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SEDIMENT CHEMISTRY, TOXICITY AND BENTHIC COMMUNITY CONDITIONS IN SELECTED WATER BODIES OF THE SANTA ANA REGION

FINAL REPORT

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

National Oceanic and Atmospheric Administration
Coastal Monitoring and Bioeffects Assessment Division
Bioeffects Assessment Branch

Regional Water Quality Control Board
Santa Ana Region

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EXECUTIVE SUMMARY

The following report describes and evaluates chemical and biological data collected from the Santa Ana Region between September 1992 and August 1997. The study was conducted as part of the Bay Protection and Toxic Cleanup Program, a legislatively mandated program designed to assess the degree of chemical pollution and associated biological effects in California's bays and estuaries. The workplan for this study resulted from a cooperative agreement between the State Water Resources Control Board (SWRCB) and the National Oceanic and Atmospheric Administration (NOAA). Monitoring and reporting aspects of the study were conducted by the Environmental Services Division, of the California Department of Fish and Game, and its subcontractors.

Using a weight-of-evidence approach, various components of the Sediment Quality Triad were measured at 96 stations to determine the relative degradation in selected Southern California water bodies. All stations received toxicity analyses, 57 stations received sediment chemistry analyses, and 37 stations received benthic analyses. The Santa Ana Region (Region 8) was divided into three distinct water bodies to aid in data interpretation. Multiple stations were sampled from 12 sites in Anaheim Bay, 8 sites in Huntington Harbor and 22 sites in Newport Bay.

Degree of chemical contamination was assessed using sediment quality guidelines (ERL/ERM) developed by NOAA (Long et al., 1995). Stations were defined as having elevated chemistry if the mean ERM quotients were greater than 0.500, if more than five ERM guideline values were exceeded, or if individual chemicals were at concentrations high enough to likely be associated with biological effects. Five stations had elevated chemistry: one from Anaheim Bay (82030.0), one from Huntington Harbor (80028.3) and three from Newport Bay (85013.0, 85014.0, 85015.0). Relative to the chemistry guidelines, p,p'DDE, total chlordane, total PCB, copper, mercury, and zinc were found to be the chemicals or chemical groups of greatest concern.

Determinations of the statistical significance of toxicity test results were assessed using the t-test/Minimum Significant Difference (MSD) approach to compare sample toxicity to a laboratory negative control. A sample was considered toxic if: 1) there was a significant difference in mean organism response between a sample and the control as determined using a separate-variance t-test, and 2) if the mean organism response in the toxicity test was less than the MSD value as a percent of the control. Using the t-test/MSD approach, 41% of the 96 solid-phase samples tested with amphipods (*Eohaustorius* and *Rhepoxynius*) were significantly toxic. Ninety-five percent of the 56 interstitial water samples tested at 100% concentration were significantly toxic in larval development (abalone and purple urchin) tests.

There were several negative associations between toxicity test results and chemical compounds measured in bulk-phase samples. Amphipod survival from the entire region was negatively correlated with several metals and fine-grained sediments. Newport Bay amphipod survival was negatively correlated with metals, total chlordane and total PCB. Purple urchin larval development in 100% porewater was correlated with several metals, total chlordane, several DDT metabolites, tributyltin and total PCB. There was a strong negative correlation between sea urchin embryo development and pore water un-ionized ammonia concentrations.

Benthic community structure was assessed using a Relative Benthic Index (RBI) calculated based on measures of the total number of fauna, number of crustacean species, and numbers of positive and negative indicator species. The RBI ranged from 0.00 (degraded) to 1.00 (undegraded). Based on this index, 4 of the 37 stations sampled for benthic structure (11%) were significantly degraded. All four stations were from central Newport Bay (85005.0, 85010.0, 85011.0, 85012.0). Benthic community degradation was significantly correlated with several metals, several DDT metabolites and fine-grained sediments.

Principle Components Analysis (PCA) indicated significant relationships between RBI, amphipod survival and fine-grained sediments. PCA also revealed significant associations between *Ampelisca* survival and chemicals exceeding ERM guideline values in Newport Bay. Urchin development in porewater was also significantly associated with chemicals that had exceeded ERM guidelines (total chlordane, p,p'DDE and Zn).

All stations were categorized to help direct future investigations by State and Regional Water Board staff. Each station was placed in one of eight categories based on the degree of elevated chemical contamination, recurrent toxicity and degraded benthos. Categories ranged from Category 1, which included stations with elevated chemistry, recurrent toxicity and degraded benthos, to Category 8, which were reference stations.

There were no stations listed in Categories 1 through 3. One station from Anaheim Bay was listed in Category 4 (82030.0), and four stations were listed in Category 5. These two categories included stations with elevated chemistry and varied biological impacts. Category 5 stations included Upper Huntington Harbor (80028.3), and three from Newport Bay (85013.0, 85014.0, and 85015.0). The remaining stations were listed under Category 6, biological impact with no elevated chemistry, and Category 7, no biological impact or elevated chemistry.

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AA	Atomic Absorption
ASTM	American Society for Testing Materials
BPTCP	Bay Protection and Toxic Cleanup Program
CDF	Cumulative Distribution Frequencies
CDFG	California Department of Fish and Game
CH	Chlorinated Hydrocarbon
COC	Chain of Custody
COR	Chain of Records
EDTA	Ethylenediaminetetraacetic Acid
EMAP	Environmental Monitoring and Assessment Program
EPA	Environmental Protection Agency
EqP	Equilibrium Partitioning Coefficient
ERL	Effects Range Low
ERM	Effects Range Median
ERMQ	Effects Range Median Summary Quotient
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
NH_3	Ammonia
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
QA	Quality Assurance
QAPP	Quality Assurance Project Plan

QC	Quality Control
REF	Reference
RWQCB	Regional Water Quality Control Board
SCCWRP	Southern Calif. Coastal Waters Research Project
SEM-AVS	Simultaneously Extracted Metals-Acid Volatile Sulfide
SJSUF	San Jose State University Foundation
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®
TIE	Toxicity Identification Evaluation
TOC	Total Organic Carbon
TOF	Trace Organics Facility
UCSC	University of California Santa Cruz
U.S. EPA	U.S. Environmental Protection Agency
WCS	Whole core squeezing

Units

1 part per thousand (ppt) = 1 mg/g

1 part per million (ppm) = 1 mg/kg, 1 μg/g sediment

1 part per billion (ppb) = 1 μg/kg, 1 ng/g sediment

INTRODUCTION

In 1989, the California State legislature established the Bay Protection and Toxic Cleanup Program (BPTCP). One of the primary activities of the BPTCP is monitoring and assessment of sediments in selected California bays and estuaries. The assessment strategy has generally relied upon application of various components of the Sediment Quality Triad in a weight-of-evidence approach to hot spot determination (Chapman et al., 1987).

In 1992, the State Water Resources Control Board (SWRCB) and the National Oceanic and Atmospheric Administration (NOAA) entered into a three-year cooperative agreement to assess the potential adverse biological effects in selected coastal bays and harbors in Southern California (Fairey et al., 1996; Anderson et al., 1997). This report includes results from the first year of this cooperative agreement, which included studies conducted in Anaheim Bay, Huntington Harbor, and the Seal Beach vicinity. In addition, this report contains results of subsequent BPTCP monitoring and assessment studies conducted throughout the Santa Ana Region including the Newport Bay vicinity.

Purpose

Studies were performed in Anaheim Bay, Huntington Harbor, Bolsa Chica, Seal Beach and Newport Bay. The objectives of the study were as follows:

1. Characterize the magnitude and relative spatial distribution of toxicant-associated bioeffects in the above listed water bodies.
2. Determine relationships between concentrations and mixtures of sediment-associated toxicants and the occurrence and severity of bioeffects.
3. Distinguish more severely impacted sediments from less severely impacted sediments.
4. Use a weight-of-evidence approach based on the Sediment Quality Triad to rank and prioritize candidate hot spots for future work.

Programmatic Background and Needs

This study was part of a cooperative agreement between NOAA and the SWRCB and was implemented through the BPTCP. Studies were designed, managed, and coordinated by the SWRCB's Bays and Estuaries Unit as a cooperative effort with NOAA's Bioeffects Assessment Branch, and the California Department of Fish and Game's (CDFG) Marine Pollution Studies Laboratory. Funding was provided by the SWRCB and NOAA's Coastal Ocean Program.

Although the State Water Board and NOAA have common programmatic needs, they are not identical. NOAA is mandated by Congress to conduct a program of research and monitoring on marine pollution. Much of this research is being conducted through the National Status and Trends (NS&T) Program and the Coastal Ocean Program. The NS&T Program performs regional intensive studies of the magnitude and extent of toxicant-associated bioeffects in selected coastal embayments and estuaries. The areas chosen for these regional studies are those in which the contaminant concentrations indicate the greatest potential for biological effects.

These biological studies augment the regular chemical monitoring activities of the Program, and provide a means of estimating the toxicity associated with measured concentrations of sediment pollutants.

The California Water Code, Division 7, Chapter 5.6, Section 13390, mandates the State Water Resources Control Board 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. The BPTCP has four major goals: (1) provide protection of present and future beneficial uses of the bays and estuarine waters of California; (2) identify and characterize toxic hot spots; (3) plan for toxic hot spot cleanup or other remedial or mitigation actions; (4) develop prevention and control strategies for toxic pollutants that will prevent creation of new toxic hot spots or the perpetuation of existing ones within the bays and estuaries of the State.

Field and laboratory work was accomplished under interagency agreement with, and under the direction of, the CDFG. Sample collection, sample processing, and data management were performed by staff of the San Jose State University Foundation at Moss Landing Marine Laboratories (MLML). MLML staff also performed total organic carbon (TOC) and grain size analyses, as well as benthic community analyses. Toxicity testing was conducted by the University of California at Santa Cruz (UCSC) staff at the CDFG toxicity testing laboratory at Granite Canyon, Monterey County. Trace metals analyses were performed by CDFG personnel at the trace metal analytical facility at MLML. Synthetic organic pesticides, polycyclic aromatic hydrocarbons (PAHs) and polychlorinated biphenyls (PCBs) were analyzed at the UCSC trace organics analytical facility at Long Marine Laboratory in Santa Cruz.

Study Area

The BPTCP examined three distinct water bodies in the Santa Ana Region: Anaheim Bay/Seal Beach Naval Weapons Reserve, Huntington Harbor/Bolsa Chica, and Newport Bay (Figure 1). Anaheim Bay and Huntington Harbor are connected via a man-made channel, which was constructed in the late 1800's, but Newport Bay is a distinct water body. Descriptions of the specific water bodies follow.

Anaheim Bay and Huntington Harbor

The Anaheim Bay/Huntington Harbor complex is located on the northern edge of the Orange County coast, approximately 20 miles southeast of Los Angeles. The complex consists of inner and outer Anaheim Bay, Huntington Harbor, and several ecologically significant wetlands such as the Anaheim Bay National Wildlife Refuge and Bolsa Chica Ecological Reserve.

The U.S. Navy controls access through the outer bay (Figure 2a) which serves as the main entrance to the U.S. Naval Weapons Station, Seal Beach. The Navy also operates and manages the National Wildlife Refuge, which is located on their property. Besides the Naval property, the only developed area is a 55-acre partially developed parcel called Sunset Aquatic Regional Park. The area surrounding Huntington Harbor area is primarily residential with small boat marina.

activity (Figure 2b). Huntington Harbor has one boatyard facility located in the harbor. The Santa Ana Regional Water Quality Control Board currently regulates boatyard dischargers under a general Boatyard NPDES permit. Land use around the Bolsa Chica Ecological Reserve is primarily oil production with some residential areas.

The inner section of Anaheim Bay and Huntington Harbor receive very little tidal flushing because of the 600-foot wide shipping channel connecting the outer and inner bays and the constriction at the Pacific Coast Highway Bridge. Culverts and tide gates further restrict tidal flow into the wildlife refuge. Outer Bolsa Bay is connected directly to Huntington Harbor and is the only section of the Bolsa Chica Reserve directly open to tidal influence. Inner Bolsa Bay and the rest of the reserve have a tidal regime controlled by flood gates. Because of the muted tidal flow, freshwater inputs have significant impacts on water quality.

Two major storm drains enter the Anaheim Bay/Huntington Harbor complex. The Bolsa Chica flood control channel enters lower Huntington Harbor, and the East Garden Grove Wintersburg flood control channel enters outer Bolsa Bay. These channels, as well as their tributaries, convey runoff from the northern portion of the heavily urbanized Orange County into Huntington Harbor. Inputs of stormwater and urban nuisance flows via these channels are potentially significant sources of pollutant loadings and are being addressed through the county's urban runoff/stormwater permit. Because of metals and pesticide input from urban runoff, and non-point source pollutants, water quality in this area is categorized as impaired by the Regional Water Quality Control Board

Newport Bay

Adjacent to the cities of Newport Beach, and Corona Del Mar, Newport Bay is one of the largest small craft harbors in Southern California (Figure 2c). Containing approximately 10,000 small craft, the Bay is split into upper and lower bays. Upper Newport Bay is owned and managed by the State Department of Fish and Game as a State Ecological Reserve. Lower Newport Bay is heavily developed with housing, hotels, restaurants, marinas, and light marine industry such as boatyards and fuel docks. The Newport Bay watershed encompasses 154 square miles with San Diego Creek being the largest tributary. Included among several smaller tributaries draining into the system are the Santa Ana-Delhi Channel and Big Canyon Wash.

Pollution problems in Newport Bay include pesticides/herbicides entering the system from urban runoff and agriculture runoff into the tributary creeks. High levels of trace metals have been detected in San Diego Creek and at certain locations in the bay. Toxicants associated with sedimentation from urban erosion and tributary creeks have also been identified (Santa Ana Regional Water Quality Control Board). Other toxicant sources include boatyard and fueling operations, small craft discharges and stormwater runoff.

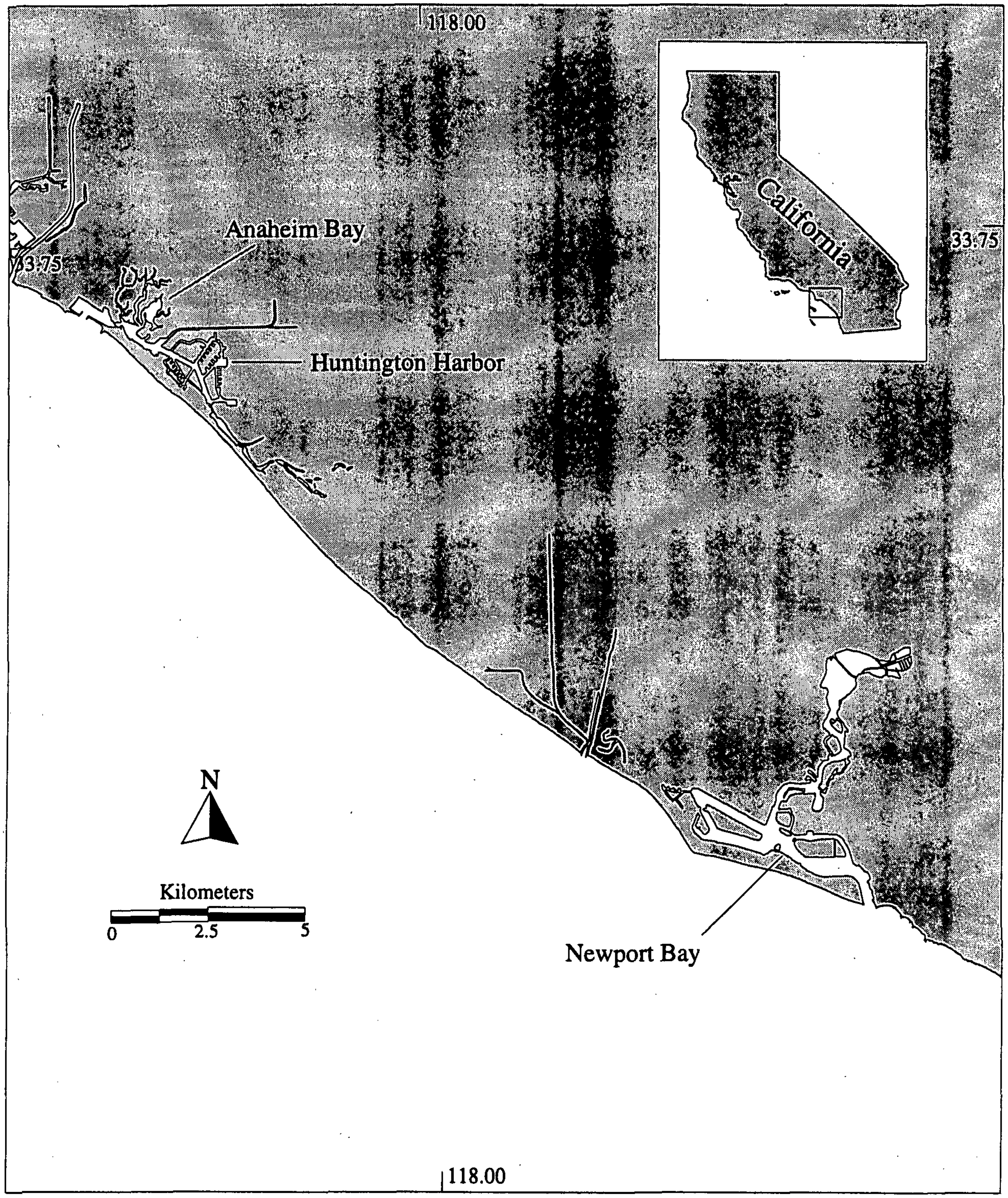
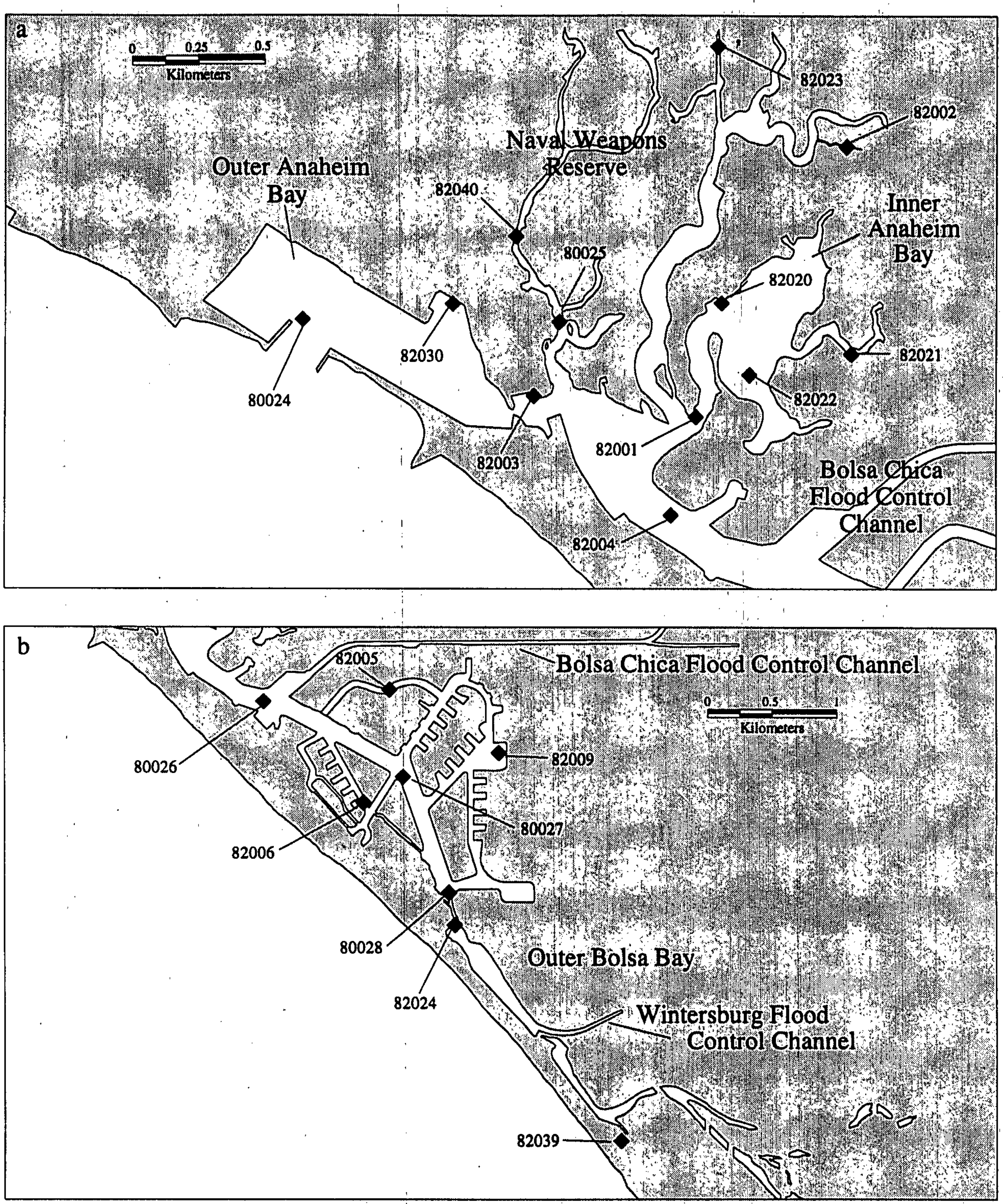


Figure 1. Locations of Region 8 study areas.



Figures 2a and 2b. Station locations for sites in Anaheim Bay and Huntington Harbor.

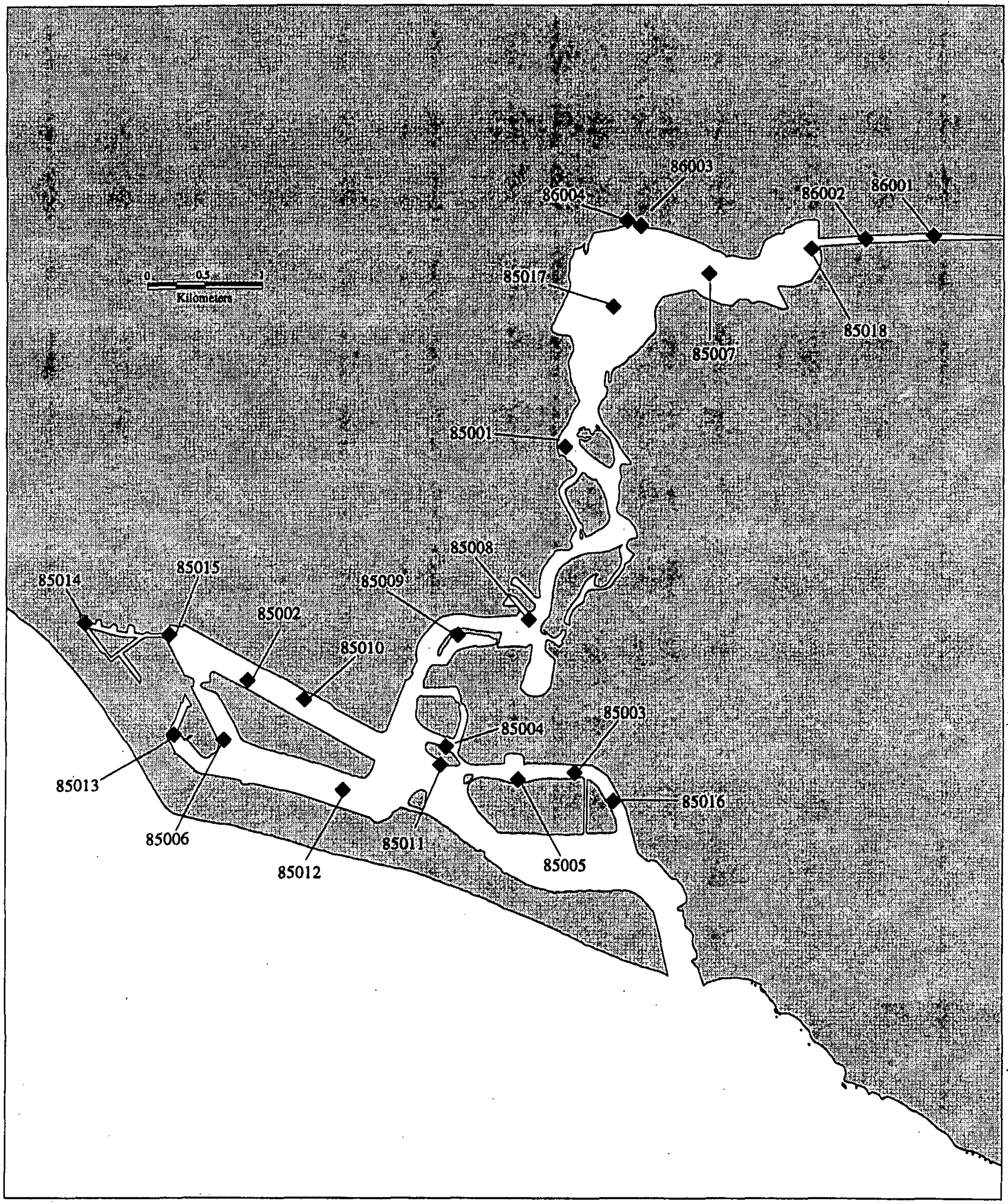


Figure 2c. Station locations for sites in Newport Bay.

METHODS

Sampling Design

Sampling for the Santa Ana Region was conducted in 14 separate sampling periods (Legs), over a five-year period from September 1992 to August 1997 (Table 1). In general, the BPTCP monitoring strategy was designed to proceed in two phases with an initial screening phase followed by confirmation studies. Screening studies typically consisted of some component(s) of the Sediment Quality Triad (Toxicity, Chemistry, and/or Benthics after Chapman et al., 1987), and confirmation studies were designed to include additional toxicity monitoring, as well as chemistry, and benthic community structure as warranted. The initial Legs of the Santa Ana Region monitoring (Legs 4 and 5) were conducted as a cooperative monitoring study between the BPTCP and the NOAA Status and Trends program, as described above. Later Legs combined screening surveys in water bodies not recently monitored, confirmation studies at stations previously demonstrating toxicity or high chemistry, and surveys to locate appropriate reference sites for inclusion in reference envelope determinations (not included in this region).

Two sampling designs were used to meet the combined goals of the SWRCB, EMAP, and NOAA. A directed point sampling design was required to address SWRCB's objective of identifying specific toxic hot spots. A stratified random sampling design was required to address EMAP's and NOAA's goal of evaluating the spatial extent of pollution. Of the 96 samples collected, 66 were collected from directed point sampled stations and 30 were collected from randomly sampled stations. Samples were collected for screening during 1992 and 1993, while confirmation samples were collected from 1994 to 1997. Samples collected in Newport Bay as part of the Southern California EMAP study were considered part of the screening phase.

When directed point sampling design was required, a two step process was used. Areas of interest were identified by regional and state water board staff for sampling during an initial "screening phase". Station locations (latitude & longitude) were predetermined by agreement with the SWRCB, NOAA, Regional Water Quality Control Boards, and DFG personnel. Changing of the site location during sediment collection was allowed only under the following conditions:

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

The random sample design was implemented in Newport Bay as part of the Southern California EMAP study. The following method was used to locate the random sampling stations. A grid of hexagons was laid down over a topographic map of the area demarcating the suitable sampling area. Each hexagon was used to locate a single random point. The points within the area were counted, and a selection probability for the area was computed by dividing the desired number of points in the area by the total number of points. A subsample of points from the set of random hexagon points determined the sample stations. Before taking the subsample, the points were randomized in a manner to ensure that the resulting stations were spread spatially over the bay.

This phase of work was intended to give a broad assessment of toxicity throughout the Santa Ana Region using multiple test species and toxicity endpoints. Chemical analysis was performed on selected samples in which toxicity results prompted further analysis. Stations that met certain criteria during the screening phase, or during the random sampling phase, were then selected for a second round of sampling, termed the "confirmation phase". During this phase additional toxicity monitoring, chemical analysis, or benthic analysis was performed. Evidence from this two step process was used to establish a higher level of certainty for the ranking of stations.

From the combined sampling designs, a total of 96 samples were collected from 52 sites in the Santa Ana Region. Site locations that were sampled more than once were always resampled at the original location using navigational equipment and lineups. Bioassay tests, grain size and total organic carbon analyses were performed on all 96 samples. Trace metal analysis and trace synthetic organic analysis was performed on 57 samples. Benthic community analysis was performed on 36 samples.

Table 1. Summary of Region 8 sampling design and sites sampled

Leg	Date	Screening/ Confirmation	Sampling Design	Sites Sampled
4	9/15/92	screening	directed - triangle format around site – stations 100 meters apart	80024.1, 80024.2, 80024.3, 80026.1, 80026.2, 80026.3, 80027.1, 80027.2, 80027.3, 80028.1, 80028.2, 80028.3
5	10/13/92	screening	directed - triangle format around site – stations 100 meters apart	80025.1, 80025.2, 80025.3
9	12/9/92	screening	directed - single site	82001.0, 82002.0, 82003.0, 82004.0, 82005.0, 82006.0, 82009.0, 82020.0, 82021.0, 82022.0, 82023.0, 82024.0, 82030.0, 82039.0, 82040.0
17	4/19/93	screening	directed - single site	82020.0, 82023.0, 82024.0, 82030.0
19	5/28/93	screening	directed - single site	80024.3, 82002.0, 82009.0
25	2/3/94	confirmation	directed - triangle format around station – sub-replicates 50 meters apart	82030.0
26	2/14/94	confirmation	directed - triangle format around station – sub-replicates 50 meters apart	82001.0, 82002.0, 82023.0, 82040.0,
29	3/31/94	confirmation	directed - triangle format around station – sub-replicates 20 to 40 meters apart	80024.3, 80027.3, 80028.3
30	4/18/94	confirmation	directed - triangle format around station – sub-replicates 20 to 40 meters apart	82005.0, 82030.0, 82039.0
32	5/22/94	confirmation	directed - single site	82030.0
34	9/8/94	screening	random - EMAP methods	85001.0, 85002.0, 85003.0, 85004.0, 85005.0, 85006.0
36	9/26/94	screening	random - EMAP methods	85007.0, 85008.0, 85009.0, 85010.0, 85011.0, 85012.0, 85013.0, 85014.0, 85015.0, 85016.0, 85017.0, 85018.0
45	6/24/96	confirmation	directed - single site	85001.0, 85013.0
54	8/22/97	confirmation	directed - single site	85001.0, 86001.0, 86002.0, 86003.0, 86004.0

Sample Site Selection

Over the course of the program sites were sampled in three different ways. In the first screening legs, individual sites consisted of three field replicates, referred to as stations. Each station was located approximately 100 meters apart at the points of a triangle centered over the site. Sites are recognized by a 5-digit number, with a decimal place indicating the station (80024.1 = site 80024, station 1). More detailed information on spatial distributions of chemical pollution and toxicity were required for individual stations. In these cases, additional sub-replicates were sampled around one of the field replicates, or points of the triangle. These sub-replicates were sampled in a tight group around the station location and located approximately 50 meters apart. In some cases, particularly confirmation legs, no field replication was included in the sampling design. In this report, unless otherwise stated, all stations are treated separately for discussion of spatial distribution of chemical pollution and bioeffects. Areal extent of pollution and bioeffects around a particular site are inferred from field replicate data only when sufficient information is available. The Magellan Global Positioning System and reference photographs were used to precisely locate the sites for repeat visits. Table 1 summarized BPTCP sampling legs, dates, methods and sites for the Santa Ana Region.

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 EMAP, 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, and 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 sea-water 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, pore water, 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, pore water, 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 include 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. Subsamples were taken using a precleaned 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. 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. Such removals were noted on the field data sheet. 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 site (*e.g.* <1 meter), divers sampled that site 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. Divers entered a study site from one end and sampled in one direction, to avoid disturbing the sediment with feet or fins. Cores were taken to a depth of at least 15 cm. 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.

Replicate benthic samples (n = 3 or 5) were obtained at predetermined sites from separate deployments of the sampler. Three of the replicates were positioned according to the BPTCP sampling protocol (*e.g.* located by previously assigned lat/long coordinates), while the other two replicates were chosen within the location range of the previous three samples. 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.

Intact sediment cores were sampled directly Van Veen grab sampler at selected stations for later sediment-water interface toxicity tests. Cores were 7.5 cm in diameter, and sampled to a depth of 5 cm. Cores were removed from the sampler by sealing the bottom of the core by hand, and then sealing first the bottom, then the top with polyethylene caps. The bottom caps were then wrapped with parafilm® to prevent leakage, and the cores were stored upright in a cooler. Intact cores were refrigerated in the dark until used in toxicity tests. Sediment-water interface test methods are described below.

Subsurface water samples were collected by attaching a polyethylene water sample bottle to the frame of the grab. As the jaws of the grab closed to collect a sediment sample, a stopper was pulled from the sample bottle, and it filled. The water sample was consequently collected approximately 0.5 meters above the sediment surface. Samples were transferred to pre-cleaned, labeled sample bottles and placed in coolers.

Fish Tissue Sampling

Fish species targeted for collection were selected and prioritized based on relative abundance of species of interest; species behavior (e.g., feeding behavior); and habitat range; frequency of consumption by anglers; likelihood of contaminant accumulation based on tissue lipid content. Composite tissue samples were necessary to maximize the number of stations and fish species on which chemical analysis could be performed. The number of fish required to complete a composite was five for larger fish and fifteen for smaller fish. Fish species collected and number of fish needed to complete a composite were as follows:

1. White Croaker *(Genyonemus lineatus)* (5 per composite)
2. White Surfperch *(Phanerdon furcatus)* (5 per composite)
3. Shiner Surfperch *(Cymatogaster aggregata)* (15 per composite)
4. Topsmelt *(Atherinops affinis)* (15 per composite)

Collected samples were wrapped in chemically cleaned Teflon® sheeting, to prevent trace metal and trace organic contamination, and frozen for transportation to the laboratory. Dissections and muscle tissue sample preparations were performed using non-contaminating methods in a clean room environment (Stephenson et al., 1994). Equal weight samples were taken from each fish using Teflon® forceps to provide a composite total of approximately 125 grams. All composites were homogenized and homogenate splits were taken for each chemical analysis.

Muscle tissue (i.e.- fillets) of white croaker were analyzed with skin on, while topsmelt and perch were analyzed whole body (i.e.- head, guts, tail removed). The decision to analyze tissue filets or whole body was based on the manner that the particular fish was most commonly cooked and eaten.

All sample composites were analyzed for, PAHs, PCB congeners, pesticides, percent moisture and percent lipid. A more detailed description of these methods can be found in the California State Mussel Watch Program Ten Year Data Summary Report (Phillips, 1988) and the California Bay Protection and Toxic Cleanup Program Quality Assurance Project Plan (Stephenson et al., 1994).

The U.S. EPA document used to design the study, Guidance For Assessing Chemical Contaminant Data For Use In Fish Advisories-Volume 1-Fish Sampling and Analysis (U.S. EPA, 1995a), was also used to develop the contaminant screening values used in this study. In developing the screening values (SVs) for a number of noncarcinogenic and carcinogenic compounds, risk-based dose response variables were used. These variables were used in the following equations to calculate the SVs used in this study:

For Noncarcinogens: $SV = (RfD * BW)/CR$
For Carcinogens: $SV = [(RL/SF)*BW]/CR$

where
SV = Screening Value (μg/g)
RfD = Oral reference dose (μg/g/d)
RL = Maximum acceptable risk level (dimensionless)
SF = Oral slope factor $(\mu g/g/d)^{-1}$
BW = Body Weight (kg)
CR = Consumption rate of tissue (g/d)

Body weight (BW), consumption rate (CR) and risk level (RL) have been held constant for all calculations in this document. Body weight was chosen at 70 kg, which is the mean body weight for the average male adult population (U.S. EPA, 1990). Consumption rate was chosen at 6.5 grams per day (one meal a month) which is the estimate of the average consumption of fish and shellfish from marine, estuarine and fresh waters by the general adult population (U.S. EPA, 1990). The risk level (RL) was chosen at 10^{-5} as recommended by the EPA Office of Water for the calculation of screening values. In simple terms, this means that if a person weighing 70 kg consumed 6.5 grams of fish per day with the same concentration of contaminant, for 70 years, the increased risk would be at most one additional cancer death per 100,000 persons. Values used for oral RfD and SF were those suggested for use by the EPA (U.S. EPA, 1995a). Screening values could not be calculated for all chemicals analyzed in this study since reliable information on the toxicity or carcinogenic potency of chemicals is not available for all analytes. RfD and SF information that has been developed to date is available in the EPA's Integrated Risk Information System (IRIS, 1992). This system is continuously updated, as information becomes available, so calculations of screening values for additional chemicals may be possible in the future.

The screening values calculated from the constants selected above are used to help identify potential chemicals of concern and should not be treated as health risk thresholds. Comparisons of sample tissue levels with screening values are meant to provide guidance to further investigations of contaminant levels in southern California fish tissues. They should not be construed as regulatory action levels or be used as definitive answers to questions concerning the safety of fish consumption. Health risk concerns will be reviewed and, if necessary, warnings issued, by the California Office of Environmental Health Hazard Assessment (OEHHA).

Transport of Samples

Six-liter sample containers were packed (three to an ice chest) with enough ice to keep them cool for 48 hours. Each container was sealed in clean, 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 prelabeled 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 Pore Water

In sampling Legs 1 through 23 the BPTCP used whole core squeezing (WCS) to extract pore water. Pore water sampled after Leg 23 was extracted using centrifugation. Sediment samples were stored on ice at 4°C prior to the extraction process.

