1353	6/13/94	33.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9
10007.0	BODEGA-SPUD POINT MARINA REP2	1354	6/13/94	33.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9
10007.0	BODEGA-SPUD POINT MARINA REP3	1355	6/13/94	33.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9
10028.0	PORTO BODEGA MARINA REP1	1356	6/14/94	33.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9
10028.0	PORTO BODEGA MARINA REP2	1357	6/14/94	33.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9
10028.0	PORTO BODEGA MARINA REP3	1358	6/14/94	33.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9
10040.0	UNCONTAMINATED SITE-33D REP1	1359	6/13/94	33.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9
10040.0	UNCONTAMINATED SITE-33D REP2	1360	6/13/94	33.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9
10040.0	UNCONTAMINATED SITE-33D REP3	1361	6/13/94	33.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9
14003.0	ARCATA BAY- JOLLY GIANT NORTH	1438	2/14/95	36.5	-9.00	-9.00	-9.00	-9.00	73.50	-5
15002.0	H. BAY- WASHINGTON STREET	1440	2/15/95	36.5	49.80	98.00	33.10	-9.00	73.50	-5
10019.0	H. BAY- COAL/OIL/GAS PLANT	1442	2/15/95	36.5	48.20	180.00	28.50	-9.00	73.50	-5
10020.0	H. BAY- OLD PAC. LUMBER SITE	1444	2/15/95	36.5	86.80	304.00	31.90	-9.00	73.50	-5
14004.0	DAVENPORT MARINE	1446	2/15/95	36.5	40.80	110.00	31.60	-9.00	73.50	-5
10022.0	HUMBOLDT BAY EUREKA SM.22	1448	2/15/95	36.5	40.30	82.70	31.80	-9.00	73.50	-5
14001.0	EUREKA WATERFRONT H STREET	1450	2/15/95	36.5	70.00	280.00	33.90	-9.00	73.50	-5
14002.0	EUREKA WATERFRONT J STREET	1452	2/15/95	36.5	146.00	1810.00	32.00	-9.00	73.50	-5
14004.0	DAVENPORT MARINE	1578	4/17/96	42.0	29.90	76.10	39.30	-9.00	L-107-96	-5
10023.0	H. BAY EUREKA STORM 23	1579	4/17/96	42.0	21.20	238.00	16.30	-9.00	L-107-96	-5
10016.0	ARCATA BAY-JOLLY GIANT SL.	1580	4/18/96	42.0	-8.00	295.00	24.90	-9.00	L-107-96	-5
10017.0	ARCATA BAY-EUREKA SL.	1581	4/17/96	42.0	85.10	121.00	29.80	-9.00	L-107-96	-5
10021.0	H. BAY-CHEVRON TERMINAL	1582	4/17/96	42.0	28.00	56.50	29.30	-9.00	L-107-96	-5
10019.0	H. BAY-COAL/OIL/GAS PLANT	1583	4/17/96	42.0	40.10	260.00	31.50	-9.00	L-107-96	-5

PAH ANALYSIS OF SEDIMENTS (dry weight-ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	PER	PYR	TMN	TRY	PAHBATCH	SODATAQA
10018.0	H. BAY-UNION OIL PLANT	1584	4/17/96	42.0	44.80	636.00	29.50	-9.00	L-107-96	-5
15001.0	H. BAY- HALBERSON SHORELINE	1585	4/17/96	42.0	38.80	123.00	28.50	-9.00	L-107-96	-5
14002.0	EUREKA WATERFRONT- J STREET	1586	4/17/96	42.0	57.50	110.00	47.50	-9.00	L-107-96	-5
14001.0	EUREKA WATERFRONT- H STREET	1587	4/17/96	42.0	56.20	211.00	53.60	-9.00	L-107-96	-5
10006.0	BODEGA BAY MASON'S MARINA	1682	12/6/96	47.0	30.55	241.99	11.68	-9.00	97-307	-5
10007.0	BODEGA-SPUD POINT MARINA	1683	12/5/96	47.0	2.22	11.07	3.10	-9.00	97-307	-5
10028.0	PORTO BODEGA MARINA	1684	12/6/96	47.0	26.93	442.56	15.98	-9.00	97-307	-5
10040.0	UNCONTAMINATED SITE-33D	1685	12/6/96	47.0	3.04	4.37	1.39	-9.00	97-307	-5

SECTION V

BTEX And TPH Data (Sediments)

BTEX AND TPH DATA (dry weight-ppm-ug/g)

STANUM	STATION	IDORG	DATE	LEG	BENZENE	TOLUENE	ETHBENZENE	XYLENES	TPH_DIESEL
14003.0	ARCATA BAY - JOLLY GIANT NORTH	1438	2/14/95	36.5	-8.00	-8.00	-8.00	-8.00	-8.00
15002.0	H. BAY- WASHINGTON STREET	1440	2/15/95	36.5	-8.00	-8.00	-8.00	-8.00	-8.00
10019.0	H. BAY- COAL/OIL/GAS/PLANT	1442	2/15/95	36.5	-8.00	-8.00	-8.00	-8.00	-8.00
10020.0	H. BAY- OLD PAC. LUMBER SITE	1444	2/15/95	36.5	-8.00	-8.00	-8.00	-8.00	-8.00
14004.0	DAVENPORT MARINE	1446	2/15/95	36.5	-8.00	-8.00	-8.00	-8.00	-8.00
10022.0	HUMBOLDT BAY EUREKA SM. 22	1448	2/15/95	36.5	-8.00	-8.00	-8.00	-8.00	-8.00
14001.0	EUREKA WATERFRONT H STREET	1450	2/15/95	36.5	-8.00	-8.00	-8.00	-8.00	-8.00
14002.0	EUREKA WATERFRONT J STREET	1452	2/15/95	36.5	-8.00	-8.00	-8.00	-8.00	-8.00

SECTION VI

Sediment Chemistry Summations and Quotients

CHEMICAL SUMMATIONS AND QUOTIENTS

In the following section, chemical summations (total chlordane, total DDT, total PCBs, LMW PAHs, HMW PAHs, total PAHs) and quotients (ERM and PEL) are presented. For purposes of these summations, samples which were found to have chemical concentrations less than the method detection limit (-8 in Appendix C) were adjusted to a value of one-half of the method detection limits given in the methods description. The summations were calculated as follows:

Total chlordane

(TTL_CHLR) = Σ ([cis-Chlordane] [trans-Chlordane] [cis-Nonachlor] [trans-Nonachlor] [Oxychlordane])

Total DDT

(TTL_DDT) = Σ ([o',p' DDD] [p',p' DDD] [o',p' DDE] [p',p' DDE] [o',p' DDT] [p',p' DDT])

Total PCB

(TTL_PCB) = Σ ([PCB8] [PCB18] [PCB28] [PCB44] [PCB52] [PCB66] [PCB101] [PCB105] [PCB118] [PCB128] [PCB138] [PCB153] [PCB170] [PCB180] [PCB187] [PCB195] [PCB206] [PCB209])

Low Molecular Weight PAHs

(LMW_PAH) = Σ ([ACE] [ACY] [ANT] [BPH] [DMN] [FLU] [MNP1] [MNP2] [MPH1] [NPH] [PHN] [TMN])

High Molecular Weight PAHs

(HMW_PAH) = Σ ([BAA] [BAP] [BBF] [BKF] [BGP] [BEP] [CHR] [DBA] [FLA] [IND] [PER] [PYR])

Total PAHs

(TTL_PAH) = Σ ([LMW_PAH] [HMW_PAH])

ERM Quotients and PEL Quotients were calculated using summations of the individual chemicals for which ERMs and PELs have been derived. Chemical concentrations are divided by their respective ERM or PEL values to obtain a specific individual chemical quotient (Example 1). TTLDDTQE (P) is expressed as: (TTL_DDT/TOC)/100, where TTL_DDT is the sum of the six DDT metabolites, TOC is the total organic carbon content of the sample, and 100 reflects the 100 μg/g DDT/TOC value reported by Swarzt to be associated with biological effect. A value greater than one indicates the chemical concentration in that sample exceeded its respective guideline value. A value of five would indicate the chemical was five times higher than the respective guideline value in that sample.

Example 1 - sample IDORG #199 Copper concentration = 170 mg/g

PEL for copper = 108.2

CopperQ = (170 mg/g) / (108.2 mg/g) = 1.57

Summations and averaging of the individual chemical quotients were calculated to give summary ERM Quotients (ERMQ) and PEL Quotients (PELQ). Each quotient summation is divided by the number of analytes used in the summation to yield an average summary quotient.

Summary ERM Quotient

ERMQ = ((ANTIMONYQ + CADMIUMQ + CHROMIUMQ + COPPERQ + LEADQ + MERCURYQ + SILVERQ + ZINCQ + TTL_DDTQ + TTL_CHLRQ + DIELDRINQ + ENDRINQ + TTL_PCBQ + LMW_PAHQ + HMW_PAHQ) / 15)

Summary PEL Quotient

PELQ = ((ANTIMONYQ+ CADMIUMQ + CHROMIUMQ + COPPERQ + LEADQ + MERCURYQ + SILVERQ + ZINCQ + TTL_DDTQ + TTL_CHLRQ + DIELDRINQ + LINDANEQ + TTL_PCBQ + LMW_PAHQ + HMW_PAHQ) / 14)

SEDIMENT CHEMISTRY SUMMATIONS AND QUOTIENTS

STANUM	STATION	IDORG	DATE	LEG	TTL_CHLR	TTL_DDT	TTL_PCB	LMW_PAH	HMW_PAH	TTL_PAH	ERMQ	PELQ
10004.0	ARCATA BAY-MCDANIEL SL.	304	11/30/92	8.0	0.500	2.70	8.000	480.00	327.60	807.60	0.112	0.226
10015.0	ARCATA BAY-MAD RIVER SL.	315	11/30/92	8.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000	-9.000
10016.0	ARCATA BAY-JOLLY GIANT SL	316	11/30/92	8.0	0.500	4.20	32.100	452.90	675.40	1128.30	0.153	0.301
10017.0	ARCATA BAY-EUREKA SL.	317	11/29/92	8.0	0.500	2.70	9.400	516.00	619.70	1135.70	0.121	0.242
10018.0	H. BAY-UNION OIL PLANT	318	11/29/92	8.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000	-9.000
10019.0	H. BAY-COAL/OIL/GAS PLANT	319	11/29/92	8.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000	-9.000
10020.0	H. BAY-OLD PAC. LUMBER SITE	320	11/29/92	8.0	0.500	2.70	8.000	475.00	1176.60	1651.60	0.111	0.225
10021.0	H. BAY-CHEVRON TERMINAL	321	11/29/92	8.0	0.500	2.70	8.000	436.90	689.80	1126.70	0.114	0.237
14001.0	EUREKA WATERFRONT - H STREET	322	11/29/92	8.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000	-9.000
10023.0	H. BAY EUREKA STORM 23	323	11/29/92	8.0	0.500	2.70	12.500	811.00	1733.10	2544.10	0.137	0.274
10024.0	H. BAY FIELDS LANDING	324	11/29/92	8.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000	-9.000
10025.0	H. BAY HOOKTON SL.	325	11/29/92	8.0	0.500	2.70	8.000	417.30	187.90	605.20	0.107	0.220
10036.0	SOUTHPORT CHANNEL-33B	336	11/30/92	8.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000	-9.000
10037.0	H. BAY-MOUTH OF ELK RIVER	337	11/30/92	8.0	0.500	4.80	8.500	509.00	803.60	1312.60	0.107	0.214
14004.0	DAVENPORT MARINE	338	11/30/92	8.0	0.500	3.30	9.300	1062.70	1733.70	2796.40	0.187	0.341
10005.0	RUSSIAN RIVER MOUTH SMW 280.0	305	2/25/93	14.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000	-9.000
10006.0	BODEGA BAY-MASON'S MARINA	306	2/25/93	14.0	0.500	2.70	31.000	1415.30	5269.00	6684.30	0.175	0.335
10007.0	BODEGA BAY-SPUD POINT MARINA	307	2/25/93	14.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000	-9.000
10028.0	BODEGA BAY PORTO BODEGA MARINA	328	2/25/93	14.0	0.500	4.20	33.200	341.10	885.30	1226.40	0.160	0.305
10029.0	ESTERO AMERICANO-VALLEY FORD	329	2/25/93	14.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000	-9.000
10030.0	ESTERO DE SAN ANTONIO-VALLEY F	330	2/25/93	14.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000	-9.000
10031.0	MOUTH OF ESTERO AMERICANO	331	2/26/93	14.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000	-9.000
10032.0	MOUTH OF ESTERO DE SAN ANTONIO	332	2/26/93	14.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000	-9.000
10039.0	UNCONTAMINATED SITE-33C	339	2/25/93	14.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000	-9.000
10040.0	UNCONTAMINATED SITE-33D	340	2/26/93	14.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000	-9.000
10041.0	SALMON CREEK-34L	341	2/25/93	14.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	900	6/22/93	20.0	-9.000	3.00	8.000	315.80	550.70	866.50	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	901	6/22/93	20.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	902	6/22/93	20.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000	-9.000
10040.0	UNCONTAMINATED SITE-33D	1321	5/16/94	32.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000	-9.000
10031.0	MOUTH OF ESTERO AMERICANO	1322	5/16/94	32.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000	-9.000
10006.0	BODEGA BAY-MASON'S MARINA REP1	1350	6/14/94	33.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000	-9.000
10006.0	BODEGA BAY-MASON'S MARINA REP2	1351	6/14/94	33.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000	-9.000
10006.0	BODEGA BAY-MASON'S MARINA REP3	1352	6/14/94	33.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000	-9.000
10007.0	BODEGA-SPUD POINT MARINA REP1	1353	6/13/94	33.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000	-9.000
10007.0	BODEGA-SPUD POINT MARINA REP2	1354	6/13/94	33.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000	-9.000
10007.0	BODEGA-SPUD POINT MARINA REP3	1355	6/13/94	33.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000	-9.000
10028.0	PORTO BODEGA MARINA REP1	1356	6/14/94	33.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000	-9.000

SEDIMENT CHEMISTRY SUMMATIONS AND QUOTIENTS

STANUM	STATION	IDORG	DATE	LEG	TTL_CHLR	TTL_DDT	TTL_PCB	LMW_PAH	HMW_PAH	TTL_PAH	ERMQ	PELQ
10028.0	PORTO BODEGA MARINA REP2	1357	6/14/94	33.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000	-9.000
10028.0	PORTO BODEGA MARINA REP3	1358	6/14/94	33.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000	-9.000
10040.0	UNCONTAMINATED SITE-33D REP1	1359	6/13/94	33.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000	-9.000
10040.0	UNCONTAMINATED SITE-33D REP2	1360	6/13/94	33.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000	-9.000
10040.0	UNCONTAMINATED SITE-33D REP3	1361	6/13/94	33.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000	-9.000
14003.0	ARCATA BAY- JOLLY GIANT NORTH	1438	2/14/95	36.5	-9.000	-9.00	12.516	-9.00	-9.00	-9.00	-9.000	-9.000
15002.0	H. BAY- WASHINGTON STREET	1440	2/15/95	36.5	-9.000	-9.00	-9.000	1128.24	519.90	1648.14	-9.000	-9.000
10019.0	H. BAY- COAL/OIL/GAS PLANT	1442	2/15/95	36.5	-9.000	-9.00	-9.000	1103.77	878.90	1982.67	-9.000	-9.000
10020.0	H. BAY- OLD PAC. LUMBER SITE	1444	2/15/95	36.5	-9.000	-9.00	-9.000	1123.00	1645.00	2768.00	-9.000	-9.000
14004.0	DAVENPORT MARINE	1446	2/15/95	36.5	-9.000	-9.00	-9.000	1090.16	527.24	1617.40	-9.000	-9.000
10022.0	HUMBOLDT BAY EUREKA SM.22	1448	2/15/95	36.5	-9.000	-9.00	-9.000	1094.80	488.60	1583.40	-9.000	-9.000
14001.0	EUREKA WATERFRONT H STREET	1450	2/15/95	36.5	-9.000	-9.00	-9.000	1194.00	1478.90	2672.90	-9.000	-9.000
14002.0	EUREKA WATERFRONT J STREET	1452	2/15/95	36.5	-9.000	-9.00	-9.000	4759.20	7534.40	12293.60	-9.000	-9.000
14004.0	DAVENPORT MARINE	1578	4/17/96	42.0	1.250	2.70	8.000	818.90	414.30	1233.20	0.136	0.275
10023.0	H. BAY EUREKA STORM 23	1579	4/17/96	42.0	1.250	2.70	8.000	563.92	1147.30	1711.22	0.129	0.268
10016.0	ARCATA BAY-JOLLY GIANT SL.	1580	4/18/96	42.0	2.540	2.70	20.820	660.70	1415.70	2076.40	0.188	0.362
10017.0	ARCATA BAY-EUREKA SL.	1581	4/17/96	42.0	1.250	2.70	9.500	752.89	698.50	1451.39	0.151	0.305
10021.0	H. BAY-CHEVRON TERMINAL	1582	4/17/96	42.0	1.250	2.70	8.000	548.18	295.29	843.47	0.122	0.312
10019.0	H. BAY-COAL/OIL/GAS PLANT	1583	4/17/96	42.0	1.250	2.70	8.000	983.60	1162.90	2146.50	0.143	0.482
10018.0	H. BAY-UNION OIL PLANT	1584	4/17/96	42.0	1.250	2.70	8.000	1122.30	2488.50	3610.80	0.164	0.360
15001.0	H. BAY- HALBERSON SHORELINE	1585	4/17/96	42.0	1.250	2.70	8.000	628.37	603.30	1231.67	0.136	0.326
14002.0	EUREKA WATERFRONT- J STREET	1586	4/17/96	42.0	1.250	2.70	8.000	969.80	559.90	1529.70	0.148	0.312
14001.0	EUREKA WATERFRONT- H STREET	1587	4/17/96	42.0	1.250	2.70	16.140	1065.60	967.40	2033.00	0.243	0.528
10006.0	BODEGA BAY MASON'S MARINA	1682	12/6/96	47.0	1.250	2.92	12.394	459.44	1211.80	1671.24	0.165	0.312
10007.0	BODEGA-SPUD POINT MARINA	1683	12/5/96	47.0	1.250	2.38	8.000	66.24	58.62	124.86	0.095	0.187
10028.0	PORTO BODEGA MARINA	1684	12/6/96	47.0	1.250	5.20	16.298	482.81	1748.85	2231.66	0.214	0.396
10040.0	UNCONTAMINATED SITE-33D	1685	12/6/96	47.0	1.250	2.70	8.000	40.52	31.61	72.13	0.099	0.198

SEDIMENT CHEMISTRY SUMMATIONS AND QUOTIENTS

STANUM	STATION	IDORG	DATE	LEG	ERMEXCDS	PELEXCDS	ERLQ	TELQ	ERLEXCDS	TELEXCDS
10004.0	ARCATA BAY-MCDANIEL SL.	304	11/30/92	8.0	1	2	0.712	0.891	5	5
10015.0	ARCATA BAY-MAD RIVER SL.	315	11/30/92	8.0	-9	-9	-9.000	-9.000	-9	-9
10016.0	ARCATA BAY-JOLLY GIANT SL	316	11/30/92	8.0	1	2	1.033	1.244	5	10
10017.0	ARCATA BAY-EUREKA SL.	317	11/29/92	8.0	1	2	0.774	0.976	3	6
10018.0	H. BAY-UNION OIL PLANT	318	11/29/92	8.0	-9	-9	-9.000	-9.000	-9	-9
10019.0	H. BAY-COAL/OIL/GAS PLANT	319	11/29/92	8.0	-9	-9	-9.000	-9.000	-9	-9
10020.0	H. BAY-OLD PAC. LUMBER SITE	320	11/29/92	8.0	1	2	0.718	0.937	3	5
10021.0	H. BAY-CHEVRON TERMINAL	321	11/29/92	8.0	1	2	0.719	0.926	3	5
14001.0	EUREKA WATERFRONT - H STREET	322	11/29/92	8.0	-9	-9	-9.000	-9.000	-9	-9
10023.0	H. BAY EUREKA STORM 23	323	11/29/92	8.0	1	2	0.873	1.178	5	6
10024.0	H. BAY FIELDS LANDING	324	11/29/92	8.0	-9	-9	-9.000	-9.000	-9	-9
10025.0	H. BAY HOOKTON SL.	325	11/29/92	8.0	1	2	0.682	0.844	3	5
10036.0	SOUTHPORT CHANNEL-33B	336	11/30/92	8.0	-9	-9	-9.000	-9.000	-9	-9
10037.0	H. BAY-MOUTH OF ELK RIVER	337	11/30/92	8.0	1	2	0.767	0.904	3	6
14004.0	DAVENPORT MARINE	338	11/30/92	8.0	1	2	1.217	1.507	8	9
10005.0	RUSSIAN RIVER MOUTH SMW 280.0	305	2/25/93	14.0	-9	-9	-9.000	-9.000	-9	-9
10006.0	BODEGA BAY-MASON'S MARINA	306	2/25/93	14.0	1	5	1.192	1.809	9	9
10007.0	BODEGA BAY-SPUD POINT MARINA	307	2/25/93	14.0	-9	-9	-9.000	-9.000	-9	-9
10028.0	BODEGA BAY PORTO BODEGA MARINA	328	2/25/93	14.0	1	2	1.101	1.347	6	10
10029.0	ESTERO AMERICANO-VALLEY FORD	329	2/25/93	14.0	-9	-9	-9.000	-9.000	-9	-9
10030.0	ESTERO DE SAN ANTONIO-VALLEY F	330	2/25/93	14.0	-9	-9	-9.000	-9.000	-9	-9
10031.0	MOUTH OF ESTERO AMERICANO	331	2/26/93	14.0	-9	-9	-9.000	-9.000	-9	-9
10032.0	MOUTH OF ESTERO DE SAN ANTONIO	332	2/26/93	14.0	-9	-9	-9.000	-9.000	-9	-9
10039.0	UNCONTAMINATED SITE-33C	339	2/25/93	14.0	-9	-9	-9.000	-9.000	-9	-9
10040.0	UNCONTAMINATED SITE-33D	340	2/26/93	14.0	-9	-9	-9.000	-9.000	-9	-9
10041.0	SALMON CREEK-34L	341	2/25/93	14.0	-9	-9	-9.000	-9.000	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	900	6/22/93	20.0	1	2	0.681	0.844	3	4
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	901	6/22/93	20.0	-9	-9	-9.000	-9.000	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	902	6/22/93	20.0	-9	-9	-9.000	-9.000	-9	-9
10040.0	UNCONTAMINATED SITE-33D	1321	5/16/94	32.0	-9	-9	-9.000	-9.000	-9	-9
10031.0	MOUTH OF ESTERO AMERICANO	1322	5/16/94	32.0	-9	-9	-9.000	-9.000	-9	-9
10006.0	BODEGA BAY-MASON'S MARINA REP1	1350	6/14/94	33.0	-9	-9	-9.000	-9.000	-9	-9
10006.0	BODEGA BAY-MASON'S MARINA REP2	1351	6/14/94	33.0	-9	-9	-9.000	-9.000	-9	-9
10006.0	BODEGA BAY-MASON'S MARINA REP3	1352	6/14/94	33.0	-9	-9	-9.000	-9.000	-9	-9
10007.0	BODEGA-SPUD POINT MARINA REP1	1353	6/13/94	33.0	-9	-9	-9.000	-9.000	-9	-9
10007.0	BODEGA-SPUD POINT MARINA REP2	1354	6/13/94	33.0	-9	-9	-9.000	-9.000	-9	-9
10007.0	BODEGA-SPUD POINT MARINA REP3	1355	6/13/94	33.0	-9	-9	-9.000	-9.000	-9	-9
10028.0	PORTO BODEGA MARINA REP1	1356	6/14/94	33.0	-9	-9	-9.000	-9.000	-9	-9

SEDIMENT CHEMISTRY SUMMATIONS AND QUOTIENTS

STANUM	STATION	IDORG	DATE	LEG	ERMEXCDS	PELEXCDS	ERLQ	TELQ	ERLEXCDS	TELEXCDS
10028.0	PORTO BODEGA MARINA REP2	1357	6/14/94	33.0	-9	-9	-9.000	-9.000	-9	-9
10028.0	PORTO BODEGA MARINA REP3	1358	6/14/94	33.0	-9	-9	-9.000	-9.000	-9	-9
10040.0	UNCONTAMINATED SITE-33D REP1	1359	6/13/94	33.0	-9	-9	-9.000	-9.000	-9	-9
10040.0	UNCONTAMINATED SITE-33D REP2	1360	6/13/94	33.0	-9	-9	-9.000	-9.000	-9	-9
10040.0	UNCONTAMINATED SITE-33D REP3	1361	6/13/94	33.0	-9	-9	-9.000	-9.000	-9	-9
14003.0	ARCATA BAY- JOLLY GIANT NORTH	1438	2/14/95	36.5	-9	-9	-9.000	-9.000	-9	-9
15002.0	H. BAY- WASHINGTON STREET	1440	2/15/95	36.5	-9	-9	-9.000	-9.000	-9	-9
10019.0	H. BAY- COAL/OIL/GAS PLANT	1442	2/15/95	36.5	-9	-9	-9.000	-9.000	-9	-9
10020.0	H. BAY- OLD PAC. LUMBER SITE	1444	2/15/95	36.5	-9	-9	-9.000	-9.000	-9	-9
14004.0	DAVENPORT MARINE	1446	2/15/95	36.5	-9	-9	-9.000	-9.000	-9	-9
10022.0	HUMBOLDT BAY EUREKA SM.22	1448	2/15/95	36.5	-9	-9	-9.000	-9.000	-9	-9
14001.0	EUREKA WATERFRONT H STREET	1450	2/15/95	36.5	-9	-9	-9.000	-9.000	-9	-9
14002.0	EUREKA WATERFRONT J STREET	1452	2/15/95	36.5	-9	-9	-9.000	-9.000	-9	-9
14004.0	DAVENPORT MARINE	1578	4/17/96	42.0	0	1	0.831	1.060	4	3
10023.0	H. BAY EUREKA STORM 23	1579	4/17/96	42.0	0	1	0.794	1.077	3	5
10016.0	ARCATA BAY-JOLLY GIANT SL.	1580	4/18/96	42.0	0	1	1.078	1.462	6	10
10017.0	ARCATA BAY-EUREKA SL.	1581	4/17/96	42.0	0	1	0.921	1.181	4	4
10021.0	H. BAY-CHEVRON TERMINAL	1582	4/17/96	42.0	0	2	0.763	1.134	2	4
10019.0	H. BAY-COAL/OIL/GAS PLANT	1583	4/17/96	42.0	0	2	0.899	1.768	3	6
10018.0	H. BAY-UNION OIL PLANT	1584	4/17/96	42.0	0	1	1.018	1.505	4	6
15001.0	H. BAY- HALBERSON SHORELINE	1585	4/17/96	42.0	0	1	0.834	1.218	4	4
14002.0	EUREKA WATERFRONT- J STREET	1586	4/17/96	42.0	0	1	0.921	1.200	4	3
14001.0	EUREKA WATERFRONT- H STREET	1587	4/17/96	42.0	0	2	1.355	1.839	6	8
10006.0	BODEGA BAY MASON'S MARINA	1682	12/6/96	47.0	1	1	0.997	1.421	6	9
10007.0	BODEGA-SPUD POINT MARINA	1683	12/5/96	47.0	0	1	0.585	0.690	3	2
10028.0	PORTO BODEGA MARINA	1684	12/6/96	47.0	1	3	1.197	1.907	7	11
10040.0	UNCONTAMINATED SITE-33D	1685	12/6/96	47.0	0	1	0.615	0.712	4	3

SECTION VII

Trace Metal Analysis of Tissue

TRACE METAL ANALYSIS OF TISSUE (wet weight-ppm-ug/g)

STANUM	STATION	IDORG	DATE	LEG	TISS_TYPE	NO_IN_COMP	TMMOIST	ALUMINUM	ANTIMONY	ARSENIC
14003.0	ARCATA BAY-JOLLY GIANT NORTH	1437.0	2/14/95	36.5	MUSSEL (TRANSPLANT)	45	80.70	142.00	-8.000	1.120
10018.0	H. BAY-UNION OIL PLANT	1439.0	2/15/95	36.5	MUSSEL (TRANSPLANT)	45	81.50	322.00	-8.000	1.700
10019.0	H. BAY-COAL/OIL/GAS PLANT	1441.0	2/15/95	36.5	MUSSEL (TRANSPLANT)	45	82.50	257.00	-8.000	1.450
10020.0	H. BAY-OLD PAC. LUMBER SITE	1443.0	2/15/95	36.5	MUSSEL (TRANSPLANT)	29	82.40	313.00	-8.000	1.550
10022.0	HUMBOLDT BAY EUREKA SM.22	1447.0	2/15/95	36.5	MUSSEL (TRANSPLANT)	39	82.50	250.00	-8.000	1.490
14001.0	EUREKA WATERFRONT- H STREET	1449.0	2/15/95	36.5	MUSSEL (TRANSPLANT)	45	81.20	244.00	-8.000	1.520
14002.0	EUREKA WATERFRONT- J STREET	1451.0	2/15/95	36.5	MUSSEL (TRANSPLANT)	45	83.80	211.00	-8.000	1.490
14002.0	EUREKA WATERFRONT- J STREET	1453.0	2/15/95	36.5	CRABS	38	-9.00	-9.00	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1454.0	2/15/95	36.5	OYSTERS	35	80.30	654.00	-8.000	1.870
14002.0	EUREKA WATERFRONT- J STREET	1455.0	2/15/95	36.5	MUSSEL (RESIDENT)	38	87.50	416.00	-8.000	1.430
14002.0	EUREKA WATERFRONT- J STREET	1598.0	4/17/96	42.0	CRAB	24	64.60	361.08	-9.000	0.715
14002.0	EUREKA WATERFRONT- J STREET	1599.0	4/17/96	42.0	WORM	12	86.70	422.94	-9.000	0.148
14002.0	EUREKA WATERFRONT- J STREET	1600.0	4/17/96	42.0	MUSSEL (RESIDENT)	27	90.60	263.20	-9.000	1.344
10016.0	ARCATA BAY-JOLLY GIANT SL.	1602.0	4/18/96	42.0	CRAB	31	67.00	508.20	-9.000	-8.000
15001.0	H. BAY- HALBERSON SHORELINE	1604.0	4/17/96	42.0	CRAB	32	69.50	713.70	-9.000	-8.000
15001.0	H. BAY- HALBERSON SHORELINE	1605.0	4/17/96	42.0	MUSSEL (RESIDENT)	44	88.40	612.48	-9.000	1.183
15001.0	H. BAY- HALBERSON SHORELINE	1608.0	4/17/96	42.0	WORM	4	88.50	147.20	-9.000	1.990
14001.0	EUREKA WATERFRONT- H STREET	1610.0	4/17/96	42.0	CRAB	25	66.40	456.96	-9.000	0.531
14001.0	EUREKA WATERFRONT- H STREET	1611.0	4/17/96	42.0	WORM	3	81.90	53.58	-9.000	10.118
14001.0	EUREKA WATERFRONT- H STREET	1612.0	4/17/96	42.0	MUSSEL (RESIDENT)	45	88.10	712.81	-9.000	2.820

TRACE METAL ANALYSIS OF TISSUE (wet weight-ppm-ug/g)

STANUM	STATION	IDORG	TISS_TYPE	CADMIUM	CHROMIUM	COPPER	IRON	LEAD	MANGANESE	MERCURY	NICKEL
14003.0	ARCATA BAY-JOLLY GIANT NORTH	1437.0	MUSSEL (TRANSPLANT)	0.7720	1.290	2.05	123.0	0.212	2.27	0.0270	1.310
10018.0	H. BAY-UNION OIL PLANT	1439.0	MUSSEL (TRANSPLANT)	0.7730	1.910	1.63	222.0	0.205	3.90	0.0440	2.200
10019.0	H. BAY-COAL/OIL/GAS PLANT	1441.0	MUSSEL (TRANSPLANT)	0.7540	1.060	1.64	180.0	0.181	2.95	0.0310	1.310
10020.0	H. BAY-OLD PAC. LUMBER SITE	1443.0	MUSSEL (TRANSPLANT)	0.8080	8.910	1.62	257.0	0.185	4.86	0.0360	8.310
10022.0	HUMBOLDT BAY EUREKA SM.22	1447.0	MUSSEL (TRANSPLANT)	0.9210	1.450	1.63	174.0	0.218	3.26	0.0340	1.500
14001.0	EUREKA WATERFRONT- H STREET	1449.0	MUSSEL (TRANSPLANT)	0.7730	0.770	1.64	171.0	0.212	3.25	0.0310	1.040
14002.0	EUREKA WATERFRONT- J STREET	1451.0	MUSSEL (TRANSPLANT)	0.7700	0.990	1.62	154.0	0.166	3.08	0.0290	1.220
14002.0	EUREKA WATERFRONT- J STREET	1453.0	CRABS	-9.0000	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1454.0	OYSTERS	3.4080	10.320	2.03	589.0	0.199	10.68	0.0700	9.850
14002.0	EUREKA WATERFRONT- J STREET	1455.0	MUSSEL (RESIDENT)	0.7000	2.560	1.63	299.0	0.206	5.03	0.0820	3.030
14002.0	EUREKA WATERFRONT- J STREET	1598.0	CRAB	0.0630	1.820	24.11	227.6	0.471	24.00	0.0510	1.228
14002.0	EUREKA WATERFRONT- J STREET	1599.0	WORM	0.0629	2.806	1.93	343.1	0.644	7.53	0.0184	2.248
14002.0	EUREKA WATERFRONT- J STREET	1600.0	MUSSEL (RESIDENT)	0.7191	4.944	0.71	198.3	0.186	3.83	0.0271	3.600
10016.0	ARCATA BAY-JOLLY GIANT SL.	1602.0	CRAB	0.0283	2.373	21.58	425.7	0.429	51.15	0.0574	1.607
15001.0	H. BAY- HALBERSON SHORELINE	1604.0	CRAB	0.0348	2.431	17.14	652.7	2.965	48.19	0.0192	2.269
15001.0	H. BAY- HALBERSON SHORELINE	1605.0	MUSSEL (RESIDENT)	0.3329	1.984	1.54	421.1	0.354	8.10	0.0313	1.485
15001.0	H. BAY- HALBERSON SHORELINE	1608.0	WORM	0.0470	0.607	1.09	174.8	0.106	51.41	0.0026	0.637
14001.0	EUREKA WATERFRONT- H STREET	1610.0	CRAB	0.1656	2.560	38.30	457.0	11.726	46.37	0.0366	1.626
14001.0	EUREKA WATERFRONT- H STREET	1611.0	WORM	0.2968	2.317	13.43	167.4	1.864	3.40	0.0180	1.955
14001.0	EUREKA WATERFRONT- H STREET	1612.0	MUSSEL (RESIDENT)	0.2547	1.845	3.59	604.5	18.088	23.68	0.0224	1.523

TRACE METAL ANALYSIS OF TISSUE (wet weight-ppm-ug/g)