The WCS 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 µm) sediment particles. Further filtration was accomplished with disposable TFE filters of 5 microns and 0.45-µm in-line with sample effluent. Sample effluent of the required volume was collected in TFE containers under refrigeration. Pore water was subsampled in the volumes and specific containers required for archiving, chemical or toxicological analysis.

Pre-cleaned Teflon® scoops were used to transfer sediment from sample containers into high-speed one-liter polycarbonate centrifuge jars, which were spun at 2500 G for 30 minutes at 4°C in a Beckman J-6B refrigerated centrifuge. Porewater was transferred from each centrifuge jar into final sample containers using pre-cleaned polyethylene siphons. While decanting, care was taken to avoid floating debris, fauna, shell fragments or other solid material. After transfer into final sample containers, porewater was immediately refrigerated at 4°C. Samples were refrigerated, not frozen, and toxicity testing was initiated within 24 hours of extraction of the final samples.

To avoid contamination, all sample containers, centrifuge jars, filters and squeezer surfaces in contact with the sample were plastics (acrylic, polycarbonate, PVC, and TFE) and cleaned with previously discussed clean techniques. All pore water extraction procedures were performed using trace metal and trace organic clean techniques in a positive pressure clean room with filtered air to prevent airborne contamination.

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 signed and dated 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 Metals Analysis of Sediments

Trace Metals analyses were conducted at the California Department of Fish and Game's (CDFG) Trace Metals Facility at Moss Landing, CA. Table 2 indicates the trace metals analyzed and lists method detection limits for sediments. These methods were modifications of those described by Evans and Hanson (1993), as well as those developed by the CDFG (California Department of Fish and Game, 1990). Samples were selected for chemical analyses by SWRCB staff based on results from toxicity tests.

Analytes and Detection Limits

Table 2. Dry Weight Trace Metal Minimum Detection Limits (MDL). Note that all tissue MDLs are reported in dry weight units because wet weight MDLs are based on percent moisture of the sample.

Analytes	MDL µg/g dry Sediment	MDL µg/g dry Tissue	MDL µg/L Water
Silver	0.002	0.01	0.001
Aluminum	1	1	NA
Arsenic	0.1	0.25	0.1
Cadmium	0.002	0.01	0.002
Copper	0.003	0.1	0.04
Chromium	0.02	0.1	0.05
Iron	0.1	0.1	0.1
Mercury	0.03	0.03	NA
Manganese	0.05	0.05	NA
Nickel	0.1	0.1	0.1
Lead	0.03	0.1	0.01
Antimony	0.1	0.1	NA
Tin	0.02	0.02	NA
Selenium	0.1	0.1	NA
Zinc	0.05	0.05	0.02

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. The vessel was capped and heated in a vented oven at 130°C for four hours. Three ml Hydrofluoric acid was added to vessel, recapped and returned to oven overnight. Twenty mL of 2.5% boric acid were added to vessel and placed in oven for an additional 8 hours. Weights of vessel and solution were recorded, and solution transferred to 30 ml polyethylene bottles.

Tissues 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 was added. Samples then were capped and heated on hot plates for five hours. Caps were tightened and heated in a vented oven at 130°C for four hours. Samples were allowed to cool and 15 mLs of Type II water was added to the vessels. The solution was then 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 "trace 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 interferes 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.

Acid Volatile Sulfide and Simultaneously Extracted Metals – AVS-SEM

This procedure determines the concentration of acid volatile sulfide (AVS) and the concentrations of selected metals that are solubilized during the acidification process (simultaneously extracted metal, SEM). The AVS/SEM procedure followed methods described by Allen et al. 1993. AVS in the samples was first converted to hydrogen sulfide by acidification with hydrochloric acid at room temperature. The hydrogen sulfide was purged from the samples and trapped in an aqueous solution of sodium hydroxide. Sulfide concentrations were then determined spectrophotometrically by reaction with amine sulfuric acid and ferric chloride reagents to form methylene blue. The SEM are selected metals liberated from the sediment during the acidification. The concentrations of these metals were measured in the remaining acid after filtration of the sample. If the molar concentration of AVS exceeds the combined molar concentration of the simultaneously extracted metals in anoxic sediments, then the metals are assumed to be bound as metal sulfides and are therefore not bioavailable.

Trace Organic Analysis of Sediments (PCBs, Pesticides, and PAHs)

Analytical sets of 12 samples were scheduled such that extraction and analysis will occur within a 40-day window. The methods employed by the UCSC-TOF were modifications of those described by Sloan et al. (1993). Tables 3 through 8 indicate the pesticides, PCBs, and PAHs currently analyzed and list method detection limits for sediments on a dry weight basis.

Analytes and Detection Limits

Table 3. Dry Weight Minimum Detection Limits of Chlorinated Pesticides.

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

† The quantitation surrogate is PCB 103. ‡ The quantitation surrogate is d8-p,p'-DDD

Table 4. Dry Weight Detection Limits of NIST PCB Congeners.

Analytes †	Database Abbreviation	MDL ng/g dry sediment	MDL ng/g dry tissue	MDL ng/L water
2,4'-dichlorobiphenyl	PCB08	0.5	1.0	1.0
2,2',5-trichlorobiphenyl	PCB18	0.5	1.0	1.0
2,4,4'-trichlorobiphenyl	PCB28	0.5	1.0	1.0
2,2',3,5'-tetrachlorobiphenyl	PCB44	0.5	1.0	1.0
2,2',5,5'-tetrachlorobiphenyl	PCB52	0.5	1.0	1.0
2,3',4,4'-tetrachlorobiphenyl	PCB66	0.5	1.0	1.0
2,2',3,4,5'-pentachlorobiphenyl	PCB87	0.5	1.0	1.0
2,2',4,5,5'-pentachlorobiphenyl	PCB101	0.5	1.0	1.0
2,3,3',4,4'-pentachlorobiphenyl	PCB105	0.5	1.0	1.0
2,3',4,4',5-pentachlorobiphenyl	PCB118	0.5	1.0	1.0
2,2',3,3',4,4'-hexachlorobiphenyl	PCB128	0.5	1.0	1.0
2,2',3,4,4',5'-hexachlorobiphenyl	PCB138	0.5	1.0	1.0
2,2',4,4',5,5'-hexachlorobiphenyl	PCB153	0.5	1.0	1.0
2,2',3,3',4,4',5-heptachlorobiphenyl	PCB170	0.5	1.0	1.0
2,2',3,4,4',5,5'-heptachlorobiphenyl	PCB180	0.5	1.0	1.0
2,2',3,4',5,5',6-heptachlorobiphenyl	PCB187	0.5	1.0	1.0
2,2',3,3',4,4',5,6-octachlorobiphenyl	PCB195	0.5	1.0	1.0
2,2',3,3',4,4',5,5',6-nonachlorobiphenyl	PCB206	0.5	1.0	1.0
2,2',3,3',4,4',5,5',6,6'-decachlorobiphenyl	PCB209	0.5	1.0	1.0

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

Table 5. Dry Weight Minimum Detection Limits for additional PCB congeners.

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

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

Table 6. Dry Weight Minimum Detection Limits of Chlorinated Technical Grade Mixtures.

Analytes †	Database Abbreviation	MDL ng/g dry sediment	MDL ng/g dry tissue	MDL ng/L water
Toxaphene ‡	TOXAPH	50	100	100
Polychlorinated Biphenyl Aroclor 1248	ARO1248	5	100	100
Polychlorinated Biphenyl Aroclor 1254	ARO1254	5	50	50
Polychlorinated Biphenyl Aroclor 1260	ARO1260	5	50	50
Polychlorinated Terphenyl Aroclor 5460†	ARO5460	10	100	100

† The quantitation surrogate is PCB 207. ‡ The quantitation surrogate is d8-p,p'-DDD

Table 7. Dry Weight Minimum Detection Limits of Polyaromatic Hydrocarbons in Tissue.

Analytes †	Database Abbreviation	MDL ng/g dry Sediment	MDL ng/g dry Tissue	MDL ng/L Water
Naphthalene	NPH	5	10	30
2-Methylnaphthalene	MNP2	5	10	30
1-Methylnaphthalene	MNP1	5	10	30
Biphenyl	BPH	5	10	30
2,6-Dimethylnaphthalene	DMN	5	10	30
Acenaphthylene	ACY	5	10	30
Acenaphthene	ACE	5	10	30
2,3,5-Trimethylnaphthalene	TMN	5	10	30
Fluorene	FLU	5	10	30
Dibenzothiophene	DBT	5	10	30
Phenanthrene	PHN	5	10	30
Anthracene	ANT	5	10	30
1-Methylphenanthrene	MPH1	5	10	30
Fluoranthrene	FLA	5	10	30
Pyrene	PYR	5	10	30
Benz[a]anthracene	BAA	5	10	30
Chrysene	CHR	5	10	30
Tryphenylene	TRY	5	10	30
Benzo[b]fluoranthrene	BBF	5	10	30
Benzo[k]fluoranthrene	BKF	5	10	30
Benzo[e]pyrene	BEP	5	10	30
Benzo[a]pyrene	BAP	5	10	30
Perylene	PER	5	10	30
Indeno[1,2,3-cd]pyrene	IND	5	15	45
Dibenz[a,h]anthracene	DBA	5	15	45
Benzo[ghi]perylene	BGP	5	15	45
Coronene	COR	5	15	45

† See QA report for surrogate assignments.

Table 8. Dry Weight Minimum Detection Limits of Organometalic Compounds.

Analyte †	Database Abbreviation	MDL ng/g dry Sediment	MDL ng/g dry Tissue	MDL ng/L Water
Tributyltin	TBT	13	20	1

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 100 mL. 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.

Total Organic Carbon Analysis of Sediments

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 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 supernatant. 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 suppurate, 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 commercially 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 manufactures 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 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 ± 0.09% carbon (2.19% Average). Nitrogen was not reported on the standard data report, but was accepted at ± 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 a unknown and comparing known theoretical percentages with resultant analyzed percentages. Acceptable limits of standard unknowns were less than ± 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

Sample Splitting and Preparation

The procedure used combined wet and dry sieve techniques to determine particle size of sediment samples. Methods follow those of Folk (1974). 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 50g Calgon/L water) and the sample was stirred until completely mixed and all lumps disappear. 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 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.

Hydrometer Analysis (Fine Fraction)

Hydrometers used for the analysis were precalibrated using the techniques of Lewis (1984). A reference cylinder was filled with water and 100 ml of dispersant solution. Prior to the analysis, a hydrometer reading was taken for Cc, the composite correction for temperature, dispersing agent, and the meniscus.

For each of the sample cylinders, the volume was raised to 1000 ml using tap water. The hydrometer number was recorded, the temperature was noted, and the sample added and stirred for 1 minute. Hydrometer readings were taken at 1 minute, 3 minutes, 10 minutes, 30 minutes, 90 minutes, 4.5 hours and 24 hours. If the water temperature had changed by greater than 2°C then hydrometer corrections were remeasured. The colloidal weight was determined by subtracting the other fractions from the total weight.

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.

Toxicity Testing

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 Appendix. 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 were measured in overlying water and also interstitial water after Leg 30. Sulfide measurements were taken in interstitial water after Leg 30 and in overlying water between Legs 30 through 41. Hydrogen sulfide samples were preserved with zinc acetate and stored in the dark until time of measurement.

Pore Water 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 porewater upon the results of toxicity tests (Carr et al., 1995). Unfrozen pore water samples were stored in the dark, at 4°C. Porewater samples were stored frozen between Legs 4 and 23, and were stored refrigerated after Leg 31. 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 water quality criteria were within the limits defined for the test protocol. Total ammonia and sulfide concentrations were also measured. Pore water 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, mussel and urchin embryo-larval development tests were performed on water column samples collected with the modified Van Veen grab. 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 (from 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). The 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 that 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, *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. All *Ampelisca* were obtained from East Coast Amphipods in Wickford, RI. *Ampelisca* were shipped on ice via overnight courier in polyethylene jars containing Rhode Island collection site sediment. Upon arrival at Granite Canyon, *Ampelisca* were acclimated slowly (<2‰ per day) to 28‰ seawater (T=20°C). Once acclimated, the animals were held for an additional 48 hours prior to inoculation into 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 Rhode Island home sediment for *Ampelisca* and 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:

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

Ceriodaphnia dubia Water Flea Acute Survival Test

Aquatic toxicity of freshwater samples was assessed using the Cladoceran water flea (*Ceriodaphnia dubia*) acute survival test. Details of the test protocol are given in the MPSL Standard Operating Procedure for *Ceriodaphnia dubia* that follows EPA freshwater acute methods (EPA 1993).

Ceriodaphnia neonates (<24 h) were obtained from in house cultures or from Toxscan Laboratories (Watsonville, CA). Neonates were isolated from cultures or obtained from Toxscan on Day 0 of the test. All dilution water was prepared according to EPA (1993). Porewater test containers were 50-mL glass beakers containing 15 mL of test solution. Each test container was inoculated with 5 or 8 neonates depending on availability. The laboratory negative control consisted of EPA dilution water. After an exposure period of 96 hours neonates were counted. A positive control reference test was conducted concurrently with the test using a dilution series of copper chloride as the reference toxicant.

Ceriodaphnia dubia Water Flea Acute Survival Test at the Sediment-Water Interface

The toxicity of solid-phase freshwater sediments was assessed using the water flea (*Ceriodaphnia dubia*) acute survival test at the sediment-water interface. Details of the test protocol are given in the MPSL Standard Operating Procedure for *Ceriodaphnia dubia* that follows EPA freshwater acute methods (EPA 1993).

Ceriodaphnia neonates (<24 h) were obtained from in house cultures or from Toxscan Laboratories (Watsonville, CA). Neonates were isolated from cultures or obtained from Toxscan on Day 0 of the test. All dilution water was prepared according to EPA (1993). 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). Dilution water was poured into the screen tube at the surface of each core and allowed to equilibrate for 24 hours before the start of the test. Each test container was inoculated with 5 or 8 neonates depending on availability. The laboratory negative control consisted of Yaquina Bay amphipod home sediment from Northwestern Aquatic Sciences. After an exposure period of 96 hours, screens were removed from the intact cores, and neonates were counted. A positive control reference test was conducted concurrently with the test using a dilution series of copper chloride as the reference toxicant.

Haliotis rufescens Abalone Embryo-Larval Development Test

The red abalone (*Haliotis rufescens*) embryo-larval development test was conducted on pore water and subsurface water samples. Details of the test protocol are given in EPA 1995. 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 mLs of sample. Each test container was inoculated with 100 embryos (10/mL). Samples that were 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 pore water 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 EPA 1995. Percent normal development was calculated as:

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

Hyalella azteca **Amphipod Survival Test**

These amphipod tests followed ASTM (1993) procedures for *Hyalella azteca*. All *Hyalella* were obtained from Northwestern Aquatic Sciences (NWAS) in Yaquina Bay, Oregon. Animals were separated into groups of approximately 1000 and placed in polyethylene cubitainers containing NWAS laboratory water, then shipped via overnight courier. Upon arrival at Granite Canyon, the amphipods were acclimated to Granite Canyon well water (T=25°C). Once acclimated, the animals were held for an additional 48-h prior to addition to the test containers.

Test containers were one-liter glass jars containing 2 cm of sediment and filled to the 700-mL line with Granite Canyon well water. Test sediment and overlying water were allowed to equilibrate for 24 hours, then 20 amphipods were placed in each beaker along with well water to fill each test container to the one-liter line. Test chambers were gently aerated and continuously illuminated.

Five replicates of each sample were tested for 10 days. In addition, a negative sediment control consisting of 5 replicates of Yaquina Bay home sediment was included with each set of samples tested. Test containers were fed slurry of crushed alfalfa pellets three times per week (ASTM 1993). After 10 days, samples 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. In these tests, amphipod mortality was recorded in three replicates of four cadmium concentrations after a 96-hour water-only exposure. A dilution water control consisting of Granite Canyon well water was included in each test. Amphipod survival for each replicate was calculated as:

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

Mytilus spp. Embryo-Larval Development Test

The bay mussel (*Mytilus* spp.) embryo-larval development test was conducted on pore water and subsurface water samples. Details of the test protocol are given in EPA 1995. 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 the test containers within four hours of fertilization. Test containers were polyethylene-capped, seawater leached, 20-ml glass scintillation vials containing 10 mLs 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 that were 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 EPA 1995. Percent normal live larvae was calculated as:

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

Neanthes arenaceodentata Polychaete Survival and Growth Test

The *Neanthes* test followed procedures described in Puget Sound Protocols (1992). 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 an 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* Sea Urchin Embryo-Larval Development Test**

The sea urchin (*Strongylocentrotus purpuratus*) larval development test was conducted on pore water samples. Details of the test protocol are given in EPA 1995. 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 mLs of sample. Each test container was inoculated with approximately 250 embryos (25/ml). Pore water samples from Legs 34 and 36 were tested at three concentrations: 100, 50 and 25%, each having three replicates. Samples from Legs 17 and 19 were tested at 100 and 50% porewater with three replicates and samples from Legs 9 and 45 were tested at 100% only with 5 replicates. Pore water samples 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 96-hour positive control reference test was conducted concurrently with each pore water 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 EPA 1995. 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* Sea Urchin Embryo-Larval Development Test at the Sediment-Water Interface**

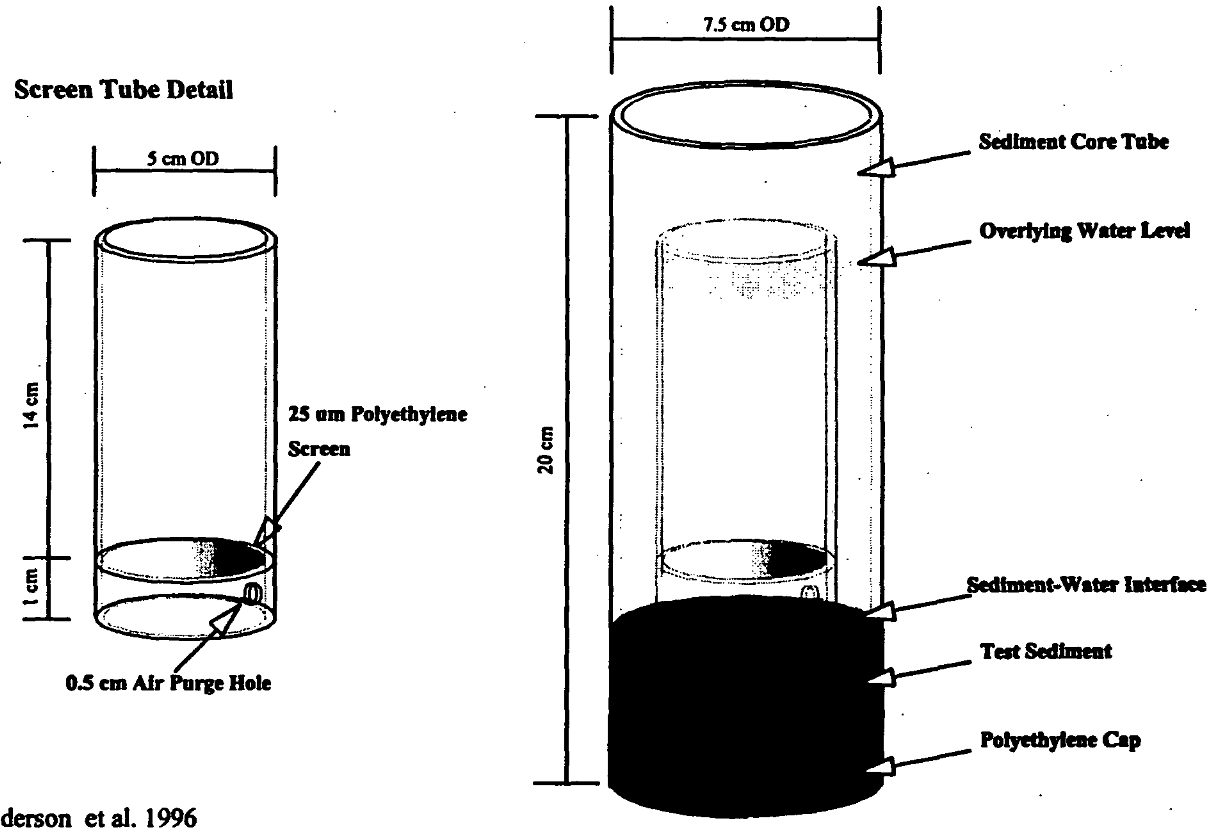
The purple sea urchin (*Strongylocentrotus purpuratus*) embryo/larval development test at the sediment-water interface was conducted on intact core sediment samples taken with minimal disturbance from the Van Veen grab sampler. Details of the test protocol are given in the MPSL Standard Operating Procedure, which follows the EPA methods manual (1995). 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 (Figure 3, 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 EPA 1995. Percent normal development was calculated as:

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

Sediment-Water Interface Exposure System*



* After Anderson et al. 1996

Figure 3. Sediment-Water Interface (SWI) Exposure System: 7.5 cm polycarbonate sample core with 5 cm screen tube.

Strongylocentrotus purpuratus Sea Urchin Fertilization Test

The sea urchin (*Strongylocentrotus purpuratus*) fertilization test was conducted on pore water 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 mLs of pore water. Porewater samples that were tested at three concentrations (100, 50 and 25%, Legs 17, 19 and 34) were diluted with one micron-filtered Granite Canyon seawater. Porewater from Legs 9 and 36 were tested at 100% only. 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 pore water 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:

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

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 has exceedances, but are generally usable for most assessments and reporting purposes.
- -6: sample has major exceedances of control criteria requirements and the data is not usable for most assessments and reporting purposes.

It is recommended that if assessments are made that are especially sensitive or critical, 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.

Benthic Community Analysis

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, site/station information, and IDOrg. Samples were selected for benthic community analysis by SWRCB staff based on results from toxicity tests.

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 in the San Diego BPTCP report (Fairey et al. 1996). It is based on simple, realistic natural history concerning responses of marine benthic communities to anthropogenic and natural disturbances. The community patterns used in the index include number of species (all taxa, only molluscs, and only crustaceans), the number of crustacean individuals, and the number of individuals of selected species that are indicators of relatively disturbed and undisturbed benthic habitats. The RBI is developed for particular areas by selecting different indicator species. It does not require the presence of uncontaminated reference stations, and does not refer to data beyond that collected in each study. Often the evaluation of community degradation depends on comparisons to uncontaminated reference sites which are difficult to locate and vary for reasons that are unknown and unrelated to contamination.

Number of Species

The number of species often decreases with severe disturbances (Oliver et al. 1977, Oliver et al. 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, Jumars 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 other components of the infauna, particularly polychaetes (Pearson and Rosenberg 1978, Reish et al. 1980, Thistle 1981, Swartz et al. 1986, Stull et al. 1986, Oliver et al. 1977, Lenihan and Oliver 1995, Lenihan et al. 1995). Speciose and numerically abundant crustacean faunas on the Pacific coast of the United States are generally 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, Oliver et al. 1977), and are also included in the RBI. Polychaetes, crustaceans, and molluscs are the three dominant groups of benthic macro-invertebrates from many nearshore communities (Oliver et al. 1980). Unlike the crustaceans and molluscs many of the most opportunistic species are polychaete (Grassle and Grassle 1974, McCall 1977, Oliver et al. 1977, Pearson and Rosenberg 1978, Reish et al. 1980, Sanders et al. 1980, Santos and Simon 1980, Thistle 1981, Rhoads et al. 1982, Lenihan and Oliver 1995). As a result, the number of polychaete species was not used in the RBI, because they do not clearly indicate relatively disturbed or undisturbed habitats.

Number of Individuals

An increase in the number of crustacean individuals is indicative of relatively healthy environments (Stull et al. 1986, Swartz et al. 1986, Oliver et al. 1977, Lenihan and Oliver 1995). Occasionally individual crustacean species can be abundant in disturbed habitats (Vetter 1995, Okey 1997), but less so than other major taxonomic groups, such as polychaete worms (Pearson and Rosenberg 1978, Grassle and Grassle 1974, Oliver et al. 1977). Therefore, the number of individuals of crustaceans 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 more strongly associated with benthic habitats that are disturbed or undisturbed than the number of species or the number of crustacean individuals (Grassle and Grassle 1974, Oliver et al. 1977, Davis and Spies 1980, Westin 1990, Lenihan and Oliver 1995, Okey 1997). Therefore, five species were used in the RBI as indicators of highly disturbed or undisturbed benthic communities and habitats. The number and identity of indicator species can change from one regional study site 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, Pearson and Rosenberg 1978, Davis and Spies 1980, Sanders et al. 1980, Santos and Simon 1980, Thistle 1981, Lenihan and Oliver 1995, Okey 1997). Selection was also based on life history traits (Grassle and Grassle 1974, Oliver et al. 1977, Rhoads et al. 1978, Rhoads and Boyer 1982, Lenihan and Oliver 1995) and 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 two negative indicator species are highly opportunistic annelids which thrive in disturbed, polluted, or marginal environments, and are generally not found in less disturbed communities. The three positive indicator species are generally 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 that lives in a wide range of conditions including fouled or low oxygen, high organic matter and fine sediments. They have a rapid (1 to 2 month) life cycle, and are abundant around outfalls discharging biological wastes. *Capitella* are capable of surviving for days with little or no oxygen, and are often considered the best example of a "weedy", opportunistic species (Grassle and Grassle 1974, Grassle and Grassle 1976, Oliver et al. 1977, McCall 1977, Pearson and Rosenberg 1978, Lenihan and Oliver 1995, Okey 1995 and many others).

Oligochaetes

Oligochaetes are a poorly known group typically found in peripheral/disturbed habitats such as under decaying algae on beaches, and in the fouled or low oxygen sediments of back bays, estuaries and harbors (Brinkhurst and Simmons 1968, Pearson and Rosenberg 1978, Brinkhurst and Cook 1980). They often occur in large masses with nearly 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 (Smith and Carlton, 1975; Brinkhurst and Simmons, 1968). Oligochaetes are also well known indicators of relatively degraded freshwater ecosystems (Brinkhurst and Simmons 1968, Pearson and Rosenberg 1978, Brinkhurst and Cook 1980).

Positive Indicator Species

Acuminodeutopus sp.

Acuminodeutopus is found in shallow clean, well-oxygenated sands, and in relatively clean bay sediments. They build tubes, and are early/first colonizers of ray pits and other relatively small-scale perturbations. *Acuminodeutopus* live in sedimentary habitats that are less strongly influenced by large-scale physical and chemical disturbances and more by smaller-scale biological disturbances such as ray feeding (Barnard 1961, Barnard and Reish 1959, VanBlaricom 1982).

Monoculodes

Monoculodes is a fossorial oedocerotid amphipod that requires well-oxygenated, clean sediment (Oliver et al. 1980). They are shallow burrowers that occur at the sand surface-water interface. *Monoculodes* are carnivorous and therefore are probably active and sensitive to sediment surface quality (Mills 1962, Bousfield 1970, Bousfield 1996). They can also colonize relatively small open patches in sandy habitats (Oliver et al. 1977), and have been selected as sensitive species to use in bioassays (Lenihan et al. 1995).

Tellina

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 Relative Benthic Index

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 RBI was revised and is now based on percentages of the total range. The final threshold value for determination of impacted versus non-impacted sites was based on the overall RBI 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 were then converted to the percentage of the total range for these parameters. The number of crustacean individuals at each station is similarly 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 two thirds of the RBI 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 RBI 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 Relative Benthic Index

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 are often used in different regions. What the RBI does provide is 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, or 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 RBI less than or equal to 0.30. 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 significantly degraded by the vast majority of naturalists familiar with the region's bays and estuaries. 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.

Data Analysis

Analysis of Chemistry Data

Comparisons with Sediment Quality Guideline Values

Bioavailability is the key to understanding the relationship between sediment chemistry and biological impacts. However, it was not possible to use TIEs, bioaccumulation analyses, or other specialized methods to evaluate bioavailability on the large number of samples evaluated in 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 observation of large data sets containing matching chemistry and biology data to provide guidance for evaluating the probability that measured contaminant concentrations might contribute to observed biological effects (MacDonald 1994, 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 National Status and Trends Program has evaluated chemical and toxicological evidence from a number or laboratory, field, and modeling studies to establish three ranges of chemical concentrations which are either rarely, sometimes, or usually associated with biological effects. Evaluation of available data (Long et al. 1995) has resulted in the identification of three concentration ranges for selected chemical compounds:

1) Minimal Effects Range: The range in concentrations 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 concentrations over which toxic effects are frequently or always observed.

Two different methods were used to determine these chemical ranges. One method developed by NOAA (Long et al. 1995) used chemical data that were associated with toxic response. These data were used to determine the lowest 10th percentile of ranked data where chemical concentration was associated with an effect (Effects Range - Low, or ERL). Chemical concentrations below the ERL are expected to rarely affect organisms. 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 occasionally expected to occur when chemical concentrations fall between the ERL and ERM.

The screening concentrations described by MacDonald (1994) also identify three ranges of chemical concentrations associated with toxic biological response, but use an alternate method. The ranges are identified as PEL (Probable Effects Level), and TEL (Threshold Effects Level). TELs 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. The ERL, ERM, TEL, and PEL values are provided in Table 9.

Although different data sets and percentiles were used in these two approaches to derive chemical screening concentrations, they are in close agreement, usually within a factor of 2. While neither of these methods is advocated over the other in this report, we have presented only ERM comparisons to simplify the many presentations of the data. Long, Field, and MacDonald (1998) found that the predictive ability of ERMs was slightly greater than that of PELs in a recent evaluation of additional sediment data.

It should be noted that the degree of confidence that MacDonald (1994) and Long et al. (1995) had in their respective numerical guidelines varied considerably among the different chemicals. For example, both had little confidence in the values for nickel, mercury, DDTs, dieldrin, and endrin. DDT compounds were among those exceeding the PEL and ERM values most often at the 43 stations sampled in this study. Swartz et al. (1994) have recently revised guidelines for DDT and its metabolites to derive Sediment Effect Concentrations (SECs) for these compounds. In this report the SEC for Total DDT (100 μg DDT per Kg organic carbon) is used instead of the ERM for Total DDT.

Table 9. Comparison of sediment screening levels developed by NOAA and the State of Florida.

	State of Florida (1)		NOAA (2,3)	
SUBSTANCE	TEL	PEL	ERL	ERM
Total PCB (ng/g- dry weight)	21.550	188.79	22.70	180.0
PAH (ng/g- dry weight)				
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)anthracene	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 (ng/g- dry weight)				
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	100.0 (4)
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 (mg/kg- 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; (3) Long and Morgan, 1990;
(4) Swartz et al., 1994

Non-Guideline Chemicals

For the purposes of categorizing chemical contamination in this data set, the NOAA ERM and ERL guidelines were used. To evaluate chemicals for which no ERM guidelines have been calculated, concentrations of specific chemicals were compared to the range of chemical concentrations in the BPTCP database. This database contains concentrations of approximately 120 analytes measured in sediments collected in the majority of California bays, estuaries, lagoons and near coast areas. The following information was described for each chemical: the Method Detection Limit (MDL), the highest value in the dataset, and the 90[th] and 95[th] percentile thresholds for each chemical (Table 10). For the purposes of station categorization, chemicals for which no sediment quality guideline values have been calculated were compared to the 90[th] and 95[th] percentile thresholds, and to the range of concentration measured throughout the state for comparison. Stations with chemical concentrations greater than the 90[th] percentile thresholds are noted in Table 31.

Table 10. Upper percentile concentrations of BPTCP chemicals for which there are no ERL or ERM sediment guideline values.

Chemical Name	MDL	Highest Value	90th % Threshold	95th % Threshold
Aluminum	1	165,000	83,000	101,000
Iron	0.1	336,300	55,300	59,900
Manganese	0.05	1190	630	682
Selenium	0.1	35.7	1.09	1.9
Tin	0.02	92.9	9.03	12
Aldrin	0.5	8.2	4.7	8.2
Chloropyrifos	1	78	28	44.4
Dacthal	0.2	25.2	7.51	19
p,p'Dichlorobenzophenone	3	63.3	30.6	35.2
Endosulfan I	0.5	19.6	13.4	19.6
Endosulfan II	1	59.8	10.4	13.8
Endosulfan Sulfate	2	163	21	45.6
Ethion	2	36.4	36.4	36.4
alpha-HCH	0.2	292	26.1	292
beta-HCH	1	56.8	56.8	56.8
delta-HCH	0.5	99.4	14.4	99.4
Heptachlor	0.5	15.8	4.5	7.3
Heptachlor Epoxide	0.5	17.8	2.5	3.1
Hexachlorobenzene	0.2	59.7	3.63	7.07
Methoxychlor	1.5	131	55.3	78.6
Mirex	0.5	103	2.6	3.74
Oxadiazon	6	114	45.8	114
Oxychlordane	0.5	30.3	10.7	12.3
Toxaphene	50	3,200	3,200	15,700
Tributyltin	0.003	6.21	0.422	0.724
Mean ERM Quotient	NA	4.37	1.11	1.4

ERM Quotients

The effects-based numerical guidelines listed previously may also be used to assess the relative degree of contamination at these stations. In order to compare contamination using these guidelines, chemical summary quotients (ERMQ) were calculated for all of the compounds for which these values exist. These are summations of chemical concentrations of the chemicals listed in Table 10, divided by their respective ERM value. In cases where concentrations of measured chemicals were below the analytical method detection limit (MDL), a value of one-half the MDL was used for summations. Chemical summary quotients are reported as average quotient values. The ERMQ was calculated by summing ERM quotient values for the following chemicals: Antimony, Cadmium, Chromium, Copper, Lead, Mercury, Silver, Zinc, Total DDT (after value of Swartz et al., 1994), Total Chlordane, Dieldrin, Endrin, Total PCBs, LMW PAHs, and HMW PAHs. This sum was then divided by the total number of analyte quotients (15) to give an ERMQ value. This is a simple approach to addressing chemical contamination in situations where there are multiple compounds present, and is intended for use in conjunction with the standard chemical-specific method discussed earlier. Although synergistic effects are possible with the different contaminants, this is not implied by the quotient summations. Quotients are presented as a method for comparing relative degree of contamination at these stations to aid management efforts.

Statistical Analysis of Toxicity Test Data

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

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. These samples were identified as "significantly toxic" in this report in order to acknowledge the statistical difference, although it is recognized that the magnitude of toxicity in some cases may not have been biologically meaningful. A second tier of "significant toxicity" was considered in order to identify those samples where the toxic response was considered to be more biologically meaningful. This involved the Minimum Significant Difference (MSD) value specific to each toxicity test protocol. The magnitude of difference that can be identified as significant is termed the Minimum Significant Difference, 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.

Thursby et al. (1997) identify a value of 80% of the control as the detectable difference for the *Ampelisca* test, and similar values have been derived for BPTCP test data. Current BPTCP detectable difference (90th percentile MSD) values are listed in Table 11.

Table 11. Minimum Significant Differences used to calculate significant toxicity in BPTCP toxicity test protocols.

Test Species	MSD	% of control	N	Reference
Ampelisca	20	80		Thursby 1997
Ceriodaphnia Survival	20	80		Thursby 1997
Ceriodaphnia SWI	20	80		Thursby 1997
Eohaustorius Survival	25	75	385	MPSL*
Hyalella Survival	20	80		Thursby 1997
Abalone Development (5 reps)	10	90	131	MPSL*
Abalone Development (3 reps)	36	64	336	MPSL*
Mytilus Development	20	80	223	MPSL*
Neanthes Survival	36	64	335	MPSL*
Neanthes Weight	56	44	335	MPSL*
Rhepoxynius Survival	23	77	720	MPSL*
Purple Urchin Development (5 reps)	22	78	309	MPSL*
Purple Urchin Development (3 reps)	45	55	630	MPSL*
Purple Urchin Fertilization	12	88	79	MPSL*
Purple Urchin SWI	41	59	109	MPSL*

*MPSL unpublished data.

Effects of Unionized Ammonia and Hydrogen Sulfide

Toxicity results were screened against known application limits for unionized ammonia and hydrogen sulfide (Table 12). Toxicity test ammonia and sulfide concentrations above the application limits were taken into consideration when examining toxicity test results.

Table 12. Unionized ammonia and hydrogen sulfide effects thresholds for BPTCP toxicity tests.

Species	Unionized Ammonia (mg/L)	Limit Definition	Reference
Ampelisca	0.4	Application Limit	EPA 1994
Eohaustorius	0.8	Application Limit	EPA 1994
Red Abalone	0.05	NOEC	MPSL
Mytilus	0.15	LOEC	Tang et al. 1997
Neanthes	1.25	LOEC	Dillon 1993
Rhepoxynius	0.4	Application Limit	EPA 1994
Purple Urchin Development	0.07	NOEC	Bay et al. 1993
Purple Urchin Fertilization	>1.4	NOEC	Bay et al. 1993

Species	Hydrogen Sulfide (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
Purple Urchin Development	0.0076	LOEC	Knezovich et al., 1996
Purple Urchin Fertilization	0.007-0.014	NOEC	Bay et al., 1993

Multivariate and Univariate Techniques for Comparison of Chemistry and Toxicity Data

While the main objective of this study was to identify stations of concern, the data were also evaluated to investigate whether certain individual chemicals were found to be associated with biological impacts. These preliminary evaluations were made using Principal Components Analysis (a multivariate technique) followed by Correlation analysis (a univariate technique). This identification of chemicals that were associated with toxicity does not in itself prove cause and effect, but it allows the suggestion of hypotheses regarding the chemical causes of biological impacts, hypotheses that can later be tested with TIEs and other more extensive toxicological methods.