STANUM	STATION	IDORG	TISS_TYPE	SILVER	SELENIUM	TIN	ZINC	ASBATCH	SEBATCH	MBATCH	TMDATAQC
14003.0	ARCATA BAY-JOLLY GIANT NORTH	1437.0	MUSSEL (TRANSPLANT)	0.0096	0.308	0.0443	24.4700	-9.0	-9.0	-9.0	-9
10018.0	H. BAY-UNION OIL PLANT	1439.0	MUSSEL (TRANSPLANT)	0.0091	0.366	0.0259	31.2300	-9.0	-9.0	-9.0	-9
10019.0	H. BAY-COAL/OIL/GAS PLANT	1441.0	MUSSEL (TRANSPLANT)	0.0058	0.369	0.0316	28.0800	-9.0	-9.0	-9.0	-9
10020.0	H. BAY-OLD PAC. LUMBER SITE	1443.0	MUSSEL (TRANSPLANT)	0.0102	0.440	-8.0000	31.1700	-9.0	-9.0	-9.0	-9
10022.0	HUMBOLDT BAY EUREKA SM.22	1447.0	MUSSEL (TRANSPLANT)	0.0046	0.212	0.0123	30.1900	-9.0	-9.0	-9.0	-9
14001.0	EUREKA WATERFRONT- H STREET	1449.0	MUSSEL (TRANSPLANT)	0.0045	0.425	0.0188	31.3800	-9.0	-9.0	-9.0	-9
14002.0	EUREKA WATERFRONT- J STREET	1451.0	MUSSEL (TRANSPLANT)	0.0039	0.326	0.0519	30.0300	-9.0	-9.0	-9.0	-9
14002.0	EUREKA WATERFRONT- J STREET	1453.0	CRABS	-9.0000	-9.000	-9.0000	-9.0000	-9.0	-9.0	-9.0	-9
14002.0	EUREKA WATERFRONT- J STREET	1454.0	OYSTERS	0.0280	0.517	0.0315	27.7300	-9.0	-9.0	-9.0	-9
14002.0	EUREKA WATERFRONT- J STREET	1455.0	MUSSEL (RESIDENT)	0.0060	0.426	0.0577	38.0000	-9.0	-9.0	-9.0	-9
14002.0	EUREKA WATERFRONT- J STREET	1598.0	CRAB	0.0892	-8.000	-8.0000	31.1900	17.1	17.1	17.2	-4
14002.0	EUREKA WATERFRONT- J STREET	1599.0	WORM	0.0188	0.120	0.0375	22.7400	17.1	17.1	17.2	-4
14002.0	EUREKA WATERFRONT- J STREET	1600.0	MUSSEL (RESIDENT)	0.0040	0.219	0.0567	35.1600	17.1	17.1	17.2	-4
10016.0	ARCATA BAY-JOLLY GIANT SL.	1602.0	CRAB	0.1921	-8.000	-8.0000	31.5800	17.1	17.1	17.2	-4
15001.0	H. BAY- HALBERSON SHORELINE	1604.0	CRAB	0.0726	-8.000	-8.0000	30.1600	17.1	17.1	17.2	-4
15001.0	H. BAY- HALBERSON SHORELINE	1605.0	MUSSEL (RESIDENT)	0.0172	0.193	-8.0000	37.2400	17.1	17.1	17.2	-4
15001.0	H. BAY- HALBERSON SHORELINE	1608.0	WORM	0.0228	0.106	0.0304	13.1100	17.1	17.1	17.2	-4
14001.0	EUREKA WATERFRONT- H STREET	1610.0	CRAB	0.0480	-8.000	-8.0000	57.1200	17.1	17.1	17.2	-4
14001.0	EUREKA WATERFRONT- H STREET	1611.0	WORM	0.1654	0.050	0.0362	58.1000	17.1	17.1	17.2	-4
14001.0	EUREKA WATERFRONT- H STREET	1612.0	MUSSEL (RESIDENT)	0.0268	0.319	0.0255	77.4700	17.1	17.1	17.2	-4

SECTION VIII

Pesticide Analysis of Tissue

PESTICIDE ANALYSIS OF TISSUE (wet weight-ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	TISS_TYPE	NO_IN_COMP	SOWEIGHT	SOMOIST	SOLIPID	ALDRIN	CCHLOR
14003.0	ARCATA BAY-JOLLY GIANT NORTH	1437.0	2/14/95	36.5	MUSSEL (TRANSPLANT)	45	5.16	83.69	0.47	-9.000	-9.000
10018.0	H. BAY-UNION OIL PLANT	1439.0	2/15/95	36.5	MUSSEL (TRANSPLANT)	45	5.02	84.01	0.81	-9.000	-9.000
10019.0	H. BAY-COAL/OIL/GAS PLANT	1441.0	2/15/95	36.5	MUSSEL (TRANSPLANT)	45	5.10	83.27	0.83	-9.000	-9.000
10020.0	H. BAY-OLD PAC. LUMBER SITE	1443.0	2/15/95	36.5	MUSSEL (TRANSPLANT)	29	5.26	83.67	0.73	-9.000	-9.000
10022.0	HUMBOLDT BAY EUREKA SM.22	1447.0	2/15/95	36.5	MUSSEL (TRANSPLANT)	39	5.13	83.33	0.86	-9.000	-9.000
14001.0	EUREKA WATERFRONT- H STREET	1449.0	2/15/95	36.5	MUSSEL (TRANSPLANT)	45	5.15	82.16	1.02	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1451.0	2/15/95	36.5	MUSSEL (TRANSPLANT)	45	5.57	83.96	0.87	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1453.0	2/15/95	36.5	CRABS	38	5.21	79.27	4.81	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1454.0	2/15/95	36.5	OYSTERS	35	5.15	81.29	1.61	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1455.0	2/15/95	36.5	MUSSEL (RESIDENT)	38	5.04	91.47	0.30	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1598.0	4/17/96	42.0	CRAB	24	6.10	67.14	1.22	-8.000	-8.000
14002.0	EUREKA WATERFRONT- J STREET	1599.0	4/17/96	42.0	WORM	12	5.34	86.33	0.65	-8.000	0.137
14002.0	EUREKA WATERFRONT- J STREET	1600.0	4/17/96	42.0	MUSSEL (RESIDENT)	27	5.22	89.37	0.73	-8.000	-8.000
10016.0	ARCATA BAY-JOLLY GIANT SL.	1602.0	4/18/96	42.0	CRAB	31	5.02	70.03	0.64	-8.000	-8.000
15001.0	H. BAY- HALBERSON SHORELINE	1604.0	4/17/96	42.0	CRAB	32	6.12	71.22	0.53	-8.000	-8.000
15001.0	H. BAY- HALBERSON SHORELINE	1605.0	4/17/96	42.0	MUSSEL (RESIDENT)	44	4.41	84.67	1.03	-8.000	-8.000
15001.0	H. BAY- HALBERSON SHORELINE	1608.0	4/17/96	42.0	WORM	4	5.84	88.63	1.34	-8.000	0.217
14001.0	EUREKA WATERFRONT- H STREET	1610.0	4/17/96	42.0	CRAB	25	5.39	66.67	0.99	-8.000	-8.000
14001.0	EUREKA WATERFRONT- H STREET	1611.0	4/17/96	42.0	WORM	3	5.50	82.67	3.23	-8.000	0.539
14001.0	EUREKA WATERFRONT- H STREET	1612.0	4/17/96	42.0	MUSSEL (RESIDENT)	45	5.32	87.18	0.86	-8.000	-8.000

PESTICIDE ANALYSIS OF TISSUE (wet weight-ppb-ng/g)

STANUM	STATION	IDORG	TISS_TYPE	TCHLOR	ACDEN	GCDEN	TTL_CHLR	CLPYR	DACTH	OPDDD	PPDDD	OPDDE
14003.0	ARCATA BAY-JOLLY GIANT NORTH	1437.0	MUSSEL (TRANSPLANT)	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00
10018.0	H. BAY-UNION OIL PLANT	1439.0	MUSSEL (TRANSPLANT)	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00
10019.0	H. BAY-COAL/OIL/GAS PLANT	1441.0	MUSSEL (TRANSPLANT)	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00
10020.0	H. BAY-OLD PAC. LUMBER SITE	1443.0	MUSSEL (TRANSPLANT)	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00
10022.0	HUMBOLDT BAY EUREKA SM.22	1447.0	MUSSEL (TRANSPLANT)	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00
14001.0	EUREKA WATERFRONT- H STREET	1449.0	MUSSEL (TRANSPLANT)	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00
14002.0	EUREKA WATERFRONT- J STREET	1451.0	MUSSEL (TRANSPLANT)	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00
14002.0	EUREKA WATERFRONT- J STREET	1453.0	CRABS	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00
14002.0	EUREKA WATERFRONT- J STREET	1454.0	OYSTERS	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00
14002.0	EUREKA WATERFRONT- J STREET	1455.0	MUSSEL (RESIDENT)	-9.000	-9.000	-9.000	-9.000	-9.00	-9.000	-9.00	-9.000	-9.00
14002.0	EUREKA WATERFRONT- J STREET	1598.0	CRAB	-8.000	-8.000	-8.000	2.265	-8.00	-8.000	-8.00	-8.000	-8.00
14002.0	EUREKA WATERFRONT- J STREET	1599.0	WORM	-8.000	-8.000	-8.000	1.636	0.80	-8.000	-8.00	-8.000	-8.00
14002.0	EUREKA WATERFRONT- J STREET	1600.0	MUSSEL (RESIDENT)	-8.000	-8.000	-8.000	0.500	-8.00	-8.000	-8.00	-8.000	-8.00
10016.0	ARCATA BAY-JOLLY GIANT SL.	1602.0	CRAB	-8.000	-8.000	-8.000	1.704	-8.00	-8.000	-8.00	-8.000	-8.00
15001.0	H. BAY- HALBERSON SHORELINE	1604.0	CRAB	-8.000	-8.000	-8.000	1.995	-8.00	-8.000	-8.00	-8.000	-8.00
15001.0	H. BAY- HALBERSON SHORELINE	1605.0	MUSSEL (RESIDENT)	-8.000	-8.000	-8.000	0.500	-8.00	-8.000	-8.00	-8.000	-8.00
15001.0	H. BAY- HALBERSON SHORELINE	1608.0	WORM	0.148	-8.000	-8.000	0.895	-8.00	-8.000	-8.00	-8.000	-8.00
14001.0	EUREKA WATERFRONT- H STREET	1610.0	CRAB	-8.000	-8.000	-8.000	1.011	-8.00	-8.000	-8.00	-8.000	-8.00
14001.0	EUREKA WATERFRONT- H STREET	1611.0	WORM	-8.000	-8.000	-8.000	2.578	-8.00	-8.000	-8.00	1.300	-8.00
14001.0	EUREKA WATERFRONT- H STREET	1612.0	MUSSEL (RESIDENT)	-8.000	-8.000	-8.000	0.500	-8.00	-8.000	-8.00	-8.000	-8.00

PESTICIDE ANALYSIS OF TISSUE (wet weight-ppb-ng/g)

STANUM	STATION	IDORG	TISS_TYPE	PPDDE	PPDDMS	PPDDMU	OPDDT	PPDDT	TTL_DDT	DICLB	DIELDRIN
14003.0	ARCATA BAY-JOLLY GIANT NORTH	1437.0	MUSSEL (TRANSPLANT)	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.000
10018.0	H. BAY-UNION OIL PLANT	1439.0	MUSSEL (TRANSPLANT)	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.000
10019.0	H. BAY-COAL/OIL/GAS PLANT	1441.0	MUSSEL (TRANSPLANT)	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.000
10020.0	H. BAY-OLD PAC. LUMBER SITE	1443.0	MUSSEL (TRANSPLANT)	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.000
10022.0	HUMBOLDT BAY EUREKA SM.22	1447.0	MUSSEL (TRANSPLANT)	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.000
14001.0	EUREKA WATERFRONT- H STREET	1449.0	MUSSEL (TRANSPLANT)	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1451.0	MUSSEL (TRANSPLANT)	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1453.0	CRABS	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1454.0	OYSTERS	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1455.0	MUSSEL (RESIDENT)	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1598.0	CRAB	2.46	-8.00	-8.00	-8.00	-8.00	4.36	-8.00	0.554
14002.0	EUREKA WATERFRONT- J STREET	1599.0	WORM	-8.00	-8.00	-8.00	-8.00	-8.00	2.00	-8.00	0.555
14002.0	EUREKA WATERFRONT- J STREET	1600.0	MUSSEL (RESIDENT)	0.47	-8.00	-8.00	-8.00	-8.00	2.37	-8.00	-8.000
10016.0	ARCATA BAY-JOLLY GIANT SL.	1602.0	CRAB	0.41	-8.00	-8.00	-8.00	-8.00	2.31	-8.00	0.824
15001.0	H. BAY- HALBERSON SHORELINE	1604.0	CRAB	-8.00	-8.00	-8.00	-8.00	-8.00	2.00	-8.00	-8.000
15001.0	H. BAY- HALBERSON SHORELINE	1605.0	MUSSEL (RESIDENT)	0.47	-8.00	-8.00	-8.00	-8.00	2.37	-8.00	-8.000
15001.0	H. BAY- HALBERSON SHORELINE	1608.0	WORM	0.18	-8.00	-8.00	-8.00	-8.00	2.08	-8.00	0.297
14001.0	EUREKA WATERFRONT- H STREET	1610.0	CRAB	3.58	-8.00	-8.00	-8.00	-8.00	5.48	-8.00	0.527
14001.0	EUREKA WATERFRONT- H STREET	1611.0	WORM	10.94	-8.00	-8.00	-8.00	-8.00	13.84	-8.00	0.405
14001.0	EUREKA WATERFRONT- H STREET	1612.0	MUSSEL (RESIDENT)	0.42	-8.00	-8.00	-8.00	-8.00	2.32	-8.00	-8.000

PESTICIDE ANALYSIS OF TISSUE (wet weight-ppb-ng/g)

STANUM	STATION	IDORG	TISS_TYPE	ENDO_I	ENDO_II	ESO4	ENDRIN	HCHA	HCHB	HCHG	HCHD	HEPTACHLOR	HE
14003.0	ARCATA BAY-JOLLY GIANT NORTH	1437.0	MUSSEL (TRANSPLANT)	-9.000	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000	-9.000	-9.000
10018.0	H. BAY-UNION OIL PLANT	1439.0	MUSSEL (TRANSPLANT)	-9.000	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000	-9.000	-9.000
10019.0	H. BAY-COAL/OIL/GAS PLANT	1441.0	MUSSEL (TRANSPLANT)	-9.000	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000	-9.000	-9.000
10020.0	H. BAY-OLD PAC. LUMBER SITE	1443.0	MUSSEL (TRANSPLANT)	-9.000	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000	-9.000	-9.000
10022.0	HUMBOLDT BAY EUREKA SM.22	1447.0	MUSSEL (TRANSPLANT)	-9.000	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000	-9.000	-9.000
14001.0	EUREKA WATERFRONT- H STREET	1449.0	MUSSEL (TRANSPLANT)	-9.000	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1451.0	MUSSEL (TRANSPLANT)	-9.000	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1453.0	CRABS	-9.000	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1454.0	OYSTERS	-9.000	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1455.0	MUSSEL (RESIDENT)	-9.000	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1598.0	CRAB	-8.000	-8.00	-8.00	-8.00	-8.000	-8.00	-8.000	-8.000	-8.000	-8.000
14002.0	EUREKA WATERFRONT- J STREET	1599.0	WORM	-8.000	-8.00	-8.00	-8.00	-8.000	-8.00	-8.000	-8.000	-8.000	-8.000
14002.0	EUREKA WATERFRONT- J STREET	1600.0	MUSSEL (RESIDENT)	-8.000	-8.00	-8.00	-8.00	-8.000	-8.00	-8.000	-8.000	-8.000	-8.000
10016.0	ARCATA BAY-JOLLY GIANT SL.	1602.0	CRAB	-8.000	-8.00	-8.00	-8.00	-8.000	-8.00	-8.000	-8.000	-8.000	-8.000
15001.0	H. BAY- HALBERSON SHORELINE	1604.0	CRAB	-8.000	-8.00	-8.00	-8.00	-8.000	-8.00	-8.000	-8.000	-8.000	-8.000
15001.0	H. BAY- HALBERSON SHORELINE	1605.0	MUSSEL (RESIDENT)	-8.000	-8.00	-8.00	-8.00	-8.000	-8.00	-8.000	-8.000	-8.000	-8.000
15001.0	H. BAY- HALBERSON SHORELINE	1608.0	WORM	-8.000	-8.00	-8.00	-8.00	-8.000	-8.00	-8.000	-8.000	-8.000	-8.000
14001.0	EUREKA WATERFRONT- H STREET	1610.0	CRAB	-8.000	-8.00	-8.00	-8.00	-8.000	-8.00	-8.000	-8.000	-8.000	-8.000
14001.0	EUREKA WATERFRONT- H STREET	1611.0	WORM	-8.000	-8.00	-8.00	-8.00	-8.000	-8.00	-8.000	-8.000	-8.000	-8.000
14001.0	EUREKA WATERFRONT- H STREET	1612.0	MUSSEL (RESIDENT)	-8.000	-8.00	-8.00	-8.00	-8.000	-8.00	-8.000	-8.000	-8.000	-8.000

PESTICIDE ANALYSIS OF TISSUE (wet weight-ppb-ng/g)

STANUM	STATION	IDORG	TISS_TYPE	HCB	METHOXY	MIREX	CNONA	TNONA	OXAD	OCDAN	TOXAPH	PESBATCH
14003.0	ARCATA BAY-JOLLY GIANT NORTH	1437.0	MUSSEL (TRANSPLANT)	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000	-9.00	-9
10018.0	H. BAY-UNION OIL PLANT	1439.0	MUSSEL (TRANSPLANT)	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000	-9.00	-9
10019.0	H. BAY-COAL/OIL/GAS PLANT	1441.0	MUSSEL (TRANSPLANT)	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000	-9.00	-9
10020.0	H. BAY-OLD PAC. LUMBER SITE	1443.0	MUSSEL (TRANSPLANT)	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000	-9.00	-9
10022.0	HUMBOLDT BAY EUREKA SM.22	1447.0	MUSSEL (TRANSPLANT)	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000	-9.00	-9
14001.0	EUREKA WATERFRONT- H STREET	1449.0	MUSSEL (TRANSPLANT)	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000	-9.00	-9
14002.0	EUREKA WATERFRONT- J STREET	1451.0	MUSSEL (TRANSPLANT)	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000	-9.00	-9
14002.0	EUREKA WATERFRONT- J STREET	1453.0	CRABS	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000	-9.00	-9
14002.0	EUREKA WATERFRONT- J STREET	1454.0	OYSTERS	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000	-9.00	-9
14002.0	EUREKA WATERFRONT- J STREET	1455.0	MUSSEL (RESIDENT)	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000	-9.00	-9
14002.0	EUREKA WATERFRONT- J STREET	1598.0	CRAB	0.814	-8.00	-8.000	-8.000	-8.000	-9.00	1.865	-8.00	75.07
14002.0	EUREKA WATERFRONT- J STREET	1599.0	WORM	-8.000	-8.00	-8.000	0.536	0.763	-9.00	-8.000	-8.00	75.07
14002.0	EUREKA WATERFRONT- J STREET	1600.0	MUSSEL (RESIDENT)	-8.000	-8.00	-8.000	-8.000	-8.000	-9.00	-8.000	-8.00	75.07
10016.0	ARCATA BAY-JOLLY GIANT SL.	1602.0	CRAB	-8.000	-8.00	-8.000	-8.000	0.784	-9.00	0.620	-8.00	75.07
15001.0	H. BAY- HALBERSON SHORELINE	1604.0	CRAB	-8.000	-8.00	-8.000	-8.000	0.934	-9.00	0.761	-8.00	75.07
15001.0	H. BAY- HALBERSON SHORELINE	1605.0	MUSSEL (RESIDENT)	-8.000	-8.00	-8.000	-8.000	-8.000	-9.00	-8.000	-8.00	75.07
15001.0	H. BAY- HALBERSON SHORELINE	1608.0	WORM	-8.000	-8.00	-8.000	-8.000	0.330	-9.00	-8.000	-8.00	75.07
14001.0	EUREKA WATERFRONT- H STREET	1610.0	CRAB	-8.000	-8.00	-8.000	-8.000	-8.000	-9.00	0.611	-8.00	75.07
14001.0	EUREKA WATERFRONT- H STREET	1611.0	WORM	-8.000	-8.00	0.197	0.467	1.372	-9.00	-8.000	-8.00	75.07
14001.0	EUREKA WATERFRONT- H STREET	1612.0	MUSSEL (RESIDENT)	-8.000	-8.00	-8.000	-8.000	-8.000	-9.00	-8.000	-8.00	75.07

SECTION IX

PCB and Aroclor Analysis of Tissue

PCB CONGENER AND AROCLOR ANALYSIS OF TISSUE (wet weight-ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	TISS_TYPE	NO_IN_COMP	PCB5	PCB8	PCB15	PCB18	PCB27	PCB28	PCB29
14003.0	ARCATA BAY-JOLLY GIANT NORTH	1437.0	2/14/95	36.5	MUSSEL (TRANSPLANT)	45	-8.000	1.080	5.120	4.190	0.274	3.050	-8.000
10018.0	H. BAY-UNION OIL PLANT	1439.0	2/15/95	36.5	MUSSEL (TRANSPLANT)	45	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10019.0	H. BAY-COAL/OIL/GAS PLANT	1441.0	2/15/95	36.5	MUSSEL (TRANSPLANT)	45	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10020.0	H. BAY-OLD PAC. LUMBER SITE	1443.0	2/15/95	36.5	MUSSEL (TRANSPLANT)	29	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10022.0	HUMBOLDT BAY EUREKA SM.22	1447.0	2/15/95	36.5	MUSSEL (TRANSPLANT)	39	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14001.0	EUREKA WATERFRONT- H STREET	1449.0	2/15/95	36.5	MUSSEL (TRANSPLANT)	45	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1451.0	2/15/95	36.5	MUSSEL (TRANSPLANT)	45	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1453.0	2/15/95	36.5	CRABS	38	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1454.0	2/15/95	36.5	OYSTERS	35	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1455.0	2/15/95	36.5	MUSSEL (RESIDENT)	38	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1598.0	4/17/96	42.0	CRAB	24	-8.000	-8.000	-9.000	-8.000	-8.000	-8.000	-8.000
14002.0	EUREKA WATERFRONT- J STREET	1599.0	4/17/96	42.0	WORM	12	-8.000	-8.000	-9.000	-8.000	-8.000	-8.000	-8.000
14002.0	EUREKA WATERFRONT- J STREET	1600.0	4/17/96	42.0	MUSSEL (RESIDENT)	27	-8.000	-8.000	-9.000	-8.000	-8.000	-8.000	-8.000
10016.0	ARCATA BAY-JOLLY GIANT SL.	1602.0	4/18/96	42.0	CRAB	31	-8.000	-8.000	-9.000	-8.000	-8.000	-8.000	-8.000
15001.0	H. BAY- HALBERSON SHORELINE	1604.0	4/17/96	42.0	CRAB	32	-8.000	-8.000	-9.000	-8.000	-8.000	-8.000	-8.000
15001.0	H. BAY- HALBERSON SHORELINE	1605.0	4/17/96	42.0	MUSSEL (RESIDENT)	44	-8.000	-8.000	-9.000	-8.000	-8.000	-8.000	-8.000
15001.0	H. BAY- HALBERSON SHORELINE	1608.0	4/17/96	42.0	WORM	4	-8.000	-8.000	-9.000	-8.000	-8.000	-8.000	-8.000
14001.0	EUREKA WATERFRONT- H STREET	1610.0	4/17/96	42.0	CRAB	25	-8.000	-8.000	-9.000	-8.000	-8.000	-8.000	-8.000
14001.0	EUREKA WATERFRONT- H STREET	1611.0	4/17/96	42.0	WORM	3	-8.000	-8.000	-9.000	-8.000	-8.000	-8.000	-8.000
14001.0	EUREKA WATERFRONT- H STREET	1612.0	4/17/96	42.0	MUSSEL (RESIDENT)	45	-8.000	-8.000	-9.000	-8.000	-8.000	-8.000	-8.000

PCB CONGENER AND AROCLOR ANALYSIS OF TISSUE (wet weight-ppb-ng/g)

STANUM	STATION	IDORG	TISS_TYPE	PCB31	PCB44	PCB49	PCB52	PCB66	PCB70	PCB74	PCB87	PCB95	PCB97	PCB99
14003.0	ARCATA BAY-JOLLY GIANT NORTH	1437.0	MUSSEL (TRANSPLANT)	4.010	2.140	1.460	2.840	2.320	2.300	1.190	0.457	0.798	0.391	0.483
10018.0	H. BAY-UNION OIL PLANT	1439.0	MUSSEL (TRANSPLANT)	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10019.0	H. BAY-COAL/OIL/GAS PLANT	1441.0	MUSSEL (TRANSPLANT)	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10020.0	H. BAY-OLD PAC. LUMBER SITE	1443.0	MUSSEL (TRANSPLANT)	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10022.0	HUMBOLDT BAY EUREKA SM.22	1447.0	MUSSEL (TRANSPLANT)	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14001.0	EUREKA WATERFRONT- H STREET	1449.0	MUSSEL (TRANSPLANT)	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1451.0	MUSSEL (TRANSPLANT)	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1453.0	CRABS	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1454.0	OYSTERS	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1455.0	MUSSEL (RESIDENT)	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1598.0	CRAB	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	0.365
14002.0	EUREKA WATERFRONT- J STREET	1599.0	WORM	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	0.340	-8.000	-8.000
14002.0	EUREKA WATERFRONT- J STREET	1600.0	MUSSEL (RESIDENT)	-8.000	-8.000	-8.000	0.219	-8.000	0.129	-8.000	0.193	0.245	0.115	0.185
10016.0	ARCATA BAY-JOLLY GIANT SL.	1602.0	CRAB	-8.000	-8.000	-8.000	0.425	-8.000	0.523	-8.000	-8.000	-8.000	-8.000	-8.000
15001.0	H. BAY- HALBERSON SHORELINE	1604.0	CRAB	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000
15001.0	H. BAY- HALBERSON SHORELINE	1605.0	MUSSEL (RESIDENT)	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000
15001.0	H. BAY- HALBERSON SHORELINE	1608.0	WORM	0.154	-8.000	-8.000	-8.000	-8.000	0.124	-8.000	-8.000	0.325	-8.000	0.114
14001.0	EUREKA WATERFRONT- H STREET	1610.0	CRAB	-8.000	-8.000	-8.000	0.644	2.188	2.863	4.981	0.585	0.906	0.433	16.170
14001.0	EUREKA WATERFRONT- H STREET	1611.0	WORM	0.350	0.460	0.457	1.836	0.508	0.679	0.206	0.607	2.673	1.015	2.079
14001.0	EUREKA WATERFRONT- H STREET	1612.0	MUSSEL (RESIDENT)	-8.000	0.587	0.187	1.937	0.358	0.763	0.201	1.672	5.422	1.452	2.328

PCB CONGENER AND AROCLOR ANALYSIS OF TISSUE (wet weight-ppb-ng/g)

STANUM	STATION	IDORG	TISS_TYPE	PCB101	PCB105	PCB110	PCB118	PCB128	PCB132	PCB137	PCB138	PCB149
14003.0	ARCATA BAY-JOLLY GIANT NORTH	1437.0	MUSSEL (TRANSPLANT)	1.020	0.236	0.908	0.648	-8.000	-8.000	-8.000	0.541	0.458
10018.0	H. BAY-UNION OIL PLANT	1439.0	MUSSEL (TRANSPLANT)	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10019.0	H. BAY-COAL/OIL/GAS PLANT	1441.0	MUSSEL (TRANSPLANT)	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10020.0	H. BAY-OLD PAC. LUMBER SITE	1443.0	MUSSEL (TRANSPLANT)	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10022.0	HUMBOLDT BAY EUREKA SM.22	1447.0	MUSSEL (TRANSPLANT)	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14001.0	EUREKA WATERFRONT- H STREET	1449.0	MUSSEL (TRANSPLANT)	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1451.0	MUSSEL (TRANSPLANT)	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1453.0	CRABS	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1454.0	OYSTERS	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1455.0	MUSSEL (RESIDENT)	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1598.0	CRAB	-8.000	0.800	-8.000	2.422	-8.000	-8.000	-8.000	1.336	-8.000
14002.0	EUREKA WATERFRONT- J STREET	1599.0	WORM	0.286	0.190	0.210	0.149	0.207	-8.000	-8.000	1.056	0.374
14002.0	EUREKA WATERFRONT- J STREET	1600.0	MUSSEL (RESIDENT)	0.523	0.133	0.488	0.496	0.111	0.164	-8.000	0.811	0.353
10016.0	ARCATA BAY-JOLLY GIANT SL.	1602.0	CRAB	0.352	-8.000	-8.000	0.818	-8.000	-8.000	-8.000	0.716	-8.000
15001.0	H. BAY- HALBERSON SHORELINE	1604.0	CRAB	0.471	-8.000	-8.000	0.600	-8.000	-8.000	-8.000	0.582	-8.000
15001.0	H. BAY- HALBERSON SHORELINE	1605.0	MUSSEL (RESIDENT)	-8.000	-8.000	0.157	-8.000	-8.000	-8.000	-8.000	0.329	0.182
15001.0	H. BAY- HALBERSON SHORELINE	1608.0	WORM	0.243	-8.000	0.138	0.119	-8.000	-8.000	-8.000	0.530	0.262
14001.0	EUREKA WATERFRONT- H STREET	1610.0	CRAB	2.182	34.334	1.402	95.266	5.496	0.578	5.782	61.614	0.628
14001.0	EUREKA WATERFRONT- H STREET	1611.0	WORM	4.366	1.009	2.703	3.236	1.079	0.520	0.225	6.778	3.648
14001.0	EUREKA WATERFRONT- H STREET	1612.0	MUSSEL (RESIDENT)	6.583	1.414	4.870	4.647	0.990	0.897	0.261	7.170	4.039

PCB CONGENER AND AROCLOR ANALYSIS OF TISSUE (wet weight-ppb-ng/g)

STANUM	STATION	IDORG	TISS_TYPE	PCB151	PCB153	PCB156	PCB157	PCB158	PCB170	PCB174	PCB177	PCB180
14003.0	ARCATA BAY-JOLLY GIANT NORTH	1437.0	MUSSEL (TRANSPLANT)	-8.000	0.520	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000
10018.0	H. BAY-UNION OIL PLANT	1439.0	MUSSEL (TRANSPLANT)	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10019.0	H. BAY-COAL/OIL/GAS PLANT	1441.0	MUSSEL (TRANSPLANT)	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10020.0	H. BAY-OLD PAC. LUMBER SITE	1443.0	MUSSEL (TRANSPLANT)	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10022.0	HUMBOLDT BAY EUREKA SM.22	1447.0	MUSSEL (TRANSPLANT)	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14001.0	EUREKA WATERFRONT- H STREET	1449.0	MUSSEL (TRANSPLANT)	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1451.0	MUSSEL (TRANSPLANT)	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1453.0	CRABS	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1454.0	OYSTERS	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1455.0	MUSSEL (RESIDENT)	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1598.0	CRAB	-8.000	3.418	0.403	-8.000	-8.000	-8.000	-8.000	-8.000	1.645
14002.0	EUREKA WATERFRONT- J STREET	1599.0	WORM	-8.000	1.478	-8.000	-8.000	0.156	0.199	-8.000	-8.000	0.655
14002.0	EUREKA WATERFRONT- J STREET	1600.0	MUSSEL (RESIDENT)	0.126	0.730	-8.000	-8.000	0.124	-8.000	-8.000	-8.000	-8.000
10016.0	ARCATA BAY-JOLLY GIANT SL.	1602.0	CRAB	-8.000	0.932	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	0.741
15001.0	H. BAY- HALBERSON SHORELINE	1604.0	CRAB	-8.000	0.609	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000
15001.0	H. BAY- HALBERSON SHORELINE	1605.0	MUSSEL (RESIDENT)	-8.000	0.346	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000
15001.0	H. BAY- HALBERSON SHORELINE	1608.0	WORM	-8.000	0.539	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	0.227
14001.0	EUREKA WATERFRONT- H STREET	1610.0	CRAB	-8.000	94.454	13.630	3.280	7.914	9.288	-8.000	2.125	28.150
14001.0	EUREKA WATERFRONT- H STREET	1611.0	WORM	0.978	7.632	0.484	0.483	0.654	1.124	0.616	1.057	3.983
14001.0	EUREKA WATERFRONT- H STREET	1612.0	MUSSEL (RESIDENT)	1.039	6.528	0.487	0.306	0.939	0.252	-8.000	0.445	1.189

PCB CONGENER AND AROCLOR ANALYSIS OF TISSUE (wet weight-ppb-ng/g)

STANUM	STATION	IDORG	TISS_TYPE	PCB183	PCB187	PCB189	PCB194	PCB195	PCB201	PCB203	PCB206	PCB209
14003.0	ARCATA BAY-JOLLY GIANT NORTH	1437.0	MUSSEL (TRANSPLANT)	-8.000	0.199	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000
10018.0	H. BAY-UNION OIL PLANT	1439.0	MUSSEL (TRANSPLANT)	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10019.0	H. BAY-COAL/OIL/GAS PLANT	1441.0	MUSSEL (TRANSPLANT)	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10020.0	H. BAY-OLD PAC. LUMBER SITE	1443.0	MUSSEL (TRANSPLANT)	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
10022.0	HUMBOLDT BAY EUREKA SM.22	1447.0	MUSSEL (TRANSPLANT)	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14001.0	EUREKA WATERFRONT- H STREET	1449.0	MUSSEL (TRANSPLANT)	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1451.0	MUSSEL (TRANSPLANT)	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1453.0	CRABS	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1454.0	OYSTERS	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1455.0	MUSSEL (RESIDENT)	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1598.0	CRAB	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000
14002.0	EUREKA WATERFRONT- J STREET	1599.0	WORM	0.237	0.343	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000
14002.0	EUREKA WATERFRONT- J STREET	1600.0	MUSSEL (RESIDENT)	-8.000	0.205	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000
10016.0	ARCATA BAY-JOLLY GIANT SL.	1602.0	CRAB	-8.000	0.376	-8.000	-8.000	-8.000	0.311	-8.000	-8.000	-8.000
15001.0	H. BAY- HALBERSON SHORELINE	1604.0	CRAB	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000
15001.0	H. BAY- HALBERSON SHORELINE	1605.0	MUSSEL (RESIDENT)	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000
15001.0	H. BAY- HALBERSON SHORELINE	1608.0	WORM	-8.000	0.183	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000
14001.0	EUREKA WATERFRONT- H STREET	1610.0	CRAB	3.365	3.587	0.580	2.018	0.405	-8.000	1.022	0.365	-8.000
14001.0	EUREKA WATERFRONT- H STREET	1611.0	WORM	1.051	3.541	-8.000	0.699	0.236	1.016	0.604	0.435	-8.000
14001.0	EUREKA WATERFRONT- H STREET	1612.0	MUSSEL (RESIDENT)	0.622	1.225	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000

PCB CONGENER AND AROCLOR ANALYSIS OF TISSUE (wet weight-ppb-ng/g)