Principle Components Analysis

Because many chemicals tend to co-vary in sediments, Principal Components Analysis (PCA) was used to investigate relationships between chemistry, toxicity, and benthic indicators prior to conducting simple correlation analyses. The PCA was treated as exploratory in nature; therefore, data were not screened for sample size, normality, linearity, outliers or multicolinearity.

Principal components were extracted using SYSTAT statistics software (v. 7.0.1 for Windows; SPSS, 1997). The analysis was run with a correlation matrix and varimax rotation, and included any factors which accounted for greater than 10% of the total variance. A component loading cutoff value of 0.40 was used in selecting variables for inclusion into factors, based on suggestions by Tabachnick and Fidell (1996) that a cut-off of at least 0.32 be used, and that component loadings of greater than 0.45 are considered fair or better.

Correlation Analysis

Compounds determined by PCA to have a negative relationship with biological indicators (e.g. increasing concentration associated with decreasing survival) were selected for univariate correlation analysis. In order to examine associations between levels of these pollutants in sediments and the response observed in toxicity tests, Spearman rank correlation coefficients (Rho) were calculated using SYSTAT software. Since the response of the control groups for each toxicity test was both acceptable and consistent, the sediment toxicity test data were not normalized to control results. Rho values, corrected for ties, were determined for each toxicity test and each pollutant or pollutant class, and these Rho values were compared to tables at the appropriate n value to determine the level of statistical significance associated with the observed correlation.

Weight-of-Evidence and Categorization of Sites

Toxicological, chemical, and ecological measures were combined to provide a weight-of-evidence categorization of sediment quality at each site. This approach is consistent with generally accepted methods of sediment quality assessment, such as the commonly used "sediment quality triad" described by Chapman et al. (1987). The three primary measures in the triad approach are sediment chemical analysis, toxicity testing, and benthic community analysis. All of these measures have their advantages and drawbacks, but together they can be used to effectively characterize sediment quality. In the Santa Ana region, toxicity testing was used as the primary screening tool in the first round of sampling. Stations that produced toxic samples or had been shown in previous studies to have elevated chemistry, bioaccumulation, or other measures of pollution were then resampled and analyzed for toxicity, chemistry, and, to a lesser extent, benthic community structure.

Use of Threshold Values

Using the data collected in this study, stations were categorized based on chemical concentrations, the severity of biological impacts, and the completeness of sample characterization. The conceptual framework for categorizing stations is provided in the listing below. In order to categorize stations, it was necessary to define terms such as "elevated chemistry", "sample toxicity" or "degraded benthos" for a large number of samples. To be consistent, thresholds were established for this purpose. Those thresholds are defined below in the description of the first category. Toxicity thresholds were based on the t-test plus detectable difference criteria as defined above. Benthic community degradation was defined as a Relative Benthic Index ≤ 0.30, based on the best professional judgement of the ecologists who developed the index. Elevated chemistry was defined as 6 or more chemicals exceeding ERM guidelines, a mean ERMQ above 0.5, or one or more chemicals at concentrations high enough to likely be associated with biological effects, based on best professional judgement. The mean ERMQ value of 0.5 was based on an evaluation by Long and MacDonald (in press) that indicated at least 50% of samples in a nationwide evaluation exhibited toxicity when this value was exceeded. The BPTCP has calculated mean ERMQ values using a different suite of chemicals than used by Long and MacDonald (in press). The primary differences being that Long and MacDonald (in press) used a number of individual PAHs and the DDT ERM, whereas the BPTCP used only the summary low and high molecular weight PAHs (2 values) and the DDT value of Swartz et al. (1994). When the mean ERMQ values, as calculated by the BPTCP, were compared with amphipod toxicity in the statewide BPTCP database, 62% of the samples with mean ERMQs greater than 0.5 were found to be toxic to amphipods.

These chemistry, toxicity, and benthic community threshold values were derived to allow a consistent interpretation of data from samples throughout the Region and state. It is important to note that while these threshold values were selected based on the best available information and best professional judgement of the authors, they are by nature discretionary. Chemical biological impacts. The thresholds and station characterizations used here are not intended to be absolute. They are intended to aid in the screening of data collected from a large number of locations, in order to support management decisions. In some cases additional studies may be undertaken to further evaluate the sites of concern identified in this Region-wide assessment. As more data become available through additional studies, more accurate site-specific characterizations of sediment quality may result.

Weight-of-Evidence Categorization Criteria

Category 1:
Stations with elevated chemistry*, recurrent toxicity**, and degraded benthos***.

Category 2:
Stations with elevated chemistry, one (of one) toxicity hit, and degraded benthos. (only one sample tested and significant toxicity indicated)

Category 3:
Stations where muscle or whole body tissue residues in resident, non-migratory organisms exceed levels established by the FDA or NAS for protection of human health or wildlife. Organisms may be either deployed or collected from resident populations. (FDA and NAS values given in SWRCB FED on Guidance for THS Cleanup Plans, page xxiii)

Category 4:
Stations with elevated chemistry and one measure of biological impact. (with no data available for the second biological indicator):

a. Stations with elevated chemistry, degraded benthos, and no available toxicity data.
b. Stations with elevated chemistry, recurrent toxicity and no available benthic data.
c. Stations with elevated chemistry, toxicity in a single sample and no available Benthics data (only one toxicity sample tested).

Category 5:
Stations with elevated chemistry and mixed results from biological indicators.

a. Stations with elevated chemistry, degraded benthos, and multiple toxicity tests with some toxic and some non-toxic.
b. Stations with elevated chemistry, degraded benthos, and toxicity data indicating samples were non-toxic.
c. Stations with elevated chemistry, recurrent toxicity and data indicating non-degraded benthos.
d. Stations with elevated chemistry, toxicity in a single sample and data indicating non-degraded benthos (only one toxicity sample tested).
e. Stations with elevated chemistry, data indicating non-degraded benthos and multiple toxicity tests with some toxic and some non-toxic.

Category 6
Stations with measured biological impact but no indication of elevated chemistry.

a. Stations with recurrent toxicity, and degraded benthos, but no chemistry data available.
b. Stations with recurrent toxicity, and degraded benthos, and elevated NH_3 or H_2S ****, but no other elevated chemistry.
c. Stations with recurrent toxicity, and degraded benthos, but existing chemistry data has fewer than six chemicals measured at elevated concentrations.
d. Stations with a single indicator of biological effect (either recurrent toxicity or degraded benthos), but existing chemistry data has fewer than six chemicals measured at elevated concentrations.
e. Stations with a single toxic sample, but existing chemistry data has fewer than six chemicals measured at elevated concentrations.

Category 7
Stations with no measured toxicity, benthic degradation or elevated chemistry.

Reference Stations
These should be selected using best professional judgement of available information, including grain size, salinity, chemistry, benthic ecology, and toxicity data, as well as station location relative to pollutant sources. The parameter to be compared to reference (e.g., toxicity) should not be the primary measure used in reference site selection.

Ranking within these major categories were determined by the actual data values, such as 20% survival was ranked above 55% survival, etc. Best professional judgement was necessary to balance chemical versus biological data values.

*Elevated Chemistry was indicated by:

1. A guideline ERM quotient (ERMQ) above 0.5, indicating a mixture of pollutants, <u>or</u>
2. Six or more chemicals having concentrations above guideline (ERM) values, <u>or</u>
3. One or more individual chemicals at concentrations high enough to likely be associated with biological effects, based on best professional judgement.

Additional chemicals without sediment quality guidelines associated with them are also examined for additional evidence of chemical contamination. These chemicals are noted in Table 31.

**Recurrent toxicity is indicated when at least two samples collected at different times from a station are determined to be significantly toxic (as defined by t-test and MSD) by any of the BPTCP toxicity test protocols.

***Degraded benthos are indicated by a Relative Benthic Index score of 0.30 or less, or by best professional judgement of a qualified benthic ecologist.

****Elevated concentrations of NH_3 or H_2S thought to have resulted from human activity may be considered equivalent to elevated concentrations of other anthropogenic chemicals for ranking purposes, based on best professional judgement. In cases where NH_3 and H_2S are thought to result from natural processes, high concentrations may be considered as interferences in toxicity or benthic assessments.

Chemistry, toxicity, benthic, bioaccumulation or other data from previous studies may be considered as part of any of the scenarios described above.

Quality Assurance/Quality Control

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. 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 California Department of Fish and Game for review, then forwarded to the State Water Resources Control Board for further review.

RESULTS AND DISCUSSION

Chemistry Data

Discussion of Data Relative to QA Criteria

All chemistry data were evaluated for acceptability using the Quality Assurance guidelines presented in the BPTCP Quality Assurance Project Plan (Stephenson et al., 1994). Most of the data reported here met test acceptability standards for each analysis procedure. Departures from acceptability standards are summarized in Appendix E. There were minor deviations of quality assurance criteria that generally included blank responses falling outside of control chart guidelines. In the cases of these minor deviations the reported chemical concentration has been corrected based on the blank response.

Discussion of Chemical Mixtures

The analytical results for specific analytes and analyte classes used in the BPTCP are listed in Appendix C. These results were compared with the NOAA's ERL and ERM levels, and the frequency of guideline exceedances for the Santa Ana region is shown in Figure 4. The Santa Ana region was divided into three distinct water bodies: Anaheim Bay/Seal Beach Naval Weapons Reserve, Huntington Harbor/Bolsa Chica, and Newport Bay. Based on exceedances of chemical guideline values, chemicals of concern were noted for each water body. In addition to individual ERM exceedances, chemical summary quotients (ERMQs) were used to rank stations by chemical load within water bodies (Tables 13 through 15). Not all stations had chemical analysis conducted during every visit therefore, all sampling events for a given station are grouped together for reference. Stations that did not have any chemical analysis conducted, are grouped at the bottom of the tables. The ERMQs are mapped in Figures 5a through 5c to depict areal extent of ERM exceedances.

grouped at the bottom of the tables. The ERMQs are mapped in Figures 5a through 5c to depict areal extent of ERM exceedances.

Anaheim Bay Naval Reserve (82030.0, ERMQ = 0.597) and Outer Anaheim Bay (80024.0, ERMQ = 0.210) had the highest ERMQ values in the northern water body (Table 13). The elevated ERMQs for these stations were based on the ERM exceedances of total chlordane and p,p'DDE. Total chlordane at Anaheim Bay Naval Reserve was in the top 10% of samples measured for the BPTCP. The exceedance of the ERM guidelines for total chlordane and p,p'DDE also contributed to Huntington Harbor's highest ERMQ values. Huntington Harbor had higher ERMQs than Anaheim Bay and exhibited a clear chemical gradient from the upper to the lower harbor (Table 14). Exceedances of total chlordane and p,p'DDE occurred along the main channel of Huntington Harbor and extended into Outer Anaheim Bay. No other chemicals exceeded sediment guidelines in the samples measured.

Newport Bay had the highest ERMQ values of any regional water body (Table 15). Exceedances of ERM guidelines for copper, mercury, zinc and total PCBs contributed to high ERMQs for Rhine Channel (85013.0) and Newport Island (85014.0). Mercury exceedances also occurred at Stations 85002.0 and 85006.0, both in close proximity to Rhine Channel and Newport Island stations. Mercury, copper and tributyltin concentrations at Rhine Channel station were in the top 5% of concentrations measured in the BPTCP. Exceedances of total chlordane and p'p-DDE occurred at various stations throughout Newport Bay.

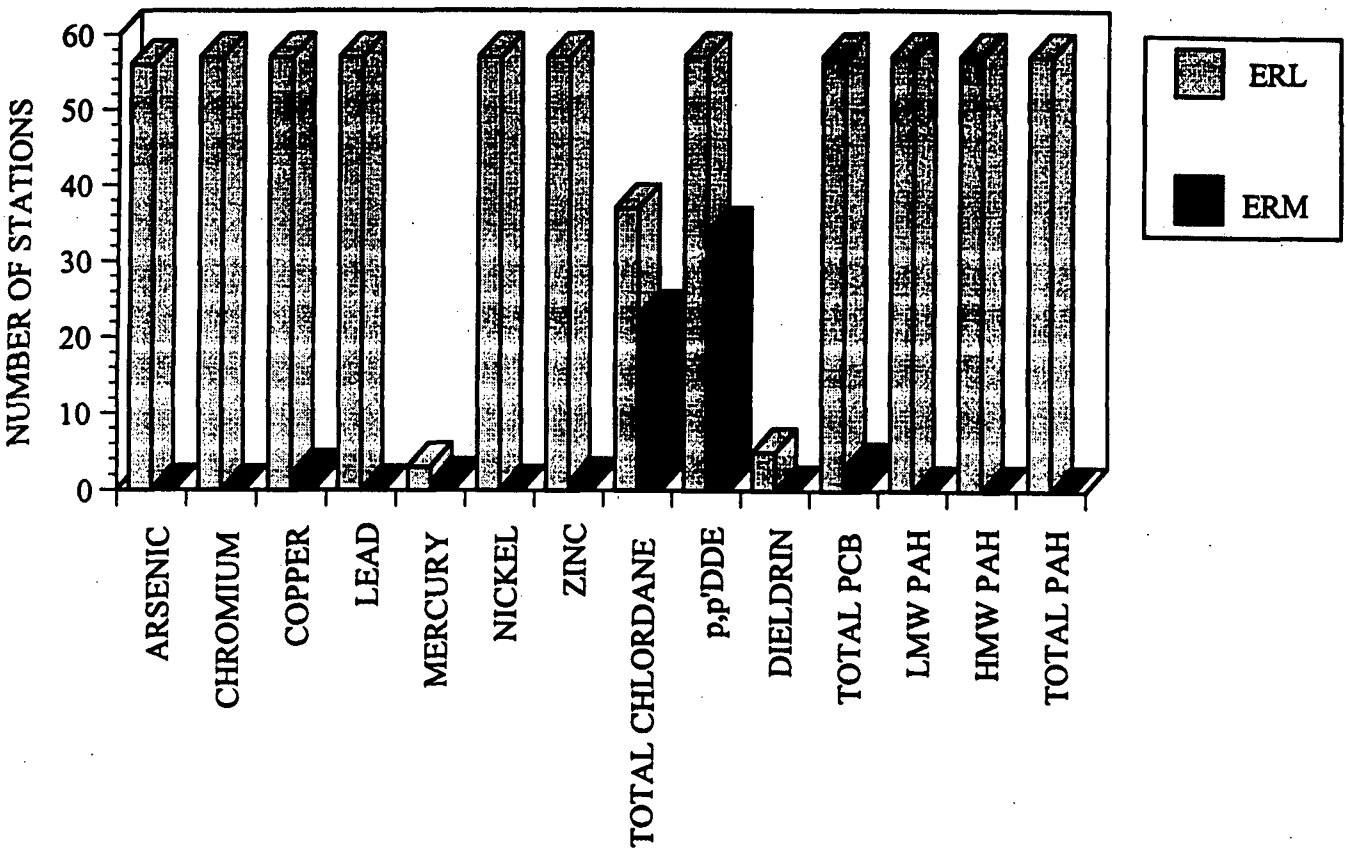


Figure 4. Frequency of stations exceeding ERL or ERM sediment quality guidelines.

Table 13. Anaheim Bay chemistry results. Stations ranked by mean ERM Quotient.

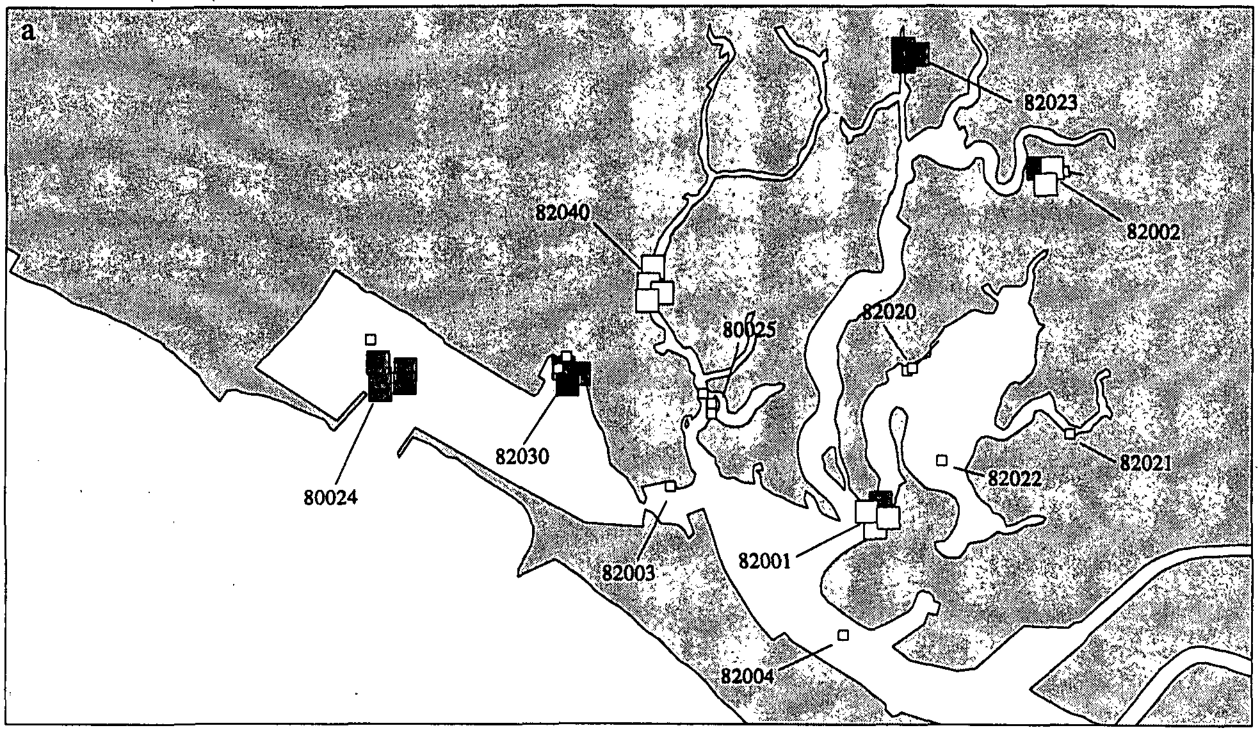
Station No.	Station Name	IDOrg	Leg	ERMQ	ERM Exceedances
82030.0	Anaheim Bay - Naval Res. - R3	1046	25	0.597	ΣChlordane, p,p'DDE
82030.0	Anaheim Bay - Naval Res. - R2	1045	25	0.183	ΣChlordane, p,p'DDE
82030.0	Anaheim Bay - Naval Res. - R1	1044	25	0.182	ΣChlordane, p,p'DDE
82030.0	Anaheim Bay - Naval Res.	430	9	n/a	n/a
82030.0	Anaheim Bay - Naval Res.	772	17	n/a	n/a
82030.0	Anaheim Bay - Naval Res. - R1	1195	30	n/a	n/a
82030.0	Anaheim Bay - Naval Res. - R2	1196	30	n/a	n/a
82030.0	Anaheim Bay - Naval Res. - R3	1197	30	n/a	n/a
82030.0	Anaheim Bay - Naval Res.	1335	32	n/a	n/a
80024.3	Outer Anaheim Bay - R1	1171	29	0.210	ΣChlordane, p,p'DDE
80024.3	Outer Anaheim Bay - R2	1172	29	0.206	ΣChlordane, p,p'DDE
80024.3	Outer Anaheim Bay - R3	1173	29	0.194	ΣChlordane, p,p'DDE
80024.3	Outer Anaheim Bay	87	4	0.141	None
80024.3	Outer Anaheim Bay	807	19	n/a	n/a
82023.0	Seal Beach NWR - Bolsa Ave - R3	1094	26	0.131	None
82023.0	Seal Beach NWR - Bolsa Ave - R2	1093	26	0.117	None
82023.0	Seal Beach NWR - Bolsa Ave - R1	1092	26	0.107	None
82023.0	Seal Beach NWR - Bolsa Ave.	423	9	n/a	n/a
82023.0	Seal Beach NWR - Bolsa Ave.	771	17	n/a	n/a
82002.0	Anaheim Bay - Navy Marsh #2 - R1	1089	26	0.108	None
82002.0	Anaheim Bay - Navy Marsh #2 - R3	1091	26	0.099	None
82002.0	Anaheim Bay - Navy Marsh #2 - R2	1090	26	0.090	None
82002.0	Anaheim Bay - Navy Marsh #2	402	9	n/a	n/a
82002.0	Anaheim Bay - Navy Marsh #2	809	19	n/a	n/a
80024.1	Outer Anaheim Bay	85	4	0.101	None
82001.0	Anaheim Bay - Navy Marsh - R3	1088	26	0.101	None
82001.0	Anaheim Bay - Navy Marsh - R1	1086	26	0.082	None
82001.0	Anaheim Bay - Navy Marsh - R2	1087	26	0.078	None
82001.0	Anaheim Bay - Navy Marsh	401	9	0.073	None
82040.0	Seal Beach NWR - R2	1096	26	0.094	None
82040.0	Seal Beach NWR - R3	1097	26	0.089	None
82040.0	Seal Beach NWR - R1	1095	26	0.086	None
82040.0	Seal Beach NWR	440	9	0.078	None
80024.2	Outer Anaheim Bay	86	4	n/a	n/a
80025.1	Anaheim Bay - Oil Island	88	5	n/a	n/a
80025.2	Anaheim Bay - Oil Island	89	5	n/a	n/a
80025.3	Anaheim Bay - Oil Island	90	5	n/a	n/a
82003.0	Anaheim Bay - Entrance	403	9	n/a	n/a
82004.0	Anaheim Bay - Fuel Dock S.	404	9	n/a	n/a
82020.0	Seal Beach NWR - Nasa Is.	420	9	n/a	n/a
82020.0	Seal Beach NWR - Nasa Is.	769	17	n/a	n/a
82021.0	Seal Beach NWR - Hog Is.	421	9	n/a	n/a
82022.0	Seal Beach NWR - Sunset AGU	422	9	n/a	n/a

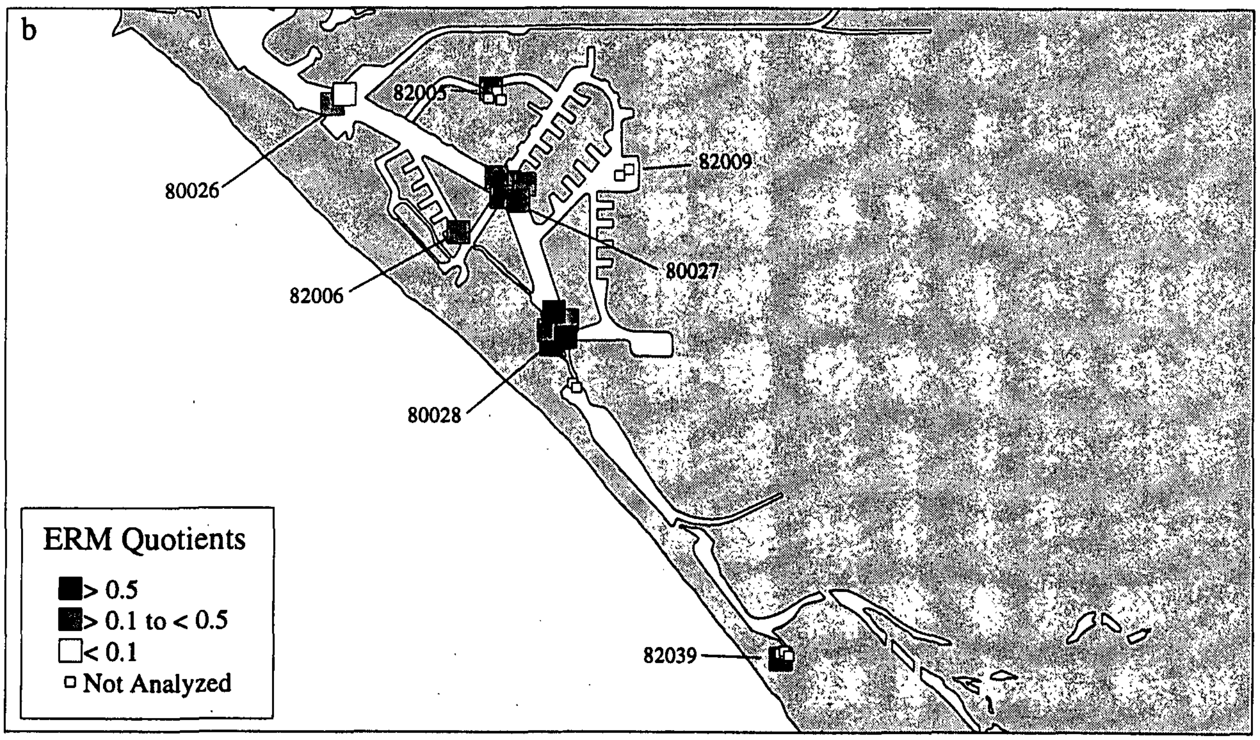
Table 14. Huntington Harbor chemistry results. Stations ranked by mean ERM Quotient.

Station No.	Station Name	IDOrg	Leg	ERMQ	ERM Exceedances
80028.3	Upper Huntington Harbor - R1	1174	29	0.654	ΣChlordane, p,p'DDE
80028.3	Upper Huntington Harbor - R2	1175	29	0.626	ΣChlordane, p,p'DDE
80028.3	Upper Huntington Harbor - R3	1176	29	0.582	ΣChlordane, p,p'DDE
80028.3	Upper Huntington Harbor	99	4	0.352	ΣChlordane, p,p'DDE
80028.2	Upper Huntington Harbor	98	4	0.356	ΣChlordane, p,p'DDE
80027.3	Middle Huntington Harbor - R3	1179	29	0.332	ΣChlordane, p,p'DDE
80027.3	Middle Huntington Harbor - R1	1177	29	0.309	ΣChlordane, p,p'DDE
80027.3	Middle Huntington Harbor - R2	1178	29	0.296	ΣChlordane, p,p'DDE
80027.3	Middle Huntington Harbor	96	4	0.250	ΣChlordane, p,p'DDE
82006.0	Huntington Harbor - Peter's	406	9	0.296	ΣChlordane, p,p'DDE
80027.2	Middle Huntington Harbor	95	4	0.261	ΣChlordane, p,p'DDE
82005.0	Huntington Harbor - Launch	405	9	0.163	p,p'DDE
82005.0	Huntington Harbor - Launch - R1	1201	30	n/a	n/a
82005.0	Huntington Harbor - Launch - R2	1202	30	n/a	n/a
82005.0	Huntington Harbor - Launch - R3	1203	30	n/a	n/a
82039.0	Bolsa Chica Ecological Reserve	439	9	0.146	None
82039.0	Bolsa Chica Ecol. Reserve - R1	1204	30	n/a	n/a
82039.0	Bolsa Chica Ecol. Reserve - R2	1205	30	n/a	n/a
82039.0	Bolsa Chica Ecol. Reserve - R3	1206	30	n/a	n/a
80026.1	Lower Huntington Harbor	91	4	0.117	None
80026.2	Lower Huntington Harbor	92	4	0.076	None
80026.3	Lower Huntington Harbor	93	4	n/a	n/a
80027.1	Middle Huntington Harbor	94	4	n/a	n/a
80028.1	Upper Huntington Harbor	97	4	n/a	n/a
82009.0	Huntington Harbor - HAR. LA	409	9	n/a	n/a
82024.0	Bolsa Bay - Mouth of Eggw Flood	424	9	n/a	n/a
82024.0	Bolsa Bay - Mouth of Eggw Flood	770	17	n/a	n/a
82009.0	Huntington Harbor - HAR. LA	808	19	n/a	n/a

Table 15. Newport Bay chemistry results. Stations ranked by mean ERM Quotient..

Station No.	Station Name	IDOrg	Leg	ERMQ	ERM Exceedances
85013.0	Newport Bay (Rhine Channel)	1424	36	1.270	Cu, Hg, p'p-DDE, ΣPCB
85013.0	Newport Bay (Rhine Channel)	1633	45	1.124	Cu, Hg, p'p-DDE, ΣPCB
85014.0	Newport Bay (Newport Island)	1425	36	0.733	Hg, Zn, ΣChlordane, p,p'DDE, ΣPCB
85015.0	Newport Bay (Arches Storm Drains)	1426	36	0.668	ΣChlordane, p,p'DDE
85006.0	Newport Bay (1009)	1392	34	0.318	Hg, p,p'DDE
85017.0	Newport Bay (Unit II Basin)	1428	36	0.256	ΣChlordane, p,p'DDE
85005.0	Newport Bay (949)	1391	34	0.244	p,p'DDE
85002.0	Newport Bay (616)	1388	34	0.239	Hg, p,p'DDE
85010.0	Newport Bay (819)	1421	36	0.216	p,p'DDE
85012.0	Newport Bay (1064)	1423	36	0.212	ΣChlordane, p,p'DDE
85011.0	Newport Bay (905)	1422	36	0.200	ΣChlordane, p,p'DDE
85011.0	Newport Bay (523)	1634	45	0.089	None
85004.0	Newport Bay (877)	1390	34	0.198	p,p'DDE
85001.0	Newport Bay (523)	1387	34	0.180	p,p'DDE
85001.0	Newport Bay (523)	1788	54	n/a	n/a
85008.0	Newport Bay (670)	1419	36	0.175	ΣChlordane, p,p'DDE
85016.0	Newport Bay (Yachtmans Cove)	1427	36	0.163	None
85003.0	Newport Bay (791)	1389	34	0.147	p,p'DDE
85009.0	Newport Bay (705)	1420	36	0.131	p,p'DDE
85018.0	Newport Bay (Unit I Basin)	1429	36	0.093	None
85007.0	Newport Bay (431)	1418	36	0.070	None
86001.0	San Diego Creek - Campus	1789	54	n/a	n/a
86002.0	San Diego Creek - MacArthur	1790	54	n/a	n/a
86003.0	Santa Ana/Delhi Channel - Bridge	1791	54	n/a	n/a
86004.0	Santa Ana/Delhi Channel - Outer	1792	54	n/a	n/a





Figures 5a and 5b. Mean ERM quotients for stations in Anaheim Bay and Huntington Harbor.

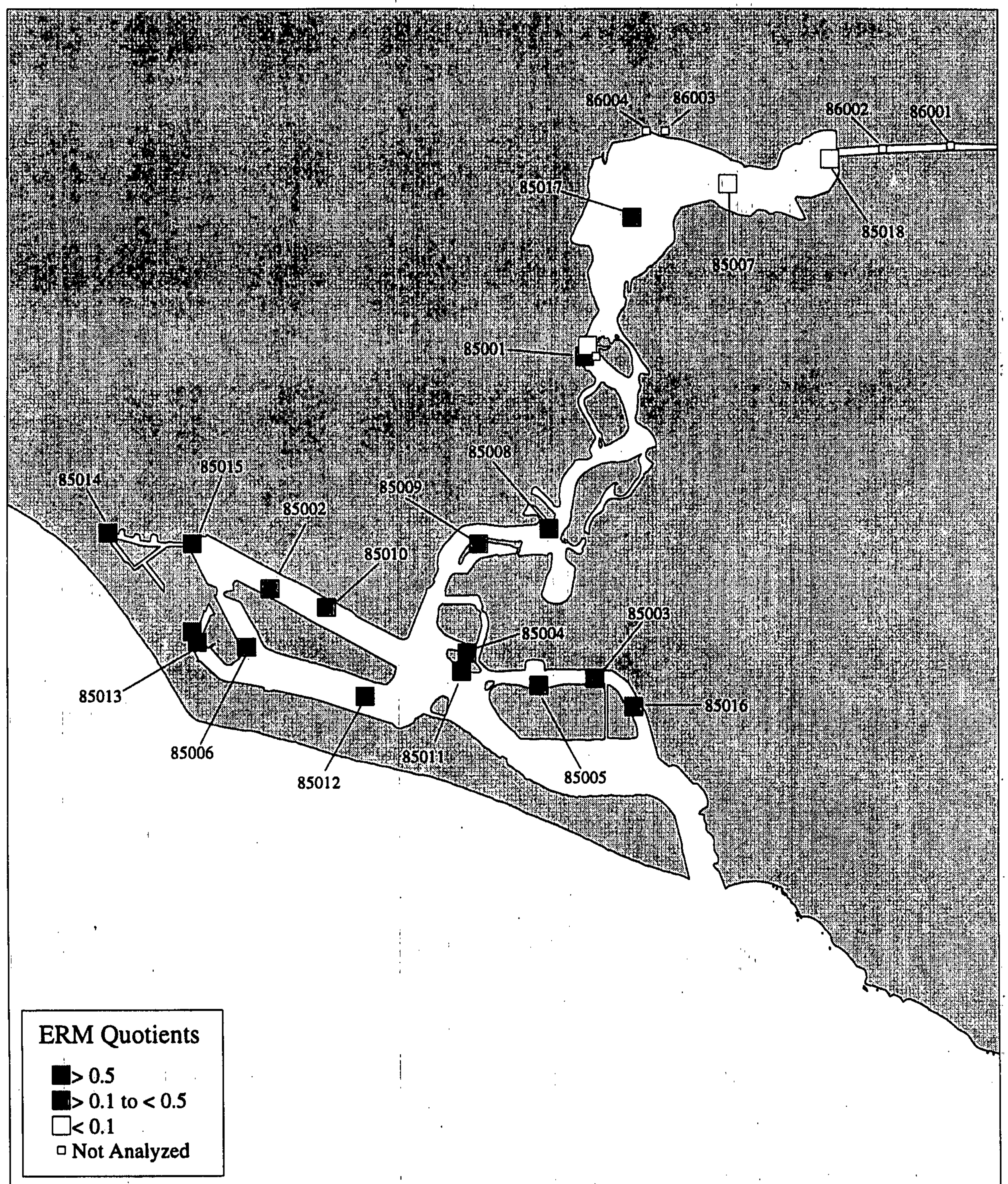


Figure 5c. Mean ERM quotients for stations in Newport Bay.

Individual Chemicals Compared to Sediment Guideline Values

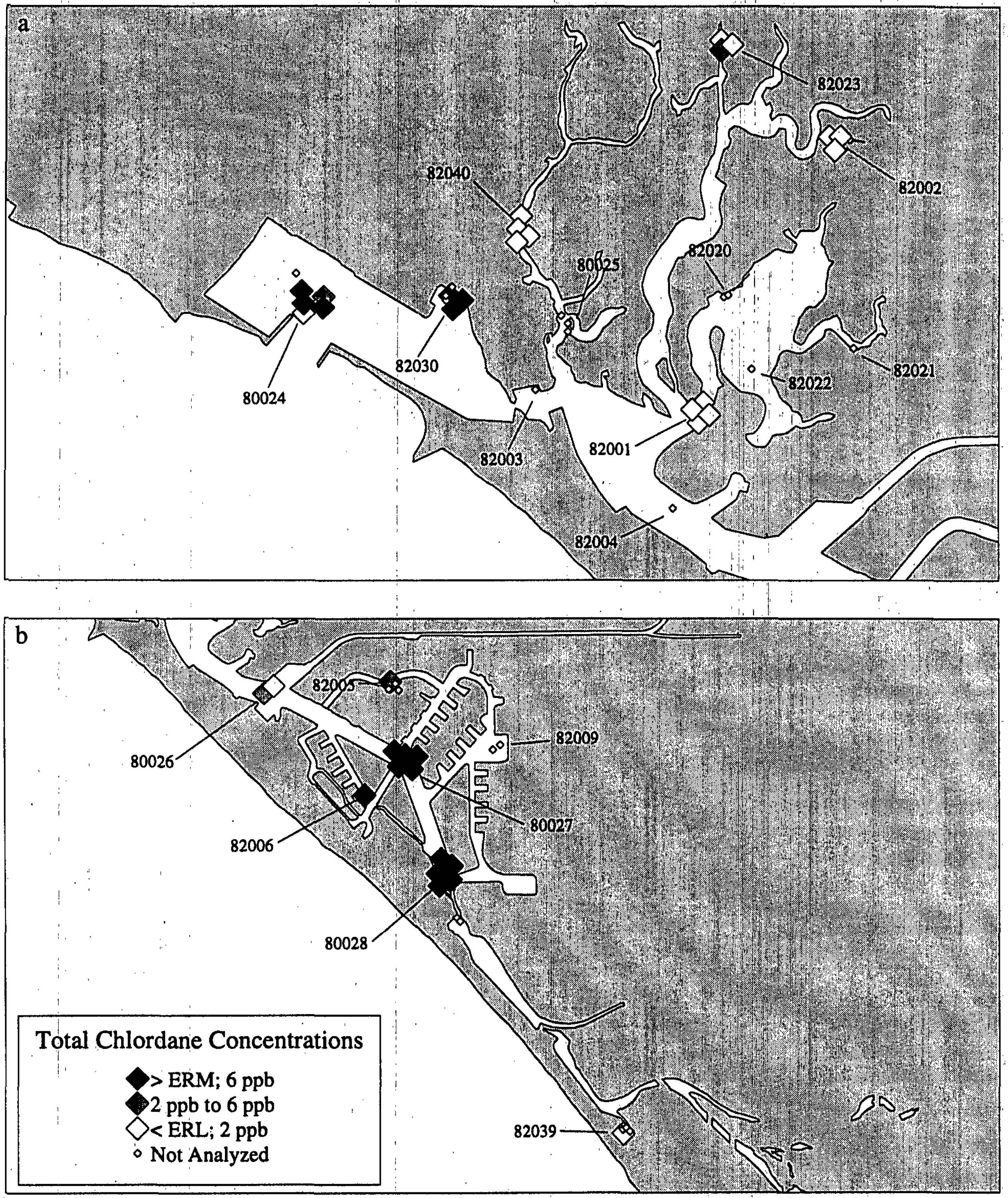
Total chlordane is the summation of the major constituents of technical grade chlordane and its metabolites and comprise a group of nonsystemic stomach and contact insecticides which until the mid 1970's had been used extensively in home and agricultural applications. Although the use of this compound was discontinued in this country due to its widespread occurrence, biomagnification through the foodchain, and persistence in non-target systems, chlordane continues to occur in aquatic ecosystems. Due to their limited water solubility, chlordane compounds tend to bind to organic carbon and settle out of the water column, accumulating in sediments (Wilcock et al., 1993).