STANUM	STATION	IDORG	TISS_TYPE	PCBBATCH	ARO5460	ARO1248	ARO1254	ARO1260	TTL_PCB
14003.0	ARCATA BAY-JOLLY GIANT NORTH	1437.0	MUSSEL (TRANSPLANT)	73.51	-9.000	117.000	-8.000	-8.000	38.768
10018.0	H. BAY-UNION OIL PLANT	1439.0	MUSSEL (TRANSPLANT)	-9	-9.000	-9.000	-9.000	-9.000	-9.000
10019.0	H. BAY-COAL/OIL/GAS PLANT	1441.0	MUSSEL (TRANSPLANT)	-9	-9.000	-9.000	-9.000	-9.000	-9.000
10020.0	H. BAY-OLD PAC. LUMBER SITE	1443.0	MUSSEL (TRANSPLANT)	-9	-9.000	-9.000	-9.000	-9.000	-9.000
10022.0	HUMBOLDT BAY EUREKA SM.22	1447.0	MUSSEL (TRANSPLANT)	-9	-9.000	-9.000	-9.000	-9.000	-9.000
14001.0	EUREKA WATERFRONT- H STREET	1449.0	MUSSEL (TRANSPLANT)	-9	-9.000	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1451.0	MUSSEL (TRANSPLANT)	-9	-9.000	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1453.0	CRABS	-9	-9.000	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1454.0	OYSTERS	-9	-9.000	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1455.0	MUSSEL (RESIDENT)	-9	-9.000	-9.000	-9.000	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1598.0	CRAB	75.07	-8.000	-8.000	-8.000	-8.000	21.842
14002.0	EUREKA WATERFRONT- J STREET	1599.0	WORM	75.07	-8.000	-8.000	-8.000	-8.000	10.926
14002.0	EUREKA WATERFRONT- J STREET	1600.0	MUSSEL (RESIDENT)	75.07	-8.000	-8.000	9.004	-8.000	8.456
10016.0	ARCATA BAY-JOLLY GIANT SL.	1602.0	CRAB	75.07	-8.000	-8.000	-8.000	-8.000	10.920
15001.0	H. BAY- HALBERSON SHORELINE	1604.0	CRAB	75.07	-8.000	-8.000	-8.000	-8.000	7.324
15001.0	H. BAY- HALBERSON SHORELINE	1605.0	MUSSEL (RESIDENT)	75.07	-8.000	-8.000	-8.000	-8.000	4.550
15001.0	H. BAY- HALBERSON SHORELINE	1608.0	WORM	75.07	-8.000	-8.000	-8.000	-8.000	6.082
14001.0	EUREKA WATERFRONT- H STREET	1610.0	CRAB	75.07	-8.000	-8.000	-8.000	62.523	676.946
14001.0	EUREKA WATERFRONT- H STREET	1611.0	WORM	75.07	-8.000	-8.000	54.909	29.273	73.246
14001.0	EUREKA WATERFRONT- H STREET	1612.0	MUSSEL (RESIDENT)	75.07	-8.000	-8.000	72.932	-8.000	66.960

SECTION X

PAH Analysis of Tissue

PAH ANALYSIS OF TISSUE (wet weight-ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	TISS_TYPE	NO_IN_COMP	TMMOIST	ACY	ACE	ANT	BAA	BAP	BBF
14003.0	ARCATA BAY-JOLLY GIANT NORTH	1437.0	2/14/95	36.5	MUSSEL (TRANSPLANT)	45	80.70	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10018.0	H. BAY-UNION OIL PLANT	1439.0	2/15/95	36.5	MUSSEL (TRANSPLANT)	45	81.50	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00
10019.0	H. BAY-COAL/OIL/GAS PLANT	1441.0	2/15/95	36.5	MUSSEL (TRANSPLANT)	45	82.50	-8.00	2.23	-8.00	-8.00	-8.00	-8.00
10020.0	H. BAY-OLD PAC. LUMBER SITE	1443.0	2/15/95	36.5	MUSSEL (TRANSPLANT)	29	82.40	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00
10022.0	HUMBOLDT BAY EUREKA SM.22	1447.0	2/15/95	36.5	MUSSEL (TRANSPLANT)	39	82.50	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00
14001.0	EUREKA WATERFRONT- H STREET	1449.0	2/15/95	36.5	MUSSEL (TRANSPLANT)	45	81.20	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00
14002.0	EUREKA WATERFRONT- J STREET	1451.0	2/15/95	36.5	MUSSEL (TRANSPLANT)	45	83.80	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00
14002.0	EUREKA WATERFRONT- J STREET	1453.0	2/15/95	36.5	CRABS	38	-9.00	-8.00	5.35	-8.00	2.76	3.54	7.36
14002.0	EUREKA WATERFRONT- J STREET	1454.0	2/15/95	36.5	OYSTERS	35	80.30	43.40	526.00	462.00	301.00	191.00	286.00
14002.0	EUREKA WATERFRONT- J STREET	1455.0	2/15/95	36.5	MUSSEL (RESIDENT)	38	87.50	-8.00	-8.00	1.00	8.30	1.85	10.00
14002.0	EUREKA WATERFRONT- J STREET	1598.0	4/17/96	42.0	CRAB	24	64.60	-8.00	4.07	-8.00	-8.00	-8.00	-8.00
14002.0	EUREKA WATERFRONT- J STREET	1599.0	4/17/96	42.0	WORM	12	86.70	-8.00	7.11	-8.00	1.37	-8.00	1.66
14002.0	EUREKA WATERFRONT- J STREET	1600.0	4/17/96	42.0	MUSSEL (RESIDENT)	27	90.60	-8.00	1.36	1.56	6.11	4.19	5.69
10016.0	ARCATA BAY-JOLLY GIANT SL.	1602.0	4/18/96	42.0	CRAB	31	67.00	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00
15001.0	H. BAY- HALBERSON SHORELINE	1604.0	4/17/96	42.0	CRAB	32	69.50	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00
15001.0	H. BAY- HALBERSON SHORELINE	1605.0	4/17/96	42.0	MUSSEL (RESIDENT)	44	88.40	-8.00	-8.00	2.48	6.96	4.69	6.16
15001.0	H. BAY- HALBERSON SHORELINE	1608.0	4/17/96	42.0	WORM	4	88.50	-8.00	2.29	-8.00	1.59	1.25	-8.00
14001.0	EUREKA WATERFRONT- H STREET	1610.0	4/17/96	42.0	CRAB	25	66.40	-8.00	-8.00	-8.00	5.80	10.51	8.43
14001.0	EUREKA WATERFRONT- H STREET	1611.0	4/17/96	42.0	WORM	3	81.90	-8.00	2.07	-8.00	-8.00	-8.00	-8.00
14001.0	EUREKA WATERFRONT- H STREET	1612.0	4/17/96	42.0	MUSSEL (RESIDENT)	45	88.10	-8.00	3.88	2.76	7.21	2.72	5.75

PAH ANALYSIS OF TISSUE (wet weight-ppb-ng/g)

STANUM	STATION	IDORG	TISS_TYPE	BKF	BGP	BEP	BPH	CHR	COR	DBA	DBT	DMN	FLA	FLU	IND
14003.0	ARCATA BAY-JOLLY GIANT NORTH	1437.0	MUSSEL (TRANSPLANT)	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
10018.0	H. BAY-UNION OIL PLANT	1439.0	MUSSEL (TRANSPLANT)	-8.00	-8.00	-8.00	-8.00	2.00	-9.00	-8.00	-9.00	-8.00	4.17	1.98	-8.00
10019.0	H. BAY-COAL/OIL/GAS PLANT	1441.0	MUSSEL (TRANSPLANT)	-8.00	-8.00	-8.00	-8.00	-8.00	-9.00	-8.00	-9.00	-8.00	5.99	2.76	-8.00
10020.0	H. BAY-OLD PAC. LUMBER SITE	1443.0	MUSSEL (TRANSPLANT)	-8.00	-8.00	-8.00	-8.00	-8.00	-9.00	-8.00	-9.00	-8.00	1.88	-8.00	-8.00
10022.0	HUMBOLDT BAY EUREKA SM.22	1447.0	MUSSEL (TRANSPLANT)	-8.00	-8.00	-8.00	-8.00	-8.00	-9.00	-8.00	-9.00	-8.00	3.15	2.10	-8.00
14001.0	EUREKA WATERFRONT- H STREET	1449.0	MUSSEL (TRANSPLANT)	-8.00	-8.00	-8.00	-8.00	-8.00	-9.00	-8.00	-9.00	-8.00	3.07	1.96	-8.00
14002.0	EUREKA WATERFRONT- J STREET	1451.0	MUSSEL (TRANSPLANT)	-8.00	-8.00	-8.00	-8.00	-8.00	-9.00	-8.00	-9.00	-8.00	4.39	2.15	-8.00
14002.0	EUREKA WATERFRONT- J STREET	1453.0	CRABS	2.20	3.98	4.21	2.74	5.27	-9.00	-8.00	-9.00	5.37	13.80	2.11	3.19
14002.0	EUREKA WATERFRONT- J STREET	1454.0	OYSTERS	103.00	79.90	131.00	81.20	457.00	-9.00	28.40	-9.00	37.00	1170.00	423.00	90.60
14002.0	EUREKA WATERFRONT- J STREET	1455.0	MUSSEL (RESIDENT)	3.68	2.29	7.40	-8.00	10.90	-9.00	-8.00	-9.00	-8.00	64.00	1.14	1.84
14002.0	EUREKA WATERFRONT- J STREET	1598.0	CRAB	-8.00	-8.00	-8.00	-8.00	5.15	-8.00	-8.00	-8.00	-8.00	4.96	-8.00	-8.00
14002.0	EUREKA WATERFRONT- J STREET	1599.0	WORM	-8.00	-8.00	-8.00	-8.00	2.65	-8.00	-8.00	-8.00	-8.00	5.66	-8.00	-8.00
14002.0	EUREKA WATERFRONT- J STREET	1600.0	MUSSEL (RESIDENT)	5.95	3.55	5.38	-8.00	9.74	8.32	5.45	-8.00	-8.00	11.99	1.10	4.65
10016.0	ARCATA BAY-JOLLY GIANT SL.	1602.0	CRAB	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00
15001.0	H. BAY- HALBERSON SHORELINE	1604.0	CRAB	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00
15001.0	H. BAY- HALBERSON SHORELINE	1605.0	MUSSEL (RESIDENT)	6.73	4.04	4.66	-8.00	9.22	5.64	-8.00	-8.00	-8.00	20.49	1.82	4.10
15001.0	H. BAY- HALBERSON SHORELINE	1608.0	WORM	1.29	-8.00	-8.00	-8.00	1.26	1.95	-8.00	-8.00	-8.00	2.14	-8.00	-8.00
14001.0	EUREKA WATERFRONT- H STREET	1610.0	CRAB	11.06	10.42	7.77	-8.00	11.83	17.18	10.17	-8.00	-8.00	3.89	-8.00	11.82
14001.0	EUREKA WATERFRONT- H STREET	1611.0	WORM	-8.00	-8.00	2.60	-8.00	4.47	-8.00	-8.00	-8.00	-8.00	39.77	16.32	-8.00
14001.0	EUREKA WATERFRONT- H STREET	1612.0	MUSSEL (RESIDENT)	6.18	4.33	5.02	1.73	9.57	3.43	-8.00	1.36	-8.00	23.56	2.41	2.70

PAH ANALYSIS OF TISSUE (wet weight-ppb-ng/g)

STANUM	STATION	IDORG	TISS_TYPE	MNP1	MNP2	MPH1	NPH	PHN	PER	PYR	TMN	TRY	PAHBATCH	SODATAQA
14003.0	ARCATA BAY-JOLLY GIANT NORTH	1437.0	MUSSEL (TRANSPLANT)	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9	-5
10018.0	H. BAY-UNION OIL PLANT	1439.0	MUSSEL (TRANSPLANT)	-8.00	6.44	-8.00	-8.00	10.70	-8.00	4.22	-8.00	-8.00	73.51	-5
10019.0	H. BAY-COAL/OIL/GAS PLANT	1441.0	MUSSEL (TRANSPLANT)	-8.00	5.27	-8.00	1.86	16.60	-8.00	6.56	-8.00	-8.00	73.51	-5
10020.0	H. BAY-OLD PAC. LUMBER SITE	1443.0	MUSSEL (TRANSPLANT)	-8.00	3.82	-8.00	-8.00	5.94	-8.00	2.14	-8.00	-8.00	73.51	-5
10022.0	HUMBOLDT BAY EUREKA SM.22	1447.0	MUSSEL (TRANSPLANT)	-8.00	4.60	-8.00	-8.00	10.20	-8.00	4.05	-8.00	-8.00	73.51	-5
14001.0	EUREKA WATERFRONT- H STREET	1449.0	MUSSEL (TRANSPLANT)	-8.00	6.65	-8.00	-8.00	8.40	-8.00	3.35	-8.00	-8.00	73.51	-5
14002.0	EUREKA WATERFRONT- J STREET	1451.0	MUSSEL (TRANSPLANT)	-8.00	5.21	-8.00	-8.00	11.30	-8.00	4.75	-8.00	-8.00	73.51	-5
14002.0	EUREKA WATERFRONT- J STREET	1453.0	CRABS	3.98	4.85	-8.00	5.60	11.00	-8.00	19.70	-8.00	2.78	73.51	-5
14002.0	EUREKA WATERFRONT- J STREET	1454.0	OYSTERS	105.00	61.40	51.50	254.00	1450.00	49.80	775.00	9.80	50.90	73.51	-5
14002.0	EUREKA WATERFRONT- J STREET	1455.0	MUSSEL (RESIDENT)	-8.00	1.03	1.86	-8.00	19.10	1.29	46.70	-8.00	5.48	73.51	-5
14002.0	EUREKA WATERFRONT- J STREET	1598.0	CRAB	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	5.20	-8.00	-8.00	75.07	-5
14002.0	EUREKA WATERFRONT- J STREET	1599.0	WORM	-8.00	-8.00	-8.00	3.80	3.61	-8.00	9.94	-8.00	-8.00	75.07	-5
14002.0	EUREKA WATERFRONT- J STREET	1600.0	MUSSEL (RESIDENT)	1.17	1.59	-8.00	1.33	5.92	4.43	10.38	-8.00	-8.00	75.07	-5
10016.0	ARCATA BAY-JOLLY GIANT SL.	1602.0	CRAB	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	3.57	-8.00	-8.00	75.07	-5
15001.0	H. BAY- HALBERSON SHORELINE	1604.0	CRAB	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	75.07	-5
15001.0	H. BAY- HALBERSON SHORELINE	1605.0	MUSSEL (RESIDENT)	1.91	2.68	-8.00	2.03	12.31	4.72	15.85	-8.00	-8.00	75.07	-5
15001.0	H. BAY- HALBERSON SHORELINE	1608.0	WORM	-8.00	-8.00	-8.00	1.97	1.39	1.40	4.26	-8.00	-8.00	75.07	-5
14001.0	EUREKA WATERFRONT- H STREET	1610.0	CRAB	-8.00	-8.00	-8.00	-8.00	-8.00	7.44	4.81	-8.00	-8.00	75.07	-5
14001.0	EUREKA WATERFRONT- H STREET	1611.0	WORM	-8.00	-8.00	-8.00	2.27	7.14	-8.00	29.04	-8.00	-8.00	75.07	-5
14001.0	EUREKA WATERFRONT- H STREET	1612.0	MUSSEL (RESIDENT)	3.26	4.41	-8.00	3.88	17.54	2.29	17.45	-8.00	-8.00	75.07	-5

SECTION XI

BTEX and TPH Data (Tissue)

BTEX AND TPH DATA (dry weight-ppm-ug/g)

STANUM	STATION	IDORG	DATE	LEG	TISS_TYPE	NO_IN_COMP	BENZENE	TOLUENE	ETHBENZENE	XYLENES	TPH_DIESEL
14003.0	ARCATA BAY-JOLLY GIANT NORTH	1437.0	2/14/95	36.5	MUSSEL (TRANSPLANT)	45	-8.00	-8.00	-8.00	-8.00	-8.00
10018.0	H. BAY-UNION OIL PLANT	1439.0	2/15/95	36.5	MUSSEL (TRANSPLANT)	45	-8.00	-8.00	-8.00	-8.00	-8.00
10019.0	H. BAY-COAL/OIL/GAS PLANT	1441.0	2/15/95	36.5	MUSSEL (TRANSPLANT)	45	-8.00	-8.00	-8.00	-8.00	-8.00
10020.0	H. BAY-OLD PAC. LUMBER SITE	1443.0	2/15/95	36.5	MUSSEL (TRANSPLANT)	29	-8.00	-8.00	-8.00	-8.00	-8.00
10022.0	HUMBOLDT BAY EUREKA SM.22	1447.0	2/15/95	36.5	MUSSEL (TRANSPLANT)	39	-8.00	-8.00	-8.00	-8.00	-8.00
14001.0	EUREKA WATERFRONT- H STREET	1449.0	2/15/95	36.5	MUSSEL (TRANSPLANT)	45	-8.00	-8.00	-8.00	-8.00	-8.00
14002.0	EUREKA WATERFRONT- J STREET	1451.0	2/15/95	36.5	MUSSEL (TRANSPLANT)	45	-8.00	-8.00	-8.00	-8.00	-8.00
14002.0	EUREKA WATERFRONT- J STREET	1453.0	2/15/95	36.5	CRABS	38	-8.00	-8.00	-8.00	-8.00	-8.00
14002.0	EUREKA WATERFRONT- J STREET	1454.0	2/15/95	36.5	OYSTERS	35	-8.00	-8.00	-8.00	-8.00	-8.00
14002.0	EUREKA WATERFRONT- J STREET	1455.0	2/15/95	36.5	MUSSEL (RESIDENT)	38	-8.00	-8.00	-8.00	-8.00	-8.00
14002.0	EUREKA WATERFRONT- J STREET	1598.0	4/17/96	42.0	CRAB	24	-9.00	-9.00	-9.00	-9.00	-9.00
14002.0	EUREKA WATERFRONT- J STREET	1599.0	4/17/96	42.0	WORM	12	-9.00	-9.00	-9.00	-9.00	-9.00
14002.0	EUREKA WATERFRONT- J STREET	1600.0	4/17/96	42.0	MUSSEL (RESIDENT)	27	-9.00	-9.00	-9.00	-9.00	-9.00
10016.0	ARCATA BAY-JOLLY GIANT SL.	1602.0	4/18/96	42.0	CRAB	31	-9.00	-9.00	-9.00	-9.00	-9.00
15001.0	H. BAY- HALBERSON SHORELINE	1604.0	4/17/96	42.0	CRAB	32	-9.00	-9.00	-9.00	-9.00	-9.00
15001.0	H. BAY- HALBERSON SHORELINE	1605.0	4/17/96	42.0	MUSSEL (RESIDENT)	44	-9.00	-9.00	-9.00	-9.00	-9.00
15001.0	H. BAY- HALBERSON SHORELINE	1608.0	4/17/96	42.0	WORM	4	-9.00	-9.00	-9.00	-9.00	-9.00
14001.0	EUREKA WATERFRONT- H STREET	1610.0	4/17/96	42.0	CRAB	25	-9.00	-9.00	-9.00	-9.00	-9.00
14001.0	EUREKA WATERFRONT- H STREET	1611.0	4/17/96	42.0	WORM	3	-9.00	-9.00	-9.00	-9.00	-9.00
14001.0	EUREKA WATERFRONT- H STREET	1612.0	4/17/96	42.0	MUSSEL (RESIDENT)	45	-9.00	-9.00	-9.00	-9.00	-9.00

APPENDIX D

Grain Size and Total Organic Carbon

GRAIN SIZE (% fines) AND TOTAL ORGANIC CARBON (% dry weight)

STANUM	STATION	IDORG	DATE	LEG	FINES	FINEBATCH	FINEDATAQC	TOC	TOCBATCH	TOCDATAQC
10004.0	ARCATA BAY-MCDANIEL SL.	304	11/30/92	8.0	90.00	8	-3	0.58	8	-3
10015.0	ARCATA BAY-MAD RIVER SL.	315	11/30/92	8.0	60.00	8	-3	0.65	8	-3
10016.0	ARCATA BAY-JOLLY GIANT SL.	316	11/30/92	8.0	61.00	8	-3	0.75	8	-3
10017.0	ARCATA BAY-EUREKA SL.	317	11/29/92	8.0	88.00	8	-3	0.77	8	-3
10018.0	H. BAY-UNION OIL PLANT	318	11/29/92	8.0	74.00	8	-3	0.76	8	-3
10019.0	H. BAY-COAL/OIL/GAS PLANT	319	11/29/92	8.0	72.00	8	-3	0.65	8	-3
10020.0	H. BAY-OLD PAC. LUMBER SITE	320	11/29/92	8.0	83.00	8	-3	0.70	8	-3
10021.0	H. BAY-CHEVRON TERMINAL	321	11/29/92	8.0	50.00	8	-3	0.56	8	-3
14001.0	EUREKA WATERFRONT H STREET	322	11/29/92	8.0	95.00	8	-3	0.84	8	-3
10023.0	H. BAY EUREKA STORM 23	323	11/29/92	8.0	67.00	8	-3	1.00	8	-3
10024.0	H. BAY FIELDS LANDING	324	11/29/92	8.0	75.00	8	-3	0.60	8	-3
10025.0	H. BAY HOOKTON SL.	325	11/29/92	8.0	94.00	8	-3	0.54	8	-3
10036.0	SOUTHPORT CHANNEL-33B	336	11/30/92	8.0	83.00	8	-3	0.81	8	-3
10037.0	H. BAY-MOUTH OF ELK RIVER	337	11/30/92	8.0	53.00	8	-3	2.20	8	-3
14004.0	DAVENPORT MARINE	338	11/30/92	8.0	77.00	8	-3	0.81	8	-3
10005.0	RUSSIAN RIVER MOUTH SMW 280.0	305	2/25/93	14.0	48.00	14	-3	0.99	14	-3
10006.0	BODEGA BAY-MASON'S MARINA	306	2/25/93	14.0	98.00	14	-3	2.00	14	-3
10007.0	BODEGA BAY-SPUD POINT MARINA	307	2/25/93	14.0	27.00	14	-3	1.00	14	-3
10028.0	BODEGA BAY PORTO BODEGA MARINA	328	2/25/93	14.0	55.00	14	-3	0.93	14	-3
10029.0	ESTERO AMERICANO-VALLEY FORD	329	2/25/93	14.0	50.00	14	-3	0.95	14	-3
10030.0	ESTERO DE SAN ANTONIO-VALLEY F	330	2/25/93	14.0	35.00	14	-3	1.90	14	-3
10031.0	MOUTH OF ESTERO AMERICANO	331	2/26/93	14.0	10.00	14	-3	0.23	14	-3
10032.0	MOUTH OF ESTERO DE SAN ANTONIO	332	2/26/93	14.0	23.00	14	-3	1.60	14	-3
10039.0	UNCONTAMINATED SITE-33C	339	2/25/93	14.0	41.00	14	-3	0.83	14	-3
10040.0	UNCONTAMINATED SITE-33D	340	2/26/93	14.0	43.00	14	-3	0.25	14	-3
10041.0	SALMON CREEK-34L	341	2/25/93	14.0	51.00	14	-3	1.80	14	-3
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	900	6/22/93	20.0	-9.00	-9	-9	-9.00	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	901	6/22/93	20.0	-9.00	-9	-9	-9.00	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	902	6/22/93	20.0	-9.00	-9	-9	-9.00	-9	-9
10040.0	UNCONTAMINATED SITE-33D	1321	5/16/94	32.0	37.35	32	-4	0.47	32	-4
10031.0	MOUTH OF ESTERO AMERICANO	1322	5/16/94	32.0	12.70	32	-4	0.64	32	-4
10006.0	BODEGA BAY-MASON'S MARINA REP1	1350	6/14/94	33.0	96.70	33	-4	3.44	33	-4
10006.0	BODEGA BAY-MASON'S MARINA REP2	1351	6/14/94	33.0	94.13	33	-4	3.50	33	-4
10006.0	BODEGA BAY-MASON'S MARINA REP3	1352	6/14/94	33.0	98.50	33	-4	3.58	33	-4
10007.0	BODEGA-SPUD POINT MARINA REP1	1353	6/13/94	33.0	19.83	33	-4	0.43	33	-4
10007.0	BODEGA-SPUD POINT MARINA REP2	1354	6/13/94	33.0	17.12	33	-4	0.48	33	-4
10007.0	BODEGA-SPUD POINT MARINA REP3	1355	6/13/94	33.0	15.19	33	-4	0.35	33	-4
10028.0	PORTO BODEGA MARINA REP1	1356	6/14/94	33.0	48.31	33	-4	1.31	33	-4

GRAIN SIZE (% fines) AND TOTAL ORGANIC CARBON (% dry weight)

STANUM	STATION	IDORG	DATE	LEG	FINES	FINEBATCH	FINEDATAQC	TOC	TOCBATCH	TOCDATAQC
10028.0	PORTO BODEGA MARINA REP2	1357	6/14/94	33.0	56.70	33	-4	1.38	33	-4
10028.0	PORTO BODEGA MARINA REP3	1358	6/14/94	33.0	47.60	33	-4	1.24	33	-4
10040.0	UNCONTAMINATED SITE-33D REP1	1359	6/13/94	33.0	26.54	33	-4	0.27	33	-4
10040.0	UNCONTAMINATED SITE-33D REP2	1360	6/13/94	33.0	28.63	33	-4	0.27	33	-4
10040.0	UNCONTAMINATED SITE-33D REP3	1361	6/13/94	33.0	33.56	33	-4	0.39	33	-4
14003.0	ARCATA BAY- JOLLY GIANT NORTH	1438	2/14/95	36.5	-9.00	-9	-9	-9.00	-9	-9
15002.0	H. BAY- WASHINGTON STREET	1440	2/15/95	36.5	-9.00	-9	-9	-9.00	-9	-9
10019.0	H. BAY- COAL/OIL/GAS PLANT	1442	2/15/95	36.5	-9.00	-9	-9	-9.00	-9	-9
10020.0	H. BAY- OLD PAC. LUMBER SITE	1444	2/15/95	36.5	-9.00	-9	-9	-9.00	-9	-9
14004.0	DAVENPORT MARINE	1446	2/15/95	36.5	-9.00	-9	-9	-9.00	-9	-9
10022.0	HUMBOLDT BAY EUREKA SM.22	1448	2/15/95	36.5	-9.00	-9	-9	-9.00	-9	-9
14001.0	EUREKA WATERFRONT H STREET	1450	2/15/95	36.5	-9.00	-9	-9	-9.00	-9	-9
14002.0	EUREKA WATERFRONT J STREET	1452	2/15/95	36.5	-9.00	-9	-9	-9.00	-9	-9
14004.0	DAVENPORT MARINE	1578	4/17/96	42.0	86.93	42	-4	1.49	42	-4
10023.0	H. BAY EUREKA STORM 23	1579	4/17/96	42.0	36.05	42	-4	1.82	42	-4
10016.0	ARCATA BAY-JOLLY GIANT SL.	1580	4/18/96	42.0	79.48	42	-4	2.68	42	-4
10017.0	ARCATA BAY-EUREKA SL.	1581	4/17/96	42.0	82.43	42	-4	1.47	42	-4
10021.0	H. BAY-CHEVRON TERMINAL	1582	4/17/96	42.0	76.89	42	-4	1.18	42	-4
10019.0	H. BAY-COAL/OIL/GAS PLANT	1583	4/17/96	42.0	72.14	42	-4	1.73	42	-4
10018.0	H. BAY-UNION OIL PLANT	1584	4/17/96	42.0	79.26	42	-4	1.71	42	-4
15001.0	H. BAY- HALBERSON SHORELINE	1585	4/17/96	42.0	84.20	42	-4	1.48	42	-4
14002.0	EUREKA WATERFRONT- J STREET	1586	4/17/96	42.0	94.75	42	-4	1.36	42	-4
14001.0	EUREKA WATERFRONT- H STREET	1587	4/17/96	42.0	94.63	42	-4	1.57	42	-4
10006.0	BODEGA BAY MASON'S MARINA	1682	12/6/96	47.0	98.93	B97064	-4	3.34	47	-4
10007.0	BODEGA-SPUD POINT MARINA	1683	12/5/96	47.0	16.69	B97064	-4	0.64	47	-4
10028.0	PORTO BODEGA MARINA	1684	12/6/96	47.0	79.39	B97064	-4	2.30	47	-4
10040.0	UNCONTAMINATED SITE-33D	1685	12/6/96	47.0	26.13	B97064	-4	0.28	47	-4

APPENDIX E

Toxicity Data

SECTION I

Rhepoxynius abronius Solid Phase Survival

Rhepoxynius abronius PERCENT SURVIVAL FOR SOLID PHASE TEST AND WATER QUALITY (mg/L)

STANUM	STATION	IDORG	DATE	LEG	METADATA	CTRL	RA_MN	RA_SD	RA_SG	RA_TOX	RA_OTNH3	RA_OUNH3
10004.0	ARCATA BAY-MCDANIEL SL.	304	11/30/92	8.0	-9	-9	66.00	9.60	*	T	-9.000	0.004
10015.0	ARCATA BAY-MAD RIVER SL.	315	11/30/92	8.0	-9	-9	81.00	6.50	*	NT	-9.000	0.003
10016.0	ARCATA BAY-JOLLY GIANT SL	316	11/30/92	8.0	-9	-9	78.00	13.50	*	NT	-9.000	0.007
10017.0	ARCATA BAY-EUREKA SL.	317	11/29/92	8.0	-9	-9	67.00	6.70	*	T	-9.000	0.003
10018.0	H. BAY-UNION OIL PLANT	318	11/29/92	8.0	-9	-9	94.00	6.50	ns	NT	-9.000	0.090
10019.0	H. BAY-COAL/OIL/GAS PLANT	319	11/29/92	8.0	-9	-9	82.00	7.60	*	NT	-9.000	0.032
10020.0	H. BAY-OLD PAC. LUMBER SITE	320	11/29/92	8.0	-9	-9	70.00	13.70	*	T	-9.000	0.066
10021.0	H. BAY-CHEVRON TERMINAL	321	11/29/92	8.0	-9	-9	76.00	29.90	ns	NT	-9.000	0.039
10022.0	HUMBOLDT BAY EUREKA SM.22	322	11/29/92	8.0	-9	-9	90.00	3.50	*	NT	-9.000	0.018
10023.0	H. BAY EUREKA STORM 23	323	11/29/92	8.0	-9	-9	74.00	12.90	*	T	-9.000	0.050
10024.0	H. BAY FIELDS LANDING	324	11/29/92	8.0	-9	-9	86.00	4.20	*	NT	-9.000	0.014
10025.0	H. BAY HOOKTON SL.	325	11/29/92	8.0	-9	-9	80.00	12.70	*	NT	-9.000	0.004
10036.0	SOUTHPORT CHANNEL-33B	336	11/30/92	8.0	-9	-9	83.00	8.40	*	NT	-9.000	0.014
10037.0	H. BAY-MOUTH OF ELK RIVER	337	11/30/92	8.0	-9	-9	83.00	4.50	*	NT	-9.000	0.020
10038.0	H. BAY EUR.WAT.FT. FUEL D	338	11/30/92	8.0	-9	-9	80.00	10.00	*	NT	-9.000	0.011
10005.0	RUSSIAN RIVER MOUTH SMW 280.0	305	2/25/93	14.0	-9	-9	-9.00	-9.00	-9	-9	-9.000	-9.000
10006.0	BODEGA BAY-MASON'S MARINA	306	2/25/93	14.0	-9	-9	38.00	15.20	*	T	-9.000	-9.000
10007.0	BODEGA BAY-SPUD POINT MARINA	307	2/25/93	14.0	-9	-9	80.00	7.90	*	NT	-9.000	-9.000
10028.0	BODEGA BAY PORTO BODEGA MARINA	328	2/25/93	14.0	-9	-9	65.00	11.20	*	T	-9.000	-9.000
10029.0	ESTERO AMERICANO-VALLEY FORD	329	2/25/93	14.0	-9	-9	-9.00	-9.00	-9	-9	-9.000	-9.000
10030.0	ESTERO DE SAN ANTONIO-VALLEY F	330	2/25/93	14.0	-9	-9	-9.00	-9.00	-9	-9	-9.000	-9.000
10031.0	MOUTH OF ESTERO AMERICANO	331	2/26/93	14.0	-9	-9	92.00	5.70	ns	NT	-9.000	-9.000
10032.0	MOUTH OF ESTERO DE SAN ANTONIO	332	2/26/93	14.0	-9	-9	-9.00	-9.00	-9	-9	-9.000	-9.000
10039.0	UNCONTAMINATED SITE-33C	339	2/25/93	14.0	-9	-9	-9.00	-9.00	-9	-9	-9.000	-9.000
10040.0	UNCONTAMINATED SITE-33D	340	2/26/93	14.0	-9	-9	94.00	4.20	ns	NT	-9.000	-9.000
10041.0	SALMON CREEK-34L	341	2/25/93	14.0	-9	-9	-9.00	-9.00	-9	-9	-9.000	-9.000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	900	6/22/93	20.0	-9	-9	94.00	7.00	ns	NT	-9.000	0.422
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	901	6/22/93	20.0	-9	-9	89.00	9.00	ns	NT	-9.000	0.719
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	902	6/22/93	20.0	-9	-9	92.00	4.00	ns	NT	-9.000	0.339
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	906	6/22/93	21.0	-9	-9	93.00	8.00	ns	NT	-9.000	0.211
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	907	6/22/93	21.0	-9	-9	88.00	14.00	ns	NT	-9.000	0.328
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	908	6/22/93	21.0	-9	-9	86.00	10.00	ns	NT	-9.000	0.429
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	912	6/22/93	22.0	-9	-9	96.00	0.00	ns	NT	-9.000	0.231
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	913	6/22/93	22.0	-9	-9	79.00	44.00	ns	NT	-9.000	0.228
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	914	6/22/93	22.0	-9	-9	80.00	29.00	ns	NT	-9.000	0.327
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	915	6/22/93	23.0	-9	-9	90.00	7.00	ns	NT	-9.000	0.538

Rhepoxynius abronius PERCENT SURVIVAL FOR SOLID PHASE TEST AND WATER QUALITY (mg/L)