DDT and its metabolites are a class of relatively water insoluble organo-chlorine compounds that also tend to bind to organic particulates and thus accumulate in the sediments. Concentrations of these compounds have generally declined in aquatic ecosystems since they were banned for most insecticide applications in 1972, although concentrations of some DDT metabolites have increased. Like chlordane and dieldrin, it is persistent in sediments and may be of significant environmental concern at elevated concentrations (Hoke et al., 1994; Swartz et al., 1994). p,p'DDE is a metabolite of DDT and can also persist in the environment.

The Anaheim Bay region had 12 ERM exceedances among two stations (80024.3 and 82030.0). Six of the exceedances were for total chlordane and six were for p,p'DDE (Figures 6a and 7a). Exceedances for both chemicals were relatively low in magnitude (1.1-1.4x the ERM) except for station 82030.0, Replicate 3, which exceeded the ERM for total chlordane by 7.4 times.

Huntington Harbor had 23 exceedances among 12 stations. Eleven of the exceedances were for total chlordane and twelve were for p,p'DDE. Both of these chemicals exceeded the ERM guidelines by up to 7 times (Figures 6b and 7b).

Newport Bay had 33 exceedances among 16 stations. All 16 stations exceeded the ERM guideline for p,p'DDE (Figure 7c). Within those 16 stations, six exceeded the ERM for total chlordane, the highest concentration being at Arches Storm Drain (85015.0, 5.2x the ERM, Figure 6c). The largest overall exceedances in Newport Bay were for mercury in the Rhine Channel (85013.0, 12.3x the ERM). The Rhine Channel station also exhibited ERM exceedances for Copper and Total PCBs (Figure 8). Newport Bay had the most ERM exceedances for any individual stations, four in the Rhine Channel (85013.0), and five at Newport Island (85014.0), which included exceedances for copper, mercury, zinc and total PCBs. Anaheim Bay and Huntington Harbor had no more than two exceedances at any one station.



Figures 6a and 6b. Total chlordane concentrations for stations in Anaheim Bay and Huntington Harbor.

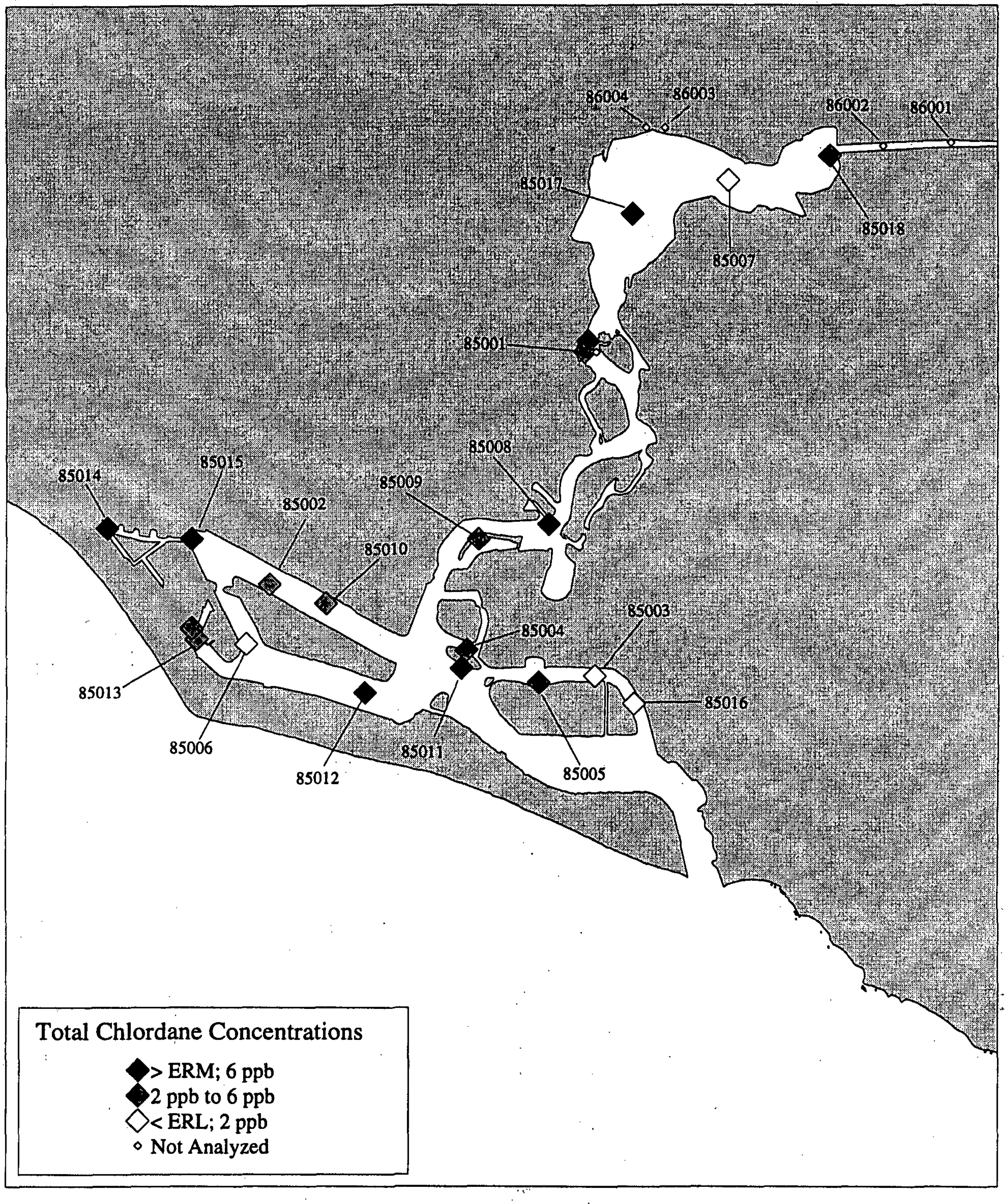
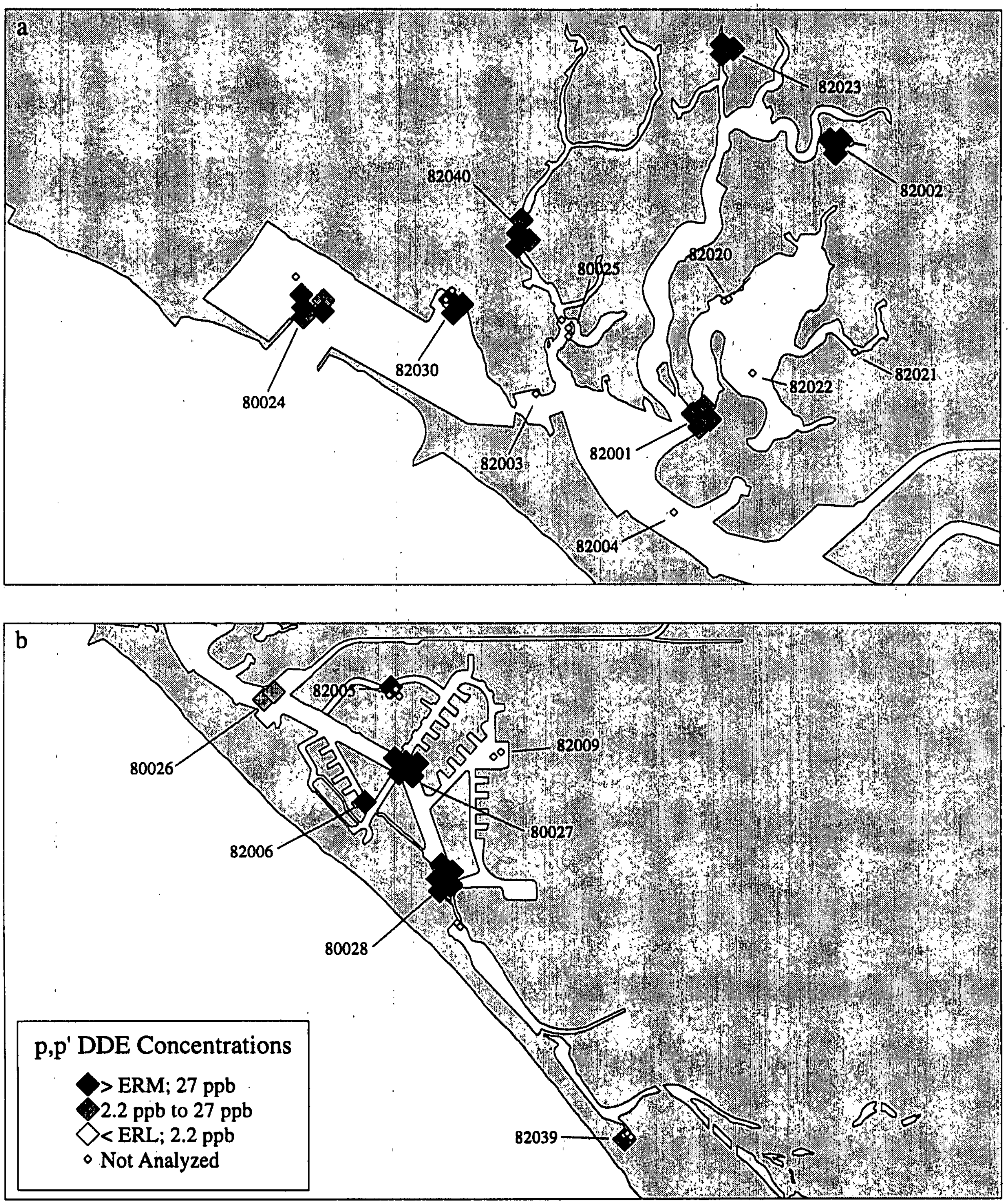


Figure 6c. Total chlordane concentrations for stations in Newport Bay.



Figures 7a and 7b. p,p' DDE concentrations for stations in Anaheim Bay and Huntington Harbor.

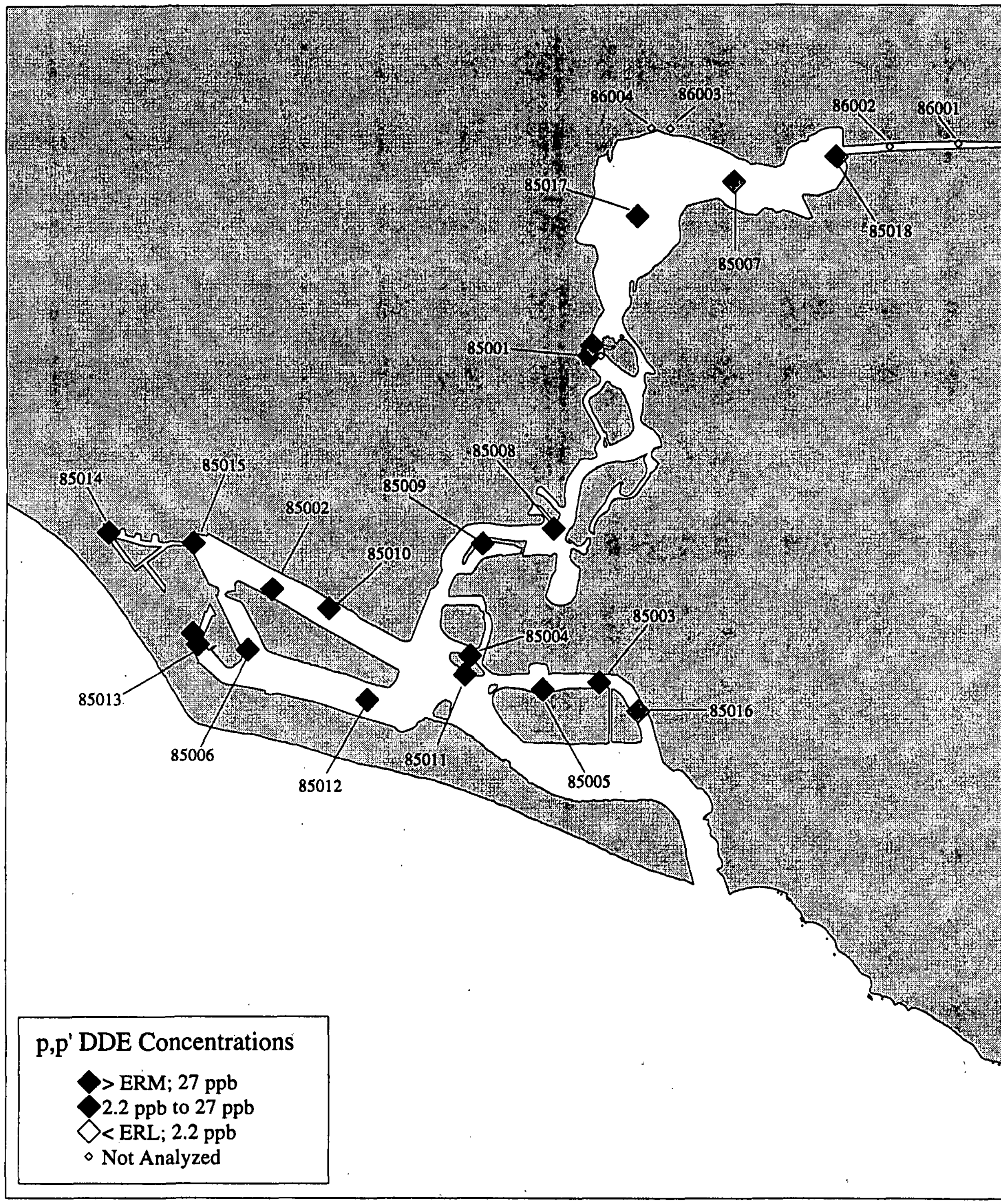


Figure 7c. p,p' DDE concentrations for stations in Newport Bay.

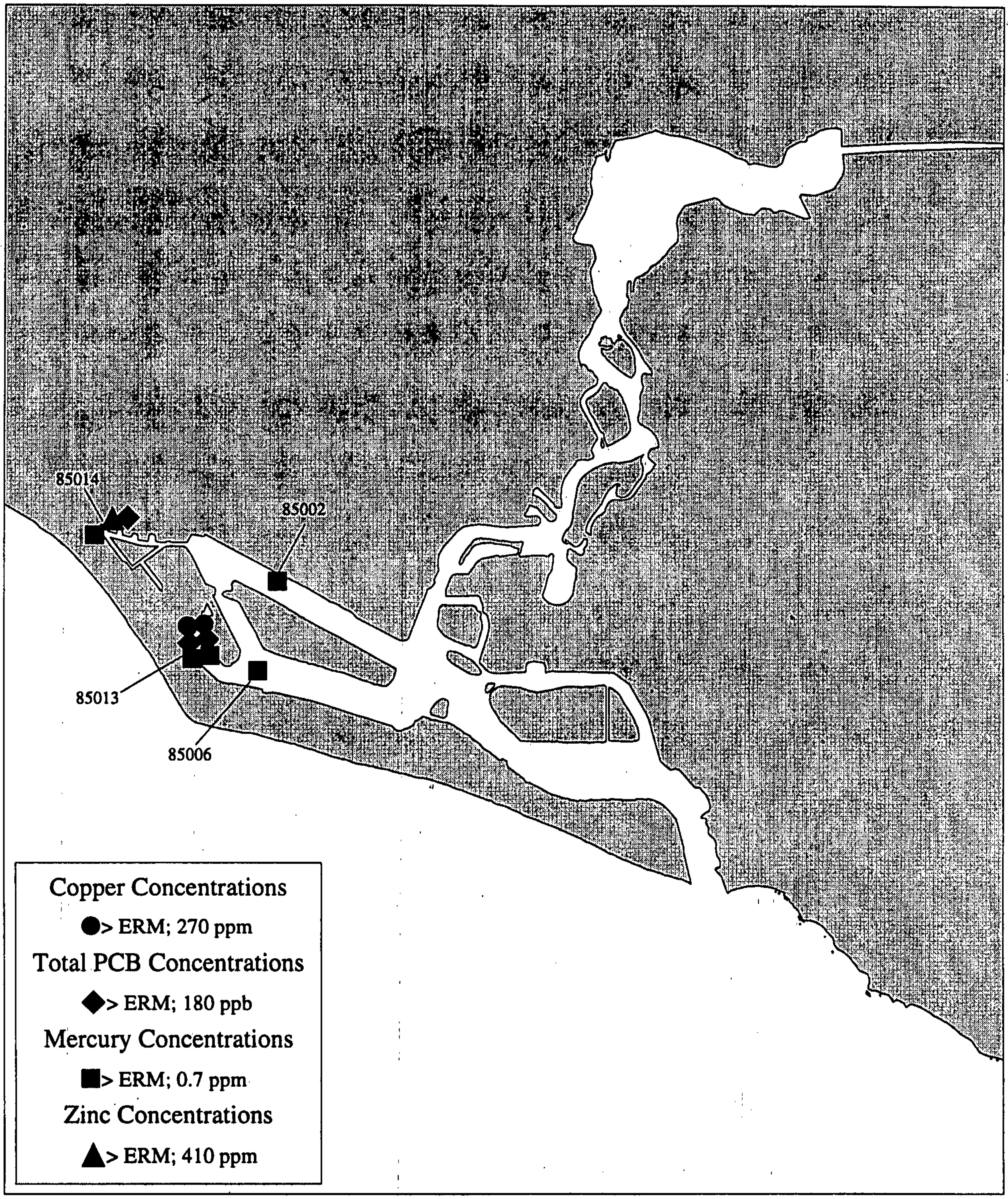


Figure 8. Copper, total PCB, Mercury, and Zinc concentrations for stations in Newport Bay.

Porewater Chemistry Results

Three stations were analyzed for porewater metals chemistry and one station was analyzed for SEM/AVS (Table 16). Middle and Upper Huntington Harbor (80027.2 and 80028.2) and Newport Bay's Rhine Channel (85013.0) had high concentrations of trace metals. SEM/AVS analysis was also conducted at the Rhine Channel station. The ratio of SEM to AVS was 4.65. SEM/AVS ratios greater than one indicate that not all metals are bound by sulfide complexes and may be bioavailable. Because this is generally true only in anoxic sediments, these data should be viewed carefully.

Table 16. Concentrations of selected trace metals in porewater, and SEM/AVS in station 85013.0.

Station Number	IDOrg	Porewater Metals Al	Cd	Cu	Fe	Pb	Mn	Ni	Ag	Zn
80027.2	95	76	0.019	2.6	7500	1.30	2300	3.00	ND	14.0
80028.2	98	45	0.025	4.5	1900	0.56	600	2.70	ND	25.0
85013.0	1633	1090	0.100	30.0	7000	3.48	1270	3.33	0.0008	15.8
		AVS	SEM Cd	SEM Cu	SEM Ni	SEM Pb	SEM Zn	SEM Sum	SEM/ AVS	DOC
85013.0	1633	1.46	0.0022	4.36	0.045	0.374	2.02	6.80	4.645	2971

Tissue Chemistry Results

Only the Rhine Channel in Newport Bay was analyzed for bioaccumulation of chemicals in fish tissue. A complete list of analyzed chemicals is contained in Appendix C. Topsmelt collected from Rhine Channel did not contain levels of mercury, total DDT, total PCB or total Chlordane that were higher than acceptable Maximum Tissue Residue Levels (SWRCB, 1993; Table 17).

Table 17. Concentrations of selected tissue contaminants from station 85013.0.

Station Number	IDOrg	Tissue	Hg	p,p'DDD	p,p'DDE	Total DDT	Total Chlordane	Total PCB
82017.0	285.0	Topsmelt	0.0022	4.36	0.045	0.374	2.02	6.80

Toxicity Testing

Discussion of Data Relative to QA Criteria

All toxicity test data were evaluated for acceptability using the Quality Assurance guidelines presented in the BPTCP Quality Assurance Project Plan (Stephenson et al., 1994). Most of the data reported here met test acceptability standards for each test protocol. Departures from acceptability standards are summarized in Appendix E. Almost all of these were departures in water quality parameters such as pH and dissolved oxygen exceedances, and in most cases were considered to be of minimal concern. Major exceedances of quality assurance criteria occurred in purple urchin fertilization and larval development tests of samples from stations 85007 and

85008, which both had excessively low dissolved oxygen concentrations. In both samples the percent normal sea urchin development was zero. Low DO is often associated with organic enrichment resulting in high Biological Oxygen Demand (BOD), or in some cases specific contaminants resulting in high Chemical Oxygen Demand (COD). Conclusions regarding sea urchin toxicity associated with contamination at these stations should be considered preliminary due to the low D.O. in these samples.

Minor exceedances of quality assurance criteria occurred in several areas. Precision measurements are calculated by measuring a water quality standard three times throughout the water quality series. Ammonia precision exceeded the quality criterion by 8.4% during ammonia readings for the Leg 26 amphipod test. This should be taken into consideration when evaluating ammonia data from this test. Actual ammonia concentrations may differ from the measured value by up to 38.4% in these samples.

Sediment holding time was 20 days in the 30 samples tested with *Ampelisca* because the initial test failed due to low control survival; the holding time specified in the BPTCP QAPP is two weeks. This test was repeated using amphipods from an alternative supplier (East Coast Amphipods) and home sediment controls in this test met the 90% survival criterion (Home sediment from Wickford, RI). Studies on the effect of sediment holding times on amphipod (*Rhepoxynius*) mortality suggest that survival decreases with increasing storage time after a period of 11 weeks (Becker and Ginn, 1995). In their study no significant difference in amphipod survival was noted up to a 6-week storage time. Since storage time for samples in this study was three weeks, it is unlikely that amphipod survival was inordinately biased. Control survival in Leg 36 was 92%. This is similar to the average control survival we have obtained in other tests when using East Coast *Ampelisca*.

Leg 36 *Rhepoxynius* test organisms were acclimated at test salinity for less than 48 hours. Because the control response was greater than 90%, the short acclimation time probably had a negligible affect on the amphipods. The final minor exceedance was sample 85001 in the Leg 54 purple urchin sediment-water interface test. A low dissolved oxygen concentration of 4.57 mg/L might have contributed to reduced normal larval development.

Minor exceedances of quality assurance criteria that are coded -3 (Appendix E) have negligable effects on the results of toxicity tests. Stations are listed for exceedances of dissolved oxygen and salinity. While low DO concentrations can have a significant impact on mortality in toxicity tests, concentrations slightly higher than 100% saturation are not considered biologically important to the species and life stages used in these experiments. Salinity exceedances were not outside the tolerance range of the test organisms.

Amphipod Toxicity Testing Results

The results for the samples collected and tested concurrently on each sampling leg for Anaheim Bay, Huntington Harbor and Newport Bay are in Tables 18 through 20. These tables show the mean proportion survival of amphipods at each station and site, with significant toxicity relative to controls reported at $p<0.05$ (t-test) and toxicity reported as significant with a t-test and MSD. Anaheim Bay and Huntington Harbor were both tested with the amphipod *Rhepoxynius*.

Newport Bay was tested with a combination of *Rhepoxynius* and *Eohaustorius*. Additional tests using *Ampelisca* were conducted in Newport Bay as part of a protocol comparison study.

A total of 16 of 43 samples (37%) from twelve sites were toxic to amphipods in Anaheim Bay. Eight sites demonstrated toxicity for at least one station. The highest incidence of toxicity occurred at the Seal Beach Naval Weapons Reserve (82040.0) where three of four stations were toxic to amphipods (Figure 9a). This site had relatively low chemical concentrations at its stations and ranked seventh in terms of ERMQ in Anaheim Bay (Table 18). Three of five stations demonstrated toxicity at the Seal Beach Naval Weapons Reserve – Bolsa Ave. site (82023.0), where the ERMQ ranked third. Anaheim Bay Naval Reserve (82030.0) had the highest chemical concentrations (ERMQs from 0.182 to 0.597), and was toxic at three out of nine stations. Amphipod toxicity was evenly distributed around Anaheim Bay.

Fourteen of 28 samples from eight sites were toxic to amphipods in Huntington Harbor (Table 19). Seven sites demonstrated toxicity for at least one station (Figure 9b). Bolsa Chica Ecological Reserve (82039.0) demonstrated the most toxicity with four of four stations. This site had the seventh highest ERMQ in Huntington Harbor. Middle Huntington Harbor (80027.1-3) was toxic at five of six stations, and had the third and fifth highest mean ERMQs. The site with the highest ERMQs, Upper Huntington Harbor (80028.1-3), was toxic at two of six stations. Amphipod toxicity in Huntington Harbor was concentrated mostly along the channel from the middle harbor site to the Bolsa Chica Reserve site. Additional toxicity occurred in the marina areas.

Nine of 25 samples from 22 sites were toxic to amphipods in Newport Bay (Table 20). Toxicity was concentrated around Lido Island at the Rhine Channel and Newport Island sites (85013.0 and 85014.0), that had the highest ERMQ values in the bay. Toxicity also occurred on the north and south sides of Lido Island at sites 85002.0, 85010.0 and 85012.0 (Figure 9c). Additional toxicity occurred in the upper bay at sites 85008.0 and 85001.0. In twelve duplicate amphipod tests with *Ampelisca* conducted during Leg 36, ten results agreed with those of the *Rhepoxynius* test. Sites 85010.0 and 85012.0 were toxic to *Rhepoxynius* and not toxic to *Ampelisca*. Toxic responses with *Ampelisca* also occurred at the Rhine Channel and Newport Island sites and site 85008.0.

Table 18. Toxicity of Anaheim Bay sediments to *Rhepoxynius* amphipods (n = 5).

Station No.	IDOrg	Rhepoxynius Mean	Rhepoxynius SD	Significance	Toxicity
82030.0	1046	62.00	13.51	*	T
82030.0	1045	69.00	19.17	*	T
82030.0	1044	38.00	16.81	*	T
82030.0	430	87.00	7.60	*	NT
82030.0	772	87.00	9.70	NS	NT
82030.0	1195	82.00	24.14	NS	NT
82030.0	1196	79.00	2.24	*	NT
82030.0	1197	90.00	6.12	NS	NT
82030.0	1335	79.00	9.62	*	NT
80024.3	1171	91.00	8.94	NS	NT
80024.3	1172	88.00	5.70	*	NT
80024.3	1173	85.00	3.54	*	NT
80024.3	87	82.00	14.40	NS	NT
80024.3	807	34.00	15.20	*	T
82023.0	1094	51.00	11.94	*	T
82023.0	1093	67.00	18.23	*	NT
82023.0	1092	59.00	12.94	*	T
82023.0	423	86.00	6.50	*	NT
82023.0	771	59.00	7.40	*	T
82002.0	1089	72.00	13.04	*	NT
82002.0	1091	79.00	9.62	*	NT
82002.0	1090	76.00	4.18	*	NT
82002.0	402	72.00	17.50	*	T
82002.0	809	32.00	10.40	*	T
80024.1	85	87.00	4.50	*	NT
82001.0	1088	91.00	5.48	*	NT
82001.0	1086	64.00	36.64	NS	NT
82001.0	1087	57.00	27.75	*	T
82001.0	401	42.00	31.10	*	T
82040.0	1096	63.00	10.37	*	T
82040.0	1097	87.00	10.37	*	NT
82040.0	1095	62.00	12.04	*	T
82040.0	440	59.00	17.50	*	T
80024.2	86	84.00	8.20	*	NT
80025.1	88	65.00	11.20	*	T
80025.2	89	80.00	10.00	*	NT
80025.3	90	75.00	10.00	*	NT
82003.0	403	93.00	2.70	*	NT
82004.0	404	91.00	5.50	*	NT
82020.0	420	84.00	8.20	*	NT
82020.0	769	49.00	18.80	*	T
82021.0	421	94.00	6.50	NS	NT
82022.0	422	79.00	6.50	*	NT

Table 19. Toxicity of Huntington Harbor sediments to Rhepoxynius amphipods (n = 5).

Station No.	IDOrg	Rhepoxynius Mean	Rhepoxynius SD	Significance	Toxicity
80028.3	1174	75.00	7.91	*	T
80028.3	1175	83.00	12.04	*	NT
80028.3	1176	80.00	7.91	*	NT
80028.3	99	52.00	14.40	*	T
80028.2	98	73.00	16.00	*	NT
80027.3	1179	89.00	9.62	*	NT
80027.3	1177	93.00	5.70	*	NT
80027.3	1178	78.00	35.46	NS	NT
80027.3	96	44.00	23.80	*	T
82006.0	406	22.00	10.40	*	T
80027.2	95	67.00	13.00	*	T
82005.0	405	43.00	19.90	*	T
82005.0	1201	80.00	11.73	*	NT
82005.0	1202	87.00	9.08	*	NT
82005.0	1203	74.00	23.02	NS	NT
82039.0	439	57.00	14.80	*	T
82039.0	1204	21.00	35.95	*	T
82039.0	1205	9.00	8.94	*	T
82039.0	1206	38.00	29.07	*	T
80026.1	91	86.00	8.20	NS	NT
80026.2	92	92.00	5.70	NS	NT
80026.3	93	82.00	7.60	*	NT
80027.1	94	64.00	9.60	*	T
80028.1	97	73.00	13.00	*	NT
82009.0	409	73.00	7.60	*	T
82024.0	424	81.00	8.20	*	NT
82024.0	770	66.00	14.30	*	T
82009.0	808	20.00	7.90	*	T

Table 20. Toxicity of Newport Bay sediments to *Rhepoxynius*, *Eohaustorius* and *Ampelisca* (n = 5).

Station Number	IDOrg	Amphipod	Amphipod Mean	Amphipod SD	Sig.	Tox.	Ampelisca Mean	Ampelisca SD	Sig.	Tox.
85013.0	1424	RA	60.00	21.00	*	T	4	5	*	T
85013.0	1633	EE	49.00	19.00	*	T				
85014.0	1425	RA	56.00	15.00	*	T	26	20	*	T
85015.0	1426	RA	93.00	6.00	NS	NT	77	16	NS	NT
85006.0	1392	RA	79.00	10.00	*	NT				
85017.0	1428	RA	81.00	4.00	*	NT	93	6	NS	NT
85005.0	1391	RA	63.00	19.00	*	T				
85002.0	1388	RA	58.00	16.00	*	T				
85010.0	1421	RA	74.00	14.00	*	T	76	13	*	NT
85012.0	1423	RA	59.00	16.00	*	T	67	39	NS	NT
85011.0	1422	RA	80.00	17.00	*	NT	95	5	NS	NT
85011.0	1634	EE	93.00	8.00	NS	NT				
85004.0	1390	RA	70.00	10.00	*	NT				
85001.0	1387	RA	29.00	15.00	*	T				
85001.0	1788	EE	93.00	7.00	NS	NT				
85008.0	1419	RA	57.00	14.00	*	T	0	0	*	T
85016.0	1427	RA	85.00	8.00	*	NT	89	11	NS	NT
85003.0	1389	RA	72.00	10.00	*	NT				
85009.0	1420	RA	93.00	6.00	*	NT	87	10	NS	NT
85018.0	1429	RA	89.00	11.00	*	NT	86	13	NS	NT
85007.0	1418	RA	93.00	6.00	*	NT	87	13	NS	NT
86001.0	1789	HA	96.00	5.00	NS	NT				
86002.0	1790	EE	97.00	4.00	NS	NT				
86003.0	1791	EE	91.00	7.00	NS	NT				
86004.0	1792	EE	95.00	4.00	NS	NT				

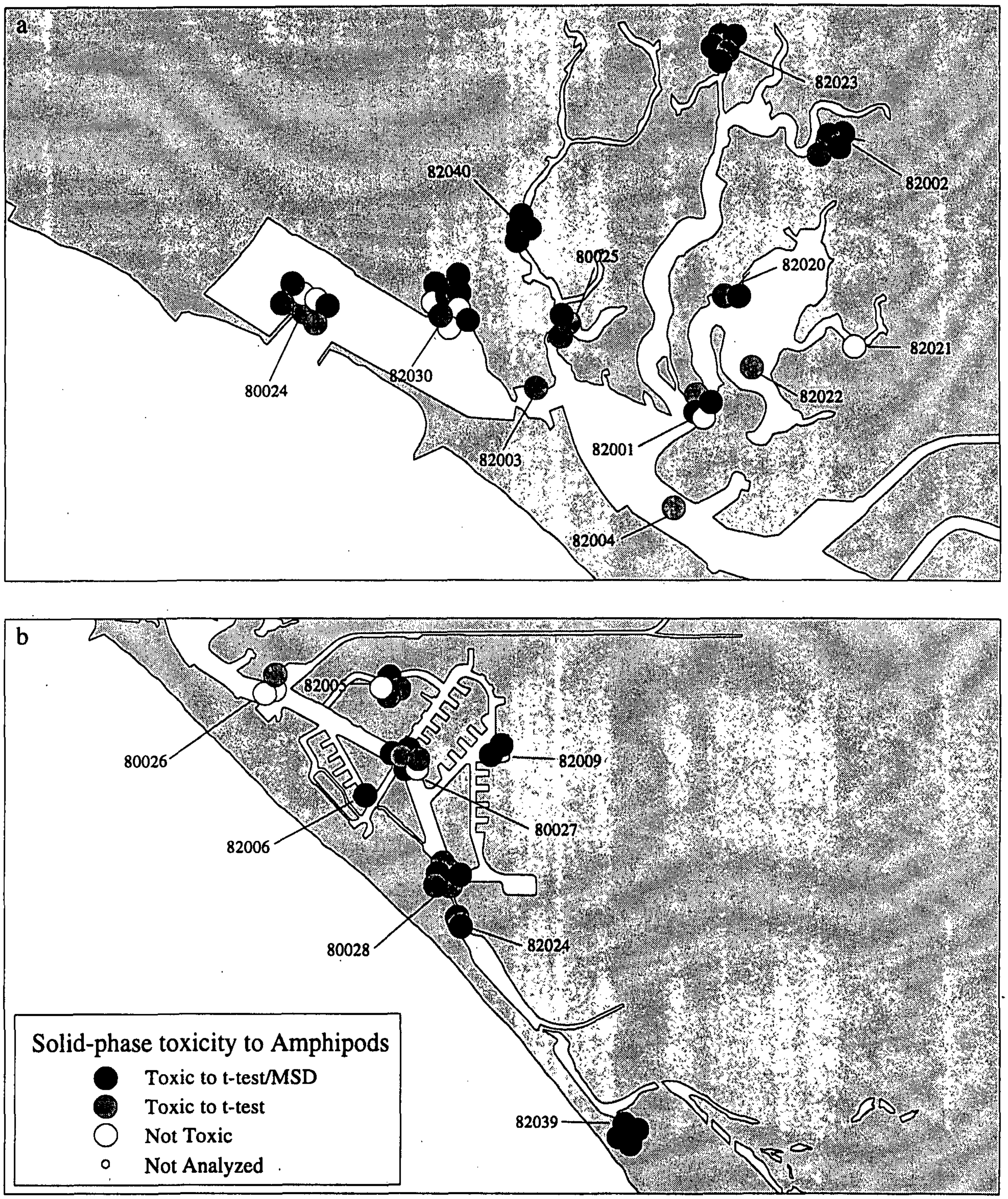


Figure 9a and 9b. Solid-phase toxicity to amphipods in Anaheim Bay and Huntington Harbor.