STANUM	STATION	IDORG	DATE	LEG	METADATA	CTRL	RA_MN	RA_SD	RA_SG	RA_TOX	RA_OTNH3	RA_OUNH3
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	916	6/22/93	23.0	-9	-9	78.00	33.00	ns	NT	-9.000	0.389
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	917	6/22/93	23.0	-9	-9	89.00	12.00	ns	NT	-9.000	0.641
	CONTROL-CH2			32.0	toxmeta.wpd	-9	99.00	2.24	-9	-9	0.120	0.002
	CONTROL-CH3			32.0	toxmeta.wpd	-9	100.00	0.00	-9	-9	0.110	0.003
	CONTROL-CH1			32.0	toxmeta.wpd	-9	96.00	8.94	-9	-9	-8.000	-8.000
10040.0	UNCONTAMINATED SITE-33D	1321	5/16/94	32.0	toxmeta.wpd	-9	91.00	6.52	ns	NT	2.600	0.117
10031.0	MOUTH OF ESTERO AMERICANO	1322	5/16/94	32.0	toxmeta.wpd	-9	88.00	7.58	ns	NT	4.100	0.138
	CONTROL-CH1			33.0	toxmeta.wpd	-9	98.00	2.74	-9	-9	0.180	0.006
10006.0	BODEGA BAY-MASON'S MARINA REP1	1350	6/14/94	33.0	toxmeta.wpd	-9	61.00	18.17	*	T	3.460	0.206
10006.0	BODEGA BAY-MASON'S MARINA REP2	1351	6/14/94	33.0	toxmeta.wpd	-9	52.00	6.71	*	T	4.330	0.208
10006.0	BODEGA BAY-MASON'S MARINA REP3	1352	6/14/94	33.0	toxmeta.wpd	-9	75.00	20.62	*	NT	1.560	0.069
10007.0	BODEGA-SPUD POINT MARINA REP1	1353	6/13/94	33.0	toxmeta.wpd	-9	86.00	21.04	ns	NT	2.600	0.090
10007.0	BODEGA-SPUD POINT MARINA REP2	1354	6/13/94	33.0	toxmeta.wpd	-9	75.00	29.37	ns	NT	3.430	0.132
10007.0	BODEGA-SPUD POINT MARINA REP3	1355	6/13/94	33.0	toxmeta.wpd	-9	91.00	9.62	ns	NT	2.170	0.102
10028.0	PORTO BODEGA MARINA REP1	1356	6/14/94	33.0	toxmeta.wpd	-9	81.00	11.40	*	NT	2.020	0.083
10028.0	PORTO BODEGA MARINA REP2	1357	6/14/94	33.0	toxmeta.wpd	-9	86.00	10.84	*	NT	1.770	0.073
10028.0	PORTO BODEGA MARINA REP3	1358	6/14/94	33.0	toxmeta.wpd	-9	82.00	19.24	ns	NT	2.030	0.080
10040.0	UNCONTAMINATED SITE-33D REP1	1359	6/13/94	33.0	toxmeta.wpd	-9	93.00	9.75	ns	NT	5.390	0.207
10040.0	UNCONTAMINATED SITE-33D REP2	1360	6/13/94	33.0	toxmeta.wpd	-9	94.00	4.18	ns	NT	5.220	0.188
10040.0	UNCONTAMINATED SITE-33D REP3	1361	6/13/94	33.0	toxmeta.wpd	-9	92.00	6.71	ns	NT	5.310	0.260
	CONTROL-CH1			42.0	toxmeta5	CH1	-9.00	-9.00	-9	-9	-9.000	-9.000
10038.0	H. BAY EUR.WAT.FT. FUEL D	1578	4/17/96	42.0	toxmeta5	CH1	-9.00	-9.00	-9	-9	-9.000	-9.000
10023.0	H. BAY EUREKA STORM 23	1579	4/17/96	42.0	toxmeta5	CH1	-9.00	-9.00	-9	-9	-9.000	-9.000
10016.0	ARCATA BAY-JOLLY GIANT SL.	1580	4/18/96	42.0	toxmeta5	CH1	-9.00	-9.00	-9	-9	-9.000	-9.000
10017.0	ARCATA BAY-EUREKA SL.	1581	4/17/96	42.0	toxmeta5	CH1	-9.00	-9.00	-9	-9	-9.000	-9.000
10021.0	H. BAY-CHEVRON TERMINAL	1582	4/17/96	42.0	toxmeta5	CH1	-9.00	-9.00	-9	-9	-9.000	-9.000
10019.0	H. BAY-COAL/OIL/GAS PLANT	1583	4/17/96	42.0	toxmeta5	CH1	-9.00	-9.00	-9	-9	-9.000	-9.000
10018.0	H. BAY-UNION OIL PLANT	1584	4/17/96	42.0	toxmeta5	CH1	-9.00	-9.00	-9	-9	-9.000	-9.000
15001.0	H. BAY- HALBERSON SHORELINE	1585	4/17/96	42.0	toxmeta5	CH1	-9.00	-9.00	-9	-9	-9.000	-9.000
14002.0	EUREKA WATERFRONT- J STREET	1586	4/17/96	42.0	toxmeta5	CH1	-9.00	-9.00	-9	-9	-9.000	-9.000
14001.0	EUREKA WATERFRONT- H STREET	1587	4/17/96	42.0	toxmeta5	CH1	-9.00	-9.00	-9	-9	-9.000	-9.000
	CONTROL-C1			47.0	toxdata7.wpd	C1	-9.00	-9.00	-9	-9	-9.000	-9.000
10006.0	BODEGA BAY - MASON'S MARINA	1682	12/6/96	47.0	toxdata7.wpd	C1	-9.00	-9.00	-9	-9	-9.000	-9.000
10007.0	BODEGA - SPUD POINT MARINA	1683	12/5/96	47.0	toxdata7.wpd	C1	-9.00	-9.00	-9	-9	-9.000	-9.000
10028.0	PORTO BODEGA MARINA	1684	12/6/96	47.0	toxdata7.wpd	C1	-9.00	-9.00	-9	-9	-9.000	-9.000
10040.0	UNCONTAMINATED SITE	1685	12/6/96	47.0	toxdata7.wpd	C1	-9.00	-9.00	-9	-9	-9.000	-9.000

Rhepoxynius abronius PERCENT SURVIVAL FOR SOLID PHASE TEST AND WATER QUALITY (mg/L)

STANUM	STATION	IDORG	DATE	LEG	RA_OH2S	RA_ITNH3	RA_IUNH3	RA_IH2S	RA_BATCH	RAQC
10004.0	ARCATA BAY-MCDANIEL SL.	304	11/30/92	8.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
10015.0	ARCATA BAY-MAD RIVER SL.	315	11/30/92	8.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
10016.0	ARCATA BAY-JOLLY GIANT SL	316	11/30/92	8.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
10017.0	ARCATA BAY-EUREKA SL.	317	11/29/92	8.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
10018.0	H. BAY-UNION OIL PLANT	318	11/29/92	8.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
10019.0	H. BAY-COAL/OIL/GAS PLANT	319	11/29/92	8.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
10020.0	H. BAY-OLD PAC. LUMBER SITE	320	11/29/92	8.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
10021.0	H. BAY-CHEVRON TERMINAL	321	11/29/92	8.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
10022.0	HUMBOLDT BAY EUREKA SM.22	322	11/29/92	8.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
10023.0	H. BAY EUREKA STORM 23	323	11/29/92	8.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
10024.0	H. BAY FIELDS LANDING	324	11/29/92	8.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
10025.0	H. BAY HOOKTON SL.	325	11/29/92	8.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
10036.0	SOUTHPORT CHANNEL-33B	336	11/30/92	8.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
10037.0	H. BAY-MOUTH OF ELK RIVER	337	11/30/92	8.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
10038.0	H. BAY EUR.WAT.FT. FUEL D	338	11/30/92	8.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
10005.0	RUSSIAN RIVER MOUTH SMW 280.0	305	2/25/93	14.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
10006.0	BODEGA BAY-MASON'S MARINA	306	2/25/93	14.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
10007.0	BODEGA BAY-SPUD POINT MARINA	307	2/25/93	14.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
10028.0	BODEGA BAY PORTO BODEGA MARINA	328	2/25/93	14.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
10029.0	ESTERO AMERICANO-VALLEY FORD	329	2/25/93	14.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
10030.0	ESTERO DE SAN ANTONIO-VALLEY F	330	2/25/93	14.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
10031.0	MOUTH OF ESTERO AMERICANO	331	2/26/93	14.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
10032.0	MOUTH OF ESTERO DE SAN ANTONIO	332	2/26/93	14.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
10039.0	UNCONTAMINATED SITE-33C	339	2/25/93	14.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
10040.0	UNCONTAMINATED SITE-33D	340	2/26/93	14.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
10041.0	SALMON CREEK-34L	341	2/25/93	14.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	900	6/22/93	20.0	0.0003	-9.000	-9.000	-9.0000	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	901	6/22/93	20.0	0.0003	-9.000	-9.000	-9.0000	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	902	6/22/93	20.0	0.0005	-9.000	-9.000	-9.0000	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	906	6/22/93	21.0	-8.0000	-9.000	-9.000	-9.0000	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	907	6/22/93	21.0	-8.0000	-9.000	-9.000	-9.0000	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	908	6/22/93	21.0	-8.0000	-9.000	-9.000	-9.0000	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	912	6/22/93	22.0	0.0001	-9.000	-9.000	-9.0000	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	913	6/22/93	22.0	-8.0000	-9.000	-9.000	-9.0000	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	914	6/22/93	22.0	-8.0000	-9.000	-9.000	-9.0000	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	915	6/22/93	23.0	-8.0000	-9.000	-9.000	-9.0000	-9	-9

Rhepoxynius abronius PERCENT SURVIVAL FOR SOLID PHASE TEST AND WATER QUALITY (mg/L)

STANUM	STATION	IDORG	DATE	LEG	RA_OH2S	RA_ITNH3	RA_IUNH3	RA_IH2S	RA_BATCH	RAQC
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	916	6/22/93	23.0	-8.0000	-9.000	-9.000	-9.0000	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	917	6/22/93	23.0	-8.0000	-9.000	-9.000	-9.0000	-9	-9
	CONTROL-CH2			32.0	0.0027	-8.000	-8.000	-8.0000	B032RASA01	-3
	CONTROL-CH3			32.0	0.0037	-8.000	-8.000	-8.0000	B032RASA01	-3
	CONTROL-CH1			32.0	0.0042	-8.000	-8.000	-8.0000	B032RASA01	-3
10040.0	UNCONTAMINATED SITE-33D	1321	5/16/94	32.0	0.0019	18.000	0.269	0.0078	B032RASA01	-3
10031.0	MOUTH OF ESTERO AMERICANO	1322	5/16/94	32.0	0.0029	39.000	0.499	0.0312	B032RASA01	-3
	CONTROL-CH1			33.0	-8.0000	-9.000	-9.000	-9.0000	B033RASA01	-3
10006.0	BODEGA BAY-MASON'S MARINA REP1	1350	6/14/94	33.0	0.0029	16.000	0.075	0.0322	B033RASA01	-3
10006.0	BODEGA BAY-MASON'S MARINA REP2	1351	6/14/94	33.0	0.0024	13.000	0.096	0.0981	B033RASA01	-3
10006.0	BODEGA BAY-MASON'S MARINA REP3	1352	6/14/94	33.0	0.0019	10.000	0.064	0.0484	B033RASA01	-3
10007.0	BODEGA-SPUD POINT MARINA REP1	1353	6/13/94	33.0	0.0008	23.000	0.240	0.0348	B033RASA01	-3
10007.0	BODEGA-SPUD POINT MARINA REP2	1354	6/13/94	33.0	0.0080	26.000	0.303	0.0250	B033RASA01	-3
10007.0	BODEGA-SPUD POINT MARINA REP3	1355	6/13/94	33.0	0.0004	11.000	0.123	0.0534	B033RASA01	-3
10028.0	PORTO BODEGA MARINA REP1	1356	6/14/94	33.0	0.0008	7.600	0.062	0.0720	B033RASA01	-3
10028.0	PORTO BODEGA MARINA REP2	1357	6/14/94	33.0	0.0017	7.500	0.055	0.0854	B033RASA01	-3
10028.0	PORTO BODEGA MARINA REP3	1358	6/14/94	33.0	0.0015	7.900	0.053	0.0664	B033RASA01	-3
10040.0	UNCONTAMINATED SITE-33D REP1	1359	6/13/94	33.0	0.0008	13.000	0.170	0.0615	B033RASA01	-3
10040.0	UNCONTAMINATED SITE-33D REP2	1360	6/13/94	33.0	-8.0000	17.000	0.135	0.0517	B033RASA01	-3
10040.0	UNCONTAMINATED SITE-33D REP3	1361	6/13/94	33.0	0.0016	22.000	0.152	0.1324	B033RASA01	-3
	CONTROL-CH1			42.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
10038.0	H. BAY EUR.WAT.FT. FUEL D	1578	4/17/96	42.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
10023.0	H. BAY EUREKA STORM 23	1579	4/17/96	42.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
10016.0	ARCATA BAY-JOLLY GIANT SL.	1580	4/18/96	42.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
10017.0	ARCATA BAY-EUREKA SL.	1581	4/17/96	42.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
10021.0	H. BAY-CHEVRON TERMINAL	1582	4/17/96	42.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
10019.0	H. BAY-COAL/OIL/GAS PLANT	1583	4/17/96	42.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
10018.0	H. BAY-UNION OIL PLANT	1584	4/17/96	42.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
15001.0	H. BAY- HALBERSON SHORELINE	1585	4/17/96	42.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
14002.0	EUREKA WATERFRONT- J STREET	1586	4/17/96	42.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
14001.0	EUREKA WATERFRONT- H STREET	1587	4/17/96	42.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
	CONTROL-C1			47.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
10006.0	BODEGA BAY - MASON'S MARINA	1682	12/6/96	47.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
10007.0	BODEGA - SPUD POINT MARINA	1683	12/5/96	47.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
10028.0	PORTO BODEGA MARINA	1684	12/6/96	47.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
10040.0	UNCONTAMINATED SITE	1685	12/6/96	47.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9

SECTION II

Eohaustorius estuarius Solid Phase Survival

Eohaustorius estuarius PERCENT SURVIVAL FOR SOLID PHASE TEST AND WATER QUALITY (mg/L)

STANUM	STATION	IDORG	DATE	LEG	METADATA	CTRL	EE_MN	EE_SD	EE_SG	EE_TOX	EE_BATCH	EEQC	EE_OTNH3
10005.0	RUSSIAN RIVER MOUTH SMW 280.0	305	2/25/93	14.0	-9	-9	92.00	7.60	ns	NT	-9	-9	-9.000
10029.0	ESTERO AMERICANO-VALLEY FORD	329	2/25/93	14.0	-9	-9	93.00	5.70	*	NT	-9	-9	-9.000
10030.0	ESTERO DE SAN ANTONIO-VALLEY F	330	2/25/93	14.0	-9	-9	99.00	2.20	ns	NT	-9	-9	-9.000
10032.0	MOUTH OF ESTERO DE SAN ANTONIO	332	2/26/93	14.0	-9	-9	93.00	11.00	ns	NT	-9	-9	-9.000
10039.0	UNCONTAMINATED SITE-33C	339	2/25/93	14.0	-9	-9	94.00	8.90	ns	NT	-9	-9	-9.000
10041.0	SALMON CREEK-34L	341	2/25/93	14.0	-9	-9	96.00	4.20	ns	NT	-9	-9	-9.000
	CONTROL-CH1			42.0	toxmeta5	CH1	99.00	2.00	-9	-9	142tee	-4	0.120
14004.0	DAVENPORT MARINE	1578	4/17/96	42.0	toxmeta5	CH1	88.00	8.00	*	NT	142tee	-4	0.810
10023.0	H. BAY EUREKA STORM 23	1579	4/17/96	42.0	toxmeta5	CH1	92.00	10.00	ns	NT	142tee	-4	3.400
10016.0	ARCATA BAY-JOLLY GIANT SL.	1580	4/18/96	42.0	toxmeta5	CH1	80.00	7.00	*	NT	142tee	-4	1.000
10017.0	ARCATA BAY-EUREKA SL.	1581	4/17/96	42.0	toxmeta5	CH1	77.00	14.00	*	NT	142tee	-4	0.480
10021.0	H. BAY-CHEVRON TERMINAL	1582	4/17/96	42.0	toxmeta5	CH1	86.00	4.00	*	NT	142tee	-4	1.300
10019.0	H. BAY-COAL/OIL/GAS PLANT	1583	4/17/96	42.0	toxmeta5	CH1	94.00	8.00	ns	NT	142tee	-4	3.600
10018.0	H. BAY-UNION OIL PLANT	1584	4/17/96	42.0	toxmeta5	CH1	81.00	4.00	*	NT	142tee	-3	3.400
15001.0	H. BAY- HALBERSON SHORELINE	1585	4/17/96	42.0	toxmeta5	CH1	83.00	8.00	*	NT	142tee	-4	0.550
14002.0	EUREKA WATERFRONT- J STREET	1586	4/17/96	42.0	toxmeta5	CH1	70.00	6.00	*	T	142tee	-3	0.790
14001.0	EUREKA WATERFRONT- H STREET	1587	4/17/96	42.0	toxmeta5	CH1	58.00	10.00	*	T	142tee	-3	1.100
	CONTROL-C1			47.0	toxdata7.wpd	C1	99.00	2.00	-9	-9	147tee	-4	3.400
10006.0	BODEGA BAY - MASON'S MARINA	1682	12/6/96	47.0	toxdata7.wpd	C1	57.00	35.00	*	T	147tee	-3	15.000
10007.0	BODEGA - SPUD POINT MARINA	1683	12/5/96	47.0	toxdata7.wpd	C1	56.00	35.00	*	T	147tee	-3	16.000
10028.0	PORTO BODEGA MARINA	1684	12/6/96	47.0	toxdata7.wpd	C1	73.00	12.00	*	T	147tee	-3	8.000
10040.0	UNCONTAMINATED SITE	1685	12/6/96	47.0	toxdata7.wpd	C1	87.00	9.00	*	NT	147tee	-4	7.100

Eohaustorius estuarius PERCENT SURVIVAL FOR SOLID PHASE TEST AND WATER QUALITY (mg/L)

STANUM	STATION	IDORG	DATE	LEG	EE_OUNH3	EE_OH2S	EE_ITNH3	EE_IUNH3	EE_IH2S
10005.0	RUSSIAN RIVER MOUTH SMW 280.0	305	2/25/93	14.0	-9.000	-9.0000	-9.000	-9.000	-9.0000
10029.0	ESTERO AMERICANO-VALLEY FORD	329	2/25/93	14.0	-9.000	-9.0000	-9.000	-9.000	-9.0000
10030.0	ESTERO DE SAN ANTONIO-VALLEY F	330	2/25/93	14.0	-9.000	-9.0000	-9.000	-9.000	-9.0000
10032.0	MOUTH OF ESTERO DE SAN ANTONIO	332	2/26/93	14.0	-9.000	-9.0000	-9.000	-9.000	-9.0000
10039.0	UNCONTAMINATED SITE-33C	339	2/25/93	14.0	-9.000	-9.0000	-9.000	-9.000	-9.0000
10041.0	SALMON CREEK-34L	341	2/25/93	14.0	-9.000	-9.0000	-9.000	-9.000	-9.0000
	CONTROL-CH1			42.0	0.003	-9.0000	-9.000	-9.000	-9.0000
10038.0	H. BAY EUR.WAT.FT. FUEL D	1578	4/17/96	42.0	0.016	-9.0000	6.900	0.019	-8.0000
10023.0	H. BAY EUREKA STORM 23	1579	4/17/96	42.0	0.226	-9.0000	12.000	0.154	0.0070
10016.0	ARCATA BAY-JOLLY GIANT SL.	1580	4/18/96	42.0	0.022	-9.0000	7.000	0.073	0.0500
10017.0	ARCATA BAY-EUREKA SL.	1581	4/17/96	42.0	0.015	-9.0000	3.500	0.019	0.0060
10021.0	H. BAY-CHEVRON TERMINAL	1582	4/17/96	42.0	0.042	-9.0000	6.300	0.077	0.0020
10019.0	H. BAY-COAL/OIL/GAS PLANT	1583	4/17/96	42.0	0.329	-9.0000	6.800	0.069	-8.0000
10018.0	H. BAY-UNION OIL PLANT	1584	4/17/96	42.0	0.199	-9.0000	6.200	0.054	-8.0000
15001.0	H. BAY- HALBERSON SHORELINE	1585	4/17/96	42.0	0.015	-9.0000	3.900	0.012	0.0110
14002.0	EUREKA WATERFRONT- J STREET	1586	4/17/96	42.0	0.021	-9.0000	7.700	0.027	0.0020
14001.0	EUREKA WATERFRONT- H STREET	1587	4/17/96	42.0	0.041	-9.0000	7.500	0.067	-8.0000
	CONTROL-C1			47.0	0.077	-9.0000	-9.000	-9.000	-9.0000
10006.0	BODEGA BAY - MASON'S MARINA	1682	12/6/96	47.0	0.309	-9.0000	7.200	0.070	0.0245
10007.0	BODEGA - SPUD POINT MARINA	1683	12/5/96	47.0	0.552	-9.0000	27.000	0.205	0.0282
10028.0	PORTO BODEGA MARINA	1684	12/6/96	47.0	0.329	-9.0000	8.800	0.051	0.0009
10040.0	UNCONTAMINATED SITE	1685	12/6/96	47.0	0.389	-9.0000	3.200	0.050	0.0703

SECTION III

Haliotis rufescens Larval Shell Development in Subsurface Water

Haliotis rufescens PERCENT NORMAL LARVAL SHELL DEVELOPMENT IN SUBSURFACE WATER, AND WATER QUALITY (mg/L)

STANUM	STATION	IDORG	DATE	LEG	METADATA	CTRL	HRS100_MN	HRS100_SD	HRS100_SG	HRS100_TOX
10004.0	ARCATA BAY-MCDANIEL SL.	304	11/30/92	8.0	-9	-9	96.30	0.90	ns	NT
10015.0	ARCATA BAY-MAD RIVER SL.	315	11/30/92	8.0	-9	-9	95.50	1.80	ns	NT
10016.0	ARCATA BAY-JOLLY GIANT SL	316	11/30/92	8.0	-9	-9	94.50	2.40	ns	NT
10017.0	ARCATA BAY-EUREKA SL.	317	11/29/92	8.0	-9	-9	94.00	1.50	ns	NT
10018.0	H. BAY-UNION OIL PLANT	318	11/29/92	8.0	-9	-9	95.30	1.50	ns	NT
10019.0	H. BAY-COAL/OIL/GAS PLANT	319	11/29/92	8.0	-9	-9	96.80	1.90	ns	NT
10020.0	H. BAY-OLD PAC. LUMBER SITE	320	11/29/92	8.0	-9	-9	93.80	4.30	ns	NT
10021.0	H. BAY-CHEVRON TERMINAL	321	11/29/92	8.0	-9	-9	94.90	2.10	ns	NT
14001.0	EUREKA WATERFRONT H STREET	322	11/29/92	8.0	-9	-9	93.60	1.00	ns	NT
10023.0	H. BAY EUREKA STORM 23	323	11/29/92	8.0	-9	-9	95.70	3.10	ns	NT
10024.0	H. BAY FIELDS LANDING	324	11/29/92	8.0	-9	-9	95.10	1.80	ns	NT
10025.0	H. BAY HOOKTON SL.	325	11/29/92	8.0	-9	-9	94.30	3.50	ns	NT
10036.0	SOUTHPORT CHANNEL-33B	336	11/30/92	8.0	-9	-9	94.10	3.10	ns	NT
10037.0	H. BAY-MOUTH OF ELK RIVER	337	11/30/92	8.0	-9	-9	93.60	1.00	ns	NT
14004.0	DAVENPORT MARINE	338	11/30/92	8.0	-9	-9	75.30	42.10	ns	NT
10006.0	BODEGA BAY-MASON'S MARINA	306	2/25/93	14.0	-9	-9	81.70	33.40	ns	NT
10007.0	BODEGA BAY-SPUD POINT MARINA	307	2/25/93	14.0	-9	-9	97.50	1.70	ns	NT
10028.0	BODEGA BAY PORTO BODEGA MARINA	328	2/25/93	14.0	-9	-9	95.60	2.70	ns	NT
10031.0	MOUTH OF ESTERO AMERICANO	331	2/26/93	14.0	-9	-9	97.60	2.20	ns	NT

Haliotis rufescens PERCENT NORMAL LARVAL SHELL DEVELOPMENT IN SUBSURFACE WATER, AND WATER QUALITY (mg/L)

STANUM	STATION	IDORG	DATE	LEG	HRS_OUNH3	HRS_OTNH3	HRS_OH2S	HRS_BATCH	HRSQC
10004.0	ARCATA BAY-MCDANIEL SL	304	11/30/92	8.0	-8.000	-9.000	-9.0000	-9	-9
10015.0	ARCATA BAY-MAD RIVER SL	315	11/30/92	8.0	0.003	-9.000	-9.0000	-9	-9
10016.0	ARCATA BAY-JOLLY GIANT SL	316	11/30/92	8.0	0.004	-9.000	-9.0000	-9	-9
10017.0	ARCATA BAY-EUREKA SL	317	11/29/92	8.0	0.003	-9.000	-9.0000	-9	-9
10018.0	H. BAY-UNION OIL PLANT	318	11/29/92	8.0	-8.000	-9.000	-9.0000	-9	-9
10019.0	H. BAY-COAL/OIL/GAS PLANT	319	11/29/92	8.0	-8.000	-9.000	-9.0000	-9	-9
10020.0	H. BAY-OLD PAC. LUMBER SITE	320	11/29/92	8.0	-8.000	-9.000	-9.0000	-9	-9
10021.0	H. BAY-CHEVRON TERMINAL	321	11/29/92	8.0	-8.000	-9.000	-9.0000	-9	-9
10022.0	HUMBOLDT BAY EUREKA SM.22	322	11/29/92	8.0	-8.000	-9.000	-9.0000	-9	-9
10023.0	H. BAY EUREKA STORM 23	323	11/29/92	8.0	-8.000	-9.000	-9.0000	-9	-9
10024.0	H. BAY FIELDS LANDING	324	11/29/92	8.0	-8.000	-9.000	-9.0000	-9	-9
10025.0	H. BAY HOOKTON SL.	325	11/29/92	8.0	-8.000	-9.000	-9.0000	-9	-9
10036.0	SOUTHPORT CHANNEL-33B	336	11/30/92	8.0	0.003	-9.000	-9.0000	-9	-9
10037.0	H. BAY-MOUTH OF ELK RIVER	337	11/30/92	8.0	-8.000	-9.000	-9.0000	-9	-9
10038.0	H. BAY EUR.WAT.FT. FUEL D	338	11/30/92	8.0	-8.000	-9.000	-9.0000	-9	-9
10006.0	BODEGA BAY-MASON'S MARINA	306	2/25/93	14.0	0.032	-9.000	-9.0000	-9	-9
10007.0	BODEGA BAY-SPUD POINT MARINA	307	2/25/93	14.0	0.026	-9.000	-9.0000	-9	-9
10028.0	BODEGA BAY PORTO BODEGA MARINA	328	2/25/93	14.0	0.046	-9.000	-9.0000	-9	-9
10031.0	MOUTH OF ESTERO AMERICANO	331	2/26/93	14.0	0.058	-9.000	-9.0000	-9	-9

SECTION IV

Strongylocentrotus purpuratus Fertilization in Pore Water

Strongylocentrotus purpuratus PERCENT FERTILIZATION IN PORE WATER, AND WATER QUALITY (mg/L)

STANUM	STATION	IDORG	DATE	LEG	METADATA	CTRL	SPPF100_MN	SPPF100_SD	SPPF100_SG	SPPF100TOX	SPPF50_MN
10004.0	ARCATA BAY-MCDANIEL SL.	304	11/30/92	8.0	-9	-9	95.00	2.50	*	-9	-9.00
10015.0	ARCATA BAY-MAD RIVER SL.	315	11/30/92	8.0	-9	-9	99.80	0.40	ns	-9	-9.00
10016.0	ARCATA BAY-JOLLY GIANT SL	316	11/30/92	8.0	-9	-9	97.20	1.30	*	-9	-9.00
10017.0	ARCATA BAY-EUREKA SL.	317	11/29/92	8.0	-9	-9	99.00	1.00	ns	-9	-9.00
10018.0	H. BAY-UNION OIL PLANT	318	11/29/92	8.0	-9	-9	97.10	2.40	ns	-9	-9.00
10019.0	H. BAY-COAL/OIL/GAS PLANT	319	11/29/92	8.0	-9	-9	99.40	0.50	ns	-9	-9.00
10020.0	H. BAY-OLD PAC. LUMBER SITE	320	11/29/92	8.0	-9	-9	99.40	0.50	ns	-9	-9.00
10021.0	H. BAY-CHEVRON TERMINAL	321	11/29/92	8.0	-9	-9	0.00	0.00	*	-9	-9.00
14001.0	EUREKA WATERFRONT H STREET	322	11/29/92	8.0	-9	-9	99.40	0.90	ns	-9	-9.00
10023.0	H. BAY EUREKA STORM 23	323	11/29/92	8.0	-9	-9	99.80	0.40	ns	-9	-9.00
10024.0	H. BAY FIELDS LANDING	324	11/29/92	8.0	-9	-9	41.40	17.10	*	-9	-9.00
10025.0	H. BAY HOOKTON SL.	325	11/29/92	8.0	-9	-9	100.00	0.00	ns	-9	-9.00
10036.0	SOUTHPORT CHANNEL-33B	336	11/30/92	8.0	-9	-9	98.10	1.90	ns	-9	-9.00
10037.0	H. BAY-MOUTH OF ELK RIVER	337	11/30/92	8.0	-9	-9	99.60	0.90	ns	-9	-9.00
14004.0	DAVENPORT MARINE	338	11/30/92	8.0	-9	-9	99.40	0.50	ns	-9	-9.00
10005.0	RUSSIAN RIVER MOUTH SMW 280.0	305	2/25/93	14.0	-9	-9	-9.00	-9.00	-9	-9	-9.00
10006.0	BODEGA BAY-MASON'S MARINA	306	2/25/93	14.0	-9	-9	92.50	8.70	ns	-9	-9.00
10007.0	BODEGA BAY-SPUD POINT MARINA	307	2/25/93	14.0	-9	-9	99.00	0.70	ns	-9	-9.00
10028.0	BODEGA BAY PORTO BODEGA MARINA	328	2/25/93	14.0	-9	-9	99.60	0.90	ns	-9	-9.00
10029.0	ESTERO AMERICANO-VALLEY FORD	329	2/25/93	14.0	-9	-9	-9.00	-9.00	-9	-9	-9.00
10030.0	ESTERO DE SAN ANTONIO-VALLEY F	330	2/25/93	14.0	-9	-9	-9.00	-9.00	-9	-9	-9.00
10031.0	MOUTH OF ESTERO AMERICANO	331	2/26/93	14.0	-9	-9	99.00	1.00	ns	-9	-9.00
10032.0	MOUTH OF ESTERO DE SAN ANTONIO	332	2/26/93	14.0	-9	-9	-9.00	-9.00	-9	-9	-9.00
10039.0	UNCONTAMINATED SITE-33C	339	2/25/93	14.0	-9	-9	-9.00	-9.00	-9	-9	-9.00
10040.0	UNCONTAMINATED SITE-33D	340	2/26/93	14.0	-9	-9	-9.00	-9.00	-9	-9	-9.00
10041.0	SALMON CREEK-34L	341	2/25/93	14.0	-9	-9	-9.00	-9.00	-9	-9	-9.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	900	6/22/93	20.0	-9	-9	-7.00	-7.00	-9	-9	82.10
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	901	6/22/93	20.0	-9	-9	-7.00	-7.00	-9	-9	76.20
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	902	6/22/93	20.0	-9	-9	-7.00	-7.00	-9	-9	84.20
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	906	6/22/93	21.0	-9	-9	5.10	3.70	*	-9	20.90
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	907	6/22/93	21.0	-9	-9	16.00	6.30	*	-9	68.40
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	908	6/22/93	21.0	-9	-9	7.40	4.00	*	-9	15.30
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	912	6/22/93	22.0	-9	-9	-7.00	-7.00	-9	-9	44.60
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	913	6/22/93	22.0	-9	-9	-7.00	-7.00	-9	-9	71.30
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	914	6/22/93	22.0	-9	-9	-7.00	-7.00	-9	-9	95.80
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	915	6/22/93	23.0	-9	-9	40.10	21.40	*	-9	84.00

Strongylocentrotus purpuratus PERCENT FERTILIZATION IN PORE WATER, AND WATER QUALITY (mg/L)

STANUM	STATION	IDORG	DATE	LEG	METADATA	CTRL	SPPF100_MN	SPPF100_SD	SPPF100_SG	SPPF100TOX	SPPF50_MN
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	916	6/22/93	23.0	-9	-9	84.20	18.30	ns	-9	68.20
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	917	6/22/93	23.0	-9	-9	84.10	0.90	ns	-9	78.00
	CONTROL-CH2			32.0	toxmeta.wpd	-9	-9.00	-9.00	-9	-9	-9.00
	CONTROL-CH3			32.0	toxmeta.wpd	-9	-9.00	-9.00	-9	-9	-9.00
	CONTROL-CH1			32.0	toxmeta.wpd	-9	-9.00	-9.00	-9	-9	-9.00
10040.0	UNCONTAMINATED SITE-33D	1321	5/16/94	32.0	toxmeta.wpd	-9	-9.00	-9.00	-9	-9	-9.00
10031.0	MOUTH OF ESTERO AMERICANO	1322	5/16/94	32.0	toxmeta.wpd	-9	-9.00	-9.00	-9	-9	-9.00
	CONTROL-CH1			33.0	toxmeta.wpd	-9	-9.00	-9.00	-9	-9	-9.00
10006.0	BODEGA BAY-MASON'S MARINA REP1	1350	6/14/94	33.0	toxmeta.wpd	-9	-9.00	-9.00	-9	-9	-9.00
10006.0	BODEGA BAY-MASON'S MARINA REP2	1351	6/14/94	33.0	toxmeta.wpd	-9	-9.00	-9.00	-9	-9	-9.00
10006.0	BODEGA BAY-MASON'S MARINA REP3	1352	6/14/94	33.0	toxmeta.wpd	-9	-9.00	-9.00	-9	-9	-9.00
10007.0	BODEGA-SPUD POINT MARINA REP1	1353	6/13/94	33.0	toxmeta.wpd	-9	-9.00	-9.00	-9	-9	-9.00
10007.0	BODEGA-SPUD POINT MARINA REP2	1354	6/13/94	33.0	toxmeta.wpd	-9	-9.00	-9.00	-9	-9	-9.00
10007.0	BODEGA-SPUD POINT MARINA REP3	1355	6/13/94	33.0	toxmeta.wpd	-9	-9.00	-9.00	-9	-9	-9.00
10028.0	PORTO BODEGA MARINA REP1	1356	6/14/94	33.0	toxmeta.wpd	-9	-9.00	-9.00	-9	-9	-9.00
10028.0	PORTO BODEGA MARINA REP2	1357	6/14/94	33.0	toxmeta.wpd	-9	-9.00	-9.00	-9	-9	-9.00
10028.0	PORTO BODEGA MARINA REP3	1358	6/14/94	33.0	toxmeta.wpd	-9	-9.00	-9.00	-9	-9	-9.00
10040.0	UNCONTAMINATED SITE-33D REP1	1359	6/13/94	33.0	toxmeta.wpd	-9	-9.00	-9.00	-9	-9	-9.00
10040.0	UNCONTAMINATED SITE-33D REP2	1360	6/13/94	33.0	toxmeta.wpd	-9	-9.00	-9.00	-9	-9	-9.00
10040.0	UNCONTAMINATED SITE-33D REP3	1361	6/13/94	33.0	toxmeta.wpd	-9	-9.00	-9.00	-9	-9	-9.00
	CONTROL-CH1			42.0	toxmeta5	CH1	-9.00	-9.00	-9	-9	-9.00
14004.0	DAVENPORT MARINE	1578	4/17/96	42.0	toxmeta5	CH1	-9.00	-9.00	-9	-9	-9.00
10023.0	H. BAY EUREKA STORM 23	1579	4/17/96	42.0	toxmeta5	CH1	-9.00	-9.00	-9	-9	-9.00
10016.0	ARCATA BAY-JOLLY GIANT SL.	1580	4/18/96	42.0	toxmeta5	CH1	-9.00	-9.00	-9	-9	-9.00
10017.0	ARCATA BAY-EUREKA SL.	1581	4/17/96	42.0	toxmeta5	CH1	-9.00	-9.00	-9	-9	-9.00
10021.0	H. BAY-CHEVRON TERMINAL	1582	4/17/96	42.0	toxmeta5	CH1	-9.00	-9.00	-9	-9	-9.00
10019.0	H. BAY-COAL/OIL/GAS PLANT	1583	4/17/96	42.0	toxmeta5	CH1	-9.00	-9.00	-9	-9	-9.00
10018.0	H. BAY-UNION OIL PLANT	1584	4/17/96	42.0	toxmeta5	CH1	-9.00	-9.00	-9	-9	-9.00
15001.0	H. BAY- HALBERSON SHORELINE	1585	4/17/96	42.0	toxmeta5	CH1	-9.00	-9.00	-9	-9	-9.00
14002.0	EUREKA WATERFRONT- J STREET	1586	4/17/96	42.0	toxmeta5	CH1	-9.00	-9.00	-9	-9	-9.00
14001.0	EUREKA WATERFRONT- H STREET	1587	4/17/96	42.0	toxmeta5	CH1	-9.00	-9.00	-9	-9	-9.00
	CONTROL-C1			47.0	toxdata7.wpd	C1	-9.00	-9.00	-9	-9	-9.00
10006.0	BODEGA BAY - MASON'S MARINA	1682	12/6/96	47.0	toxdata7.wpd	C1	-9.00	-9.00	-9	-9	-9.00
10007.0	BODEGA - SPUD POINT MARINA	1683	12/5/96	47.0	toxdata7.wpd	C1	-9.00	-9.00	-9	-9	-9.00
10028.0	PORTO BODEGA MARINA	1684	12/6/96	47.0	toxdata7.wpd	C1	-9.00	-9.00	-9	-9	-9.00
10040.0	UNCONTAMINATED SITE	1685	12/6/96	47.0	toxdata7.wpd	C1	-9.00	-9.00	-9	-9	-9.00