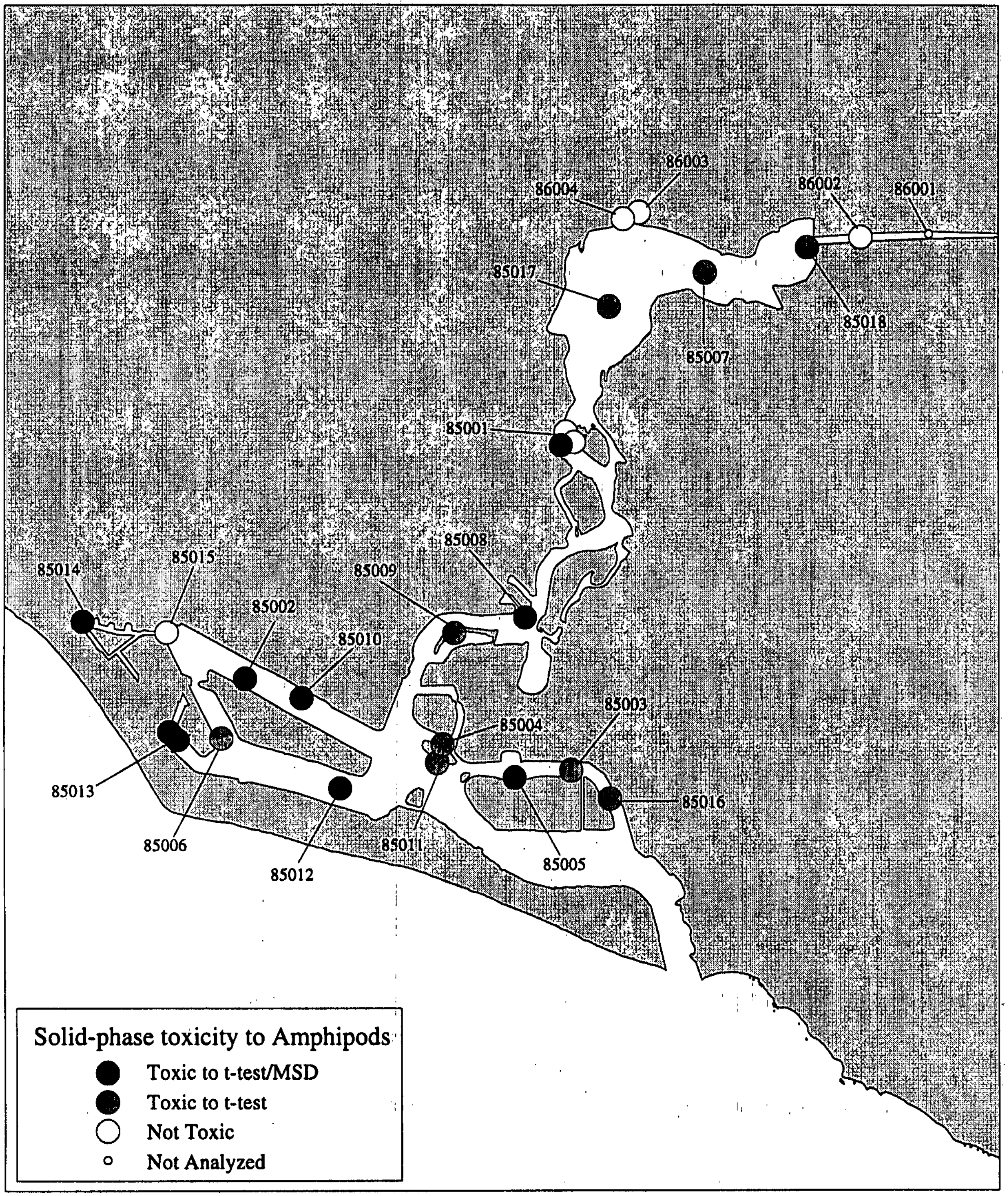


Figure 9c. Solid-phase toxicity to amphipods in Newport Bay.

Porewater Toxicity Testing Results

Results from larval development tests using abalone and purple urchins are shown for each station in Anaheim Bay and Huntington Harbor (Tables 21 and 22). Table 23 outlines the results of larval development and fertilization tests in porewater and the sediment-water interface exposure system with purple urchins in Newport Bay. Ninety-five percent of porewater samples from Region 8 were toxic at the 100% concentration. Eighty percent of samples tested at the 50% concentration, and 47 percent of samples tested at 25% were toxic to larval organisms (Figures 10a through 10c). All porewater samples tested with abalone were toxic at full strength. Only three 100% porewater samples were not toxic to purple urchins; two sites in Anaheim Bay (82023.0 and 82001.0), and one site in Newport Bay (85016.0). Porewater from site 82023.0 was toxic to purple urchins at a later visit.

Three stations were analyzed for porewater metals chemistry and one station was analyzed for SEM/AVS. Middle and Upper Huntington Harbor (80027.2 and 80028.2) and Newport Bay's Rhine Channel (85013.0) all had concentrations of trace metals high enough to cause toxicity in the 100% porewater sample. The Huntington Harbor stations were toxic at all three concentrations of porewater and the Rhine Channel station was toxic at 100% porewater (the only concentration tested). SEM/AVS analysis was also conducted at the Rhine Channel station. The ratio of SEM to AVS was 4.65, indicating that some of the extracted metals were bioavailable and might have contributed to toxicity at this station. Care should be taken in interpreting these data because the SEM/AVS ratio works best in anoxic sediments.

Results of purple urchin fertilization tests prior to Leg 31 were not used in categorizing toxic stations. Porewater samples were stored frozen prior to this leg, and although recent studies suggest that freezing has no effect on fertilization results, frozen seawater controls were consistently toxic. For this reason the results of these fertilization tests were suspect. Porewater samples extracted after Leg 31 were stored at 4°C. Fertilization test results were all from Newport Bay. The fertilization test detected less toxicity than the larval development test. Five of eighteen porewater samples from Newport Bay were significantly toxic to purple urchin sperm (Table 23). All fertilization results are listed in Appendix E.

The sediment-water interface exposure system was used as a solid-phase exposure for embryo-larval tests. Two of six samples from Newport Bay were significantly toxic when tested with the purple urchin larval development test at the sediment-water interface (Table 23).

Table 21. Toxicity of Anaheim Bay porewater to abalone and purple urchin larval development.

Station			100% Porewater				50% Porewater				25% Porewater			
No.	IDOrg	Test	Mean	SD	Sig.	Tox.	Mean	SD	Sig.	Tox.	Mean	SD	Sig.	Tox.
82030.0	1046	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
82030.0	1045	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
82030.0	1044	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
82030.0	430	SP	0.00	0.00	*	T	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
82030.0	772	SP	0.00	0.00	*	T	0.00	0.00	*	T	n/a	n/a	n/a	n/a
82030.0	1195	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
82030.0	1196	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
82030.0	1197	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
82030.0	1335	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
80024.3	1171	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
80024.3	1172	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
80024.3	1173	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
80024.3	87	HR	17.50	20.00	*	T	99.30	0.60	NS	NT	99.30	1.20	NS	NT
80024.3	807	SP	0.00	0.00	*	T	0.00	0.00	*	T	n/a	n/a	n/a	n/a
82023.0	1094	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
82023.0	1093	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
82023.0	1092	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
82023.0	423	SP	92.00	6.00	*	NT	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
82023.0	771	SP	0.00	0.00	*	T	0.00	0.00	*	T	n/a	n/a	n/a	n/a
82002.0	1089	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
82002.0	1091	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
82002.0	1090	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
82002.0	402	SP	0.00	0.00	*	T	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
82002.0	809	SP	0.00	0.00	*	T	0.00	0.00	*	T	n/a	n/a	n/a	n/a
80024.1	85	HR	12.10	10.70	*	T	97.90	1.30	NS	NT	66.30	53.70	NS	NT
82001.0	1088	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
82001.0	1086	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
82001.0	1087	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
82001.0	401	SP	69.00	32.80	NS	NT	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
82040.0	1096	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
82040.0	1097	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
82040.0	1095	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
82040.0	440	SP	49.70	22.70	*	T	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
80024.2	86	HR	0.00	0.00	*	T	97.60	2.30	NS	NT	97.20	2.00	NS	NT
80025.1	88	HR	12.40	8.70	*	T	91.10	3.60	NS	NT	97.00	3.80	NS	NT
80025.2	89	HR	32.20	13.10	*	T	97.40	0.80	*	NT	96.60	1.60	NS	NT
80025.3	90	HR	29.10	24.20	*	T	73.80	9.70	*	T	96.40	1.30	NS	NT
82003.0	403	SP	0.00	0.00	*	T	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
82004.0	404	SP	0.00	0.00	*	T	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
82020.0	420	SP	0.00	0.00	*	T	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
82020.0	769	SP	0.00	0.00	*	T	0.00	0.00	*	T	n/a	n/a	n/a	n/a
82021.0	421	SP	0.00	0.00	*	T	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
82022.0	422	SP	0.00	0.00	*	T	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Table 22. Toxicity of Huntington Harbor porewater to abalone and purple urchin larval development.

Station No.	IDOrg	Test	100% Porewater Mean	SD	Sig.	Tox.	50% Porewater Mean	SD	Sig.	Tox.	25% Porewater Mean	SD	Sig.	Tox.
80028.3	1174	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
80028.3	1175	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
80028.3	1176	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
80028.3	99	HR	0.00	0.00	*	T	3.70	6.40	*	T	82.40	7.00	*	T
80028.2	98	HR	0.00	0.00	*	T	0.40	0.60	*	T	5.30	5.20	*	T
80027.3	1179	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
80027.3	1177	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
80027.3	1178	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
80027.3	96	HR	0.00	0.00	*	T	0.00	0.00	*	T	0.00	0.00	*	T
82006.0	406	SP	0.00	0.00	*	T	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
80027.2	95	HR	0.00	0.00	*	T	0.00	0.00	*	T	13.60	10.70	*	T
82005.0	405	SP	0.00	0.00	*	T	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
82005.0	1201	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
82005.0	1202	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
82005.0	1203	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
82039.0	439	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
82039.0	1204	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
82039.0	1205	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
82039.0	1206	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
80026.1	91	HR	0.00	0.00	*	T	0.00	0.00	*	T	0.00	0.00	*	T
80026.2	92	HR	0.00	0.00	*	T	0.00	0.00	*	T	0.00	0.00	*	T
80026.3	93	HR	0.00	0.00	*	T	0.00	0.00	*	T	61.20	27.60	NS	NT
80027.1	94	HR	0.00	0.00	*	T	0.00	0.00	*	T	0.00	0.00	*	T
80028.1	97	HR	0.00	0.00	*	T	0.00	0.00	*	T	64.70	22.00	NS	NT
82009.0	409	SP	0.00	0.00	*	T	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
82024.0	424	SP	0.00	0.00	*	T	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
82024.0	770	SP	0.00	0.00	*	T	0.00	0.00	*	T	n/a	n/a	n/a	n/a
82009.0	808	SP	0.00	0.00	*	T	0.00	0.00	*	T	n/a	n/a	n/a	n/a

Table 23. Toxicity of Newport Bay Porewater to purple urchin larval development and fertilization. Italics indicate the toxicity of Sediment-Water Interface exposures to purple urchin larval development.

Station		100% Porewater				50% Porewater				25% Porewater				Fertilization or SWI			
No.	IDOrg	Mean	SD	Sig.	Tox	Mean	SD	Sig.	Tox	Mean	SD	Sig.	Tox	Mean	SD	Sig.	Tox
85013.0	1424	0.00	0.00	*	T	70.00	9.00	*	NT	86.00	15.0	NS	NT	93.00	5.00	NS	NT
85013.0	1633	0.00	0.00	*	T	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	20.00	18.00	*	T
85014.0	1425	0.00	0.00	*	T	0.00	0.00	*	T	62.00	21.0	*	NT	96.00	2.00	NS	NT
85015.0	1426	0.00	1.00	*	T	87.00	10.0	NS	NT	95.00	3.00	NS	NT	92.00	4.00	NS	NT
85006.0	1392	0.00	0.00	*	T	0.00	0.00	*	T	23.00	21.0	*	T	94.00	0.00	NS	NT
85017.0	1428	0.00	0.00	*	T	1.00	2.00	*	T	80.00	6.00	*	NT	96.00	1.00	NS	NT
85005.0	1391	0.00	0.00	*	T	0.00	0.00	*	T	22.00	37.0	*	T	96.00	3.00	NS	NT
85002.0	1388	0.00	0.00	*	T	0.00	0.00	*	T	58.00	48.0	NS	NT	93.00	3.00	NS	NT
85010.0	1421	0.00	0.00	*	T	0.00	0.00	*	T	50.00	47.0	NS	NT	72.00	5.00	*	NT
85012.0	1423	2.00	3.00	*	T	43.00	16.0	*	T	23.00	4.00	*	T	86.00	6.00	NS	NT
85011.0	1422	0.00	0.00	*	T	0.00	0.00	*	T	3.00	4.00	*	T	95.00	5.00	NS	NT
85011.0	1634	1.00	2.00	*	T	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	46.00	41.00	*	T
85004.0	1390	0.00	0.00	*	T	0.00	0.00	*	T	34.00	31.0	*	T	92.00	2.00	NS	NT
85001.0	1387	0.00	0.00	*	T	0.00	0.00	*	T	0.00	0.00	*	T	47.00	12.00	*	T
85001.0	1788	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	57.00	40.00	*	NT
85008.0	1419	0.00	0.00	*	T	0.00	0.00	*	T	0.00	0.00	*	T	0.00	0.00	*	T
85016.0	1427	81.00	8.00	*	NT	97.00	1.00	NS	NT	97.00	0.00	NS	NT	86.00	4.00	NS	NT
85003.0	1389	0.00	0.00	*	T	0.00	0.00	*	T	2.00	3.00	*	T	91.00	2.00	NS	NT
85009.0	1420	0.00	0.00	*	T	1.00	1.00	*	T	51.00	15.0	*	T	0.00	0.00	*	T
85018.0	1429	0.00	0.00	*	T	0.00	0.00	*	T	2.00	0.00	*	T	29.00	15.00	*	T
85007.0	1418	0.00	0.00	*	T	0.00	0.00	*	T	0.00	0.00	*	T	0.00	0.00	*	T
86001.0	1789	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
86002.0	1790	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	89.00	3.00	*	NT
86003.0	1791	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	65.00	42.00	NS	NT
86004.0	1792	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	78.00	43.00	NS	NT

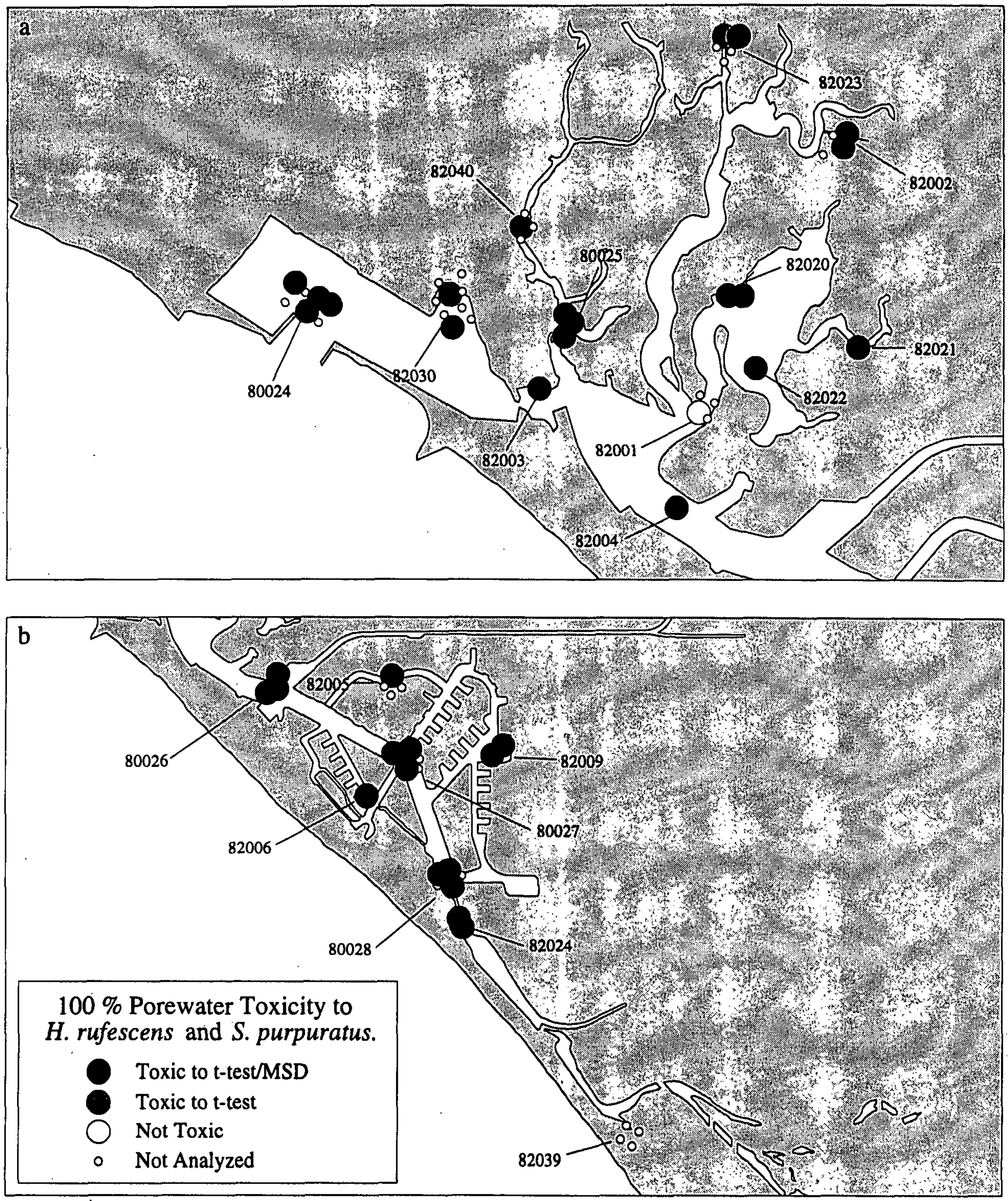


Figure 10a and 10b. Porewater toxicity to larval development in Anaheim Bay and Huntington Harbor.

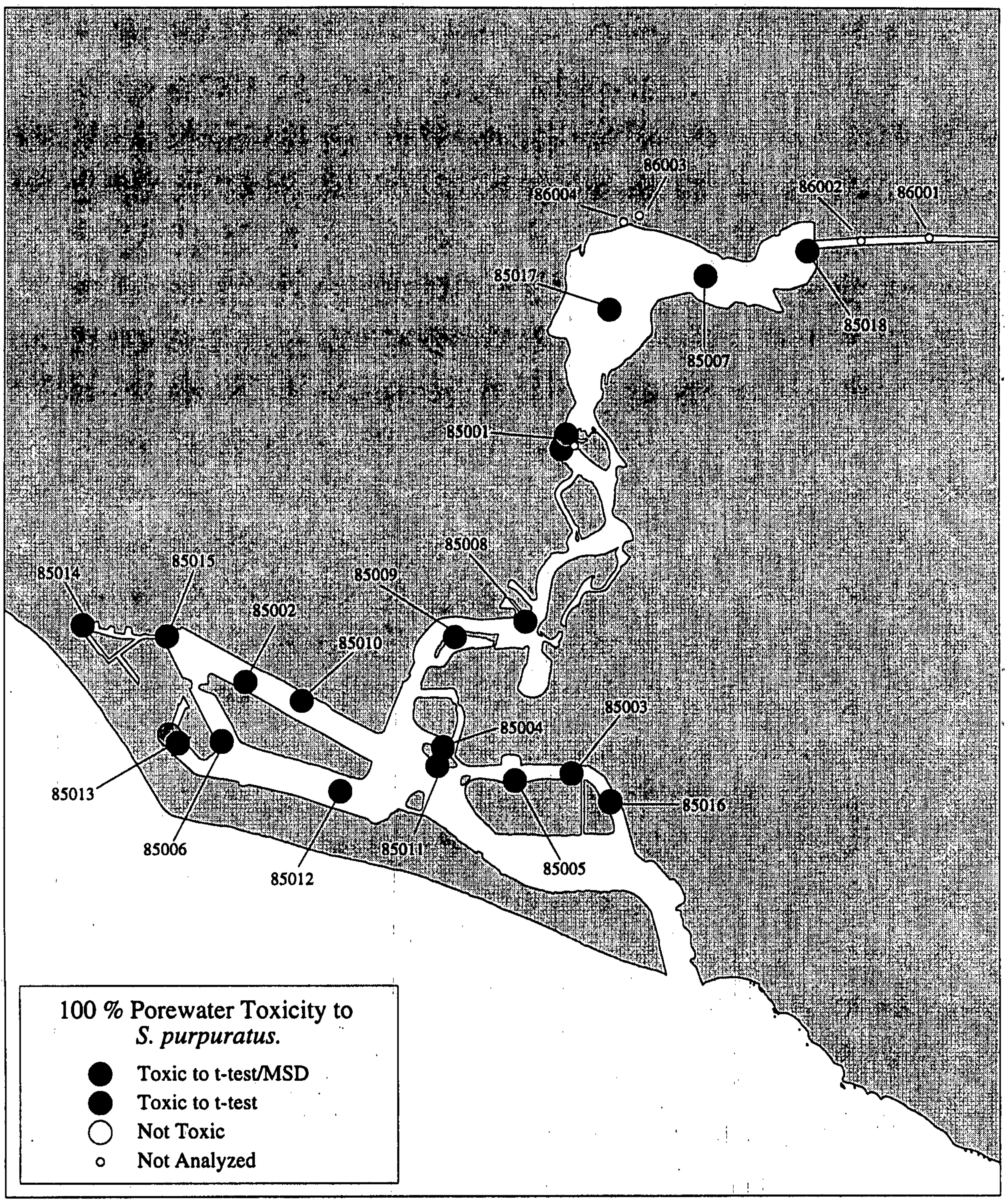


Figure 10c. Porewater toxicity to larval development in Newport Bay.

Interpretation of Pore Water Testing Results

The results indicated that this test was sensitive to pollutants and/or other pore water constituents in the study areas, particularly at the 100 percent pore water concentration. The increased sensitivity of the pore water test relative to the amphipod bedded sediment test was not unexpected. In pore water tests a more sensitive life stage, i.e., embryo-larval development was used, whereas in the amphipod test the adult organisms were used. Also, any toxicants present in the pore water are likely to be in a dissolved phase, not in a particulate bound phase, and therefore should be more readily bioavailable to the test organism. This sensitivity has been observed in other studies which have assessed pore water toxicity using sensitive life stages (Burgess et al., 1993; Carr and Chapman 1992; Long et al., 1990).

An important issue with regard to the interpretation of porewater testing results is the need to determine what effect the method of extracting porewater from sediment has on the observed toxicity. Concern over the squeezing method led BPTCP to use centrifugation from leg 24 on. Many scientists are now using centrifugation to obtain pore water from sediment for toxicity testing, since this method may be subject to fewer toxicity artifacts (Lange et al., 1992; Giesy et al., 1990).

Because there was decreasing response with increasing dilution of pore water observed in the study, clearly some factor in the pore water was influencing the organism response. However, the increased sensitivity at the 100 percent pore water concentration limits the ability of this test and/or the method of pore water extraction, to discriminate more severely impacted sediments from less severely impacted sediments (a primary goal of the BPTCP). Pore water toxicity data by themselves can be difficult to interpret. However, pore water toxicity test dilutions, if used in conjunction with other toxicity tests and chemical measurements, provide a good estimate of the relative exposure of organisms to pollutants.

Polychaete Toxicity Testing Results

Results of the polychaete sediment test using *Neanthes arenaceodentata* are summarized in Appendix E. Only one station, Bolsa Chica Ecological Reserve (82039.0), was found to be significantly toxic to *Neanthes* survival. There were no sediment samples that significantly impacted *Neanthes* growth. Sediment from Bolsa Chica Ecological Reserve was also significantly toxic to the amphipod *Rhepoxynius*.

Relationship Between Toxicity and Sediment Constituents

Statistical associations between amphipod and larval development toxicity and bulk phase chemical concentrations were determined using Spearman Rank Correlations. Correlations were performed between amphipod toxicity (*Eohaustorius* and *Rhepoxynius*) and chemistry data within each water body, and between purple urchin toxicity and *Ampelisca* toxicity and chemistry data in Newport Bay. Correlations between amphipod toxicity, purple urchin development toxicity and chemistry were also performed using data from all three water bodies. Additional correlations were performed between toxicity and ammonia, hydrogen sulfide, percent fine grain size, total organic carbon and ERMQs within the entire region.

Analyses revealed significant negative correlations between chemicals of concern and amphipod toxicity in specific water bodies (Table 24). Eighty percent of the samples from Huntington Harbor had lead concentrations above the ERL, and demonstrate increasing toxicity with increasing lead concentration. Several of Newport Bay stations had copper, lead, mercury and zinc concentrations above ERL and ERM guideline values. All of these trace metals had significant negative correlations with amphipod survival from Newport Bay. *Ampelisca* tests conducted in Newport Bay had a significant negative correlation with unionized ammonia in the overlying water ($p < 0.005$). Three *Ampelisca* samples exceeded the NOEC of 0.4 mg/L (Figure 11), and were significantly toxic. Amphipod toxicity was significantly correlated with percent fines and total organic carbon ($p < 0.0005$ and $p < 0.005$, respectively). There was a weak correlation between *Ampelisca* toxicity and copper ($p < 0.05$), and no correlations between purple urchin toxicity and chemical contaminants in Newport Bay.

In addition to correlations between toxicity results and single chemical concentrations, the toxicity data were correlated with the ERMQ by water body and the entire region. Toxicity data were plotted against the quotients to determine whether there was a threshold quotient value above which significant toxicity occurred. Newport Bay amphipod toxicity results were significantly correlated with ERMQ ($p < 0.025$, $r^2 = -0.478$, Figure 13a), but amphipod toxicity for the region did not correlate with ERMQ (Figure 13b). Samples with ERMQs above 1 were toxic to both amphipods and larval organisms. Larval organisms were more sensitive than amphipods and demonstrated toxicity when ERMQ were greater than 0.200 (Figure 13c).

Table 24. Spearman Rank Correlation results for selected toxicants significantly correlated with amphipod toxicity (*Eohaustorius* and *Rhepoxynius*) results from specific water bodies.

Water Body	Chemical	N	Spearman Rho	Significance
Anaheim Bay	Selenium	22	-0.453	0.025
Huntington Harbor	Antimony	15	-0.757	0.001
Huntington Harbor	Lead	15	-0.629	0.01
Huntington Harbor	Tin	15	-0.842	0.0005
Newport Bay	Percent Fines	20	-0.649	0.0025
Newport Bay	TOC	20	-0.422	0.05
Newport Bay	Antimony	20	-0.458	0.025
Newport Bay	Chromium	20	-0.598	0.005
Newport Bay	Copper	20	-0.542	0.01
Newport Bay	Lead	20	-0.392	0.05
Newport Bay	Mercury	20	-0.444	0.05
Newport Bay	Nickel	20	-0.633	0.0025
Newport Bay	Tin	20	-0.495	0.025
Newport Bay	Zinc	20	-0.497	0.025
Newport Bay	Total Chlordane	20	-0.380	0.05
Newport Bay	Total PCB	20	-0.408	0.05

Regionally amphipod survival was significantly correlated with several contaminants and percent fines (Table 25). The Newport Bay data were probably driving the regional correlations because all but one of the sediment constituents correlated with the regional data was also correlated with the amphipod data from Newport Bay. Regional toxicity to purple urchin larval development was significantly correlated with unionized ammonia concentrations in interstitial water ($p < 0.025$, Figure 12). Although unionized ammonia concentrations in porewater tests using larval abalone and purple urchins exceeded the Lowest Observed Effect Concentrations for those species (LOEC $\simeq$ 0.05 mg/L un-ionized ammonia; MPSL unpublished data and Bay et al. 1993), there was no correlation between ammonia and abalone larval development. Purple urchin ammonia concentrations could account for 72% of the observed toxicity in 100% porewater samples. Purple urchin development data were also correlated with several contaminants including copper, zinc, total chlordane, p,p'DDE and total PCBs, which had concentrations above ERM guideline values at some stations.

Table 25. Spearman Rank Correlation results for selected toxicants significantly correlated with amphipod (*Eohaustorius* and *Rhepoxynius*) and urchin development toxicity results from the entire region.

Test Protocol	Chemical	N	Spearman Rho	Significance
Amphipod Survival	Percent Fines	95	-0.271	0.005
Amphipod Survival	Antimony	57	-0.354	0.005
Amphipod Survival	Chromium	57	-0.333	0.01
Amphipod Survival	Copper	57	-0.329	0.01
Amphipod Survival	Iron	57	-0.350	0.005
Amphipod Survival	Tin	57	-0.372	0.0025
Amphipod Survival	Zinc	57	-0.231	0.025
Urchin Development	TOC	24	-0.438	0.025
Urchin Development	Copper	24	-0.442	0.025
Urchin Development	Silver	24	-0.419	0.025
Urchin Development	Zinc	24	-0.485	0.01
Urchin Development	Cchlor	24	-0.464	0.025
Urchin Development	Total Chlordane	24	-0.398	0.05
Urchin Development	p,p'DDD	24	-0.377	0.05
Urchin Development	p,p'DDE	24	-0.430	0.025
Urchin Development	p,p'DDT	24	-0.449	0.025
Urchin Development	Total DDT	24	-0.485	0.01
Urchin Development	T-Nonachlor	24	-0.440	0.025
Urchin Development	Tributyltin	24	-0.426	0.025
Urchin Development	Total PCB	24	-0.459	0.025

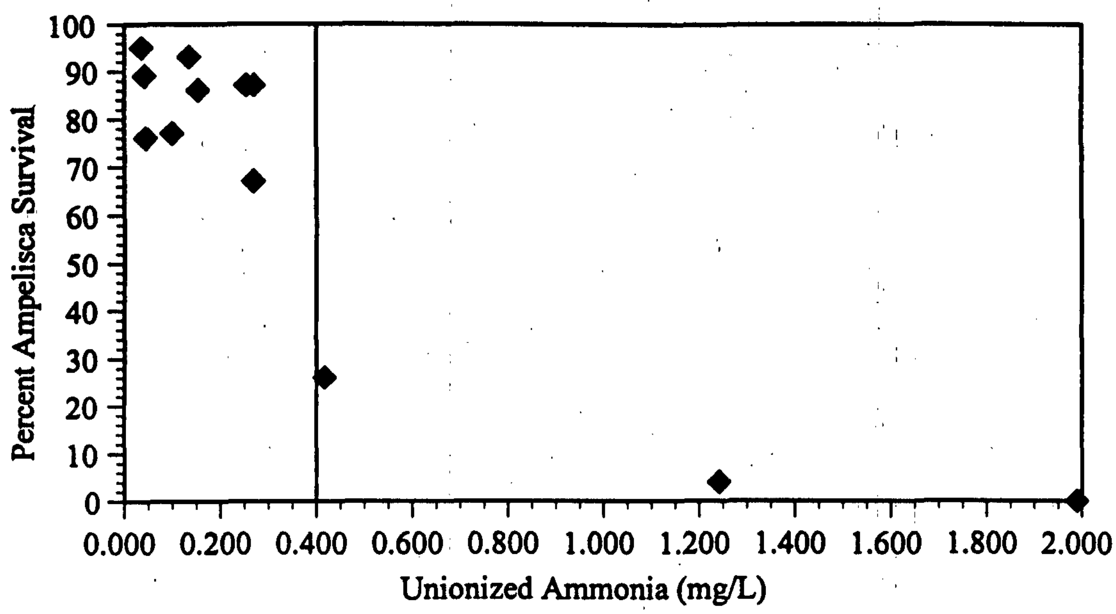


Figure 11. Relationship between *Ampelisca* survival and unionized ammonia concentrations. Line indicates Lowest Observed Effect Concentration.

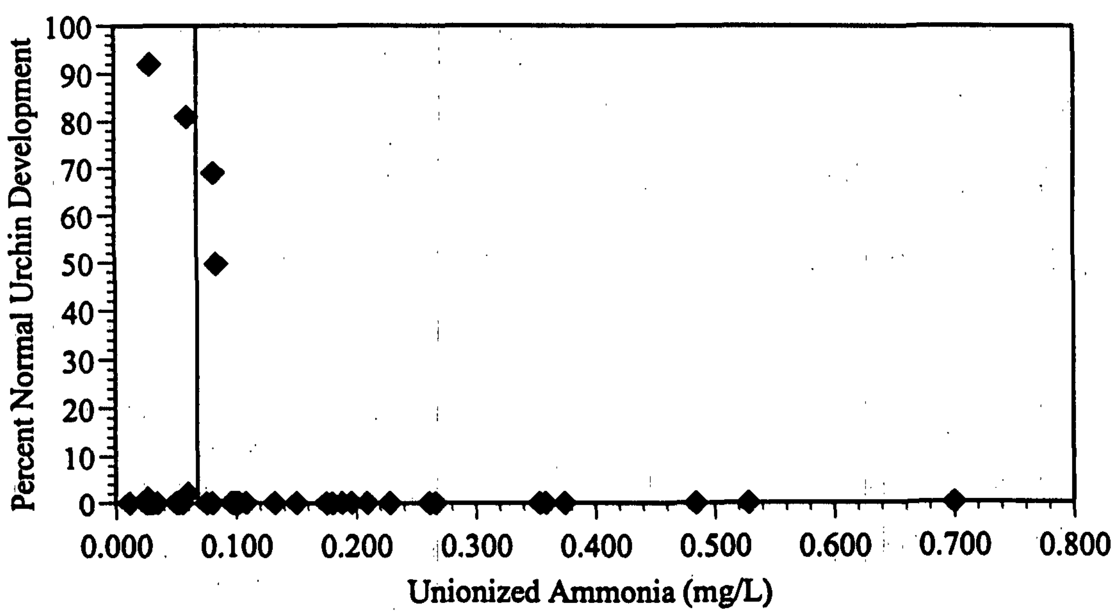


Figure 12. Relationship between purple urchin larval development and unionized ammonia concentrations. Line indicates No Observed Effect Concentration.

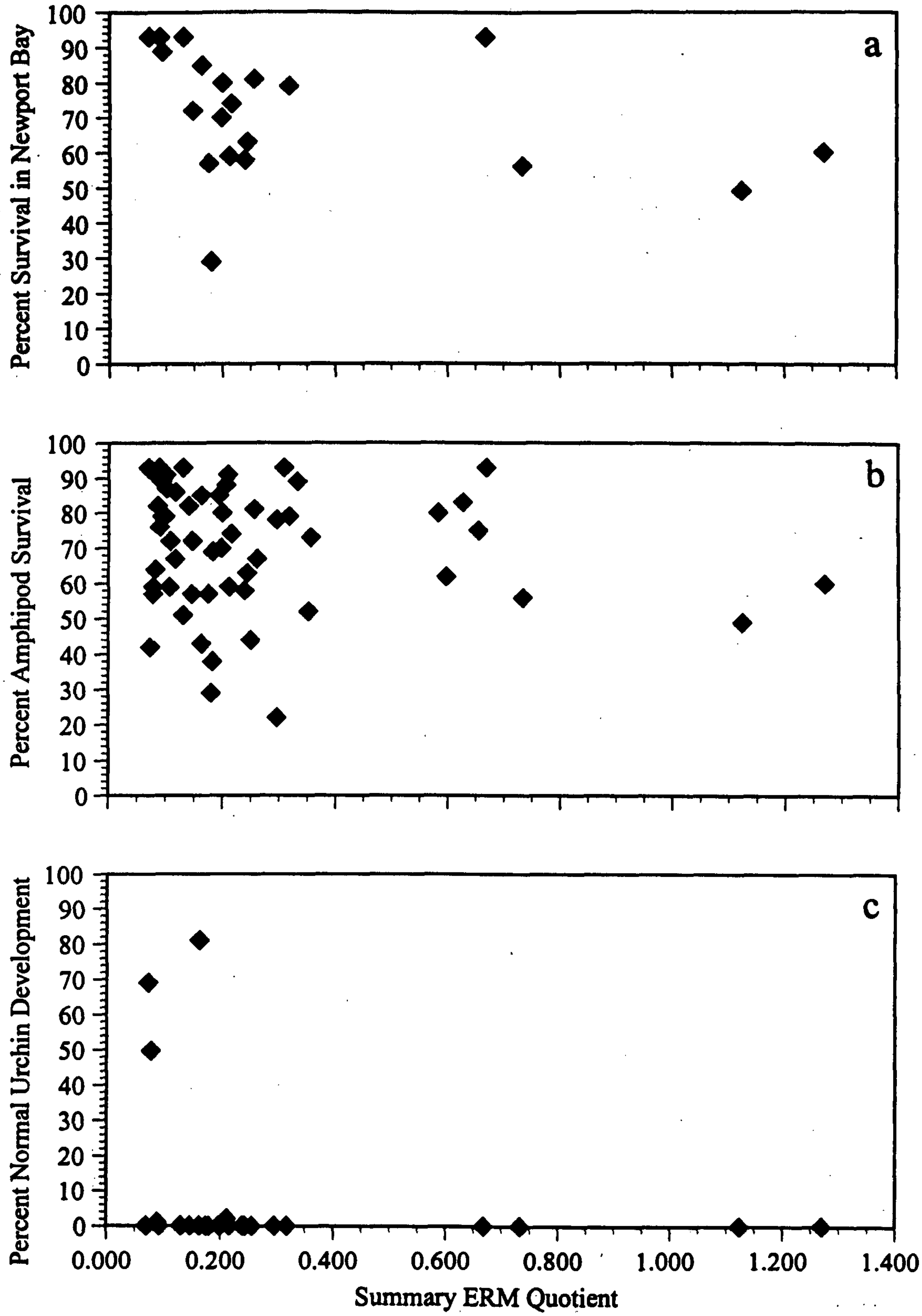


Figure 13a-c. Toxicity response versus summary ERM quotient for amphipods in Newport Bay only, amphipods (*Eohaustorius* and *Rhepoxynius*) in all water bodies, and purple urchin larval development in all water bodies.

Benthic Community Analysis

Discussion of Data Relative to QA Criteria

Benthic data were evaluated for acceptability using the Quality Assurance guidelines presented in the BPTCP Quality Assurance Project Plan (Stephenson et al., 1994). Departures from acceptability standards are summarized in Appendix F. Degraded benthos was defined be an Relative Benthic Index (RBI) ≤ 0.30, transitional benthos have an RBI between 0.31 and 0.60, and undegraded benthos have an RBI > 0.60.

Benthic analysis was conducted on six of 43 stations in Anaheim Bay. These analyses were performed at the three stations within sites 80024 (Outer Anaheim Bay) and 80025 (Anaheim Bay – Oil Island). Both sites had a combination of undegraded and transitional benthos (Table 26, Figure 14a). Nine of 28 stations underwent benthic analysis in Huntington Harbor. Analyses were performed at the three stations within sites 80026, 80027 and 80028 (Lower, Middle and Upper Huntington Harbor, respectively). Upper Huntington Harbor had transitional benthos while Middle and Lower Huntington Harbor had undegraded benthos (Table 27, Figure 14b). Benthic analysis was performed on all but four stations in Newport Bay (Table 28). Benthos at four stations was considered degraded (85005, 85010, 85011 and 85012). The remaining stations had combinations of transitional and undegraded benthos (Figure 14c).

Table 26. Summary of Anaheim Bay benthic community indices.

Station Number	IDOrg	Station Name	Benthic Index	Status
80024.3	87	Outer Anaheim Bay	0.56	Transitional
80024.1	85	Outer Anaheim Bay	0.80	Undegraded
80024.2	86	Outer Anaheim Bay	0.55	Transitional
80025.1	88	Anaheim Bay - Oil Island	0.43	Transitional
80025.2	89	Anaheim Bay - Oil Island	0.60	Transitional
80025.3	90	Anaheim Bay - Oil Island	0.76	Undegraded

Table 27. Summary of Huntington Harbor benthic community indices.

Station Number	IDOrg	Station Name	Benthic Index	Status
80028.3	99	Upper Huntington Harbor	0.47	Transitional
80028.2	98	Upper Huntington Harbor	0.33	Transitional
80027.3	96	Middle Huntington Harbor	0.84	Undegraded
80027.2	95	Middle Huntington Harbor	0.75	Undegraded
80026.1	91	Lower Huntington Harbor	0.75	Undegraded
80026.2	92	Lower Huntington Harbor	0.65	Undegraded
80026.3	93	Lower Huntington Harbor	0.66	Undegraded
80027.1	94	Middle Huntington Harbor	0.79	Undegraded
80028.1	97	Upper Huntington Harbor	0.53	Transitional

Table 28. Summary of Newport Bay benthic community indices.

Station Number	IDOrg	Station Name	Benthic Index	Status
85013.0	1424	Newport Bay (Rhine Channel)	0.52	Transitional
85013.0	1633	Newport Bay (Rhine Channel)	0.48	Transitional
85014.0	1425	Newport Bay (Newport Island)	0.59	Transitional
85015.0	1426	Newport Bay (Arches Storm Drains)	0.88	Undegraded
85006.0	1392	Newport Bay (1009)	0.34	Transitional
85017.0	1428	Newport Bay (Unit II Basin)	0.69	Undegraded
85005.0	1391	Newport Bay (949)	0.27	Degraded
85002.0	1388	Newport Bay (616)	0.74	Undegraded
85010.0	1421	Newport Bay (819)	0.16	Degraded
85012.0	1423	Newport Bay (1064)	0.22	Degraded
85011.0	1422	Newport Bay (905)	0.17	Degraded
85011.0	1634	Newport Bay (523)	0.62	Undegraded
85004.0	1390	Newport Bay (877)	0.32	Transitional
85001.0	1387	Newport Bay (523)	0.82	Undegraded
85001.0	1788	Newport Bay (523)	0.47	Transitional
85008.0	1419	Newport Bay (670)	0.49	Transitional
85016.0	1427	Newport Bay (Yachtmans Cove)	0.85	Undegraded
85003.0	1389	Newport Bay (791)	0.50	Transitional
85009.0	1420	Newport Bay (705)	0.61	Undegraded
85018.0	1429	Newport Bay (Unit I Basin)	0.51	Transitional
85007.0	1418	Newport Bay (431)	1.00	Undegraded
86001.0	1789	San Diego Creek - Campus	n/a	n/a
86002.0	1790	San Diego Creek - Macarthur	n/a	n/a
86003.0	1791	Santa Ana/Delhi Channel - Bridge	n/a	n/a
86004.0	1792	Santa Ana/Delhi Channel - Outer	n/a	n/a

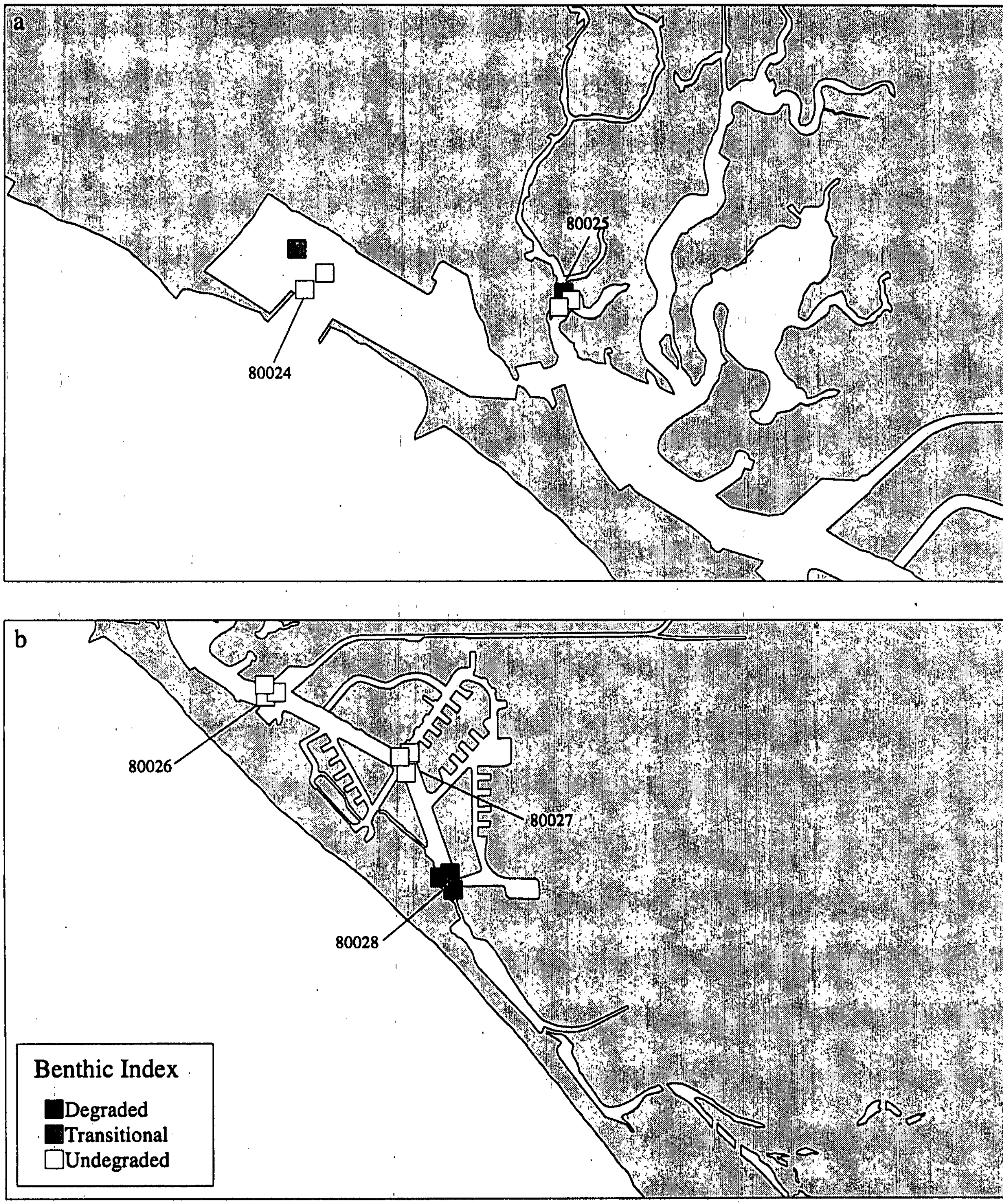


Figure 14a and 14b. Benthic index for stations in Anaheim Bay and Huntington Harbor. Degraded, transitional, and undegraded sites correspond to benthic indices from 0 to 0.3, 0.31 to 0.6, and 0.61 to 1.0, respectively.

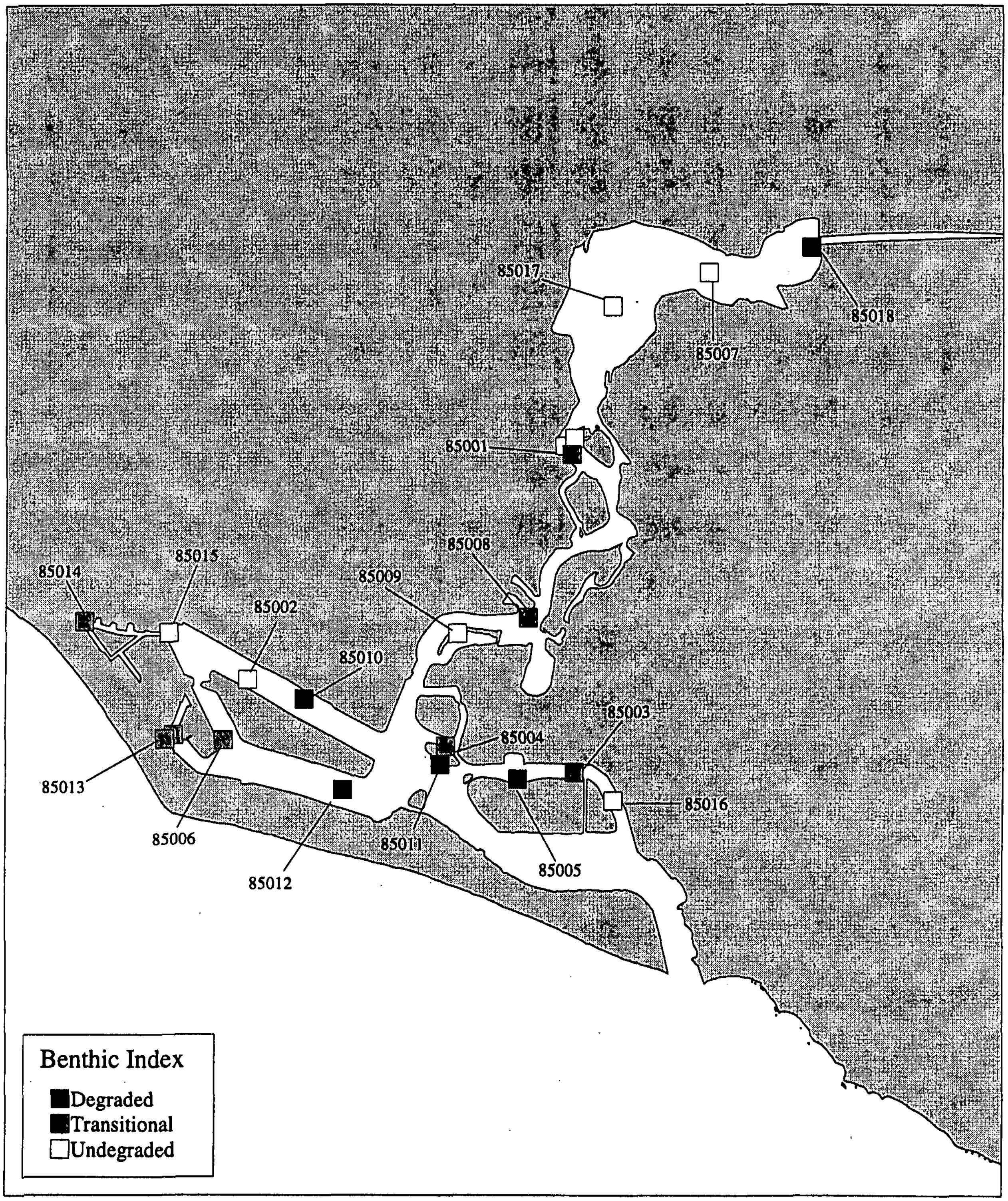


Figure 14c. Benthic index for stations in Newport Bay. Degraded, transitional, and undegraded sites correspond to benthic indices from 0 to 0.3, 0.31 to 0.6, and 0.61 to 1.0, respectively.

Correlation Between Benthic Index and Chemistry

Correlation analyses was performed between bulk sediment contaminants and benthic index for all water bodies combined. Because there were sufficient benthic samples from Newport Bay, additional analyses were conducted with Newport Bay only. Benthic index for both data sets was also correlated with interstitial and overlying unionized ammonia, interstitial hydrogen sulfide, and grain size. The index was also correlated with the results of each of the toxicity test protocols.

Results revealed seventeen significant negative correlations (Table 29). There were significant correlations with several metals in both data sets. Metabolites of DDT also correlated with benthic indices in both data sets. The strongest correlation was between benthic indices in Newport Bay and percent fine grain size. Benthic indices did not correlate with mean ERM quotients.

Table 29. Spearman Rank Correlation results for selected toxicants significantly correlated with benthic indices.

Water Body	Chemical	N	Rho	Significance
All	Cadmium	28	-0.329	0.05
All	Chromium	28	-0.392	0.025
All	Copper	28	-0.369	0.05
All	Iron	28	-0.431	0.025
All	Nickel	28	-0.383	0.025
All	p,p'-DDD	28	-0.332	0.05
All	p,p'DDE	28	-0.409	0.025
All	Total DDT	28	-0.322	0.05
All	Fines	36	-0.392	0.01
All	TOC	36	-0.362	0.025
Newport Bay	Chromium	20	-0.480	0.025
Newport Bay	Copper	20	-0.380	0.05
Newport Bay	Iron	20	-0.570	0.005
Newport Bay	Nickel	20	-0.459	0.025
Newport Bay	o,p'DDE	20	-0.407	0.05
Newport Bay	p,p'DDE	20	-0.481	0.025
Newport Bay	Fines	21	-0.638	0.0025

Additional correlations were performed between separate components of the benthic index and different toxicity test results. Analyses demonstrated significant relationships between normal urchin development at 25 and 50% porewater and total crustacean species ($p < 0.0025$ and $p < 0.01$, respectively).

Principal Components Analysis Results

Principal Components Analysis (PCA) was performed on toxicity, chemistry and benthic data from the region. PCA was conducted on several subsets of data depending on what toxicity tests co-occurred and what chemical compounds were analyzed. Analysis revealed a significant relationship between benthic index and amphipod toxicity. These two biological indicators had significant relationships with several metals, percent fines, total organic carbon and DDT metabolites (Table 30). Of the factors associated with benthic index and amphipod toxicity, Zn and p,p'DDE exceeded ERM guideline values. When amphipod toxicity was analyzed alone, similar metals and percent fines were also associated with toxicity. The benthic indices and amphipod toxicity were also related to fine grain size in individual linear correlations.

Principle Components Analysis demonstrated that percent fine grain size was consistently associated with several metals, o,p'DDE, p,p'DDE, and total DDT. Individual linear correlations revealed that fine grain size was significantly correlated with all metals but aluminum and silver, all pesticides but dieldrin, total PCBs, total PAHs, and the mean ERM quotient. These analyses demonstrate the relationship between fine grain size and chemical contaminants in general. Contaminants are more likely to accumulate in sediments with fine grain size. The strongest relationships with metals and DDT metabolites were to be expected because the metals were greater in Newport Bay, and DDT metabolites were consistently elevated throughout the region.

Ampelisca toxicity was associated with metal contaminants, dieldrin, tributyltin, and total PCBs and PAHs. Metals and total PCBs associated with *Ampelisca* toxicity exceeded ERM guideline values. Urchin development toxicity in 100% porewater was significantly associated with several metals, total chlordane, several DDT metabolites (of which p,p'DDE concentrations exceeded the ERM guideline value), total DDT, total PAH and TOC. Urchin fertilization results, along with urchin development in 25 and 50% porewater were associated with aluminum.

Table 30. Results of Principle Components Analysis. PCA factors are listed in three categories: factors correlated with biological indicator(s), factors exceeding ERM guideline values, and other factors.

Biological Indicator	PCA Factor(s) Associated with Biological Indicator		
	Factors Correlated with Biological Indicator	Factors Exceeding ERM Guideline Value	Other Factors
Amphipod Toxicity/ Benthic Index	Cr, Fe, Ni, Sb, Zn, % Fines, o'p,DDE, p,p'DDE, TDDT, TOC	Zn, p,p'DDE	Mn
Amphipod Toxicity	Cr, Fe, Sb, % Fines		As, Mn, Ni
Ampelisca Toxicity	Cu, Hg, Zn, TPCB	Cu, Hg, Zn, TPCB	As, Pb, Sb, Se, Sn, Dieldrin, TBT, TPAH
Urchin Development (100% porewater)	Ag, Zn, Total Chlordane, p'p,DDD, p,p'DDE, p'p,DDT, TDDT	Zn, p,p'DDE, Total Chlordane	Cd, Cr, Pb, Sb, Sn, TPAH, TOC
Urchin Fertilization (100% porewater)	Ag, Unionized Ammonia		Al

Station Categorization

A goal of the BPTCP is to identify sites considered to be of primary concern in terms of chemical contamination and potential impacts on beneficial uses identified through biological measures. By comparing the relative degree of chemical contamination with different measures of toxic effect, and combining these data with information on benthic community degradation, a weight-of-evidence approach may be employed to categorize sites for future study and action.

While this was an effective way to focus attention on the most polluted sites sampled, the large scope of the surveys limited opportunities to intensively investigate each site. For example, our characterization of organic chemical contamination is constrained by the limited number of contaminants measured. Samples often contained un-identified organic compounds that were not further characterized due to the limited scope of the program; these might have contributed to the toxicity of the samples. In addition, few measures of interstitial water chemical concentrations were conducted for substances other than ammonia and hydrogen sulfide. Therefore, our ability to characterize bioavailability of the bulk-phase chemicals is limited to TOC normalization. In addition, only one measure of Acid Volatile Sulfide and associated metals (AVS-SEM) was made, which limits the ability to predict bioavailability and toxicity of metals. Conclusions regarding benthic community degradation was limited by the lack of *in situ* sediment dissolved oxygen levels.

Because of these limitations, characterization of the most impacted stations must rely on the availability of a triad of measures (Chapman et al., 1987): chemical contamination, benthic community structure and toxicity to amphipods and larval invertebrates. These endpoints were used to establish a weight-of-evidence assessment of sediment quality.

The stations were categorized (Table 31) in order of decreasing chemical impact and biological toxicity and disturbance. Categorized stations range from those with elevated chemistry and mixed biological effects (Category 4 and 5) to those that have no elevated chemistry or biological effects (Category 7). Samples from sites given the highest priority ranking in this study also demonstrated a response to PAHs and PCBs. There were no stations that fell into Categories 1 through 3 as described in the methods.

Category 4 and 5 – Elevated chemistry and one measure of biological impact

Placement in Categories 4 or 5 requires elevated chemistry, but the categories differ in terms of biological impact. Stations in Category 4 only have measurements for one biological indicator, whereas Category 5 has both biological indicators, but only one is significant. Anaheim Bay Naval Reserve (82030.0) had elevated chemistry and recurrent toxicity to amphipods. Because 50% porewater was significantly toxic, larval development toxicity at this station was only partially explained by high ammonia concentrations.

Four stations were grouped into Category 5: Upper Huntington Harbor (900283), Rhine Channel (85013.0), Newport Island (85014.0) and Arches Storm Drain (85015.0). None of these stations had degraded benthos, but all had elevated chemistry and sufficient toxicity to be placed in this category. Sediment from Upper Huntington Harbor repeatedly contained high concentrations of total chlordane, p,p'DDE and chlorpyrifos. Total chlordane concentrations were up to seven times the ERM guideline and p,p'DDE was over five times the ERM. Recurrent toxicity to amphipods and larval development tests contribute to the categorization of this station.

The three stations from Newport Bay are all in close proximity, and share similar chemical loadings. Rhine Channel sediments had the highest mean ERM quotients in the region and contained high concentrations of copper, mercury, p,p'DDE, total PCBs and tributyltin. Although some of the toxicity from this station might be attributed to high concentrations of ammonia and sulfide, the recurrent nature of the toxicity places it in Category 5. Newport Island and Arches Storm Drain had similar ERMQs and shared some chemical exceedances. Newport Island had some high ammonia and sulfide concentrations, but also had significant amphipod toxicity. Although Arches Storm Drain had elevated chemistry, only one test demonstrated significant toxicity. This station had a high percentage of total organic carbon (3.8%) which might have reduced the bioavailability of the chemicals in the sediment.

Category 6 – Biological impact with measured chemical concentrations below threshold values

Stations in this category have at least one measure of biological impact, either toxicity, benthos or both, and no elevated chemistry. Most of the stations in the Santa Ana Region (67%) fell into this category. Although none of these stations met the definition for elevated chemistry, many had ERM exceedances for total chlordane and p,p'DDE, particularly in Anaheim Bay and Huntington Harbor. The highest ERMQ and exceedances of these chemicals were at stations from the Upper and Middle Huntington Harbor sites. At these stations total chlordane was up to 2.9 times the ERM and p,p'DDE was up to 3.2 times the ERM. Toxicity at these stations was significant but not recurrent, and the benthos was not degraded.

Four stations in Newport Bay had degraded benthos and toxicity in more than one test. All of these stations were located near the central portion of the bay and might be affected by dredging operations. All of these stations had exceedances of p,p'DDE ERM values, and three were significantly toxic to amphipods.

Category 7 – Biological and chemical measurements below threshold values

Stations placed in this category have biological and chemical measurements below threshold values, and biological effects that can be explained by ammonia or sulfide concentrations. These stations include five from Anaheim Bay and five from Newport Bay. Six stations had significant toxicity to larval development in porewater, but all of these stations also had concentrations of ammonia that were high enough to cause the observed toxicity. Only one station in Region 8 was not tested with marine organisms. The San Diego Creek – Campus station (86001.0) was tested with the *Hyalella* amphipod and *Ceriodaphnia* acute tests in porewater and at the sediment-water interface. None of these tests were significantly toxic.

Table 31. Categorization of Region 8 stations based on chemistry, toxicity and benthic analysis. Shading indicates significant toxicity or benthic degradation. {} indicate Mytilus larval development test. [ ] indicate freshwater sediment test with Hyalella or fresh porewater test with Ceriodaphnia. NA indicates not analyzed, None indicates no exceedances, N indicates ammonia exceedance, and S indicates sulfide exceedance.

Station					ERM Exceedances (ERMQ)	Amphipod		Larval Development						Purple Urchin			Ampelisca		Benthic
Number	Station Name	Date	IDOrg	ERMQ	Percentile Exceedances (%)	Surv	NH_3 H_2S	100% PW	NH_3 H_2S	50% PW	NH_3 H_2S	25% PW	NH_3 H_2S	SWI	NH_3 H_2S	Fert	Surv	NH_3 H_2S	Index
Category 4 - Elevated Chemistry, one measure of Biological Impact (no data for second biol. indicator)																			
82030.0	Anaheim Bay- Naval Res.	Dec-92	430	NA	NA	87		0	N					NA		NA	NA		NA
82030.0	Anaheim Bay- Naval Res.	Apr-93	772	NA	NA	87		0	N	20				NA		NA	NA		NA
82030.0	Anaheim Bay- Naval Res.- R1	Feb-94	1044	0.182	TChl (1.1) p,p' DDE (1.1)	38		NA						NA		NA	NA		NA
82030.0	Anaheim Bay- Naval Res.- R2	Feb-94	1045	0.183	TChl (1.1) p,p' DDE (1.2)	69		NA						NA		NA	NA		NA
82030.0	Anaheim Bay- Naval Res.- R3	Feb-94	1046	0.597	TChl (7.4) p,p' DDE (1.4)	62		NA						NA		NA	NA		NA
82030.0	Anaheim Bay- Naval Res.- R1	Apr-94	1195	NA	NA	82		NA						NA		NA	NA		NA
82030.0	Anaheim Bay- Naval Res.- R2	Apr-94	1196	NA	NA	79		NA						NA		NA	NA		NA
82030.0	Anaheim Bay- Naval Res.- R3	Apr-94	1197	NA	NA	90		NA						NA		NA	NA		NA
82030.0	Anaheim Bay- Naval Reserve	May-94	1335	NA	NA	79		NA						NA		NA	NA		NA
Category 5 - Elevated Chemistry, mixed results from biological indicators																			
80028.3	Huntington Harbor- Upper	Sep-92	99	0.352	TChl (2.7) p,p' DDE (3.4)	52		20	N	4		82		NA		NA	NA		0.47
80028.3	Huntington Harbor- Upper- R1	Mar-94	1174	0.654	TChl (7.0) p,p' DDE (4.0) Chlorpyrifos (90th)	75		NA						NA		NA	NA		NA
80028.3	Huntington Harbor- Upper- R2	Mar-94	1175	0.626	TChl (6.8) p,p' DDE (5.3) Chlorpyrifos (90th)	83		NA						NA		NA	NA		NA
80028.3	Huntington Harbor- Upper- R3	Mar-94	1176	0.582	TChl (6.2) p,p' DDE (5.0) Chlorpyrifos (90th)	80		NA						NA		NA	NA		NA
85013.0	Newport Bay- Rhine Channel	Sep-94	1424	1.270	Cu (1.9) Hg (12.3) p,p' DDE (1.5) TPCB (2.0) TBT (90th)	60		10	N	70		86		NA		93	[illegible]	N	0.52
85013.0	Newport Bay- Rhine Channel	Jun-96	1633	1.124	Cu (1.8) Hg (10.7) p,p' DDE (1.6) TPCB (2.0) TBT (90th)	49	N	0	S					[illegible]	S	NA	NA		0.48
85014.0	Newport Bay- Newport Island	Sep-94	1425	0.733	Hg (10.7) Zn (1.1) TChl (3.8) p,p' DDE (1.8) TPCB (1.1) TBT (90th)	56		0	NS	0	NS	62		NA		96	[illegible]	N	0.59
85015.0	Newport Bay- Arches Storm Drain	Sep-94	1426	0.668	TChl (5.2) p,p' DDE (2.4) TBT (90th)	93		0	N	87		95		NA		92	77		0.88

Station Number	Station Name	Date	IDOrg	ERMQ	ERM Exceedances (ERMQ) Percentile Exceedances (%)	Amphipod Surv	Amphipod NH_3 H_2S	Larval Development 100% PW	NH_3 H_2S	50% PW	NH_3 H_2S	25% PW	NH_3 H_2S	Purple Urchin SWI	Purple Urchin NH_3 H_2S	Purple Urchin Fert	Ampelisca Surv	Ampelisca NH_3 H_2S	Benthic Index
Category 6 - Biological impact, chemistry below threshold values																			
80024.1	Anaheim Bay- Outer	Sep-92	85	0.101	NONE	87		12		98		66		NA		NA	NA		0.80
80024.2	Anaheim Bay- Outer	Sep-92	86	NA	NA	84		0	N	98		97		NA		NA	NA		0.55
80024.3	Anaheim Bay- Outer	Sep-92	87	0.141	NONE	82		18	N	99		99		NA		NA	NA		0.56
80024.3	Anaheim Bay- Outer	May-93	807	NA	NA	34		0		0				NA		NA	NA		NA
80024.3	Anaheim Bay- Outer- R1	Mar-94	1171	0.210	TChl (1.2) p,p' DDE (1.4)	91		NA						NA		NA	NA		NA
80024.3	Anaheim Bay- Outer- R2	Mar-94	1172	0.206	TChl (1.2) p,p' DDE (1.2) TBT (90th)	88		NA						NA		NA	NA		NA
80024.3	Anaheim Bay- Outer- R3	Mar-94	1173	0.194	TChl (1.2) p,p' DDE (1.1)	85		NA						NA		NA	NA		NA
80025.1	Anaheim Bay- Oil Island	Oct-92	88	NA	NA	65		12		91		97		NA		NA	NA		0.43
80025.2	Anaheim Bay- Oil Island	Oct-92	89	NA	NA	80		32		97		97		NA		NA	NA		0.60
80026.1	Huntington Harbor- Lower	Sep-92	91	0.117	NONE	86		0	N	0	N	0		NA		NA	NA		0.75
80026.2	Huntington Harbor- Lower	Sep-92	92	0.076	NONE	92		0		0		0		NA		NA	NA		0.65
80026.3	Huntington Harbor- Lower	Sep-92	93	NA	NA	82		0		0		61		NA		NA	NA		0.66
80027.1	Huntington Harbor- Middle	Sep-92	94	NA	NA	64		0		0		0		NA		NA	NA		0.79
80027.2	Huntington Harbor- Middle	Sep-92	95	0.261	TChl (1.5) p,p' DDE (2.8)	67		0	N	0		14		NA		NA	NA		0.75
80027.3	Huntington Harbor- Middle	Sep-92	96	0.250	TChl (1.6) p,p' DDE (2.7)	44		0		0		0		NA		NA	NA		0.84
80027.3	Huntington Harbor- Middle- R1	Mar-94	1177	0.309	TChl (2.6) p,p' DDE (2.0)	93		NA						NA		NA	NA		NA
80027.3	Huntington Harbor- Middle- R2	Mar-94	1178	0.296	TChl (2.5) p,p' DDE (2.4)	78		NA						NA		NA	NA		NA
80027.3	Huntington Harbor- Middle- R3	Mar-94	1179	0.332	TChl (2.9) p,p' DDE (3.2)	89		NA						NA		NA	NA		NA
80028.1	Huntington Harbor- Upper	Sep-92	97	NA	NA	73		0		0		65		NA		NA	NA		0.53
80028.2	Huntington Harbor- Upper	Sep-92	98	0.356	TChl (2.9) p,p' DDE (3.0)	73		0	N	0		5		NA		NA	NA		0.33

						Amphipod		Larval Development								Purple Urchin			Ampelisca		
Station					ERM Exceedances (ERMQ)		NH_3	100%	NH_3	50%	NH_3	25%	NH_3		NH_3			NH_3	Benthic
Number	Station Name	Date	IDOrg	ERMQ	Percentile Exceedances (%)	Surv	H_2S	PW	H_2S	PW	H_2S	PW	H_2S	SWI	H_2S	Fert	Surv	H_2S	Index
Category 6 - Biological impact, chemistry below threshold values																			
82001.0	Anaheim Bay- Navy Marsh	Dec-92	401	0.073	NONE	42		69	N					NA		NA	NA		NA
82001.0	Anaheim Bay- Navy Marsh- R1	Feb-94	1086	0.082	NONE	64	N	NA						NA		NA	NA		NA
82001.0	Anaheim Bay- Navy Marsh- R2	Feb-94	1087	0.078	NONE	57	N	NA						NA		NA	NA		NA
82001.0	Anaheim Bay- Navy Marsh- R3	Feb-94	1088	0.101	NONE	91		NA						NA		NA	NA		NA
82002.0	Anaheim Bay- Navy Marsh 2	Dec-92	402		NA	72		0	N					NA		NA	NA		NA
82002.0	Anaheim Bay- Navy Marsh 2	May-93	809		NA	32		0	N	0				NA		NA	NA		NA
82002.0	Anaheim Bay- Navy Marsh 2- R1	Feb-94	1089	0.108	NONE	72		NA						NA		NA	NA		NA
82002.0	Anaheim Bay- Navy Marsh 2- R2	Feb-94	1090	0.090	NONE	76		NA						NA		NA	NA		NA
82002.0	Anaheim Bay- Navy Marsh 2- R3	Feb-94	1091	0.099	NONE	79		NA						NA		NA	NA		NA
82005.0	Huntington Harbor- Launch	Dec-92	405	0.163	p,p' DDE (1.1)	43		0	N					NA		NA	NA		NA
82005.0	Huntington Harbor- Launch- R1	Apr-94	1201	NA	NA	80		NA						NA		NA	NA		NA
82005.0	Huntington Harbor- Launch- R2	Apr-94	1202	NA	NA	87		NA						NA		NA	NA		NA
82005.0	Huntington Harbor- Launch- R3	Apr-94	1203	NA	NA	74		NA						NA		NA	NA		NA
82006.0	Huntington Harbor- Peter's	Dec-92	406	0.296	TChl (1.5) p,p' DDE (2.9)	22		0	N					NA		NA	NA		NA
82009.0	Huntington Harbor- Har. La.	Dec-92	409	NA	NA	73		0	N					NA		NA	NA		NA
82009.0	Huntington Harbor- Har. La.	May-93	808	NA	NA	20		0		0				NA		NA	NA		NA
82020.0	Seal Beach NWR- Nasa Island	Dec-92	420	NA	NA	84		0	N					NA		NA	NA		NA
82020.0	Seal Beach NWR- Nasa Island	Apr-93	769	NA	NA	49		0	N	0	N			NA		NA	NA		NA
82023.0	Seal Beach NWR- Bolsa Ave	Dec-92	423	NA	NA	86		92						NA		NA	NA		NA
82023.0	Seal Beach NWR- Bolsa Ave	Apr-93	771	NA	NA	59		0		0				NA		NA	NA		NA
82023.0	Seal Beach NWR- Bolsa Ave- R1	Feb-94	1092	0.107	NONE	59		NA						NA		NA	NA		NA
82023.0	Seal Beach NWR- Bolsa Ave- R2	Feb-94	1093	0.117	NONE	67		NA						NA		NA	NA		NA
82023.0	Seal Beach NWR- Bolsa Ave- R3	Feb-94	1094	0.131	NONE	51		NA						NA		NA	NA		NA
82024.0	Bolsa Bay- Mouth of Eggw Flood	Dec-92	424	NA	NA	81		0	N					NA		NA	NA		NA
82024.0	Bolsa Bay- Mouth of Eggw Flood	Apr-93	770	NA	NA	66		0	N	0	N			NA		NA	NA		NA

Station Number	Station Name	Date	IDOrg	ERMQ	ERM Exceedances (ERMQ) Percentile Exceedances (%)	Amphipod Surv	Amphipod NH_3 H_2S	Larval Development 100% PW	NH_3 H_2S	50% PW	NH_3 H_2S	25% PW	NH_3 H_2S	Purple Urchin SWI	Purple Urchin NH_3 H_2S	Purple Urchin Fert	Ampelisca Surv	Ampelisca NH_3 H_2S	Benthic Index
Category 6 - Biological impact, chemistry below threshold values																			
82039.0	Bolsa Chica Ecol. Res.	Dec-92	439	0.146	NONE	57		(0)	N					NA		NA	NA		NA
82039.0	Bolsa Chica Eco. Res.- R1	Apr-94	1204	NA	NA	21		NA						NA		NA	NA		NA
82039.0	Bolsa Chica Eco. Res.- R2	Apr-94	1205	NA	NA	9		NA						NA		NA	NA		NA
82039.0	Bolsa Chica Eco. Res.- R3	Apr-94	1206	NA	NA	38		NA						NA		NA	NA		NA
82040.0	Seal Beach NWR	Dec-92	440	0.078	NONE	59		50	N					NA		NA	NA		NA
82040.0	Seal Beach NWR- R1	Feb-94	1095	0.086	NONE	62		NA						NA		NA	NA		NA
82040.0	Seal Beach NWR- R2	Feb-94	1096	0.094	NONE	63		NA						NA		NA	NA		NA
82040.0	Seal Beach NWR- R3	Feb-94	1097	0.089	NONE	87		NA						NA		NA	NA		NA
85001.0	Newport Bay (523)	Sep-94	1387	0.180	p,p' DDE (2.1)	29	N	0	NS	0	NS	0	NS	NA		[illegible]	NA		0.82
85001.0	Newport Bay (523)	Jun-96	1634	0.089	NONE	93	N	1	S					46	N	NA	NA		0.62
85001.0	Newport Bay (523)	Aug-97	1788	NA	NA	93		NA						NA		NA	NA		0.47
85002.0	Newport Bay (616)	Sep-94	1388	0.239	Hg (1.1) p,p' DDE (2.3)	58		0		0		58		NA		93	NA		0.74
85003.0	Newport Bay (791)	Sep-94	1389	0.147	p,p' DDE (1.0)	72		0		0		2		NA		91	NA		0.50
85004.0	Newport Bay (877)	Sep-94	1390	0.198	p,p' DDE (2.0)	70		0		0		34		NA		92	NA		0.32
85005.0	Newport Bay (949)	Sep-94	1391	0.244	p,p' DDE (2.3)	63		0	S	0		22		NA		96	NA		[illegible]
85006.0	Newport Bay (1009)	Sep-94	1392	0.318	Hg (2.5) p,p' DDE (1.5)	79		0	N	0		23		NA		94	NA		0.34
85007.0	Newport Bay (431)	Sep-94	1418	0.070	NONE	93		0	NS	0	NS	0	N	NA		[illegible]	87		1.00
85008.0	Newport Bay (670)	Sep-94	1419	0.175	TChl (1.1) p,p' DDE (2.5)	57	N	0	N	0	N	0	N	NA		[illegible]	[illegible]	N	0.49
85009.0	Newport Bay (705)	Sep-94	1420	0.131	p,p' DDE (1.0)	93		0	N	1	N	51	N	NA		[illegible]	87		0.61
85010.0	Newport Bay (819)	Sep-94	1421	0.216	p,p' DDE (2.6)	74		0	N	0		50		NA		72	76		[illegible]
85011.0	Newport Bay (905)	Sep-94	1422	0.200	TChl (1.1) p,p' DDE (2.4)	80		0	N	0		3		NA		95	95		[illegible]
85012.0	Newport Bay (1064)	Sep-94	1423	0.212	TChl (1.0) p,p' DDE (3.2)	59		2		43		23		NA		86	67		[illegible]

Station Number	Station Name	Date	IDOrg	ERMQ	ERM Exceedances (ERMQ) Percentile Exceedances (%)	Amphipod Surv	Amphipod NH_3 H_2S	Larval Development 100% PW	NH_3 H_2S	50% PW	NH_3 H_2S	25% PW	NH_3 H_2S	Purple Urchin SWI	NH_3 H_2S	Fert Fert	Ampelisca Surv Surv	H_2S	Benthic Index
Category 6 - Biological impact, chemistry below threshold values																			
85017.0	Newport Bay- Unit I Basin	Sep-94	1428	0.256	TChl (1.8) p,p' DDE (2.2)	81		0	NS	1	N	80	N	NA		96	93		0.69
85018.0	Newport Bay- Unit II Basin	Sep-94	1429	0.093	NONE	89		0	N	0	N	2	N	NA		[illegible]	86		0.51
Category 7 - Biological and chemical results below threshold values																			
80025.3	Anaheim Bay- Oil Island	Oct-92	90	NA	NA	75		29	N	74	N	96		NA			NA		0.76
82003.0	Anaheim Bay- Entrance	Dec-92	403	NA	NA	93		0	N					NA			NA		NA
82004.0	Anaheim Bay- Fuel Dock	Dec-92	404	NA	NA	91		0	N					NA			NA		NA
82021.0	Seal Beach NWR- Hog Island	Dec-92	421	NA	NA	94		0	N					NA			NA		NA
82022.0	Seal Beach NWR- Sunset AGU	Dec-92	422	NA	NA	79		0	N					NA			NA		NA
85016.0	Newport Bay- Yachtmans Cove	Sep-94	1427	0.163	NONE	85		81		97		97		NA		86	89		0.85
86001.0	San Diego Creek- Campus	Aug-97	1789	NA	NA	[96]		[94]						[94]			NA		NA
86002.0	San Diego Creek- MacArthur	Aug-97	1790	NA	NA	97	N	NA						89			NA		NA
86003.0	Santa Ana/Delhi Channel- Bridge	Aug-97	1791	NA	NA	91		NA						65	NS		NA		NA
86004.0	Santa Ana/Delhi Channel- Outer	Aug-97	1792	NA	NA	95		NA						78			NA		NA

CONCLUSIONS

Using a weight-of-evidence approach based on the Sediment Quality Triad, various measures of chemical contamination, toxicity, and benthic community structure were completed at 96 stations to determine relative degradation in Santa Ana Region water bodies that included Anaheim Bay, Huntington Harbor and Newport Bay. When combined with measures of other sediment characteristics such as grain size, TOC, unionized ammonia, and hydrogen sulfide, these measures were useful for categorizing sites for further investigations.