Strongylocentrotus purpuratus PERCENT FERTILIZATION IN PORE WATER, AND WATER QUALITY (mg/L)

STANUM	STATION	IDORG	DATE	LEG	SPPF50_SD	SPPF50_SG	SPPF50_TOX	SPPF25_MN	SPPF25_SD	SPPF25_SG
10004.0	ARCATA BAY-MCDANIEL SL.	304	11/30/92	8.0	-9.00	-9	-9	-9.00	-9.00	-9
10015.0	ARCATA BAY-MAD RIVER SL.	315	11/30/92	8.0	-9.00	-9	-9	-9.00	-9.00	-9
10016.0	ARCATA BAY-JOLLY GIANT SL	316	11/30/92	8.0	-9.00	-9	-9	-9.00	-9.00	-9
10017.0	ARCATA BAY-EUREKA SL.	317	11/29/92	8.0	-9.00	-9	-9	-9.00	-9.00	-9
10018.0	H. BAY-UNION OIL PLANT	318	11/29/92	8.0	-9.00	-9	-9	-9.00	-9.00	-9
10019.0	H. BAY-COAL/OIL/GAS PLANT	319	11/29/92	8.0	-9.00	-9	-9	-9.00	-9.00	-9
10020.0	H. BAY-OLD PAC. LUMBER SITE	320	11/29/92	8.0	-9.00	-9	-9	-9.00	-9.00	-9
10021.0	H. BAY-CHEVRON TERMINAL	321	11/29/92	8.0	-9.00	-9	-9	-9.00	-9.00	-9
14001.0	EUREKA WATERFRONT H STREET	322	11/29/92	8.0	-9.00	-9	-9	-9.00	-9.00	-9
10023.0	H. BAY EUREKA STORM 23	323	11/29/92	8.0	-9.00	-9	-9	-9.00	-9.00	-9
10024.0	H. BAY FIELDS LANDING	324	11/29/92	8.0	-9.00	-9	-9	-9.00	-9.00	-9
10025.0	H. BAY HOOKTON SL.	325	11/29/92	8.0	-9.00	-9	-9	-9.00	-9.00	-9
10036.0	SOUTHPORT CHANNEL-33B	336	11/30/92	8.0	-9.00	-9	-9	-9.00	-9.00	-9
10037.0	H. BAY-MOUTH OF ELK RIVER	337	11/30/92	8.0	-9.00	-9	-9	-9.00	-9.00	-9
14004.0	DAVENPORT MARINE	338	11/30/92	8.0	-9.00	-9	-9	-9.00	-9.00	-9
10005.0	RUSSIAN RIVER MOUTH SMW 280.0	305	2/25/93	14.0	-9.00	-9	-9	-9.00	-9.00	-9
10006.0	BODEGA BAY-MASON'S MARINA	306	2/25/93	14.0	-9.00	-9	-9	-9.00	-9.00	-9
10007.0	BODEGA BAY-SPUD POINT MARINA	307	2/25/93	14.0	-9.00	-9	-9	-9.00	-9.00	-9
10028.0	BODEGA BAY PORTO BODEGA MARINA	328	2/25/93	14.0	-9.00	-9	-9	-9.00	-9.00	-9
10029.0	ESTERO AMERICANO-VALLEY FORD	329	2/25/93	14.0	-9.00	-9	-9	-9.00	-9.00	-9
10030.0	ESTERO DE SAN ANTONIO-VALLEY F	330	2/25/93	14.0	-9.00	-9	-9	-9.00	-9.00	-9
10031.0	MOUTH OF ESTERO AMERICANO	331	2/26/93	14.0	-9.00	-9	-9	-9.00	-9.00	-9
10032.0	MOUTH OF ESTERO DE SAN ANTONIO	332	2/26/93	14.0	-9.00	-9	-9	-9.00	-9.00	-9
10039.0	UNCONTAMINATED SITE-33C	339	2/25/93	14.0	-9.00	-9	-9	-9.00	-9.00	-9
10040.0	UNCONTAMINATED SITE-33D	340	2/26/93	14.0	-9.00	-9	-9	-9.00	-9.00	-9
10041.0	SALMON CREEK-34L	341	2/25/93	14.0	-9.00	-9	-9	-9.00	-9.00	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	900	6/22/93	20.0	5.60	ns	-9	85.60	12.80	ns
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	901	6/22/93	20.0	16.40	ns	-9	82.40	3.90	ns
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	902	6/22/93	20.0	13.40	ns	-9	77.80	6.30	ns
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	906	6/22/93	21.0	23.50	*	-9	70.60	13.60	ns
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	907	6/22/93	21.0	14.30	*	-9	37.70	32.20	ns
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	908	6/22/93	21.0	7.10	*	-9	80.10	6.10	ns
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	912	6/22/93	22.0	19.80	*	-9	70.70	20.50	ns
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	913	6/22/93	22.0	15.90	ns	-9	80.90	16.00	*
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	914	6/22/93	22.0	6.40	ns	-9	68.40	14.00	*
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	915	6/22/93	23.0	1.30	ns	-9	87.70	15.10	ns

Strongylocentrotus purpuratus PERCENT FERTILIZATION IN PORE WATER, AND WATER QUALITY (mg/L)

STANUM	STATION	IDORG	DATE	LEG	SPPF50_SD	SPPF50_SG	SPPF50_TOX	SPPF25_MN	SPPF25_SD	SPPF25_SG
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	916	6/22/93	23.0	54.00	ns	-9	93.70	2.10	*
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	917	6/22/93	23.0	38.10	ns	-9	97.80	3.00	ns
	CONTROL-CH2			32.0	-9.00	-9	-9	-9.00	-9.00	-9
	CONTROL-CH3			32.0	-9.00	-9	-9	-9.00	-9.00	-9
	CONTROL-CH1			32.0	-9.00	-9	-9	-9.00	-9.00	-9
10040.0	UNCONTAMINATED SITE-33D	1321	5/16/94	32.0	-9.00	-9	-9	-9.00	-9.00	-9
10031.0	MOUTH OF ESTERO AMERICANO	1322	5/16/94	32.0	-9.00	-9	-9	-9.00	-9.00	-9
	CONTROL-CH1			33.0	-9.00	-9	-9	-9.00	-9.00	-9
10006.0	BODEGA BAY-MASON'S MARINA REP1	1350	6/14/94	33.0	-9.00	-9	-9	-9.00	-9.00	-9
10006.0	BODEGA BAY-MASON'S MARINA REP2	1351	6/14/94	33.0	-9.00	-9	-9	-9.00	-9.00	-9
10006.0	BODEGA BAY-MASON'S MARINA REP3	1352	6/14/94	33.0	-9.00	-9	-9	-9.00	-9.00	-9
10007.0	BODEGA-SPUD POINT MARINA REP1	1353	6/13/94	33.0	-9.00	-9	-9	-9.00	-9.00	-9
10007.0	BODEGA-SPUD POINT MARINA REP2	1354	6/13/94	33.0	-9.00	-9	-9	-9.00	-9.00	-9
10007.0	BODEGA-SPUD POINT MARINA REP3	1355	6/13/94	33.0	-9.00	-9	-9	-9.00	-9.00	-9
10028.0	PORTO BODEGA MARINA REP1	1356	6/14/94	33.0	-9.00	-9	-9	-9.00	-9.00	-9
10028.0	PORTO BODEGA MARINA REP2	1357	6/14/94	33.0	-9.00	-9	-9	-9.00	-9.00	-9
10028.0	PORTO BODEGA MARINA REP3	1358	6/14/94	33.0	-9.00	-9	-9	-9.00	-9.00	-9
10040.0	UNCONTAMINATED SITE-33D REP1	1359	6/13/94	33.0	-9.00	-9	-9	-9.00	-9.00	-9
10040.0	UNCONTAMINATED SITE-33D REP2	1360	6/13/94	33.0	-9.00	-9	-9	-9.00	-9.00	-9
10040.0	UNCONTAMINATED SITE-33D REP3	1361	6/13/94	33.0	-9.00	-9	-9	-9.00	-9.00	-9
	CONTROL-CH1			42.0	-9.00	-9	-9	-9.00	-9.00	-9
14004.0	DAVENPORT MARINE	1578	4/17/96	42.0	-9.00	-9	-9	-9.00	-9.00	-9
10023.0	H. BAY EUREKA STORM 23	1579	4/17/96	42.0	-9.00	-9	-9	-9.00	-9.00	-9
10016.0	ARCATA BAY-JOLLY GIANT SL.	1580	4/18/96	42.0	-9.00	-9	-9	-9.00	-9.00	-9
10017.0	ARCATA BAY-EUREKA SL.	1581	4/17/96	42.0	-9.00	-9	-9	-9.00	-9.00	-9
10021.0	H. BAY-CHEVRON TERMINAL	1582	4/17/96	42.0	-9.00	-9	-9	-9.00	-9.00	-9
10019.0	H. BAY-COAL/OIL/GAS PLANT	1583	4/17/96	42.0	-9.00	-9	-9	-9.00	-9.00	-9
10018.0	H. BAY-UNION OIL PLANT	1584	4/17/96	42.0	-9.00	-9	-9	-9.00	-9.00	-9
15001.0	H. BAY- HALBERSON SHORELINE	1585	4/17/96	42.0	-9.00	-9	-9	-9.00	-9.00	-9
14002.0	EUREKA WATERFRONT- J STREET	1586	4/17/96	42.0	-9.00	-9	-9	-9.00	-9.00	-9
14001.0	EUREKA WATERFRONT- H STREET	1587	4/17/96	42.0	-9.00	-9	-9	-9.00	-9.00	-9
	CONTROL-C1			47.0	-9.00	-9	-9	-9.00	-9.00	-9
10006.0	BODEGA BAY - MASON'S MARINA	1682	12/6/96	47.0	-9.00	-9	-9	-9.00	-9.00	-9
10007.0	BODEGA - SPUD POINT MARINA	1683	12/5/96	47.0	-9.00	-9	-9	-9.00	-9.00	-9
10028.0	PORTO BODEGA MARINA	1684	12/6/96	47.0	-9.00	-9	-9	-9.00	-9.00	-9
10040.0	UNCONTAMINATED SITE	1685	12/6/96	47.0	-9.00	-9	-9	-9.00	-9.00	-9

Strongylocentrotus purpuratus PERCENT FERTILIZATION IN PORE WATER, AND WATER QUALITY (mg/L)

STANUM	STATION	IDORG	DATE	LEG	SPPF25_TOX	SPPF_ITNH3	SPPF_IUNH3	SPPF_IH2S	SPPF_BATCH	SPPFQC
10004.0	ARCATA BAY-MCDANIEL SL.	304	11/30/92	8.0	-9	-9.000	0.021	-8.0000	-9	-9
10015.0	ARCATA BAY-MAD RIVER SL.	315	11/30/92	8.0	-9	-9.000	0.053	-8.0000	-9	-9
10016.0	ARCATA BAY-JOLLY GIANT SL	316	11/30/92	8.0	-9	-9.000	0.041	-8.0000	-9	-9
10017.0	ARCATA BAY-EUREKA SL.	317	11/29/92	8.0	-9	-9.000	0.013	-8.0000	-9	-9
10018.0	H. BAY-UNION OIL PLANT	318	11/29/92	8.0	-9	-9.000	0.031	-8.0000	-9	-9
10019.0	H. BAY-COAL/OIL/GAS PLANT	319	11/29/92	8.0	-9	-9.000	0.022	-8.0000	-9	-9
10020.0	H. BAY-OLD PAC. LUMBER SITE	320	11/29/92	8.0	-9	-9.000	0.049	-8.0000	-9	-9
10021.0	H. BAY-CHEVRON TERMINAL	321	11/29/92	8.0	-9	-9.000	0.029	-8.0000	-9	-9
14001.0	EUREKA WATERFRONT H STREET	322	11/29/92	8.0	-9	-9.000	0.012	-8.0000	-9	-9
10023.0	H. BAY EUREKA STORM 23	323	11/29/92	8.0	-9	-9.000	0.054	-8.0000	-9	-9
10024.0	H. BAY FIELDS LANDING	324	11/29/92	8.0	-9	-9.000	0.035	-8.0000	-9	-9
10025.0	H. BAY HOOKTON SL.	325	11/29/92	8.0	-9	-9.000	0.021	-8.0000	-9	-9
10036.0	SOUTHPORT CHANNEL-33B	336	11/30/92	8.0	-9	-9.000	0.039	-8.0000	-9	-9
10037.0	H. BAY-MOUTH OF ELK RIVER	337	11/30/92	8.0	-9	-9.000	0.045	-8.0000	-9	-9
14004.0	DAVENPORT MARINE	338	11/30/92	8.0	-9	-9.000	0.059	-8.0000	-9	-9
10005.0	RUSSIAN RIVER MOUTH SMW 280.0	305	2/25/93	14.0	-9	-9.000	-9.000	-9.0000	-9	-9
10006.0	BODEGA BAY-MASON'S MARINA	306	2/25/93	14.0	-9	-9.000	0.105	-9.0000	-9	-9
10007.0	BODEGA BAY-SPUD POINT MARINA	307	2/25/93	14.0	-9	-9.000	0.038	-9.0000	-9	-9
10028.0	BODEGA BAY PORTO BODEGA MARINA	328	2/25/93	14.0	-9	-9.000	0.081	-9.0000	-9	-9
10029.0	ESTERO AMERICANO-VALLEY FORD	329	2/25/93	14.0	-9	-9.000	-9.000	-9.0000	-9	-9
10030.0	ESTERO DE SAN ANTONIO-VALLEY F	330	2/25/93	14.0	-9	-9.000	-9.000	-9.0000	-9	-9
10031.0	MOUTH OF ESTERO AMERICANO	331	2/26/93	14.0	-9	-9.000	0.016	-9.0000	-9	-9
10032.0	MOUTH OF ESTERO DE SAN ANTONIO	332	2/26/93	14.0	-9	-9.000	-9.000	-9.0000	-9	-9
10039.0	UNCONTAMINATED SITE-33C	339	2/25/93	14.0	-9	-9.000	-9.000	-9.0000	-9	-9
10040.0	UNCONTAMINATED SITE-33D	340	2/26/93	14.0	-9	-9.000	-9.000	-9.0000	-9	-9
10041.0	SALMON CREEK-34L	341	2/25/93	14.0	-9	-9.000	-9.000	-9.0000	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	900	6/22/93	20.0	-9	-9.000	0.013	-8.0000	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	901	6/22/93	20.0	-9	-9.000	0.012	-8.0000	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	902	6/22/93	20.0	-9	-9.000	0.009	-8.0000	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	906	6/22/93	21.0	-9	-9.000	0.018	-8.0000	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	907	6/22/93	21.0	-9	-9.000	0.023	-8.0000	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	908	6/22/93	21.0	-9	-9.000	0.023	-8.0000	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	912	6/22/93	22.0	-9	-9.000	0.010	0.0013	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	913	6/22/93	22.0	-9	-9.000	0.013	-8.0000	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	914	6/22/93	22.0	-9	-9.000	0.011	-8.0000	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	915	6/22/93	23.0	-9	-9.000	0.056	-8.0000	-9	-9

Strongylocentrotus purpuratus PERCENT FERTILIZATION IN PORE WATER, AND WATER QUALITY (mg/L)

STANUM	STATION	IDORG	DATE	LEG	SPPF25_TOX	SPPF_ITNH3	SPPF_IUNH3	SPPF_IH2S	SPPF_BATCH	SPPFQC
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	916	6/22/93	23.0	-9	-9.000	0.058	-8.0000	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	917	6/22/93	23.0	-9	-9.000	0.050	-8.0000	-9	-9
	CONTROL-CH2			32.0	-9	-9.000	-9.000	-9.0000	-9	-9
	CONTROL-CH3			32.0	-9	-9.000	-9.000	-9.0000	-9	-9
	CONTROL-CH1			32.0	-9	-9.000	-9.000	-9.0000	-9	-9
10040.0	UNCONTAMINATED SITE-33D	1321	5/16/94	32.0	-9	-9.000	-9.000	-9.0000	-9	-9
10031.0	MOUTH OF ESTERO AMERICANO	1322	5/16/94	32.0	-9	-9.000	-9.000	-9.0000	-9	-9
	CONTROL-CH1			33.0	-9	-9.000	-9.000	-9.0000	-9	-9
10006.0	BODEGA BAY-MASON'S MARINA REP1	1350	6/14/94	33.0	-9	-9.000	-9.000	-9.0000	-9	-9
10006.0	BODEGA BAY-MASON'S MARINA REP2	1351	6/14/94	33.0	-9	-9.000	-9.000	-9.0000	-9	-9
10006.0	BODEGA BAY-MASON'S MARINA REP3	1352	6/14/94	33.0	-9	-9.000	-9.000	-9.0000	-9	-9
10007.0	BODEGA-SPUD POINT MARINA REP1	1353	6/13/94	33.0	-9	-9.000	-9.000	-9.0000	-9	-9
10007.0	BODEGA-SPUD POINT MARINA REP2	1354	6/13/94	33.0	-9	-9.000	-9.000	-9.0000	-9	-9
10007.0	BODEGA-SPUD POINT MARINA REP3	1355	6/13/94	33.0	-9	-9.000	-9.000	-9.0000	-9	-9
10028.0	PORTO BODEGA MARINA REP1	1356	6/14/94	33.0	-9	-9.000	-9.000	-9.0000	-9	-9
10028.0	PORTO BODEGA MARINA REP2	1357	6/14/94	33.0	-9	-9.000	-9.000	-9.0000	-9	-9
10028.0	PORTO BODEGA MARINA REP3	1358	6/14/94	33.0	-9	-9.000	-9.000	-9.0000	-9	-9
10040.0	UNCONTAMINATED SITE-33D REP1	1359	6/13/94	33.0	-9	-9.000	-9.000	-9.0000	-9	-9
10040.0	UNCONTAMINATED SITE-33D REP2	1360	6/13/94	33.0	-9	-9.000	-9.000	-9.0000	-9	-9
10040.0	UNCONTAMINATED SITE-33D REP3	1361	6/13/94	33.0	-9	-9.000	-9.000	-9.0000	-9	-9
	CONTROL-CH1			42.0	-9	-9.000	-9.000	-9.0000	-9	-9
14004.0	DAVENPORT MARINE	1578	4/17/96	42.0	-9	-9.000	-9.000	-9.0000	-9	-9
10023.0	H. BAY EUREKA STORM 23	1579	4/17/96	42.0	-9	-9.000	-9.000	-9.0000	-9	-9
10016.0	ARCATA BAY-JOLLY GIANT SL.	1580	4/18/96	42.0	-9	-9.000	-9.000	-9.0000	-9	-9
10017.0	ARCATA BAY-EUREKA SL.	1581	4/17/96	42.0	-9	-9.000	-9.000	-9.0000	-9	-9
10021.0	H. BAY-CHEVRON TERMINAL	1582	4/17/96	42.0	-9	-9.000	-9.000	-9.0000	-9	-9
10019.0	H. BAY-COAL/OIL/GAS PLANT	1583	4/17/96	42.0	-9	-9.000	-9.000	-9.0000	-9	-9
10018.0	H. BAY-UNION OIL PLANT	1584	4/17/96	42.0	-9	-9.000	-9.000	-9.0000	-9	-9
15001.0	H. BAY- HALBERSON SHORELINE	1585	4/17/96	42.0	-9	-9.000	-9.000	-9.0000	-9	-9
14002.0	EUREKA WATERFRONT- J STREET	1586	4/17/96	42.0	-9	-9.000	-9.000	-9.0000	-9	-9
14001.0	EUREKA WATERFRONT- H STREET	1587	4/17/96	42.0	-9	-9.000	-9.000	-9.0000	-9	-9
	CONTROL-C1			47.0	-9	-9.000	-9.000	-9.0000	-9	-9
10006.0	BODEGA BAY - MASON'S MARINA	1682	12/6/96	47.0	-9	-9.000	-9.000	-9.0000	-9	-9
10007.0	BODEGA - SPUD POINT MARINA	1683	12/5/96	47.0	-9	-9.000	-9.000	-9.0000	-9	-9
10028.0	PORTO BODEGA MARINA	1684	12/6/96	47.0	-9	-9.000	-9.000	-9.0000	-9	-9
10040.0	UNCONTAMINATED SITE	1685	12/6/96	47.0	-9	-9.000	-9.000	-9.0000	-9	-9

SECTION V

Strongylocentrotus purpuratus Development in Pore Water

Strongylocentrotus purpuratus PERCENT NORMAL DEVELOPMENT IN PORE WATER, AND WATER QUALITY (mg/L)

STANUM	STATION	IDORG	DATE	LEG	METADATA	CTRL	SPPD100_MN	SPPD100_SD	SPPD100_SG	SPPD100TOX	SPPD50_MN
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	900	6/22/93	20.0	-9	-9	95.20	1.10	*	NT	87.60
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	901	6/22/93	20.0	-9	-9	98.70	0.60	ns	NT	93.70
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	902	6/22/93	20.0	-9	-9	95.70	2.10	ns	NT	93.40
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	906	6/22/93	21.0	-9	-9	32.70	56.60	ns	NT	63.70
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	907	6/22/93	21.0	-9	-9	31.10	53.80	ns	NT	94.70
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	908	6/22/93	21.0	-9	-9	63.10	54.70	ns	NT	63.40
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	912	6/22/93	22.0	-9	-9	94.00	2.00	ns	NT	92.10
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	913	6/22/93	22.0	-9	-9	88.00	6.10	*	NT	95.00
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	914	6/22/93	22.0	-9	-9	85.00	3.90	ns	-9	91.50
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	915	6/22/93	23.0	-9	-9	94.90	1.20	*	NT	91.90
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	916	6/22/93	23.0	-9	-9	94.00	1.10	ns	NT	92.40
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	917	6/22/93	23.0	-9	-9	94.60	1.30	ns	NT	96.70

Strongylocentrotus purpuratus PERCENT NORMAL DEVELOPMENT IN PORE WATER, AND WATER QUALITY (mg/L)

STANUM	STATION	IDORG	DATE	LEG	SPPD50_SD	SPPD50_SG	SPPD50_TOX	SPPD25_MN	SPPD25_SD	SPPD25_SG
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	900	6/22/93	20.0	4.40	ns	NT	94.60	2.70	ns
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	901	6/22/93	20.0	3.50	ns	NT	91.30	8.30	ns
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	902	6/22/93	20.0	2.00	ns	NT	80.10	24.30	ns
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	906	6/22/93	21.0	55.20	ns	NT	63.10	54.70	ns
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	907	6/22/93	21.0	5.90	ns	NT	96.70	1.20	ns
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	908	6/22/93	21.0	54.90	ns	NT	61.50	51.60	ns
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	912	6/22/93	22.0	3.40	ns	NT	94.40	2.10	ns
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	913	6/22/93	22.0	2.80	ns	NT	94.70	3.80	ns
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	914	6/22/93	22.0	6.80	ns	-9	90.70	4.20	ns
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	915	6/22/93	23.0	4.00	ns	NT	94.00	1.80	ns
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	916	6/22/93	23.0	4.90	ns	NT	94.30	4.00	ns
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	917	6/22/93	23.0	1.70	ns	NT	96.90	2.90	ns

Strongylocentrotus purpuratus PERCENT NORMAL DEVELOPMENT IN PORE WATER, AND WATER QUALITY (mg/L)

STANUM	STATION	IDORG	DATE	LEG	SPPD25_TOX	SPPD_BATCH	SPPDQC	SPPD_ITNH3	SPPD_IUNH3	SPPD_IH2S
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	900	6/22/93	20.0	NT	-9	-9	-9.000	0.013	-8.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	901	6/22/93	20.0	NT	-9	-9	-9.000	0.012	-8.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	902	6/22/93	20.0	NT	-9	-9	-9.000	0.009	-8.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	906	6/22/93	21.0	NT	-9	-9	-9.000	0.029	-8.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	907	6/22/93	21.0	NT	-9	-9	-9.000	0.025	-8.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	908	6/22/93	21.0	NT	-9	-9	-9.000	0.024	-8.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	912	6/22/93	22.0	NT	-9	-9	-9.000	0.011	0.0013
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	913	6/22/93	22.0	NT	-9	-9	-9.000	0.011	-8.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	914	6/22/93	22.0	-9	-9	-9	-9.000	0.009	-8.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	915	6/22/93	23.0	NT	-9	-9	-9.000	0.008	-8.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	916	6/22/93	23.0	NT	-9	-9	-9.000	0.008	-8.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	917	6/22/93	23.0	NT	-9	-9	-9.000	0.010	-8.0000

SECTION VI

Strongylocentrotus purpuratus Development in Sediment/Water Interface

Strongylocentrotus purpuratus PERCENT NORMAL DEVELOPMENT IN SEDIMENT/WATER INTERFACE, AND WATER QUALITY (mg/L)

STANUM	STATION	IDORG	DATE	LEG	METADATA	CTRL	SPDI_MN	SPDI_SD	SPDI_SG	SPDI_TOX	SPDI_BATCH	SPDIQC
10006.0	BODEGA BAY - MASON'S MARINA	1682	12/6/96	47.0	toxdata7.wpd	C1	96.00	5.00	ns	NT	147tspdswi	-3
10007.0	BODEGA - SPUD POINT MARINA	1683	12/5/96	47.0	toxdata7.wpd	C1	41.00	46.00	*	T	147tspdswi	-4
10028.0	PORTO BODEGA MARINA	1684	12/6/96	47.0	toxdata7.wpd	C1	80.00	32.00	ns	NT	147tspdswi	-4
10040.0	UNCONTAMINATED SITE	1685	12/6/96	47.0	toxdata7.wpd	C1	98.00	2.00	ns	NT	147tspdswi	-3
	CONTROL			47.0	toxdata7.wpd	C1	97.00	1.00	-9	-9	147tspdswi	-3

Strongylocentrotus purpuratus PERCENT NORMAL DEVELOPMENT IN SEDIMENT/WATER INTERFACE, AND WATER QUALITY (mg/L)

STANUM	STATION	IDORG	DATE	LEG	SPDI_OTNH3	SPDI_OUNH3	SPDI_OH2S
10006.0	BODEGA BAY - MASON'S MARINA	1682	12/6/96	47.0	1.800	0.016	0.0156
10007.0	BODEGA - SPUD POINT MARINA	1683	12/5/96	47.0	7.300	0.052	0.0102
10028.0	PORTO BODEGA MARINA	1684	12/6/96	47.0	1.500	0.015	0.0225
10040.0	UNCONTAMINATED SITE	1685	12/6/96	47.0	1.000	0.010	0.0028
	CONTROL			47.0	-8.000	-8.000	0.0010

SECTION VII

Mytilus spp. Larval Development in Subsurface Water

Mytilus spp. PERCENT NORMAL LARVAL SHELL DEVELOPMENT IN SUBSURFACE WATER, AND WATER QUALITY (mg/L)

STANUM	STATION	IDORG	DATE	LEG	METADATA	CTRL	MES100_MN	MES100_SD	MES100_SG	MES100_TOX	MES_OUNH3
10005.0	RUSSIAN RIVER MOUTH SMW 280.0	305	2/25/93	14.0	-9	-9	69.20	6.00	ns	NT	0.007
10029.0	ESTERO AMERICANO-VALLEY FORD	329	2/25/93	14.0	-9	-9	69.40	9.20	ns	NT	0.017
10030.0	ESTERO DE SAN ANTONIO-VALLEY F	330	2/25/93	14.0	-9	-9	63.50	6.70	*	NT	0.015
10032.0	MOUTH OF ESTERO DE SAN ANTONIO	332	2/26/93	14.0	-9	-9	69.50	5.80	ns	NT	0.016
10039.0	UNCONTAMINATED SITE-33C	339	2/25/93	14.0	-9	-9	68.20	8.00	ns	NT	-8.000
10040.0	UNCONTAMINATED SITE-33D	340	2/26/93	14.0	-9	-9	76.70	7.90	ns	NT	0.008
10041.0	SALMON CREEK-34L	341	2/25/93	14.0	-9	-9	62.90	6.30	*	NT	-8.000

Mytilus spp. PERCENT NORMAL LARVAL SHELL DEVELOPMENT IN SUBSURFACE WATER, AND WATER QUALITY (mg/L)

STANUM	STATION	IDORG	DATE	LEG	MES_OTNH3	MES_OH2S	MES_BATCH	MESQC
10005.0	RUSSIAN RIVER MOUTH SMW 280.0	305	2/25/93	14.0	-9.000	-9.0000	-9	-9
10029.0	ESTERO AMERICANO-VALLEY FORD	329	2/25/93	14.0	-9.000	-9.0000	-9	-9
10030.0	ESTERO DE SAN ANTONIO-VALLEY F	330	2/25/93	14.0	-9.000	-9.0000	-9	-9
10032.0	MOUTH OF ESTERO DE SAN ANTONIO	332	2/26/93	14.0	-9.000	-9.0000	-9	-9
10039.0	UNCONTAMINATED SITE-33C	339	2/25/93	14.0	-9.000	-9.0000	-9	-9
10040.0	UNCONTAMINATED SITE-33D	340	2/26/93	14.0	-9.000	-9.0000	-9	-9
10041.0	SALMON CREEK-34L	341	2/25/93	14.0	-9.000	-9.0000	-9	-9

SECTION VIII

Mytilus spp. Larval Development in Pore Water

Mytilus spp. PERCENT NORMAL LARVAL SHELL DEVELOPMENT IN PORE WATER, AND WATER QUALITY (mg/L)

STANUM	STATION	IDORG	DATE	LEG	METADATA	CTRL	MEP100_MN	MEP100_SD	MEP100_SG	MEP100_TOX	MEP_ITNH3	MEP_IUNH3
10005.0	RUSSIAN RIVER MOUTH SMW 280.0	305	2/25/93	14.0	-9	-9	57.70	6.30	*	NT	-9.000	0.009
10029.0	ESTERO AMERICANO-VALLEY FORD	329	2/25/93	14.0	-9	-9	0.30	0.60	*	T	-9.000	0.634
10030.0	ESTERO DE SAN ANTONIO-VALLEY F	330	2/25/93	14.0	-9	-9	4.70	1.90	*	T	-9.000	0.208
10032.0	MOUTH OF ESTERO DE SAN ANTONIO	332	2/26/93	14.0	-9	-9	0.30	0.60	*	T	-9.000	0.068
10039.0	UNCONTAMINATED SITE-33C	339	2/25/93	14.0	-9	-9	16.70	5.00	*	T	-9.000	0.705
10040.0	UNCONTAMINATED SITE-33D	340	2/26/93	14.0	-9	-9	27.20	13.10	*	T	-9.000	0.079
10041.0	SALMON CREEK-34L	341	2/25/93	14.0	-9	-9	7.80	5.30	*	T	-9.000	0.046

Mytilus spp. PERCENT NORMAL LARVAL SHELL DEVELOPMENT IN PORE WATER, AND WATER QUALITY (mg/L)

STANUM	STATION	IDORG	DATE	LEG	MEP_IH2S	MEP_BATCH	MEPQC
10005.0	RUSSIAN RIVER MOUTH SMW 280.0	305	2/25/93	14.0	-8.0000	-9	-9
10029.0	ESTERO AMERICANO-VALLEY FORD	329	2/25/93	14.0	-8.0000	-9	-9
10030.0	ESTERO DE SAN ANTONIO-VALLEY F	330	2/25/93	14.0	-8.0000	-9	-9
10032.0	MOUTH OF ESTERO DE SAN ANTONIO	332	2/26/93	14.0	-8.0000	-9	-9
10039.0	UNCONTAMINATED SITE-33C	339	2/25/93	14.0	-8.0000	-9	-9
10040.0	UNCONTAMINATED SITE-33D	340	2/26/93	14.0	-8.0000	-9	-9
10041.0	SALMON CREEK-34L	341	2/25/93	14.0	-8.0000	-9	-9

SECTION IX

Neanthes arenaceodentata Solid Phase Survival and Growth Weight Change

Neanthes arenaceodentata PERCENT SURVIVAL AND WEIGHT CHANGE (mg) FOR SOLID PHASE TEST, AND WATER QUALITY (mg/L)

STANUM	STATION	IDORG	DATE	LEG	METADATA	CTRL	NASURV_MN	NASURV_SD	NASURV_SG	NASURV_TOX
10004.0	ARCATA BAY-MCDANIEL SL.	304	11/30/92	8.0	-9	-9	100.00	0.00	ns	NT
10015.0	ARCATA BAY-MAD RIVER SL.	315	11/30/92	8.0	-9	-9	96.00	9.00	ns	NT
10016.0	ARCATA BAY-JOLLY GIANT SL	316	11/30/92	8.0	-9	-9	100.00	0.00	ns	NT
10017.0	ARCATA BAY-EUREKA SL.	317	11/29/92	8.0	-9	-9	96.00	9.00	ns	NT
10018.0	H. BAY-UNION OIL PLANT	318	11/29/92	8.0	-9	-9	96.00	9.00	ns	NT
10019.0	H. BAY-COAL/OIL/GAS PLANT	319	11/29/92	8.0	-9	-9	88.00	27.00	ns	NT
10020.0	H. BAY-OLD PAC. LUMBER SITE	320	11/29/92	8.0	-9	-9	92.00	18.00	ns	NT
10021.0	H. BAY-CHEVRON TERMINAL	321	11/29/92	8.0	-9	-9	88.00	27.00	ns	NT
14001.0	EUREKA WATERFRONT H STREET	322	11/29/92	8.0	-9	-9	96.00	9.00	ns	NT
10023.0	H. BAY EUREKA STORM 23	323	11/29/92	8.0	-9	-9	100.00	0.00	ns	NT
10024.0	H. BAY FIELDS LANDING	324	11/29/92	8.0	-9	-9	68.00	46.00	ns	NT
10025.0	H. BAY HOOKTON SL.	325	11/29/92	8.0	-9	-9	96.00	9.00	ns	NT
10036.0	SOUTHPORT CHANNEL-33B	336	11/30/92	8.0	-9	-9	76.00	43.00	ns	NT
10037.0	H. BAY-MOUTH OF ELK RIVER	337	11/30/92	8.0	-9	-9	92.00	11.00	ns	NT
14004.0	DAVENPORT MARINE	338	11/30/92	8.0	-9	-9	98.00	9.00	ns	NT
10005.0	RUSSIAN RIVER MOUTH SMW 280.0	305	2/25/93	14.0	-9	-9	-9.00	-9.00	-9	-9
10006.0	BODEGA BAY-MASON'S MARINA	306	2/25/93	14.0	-9	-9	-9.00	-9.00	-9	-9
10007.0	BODEGA BAY-SPUD POINT MARINA	307	2/25/93	14.0	-9	-9	-9.00	-9.00	-9	-9
10028.0	BODEGA BAY PORTO BODEGA MARINA	328	2/25/93	14.0	-9	-9	-9.00	-9.00	-9	-9
10029.0	ESTERO AMERICANO-VALLEY FORD	329	2/25/93	14.0	-9	-9	-9.00	-9.00	-9	-9
10030.0	ESTERO DE SAN ANTONIO-VALLEY F	330	2/25/93	14.0	-9	-9	-9.00	-9.00	-9	-9
10031.0	MOUTH OF ESTERO AMERICANO	331	2/26/93	14.0	-9	-9	-9.00	-9.00	-9	-9
10032.0	MOUTH OF ESTERO DE SAN ANTONIO	332	2/26/93	14.0	-9	-9	-9.00	-9.00	-9	-9
10039.0	UNCONTAMINATED SITE-33C	339	2/25/93	14.0	-9	-9	-9.00	-9.00	-9	-9
10040.0	UNCONTAMINATED SITE-33D	340	2/26/93	14.0	-9	-9	-9.00	-9.00	-9	-9
10041.0	SALMON CREEK-34L	341	2/25/93	14.0	-9	-9	-9.00	-9.00	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	900	6/22/93	20.0	-9	-9	-9.00	-9.00	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	901	6/22/93	20.0	-9	-9	-9.00	-9.00	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	902	6/22/93	20.0	-9	-9	-9.00	-9.00	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	906	6/22/93	21.0	-9	-9	80.00	24.50	ns	NT
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	907	6/22/93	21.0	-9	-9	88.00	11.00	ns	NT
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	908	6/22/93	21.0	-9	-9	88.00	17.90	ns	NT
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	912	6/22/93	22.0	-9	-9	-9.00	-9.00	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	913	6/22/93	22.0	-9	-9	-9.00	-9.00	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	914	6/22/93	22.0	-9	-9	-9.00	-9.00	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	915	6/22/93	23.0	-9	-9	96.00	8.90	ns	NT

Neanthes arenaceodentata PERCENT SURVIVAL AND WEIGHT CHANGE (mg) FOR SOLID PHASE TEST, AND WATER QUALITY (mg/L)

STANUM	STATION	IDORG	DATE	LEG	METADATA	CTRL	NASURV_MN	NASURV_SD	NASURV_SG	NASURV_TOX
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	916	6/22/93	23.0	-9	-9	92.00	17.90	ns	NT
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	917	6/22/93	23.0	-9	-9	100.00	0.00	ns	NT
	CONTROL-CH2			32.0	toxmeta.wpd	-9	-9.00	-9.00	-9	-9
	CONTROL-CH3			32.0	toxmeta.wpd	-9	-9.00	-9.00	-9	-9
	CONTROL-CH1			32.0	toxmeta.wpd	-9	96.00	9.00	-9	-9
10040.0	UNCONTAMINATED SITE-33D	1321	5/16/94	32.0	toxmeta.wpd	-9	92.00	17.89	ns	NT
10031.0	MOUTH OF ESTERO AMERICANO	1322	5/16/94	32.0	toxmeta.wpd	-9	100.00	0.00	ns	NT
	CONTROL-CH1			33.0	toxmeta.wpd	-9	100.00	0.00	-9	-9
10006.0	BODEGA BAY-MASON'S MARINA REP1	1350	6/14/94	33.0	toxmeta.wpd	-9	96.00	8.94	ns	NT
10006.0	BODEGA BAY-MASON'S MARINA REP2	1351	6/14/94	33.0	toxmeta.wpd	-9	100.00	0.00	ns	NT
10006.0	BODEGA BAY-MASON'S MARINA REP3	1352	6/14/94	33.0	toxmeta.wpd	-9	96.00	8.94	ns	NT
10007.0	BODEGA-SPUD POINT MARINA REP1	1353	6/13/94	33.0	toxmeta.wpd	-9	100.00	0.00	ns	NT
10007.0	BODEGA-SPUD POINT MARINA REP2	1354	6/13/94	33.0	toxmeta.wpd	-9	100.00	0.00	ns	NT
10007.0	BODEGA-SPUD POINT MARINA REP3	1355	6/13/94	33.0	toxmeta.wpd	-9	100.00	0.00	ns	NT
10028.0	PORTO BODEGA MARINA REP1	1356	6/14/94	33.0	toxmeta.wpd	-9	100.00	0.00	ns	NT
10028.0	PORTO BODEGA MARINA REP2	1357	6/14/94	33.0	toxmeta.wpd	-9	100.00	0.00	ns	NT
10028.0	PORTO BODEGA MARINA REP3	1358	6/14/94	33.0	toxmeta.wpd	-9	100.00	0.00	ns	NT
10040.0	UNCONTAMINATED SITE-33D REP1	1359	6/13/94	33.0	toxmeta.wpd	-9	100.00	0.00	ns	NT
10040.0	UNCONTAMINATED SITE-33D REP2	1360	6/13/94	33.0	toxmeta.wpd	-9	100.00	0.00	ns	NT
10040.0	UNCONTAMINATED SITE-33D REP3	1361	6/13/94	33.0	toxmeta.wpd	-9	100.00	0.00	ns	NT
	CONTROL-CH1			42.0	toxmeta5	CH1	-9.00	-9.00	-9	-9
14004.0	DAVENPORT MARINE	1578	4/17/96	42.0	toxmeta5	CH1	-9.00	-9.00	-9	-9
10023.0	H. BAY EUREKA STORM 23	1579	4/17/96	42.0	toxmeta5	CH1	-9.00	-9.00	-9	-9
10016.0	ARCATA BAY-JOLLY GIANT SL.	1580	4/18/96	42.0	toxmeta5	CH1	-9.00	-9.00	-9	-9
10017.0	ARCATA BAY-EUREKA SL.	1581	4/17/96	42.0	toxmeta5	CH1	-9.00	-9.00	-9	-9
10021.0	H. BAY-CHEVRON TERMINAL	1582	4/17/96	42.0	toxmeta5	CH1	-9.00	-9.00	-9	-9
10019.0	H. BAY-COAL/OIL/GAS PLANT	1583	4/17/96	42.0	toxmeta5	CH1	-9.00	-9.00	-9	-9
10018.0	H. BAY-UNION OIL PLANT	1584	4/17/96	42.0	toxmeta5	CH1	-9.00	-9.00	-9	-9
15001.0	H. BAY- HALBERSON SHORELINE	1585	4/17/96	42.0	toxmeta5	CH1	-9.00	-9.00	-9	-9
14002.0	EUREKA WATERFRONT- J STREET	1586	4/17/96	42.0	toxmeta5	CH1	-9.00	-9.00	-9	-9
14001.0	EUREKA WATERFRONT- H STREET	1587	4/17/96	42.0	toxmeta5	CH1	-9.00	-9.00	-9	-9
	CONTROL-C1			47.0	toxdata7.wpd	C1	-9.00	-9.00	-9	-9
10006.0	BODEGA BAY - MASON'S MARINA	1682	12/6/96	47.0	toxdata7.wpd	C1	-9.00	-9.00	-9	-9
10007.0	BODEGA - SPUD POINT MARINA	1683	12/5/96	47.0	toxdata7.wpd	C1	-9.00	-9.00	-9	-9
10028.0	PORTO BODEGA MARINA	1684	12/6/96	47.0	toxdata7.wpd	C1	-9.00	-9.00	-9	-9
10040.0	UNCONTAMINATED SITE	1685	12/6/96	47.0	toxdata7.wpd	C1	-9.00	-9.00	-9	-9

Neanthes arenaceodentata PERCENT SURVIVAL AND WEIGHT CHANGE (mg) FOR SOLID PHASE TEST, AND WATER QUALITY (mg/L)

STANUM	STATION	IDORG	DATE	LEG	NAWT_MN	NAWT_SD	NAWT_SG	NAWT_TOX	NA_OTNH3	NA_OUNH3	NA_OH2S
10004.0	ARCATA BAY-MCDANIEL SL.	304	11/30/92	8.0	9.70	0.90	ns	NT	-9.000	0.070	-9.0000
10015.0	ARCATA BAY-MAD RIVER SL.	315	11/30/92	8.0	8.90	1.50	ns	NT	-9.000	0.065	-9.0000
10016.0	ARCATA BAY-JOLLY GIANT SL	316	11/30/92	8.0	8.80	1.80	ns	NT	-9.000	0.063	-9.0000
10017.0	ARCATA BAY-EUREKA SL.	317	11/29/92	8.0	14.80	10.90	ns	NT	-9.000	0.039	-9.0000
10018.0	H. BAY-UNION OIL PLANT	318	11/29/92	8.0	9.80	0.70	ns	NT	-9.000	0.374	-9.0000
10019.0	H. BAY-COAL/OIL/GAS PLANT	319	11/29/92	8.0	7.60	3.20	ns	NT	-9.000	0.217	-9.0000
10020.0	H. BAY-OLD PAC. LUMBER SITE	320	11/29/92	8.0	10.00	1.40	ns	NT	-9.000	0.210	-9.0000
10021.0	H. BAY-CHEVRON TERMINAL	321	11/29/92	8.0	10.00	2.70	ns	NT	-9.000	0.205	-9.0000
14001.0	EUREKA WATERFRONT H STREET	322	11/29/92	8.0	8.70	2.70	ns	NT	-9.000	0.107	-9.0000
10023.0	H. BAY EUREKA STORM 23	323	11/29/92	8.0	7.80	2.80	ns	NT	-9.000	0.180	-9.0000
10024.0	H. BAY FIELDS LANDING	324	11/29/92	8.0	10.80	3.70	ns	NT	-9.000	0.211	-9.0000
10025.0	H. BAY HOOKTON SL.	325	11/29/92	8.0	10.60	2.10	ns	NT	-9.000	0.095	-9.0000
10036.0	SOUTHPORT CHANNEL-33B	336	11/30/92	8.0	10.40	3.20	ns	NT	-9.000	0.150	-9.0000
10037.0	H. BAY-MOUTH OF ELK RIVER	337	11/30/92	8.0	11.00	3.50	ns	NT	-9.000	0.137	-9.0000
14004.0	DAVENPORT MARINE	338	11/30/92	8.0	7.00	2.10	ns	NT	-9.000	0.220	-9.0000
10005.0	RUSSIAN RIVER MOUTH SMW 280.0	305	2/25/93	14.0	-9.00	-9.00	-9	-9	-9.000	-9.000	-9.0000
10006.0	BODEGA BAY-MASON'S MARINA	306	2/25/93	14.0	-9.00	-9.00	-9	-9	-9.000	-9.000	-9.0000
10007.0	BODEGA BAY-SPUD POINT MARINA	307	2/25/93	14.0	-9.00	-9.00	-9	-9	-9.000	-9.000	-9.0000
10028.0	BODEGA BAY PORTO BODEGA MARINA	328	2/25/93	14.0	-9.00	-9.00	-9	-9	-9.000	-9.000	-9.0000
10029.0	ESTERO AMERICANO-VALLEY FORD	329	2/25/93	14.0	-9.00	-9.00	-9	-9	-9.000	-9.000	-9.0000
10030.0	ESTERO DE SAN ANTONIO-VALLEY F	330	2/25/93	14.0	-9.00	-9.00	-9	-9	-9.000	-9.000	-9.0000
10031.0	MOUTH OF ESTERO AMERICANO	331	2/26/93	14.0	-9.00	-9.00	-9	-9	-9.000	-9.000	-9.0000
10032.0	MOUTH OF ESTERO DE SAN ANTONIO	332	2/26/93	14.0	-9.00	-9.00	-9	-9	-9.000	-9.000	-9.0000
10039.0	UNCONTAMINATED SITE-33C	339	2/25/93	14.0	-9.00	-9.00	-9	-9	-9.000	-9.000	-9.0000
10040.0	UNCONTAMINATED SITE-33D	340	2/26/93	14.0	-9.00	-9.00	-9	-9	-9.000	-9.000	-9.0000
10041.0	SALMON CREEK-34L	341	2/25/93	14.0	-9.00	-9.00	-9	-9	-9.000	-9.000	-9.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	900	6/22/93	20.0	-9.00	-9.00	-9	-9	-9.000	-9.000	-9.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	901	6/22/93	20.0	-9.00	-9.00	-9	-9	-9.000	-9.000	-9.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	902	6/22/93	20.0	-9.00	-9.00	-9	-9	-9.000	-9.000	-9.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	906	6/22/93	21.0	5.90	2.00	ns	NT	-9.000	0.209	-8.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	907	6/22/93	21.0	7.70	2.20	ns	NT	-9.000	0.219	-8.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	908	6/22/93	21.0	8.60	3.20	ns	NT	-9.000	0.204	-8.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	912	6/22/93	22.0	-9.00	-9.00	-9	-9	-9.000	-9.000	-9.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	913	6/22/93	22.0	-9.00	-9.00	-9	-9	-9.000	-9.000	-9.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	914	6/22/93	22.0	-9.00	-9.00	-9	-9	-9.000	-9.000	-9.0000
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	915	6/22/93	23.0	11.80	1.70	ns	NT	-9.000	0.725	0.0002

Neanthes arenaceodentata PERCENT SURVIVAL AND WEIGHT CHANGE (mg) FOR SOLID PHASE TEST, AND WATER QUALITY (mg/L)

STANUM	STATION	IDORG	DATE	LEG	NAWT_MN	NAWT_SD	NAWT_SG	NAWT_TOX	NA_OTNH3	NA_OUNH3	NA_OH2S
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	916	6/22/93	23.0	13.50	2.10	ns	NT	-9.000	0.822	0.0001
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	917	6/22/93	23.0	13.00	1.20	ns	NT	-9.000	0.545	0.0026
	CONTROL-CH2			32.0	-9.00	-9.00	-9	-9	-9.000	-9.000	-9.0000
	CONTROL-CH3			32.0	-9.00	-9.00	-9	-9	-9.000	-9.000	-9.0000
	CONTROL-CH1			32.0	10.99	3.94	-9	-9	9.500	0.189	-8.0000
10040.0	UNCONTAMINATED SITE-33D	1321	5/16/94	32.0	7.35	4.19	ns	NT	11.000	0.230	0.0020
10031.0	MOUTH OF ESTERO AMERICANO	1322	5/16/94	32.0	8.09	3.06	ns	NT	12.000	0.459	0.0047
	CONTROL-CH1			33.0	11.75	1.97	-9	-9	3.400	0.106	-8.0000
10006.0	BODEGA BAY-MASON'S MARINA REP1	1350	6/14/94	33.0	11.23	0.54	ns	NT	9.200	0.429	0.0042
10006.0	BODEGA BAY-MASON'S MARINA REP2	1351	6/14/94	33.0	9.58	2.18	ns	NT	9.700	0.562	0.0052
10006.0	BODEGA BAY-MASON'S MARINA REP3	1352	6/14/94	33.0	8.80	2.60	*	NT	4.600	0.278	0.0012
10007.0	BODEGA-SPUD POINT MARINA REP1	1353	6/13/94	33.0	11.86	3.44	ns	NT	8.800	0.519	0.0034
10007.0	BODEGA-SPUD POINT MARINA REP2	1354	6/13/94	33.0	10.08	2.17	ns	NT	12.000	0.468	0.0006
10007.0	BODEGA-SPUD POINT MARINA REP3	1355	6/13/94	33.0	10.90	1.61	ns	NT	11.000	0.665	0.0055
10028.0	PORTO BODEGA MARINA REP1	1356	6/14/94	33.0	8.29	2.02	*	NT	6.800	0.350	0.0081
10028.0	PORTO BODEGA MARINA REP2	1357	6/14/94	33.0	8.32	1.98	*	NT	6.100	0.364	0.0010
10028.0	PORTO BODEGA MARINA REP3	1358	6/14/94	33.0	8.62	1.43	*	NT	9.600	0.328	0.0029
10040.0	UNCONTAMINATED SITE-33D REP1	1359	6/13/94	33.0	9.62	3.17	ns	NT	11.000	0.411	0.0036
10040.0	UNCONTAMINATED SITE-33D REP2	1360	6/13/94	33.0	10.20	1.65	ns	NT	7.600	0.339	0.0008
10040.0	UNCONTAMINATED SITE-33D REP3	1361	6/13/94	33.0	9.23	2.65	ns	NT	12.000	0.462	0.0031
	CONTROL-CH1			42.0	-9.00	-9.00	-9	-9	-9.000	-9.000	-9.0000
14004.0	DAVENPORT MARINE	1578	4/17/96	42.0	-9.00	-9.00	-9	-9	-9.000	-9.000	-9.0000
10023.0	H. BAY EUREKA STORM 23	1579	4/17/96	42.0	-9.00	-9.00	-9	-9	-9.000	-9.000	-9.0000
10016.0	ARCATA BAY-JOLLY GIANT SL.	1580	4/18/96	42.0	-9.00	-9.00	-9	-9	-9.000	-9.000	-9.0000
10017.0	ARCATA BAY-EUREKA SL.	1581	4/17/96	42.0	-9.00	-9.00	-9	-9	-9.000	-9.000	-9.0000
10021.0	H. BAY-CHEVRON TERMINAL	1582	4/17/96	42.0	-9.00	-9.00	-9	-9	-9.000	-9.000	-9.0000
10019.0	H. BAY-COAL/OIL/GAS PLANT	1583	4/17/96	42.0	-9.00	-9.00	-9	-9	-9.000	-9.000	-9.0000
10018.0	H. BAY-UNION OIL PLANT	1584	4/17/96	42.0	-9.00	-9.00	-9	-9	-9.000	-9.000	-9.0000
15001.0	H. BAY- HALBERSON SHORELINE	1585	4/17/96	42.0	-9.00	-9.00	-9	-9	-9.000	-9.000	-9.0000
14002.0	EUREKA WATERFRONT- J STREET	1586	4/17/96	42.0	-9.00	-9.00	-9	-9	-9.000	-9.000	-9.0000
14001.0	EUREKA WATERFRONT- H STREET	1587	4/17/96	42.0	-9.00	-9.00	-9	-9	-9.000	-9.000	-9.0000
	CONTROL-C1			47.0	-9.00	-9.00	-9	-9	-9.000	-9.000	-9.0000
10006.0	BODEGA BAY - MASON'S MARINA	1682	12/6/96	47.0	-9.00	-9.00	-9	-9	-9.000	-9.000	-9.0000
10007.0	BODEGA - SPUD POINT MARINA	1683	12/5/96	47.0	-9.00	-9.00	-9	-9	-9.000	-9.000	-9.0000
10028.0	PORTO BODEGA MARINA	1684	12/6/96	47.0	-9.00	-9.00	-9	-9	-9.000	-9.000	-9.0000
10040.0	UNCONTAMINATED SITE	1685	12/6/96	47.0	-9.00	-9.00	-9	-9	-9.000	-9.000	-9.0000

Neanthes arenaceodentata PERCENT SURVIVAL AND WEIGHT CHANGE (mg) FOR SOLID PHASE TEST, AND WATER QUALITY (mg/L)

STANUM	STATION	IDORG	DATE	LEG	NA_ITNH3	NA_IUNH3	NA_IH2S	NA_BATCH	NAQC
10004.0	ARCATA BAY-MCDANIEL SL.	304	11/30/92	8.0	-9.000	-9.000	-9.0000	-9	-9
10015.0	ARCATA BAY-MAD RIVER SL.	315	11/30/92	8.0	-9.000	-9.000	-9.0000	-9	-9
10016.0	ARCATA BAY-JOLLY GIANT SL	316	11/30/92	8.0	-9.000	-9.000	-9.0000	-9	-9
10017.0	ARCATA BAY-EUREKA SL.	317	11/29/92	8.0	-9.000	-9.000	-9.0000	-9	-9
10018.0	H. BAY-UNION OIL PLANT	318	11/29/92	8.0	-9.000	-9.000	-9.0000	-9	-9
10019.0	H. BAY-COAL/OIL/GAS PLANT	319	11/29/92	8.0	-9.000	-9.000	-9.0000	-9	-9
10020.0	H. BAY-OLD PAC. LUMBER SITE	320	11/29/92	8.0	-9.000	-9.000	-9.0000	-9	-9
10021.0	H. BAY-CHEVRON TERMINAL	321	11/29/92	8.0	-9.000	-9.000	-9.0000	-9	-9
14001.0	EUREKA WATERFRONT H STREET	322	11/29/92	8.0	-9.000	-9.000	-9.0000	-9	-9
10023.0	H. BAY EUREKA STORM 23	323	11/29/92	8.0	-9.000	-9.000	-9.0000	-9	-9
10024.0	H. BAY FIELDS LANDING	324	11/29/92	8.0	-9.000	-9.000	-9.0000	-9	-9
10025.0	H. BAY HOOKTON SL.	325	11/29/92	8.0	-9.000	-9.000	-9.0000	-9	-9
10036.0	SOUTHPORT CHANNEL-33B	336	11/30/92	8.0	-9.000	-9.000	-9.0000	-9	-9
10037.0	H. BAY-MOUTH OF ELK RIVER	337	11/30/92	8.0	-9.000	-9.000	-9.0000	-9	-9
14004.0	DAVENPORT MARINE	338	11/30/92	8.0	-9.000	-9.000	-9.0000	-9	-9
10005.0	RUSSIAN RIVER MOUTH SMW 280.0	305	2/25/93	14.0	-9.000	-9.000	-9.0000	-9	-9
10006.0	BODEGA BAY-MASON'S MARINA	306	2/25/93	14.0	-9.000	-9.000	-9.0000	-9	-9
10007.0	BODEGA BAY-SPUD POINT MARINA	307	2/25/93	14.0	-9.000	-9.000	-9.0000	-9	-9
10028.0	BODEGA BAY PORTO BODEGA MARINA	328	2/25/93	14.0	-9.000	-9.000	-9.0000	-9	-9
10029.0	ESTERO AMERICANO-VALLEY FORD	329	2/25/93	14.0	-9.000	-9.000	-9.0000	-9	-9
10030.0	ESTERO DE SAN ANTONIO-VALLEY F	330	2/25/93	14.0	-9.000	-9.000	-9.0000	-9	-9
10031.0	MOUTH OF ESTERO AMERICANO	331	2/26/93	14.0	-9.000	-9.000	-9.0000	-9	-9
10032.0	MOUTH OF ESTERO DE SAN ANTONIO	332	2/26/93	14.0	-9.000	-9.000	-9.0000	-9	-9
10039.0	UNCONTAMINATED SITE-33C	339	2/25/93	14.0	-9.000	-9.000	-9.0000	-9	-9
10040.0	UNCONTAMINATED SITE-33D	340	2/26/93	14.0	-9.000	-9.000	-9.0000	-9	-9
10041.0	SALMON CREEK-34L	341	2/25/93	14.0	-9.000	-9.000	-9.0000	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	900	6/22/93	20.0	-9.000	-9.000	-9.0000	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	901	6/22/93	20.0	-9.000	-9.000	-9.0000	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	902	6/22/93	20.0	-9.000	-9.000	-9.0000	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	906	6/22/93	21.0	-9.000	-9.000	-9.0000	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	907	6/22/93	21.0	-9.000	-9.000	-9.0000	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	908	6/22/93	21.0	-9.000	-9.000	-9.0000	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	912	6/22/93	22.0	-9.000	-9.000	-9.0000	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	913	6/22/93	22.0	-9.000	-9.000	-9.0000	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	914	6/22/93	22.0	-9.000	-9.000	-9.0000	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 1	915	6/22/93	23.0	-9.000	-9.000	-9.0000	-9	-9

Neanthes arenaceodentata PERCENT SURVIVAL AND WEIGHT CHANGE (mg) FOR SOLID PHASE TEST, AND WATER QUALITY (mg/L)

STANUM	STATION	IDORG	DATE	LEG	NA_ITNH3	NA_IUNH3	NA_IH2S	NA_BATCH	NAQC
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 2	916	6/22/93	23.0	-9.000	-9.000	-9.0000	-9	-9
10037.0	MEGAMUD-HUMBOLDT(ELK)-REP 3	917	6/22/93	23.0	-9.000	-9.000	-9.0000	-9	-9
	CONTROL-CH2			32.0	-9.000	-9.000	-9.0000	-9	-9
	CONTROL-CH3			32.0	-9.000	-9.000	-9.0000	-9	-9
	CONTROL-CH1			32.0	-9.000	-9.000	-9.0000	-9	-9
10040.0	UNCONTAMINATED SITE-33D	1321	5/16/94	32.0	10.000	0.390	0.0235	-9	-9
10031.0	MOUTH OF ESTERO AMERICANO	1322	5/16/94	32.0	39.000	0.727	0.1108	-9	-9
	CONTROL-CH1			33.0	-9.000	-9.000	-9.0000	-9	-9
10006.0	BODEGA BAY-MASON'S MARINA REP1	1350	6/14/94	33.0	-9.000	-9.000	-9.0000	-9	-9
10006.0	BODEGA BAY-MASON'S MARINA REP2	1351	6/14/94	33.0	-9.000	-9.000	-9.0000	-9	-9
10006.0	BODEGA BAY-MASON'S MARINA REP3	1352	6/14/94	33.0	-9.000	-9.000	-9.0000	-9	-9
10007.0	BODEGA-SPUD POINT MARINA REP1	1353	6/13/94	33.0	-9.000	-9.000	-9.0000	-9	-9
10007.0	BODEGA-SPUD POINT MARINA REP2	1354	6/13/94	33.0	-9.000	-9.000	-9.0000	-9	-9
10007.0	BODEGA-SPUD POINT MARINA REP3	1355	6/13/94	33.0	-9.000	-9.000	-9.0000	-9	-9
10028.0	PORTO BODEGA MARINA REP1	1356	6/14/94	33.0	-9.000	-9.000	-9.0000	-9	-9
10028.0	PORTO BODEGA MARINA REP2	1357	6/14/94	33.0	-9.000	-9.000	-9.0000	-9	-9
10028.0	PORTO BODEGA MARINA REP3	1358	6/14/94	33.0	-9.000	-9.000	-9.0000	-9	-9
10040.0	UNCONTAMINATED SITE-33D REP1	1359	6/13/94	33.0	-9.000	-9.000	-9.0000	-9	-9
10040.0	UNCONTAMINATED SITE-33D REP2	1360	6/13/94	33.0	-9.000	-9.000	-9.0000	-9	-9
10040.0	UNCONTAMINATED SITE-33D REP3	1361	6/13/94	33.0	-9.000	-9.000	-9.0000	-9	-9
	CONTROL-CH1			42.0	-9.000	-9.000	-9.0000	-9	-9
14004.0	DAVENPORT MARINE	1578	4/17/96	42.0	-9.000	-9.000	-9.0000	-9	-9
10023.0	H. BAY EUREKA STORM 23	1579	4/17/96	42.0	-9.000	-9.000	-9.0000	-9	-9
10016.0	ARCATA BAY-JOLLY GIANT SL.	1580	4/18/96	42.0	-9.000	-9.000	-9.0000	-9	-9
10017.0	ARCATA BAY-EUREKA SL.	1581	4/17/96	42.0	-9.000	-9.000	-9.0000	-9	-9
10021.0	H. BAY-CHEVRON TERMINAL	1582	4/17/96	42.0	-9.000	-9.000	-9.0000	-9	-9
10019.0	H. BAY-COAL/OIL/GAS PLANT	1583	4/17/96	42.0	-9.000	-9.000	-9.0000	-9	-9
10018.0	H. BAY-UNION OIL PLANT	1584	4/17/96	42.0	-9.000	-9.000	-9.0000	-9	-9
15001.0	H. BAY- HALBERSON SHORELINE	1585	4/17/96	42.0	-9.000	-9.000	-9.0000	-9	-9
14002.0	EUREKA WATERFRONT- J STREET	1586	4/17/96	42.0	-9.000	-9.000	-9.0000	-9	-9
14001.0	EUREKA WATERFRONT- H STREET	1587	4/17/96	42.0	-9.000	-9.000	-9.0000	-9	-9
	CONTROL-C1			47.0	-9.000	-9.000	-9.0000	-9	-9
10006.0	BODEGA BAY - MASON'S MARINA	1682	12/6/96	47.0	-9.000	-9.000	-9.0000	-9	-9
10007.0	BODEGA - SPUD POINT MARINA	1683	12/5/96	47.0	-9.000	-9.000	-9.0000	-9	-9
10028.0	PORTO BODEGA MARINA	1684	12/6/96	47.0	-9.000	-9.000	-9.0000	-9	-9
10040.0	UNCONTAMINATED SITE	1685	12/6/96	47.0	-9.000	-9.000	-9.0000	-9	-9

APPENDIX F

Benthic Community Analysis Data

BENTHIC COMMUNITY ANALYSES: STATISTICAL SUMMARIES

STANUM	STATION	IDORG	DATE	LEG
14004	DAVENPORT MARINE	1578	04/17/96	42

Species	Taxa	# of Sp.	Number per core			Summary Statistics							
			rep 1	rep 2	rep 3	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Cumella sp.	Cumacea		9	26	2	12.3	14.0	2	26	12.3	7.1	27.8	37
Eudorella pacifica	Cumacea		9	9	0	6.0	4.5	0	9	5.2	3.0	11.7	18
Acuminodeutopus heteruropus	Gammaridea		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Allorchestes angusta	Gammaridea		1	1	0	0.7	0.5	0	1	0.6	0.3	1.3	2
Aoroides sp.	Gammaridea		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Atylus tridens	Gammaridea		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Corophium stimpsoni	Gammaridea		0	2	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Monoculodes sp. (juv.)	Gammaridea		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Eusarsiella tricostata	Ostracoda		2	3	0	1.7	1.5	0	3	1.5	0.9	3.4	5
Leptochelia dubia	Tanaidacea		0	3	0	1.0	1.5	0	3	1.7	1.0	3.9	3
Cardiidae	Bivalvia		0	0	2	0.7	1.0	0	2	1.2	0.7	2.6	2
Macoma secta	Bivalvia		0	0	3	1.0	1.5	0	3	1.7	1.0	3.9	3
Macoma sp.	Bivalvia		7	0	0	2.3	3.5	0	7	4.0	2.3	9.1	7
Musculus sp.	Bivalvia		3	1	0	1.3	1.5	0	3	1.5	0.9	3.4	4
Siliqua sp.	Bivalvia		0	5	1	2.0	2.5	0	5	2.6	1.5	6.0	6
Tellina modesta	Bivalvia		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Amaeana occidentalis	Polychaeta		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Aphelochaeta monilaris	Polychaeta		35	36	3	24.7	19.5	3	36	18.8	10.8	42.2	74
Capitella capitata	Polychaeta		6	3	1	3.3	3.5	1	6	2.5	1.5	5.7	10
Cirratulus spp. juv.	Polychaeta		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Dorvillea longicornis	Polychaeta		1	0	1	0.7	0.5	0	1	0.6	0.3	1.3	2
Euchone limnicola	Polychaeta		0	0	5	1.7	2.5	0	5	2.9	1.7	6.5	5
Exogone molesta	Polychaeta		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Leitoscoloplos pugettensis	Polychaeta		0	0	7	2.3	3.5	0	7	4.0	2.3	9.1	7
Malmgreniella macginitiei	Polychaeta		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Mediomastus californiensis	Polychaeta		59	22	23	34.7	40.5	22	59	21.1	12.2	47.4	104
Sphaerosyllis californiensis	Polychaeta		4	2	6	4.0	4.0	2	6	2.0	1.2	4.5	12
Tharyx parvus	Polychaeta		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Aphelochaeta elongata	Polychaeta		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Aphelochaeta glandaria	Polychaeta		2	32	0	11.3	16.0	0	32	17.9	10.3	40.3	34
Armandia brevis	Polychaeta		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Brania brevibranchiata	Polychaeta		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Euchone limnicola	Polychaeta		6	3	0	3.0	3.0	0	6	3.0	1.7	6.8	9
Exogone lourei	Polychaeta		1	2	0	1.0	1.0	0	2	1.0	0.6	2.3	3

STANUM	STATION	IDORG	DATE	LEG
14004	DAVENPORT MARINE	1578	04/17/96	42

Species	Taxa	# of Sp.	Number per core rep 1	rep 2	rep 3	Summary Statistics mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Glycinde spp. juv.	Polychaeta		0	2	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Owenia fusiformis	Polychaeta		4	4	0	2.7	2.0	0	4	2.3	1.3	5.2	8
Scoloplos sp.	Polychaeta		0	3	0	1.0	1.5	0	3	1.7	1.0	3.9	3
Streblospio benedicti	Polychaeta		6	1	0	2.3	3.0	0	6	3.2	1.9	7.2	7
Anthozoa	Anthozoa		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Nematoda	Nematoda		35	0	0	11.7	17.5	0	35	20.2	11.7	45.5	35
Nemertea	Nemertea		3	0	1	1.3	1.5	0	3	1.5	0.9	3.4	4
Oligochaeta	Oligochaeta		335	7	55	132.3	171.0	7	335	177.1	102.3	398.6	397
Phoronida	Phoronida		4	0	13	5.7	6.5	0	13	6.7	3.8	15.0	17
Sipuncula	Sipunculida		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Total Individuals			536	170	131	279.0	333.5	131	536	223.4	129.0	502.7	837
Total Species		44	24	23	22	23.0	23.0	22	24	1.0	0.6	2.3	69
Total Crust. Indiv.			23	44	4	23.7	24.0	4	44	20.0	11.6	45.0	71
Total Crust. Sp.		10	6	6	3	5.0	4.5	3	6	1.7	1.0	3.9	15
Gammarid Indiv.			3	3	2	2.7	2.5	2	3	0.6	0.3	1.3	8
Gammarid Sp.		6	3	2	2	2.3	2.5	2	3	0.6	0.3	1.3	7
Other Crustacean Indiv.			20	41	2	21.0	21.5	2	41	19.5	11.3	43.9	63
Other Crustacean Sp.		4	3	4	1	2.7	2.5	1	4	1.5	0.9	3.4	8
Total Echinoderm Indiv.			0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Total Echinoderm Sp.		0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Total Mollusc Indiv.			10	7	6	7.7	8.0	6	10	2.1	1.2	4.7	23
Total Mollusc Sp.		6	2	3	3	2.7	2.5	2	3	0.6	0.3	1.3	8
Total Polychaete Indiv.			125	112	51	96.0	88.0	51	125	39.5	22.8	88.9	288
Total Polychaete Sp.		22	11	13	12	12.0	12.0	11	13	1.0	0.6	2.3	36