The data set was limited by lack of the following information: sediment Acid-Volatile Sulfides and Simultaneously Extracted Metals (AVS-SEM), which limited conclusions regarding metal bioavailability; and lack of *in situ* measures of dissolved oxygen concentrations, which limited conclusions regarding effects of anoxia on benthic community structure. Lack of tissue analysis limited conclusions about bioaccumulation. Additional un-measured factors that may have influenced benthic community structure included seasonal variations in salinity and temperature.

Degree of chemical contamination was assessed using sediment quality guidelines developed by NOAA (Long et al., 1995). These guidelines were used to screen for chemical potential to induce biological effects, but are limited by the list of chemicals. Also, because bioavailability is sample specific, chemicals with concentrations above guideline values may not be responsible for observed impacts. Chemicals without guideline values, such as chlorpyrifos and tributyltin, can also play a role in biological effects. Only site-specific investigations including Toxicity Identification Evaluations and other methods can be used to determine causal relationships.

Relative to the ERL/ERM guidelines, p,p'DDE, total chlordane, total PCB, copper, mercury, and zinc were found to be the chemicals or chemical groups of greatest concern. Chlorpyrifos and tributyltin were found at concentrations above the 90^{th} percentile of the statewide BPTCP database. Chemical contamination in the water bodies studied was generally considered to be low in most areas and moderate in a few areas relative to other more highly industrialized areas.

Exceedances of toxicity thresholds were determined by comparing sample toxicity to the laboratory negative control and a protocol specific MSD value. Using the t-test/MSD method, 41% of the 96 solid-phase samples tested with the amphipods were significantly toxic. Ninety-five percent of the 56 porewater samples tested at 100% concentrations were toxic in larval development tests.

There were several negative associations between toxicity test results and chemical compounds measured in bulk-phase samples. Amphipod survival from the entire region was negatively correlated with several metals and fine-grained sediments. Newport Bay amphipod survival was negatively correlated with metals, total chlordane and total PCB. Purple urchin larval development in 100% porewater was correlated with several metals, total chlordane, several DDT metabolites, tributyltin and total PCB. There was a significant negative correlation between sea urchin embryo development and pore water unionized ammonia concentrations. There was also a significant negative correlation between *Ampelisca* survival and unionized ammonia.

Benthic community structure was assessed using a Relative Benthic Index, calculated based on measures of the Total Number of Fauna, Number of Crustacean Species, and Numbers of Positive and Negative Indicator Species. Using this index, 4 of the 36 stations sampled (11%), were considered significantly degraded. All four of the degraded stations were located in the central portion of Newport Bay and might have been affected by dredging activities. Benthic community degradation was associated with several measured bulk-phase chemicals and amphipod survival. The RBI was significantly correlated with several metals, DDT metabolites and fine-grained sediments.

Stations were categorized based on chemistry, toxicity and benthic degradation to aid State and Regional Water Board staff in recommending and directing further investigations.
There were no stations listed in Categories 1 through 3. One station from Anaheim Bay was listed in Category 4, and four stations were listed in Category 5. These two categories included stations with elevated chemistry and varied biological impacts. Category 5 stations included one from Huntington Harbor and three from Newport Bay. Thirty-seven stations were listed under Category 6 (biological impact with measured chemical concentrations below threshold values), and ten stations were listed in Category 7 (biological and chemical measurements below threshold values).

Future investigations and actions at sites should include studies of the areal extent of contamination and associated effects, spatial and temporal variability of contaminant effects, contaminant source identification and causes of toxicity (such as those identified through Toxicity Identification Evaluations). Regional board staff will dictate any site remediation, such as source control, and/or toxic hot spot cleanup.

REFERENCES

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

Allen, H.E., G. Fu, B. Deng. 1993. Analysis of acid volatile sulfide (AVS) and simultaneously extracted metals (SEM) for the estimation of potential toxicity in aquatic sediments. Environ. Toxicol. Chem. 12: 1441-1453.

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 1392-90. Vol. 11.04, 1139-1153. Philadelphia, PA.

American Society for Testing and Materials. 1993. Standard guide for conducting sediment toxicity tests with freshwater invertebrates. Guide No. E 1387-93. Vol. 11.04, 1173-1199. Philadelphia, PA.

Anderson, B.S., J. Hunt, S. Tudor, J. Newman, R. Tjeerdema, R. Fairey, J. Oakden, C. Bretz, C.J. Wilson, F. LeCaro, G. Kapahi, M. Stephenson, M. Puckett, J. Anderson, K.R. Long, T. Fleming, K. Summers. 1997. Chemistry, toxicity and benthic community conditions in sediments of selected southern California bays and estuaries. Final Report, California State Water Resources Control Board.

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

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. Greenstein. 1993. Status and applications in the 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, Philadelphia, PA.

Becker, D.S. and T.C. Ginn. 1995. Effects of storage time on toxicity of sediments from Puget Sound, Washington. Environ. Toxicol. Chem. 14:829-835.

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.

Bousfield, E. 1996. The amphipod family Oedicerotida on the Pacific Coast of North America. Part 1. The *Monoculodes* and *Synchelidium* generic complexes: systematics and distributional ecology.

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

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

Burgess, R.M., K.A. Schweitzer, R.A. McKinney, and D.K. Phelps. 1993. Contaminated marine sediments: water column and interstitial toxic effects. Environ. Toxicol. Chem. 12: 127-138.

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

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

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*. Environ. Toxicol. Chem. 8: 533-543.

Carr, R.S., and D.C. Chapman. 1992. Comparison of Solid-phase and Pore-water Approaches for Assessing the Quality of Marine and Estuarine Sediments. Chem. Ecol. 7: 19-30.

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 et al 1995 porewater freezing

Chapman, P.M., R.N. Dexter, and E.R. Long. 1987. Synoptic measurements of sediment contamination, toxicity, and infaunal community composition (the Sediment quality Triad) in San Francisco Bay. Marine Ecology Progress Series. 37: 75-96.

Connell, J.H. 1978. Diversity in tropical rain forests and coral reefs. Science 199: 1302-1310.

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

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.

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. Bretz, S. Lamerdin, J. Hunt, B. Anderson, S. Tudor, C. Wilson, F. LaCaro, M. Stephenson, H. Puckett, E. Long. 1996. Chemistry, toxicity and benthic community conditions in sediment of the San Diego Bay region. Final Report, California State Water Resources Control Board.

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

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 Ass.

Froelich, P.M. 1980. Analysis of Organic Carbon in Marine Sediments. Limnology and Oceanography. 25: 564-572.

Giesy, J.P. and R.A. Hoke. 1990. Freshwater Sediment Quality Criteria: Toxicity Bioassessment. Pp. 265-348 in Sediments: Chemistry and Toxicity of In-Place Pollutants. R. Baudo, J. Giesy, and H. Muntau, eds. Lewis Publishers. Michigan.

Grassle, J.F. and J.P. Grassle. 1974. Opportunisitic 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.

Hoke, R.A., G.T. Ankley, A.M. Cotter, T. Goldenstein, P.A. Kosian, G.L. Phipps, F.M. VanderMeiden. 1994. Evaluation of equilibrium partitioning theory for predicting acute toxicity of field-collected sediments contaminated with DDE, DDE and DDD to the amphipod Hyalella azteca. Environ. Toxicol. Chem. 13: 157-166.

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

IRIS (Integrated Risk Information System). 1992. U.S. Environmental Protection Agency, Duluth, MN.

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

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

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.

Lange, G.J., R.E. Cranston, D.H. Hydes, and D. Boust. 1992. Extraction of Pore Water from Marine Sediments: A Review of Possible Artifacts with Pertinent Examples from the North Atlantic. Mar. Geol. 109: 53-76.

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.

Levin, L.A. 1983. Drift tube studies of Bay-ocean water exchange and implications for larval dispersal. Estuaries 6(4): 364-371.

Lewis, D.W. 1984. Practical Sedimentology. Hutchinson Ross Publishing Co., 230pp.

Long, E.R., M.F. Buchman, S.M. Bay, R.J. Breteler, R.S. Carr, P.M. Chapman, J.E. Hose, A.L. Lissner, J. Scott, and D.A. Wolfe. 1990. Comparative evaluation of five toxicity tests with sediments from San Francisco Bay and Tomales Bay, California. Environ. Contam. and Toxicol. 9: 1193-1214.

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 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., D.A. Wolfe, R.S. Carr, K.J. Scott, G.B. Thursby, H.L. Windom, R. Lee, F.D. Calder, G.M. Sloane, and T. Seal. 1994. Magnitude and extent of sediment toxicity in Tampa Bay, Florida. National Oceanic and Atmospheric Administration. NOAA Technical Memorandum NOS ORCA 78.

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.

Long, E.R., L.J. Field, D.D. MacDonald. 1998. Predicting toxicity in marine sediments with numerical sediment quality guidelines. Environ. Toxicol. Chem. 17: 714-727.

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

MARPCPN I. 1992. The analysis of carbon and nitrogen form 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.

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. 1994. 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. 1994. 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., R.S. Carr, F.D. Calder and E.R. Long. *In Press*. Development and Evaluation of Sediment Quality Guidelines for Florida Coastal Waters. Ecotoxicology

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

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

Oakden, J.M., J.S. Oliver and A.R. Flegal. 1984a. Behavioral responses of phoxocephalid amphipods to organic enrichment and trace metals in sediment. Marine Ecology Progress Series. 14: 253-257.

Oakden, J.M., J.S. Oliver and A.R. Flegal. 1984b. EDTA chelation and zinc antagonism with cadmium in sediments: effects on behavior and mortality of two infaunal amphipods. Marine Biology. 84: 125-130.

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., P.N. Slattery, L.W. Hulberg, 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 Expeiment Station, Technical Report 0-77-27, Vickberg, Mississippi.

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., J.M. Oakden and P.N. Slattery. 1982. Phoxocephalid amphipod crustaceans as predators on larvae and juveniles in marine soft bottom communities. Marine Ecology Progress Series. 7: 179-184.

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.

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. 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.

Pearson, T.H. and R. Rosenberg. 1978. Macrobenthic succession in relation to organic enrichment and pollution of the marine environment. Oceanogr. Mar. Biol. Annu. Rev. 16: 229-311.

Peeling, T.J. 1974. A proximate biological survey of San Diego Bay, California. Naval Undersea Center. Report number: NUC TP 389.

Phillips, B.M., B.S. Anderson, 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.

Phillips, P.T. 1988. California State Mussel Watch 10 Year Data Summary 1977-1987 Water Quality Monitoring Report 87-3. Division of Water Quality, May 1988.

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

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 Harbours: results of 28 years of investigations and monitoring. Helgolander Meersunters. 34: 193-205.

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

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.

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. Slattery, P.N. 1985. Life histories of infaunal amphipods from subtidal sands of Monterey Bay, California. Journal of Crustacean Biology. 5: 635-649.

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

Slattery, P.N. 1985. Life histories of infaunal amphipods from subtidal sands of Monterey Bay, California. Journal of Crustacean Biology. 5: 635-649.

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.

SPSS, Inc. 1997. SYSTAT Statistical Program, Version 7.0. Chicago, IL USA.

State Water Resources Control Board. 1990. Evaluation of the AET Approach for Assessing Contamination of Marine Sediments in California. Division of Water Quality. Report No. 90-3 WQ. Sacramento, CA.

State Water Resources Control Board. 1993. Staff Report: Status of the Bay Protection and Toxic Cleanup Program. Division of Water Quality. Sacramento, CA.

Stephenson, M., 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., W.A. DeBen and F.A. Cole. 1979. A bioassay for the toxicity of sediment to marine macrobenthos. Water Pollution Control Federation. 51: 944-950.

Swartz, R.C., D.W. Shults, G.R. Ditworth and W.A. DeBen. 1984. Toxicity of sewage sludge to *Rhepoxnius abronius*, a marine amphipod. Archives of Environmental Contamination and Toxicity. 13: 207-216.

Swartz, R.C., W.A. DeBen, J.K.P. Jones, J.O. Lamberson and F.A. Cole. 1985. Phoxocephalid amphipod bioassay for marine sediment toxicity. In, Aquatic toxicity and hazard assessment, Seventh Symposium: ASTM STP 854, eds, R.D. Cradwell. R. Purdy and R.C. Bahner, American Society for Testing and Materials, Philadelphia, pp. 284-307.

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.

Swartz, R.C., F.A Cole, J.O. Lamberson, S.P. Ferraro, D.W. Schults, D.W. Schults, W.A. Deben, H. Lee II, R.J. Ozretich. 1994. Sediment toxicity, contamination and amphipod abundance at a DDT- and Dieldrin-contaminated site in San Francisco Bay. Environ. Toxicol. Chem. 13: 949-962.

Tabachnick, B.G. and L.S. Fidell. 1996. Using Multivariate Statistics. Harper Collins College Publishers. New York, NY USA. 880 pp.

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.

Thursby, G.B., J. Heltshe, K.J. Scott. 1997. Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environ. Toxicol. Chem. 16: 1322-1329.

U.S. Environmental Protection Agency. 1988. Briefing Report to the EPA Science Advisory Board: The Apparent Effects Threshold Approach. Puget Sound Estuary Program. U.S. Environmental Protection Agency, Region 10. Seattle, Washington.

U.S. Environmental Protection Agency. 1989. Report of the Sediment Criteria Subcommittee: Evaluation of the Apparent Effects Threshold (AET) Approach for Assessing Sediment Quality. Office of the Administrator. Science Advisory Board. Washington, D.C.

U.S. Environmental Protection Agency. 1990. Exposure Factors Handbook. Office of Health and Environmental Assessment, Washington, DC. EPA-600/8-89-043.

U.S. Environmental Protection Agency. 1993a. Workshop Report on Developmental Neurotoxic Effects Associated with Exposure to PCBs. September 14-15. 1992. Research Triangle Park, NC. Risk Assessment Forum. Washington D.C.

U.S. Environmental Protection Agency. 1993b. Methods for measuring the acute toxicity of effluents and receiving waters to freshwater and marine organisms. Office of Research and Development. EPA/600/4-90/027F. August 1993.

U.S. Environmental Protection Agency. 1994. Methods for Assessing the Toxicity of Sediment-associated Contaminants with Estuarine and Marine Amphipods. Office of Research and Development. EPA 600-R-94-025. June 1994.

U.S. Environmental Protection Agency. 1995a. Guidance for Assessing Chemical Contaminant Data For Use In Fish Advisories- Volume 1 Fish Sampling and Analysis 2nd Edition. Office of Water. EPA 823-R-95-007. September 1995.

U.S. Environmental Protection Agency. 1995b. Short-term methods for estimating the chronic toxicity of effluents and receiving waters to west coast marine and estuarine organisms. Office of Research and Development. EPA/600/R-95/136. August 1995.

VanBlaricom, G.R. 1982. Experimental analysis of structural regulation in a marine sand community exposed to oceanic swell. Ecological Monographs. 52: 283-305.

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

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

Wilcock, R.J., T.J. Smith, R.D. Primore, S.F. Thrush, V. Cumming, J.E. Hewitt. 1993. Bioaccumulation and elimination of chlordane by selected intertidal benthic fauna. Environ. Toxicol. Chem. 12: 733-742.

Appendix A

Data Base 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 5 files. CHEM1_56.DBF file contains a collection of chemical analyses data in sediments. TOX1_56.DBF file contains toxicity test data and associated water quality data. TISS1_56.DBF file contains a collection of chemical analyses in tissue matrix. WATR1_56.DBF file contains a collection of chemical analyses in water. BEN1_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 CHEM1_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 exceedances 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 exceedances 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 exceedances of control criteria and is unlikely to affect assessments, the value is reported as "-3".

TRACE METALS IN POREWATER are presented in fields 33 through 43. All porewater trace metal results are reported on a dry weight basis in parts per billion (ppb).

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.

The porewater 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:

33. PWAL. This field is porewater aluminum. 5.0
34. PWCD. This field is porewater cadmium. 5.3
35. PWCU. This field is porewater copper. 5.2
36. PWFE. This field is porewater iron. 6.0
37. PWPB. This field is porewater lead. 6.2
38. PWMN. This field is porewater manganese. 5.0
39. PWNI. This filed is porewater nickel. 5.2
40. PWAG. This field is porewater silver. 6.4
41. PWZN. This field is porewater zinc. 6.1
42. PWBATCH. The batch number the sample was extracted in, character field width 11.
43. PWDATAQC. 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 exceedances 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 exceedances 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 exceedances of control criteria and is unlikely to affect assessments, the value is reported as "-3".

AVS/SEM concentrations are presented in fields 44 through 53. All AVS/SEM results are reported on a dry weight basis in parts per million (ppm or ug/g). Acid volatile sulfides (AVS) and simultaneous extracted metals (SEM) 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.

44. AVS. 7.2
45. SEM_CD. 7.4
46. SEM_CU. 7.2
47. SEM_NI. 7.3
48. SEM_PB. 7.3
49. SEM_ZN. 9.4
50. SEM_SUM. 9.4
51. SEM_AVS. 9.3
52. AVS_BATCH. The batch number the sample was extracted in, numeric field width 5.
53. AVSDATAQC. 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 exceedances 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 exceedances 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 exceedances of control criteria and is unlikely to affect assessments, the value is reported as "-3".

SYNTHETIC ORGANICS are presented in fields 54 through 173 . 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:

54. SOWEIGHT. This numeric field is 6 characters wide with 2 decimal places and contains the weight of the sample extracted for analysis.
55. SOMOIST. This numeric field is 6 characters wide with 2 decimal places and contains the percent moisture of the sample extracted.
56. ALDRIN. 9.3
57. CCHLOR. cis-Chlordane. 9.3
58. TCHLOR. trans-Chlordane. 9.3
59. ACDEN. alpha-Chlordene. 9.3
60. GCDEN. gamma-Chlordene. 9.3
61. CLPYR. Chlorpyrifos (Dursban). 8.2
62. DACTH. Dacthal. 9.3
63. OPDDD. o,p'-DDD. 8.2
64. PPDDD. p,p'-DDD. 9.3
65. OPDDE. o,p'-DDE. 8.2
66. PPDDE. p,p'-DDE. 8.2
67. PPDDMS. p,p'-DDMS. 8.2
68. PPDDMU. p,p'-DDMU. 8.2
69. OPDDT. o,p'-DDT. 8.2
70. PPDDT. p,p'-DDT. 8.2
71. DICLB. p,p'-Dichlorobenzophenone. 8.2
72. DIELDRIN. 9.3
73. ENDO_I. Endosulfan I. 9.3
74. ENDO_II. Endosulfan II. 8.2
75. ESO4. Endosulfan sulfate. 8.2
76. ENDRIN. 8.2
77. ETHION. 8.2
78. HCHA. alpha HCH 9.3
79. HCHB. beta HCH 8.2
80. HCHG. gamma HCH (Lindane) 9.3
81. HCHD. delta HCH 9.3
82. HEPTACHLOR. 9.3
83. HE. Heptachlor Epoxide. 9.3
84. HCB. Hexachlorobenzene. 9.3
85. METHOXY. Methoxychlor. 8.2
86. MIREX. 9.3
87. CNONA. cis-Nonachlor. 9.3
88. TNONA. trans-Nonachlor. 9.3
89. OXAD. Oxadiazon. 8.2
90. OCDAN. Oxychlordane. 9.3
91. TOXAPH. Toxaphene. 7.2
92. PESBATCH. The batch number that the sample was extracted in, character field width 11.
93. TBT. Tributyltin. 8.4
94. TBTBATCH. The batch number that the sample was extracted in, numeric field width 5 and 1 decimal places.
95. PCB5. 9.3

96. PCB8. 9.3
97. PCB15. 9.3
98. PCB18. 9.3
99. PCB27. 9.3
100. PCB28. 9.3
101. PCB29. 9.3
102. PCB31. 9.3
103. PCB44. 9.3
104. PCB49. 9.3
105. PCB52. 9.3
106. PCB66. 9.3
107. PCB70. 9.3
108. PCB74. 9.3
109. PCB87. 9.3
110. PCB95. 9.3
111. PCB97. 9.3
112. PCB99. 9.3
113. PCB101. 9.3
114. PCB105. 9.3
115. PCB110. 9.3
116. PCB118. 9.3
117. PCB128. 9.3
118. PCB132. 9.3
119. PCB137. 9.3
120. PCB138. 9.3
121. PCB149. 9.3
122. PCB151. 9.3
123. PCB153. 9.3
124. PCB156. 9.3
125. PCB157. 9.3
126. PCB158. 9.3
127. PCB170. 9.3
128. PCB174. 9.3
129. PCB177. 9.3
130. PCB180. 9.3
131. PCB183. 9.3
132. PCB187. 9.3
133. PCB189. 9.3
134. PCB194. 9.3
135. PCB195. 9.3
136. PCB201. 9.3
137. PCB203. 9.3
138. PCB206. 9.3
139. PCB209. 9.3
140. ARO1248. 9.3
141. ARO1254. 9.3

142. ARO1260. 9.3
143. ARO5460. 9.3
144. PCBBATCH. The batch number that the sample was extracted in, character field width 11.
145. ACY. Acenaphthylene. 8.2
146. ACE. Acenaphthene. 8.2
147. ANT. Anthracene. 8.2
148. BAA. Benz[a]anthracene. 8.2
149. BAP. Benzo[a]pyrene. 8.2
150. BBF. Benzo[b]fluoranthene. 8.2
151. BKF. Benzo[k]fluoranthene. 8.2
152. BGP. Benzo[ghi]perylene. 8.2
153. BEP. Benzo[e]pyrene. 8.2
154. BPH. Biphenyl. 8.2
155. CHR. Chrysene. 8.2
156. COR. Coronene. 8.2
157. DBA. Dibenz[a,h]anthracene. 8.2
158. DBT. Dibenzothiophene. 8.2
159. DMN. 2,6-Dimethylnaphthalene. 8.2
160. FLA. Fluoranthene. 8.2
161. FLU. Fluorene. 8.2
162. IND. Indeno[1,2,3-cd]pyrene. 8.2
163. MNP1. 1-Methylnaphthalene. 8.2
164. MNP2. 2-Methylnaphthalene. 8.2
165. MPH1. 1-Methylphenanthrene. 8.2
166. NPH. Naphthalene. 8.2
167. PHN. Phenanthrene. 8.2
168. PER. Perylene. 8.2
169. PYR. Pyrene. 8.2
170. TMN. 2,3,5-Trimethylnaphthalene. 8.2
171. TRY. Triphenylene 8.2
172. PAHBATCH. The batch number that the sample was extracted in, character field width 11.
173. 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 exceedances 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 exceedances 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 exceedances of control criteria and is unlikely to affect assessments, the value is reported as "-3".

SEDIMENT PARTICULATE SIZE ANALYSES DATA are presented in fields 174-182. 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.

174. FINES. Sediment grain size for each station, reported as percent fines. Numeric field, width 5 with 2 decimal places.
175. FINEBATCH. The batch number that the sample was analyzed in, character field, width 6.
176. 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 exceedances 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 exceedances 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 exceedances of control criteria and is unlikely to affect assessments, the value is reported as "-3".
177. COARSESAND. Sediment grain size greater than 0.500 mm (phi = 1.0) for each station, reported as a fractional percentage of the total sample wet weight. Numeric field, width 5 with 2 decimal places.
178. FINESAND. Sediment grain size less than 0.500 mm and greater than 0.063 mm (phi > 1.0 and phi ≤ 4.0) for each station, reported as a fractional percentage of the total sample wet weight. Numeric field, width 5 with 2 decimal places.
179. COARSESILT. Sediment grain size less than 0.063 and greater than 0.031 mm (phi > 4.0 and phi ≤ 5.0) for each station, reported as a fractional percentage of the total sample wet weight. Numeric field, width 5 with 2 decimal places.
180. FINESILT. Sediment grain size less than 0.031 and greater than 0.004 mm (phi >5.0 and phi ≤ 8.0) for each station, reported as a fractional percentage of the total sample wet weight. Numeric field, width 5 with 2 decimal places.
181. CLAY. Sediment grain size less than 0.004 mm (phi > 8.0) for each station, reported as a fractional percentage of the total sample wet weight. Numeric field, width 5 with 2 decimal places.

182. EXPANDEDQC. 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 exceedances 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 exceedances 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 exceedances of control criteria and is unlikely to affect assessments, the value is reported as "-3".

SEDIMENT TOTAL ORGANIC CARBON (TOC) ANALYSES DATA. Field 183-186 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.

183. 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.

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

185. 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 exceedances 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 exceedances 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 exceedances of control criteria and is unlikely to affect assessments, the value is reported as "-3".

DISSOLVED ORGANIC CARBON (DOC) ANALYSES DATA. Field 186 presents the levels of dissolved organic carbon (μM) detected in water or porewater for each station.

186. DOC. Dissolved Organic Carbon (DOC) levels (μM) in water or porewater, for each station. Numeric field, width 6.

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.

The TISS1_56.DBF file contains the same fields as CHEM1_56.DBF file with the exception of the following fields:

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 TOX1_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 ($p = 0.05$). 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 exceedances 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 exceedances 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 exceedances 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 exceedances 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 exceedances 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 exceedances 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 ($p = 0.05$). 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 exceedances 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 exceedances 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 exceedances of control criteria and is unlikely to affect assessments, the value is reported as "-3".

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 47 through 63. Results are given for undiluted porewater (100%) and diluted porewater (50% and 25% dilutions).

47. HRP100_MN. Station mean percent normal development in 100% porewater. Numeric field, width 6 and 2 decimal places.
48. HRP100_SD. Station standard deviation of percent normal development in 100% porewater. Numeric field, width 6 and 2 decimal places.
49. HRP100_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.
50. HRP100_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.
51. HRP50_MN. Station mean percent normal development in 50% porewater. Numeric field, width 6 and 2 decimal places.
52. HRP50_SD. Station standard deviation of percent normal development in 50% porewater. Numeric field, width 6 and 2 decimal places.
53. HRP50_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.
54. HRP50_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. HRP25_MN. Station mean percent normal development in 25% porewater. Numeric field, width 6 and 2 decimal places.
56. HRP25_SD. Station standard deviation of percent normal development in 25% porewater. Numeric field, width 6 and 2 decimal places.

57. HRP25_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.

58. HRP25_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 ($p= 0.05$). 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. HRP_IUNH3. Unionized ammonia concentration (ppm) in porewater 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.

60. HRP_ITNH3. Total ammonia concentration (ppm) in porewater 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.

61. HRP_IH2S. Hydrogen sulfide concentration (ppm) in porewater 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.

62. HRPBATCH. The batch number that the sample were run in, character field width 10.

63. HRPQC. 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 exceedances 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 exceedances 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 exceedances 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 64 through 80. Results are given for undiluted porewater (100% porewater) and diluted porewater (50% and 25% porewater).

64. SPPF100_MN. Station mean percent fertilization in 100% porewater. Numeric field, width 6 and 2 decimal places.
65. SPPF100_SD. Station standard deviation of percent fertilization in 100% pore- water. Numeric field, width 6 and 2 decimal places.
66. 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.
67. 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.
68. SPPF50_MN. Station mean percent fertilization in 50% porewater. Numeric field, width 6 and 2 decimal places.
69. SPPF50_SD. Station standard deviation of percent fertilization in 50% pore- water. Numeric field, width 6 and 2 decimal places.
70. 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.
71. 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.
72. SPPF25_MN. Station mean percent fertilization in 25% porewater. Numeric field, width 6 and 2 decimal places.
73. SPPF25_SD. Station standard deviation of percent fertilization in 25% pore- water. Numeric field, width 6 and 2 decimal places.
74. 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.
75. 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.

76. 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.

77. 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.

78. 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.

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

80. 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 exceedances 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 exceedances 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 exceedances 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 81 through 97. Results are given for undiluted interstitial water (100% porewater) and diluted (50% and 25% porewater).

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

82. SPPD100_SD. Station standard deviation of percent normal development in 100% porewater. Numeric field, width 6 and 2 decimal places.
83. 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.
84. 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.
85. SPPD50_MN. Station mean percent normal development in 50% porewater. Numeric field, width 6 and 2 decimal places.
86. SPPD50_SD. Station standard deviation of percent normal development in 50% porewater. Numeric field, width 6 and 2 decimal places.
87. 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.
88. 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.
89. SPPD25_MN. Station mean percent normal development in 25% porewater. Numeric field, width 6 and 2 decimal places.
90. SPPD25_SD. Station standard deviation of percent normal development in 25% porewater. Numeric field, width 6 and 2 decimal places.
91. 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.
92. 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.
93. SPPD_BATCH. The batch number that the samples were analyzed in, character width 10.
94. 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 exceedances 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 exceedances 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 exceedances of control criteria and is unlikely to affect assessments, the value is reported as "-3".

95. 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.
96. 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.
97. 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 98 through 106.

98. SPDI_MN. Station mean percent normal development in the sediment/water interface exposure. Numeric field, width 6 and 2 decimal places.
99. SPDI_SD. Station standard deviation of percent normal development in the sediment/water interface exposure. Numeric field, width 6 and 2 decimal places.
100. 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.

101. 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 ($p = 0.05$). 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.

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

103. 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 exceedances 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 exceedances 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 exceedances of control criteria and is unlikely to affect assessments, the value is reported as "-3".

104. 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.

105. 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.

106. 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* sp.) shell development toxicity tests, (MEP) using pore (interstitial) water samples; presented in fields 107 through 115. Results are given for undiluted interstitial water (100% porewater).

107. MEP100_MN. Station mean percent normal development in 100% porewater. Numeric field, width 6 and 2 decimal places.
108. MEP100_SD. Station standard deviation of percent normal development in 100% porewater. Numeric field, width 6 and 2 decimal places.
109. 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.
110. 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
111. 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.
112. 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.
113. 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.
114. MEP_BATCH. The batch number that the samples were analyzed in, character field width 10.
115. 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 exceedances 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 exceedances 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 exceedances 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 116 through 119.

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

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

118. 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.

119. 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 120 through 131.

120. NAWT_MN. Station mean weight (gm). Numeric field, width 6 and 2 decimal places.

121. NAWT_SD. Station standard deviation of weight (gm). Numeric field, width 6 and 2 decimal places.

122. 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.

123. 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

(p= 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.

124. 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.

125. 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.

126. 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.

127. 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.

128. 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.

129. 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.

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

131. 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 exceedances 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 exceedances 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 exceedances 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 *Ampelisca abdita* (AA) toxicity test using homogenized sediment samples; presented in fields 132 through 176.

132. AA_MN. Station mean percent survival. Numeric field, width 6.

133. AA_SD. Station standard deviation of percent survival. Numeric field, width 6.

134. AA_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.

135. AA_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 (MSD as a percent of the control). "NT" signifies non-toxic. Character field, width 3.

136. AA_BATCH. The batch number that the sample were run in, character width 10.

137. AAQC. 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 exceedances 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 exceedances 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 exceedances of control criteria and is unlikely to affect assessments, the value is reported as "-3".

138. AA_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.
139. AA_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.
140. AA_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.
141. AA_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.
142. AA_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.
143. AA_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.

The following are descriptions of the field headings for the water flea (*Ceriodaphnia dubia*) survival tests for sediment/water interface exposure (CDSI); presented in fields 144 through 155.

144. CDSI_MN. Station mean percent *Ceriodaphnia* survival in sediment/water interface exposure. Numeric field, width 6.
145. CDSI_SD. Station standard deviation of percent survival in sediment/water interface exposure. Numeric field, width 6.

146. CDSI_SG. Sample is considered toxic 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. Character field, width 5.

147. CDSI_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.

148. CDSI_BATCH. The batch number that the samples were analyzed in, character width 10.

149. CDSIQC. 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 exceedances 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 exceedances 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 exceedances of control criteria and is unlikely to affect assessments, the value is reported as "-3".

150. CDSI_OTNH3. Total ammonia concentration (ppm in water) in overlying water samples (water above bedded sediment) from sediment/water interface exposures. When the value is missing or not analyzed, the value is reported as "-9" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8 " = not detected. Numeric field, width 7 and 3 decimal places.

151. CDSI_OUNH3. Unionized ammonia concentration (ppm in water) in overlying water samples (water above bedded sediment) from sediment/water interface exposures. When the value is missing or not analyzed, the value is reported as "-9" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8"= not detected. Numeric field, width 7 and 3 decimal places.

152. CDSI_OH2S. Hydrogen sulfide concentration (ppm in water) in overlying water samples (water above bedded sediment) from sediment/water interface exposures. When the value is missing or not analyzed, the value is reported as "-9" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8" = not detected. Numeric field, width 7 and 4 decimal places.

153. CDSI_OHDLO. The lower measurement of Hardness in overlying water samples (water above bedded sediment) from sediment/water interface

exposures. When the value is missing or not analyzed, the value is reported as "-9" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8" = not detected. Numeric field, width 7.

154. CDSI_OHDHI. The upper measurement of Hardness in overlying water samples (water above bedded sediment) from sediment/water interface exposures. When the value is missing or not analyzed, the value is reported as "-9" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8" = not detected. Numeric field, width 7.

155. CDSI_OCYHI. The upper measurement of Conductivity in overlying water samples (water above bedded sediment) from sediment/water interface exposures. When the value is missing or not analyzed, the value is reported as "-9" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8" = not detected. Numeric field, width 7.

The following are descriptions of the field headings for the amphipod (*Hyalella azteca*) survival tests with sediment (HA); presented in fields 156 through 169.

156. HA_MN. Station mean percent *Hyalella* survival in sediment. Numeric field, width 6.

157. HA_SD. Station standard deviation of percent survival in sediment. Numeric field, width 6.

158. HA_SG. Sample is considered toxic 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. Character field, width 5.

159. HA_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.

160. HA_BATCH. The batch number that the samples were analyzed in, character width 10.

161. HAQC. 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 exceedances 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 exceedances 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 exceedances of control criteria and is unlikely to affect assessments, the value is reported as "-3".

162. HA_OTNH3. Total ammonia concentration (ppm in water) in overlying water samples (water above bedded sediment). When the value is missing or not analyzed, the value is reported as "-9" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8 " = not detected. Numeric field, width 7 and 3 decimal places.

163. HA_OUNH3. Unionized ammonia concentration (ppm in water) in overlying water samples (water above bedded sediment). When the value is missing or not analyzed, the value is reported as "-9" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8" = not detected. Numeric field, width 7 and 3 decimal places.

164. HA_ITNH3. Total ammonia concentration (ppm in water) in overlying water samples (water above bedded sediment). When the value is missing or not analyzed, the value is reported as "-9" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8 " = not detected. Numeric field, width 7 and 3 decimal places.