STATUM	STATION	IDORG	DATE	LEG
10023	H. BAY EUREKA STORM 23	1579	04/17/96	42

Species	Taxa	# of Sp.	Number per core rep 1	rep 2	rep 3	Summary Statistics mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Cumella sp.	Cumacea		127	0	0	42.3	63.5	0	127	73.3	42.3	165.0	127
Eudorella pacifica	Cumacea		1	0	8	3.0	4.0	0	8	4.4	2.5	9.8	9
Nippoleucon hinumensis	Cumacea		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1

BENTHIC COMMUNITY ANALYSES: STATISTICAL SUMMARIES

STATUM	STATION	IDORG	DATE	LEG
10023	H. BAY EUREKA STORM 23 (cont.)	1579	04/17/96	42

Species	Taxa	# of Sp.	Number per core			Summary Statistics							
			rep 1	rep 2	rep 3	mean	median	min	max	St. Dev.	S.E.	95%CI.	sum
Anisogammarus pugettensis	Gammaridea		7	0	0	2.3	3.5	0	7	4.0	2.3	9.1	7
Corophium heteroceratum	Gammaridea		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Corophium stimpsoni	Gammaridea		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Grandidierella japonica	Gammaridea		11	0	0	3.7	5.5	0	11	6.4	3.7	14.3	11
Leptochelia dubia	Tanaidacea		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Leptochelia gnathia	Tanaidacea		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Macoma secta	Bivalvia		0	0	7	2.3	3.5	0	7	4.0	2.3	9.1	7
Macoma sp.	Bivalvia		5	0	0	1.7	2.5	0	5	2.9	1.7	6.5	5
Musculus sp.	Bivalvia		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Mysella sp. 1	Bivalvia		1	0	3	1.3	1.5	0	3	1.5	0.9	3.4	4
Mysella sp. 2	Bivalvia		0	0	38	12.7	19.0	0	38	21.9	12.7	49.4	38
Protothaca staminea	Bivalvia		3	0	0	1.0	1.5	0	3	1.7	1.0	3.9	3
Siliqua sp.	Bivalvia		0	0	6	2.0	3.0	0	6	3.5	2.0	7.8	6
Tellina modesta	Bivalvia		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Barleeia sp.	Gastropoda		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Nassarius sp.	Gastropoda		5	0	0	1.7	2.5	0	5	2.9	1.7	6.5	5
Armandia brevis	Polychaeta		1	0	1	0.7	0.5	0	1	0.6	0.3	1.3	2
Capitella capitata	Polychaeta		1	25	3	9.7	13.0	1	25	13.3	7.7	30.0	29
Cirratulidae spp. indet.	Polychaeta		0	1	10	3.7	5.0	0	10	5.5	3.2	12.4	11
Cirratulus dillonensis	Polychaeta		20	39	26	28.3	29.5	20	39	9.7	5.6	21.9	85
Cirratulus spp. juv.	Polychaeta		0	0	6	2.0	3.0	0	6	3.5	2.0	7.8	6
Eteone sp(p)	Polychaeta		10	6	1	5.7	5.5	1	10	4.5	2.6	10.1	17
Euchone limnicola	Polychaeta		0	0	4	1.3	2.0	0	4	2.3	1.3	5.2	4
Mediomastus californiensis	Polychaeta		48	88	46	60.7	67.0	46	88	23.7	13.7	53.3	182
Nephtys caecoides	Polychaeta		1	0	1	0.7	0.5	0	1	0.6	0.3	1.3	2
Pholoe minuta	Polychaeta		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Prionospio lighti	Polychaeta		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Protodorvillea gracilis	Polychaeta		0	0	2	0.7	1.0	0	2	1.2	0.7	2.6	2
Pseudopolydora kempi	Polychaeta		0	8	3	3.7	4.0	0	8	4.0	2.3	9.1	11
Sphaerosyllis californiensis	Polychaeta		1	0	2	1.0	1.0	0	2	1.0	0.6	2.3	3
Sphaerosyllis ranunculus	Polychaeta		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Streblospio benedicti	Polychaeta		4	25	5	11.3	14.5	4	25	11.8	6.8	26.7	34
Tharyx parvus	Polychaeta		0	0	2	0.7	1.0	0	2	1.2	0.7	2.6	2
Aphelochaeta monilaris	Polychaeta		3	8	0	3.7	4.0	0	8	4.0	2.3	9.1	11

BENTHIC COMMUNITY ANALYSES: STATISTICAL SUMMARIES

STATUM	STATION	IDORG	DATE	LEG
10023	H. BAY EUREKA STORM 23 (cont.)	1579	04/17/96	42

Species	Taxa	# of Sp.	Number per core			Summary Statistics							
			rep 1	rep 2	rep 3	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Aphelochaeta sp(p)	Polychaeta		10	4	0	4.7	5.0	0	10	5.0	2.9	11.3	14
Brania brevibranchiata	Polychaeta		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Dipolydora caulleryi	Polychaeta		1	3	0	1.3	1.5	0	3	1.5	0.9	3.4	4
Dorvillea longicornis	Polychaeta		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Eteone californica	Polychaeta		0	3	0	1.0	1.5	0	3	1.7	1.0	3.9	3
Euchone limnicola	Polychaeta		2	3	0	1.7	1.5	0	3	1.5	0.9	3.4	5
Glycera nana	Polychaeta		2	0	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Leitoscoloplos pugettensis	Polychaeta		8	10	0	6.0	5.0	0	10	5.3	3.1	11.9	18
Owenia fusiformis	Polychaeta		1	1	0	0.7	0.5	0	1	0.6	0.3	1.3	2
Pholoe glabra	Polychaeta		2	0	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Polycirrus sp(p)	Polychaeta		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Scolelepis spp. indet.	Polychaeta		1	1	0	0.7	0.5	0	1	0.6	0.3	1.3	2
Scoletoma tetraura	Polychaeta		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Scoloplos sp.	Polychaeta		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Nematoda	Nematoda		0	0	6	2.0	3.0	0	6	3.5	2.0	7.8	6
Nemertea	Nemertea		4	0	2	2.0	2.0	0	4	2.0	1.2	4.5	6
Oligochaeta	Oligochaeta		38	24	1058	373.3	541.0	24	1058	593.0	342.4	1334.2	1120
Phoronida	Phoronida		6	17	0	7.7	8.5	0	17	8.6	5.0	19.4	23
Total Individuals			334	266	1246	615.3	756.0	266	1246	547.2	315.9	1231.3	1846
Total Species		55	38	17	28	27.7	27.5	17	38	10.5	6.1	23.6	83
Total Crust. Indiv.			149	0	10	53.0	74.5	0	149	83.3	48.1	187.4	159
Total Crust. Sp.		9	7	0	3	3.3	3.5	0	7	3.5	2.0	7.9	10
Gammarid Indiv.			19	0	1	6.7	9.5	0	19	10.7	6.2	24.1	20
Gammarid Sp.		4	3	0	1	1.3	1.5	0	3	1.5	0.9	3.4	4
Other Crustacean Indiv.			130	0	9	46.3	65.0	0	130	72.6	41.9	163.3	139
Other Crustacean Sp.		5	4	0	2	2.0	2.0	0	4	2.0	1.2	4.5	6
Total Echinoderm Indiv.			0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Total Echinoderm Sp.		0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Total Mollusc Indiv.			16	0	55	23.7	27.5	0	55	28.3	16.3	63.7	71
Total Mollusc Sp.		10	6	0	5	3.7	3.0	0	6	3.2	1.9	7.2	11
Total Polychaete Indiv.			121	225	115	153.7	170.0	115	225	61.8	35.7	139.2	461
Total Polychaete Sp.		32	22	15	17	18.0	18.5	15	22	3.6	2.1	8.1	54

BENTHIC COMMUNITY ANALYSES: STATISTICAL SUMMARIES

STATUM	STATION	IDORG	DATE	LEG
10016	ARCATA BAY-JOLLY GIANT SL.	1580	04/18/96	42

Species	Taxa	# of Sp.	Number per core			Summary Statistics							
			rep 1	rep 2	rep 3	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Cumella sp.	Cumacea		1	1	0	0.7	0.5	0	1	0.6	0.3	1.3	2
Ampelisca abdita	Gammaridea		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Aoroides sp.	Gammaridea		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Corophium sp.	Gammaridea		0	0	270	90.0	135.0	0	270	155.9	90.0	350.7	270
Corophium stimpsoni	Gammaridea		383	417	17	272.3	217.0	17	417	221.8	128.0	499.0	817
Mysella sp.	Bivalvia		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Tresus sp.	Bivalvia		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Capitella capitata	Polychaeta		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Eteone sp(p)	Polychaeta		0	0	14	4.7	7.0	0	14	8.1	4.7	18.2	14
Heteromastus filiformis	Polychaeta		27	18	13	19.3	20.0	13	27	7.1	4.1	16.0	58
Pseudopolydora kempi	Polychaeta		66	82	106	84.7	86.0	66	106	20.1	11.6	45.3	254
Streblospio benedicti	Polychaeta		102	90	95	95.7	96.0	90	102	6.0	3.5	13.6	287
Tharyx parvus	Polychaeta		81	65	64	70.0	72.5	64	81	9.5	5.5	21.5	210
Eteone californica	Polychaeta		8	21	0	9.7	10.5	0	21	10.6	6.1	23.8	29
Eteone lighti	Polychaeta		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Exogone lourei	Polychaeta		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Nereis procera	Polychaeta		1	2	0	1.0	1.0	0	2	1.0	0.6	2.3	3
Oligochaeta	Oligochaeta		1	10	213	74.7	107.0	1	213	119.9	69.2	269.7	224
Total Individuals			674	708	793	725.0	733.5	674	793	61.3	35.4	137.9	2175
Total Species		18	13	11	9	11.0	11.0	9	13	2.0	1.2	4.5	33
Total Crust. Indiv.			385	419	287	363.7	353.0	287	419	68.5	39.6	154.2	1091
Total Crust. Sp.		5	3	3	2	2.7	2.5	2	3	0.6	0.3	1.3	8
Gammarid Indiv.			384	418	287	363.0	352.5	287	418	68.0	39.2	153.0	1089
Gammarid Sp.		4	2	2	2	2.0	2.0	2	2	0.0	0.0	0.0	6
Other Crustacean Indiv.			1	1	0	0.7	0.5	0	1	0.6	0.3	1.3	2
Other Crustacean Sp.		1	1	1	0	0.7	0.5	0	1	0.6	0.3	1.3	2
Total Echinoderm Indiv.			0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Total Echinoderm Sp.		0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Total Mollusc Indiv.			2	0	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Total Mollusc Sp.		2	2	0	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Total Polychaete Indiv.			286	279	293	286.0	286.0	279	293	7.0	4.0	15.8	858
Total Polychaete Sp.		10	7	7	6	6.7	6.5	6	7	0.6	0.3	1.3	20

BENTHIC COMMUNITY ANALYSES: STATISTICAL SUMMARIES

STATUM	STATION	IDORG	DATE	LEG
10017	ARCATA BAY-EUREKA SL.	1581	04/17/96	42

Species	Taxa	# of Sp.	Number per core rep 1	rep 2	rep 3	Summary Statistics mean	median	min	max	St. Dev.	S.E.	95%CI.	sum
Cumella sp.	Cumacea		19	13	8	13.3	13.5	8	19	5.5	3.2	12.4	40
Nippoleucon hinumensis	Cumacea		0	3	0	1.0	1.5	0	3	1.7	1.0	3.9	3
Ampelisca abdita	Gammaridea		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Corophium sp.	Gammaridea		0	0	2	0.7	1.0	0	2	1.2	0.7	2.6	2
Corophium stimpsoni	Gammaridea		2	2	2	2.0	2.0	2	2	0.0	0.0	0.0	6
Lyonsia sp.	Bivalvia		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Macoma sp.	Bivalvia		0	2	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Musculus sp.	Bivalvia		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Capitella capitata	Polychaeta		2	0	2	1.3	1.0	0	2	1.2	0.7	2.6	4
Cirratulidae spp. indet.	Polychaeta		0	0	3	1.0	1.5	0	3	1.7	1.0	3.9	3
Eteone sp(p)	Polychaeta		1	1	12	4.7	6.5	1	12	6.4	3.7	14.3	14
Exogone lourei	Polychaeta		2	2	5	3.0	3.5	2	5	1.7	1.0	3.9	9
Heteromastus filiformis	Polychaeta		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Nereididae spp. juv.	Polychaeta		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Pseudopolydora kempi	Polychaeta		2	4	6	4.0	4.0	2	6	2.0	1.2	4.5	12
Streblospio benedicti	Polychaeta		32	34	12	26.0	23.0	12	34	12.2	7.0	27.4	78
Tharyx parvus	Polychaeta		45	192	33	90.0	112.5	33	192	88.5	51.1	199.2	270
Eteone californica	Polychaeta		5	2	0	2.3	2.5	0	5	2.5	1.5	5.7	7
Leitoscoloplos pugettensis	Polychaeta		2	0	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Mediomastus californiensis	Polychaeta		2	4	0	2.0	2.0	0	4	2.0	1.2	4.5	6
Prionospio lighti	Polychaeta		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Nemertea	Nemertea		1	1	0	0.7	0.5	0	1	0.6	0.3	1.3	2
Oligochaeta	Oligochaeta		2	0	2	1.3	1.0	0	2	1.2	0.7	2.6	4
Total Individuals			118	262	90	156.7	176.0	90	262	92.3	53.3	207.7	470
Total Species		23	14	14	14	14.0	14.0	14	14	0.0	0.0	0.0	42
Total Crust. Indiv.			21	19	12	17.3	16.5	12	21	4.7	2.7	10.6	52
Total Crust. Sp.		5	2	4	3	3.0	3.0	2	4	1.0	0.6	2.3	9
Gammarid Indiv.			2	3	4	3.0	3.0	2	4	1.0	0.6	2.3	9
Gammarid Sp.		3	1	2	2	1.7	1.5	1	2	0.6	0.3	1.3	5
Other Crustacean Indiv.			19	16	8	14.3	13.5	8	19	5.7	3.3	12.8	43
Other Crustacean Sp.		2	1	2	1	1.3	1.5	1	2	0.6	0.3	1.3	4
Total Echinoderm Indiv.			0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Total Echinoderm Sp.		0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Total Mollusc Indiv.			0	3	1	1.3	1.5	0	3	1.5	0.9	3.4	4

STATUM	STATION	IDORG	DATE	LEG
10017	ARCATA BAY-EUREKA SL. (cont.)	1581	04/17/96	42

Species	Taxa	# of Sp.	Number per core			Summary Statistics							
			rep 1	rep 2	rep 3	mean	median	min	max	St. Dev.	S.E.	95%CI.	sum
Total Mollusc Sp.		3	0	2	1	1.0	1.0	0	2	1.0	0.6	2.3	3
Total Polychaete Indiv.			94	239	75	136.0	157.0	75	239	89.7	51.8	201.8	408
Total Polychaete Sp.		13	10	7	9	8.7	8.5	7	10	1.5	0.9	3.4	26

STATUM	STATION	IDORG	DATE	LEG
10021	H. BAY-CHEVRON TERMINAL	1582	04/17/96	42

Species	Taxa	# of Sp.	Number per core			Summary Statistics							
			rep 1	rep 2	rep 3	mean	median	min	max	St. Dev.	S.E.	95%CI.	sum
Cumella sp.	Cumacea		19	13	2	11.3	10.5	2	19	8.6	5.0	19.4	34
Eudorella pacifica	Cumacea		0	2	2	1.3	1.0	0	2	1.2	0.7	2.6	4
Lamprops sp.	Cumacea		0	1	1	0.7	0.5	0	1	0.6	0.3	1.3	2
Gnorimosphaeroma oregonensis	Isopoda		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Harbansus bradmyersi	Ostracoda		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Leptochelia dubia	Tanaidacea		0	1	1	0.7	0.5	0	1	0.6	0.3	1.3	2
Macoma nasuta	Bivalvia		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Macoma sp.	Bivalvia		4	9	0	4.3	4.5	0	9	4.5	2.6	10.1	13
Musculus sp.	Bivalvia		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Siliqua sp.	Bivalvia		0	14	8	7.3	7.0	0	14	7.0	4.1	15.8	22
Tellina modesta	Bivalvia		0	0	2	0.7	1.0	0	2	1.2	0.7	2.6	2
Aphelochaeta nr. williamsae	Polychaeta		12	13	2	9.0	7.5	2	13	6.1	3.5	13.7	27
Capitella capitata	Polychaeta		28	17	8	17.7	18.0	8	28	10.0	5.8	22.5	53
Cirratulidae spp. indet.	Polychaeta		3	4	2	3.0	3.0	2	4	1.0	0.6	2.3	9
Eteone sp(p)	Polychaeta		0	2	2	1.3	1.0	0	2	1.2	0.7	2.6	4
Glycinde polygnatha	Polychaeta		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Leitoscoloplos pugettensis	Polychaeta		2	9	2	4.3	5.5	2	9	4.0	2.3	9.1	13
Mediomastus californiensis	Polychaeta		10	54	12	25.3	32.0	10	54	24.8	14.3	55.9	76
Mediomastus sp(p)	Polychaeta		11	32	55	32.7	33.0	11	55	22.0	12.7	49.5	98
Nephtys sp	Polychaeta		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Owenia fusiformis	Polychaeta		11	22	14	15.7	16.5	11	22	5.7	3.3	12.8	47
Pilargis maculata	Polychaeta		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Pseudopolydora kempi	Polychaeta		0	2	1	1.0	1.0	0	2	1.0	0.6	2.3	3
Streblospio benedicti	Polychaeta		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1

BENTHIC COMMUNITY ANALYSES: STATISTICAL SUMMARIES

STATUM	STATION	IDORG	DATE	LEG
10021	H. BAY-CHEVRON TERMINAL (cont.)	1582	04/17/96	42

Species	Taxa	# of Sp.	Number per core			Summary Statistics							
			rep 1	rep 2	rep 3	mean	median	min	max	St. Dev.	S.E.	95%CI.	sum
Aphelochaeta monilaris	Polychaeta		42	25	0	22.3	21.0	0	42	21.1	12.2	47.5	67
Cirratulus dillonensis	Polychaeta		2	1	0	1.0	1.0	0	2	1.0	0.6	2.3	3
Dipolydora caulleryi	Polychaeta		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Exogone lourei	Polychaeta		2	2	0	1.3	1.0	0	2	1.2	0.7	2.6	4
Glycera spp. juv.	Polychaeta		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Pygospio elegans	Polychaeta		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Sphaerosyllis californiensis	Polychaeta		0	2	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Spiophanes berkeleyorum	Polychaeta		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Nematoda	Nematoda		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Nemertea	Nemertea		2	1	1	1.3	1.5	1	2	0.6	0.3	1.3	4
Oligochaeta	Oligochaeta		5	8	5126	1713.0	2565.5	5	5126	2955.7	1706.5	6650.5	5139
Phoronida	Phoronida		7	0	0	2.3	3.5	0	7	4.0	2.3	9.1	7
Total Individuals			163	236	5249	1882.7	2706.0	163	5249	2915.6	1683.3	6560.0	5648
Total Species		36	18	23	25	22.0	21.5	18	25	3.6	2.1	8.1	66
Total Crust. Indiv.			20	17	7	14.7	13.5	7	20	6.8	3.9	15.3	44
Total Crust. Sp.		6	2	4	5	3.7	3.5	2	5	1.5	0.9	3.4	11
Gammarid Indiv.			0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Gammarid Sp.		0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Other Crustacean Indiv.			20	17	7	14.7	13.5	7	20	6.8	3.9	15.3	44
Other Crustacean Sp.		6	2	4	5	3.7	3.5	2	5	1.5	0.9	3.4	11
Total Echinoderm Indiv.			0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Total Echinoderm Sp.		0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Total Mollusc Indiv.			4	23	12	13.0	13.5	4	23	9.5	5.5	21.5	39
Total Mollusc Sp.		5	1	2	4	2.3	2.5	1	4	1.5	0.9	3.4	7
Total Polychaete Indiv.			125	187	102	138.0	144.5	102	187	44.0	25.4	98.9	414
Total Polychaete Sp.		21	12	15	13	13.3	13.5	12	15	1.5	0.9	3.4	40

BENTHIC COMMUNITY ANALYSES: STATISTICAL SUMMARIES

STATUM	STATION	IDORG	DATE	LEG
10019	H. BAY-COAL/OIL/GAS PLANT	1583	04/17/96	42

Species	Taxa	# of Sp.	Number per core			Summary Statistics							
			rep 1	rep 2	rep 3	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Cumella sp.	Cumacea		11	15	12	12.7	13.0	11	15	2.1	1.2	4.7	38
Leucon sp.	Cumacea		0	0	21	7.0	10.5	0	21	12.1	7.0	27.3	21
Ampelisca lobata	Gammaridea		0	0	3	1.0	1.5	0	3	1.7	1.0	3.9	3
Anisogammarus pugettensis	Gammaridea		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Corophium sp.	Gammaridea		0	0	33	11.0	16.5	0	33	19.1	11.0	42.9	33
Corophium stimpsoni	Gammaridea		0	0	82	27.3	41.0	0	82	47.3	27.3	106.5	82
Grandidierella japonica	Gammaridea		0	3	12	5.0	6.0	0	12	6.2	3.6	14.1	15
Monoculodes sp. (juv.)	Gammaridea		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Eusarsiella zostericola	Ostracoda		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Leptochelia dubia	Tanaidacea		0	0	2	0.7	1.0	0	2	1.2	0.7	2.6	2
Macoma nasuta	Bivalvia		0	0	3	1.0	1.5	0	3	1.7	1.0	3.9	3
Macoma sp.	Bivalvia		6	5	0	3.7	3.0	0	6	3.2	1.9	7.2	11
Mysella sp.	Bivalvia		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Mytilus sp.	Bivalvia		1	1	0	0.7	0.5	0	1	0.6	0.3	1.3	2
Siliqua sp.	Bivalvia		6	0	1	2.3	3.0	0	6	3.2	1.9	7.2	7
Tellina modesta	Bivalvia		12	8	7	9.0	9.5	7	12	2.6	1.5	6.0	27
Tresus sp.	Bivalvia		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Mangelia sp.	Gastropoda		0	2	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Nassarius sp.	Gastropoda		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Aphelochaeta monilaris	Polychaeta		20	6	7	11.0	13.0	6	20	7.8	4.5	17.6	33
Aphelochaeta nr. williamsae	Polychaeta		88	82	28	66.0	58.0	28	88	33.0	19.1	74.4	198
Armandia brevis	Polychaeta		0	2	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Capitella capitata	Polychaeta		34	26	44	34.7	35.0	26	44	9.0	5.2	20.3	104
Cirratulidae spp. indet.	Polychaeta		0	0	3	1.0	1.5	0	3	1.7	1.0	3.9	3
Cirratulus dillonensis	Polychaeta		11	13	2	8.7	7.5	2	13	5.9	3.4	13.2	26
Eteone californica	Polychaeta		0	2	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Eteone sp(p)	Polychaeta		2	2	5	3.0	3.5	2	5	1.7	1.0	3.9	9
Euchone limnicola	Polychaeta		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Exogone lourei	Polychaeta		2	0	1	1.0	1.0	0	2	1.0	0.6	2.3	3
Glycinde polygnatha	Polychaeta		0	0	3	1.0	1.5	0	3	1.7	1.0	3.9	3
Heteromastus filiformis	Polychaeta		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Leitoscoloplos pugettensis	Polychaeta		2	2	2	2.0	2.0	2	2	0.0	0.0	0.0	6
Malmgreniella macginitiei	Polychaeta		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Mediomastus californiensis	Polychaeta		55	306	41	134.0	173.5	41	306	149.1	86.1	335.5	402

STATUM	STATION	IDORG	DATE	LEG
10019	H. BAY-COAL/OIL/GAS PLANT (cont.)	1583	04/17/96	42

Species	Taxa	# of Sp.	Number per core			Summary Statistics							
			rep 1	rep 2	rep 3	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Mediomastus sp(p)	Polychaeta		10	28	185	74.3	97.5	10	185	96.3	55.6	216.6	223
Microphthalmus sp(p)	Polychaeta		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Nephtys caecoides	Polychaeta		4	0	1	1.7	2.0	0	4	2.1	1.2	4.7	5
Nereis procera	Polychaeta		2	2	0	1.3	1.0	0	2	1.2	0.7	2.6	4
Owenia fusiformis	Polychaeta		12	0	5	5.7	6.0	0	12	6.0	3.5	13.6	17
Pholoe glabra	Polychaeta		2	0	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Polycirrus sp(p)	Polychaeta		0	0	2	0.7	1.0	0	2	1.2	0.7	2.6	2
Polydora caulleryi	Polychaeta		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Prionospio lighti	Polychaeta		0	2	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Pseudopolydora kempi	Polychaeta		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Pygospio elegans	Polychaeta		2	0	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Scolelepis texana	Polychaeta		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Scoletoma tetraura	Polychaeta		2	0	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Scoloplos sp.	Polychaeta		4	0	0	1.3	2.0	0	4	2.3	1.3	5.2	4
Sphaerosyllis californiensis	Polychaeta		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Heteromastus filobranchus	Polychaeta		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Nemertea	Nemertea		15	4	8	9.0	9.5	4	15	5.6	3.2	12.5	27
Oligochaeta	Oligochaeta		10	18	5222	1750.0	2616.0	10	5222	3006.8	1736.0	6765.4	5250
Phoronida	Phoronida		28	20	5	17.7	16.5	5	28	11.7	6.7	26.3	53
Total Individuals			345	551	5749	2215.0	3047.0	345	5749	3062.3	1768.0	6890.1	6645
Total Species		53	28	23	36	29.0	29.5	23	36	6.6	3.8	14.8	87
Total Crust. Indiv.			13	18	166	65.7	89.5	13	166	86.9	50.2	195.6	197
Total Crust. Sp.		10	3	2	8	4.3	5.0	2	8	3.2	1.9	7.2	13
Gammarid Indiv.			1	3	131	45.0	66.0	1	131	74.5	43.0	167.6	135
Gammarid Sp.		6	1	1	5	2.3	3.0	1	5	2.3	1.3	5.2	7
Other Crustacean Indiv.			12	15	35	20.7	23.5	12	35	12.5	7.2	28.1	62
Other Crustacean Sp.		4	2	1	3	2.0	2.0	1	3	1.0	0.6	2.3	6
Total Echinoderm Indiv.			0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Total Echinoderm Sp.		0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Total Mollusc Indiv.			25	18	12	18.3	18.5	12	25	6.5	3.8	14.6	55
Total Mollusc Sp.		9	4	6	4	4.7	5.0	4	6	1.2	0.7	2.6	14
Total Polychaete Indiv.			254	473	336	354.3	363.5	254	473	110.6	63.9	249.0	1063
Total Polychaete Sp.		31	18	12	21	17.0	16.5	12	21	4.6	2.6	10.3	51

BENTHIC COMMUNITY ANALYSES: STATISTICAL SUMMARIES

STATUM	STATION	IDORG	DATE	LEG
10018	H. BAY-UNION OIL PLANT	1584	04/17/96	42

Species	Taxa	# of Sp.	Number per core			Summary Statistics							
			rep 1	rep 2	rep 3	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Cumella sp.	Cumacea		50	88	131	89.7	90.5	50	131	40.5	23.4	91.2	269
Corophium salmonis	Gammaridea		0	2	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Grandidierella japonica	Gammaridea		2	10	5	5.7	6.0	2	10	4.0	2.3	9.1	17
Podocerus brasiliensis	Gammaridea		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Leptochelia dubia	Tanaidacea		5	1	3	3.0	3.0	1	5	2.0	1.2	4.5	9
Bivalve	Bivalvia		0	4	0	1.3	2.0	0	4	2.3	1.3	5.2	4
Gemma gemma	Bivalvia		0	0	2	0.7	1.0	0	2	1.2	0.7	2.6	2
Macoma nasuta	Bivalvia		0	0	23	7.7	11.5	0	23	13.3	7.7	29.9	23
Macoma sp.	Bivalvia		12	22	0	11.3	11.0	0	22	11.0	6.4	24.8	34
Mytilus sp.	Bivalvia		1	1	0	0.7	0.5	0	1	0.6	0.3	1.3	2
Protothaca staminea	Bivalvia		2	0	1	1.0	1.0	0	2	1.0	0.6	2.3	3
Siliqua sp.	Bivalvia		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Tellina modesta	Bivalvia		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Tresus sp.	Bivalvia		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Nassarius sp.	Gastropoda		0	0	7	2.3	3.5	0	7	4.0	2.3	9.1	7
Aphelochaeta monilaris	Polychaeta		20	32	6	19.3	19.0	6	32	13.0	7.5	29.3	58
Capitella capitata	Polychaeta		65	79	12	52.0	45.5	12	79	35.3	20.4	79.5	156
Cirratulus dillonensis	Polychaeta		68	26	2	32.0	35.0	2	68	33.4	19.3	75.2	96
Cirratulus spp. juv.	Polychaeta		0	0	2	0.7	1.0	0	2	1.2	0.7	2.6	2
Eteone sp(p)	Polychaeta		3	4	3	3.3	3.5	3	4	0.6	0.3	1.3	10
Leitoscoloplos pugettensis	Polychaeta		1	1	1	1.0	1.0	1	1	0.0	0.0	0.0	3
Mediomastus californiensis	Polychaeta		80	62	7	49.7	43.5	7	80	38.0	22.0	85.6	149
Mediomastus sp(p)	Polychaeta		0	0	9	3.0	4.5	0	9	5.2	3.0	11.7	9
Owenia fusiformis	Polychaeta		12	3	6	7.0	7.5	3	12	4.6	2.6	10.3	21
Pseudopolydora kempi	Polychaeta		5	3	1	3.0	3.0	1	5	2.0	1.2	4.5	9
Streblospio benedicti	Polychaeta		83	44	5	44.0	44.0	5	83	39.0	22.5	87.8	132
Cirratulidae spp. indet.	Polychaeta		2	5	0	2.3	2.5	0	5	2.5	1.5	5.7	7
Eteone californica	Polychaeta		6	11	0	5.7	5.5	0	11	5.5	3.2	12.4	17
Euchone limnicola	Polychaeta		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Exogone lourei	Polychaeta		0	3	0	1.0	1.5	0	3	1.7	1.0	3.9	3
Glycera spp. juv.	Polychaeta		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Glycinde spp. juv.	Polychaeta		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Harmothoinae, unident.	Polychaeta		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Microphthalmus sp(p)	Polychaeta		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1

BENTHIC COMMUNITY ANALYSES: STATISTICAL SUMMARIES

STATUM	STATION	IDORG	DATE	LEG
10018	H. BAY-UNION OIL PLANT (cont.)	1584	04/17/96	42

Species	Taxa	# of Sp.	Number per core rep 1	rep 2	rep 3	Summary Statistics mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Naineris dendritica	Polychaeta		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Nephtys caecoides	Polychaeta		0	2	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Polycirrus californicus	Polychaeta		0	2	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Pygospio elegans	Polychaeta		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Scolelepis spp. indet.	Polychaeta		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Scoletoma tetraura	Polychaeta		1	1	0	0.7	0.5	0	1	0.6	0.3	1.3	2
Sphaerosyllis californiensis	Polychaeta		6	6	0	4.0	3.0	0	6	3.5	2.0	7.8	12
Tharyx parvus	Polychaeta		1	5	0	2.0	2.5	0	5	2.6	1.5	6.0	6
Nematoda	Nematoda		1	1	0	0.7	0.5	0	1	0.6	0.3	1.3	2
Nemertea	Nemertea		1	3	1	1.7	2.0	1	3	1.2	0.7	2.6	5
Oligochaeta	Oligochaeta		21	18	253	97.3	135.5	18	253	134.8	77.8	303.3	292
Phoronida	Phoronida		5	11	3	6.3	7.0	3	11	4.2	2.4	9.4	19
Sipuncula	Sipunculida		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Total Individuals			457	455	487	466.3	471.0	455	487	17.9	10.3	40.3	1399
Total Species		47	28	33	25	28.7	29.0	25	33	4.0	2.3	9.1	86
Total Crust. Indiv.			57	101	140	99.3	98.5	57	140	41.5	24.0	93.4	298
Total Crust. Sp.		5	3	4	4	3.7	3.5	3	4	0.6	0.3	1.3	11
Gammarid Indiv.			2	12	6	6.7	7.0	2	12	5.0	2.9	11.3	20
Gammarid Sp.		3	1	2	2	1.7	1.5	1	2	0.6	0.3	1.3	5
Other Crustacean Indiv.			55	89	134	92.7	94.5	55	134	39.6	22.9	89.2	278
Other Crustacean Sp.		2	2	2	2	2.0	2.0	2	2	0.0	0.0	0.0	6
Total Echinoderm Indiv.			0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Total Echinoderm Sp.		0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Total Mollusc Indiv.			16	27	35	26.0	25.5	16	35	9.5	5.5	21.5	78
Total Mollusc Sp.		10	4	3	6	4.3	4.5	3	6	1.5	0.9	3.4	13
Total Polychaete Indiv.			356	294	54	234.7	205.0	54	356	159.5	92.1	358.9	704
Total Polychaete Sp.		27	17	22	11	16.7	16.5	11	22	5.5	3.2	12.4	50

BENTHIC COMMUNITY ANALYSES: STATISTICAL SUMMARIES

STATUM	STATION	IDORG	DATE	LEG
15001	H. BAY- HALBERSON SHORELINE	1585	04/17/96	42

Species	Taxa	# of Sp.	Number per core rep 1	rep 2	rep 3	Summary Statistics mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Cumella sp.	Cumacea		62	52	1	38.3	31.5	1	62	32.7	18.9	73.6	115
Corophium insidiosum	Gammaridea		4	0	0	1.3	2.0	0	4	2.3	1.3	5.2	4
Corophium salmonis	Gammaridea		3	4	0	2.3	2.0	0	4	2.1	1.2	4.7	7
Grandidierella japonica	Gammaridea		22	10	0	10.7	11.0	0	22	11.0	6.4	24.8	32
Leptochelia dubia	Tanaidacea		2	3	2	2.3	2.5	2	3	0.6	0.3	1.3	7
Lyonsia sp.	Bivalvia		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Macoma nasuta	Bivalvia		0	0	3	1.0	1.5	0	3	1.7	1.0	3.9	3
Macoma sp.	Bivalvia		2	8	0	3.3	4.0	0	8	4.2	2.4	9.4	10
Eteone sp(p)	Polychaeta		0	0	5	1.7	2.5	0	5	2.9	1.7	6.5	5
Exogone lourei	Polychaeta		26	38	15	26.3	26.5	15	38	11.5	6.6	25.9	79
Mediomastus californiensis	Polychaeta		30	44	5	26.3	24.5	5	44	19.8	11.4	44.5	79
Mediomastus sp(p)	Polychaeta		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Pseudopolydora kempi	Polychaeta		6	5	12	7.7	8.5	5	12	3.8	2.2	8.5	23
Sphaerosyllis californiensis	Polychaeta		3	2	2	2.3	2.5	2	3	0.6	0.3	1.3	7
Streblospio benedicti	Polychaeta		144	137	32	104.3	88.0	32	144	62.7	36.2	141.2	313
Tharyx parvus	Polychaeta		88	127	67	94.0	97.0	67	127	30.4	17.6	68.5	282
Aphelochaeta monilaris	Polychaeta		2	0	15	5.7	7.5	0	15	8.1	4.7	18.3	17
Capitella capitata	Polychaeta		8	24	0	10.7	12.0	0	24	12.2	7.1	27.5	32
Cossura candida	Polychaeta		1	3	0	1.3	1.5	0	3	1.5	0.9	3.4	4
Eteone californica	Polychaeta		9	11	0	6.7	5.5	0	11	5.9	3.4	13.2	20
Euchone limnicola	Polychaeta		2	1	0	1.0	1.0	0	2	1.0	0.6	2.3	3
Glycera spp. juv.	Polychaeta		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Leitoscoloplos pugettensis	Polychaeta		1	2	0	1.0	1.0	0	2	1.0	0.6	2.3	3
Pygospio elegans	Polychaeta		2	4	0	2.0	2.0	0	4	2.0	1.2	4.5	6
Nemertea	Nemertea		6	2	0	2.7	3.0	0	6	3.1	1.8	6.9	8
Phoronida	Phoronida		3	3	1	2.3	2.0	1	3	1.2	0.7	2.6	7
Total Individuals			426	481	162	356.3	321.5	162	481	170.5	98.5	383.7	1069
Total Species		26	21	20	14	18.3	17.5	14	21	3.8	2.2	8.5	55
Total Crust. Indiv.			93	69	3	55.0	48.0	3	93	46.6	26.9	104.9	165
Total Crust. Sp.		5	5	4	2	3.7	3.5	2	5	1.5	0.9	3.4	11
Gammarid Indiv.			29	14	0	14.3	14.5	0	29	14.5	8.4	32.6	43
Gammarid Sp.		3	3	2	0	1.7	1.5	0	3	1.5	0.9	3.4	5
Other Crustacean Indiv.			64	55	3	40.7	33.5	3	64	32.9	19.0	74.1	122
Other Crustacean Sp.		2	2	2	2	2.0	2.0	2	2	0.0	0.0	0.0	6

BENTHIC COMMUNITY ANALYSES: STATISTICAL SUMMARIES

STATUM	STATION	IDORG	DATE	LEG
15001	H. BAY- HALBERSON SHORELINE (cont.)	1585	04/17/96	42

Species	Taxa	# of Sp.	Number per core			Summary Statistics							
			rep 1	rep 2	rep 3	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Total Echinoderm Indiv.			0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Total Echinoderm Sp.		0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Total Mollusc Indiv.			2	8	4	4.7	5.0	2	8	3.1	1.8	6.9	14
Total Mollusc Sp.		3	1	1	2	1.3	1.5	1	2	0.6	0.3	1.3	4
Total Polychaete Indiv.			322	399	154	291.7	276.5	154	399	125.3	72.3	281.9	875
Total Polychaete Sp.		16	13	13	9	11.7	11.0	9	13	2.3	1.3	5.2	35

STATUM	STATION	IDORG	DATE	LEG
14002	EUREKA WATERFRONT- J STREET	1586	04/17/96	42

Species	Taxa	# of Sp.	Number per core			Summary Statistics							
			rep 1	rep 2	rep 3	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Cumella sp.	Cumacea		2	2	27	10.3	14.5	2	27	14.4	8.3	32.5	31
Eudorella pacifica	Cumacea		20	3	14	12.3	11.5	3	20	8.6	5.0	19.4	37
Cancer gracilis	Decapoda		0	0	3	1.0	1.5	0	3	1.7	1.0	3.9	3
Corophium insidiosum	Gammaridea		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Grandidierella japonica	Gammaridea		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Photis sp.	Gammaridea		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Protomedeia sp.	Gammaridea		1	1	0	0.7	0.5	0	1	0.6	0.3	1.3	2
Munnogonium tillerae	Isopoda		0	4	0	1.3	2.0	0	4	2.3	1.3	5.2	4
Eusarsiella zostericola	Ostracoda		6	1	10	5.7	5.5	1	10	4.5	2.6	10.1	17
Leptochelia dubia	Tanaidacea		15	3	3	7.0	9.0	3	15	6.9	4.0	15.6	21
Macoma sp.	Bivalvia		8	9	0	5.7	4.5	0	9	4.9	2.8	11.1	17
Siliqua sp.	Bivalvia		1	2	0	1.0	1.0	0	2	1.0	0.6	2.3	3
Tellina modesta	Bivalvia		1	3	0	1.3	1.5	0	3	1.5	0.9	3.4	4
Mangelia sp.	Gastropoda		3	7	0	3.3	3.5	0	7	3.5	2.0	7.9	10
Nassarius sp.	Gastropoda		4	0	0	1.3	2.0	0	4	2.3	1.3	5.2	4
Aphelochaeta monilaris	Polychaeta		25	17	2	14.7	13.5	2	25	11.7	6.7	26.3	44
Aphelochaeta nr. williamsae	Polychaeta		81	94	76	83.7	85.0	76	94	9.3	5.4	20.9	251
Capitella capitata	Polychaeta		1	7	2	3.3	4.0	1	7	3.2	1.9	7.2	10
Cossura pygodactylata	Polychaeta		2	0	2	1.3	1.0	0	2	1.2	0.7	2.6	4
Driloncreis longa	Polychaeta		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Euchone limnicola	Polychaeta		0	0	11	3.7	5.5	0	11	6.4	3.7	14.3	11

STATUM	STATION	IDORG	DATE	LEG
14002	EUREKA WATERFRONT- J STREET (cont.)	1586	04/17/96	42

Species	Taxa	# of Sp.	Number per core			Summary Statistics							
			rep 1	rep 2	rep 3	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Exogone lourei	Polychaeta		10	2	2	4.7	6.0	2	10	4.6	2.7	10.4	14
Mediomastus californiensis	Polychaeta		14	65	60	46.3	39.5	14	65	28.1	16.2	63.3	139
Mediomastus sp(p)	Polychaeta		0	0	17	5.7	8.5	0	17	9.8	5.7	22.1	17
Nephtys caecoides	Polychaeta		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Polydora cornuta	Polychaeta		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Sphaerosyllis californiensis	Polychaeta		8	5	1	4.7	4.5	1	8	3.5	2.0	7.9	14
Streblospio benedicti	Polychaeta		106	76	20	67.3	63.0	20	106	43.7	25.2	98.2	202
Brania brevibranchiata	Polychaeta		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Cirratulidae spp. indet.	Polychaeta		0	12	0	4.0	6.0	0	12	6.9	4.0	15.6	12
Dipolydora socialis	Polychaeta		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Euchone limnicola	Polychaeta		23	18	0	13.7	11.5	0	23	12.1	7.0	27.2	41
Glycinde polygnatha	Polychaeta		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Owenia fusiformis	Polychaeta		1	2	0	1.0	1.0	0	2	1.0	0.6	2.3	3
Pseudopolydora kempi	Polychaeta		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Tharyx parvus	Polychaeta		1	1	0	0.7	0.5	0	1	0.6	0.3	1.3	2
Anthozoa	Anthozoa		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Nematoda	Nematoda		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Nemertea	Nemertea		3	0	3	2.0	1.5	0	3	1.7	1.0	3.9	6
Oligochaeta	Oligochaeta		0	0	105	35.0	52.5	0	105	60.6	35.0	136.4	105
Sarsiella zostericola	Ostracoda		0	0	10	3.3	5.0	0	10	5.8	3.3	13.0	10
Total Individuals			340	338	372	350.0	355.0	338	372	19.1	11.0	42.9	1050
Total Species		41	26	25	22	24.3	24.0	22	26	2.1	1.2	4.7	73
Total Crust. Indiv.			44	16	58	39.3	37.0	16	58	21.4	12.3	48.1	118
Total Crust. Sp.		10	5	8	6	6.3	6.5	5	8	1.5	0.9	3.4	19
Gammarid Indiv.			1	3	1	1.7	2.0	1	3	1.2	0.7	2.6	5
Gammarid Sp.		4	1	3	1	1.7	2.0	1	3	1.2	0.7	2.6	5
Other Crustacean Indiv.			43	13	57	37.7	35.0	13	57	22.5	13.0	50.6	113
Other Crustacean Sp.		6	4	5	5	4.7	4.5	4	5	0.6	0.3	1.3	14
Total Echinoderm Indiv.			0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Total Echinoderm Sp.		0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Total Mollusc Indiv.			17	21	0	12.7	10.5	0	21	11.2	6.4	25.1	38
Total Mollusc Sp.		5	5	4	0	3.0	2.5	0	5	2.6	1.5	6.0	9
Total Polychaete Indiv.			274	301	196	257.0	248.5	196	301	54.5	31.5	122.7	771
Total Polychaete Sp.		21	13	13	13	13.0	13.0	13	13	0.0	0.0	0.0	39

BENTHIC COMMUNITY ANALYSES: STATISTICAL SUMMARIES

STATUM	STATION	IDORG	DATE	LEG
14001	EUREKA WATERFRONT- H STREET	1587	04/17/96	42

Species	Taxa	# of Sp.	Number per core			Summary Statistics							
			rep 1	rep 2	rep 3	mean	median	min	max	St. Dev.	S.E.	95%CI.	sum
Cumella sp.	Cumacea		2	65	0	22.3	32.5	0	65	37.0	21.3	83.2	67
Eudorella pacifica	Cumacea		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Cancer gracilis	Decapoda		0	0	3	1.0	1.5	0	3	1.7	1.0	3.9	3
Corophium salmonis	Gammaridea		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Grandidierella japonica	Gammaridea		3	6	0	3.0	3.0	0	6	3.0	1.7	6.8	9
Photis sp.	Gammaridea		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Munnogonium tillerae	Isopoda		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Eusarsiella zostericola	Ostracoda		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Leptochelia dubia	Tanaidacea		1	1	0	0.7	0.5	0	1	0.6	0.3	1.3	2
Macoma nasuta	Bivalvia		0	0	8	2.7	4.0	0	8	4.6	2.7	10.4	8
Macoma sp.	Bivalvia		3	6	0	3.0	3.0	0	6	3.0	1.7	6.8	9
Musculus sp.	Bivalvia		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Mysella sp.	Bivalvia		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Siliqua sp.	Bivalvia		0	2	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Mangelia sp.	Gastropoda		0	2	5	2.3	2.5	0	5	2.5	1.5	5.7	7
Nassarius sp.	Gastropoda		0	0	2	0.7	1.0	0	2	1.2	0.7	2.6	2
Aphelochaeta monilaris	Polychaeta		40	86	56	60.7	63.0	40	86	23.4	13.5	52.5	182
Aphelochaeta nr. williamsae	Polychaeta		73	59	118	83.3	88.5	59	118	30.8	17.8	69.4	250
Capitella capitata	Polychaeta		5	19	14	12.7	12.0	5	19	7.1	4.1	16.0	38
Cirratulidae spp. indet.	Polychaeta		0	0	7	2.3	3.5	0	7	4.0	2.3	9.1	7
Cossura pygodactylata	Polychaeta		0	3	14	5.7	7.0	0	14	7.4	4.3	16.6	17
Eteone sp(p)	Polychaeta		0	0	2	0.7	1.0	0	2	1.2	0.7	2.6	2
Euchone limnicola	Polychaeta		0	0	2	0.7	1.0	0	2	1.2	0.7	2.6	2
Exogone lourei	Polychaeta		2	4	1	2.3	2.5	1	4	1.5	0.9	3.4	7
Glycinde polygnatha	Polychaeta		1	0	1	0.7	0.5	0	1	0.6	0.3	1.3	2
Mediomastus californiensis	Polychaeta		80	70	22	57.3	51.0	22	80	31.0	17.9	69.8	172
Mediomastus sp(p)	Polychaeta		0	0	52	17.3	26.0	0	52	30.0	17.3	67.6	52
Sphaerosyllis californiensis	Polychaeta		0	1	2	1.0	1.0	0	2	1.0	0.6	2.3	3
Streblospio benedicti	Polychaeta		32	53	41	42.0	42.5	32	53	10.5	6.1	23.7	126
Brania brevipharyngea	Polychaeta		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Eteone californica	Polychaeta		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Euchone limnicola	Polychaeta		1	1	0	0.7	0.5	0	1	0.6	0.3	1.3	2
Glycinde armigera	Polychaeta		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Owenia fusiformis	Polychaeta		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1

STATUM	STATION	IDORG	DATE	LEG
14001	EUREKA WATERFRONT- H STREET (cont.)	1587	04/17/96	42

Species	Taxa	# of Sp.	Number per core			Summary Statistics							
			rep 1	rep 2	rep 3	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Platyhelminthes	Polychaeta		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Polycirrus sp(p)	Polychaeta		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Prionospio lighti	Polychaeta		1	1	0	0.7	0.5	0	1	0.6	0.3	1.3	2
Pseudopolydora paucibranchiata	Polychaeta		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Tharyx parvus	Polychaeta		0	2	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Nemertea	Nemertea		5	2	1	2.7	3.0	1	5	2.1	1.2	4.7	8
Oligochaeta	Oligochaeta		27	0	62	29.7	31.0	0	62	31.1	17.9	69.9	89
Phoronida	Phoronida		1	1	2	1.3	1.5	1	2	0.6	0.3	1.3	4
Total Individuals			280	393	417	363.3	348.5	280	417	73.2	42.2	164.6	1090
Total Species		42	19	28	22	23.0	23.5	19	28	4.6	2.6	10.3	69
Total Crust. Indiv.			7	75	4	28.7	39.5	4	75	40.2	23.2	90.3	86
Total Crust. Sp.		9	4	6	2	4.0	4.0	2	6	2.0	1.2	4.5	12
Gammarid Indiv.			4	7	0	3.7	3.5	0	7	3.5	2.0	7.9	11
Gammarid Sp.		3	2	2	0	1.3	1.0	0	2	1.2	0.7	2.6	4
Other Crustacean Indiv.			3	68	4	25.0	35.5	3	68	37.2	21.5	83.8	75
Other Crustacean Sp.		6	2	4	2	2.7	3.0	2	4	1.2	0.7	2.6	8
Total Echinoderm Indiv.			0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Total Echinoderm Sp.		0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Total Mollusc Indiv.			3	11	16	10.0	9.5	3	16	6.6	3.8	14.8	30
Total Mollusc Sp.		7	1	4	4	3.0	2.5	1	4	1.7	1.0	3.9	9
Total Polychaete Indiv.			237	304	332	291.0	284.5	237	332	48.8	28.2	109.8	873
Total Polychaete Sp.		23	11	16	13	13.3	13.5	11	16	2.5	1.5	5.7	40

STATUM	STATION	IDORG	DATE	LEG
10006	BODEGA BAY MASON'S MARINA	1682	12/06/96	47

Species	Taxa	# of Sp.	Number per core			Summary Statistics							
			rep 1	rep 2	rep 3	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Nippoleucon hinumensis	Cumacea		1	2	4	2.3	2.5	1	4	1.5	0.9	3.4	7
Ampelisca cristata	Gammaridea		0	3	2	1.7	1.5	0	3	1.5	0.9	3.4	5
Corophium sp.	Gammaridea		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Listriella melanica	Gammaridea		3	1	0	1.3	1.5	0	3	1.5	0.9	3.4	4
Paramicrodentopus schmitti	Gammaridea		0	1	2	1.0	1.0	0	2	1.0	0.6	2.3	3

BENTHIC COMMUNITY ANALYSES: STATISTICAL SUMMARIES

STATUM	STATION	IDORG	DATE	LEG
10006	BODEGA BAY MASON'S MARINA (cont.)	1682	12/06/96	47

Species	Taxa	# of Sp.	Number per core			Summary Statistics							
			rep 1	rep 2	rep 3	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Nebalia pugettensis	Leptostraca		0	1	8	3.0	4.0	0	8	4.4	2.5	9.8	9
Parasterope sp	Ostracoda		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Leptochelia dubia	Tanaidacea		1	2	1	1.3	1.5	1	2	0.6	0.3	1.3	4
Gemma gemma	Bivalvia		3	15	0	6.0	7.5	0	15	7.9	4.6	17.9	18
Macoma yoldiformis	Bivalvia		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Protothaca staminea	Bivalvia		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Tellina modesta	Bivalvia		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Capitellidae	Polychaeta		9	0	0	3.0	4.5	0	9	5.2	3.0	11.7	9
Ampharetidae, unident.(juv)	Polychaeta		1	0	7	2.7	3.5	0	7	3.8	2.2	8.5	8
Aphelochaeta monilaris	Polychaeta		18	28	3	16.3	15.5	3	28	12.6	7.3	28.3	49
Armandia brevis	Polychaeta		1	1	1	1.0	1.0	1	1	0.0	0.0	0.0	3
Brania brevipharyngea	Polychaeta		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Capitella capitata	Polychaeta		1	0	21	7.3	10.5	0	21	11.8	6.8	26.7	22
Chaetozone lunula	Polychaeta		2	15	5	7.3	8.5	2	15	6.8	3.9	15.3	22
Chaetozone senticosa	Polychaeta		4	9	0	4.3	4.5	0	9	4.5	2.6	10.1	13
Cirratulidae spp. indet.	Polychaeta		1	0	5	2.0	2.5	0	5	2.6	1.5	6.0	6
Cirratulus spectabilis	Polychaeta		8	8	1	5.7	4.5	1	8	4.0	2.3	9.1	17
Cossura candida	Polychaeta		22	9	42	24.3	25.5	9	42	16.6	9.6	37.4	73
Dorvillea longicornis	Polychaeta		40	13	0	17.7	20.0	0	40	20.4	11.8	45.9	53
Eteone sp(p)	Polychaeta		0	1	2	1.0	1.0	0	2	1.0	0.6	2.3	3
Eupolymnia heterobranchia	Polychaeta		2	0	5	2.3	2.5	0	5	2.5	1.5	5.7	7
Exogone lourei	Polychaeta		17	1	0	6.0	8.5	0	17	9.5	5.5	21.5	18
Heteromastus filobranchus	Polychaeta		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Mediomastus californiensis	Polychaeta		2	0	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Mediomastus sp(p)	Polychaeta		12	3	0	5.0	6.0	0	12	6.2	3.6	14.1	15
Nephtys caecoides	Polychaeta		0	1	16	5.7	8.0	0	16	9.0	5.2	20.2	17
Platynereis bicanaliculata	Polychaeta		2	0	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Pseudopolydora paucibranchiata	Polychaeta		6	1	0	2.3	3.0	0	6	3.2	1.9	7.2	7
Scoletoma zonata	Polychaeta		1	0	3	1.3	1.5	0	3	1.5	0.9	3.4	4
Sphaerosyllis californiensis	Polychaeta		3	0	0	1.0	1.5	0	3	1.7	1.0	3.9	3
Spiophanes duplex	Polychaeta		2	1	0	1.0	1.0	0	2	1.0	0.6	2.3	3
Nematoda	Nematoda		7	3	1	3.7	4.0	1	7	3.1	1.8	6.9	11
Nemertea	Nemertea		2	0	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Oligochaeta	Oligochaeta		113	3	4	40.0	58.0	3	113	63.2	36.5	142.2	120

STATUM	STATION	IDORG	DATE	LEG
10006	BODEGA BAY MASON'S MARINA (cont.)	1682	12/06/96	47

Species	Taxa	# of Sp.	Number per core			Summary Statistics							
			rep 1	rep 2	rep 3	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Total Individuals			285	124	137	182.0	204.5	124	285	89.4	51.6	201.2	546
Total Species		39	28	24	23	25.0	25.5	23	28	2.6	1.5	6.0	75
Total Crust. Indiv.			6	11	17	11.3	11.5	6	17	5.5	3.2	12.4	34
Total Crust. Sp.		8	4	7	5	5.3	5.5	4	7	1.5	0.9	3.4	16
Gammarid Indiv.			3	6	4	4.3	4.5	3	6	1.5	0.9	3.4	13
Gammarid Sp.		4	1	4	2	2.3	2.5	1	4	1.5	0.9	3.4	7
Other Crustacean Indiv.			3	5	13	7.0	8.0	3	13	5.3	3.1	11.9	21
Other Crustacean Sp.		4	3	3	3	3.0	3.0	3	3	0.0	0.0	0.0	9
Total Echinoderm Indiv.			0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Total Echinoderm Sp.		0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Total Mollusc Indiv.			3	15	3	7.0	9.0	3	15	6.9	4.0	15.6	21
Total Mollusc Sp.		4	1	1	3	1.7	2.0	1	3	1.2	0.7	2.6	5
Total Polychaete Indiv.			154	92	112	119.3	123.0	92	154	31.6	18.3	71.2	358
Total Polychaete Sp.		24	20	14	13	15.7	16.5	13	20	3.8	2.2	8.5	47

STATUM	STATION	IDORG	DATE	LEG
10007	BODEGA-SPUD POINT MARINA	1683	12/05/96	47

Species	Taxa	# of Sp.	Number per core			Summary Statistics							
			rep 1	rep 2	rep 3	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Ampelisca cristata	Gammaridea		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Bemlos concavus	Gammaridea		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Eobrolgus sp.	Gammaridea		0	2	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Foxiphalus golfiensis	Gammaridea		3	0	0	1.0	1.5	0	3	1.7	1.0	3.9	3
Listriella melanica	Gammaridea		1	1	2	1.3	1.5	1	2	0.6	0.3	1.3	4
Paramicrodentopus schmitti	Gammaridea		95	83	140	106.0	111.5	83	140	30.0	17.3	67.6	318
Bathyleberis sp.	Ostracoda		0	2	2	1.3	1.0	0	2	1.2	0.7	2.6	4
Parasterope sp	Ostracoda		2	0	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Rutiderma sp. a	Ostracoda		2	0	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Leptochelia dubia	Tanaidacea		0	2	3	1.7	1.5	0	3	1.5	0.9	3.4	5
Ophiuroidea	Ophiuroidea		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Gemma gemma	Bivalvia		13	19	12	14.7	15.5	12	19	3.8	2.2	8.5	44
Armandia brevis	Polychaeta		2	3	5	3.3	3.5	2	5	1.5	0.9	3.4	10

BENTHIC COMMUNITY ANALYSES: STATISTICAL SUMMARIES

STATUM	STATION	IDORG	DATE	LEG
10007	BODEGA-SPUD POINT MARINA (cont.)	1683	12/05/96	47

Species	Taxa	# of Sp.	Number per core			Summary Statistics							
			rep 1	rep 2	rep 3	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Axiothella rubrocincta	Polychaeta		0	0	8	2.7	4.0	0	8	4.6	2.7	10.4	8
Brania brevipharyngea	Polychaeta		4	0	10	4.7	5.0	0	10	5.0	2.9	11.3	14
Capitella capitata	Polychaeta		13	7	3	7.7	8.0	3	13	5.0	2.9	11.3	23
Dorvillea longicornis	Polychaeta		3	3	0	2.0	1.5	0	3	1.7	1.0	3.9	6
Euclymeninae, unident.	Polychaeta		1	3	6	3.3	3.5	1	6	2.5	1.5	5.7	10
Eupolymnia heterobranchia	Polychaeta		6	3	81	30.0	42.0	3	81	44.2	25.5	99.4	90
Exogone lourei	Polychaeta		38	86	0	41.3	43.0	0	86	43.1	24.9	97.0	124
Leitoscoloplos pugettensis	Polychaeta		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Maldanidae, unident. (juv)	Polychaeta		1	1	2	1.3	1.5	1	2	0.6	0.3	1.3	4
Mediomastus californiensis	Polychaeta		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Nephtys caecoides	Polychaeta		0	1	5	2.0	2.5	0	5	2.6	1.5	6.0	6
Pherusa neopapillata	Polychaeta		1	1	67	23.0	34.0	1	67	38.1	22.0	85.7	69
Platynereis bicanaliculata	Polychaeta		67	111	1	59.7	56.0	1	111	55.4	32.0	124.6	179
Pseudopolydora paucibranchiata	Polychaeta		1	0	39	13.3	19.5	0	39	22.2	12.8	50.0	40
Sphaerosyllis californiensis	Polychaeta		25	76	0	33.7	38.0	0	76	38.7	22.4	87.2	101
Nematoda	Nematoda		1	4	0	1.7	2.0	0	4	2.1	1.2	4.7	5
Nemertea	Nemertea		10	5	5	6.7	7.5	5	10	2.9	1.7	6.5	20
Oligochaeta	Oligochaeta		18	5	0	7.7	9.0	0	18	9.3	5.4	20.9	23
Total Individuals			307	422	392	373.7	364.5	307	422	59.7	34.4	134.2	1121
Total Species		31	21	24	18	21.0	21.0	18	24	3.0	1.7	6.8	63
Total Crust. Indiv.			103	92	147	114.0	119.5	92	147	29.1	16.8	65.5	342
Total Crust. Sp.		10	5	7	4	5.3	5.5	4	7	1.5	0.9	3.4	16
Gammarid Indiv.			99	88	142	109.7	115.0	88	142	28.5	16.5	64.2	329
Gammarid Sp.		6	3	5	2	3.3	3.5	2	5	1.5	0.9	3.4	10
Other Crustacean Indiv.			4	4	5	4.3	4.5	4	5	0.6	0.3	1.3	13
Other Crustacean Sp.		4	2	2	2	2.0	2.0	2	2	0.0	0.0	0.0	6
Total Echinoderm Indiv.			0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Total Echinoderm Sp.		1	0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Total Mollusc Indiv.			13	19	12	14.7	15.5	12	19	3.8	2.2	8.5	44
Total Mollusc Sp.		1	1	1	1	1.0	1.0	1	1	0.0	0.0	0.0	3
Total Polychaete Indiv.			162	297	227	228.7	229.5	162	297	67.5	39.0	151.9	686
Total Polychaete Sp.		16	12	13	11	12.0	12.0	11	13	1.0	0.6	2.3	36

BENTHIC COMMUNITY ANALYSES: STATISTICAL SUMMARIES

STATUM	STATION	IDORG	DATE	LEG
10028	PORTO BODEGA MARINA	1684	12/06/96	47

Species	Taxa	# of Sp.	Number per core			Summary Statistics							
			rep 1	rep 2	rep 3	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Eudorella pacifica	Cumacea		0	2	2	1.3	1.0	0	2	1.2	0.7	2.6	4
Nippoleucon hinumensis	Cumacea		11	7	14	10.7	10.5	7	14	3.5	2.0	7.9	32
Bemlos concavus	Gammaridea		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Nebalia pugettensis	Leptostraca		0	5	1	2.0	2.5	0	5	2.6	1.5	6.0	6
Leptochelia dubia	Tanaidacea		15	19	3	12.3	11.0	3	19	8.3	4.8	18.7	37
Gemma gemma	Bivalvia		3	4	0	2.3	2.0	0	4	2.1	1.2	4.7	7
Macoma secta	Bivalvia		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Macoma yoldiformis	Bivalvia		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Protothaca staminea	Bivalvia		0	1	1	0.7	0.5	0	1	0.6	0.3	1.3	2
Saxidomus nuttalli	Bivalvia		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Odostomia sp.	Gastropoda		0	0	4	1.3	2.0	0	4	2.3	1.3	5.2	4
Ampharetidae, unident.(juv)	Polychaeta		1	0	69	23.3	34.5	0	69	39.6	22.8	89.0	70
Aphelochaeta monilaris	Polychaeta		22	20	2	14.7	12.0	2	22	11.0	6.4	24.8	44
Armandia brevis	Polychaeta		4	10	2	5.3	6.0	2	10	4.2	2.4	9.4	16
Chaetozone lunula	Polychaeta		1	0	9	3.3	4.5	0	9	4.9	2.8	11.1	10
Chaetozone senticosa	Polychaeta		4	1	0	1.7	2.0	0	4	2.1	1.2	4.7	5
Cirratulidae spp. indet.	Polychaeta		11	0	0	3.7	5.5	0	11	6.4	3.7	14.3	11
Cirratulus spectabilis	Polychaeta		1	1	133	45.0	67.0	1	133	76.2	44.0	171.5	135
Cossura candida	Polychaeta		96	86	2	61.3	49.0	2	96	51.6	29.8	116.2	184
Dorvillea longicornis	Polychaeta		7	17	1	8.3	9.0	1	17	8.1	4.7	18.2	25
Exogone lourei	Polychaeta		1	1	4	2.0	2.5	1	4	1.7	1.0	3.9	6
Glycinde polygnatha	Polychaeta		3	2	2	2.3	2.5	2	3	0.6	0.3	1.3	7
Leitoscoloplos pugettensis	Polychaeta		6	4	11	7.0	7.5	4	11	3.6	2.1	8.1	21
Mediomastus sp(p)	Polychaeta		2	2	0	1.3	1.0	0	2	1.2	0.7	2.6	4
Pectinaria californiensis	Polychaeta		1	2	1	1.3	1.5	1	2	0.6	0.3	1.3	4
Platynereis bicanaliculata	Polychaeta		3	15	2	6.7	8.5	2	15	7.2	4.2	16.3	20
Sphaerosyllis californiensis	Polychaeta		13	24	0	12.3	12.0	0	24	12.0	6.9	27.0	37
Spiophanes duplex	Polychaeta		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Typosyllis hyalina	Polychaeta		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Nematoda	Nematoda		3	0	0	1.0	1.5	0	3	1.7	1.0	3.9	3
Nemertea	Nemertea		1	1	0	0.7	0.5	0	1	0.6	0.3	1.3	2
Oligochaeta	Oligochaeta		76	6	19	33.7	41.0	6	76	37.2	21.5	83.8	101
Total Individuals			289	232	282	267.7	260.5	232	289	31.1	17.9	69.9	803
Total Species		32	26	23	19	22.7	22.5	19	26	3.5	2.0	7.9	68

STATUM	STATION	IDORG	DATE	LEG
10028	PORTO BODEGA MARINA (cont.)	1684	12/06/96	47

Species	Taxa	# of Sp.	Number per core rep 1	rep 2	rep 3	Summary Statistics mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Total Crust. Indiv.			27	33	20	26.7	26.5	20	33	6.5	3.8	14.6	80
Total Crust. Sp.		5	3	4	4	3.7	3.5	3	4	0.6	0.3	1.3	11
Gammarid Indiv.			1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Gammarid Sp.		1	1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Other Crustacean Indiv.			26	33	20	26.3	26.5	20	33	6.5	3.8	14.6	79
Other Crustacean Sp.		4	2	4	4	3.3	3.0	2	4	1.2	0.7	2.6	10
Total Echinoderm Indiv.			0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Total Echinoderm Sp.		0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Total Mollusc Indiv.			5	6	5	5.3	5.5	5	6	0.6	0.3	1.3	16
Total Mollusc Sp.		6	3	3	2	2.7	2.5	2	3	0.6	0.3	1.3	8
Total Polychaete Indiv.			177	186	238	200.3	207.5	177	238	32.9	19.0	74.1	601
Total Polychaete Sp.		18	17	14	12	14.3	14.5	12	17	2.5	1.5	5.7	43

STATUM	STATION	IDORG	DATE	LEG
10040	UNCONTAMINATED SITE-33D	1685	12/06/96	47

Species	Taxa	# of Sp.	Number per core rep 1	rep 2	rep 3	Summary Statistics mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Cumella sp.	Cumacea		0	4	2	2.0	2.0	0	4	2.0	1.2	4.5	6
Nippoleucon hinumensis	Cumacea		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Ampithoe sp.	Gammaridea		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Grandidierella japonica	Gammaridea		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Leptochelia dubia	Tanaidacea		7	2	7	5.3	4.5	2	7	2.9	1.7	6.5	16
Gemma gemma	Bivalvia		13	24	25	20.7	19.0	13	25	6.7	3.8	15.0	62
Aphelochaeta elongata	Polychaeta		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Armandia brevis	Polychaeta		1	0	1	0.7	0.5	0	1	0.6	0.3	1.3	2
Axiothella rubrocincta	Polychaeta		0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Capitella capitata	Polychaeta		1	0	1	0.7	0.5	0	1	0.6	0.3	1.3	2
Cirriformia spirabrancha	Polychaeta		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Cossura pygodactylata	Polychaeta		1	0	9	3.3	4.5	0	9	4.9	2.8	11.1	10
Exogone lourei	Polychaeta		13	14	1	9.3	7.5	1	14	7.2	4.2	16.3	28
Maldanidae, unident. (juv)	Polychaeta		0	4	1	1.7	2.0	0	4	2.1	1.2	4.7	5
Mediomastus californiensis	Polychaeta		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1

BENTHIC COMMUNITY ANALYSES: STATISTICAL SUMMARIES

STATUM	STATION	IDORG	DATE	LEG
10040	UNCONTAMINATED SITE-33D (cont.)	1685	12/06/96	47

Species	Taxa	# of Sp.	Number per core			Summary Statistics							
			rep 1	rep 2	rep 3	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Nephtys caecoides	Polychaeta		0	2	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Platynereis bicanaliculata	Polychaeta		1	0	7	2.7	3.5	0	7	3.8	2.2	8.5	8
Streblospio benedicti	Polychaeta		7	4	0	3.7	3.5	0	7	3.5	2.0	7.9	11
Oligochaeta	Oligochaeta		38	1	1	13.3	19.5	1	38	21.4	12.3	48.1	40
Total Individuals			84	56	58	66.0	70.0	56	84	15.6	9.0	35.1	198
Total Species		19	11	9	13	11.0	11.0	9	13	2.0	1.2	4.5	33
Total Crust. Indiv.			8	7	10	8.3	8.5	7	10	1.5	0.9	3.4	25
Total Crust. Sp.		5	2	3	3	2.7	2.5	2	3	0.6	0.3	1.3	8
Gammarid Indiv.			0	1	1	0.7	0.5	0	1	0.6	0.3	1.3	2
Gammarid Sp.		2	0	1	1	0.7	0.5	0	1	0.6	0.3	1.3	2
Other Crustacean Indiv.			8	6	9	7.7	7.5	6	9	1.5	0.9	3.4	23
Other Crustacean Sp.		3	2	2	2	2.0	2.0	2	2	0.0	0.0	0.0	6
Total Echinoderm Indiv.			0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Total Echinoderm Sp.		0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Total Mollusc Indiv.			13	24	25	20.7	19.0	13	25	6.7	3.8	15.0	62
Total Mollusc Sp.		1	1	1	1	1.0	1.0	1	1	0.0	0.0	0.0	3
Total Polychaete Indiv.			25	24	22	23.7	23.5	22	25	1.5	0.9	3.4	71
Total Polychaete Sp.		12	7	4	8	6.3	6.0	4	8	2.1	1.2	4.7	19