165. HA_IUNH3. Unionized ammonia concentration (ppm in water) in overlying water samples (water above bedded sediment). When the value is missing or not analyzed, the value is reported as "-9" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8" = not detected. Numeric field, width 7 and 3 decimal places.

166. HA_IH2S. Hydrogen sulfide concentration (ppm in water) in overlying water samples (water above bedded sediment). When the value is missing or not analyzed, the value is reported as "-9" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8" = not detected. Numeric field, width 7 and 4 decimal places.

167. HA_OHDLO. The lower measurement of Hardness in overlying water samples (water above bedded sediment). When the value is missing or not analyzed, the value is reported as "-9" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8" = not detected. Numeric field, width 7.

168. HA_OHDHI. The upper measurement of Hardness in overlying water samples (water above bedded sediment). When the value is missing or not analyzed, the value is reported as "-9" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8" = not detected. Numeric field, width 7.

169. **HA_OCYHI. The upper measurement of Conductivity in overlying water samples (water above bedded sediment). When the value is missing or not analyzed, the value is reported as "-9" = not analyzed. When the value is less than the detection limit of the analytical test, the value is reported as "-8" = not detected. Numeric field, width 7.**

170. **MB_META. Notation of the presence or absence of the clam (*Macoma balthica*) bioaccumulation tests with sediment (MB) and whether tissue chemistry data are available for this sample. "Y" signifies that bioaccumulation exposures were performed and tissue chemistry values are available for this sample, "-9" means there were no bioaccumulation exposures conducted. Character field, width 4.**

171. TIE_META. Notation of the presence or absence of Toxicity Identification Evaluation (TIE) data in the toxicity metafile. "Y" signifies that a TIE was conducted, "-9" means there were no TIE's conducted. Character field, width 4.

The BEN1_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.

11. TOTAL ECHINODERM INDIV. This field contains the number of individuals in the Phylum Echinodermata found at a station.

12. TOTAL ECHINODERM SP. This field contains the number of species in the Phylum Echinodermata found at a station.

13. TOTAL MOLLUSC INDIV. This field contains the number of individuals in the Phylum Mollusca found at a station.

14. TOTAL MOLLUSC SP. This field contains the number of species in the Phylum Mollusca found at a station.

15. TOTAL POLYCHAETE INDIV. This field contains the number of individuals in the Class Polychaeta found at a station.

16. TOTAL POLYCHAETE SP. This field contains the number of species in the Class Polychaeta found at a station.

17. TAXA. This field contains the different taxa found at a station.

18. NUMBER PER CORE. Number of individuals/species found in a numbered replicate core.

19. 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

Sampling Data

STANUM	STATION	IDORG	DATE	LEG	LATITUDE	LONGITUDE	HUND_SECS	GISLAT	GISLONG	DEPTH
80024.1	ANAHEIM BAY- OUTER	85	9/15/92	4.0	33,44,06N	118,05,42W	s	33.73500000	118.09500000	13.5
80024.2	ANAHEIM BAY- OUTER	86	9/15/92	4.0	33,44,11N	118,05,43W	s	33.73638900	118.09527800	15.0
80024.3	ANAHEIM BAY- OUTER	87	9/15/92	4.0	33,44,08N	118,05,39W	s	33.73555600	118.09416700	13.5
80026.1	HUNTINGTON HARBOR- LOWER	91	9/15/92	4.0	33,43,34N	118,04,34W	s	33.72611100	118.07611100	4.0
80026.2	HUNTINGTON HARBOR- LOWER	92	9/15/92	4.0	33,43,35N	118,04,33W	s	33.72638900	118.07583300	4.0
80026.3	HUNTINGTON HARBOR- LOWER	93	9/15/92	4.0	33,43,36N	118,04,33W	s	33.72666700	118.07583300	4.0
80027.1	HUNTINGTON HARBOR- MIDDLE	94	9/15/92	4.0	33,43,15N	118,03,52W	s	33.72083300	118.06444400	7.0
80027.2	HUNTINGTON HARBOR- MIDDLE	95	9/15/92	4.0	33,43,20N	118,03,51W	s	33.72222200	118.06416700	6.0
80027.3	HUNTINGTON HARBOR- MIDDLE	96	9/15/92	4.0	33,43,19N	118,03,54W	s	33.72194400	118.06500000	6.0
80028.1	HUNTINGTON HARBOR- UPPER	97	9/15/92	4.0	33,42,46N	118,03,38W	s	33.71277800	118.06055600	8.0
80028.2	HUNTINGTON HARBOR- UPPER	98	9/15/92	4.0	33,42,50N	118,03,39W	s	33.71388900	118.06083300	7.5
80028.3	HUNTINGTON HARBOR- UPPER	99	9/15/92	4.0	33,42,49N	118,03,42W	s	33.71361100	118.06166700	6.0
80025.1	ANAHEIM BAY- OIL ISLAND	88	10/14/92	5.0	33,44,05N	118,05,04W	s	33.73472200	118.08444400	0.5
80025.2	ANAHEIM BAY- OIL ISLAND	89	10/14/92	5.0	33,44,04N	118,05,03W	s	33.73444400	118.08416700	0.5
80025.3	ANAHEIM BAY- OIL ISLAND	90	10/14/92	5.0	33,44,03N	118,05,03W	s	33.73416700	118.08416700	0.5
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9.0	33,43,53N	118,04,44W	s	33.73138900	118.07888900	0.5
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9.0	33,44,26N	118,04,21W	s	33.74055600	118.07250000	0.5
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9.0	33,43,56N	118,05,08W	s	33.73222200	118.08555600	1.5
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9.0	33,43,41N	118,04,48W	s	33.72805600	118.08000000	8.5
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9.0	33,43,37N	118,03,56W	s	33.72694400	118.06555600	3.5
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9.0	33,43,09N	118,04,04W	s	33.71903800	118.06775200	4.0
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9.0	33,43,21N	118,03,23W	s	33.72250000	118.05638900	5.0
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9.0	33,44,07N	118,04,40W	s	33.73525400	118.07775100	0.5
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9.0	33,44,00N	118,04,21W	s	33.73343000	118.07247800	1.0
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9.0	33,43,58N	118,04,36W	s	33.73277800	118.07666700	1.0
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9.0	33,44,39N	118,04,40W	s	33.74405500	118.07768500	1.5
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9.0	33,42,38N	118,03,36W	s	33.71058500	118.06005700	1.0
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9.0	33,44,08N	118,05,20W	s	33.73542900	118.08881600	5.0
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9.0	33,41,44N	118,02,46W	s	33.69555600	118.04611100	1.0
82040.0	SEAL BEACH NWR	440	12/11/92	9.0	33,44,16N	118,05,10W	s	33.73772100	118.08614900	1.5
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17.0	33,44,12N	118,04,65W	h	33.73532400	118.07758000	1
82024.0	BOLSA BAY-MOUTH OF EGGW FLOOD	770	4/21/93	17.0	33,42,62N	118,03,59W	h	33.71033900	118.05979700	1
82023.0	SEAL BEACH NWR-BOLSA AVE.	771	4/22/93	17.0	33,44,65N	118,04,66W	h	33.74416700	118.07766700	1.5
82030.0	ANAHEIM BAY-NAVAL RESERVE	772	4/22/93	17.0	33,44,11N	118,05,34W	h	33.73516700	118.08900000	3
80024.3	ANAHEIM BAY- OUTER	807	5/27/93	19.0	33,44,12N	118,05,67W	h	33.73533300	118.09450000	12
82009.0	HUNTINGTON HARBOR-HAR. LA	808	5/27/93	19.0	33,43,33N	118,03,42W	h	33.72216700	118.05700000	4
82002.0	ANAHEIM BAY-NAVY MARSH #2	809	5/27/93	19.0	33,44,44N	118,04,67W	h	33.74073000	118.07275900	3
82030.0	ANAHEIM BAY-NAVAL RES.- REP 1	1044	2/2/94	25.0	33,44,13N	118,05,34W	h	33.73550000	118.08900000	12

Sampling Data

STANUM	STATION	IDORG	DATE	LEG	LATITUDE	LONGITUDE	HUND_SECS	GISLAT	GISLONG	DEPTH
82030.0	ANAHEIM BAY-NAVAL RES.- REP 2	1045	2/2/94	25.0	33,44,12N	118,05,31W	h	33.73533300	118.08850000	12
82030.0	ANAHEIM BAY-NAVAL RES.- REP 3	1046	2/2/94	25.0	33,44,12N	118,05,32W	h	33.73533300	118.08866700	12
82001.0	ANAHEIM BAY-NAVY MARSH-REP 1	1086	2/16/94	26.0	33,43,88N	118,04,73W	h	33.73133300	118.07883300	1
82001.0	ANAHEIM BAY-NAVY MARSH-REP 2	1087	2/16/94	26.0	33,43,88N	118,04,72W	h	33.73133300	118.07866700	.5
82001.0	ANAHEIM BAY-NAVY MARSH-REP 3	1088	2/16/94	26.0	33,43,90N	118,04,72W	h	33.73166700	118.07866700	1
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP1	1089	2/16/94	26.0	33,44,44N	118,04,40W	h	33.74066700	118.07333300	1
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP2	1090	2/16/94	26.0	33,44,44N	118,04,38W	h	33.74066700	118.07300000	1
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP3	1091	2/16/94	26.0	33,44,44N	118,04,39W	h	33.74066700	118.07316700	1
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 1	1092	2/16/94	26.0	33,44,64N	118,04,66W	h	33.74400000	118.07766700	1
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 2	1093	2/16/94	26.0	33,44,65N	118,04,66W	h	33.74416700	118.07766700	1
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 3	1094	2/16/94	26.0	33,44,62N	118,04,66W	h	33.74366700	118.07766700	1
82040.0	SEAL BEACH NWR-REP 1	1095	2/16/94	26.0	33,44,27N	118,05,17W	h	33.73782300	118.08612600	1
82040.0	SEAL BEACH NWR-REP 2	1096	2/16/94	26.0	33,44,29N	118,05,16W	h	33.73816700	118.08600900	1
82040.0	SEAL BEACH NWR-REP 3	1097	2/16/94	26.0	33,44,26N	118,05,17W	h	33.73764900	118.08619100	1
80024.3	ANAHEIM BAY, OUTER-REP 1	1171	3/31/94	29.0	33,44,12N	118,05,70W	h	33.73533300	118.09500000	12
80024.3	ANAHEIM BAY, OUTER-REP 2	1172	3/31/94	29.0	33,44,12N	118,05,66W	h	33.73533300	118.09433300	12
80024.3	ANAHEIM BAY, OUTER-REP 3	1173	3/31/94	29.0	33,44,13N	118,05,70W	h	33.73550000	118.09500000	13
80028.3	HUNTINGTON HARBOR, UPPER-REP 1	1174	3/30/94	29.0	33,42,80N	118,03,64W	h	33.71333300	118.06066700	1
80028.3	HUNTINGTON HARBOR, UPPER-REP 2	1175	3/30/94	29.0	33,42,82N	118,03,66W	h	33.71366700	118.06100000	3
80028.3	HUNTINGTON HARBOR, UPPER-REP 3	1176	3/30/94	29.0	33,42,80N	118,03,67W	h	33.71333300	118.06116700	4
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 1	1177	3/30/94	29.0	33,43,28N	118,03,88W	h	33.72133300	118.06466700	3
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 2	1178	3/30/94	29.0	33,43,27N	118,03,89W	h	33.72116700	118.06483300	3
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 3	1179	3/30/94	29.0	33,43,29N	118,03,89W	h	33.72150000	118.06483300	3
82030.0	ANAHEIM BAY-NAVAL RES.-REP 1	1195	4/12/94	30.0	33,44,12N	118,05,35W	h	33.73533300	118.08916700	6
82030.0	ANAHEIM BAY-NAVAL RES.-REP 2	1196	4/12/94	30.0	33,44,13N	118,05,35W	h	33.73550000	118.08916700	8
82030.0	ANAHEIM BAY-NAVAL RES.-REP 3	1197	4/12/94	30.0	33,44,10N	118,05,32W	h	33.73500000	118.08866700	8
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 1	1201	4/12/94	30.0	33,43,61N	118,03,91W	h	33.72683300	118.06516700	3
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 2	1202	4/12/94	30.0	33,43,61N	118,03,93W	h	33.72683300	118.06550000	3
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 3	1203	4/12/94	30.0	33,43,61N	118,03,95W	h	33.72683300	118.06583300	3
82039.0	BOLSA CHICA ECOL RESERVE-REP 1	1204	4/12/94	30.0	33,41,75N	118,02,77W	h	33.69583300	118.04616700	0.5
82039.0	BOLSA CHICA ECOL RESERVE-REP 2	1205	4/12/94	30.0	33,41,75N	118,02,75W	h	33.69583300	118.04583300	0.5
82039.0	BOLSA CHICA ECOL RESERVE-REP 3	1206	4/12/94	30.0	33,41,75N	118,02,76W	h	33.69583300	118.04600000	0.5
82030.0	ANAHEIM BAY-NAVAL RESERVE	1335	5/19/94	32.0	33,44,15N	118,05,69W	h	33.73583300	118.09483300	12
85001.0	NEWPORT BAY (523)	1387	9/1/94	34.0	33,38,083N	117,53,454W	h	33.63471667	117.89090000	1.5
85002.0	NEWPORT BAY (616)	1388	9/1/94	34.0	33,36,980N	117,55,255W	h	33.61633333	117.92091667	4
85003.0	NEWPORT BAY (791)	1389	8/31/94	34.0	33,36,545N	117,53,398W	h	33.60908333	117.88996667	5
85004.0	NEWPORT BAY (877)	1390	9/1/94	34.0	33,36,668N	117,54,132W	h	33.61113333	117.90220000	2
85005.0	NEWPORT BAY (949)	1391	8/31/94	34.0	33,36,512N	117,53,721W	h	33.60853333	117.89535000	4

Sampling Data

STANUM	STATION	IDORG	DATE	LEG	LATITUDE	LONGITUDE	HUND_SECS	GISLAT	GISLONG	DEPTH
85006.0	NEWPORT BAY (1009)	1392	8/30/94	34.0	33,36,697N	117,55,389W	h	33.61161667	117.92315000	4
85007.0	NEWPORT BAY (431)	1418	9/19/94	36.0	33,38,902N	117,52,633W	h	33.64836667	117.87721667	1
85008.0	NEWPORT BAY (670)	1419	9/20/94	36.0	33,37,268N	117,53,660W	h	33.62113333	117.89433333	3
85009.0	NEWPORT BAY (705)	1420	9/20/94	36.0	33,37,195N	117,54.064W	h	33.61991667	117.90106667	2
85010.0	NEWPORT BAY (819)	1421	9/19/94	36.0	33,36,889N	117,54,935W	h	33.61481667	117.91558333	6
85011.0	NEWPORT BAY (905)	1422	9/20/94	36.0	33,36,580N	117,54,164W	h	33.60966667	117.90273333	4
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36.0	33,36,461N	117,54,717W	h	33.60768333	117.91195000	3
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36.0	33,36,721N	117,55,670W	h	33.61201667	117.92783333	4
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36.0	33,37,251N	117,56,174W	h	33.62085000	117.93623333	4
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36.0	33,37,199N	117,55,697W	h	33.61998333	117.92828333	5
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36.0	33,36,411N	117,53,175W	h	33.60685000	117.88625000	3
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36.0	33,38,742N	117,53,180W	h	33.64570000	117.88633333	2
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36.0	33,39,022N	117,52,053W	h	33.65036667	117.86755000	0.5
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45.0	33,36,728N	117,55,684W	h/d	33.61213300	117.92806600	4
85001.0	NEWPORT BAY (523)	1634	6/20/96	45.0	33,38,106N	117,53,437W	h/d	33.63510000	117.89061660	3
85001.0	NEWPORT BAY (523)	1788	8/20/97	54.0	33,38,089N	117,53,435W	h/d	33.63481667	117.89058330	1.3
86001.0	SAN DIEGO CREEK- CAMPUS	1789	8/20/97	54.0	33,39,085N	117,51,359W	h/d	33.65141667	117.85598330	0.5
86002.0	SAN DIEGO CREEK- MACARTHUR	1790	8/20/97	54.0	33,39,070N	117,51,749W	h/d	33.65116800	117.86248000	0.5
86003.0	SANTA ANA/DELHI CHANNEL-BRIDGE	1791	8/20/97	54.0	33,39,185N	117,53,010W	h	33.65308333	117.88350000	1.5
86004.0	SANTA ANA/DELHI CHANNEL-OUTER	1792	8/20/97	54.0	33,39,154N	117,53,100W	h/d	33.65256667	117.88500000	1

Appendix C

Analytical Chemistry Data

Section 1

Trace Metal Concentrations

Trace Metal Concentrations in Sediment (ppm)

STANUM	STATION	IDORG	DATE	LEG	METADATA	TMMOIST	ALUMINUM	ANTIMONY	ARSENIC	CADMIUM
80024.1	ANAHEIM BAY- OUTER	85	9/15/92	4.0	-9	-9.00	73000.00	0.070	4.900	0.2100
80024.2	ANAHEIM BAY- OUTER	86	9/15/92	4.0	-9	-9.00	-9.00	-9.000	-9.000	-9.0000
80024.3	ANAHEIM BAY- OUTER	87	9/15/92	4.0	-9	-9.00	32000.00	0.700	6.700	0.3000
80026.1	HUNTINGTON HARBOR- LOWER	91	9/15/92	4.0	-9	-9.00	69000.00	0.110	4.200	0.1900
80026.2	HUNTINGTON HARBOR- LOWER	92	9/15/92	4.0	-9	-9.00	68000.00	0.500	2.000	0.0900
80026.3	HUNTINGTON HARBOR- LOWER	93	9/15/92	4.0	-9	-9.00	-9.00	-9.000	-9.000	-9.0000
80027.1	HUNTINGTON HARBOR- MIDDLE	94	9/15/92	4.0	-9	-9.00	-9.00	-9.000	-9.000	-9.0000
80027.2	HUNTINGTON HARBOR- MIDDLE	95	9/15/92	4.0	-9	-9.00	47000.00	0.600	6.600	0.2700
80027.3	HUNTINGTON HARBOR- MIDDLE	96	9/15/92	4.0	-9	-9.00	33000.00	0.600	6.000	0.3400
80028.1	HUNTINGTON HARBOR- UPPER	97	9/15/92	4.0	-9	-9.00	-9.00	-9.000	-9.000	-9.0000
80028.2	HUNTINGTON HARBOR- UPPER	98	9/15/92	4.0	-9	-9.00	39000.00	0.600	4.900	0.6200
80028.3	HUNTINGTON HARBOR- UPPER	99	9/15/92	4.0	-9	-9.00	28000.00	0.500	6.200	0.7400
80025.1	ANAHEIM BAY- OIL ISLAND	88	10/14/92	5.0	-9	-9.00	-9.00	-9.000	-9.000	-9.0000
80025.2	ANAHEIM BAY- OIL ISLAND	89	10/14/92	5.0	-9	-9.00	-9.00	-9.000	-9.000	-9.0000
80025.3	ANAHEIM BAY- OIL ISLAND	90	10/14/92	5.0	-9	-9.00	-9.00	-9.000	-9.000	-9.0000
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9.0	QA5_23.TXT	-9.00	61000.00	0.500	5.400	0.1700
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9.0	QA5_23.TXT	-9.00	48000.00	0.770	5.400	0.1500
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9.0	QA5_23.TXT	-9.00	57000.00	0.990	7.600	0.2600
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9.0	QA5_23.TXT	-9.00	22000.00	1.840	8.500	0.2700
82040.0	SEAL BEACH NWR	440	12/11/92	9.0	QA5_23.TXT	-9.00	35000.00	0.730	6.200	0.1500
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
82024.0	BOLSA BAY-MOUTH OF EGGW FLOOD	770	4/21/93	17.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
82023.0	SEAL BEACH NWR-BOLSA AVE.	771	4/22/93	17.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
82030.0	ANAHEIM BAY-NAVAL RESERVE	772	4/22/93	17.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
80024.3	ANAHEIM BAY- OUTER	807	5/27/93	19.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
82009.0	HUNTINGTON HARBOR-HAR. LA	808	5/27/93	19.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
82002.0	ANAHEIM BAY-NAVY MARSH #2	809	5/27/93	19.0	QA5_23.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
82030.0	ANAHEIM BAY-NAVAL RES.- REP 1	1044	2/2/94	25.0	chmmeta2.txt	51.90	30800.00	0.705	10.000	0.3090

Trace Metal Concentrations in Sediment (ppm)

STANUM	STATION	IDORG	DATE	LEG	METADATA	TMMOIST	ALUMINUM	ANTIMONY	ARSENIC	CADMIUM
82030.0	ANAHEIM BAY-NAVAL RES.- REP 2	1045	2/2/94	25.0	chmmeta2.txt	52.60	24200.00	0.656	10.000	0.2710
82030.0	ANAHEIM BAY-NAVAL RES.- REP 3	1046	2/2/94	25.0	chmmeta2.txt	54.10	35300.00	0.810	10.000	0.2940
82001.0	ANAHEIM BAY-NAVY MARSH-REP 1	1086	2/16/94	26.0	chmmeta2.txt	43.60	59000.00	0.391	6.650	0.2500
82001.0	ANAHEIM BAY-NAVY MARSH-REP 2	1087	2/16/94	26.0	chmmeta2.txt	32.30	53000.00	0.696	6.020	0.1960
82001.0	ANAHEIM BAY-NAVY MARSH-REP 3	1088	2/16/94	26.0	chmmeta2.txt	58.80	103000.00	1.040	5.350	0.1350
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP1	1089	2/16/94	26.0	chmmeta2.txt	50.00	64900.00	0.964	15.000	0.2400
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP2	1090	2/16/94	26.0	chmmeta2.txt	48.50	58800.00	0.705	10.500	0.1950
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP3	1091	2/16/94	26.0	chmmeta2.txt	51.50	61700.00	0.772	10.300	0.2530
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 1	1092	2/16/94	26.0	chmmeta2.txt	57.40	67400.00	0.970	12.900	0.1750
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 2	1093	2/16/94	26.0	chmmeta2.txt	56.70	81400.00	0.636	26.300	0.2400
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 3	1094	2/16/94	26.0	chmmeta2.txt	59.40	69900.00	0.950	16.500	0.3290
82040.0	SEAL BEACH NWR-REP 1	1095	2/16/94	26.0	chmmeta2.txt	40.80	48100.00	0.702	7.310	0.2010
82040.0	SEAL BEACH NWR-REP 2	1096	2/16/94	26.0	chmmeta2.txt	45.50	49900.00	0.644	9.020	0.2370
82040.0	SEAL BEACH NWR-REP 3	1097	2/16/94	26.0	chmmeta2.txt	38.80	60000.00	0.508	7.150	0.2180
80024.3	ANAHEIM BAY, OUTER-REP 1	1171	3/31/94	29.0	chmmeta2.txt	51.30	32100.00	1.080	10.000	0.4270
80024.3	ANAHEIM BAY, OUTER-REP 2	1172	3/31/94	29.0	chmmeta2.txt	49.00	64500.00	0.987	10.000	0.4190
80024.3	ANAHEIM BAY, OUTER-REP 3	1173	3/31/94	29.0	chmmeta2.txt	49.60	52400.00	0.490	12.000	0.3220
80028.3	HUNTINGTON HARBOR, UPPER-REP 1	1174	3/30/94	29.0	chmmeta2.txt	52.40	45100.00	0.650	8.080	1.2200
80028.3	HUNTINGTON HARBOR, UPPER-REP 2	1175	3/30/94	29.0	chmmeta2.txt	50.50	46500.00	0.484	7.800	1.4600
80028.3	HUNTINGTON HARBOR, UPPER-REP 3	1176	3/30/94	29.0	chmmeta2.txt	49.50	56000.00	0.467	8.470	1.2000
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 1	1177	3/30/94	29.0	chmmeta2.txt	52.90	48200.00	0.355	10.100	0.3820
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 2	1178	3/30/94	29.0	chmmeta2.txt	51.00	56800.00	0.346	8.470	0.4190
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 3	1179	3/30/94	29.0	chmmeta2.txt	50.00	52400.00	0.381	9.020	0.4630
82030.0	ANAHEIM BAY-NAVAL RES.-REP 1	1195	4/12/94	30.0	chmmeta2.txt	-9.00	-9.00	-9.000	-9.000	-9.0000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 2	1196	4/12/94	30.0	chmmeta2.txt	-9.00	-9.00	-9.000	-9.000	-9.0000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 3	1197	4/12/94	30.0	chmmeta2.txt	-9.00	-9.00	-9.000	-9.000	-9.0000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 1	1201	4/12/94	30.0	chmmeta2.txt	-9.00	-9.00	-9.000	-9.000	-9.0000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 2	1202	4/12/94	30.0	chmmeta2.txt	-9.00	-9.00	-9.000	-9.000	-9.0000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 3	1203	4/12/94	30.0	chmmeta2.txt	-9.00	-9.00	-9.000	-9.000	-9.0000
82039.0	BOLSA CHICA ECOL RESERVE-REP 1	1204	4/12/94	30.0	chmmeta2.txt	-9.00	-9.00	-9.000	-9.000	-9.0000
82039.0	BOLSA CHICA ECOL RESERVE-REP 2	1205	4/12/94	30.0	chmmeta2.txt	-9.00	-9.00	-9.000	-9.000	-9.0000
82039.0	BOLSA CHICA ECOL RESERVE-REP 3	1206	4/12/94	30.0	chmmeta2.txt	-9.00	-9.00	-9.000	-9.000	-9.0000
82030.0	ANAHEIM BAY-NAVAL RESERVE	1335	5/19/94	32.0	chmmeta2.txt	-9.00	-9.00	-9.000	-9.000	-9.0000
85001.0	NEWPORT BAY (523)	1387	9/1/94	34.0	CHEM3436.TXT	54.50	86500.00	0.696	5.580	1.0200
85002.0	NEWPORT BAY (616)	1388	9/1/94	34.0	CHEM3436.TXT	62.50	68100.00	0.815	6.730	0.6480
85003.0	NEWPORT BAY (791)	1389	8/31/94	34.0	CHEM3436.TXT	44.60	94200.00	0.575	8.240	0.3200
85004.0	NEWPORT BAY (877)	1390	9/1/94	34.0	CHEM3436.TXT	53.00	52400.00	0.651	8.170	0.6120
85005.0	NEWPORT BAY (949)	1391	8/31/94	34.0	CHEM3436.TXT	69.20	80700.00	1.120	7.260	0.8480

Trace Metal Concentrations in Sediment (ppm)

STANUM	STATION	IDORG	DATE	LEG	METADATA	TMMOIST	ALUMINUM	ANTIMONY	ARSENIC	CADMIUM
85006.0	NEWPORT BAY (1009)	1392	8/30/94	34.0	CHEM3436.TXT	58.60	61800.00	0.678	7.880	0.4730
85007.0	NEWPORT BAY (431)	1418	9/19/94	36.0	CHEM3436.TXT	30.60	94500.00	0.566	2.450	0.2270
85008.0	NEWPORT BAY (670)	1419	9/20/94	36.0	CHEM3436.TXT	51.30	82000.00	0.628	6.240	0.8270
85009.0	NEWPORT BAY (705)	1420	9/20/94	36.0	CHEM3436.TXT	52.40	85900.00	0.536	4.870	0.7550
85010.0	NEWPORT BAY (819)	1421	9/19/94	36.0	CHEM3436.TXT	68.30	84100.00	0.980	7.020	0.9930
85011.0	NEWPORT BAY (905)	1422	9/20/94	36.0	CHEM3436.TXT	59.40	50300.00	0.860	9.360	0.8900
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36.0	CHEM3436.TXT	63.00	72900.00	1.010	8.790	1.0700
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36.0	CHEM3436.TXT	64.90	40200.00	1.320	24.800	0.7060
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36.0	CHEM3436.TXT	61.90	59000.00	1.210	10.300	1.2300
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36.0	CHEM3436.TXT	45.80	80400.00	1.420	10.600	1.6700
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36.0	CHEM3436.TXT	34.60	98400.00	0.542	11.500	0.3900
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36.0	CHEM3436.TXT	49.00	72500.00	0.990	7.340	1.1700
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36.0	CHEM3436.TXT	36.60	96800.00	0.395	4.790	0.5210
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45.0	CHEM3846.TXT	61.40	68200.00	1.060	17.400	0.8870
85001.0	NEWPORT BAY (523)	1634	6/20/96	45.0	CHEM3846.TXT	49.00	66900.00	0.236	6.100	0.7060
85001.0	NEWPORT BAY (523)	1788	8/20/97	54.0	CHM47_56.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
86001.0	SAN DIEGO CREEK- CAMPUS	1789	8/20/97	54.0	CHM47_56.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
86002.0	SAN DIEGO CREEK- MACARTHUR	1790	8/20/97	54.0	CHM47_56.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
86003.0	SANTA ANA/DELHI CHANNEL-BRIDGE	1791	8/20/97	54.0	CHM47_56.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000
86004.0	SANTA ANA/DELHI CHANNEL-OUTER	1792	8/20/97	54.0	CHM47_56.TXT	-9.00	-9.00	-9.000	-9.000	-9.0000

Trace Metal Concentrations in Sediment (ppm)

STANUM	STATION	IDORG	DATE	LEG	CHROMIUM	COPPER	IRON	LEAD	MANGANESE	MERCURY	NICKEL	SILVER
80024.1	ANAHEIM BAY- OUTER	85	9/15/92	4.0	37.000	22.00	26000.0	27.600	360.00	0.0450	18.000	0.1000
80024.2	ANAHEIM BAY- OUTER	86	9/15/92	4.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
80024.3	ANAHEIM BAY- OUTER	87	9/15/92	4.0	49.000	42.00	34000.0	35.000	460.00	0.1500	27.000	0.2000
80026.1	HUNTINGTON HARBOR- LOWER	91	9/15/92	4.0	34.000	26.00	26000.0	32.900	380.00	0.0370	16.000	0.0700
80026.2	HUNTINGTON HARBOR- LOWER	92	9/15/92	4.0	25.000	13.00	21000.0	28.000	350.00	0.0400	11.000	0.2800
80026.3	HUNTINGTON HARBOR- LOWER	93	9/15/92	4.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
80027.1	HUNTINGTON HARBOR- MIDDLE	94	9/15/92	4.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
80027.2	HUNTINGTON HARBOR- MIDDLE	95	9/15/92	4.0	60.000	77.00	40000.0	77.000	560.00	0.1500	29.000	0.2200
80027.3	HUNTINGTON HARBOR- MIDDLE	96	9/15/92	4.0	57.000	68.00	39000.0	57.000	480.00	0.1600	27.000	0.2100
80028.1	HUNTINGTON HARBOR- UPPER	97	9/15/92	4.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
80028.2	HUNTINGTON HARBOR- UPPER	98	9/15/92	4.0	46.000	60.00	31000.0	72.000	440.00	0.2100	24.000	0.1900
80028.3	HUNTINGTON HARBOR- UPPER	99	9/15/92	4.0	49.000	72.00	33000.0	71.000	470.00	0.2200	26.000	0.2200
80025.1	ANAHEIM BAY- OIL ISLAND	88	10/14/92	5.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
80025.2	ANAHEIM BAY- OIL ISLAND	89	10/14/92	5.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
80025.3	ANAHEIM BAY- OIL ISLAND	90	10/14/92	5.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9.0	41.000	27.00	30000.0	23.200	390.00	0.0380	18.000	0.0900
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9.0	50.000	54.00	37000.0	54.400	430.00	0.0810	20.000	0.1300
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9.0	67.000	84.00	53000.0	100.000	550.00	0.1040	31.000	0.2800
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9.0	75.000	29.00	33000.0	61.600	420.00	0.0420	24.000	0.0700
82040.0	SEAL BEACH NWR	440	12/11/92	9.0	41.000	25.00	32000.0	17.800	410.00	0.0370	18.000	0.0900
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
82024.0	BOLSA BAY-MOUTH OF EGGW FLOOD	770	4/21/93	17.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
82023.0	SEAL BEACH NWR-BOLSA AVE.	771	4/22/93	17.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
82030.0	ANAHEIM BAY-NAVAL RESERVE	772	4/22/93	17.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
80024.3	ANAHEIM BAY- OUTER	807	5/27/93	19.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
82009.0	HUNTINGTON HARBOR-HAR. LA	808	5/27/93	19.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
82002.0	ANAHEIM BAY-NAVY MARSH #2	809	5/27/93	19.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
82030.0	ANAHEIM BAY-NAVAL RES.- REP 1	1044	2/2/94	25.0	57.800	46.20	37600.0	33.600	473.00	0.0779	31.500	0.2580

Trace Metal Concentrations in Sediment (ppm)

STANUM	STATION	IDORG	DATE	LEG	CHROMIUM	COPPER	IRON	LEAD	MANGANESE	MERCURY	NICKEL	SILVER
82030.0	ANAHEIM BAY-NAVAL RES.- REP 2	1045	2/2/94	25.0	55.700	46.20	35200.0	28.500	475.00	0.0913	32.300	0.2580
82030.0	ANAHEIM BAY-NAVAL RES.- REP 3	1046	2/2/94	25.0	65.900	51.70	39400.0	44.300	445.00	0.0955	33.400	0.2180
82001.0	ANAHEIM BAY-NAVY MARSH-REP 1	1086	2/16/94	26.0	41.000	25.20	30000.0	22.400	412.00	-8.0000	21.700	0.0960
82001.0	ANAHEIM BAY-NAVY MARSH-REP 2	1087	2/16/94	26.0	32.900	18.20	22900.0	16.600	331.00	-8.0000	22.300	0.0730
82001.0	ANAHEIM BAY-NAVY MARSH-REP 3	1088	2/16/94	26.0	57.600	26.70	39900.0	21.700	608.00	0.0253	30.000	0.0860
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP1	1089	2/16/94	26.0	56.100	33.30	47600.0	24.600	606.00	0.0201	28.900	0.0830
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP2	1090	2/16/94	26.0	52.200	28.60	39000.0	16.800	583.00	-8.0000	27.300	0.0700
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP3	1091	2/16/94	26.0	60.500	35.50	47100.0	23.300	563.00	-8.0000	30.900	0.0860
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 1	1092	2/16/94	26.0	59.900	35.90	46600.0	17.100	555.00	-8.0000	32.400	0.0970
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 2	1093	2/16/94	26.0	60.500	40.80	50300.0	20.700	443.00	-8.0000	31.300	0.1140
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 3	1094	2/16/94	26.0	65.200	45.40	52200.0	21.100	649.00	0.0393	31.900	0.1230
82040.0	SEAL BEACH NWR-REP 1	1095	2/16/94	26.0	41.100	20.80	30400.0	22.200	536.00	0.0353	20.200	0.0870
82040.0	SEAL BEACH NWR-REP 2	1096	2/16/94	26.0	47.200	26.40	31600.0	20.500	479.00	0.0483	23.200	0.1030
82040.0	SEAL BEACH NWR-REP 3	1097	2/16/94	26.0	40.900	22.90	30000.0	31.900	457.00	0.0493	22.700	0.0980
80024.3	ANAHEIM BAY, OUTER-REP 1	1171	3/31/94	29.0	67.700	46.70	41400.0	29.200	461.00	0.0843	30.900	0.2480
80024.3	ANAHEIM BAY, OUTER-REP 2	1172	3/31/94	29.0	68.100	44.40	39600.0	29.400	469.00	0.0595	30.100	0.2300
80024.3	ANAHEIM BAY, OUTER-REP 3	1173	3/31/94	29.0	63.500	45.70	37100.0	26.200	409.00	0.0789	30.900	0.2450
80028.3	HUNTINGTON HARBOR, UPPER-REP 1	1174	3/30/94	29.0	49.300	56.70	36500.0	76.800	500.00	0.1380	30.500	0.2100
80028.3	HUNTINGTON HARBOR, UPPER-REP 2	1175	3/30/94	29.0	47.800	52.10	32400.0	59.900	509.00	0.1660	32.900	0.2470
80028.3	HUNTINGTON HARBOR, UPPER-REP 3	1176	3/30/94	29.0	51.000	56.90	36000.0	67.100	562.00	0.1240	31.800	0.2240
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 1	1177	3/30/94	29.0	61.000	64.60	39100.0	45.500	556.00	0.1400	34.500	0.1830
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 2	1178	3/30/94	29.0	59.400	63.00	38100.0	55.200	555.00	0.1310	31.600	0.1630
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 3	1179	3/30/94	29.0	59.800	63.40	38200.0	51.300	535.00	0.1350	33.300	0.2140
82030.0	ANAHEIM BAY-NAVAL RES.-REP 1	1195	4/12/94	30.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 2	1196	4/12/94	30.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 3	1197	4/12/94	30.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 1	1201	4/12/94	30.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 2	1202	4/12/94	30.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 3	1203	4/12/94	30.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
82039.0	BOLSA CHICA ECOL RESERVE-REP 1	1204	4/12/94	30.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
82039.0	BOLSA CHICA ECOL RESERVE-REP 2	1205	4/12/94	30.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
82039.0	BOLSA CHICA ECOL RESERVE-REP 3	1206	4/12/94	30.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
82030.0	ANAHEIM BAY-NAVAL RESERVE	1335	5/19/94	32.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
85001.0	NEWPORT BAY (523)	1387	9/1/94	34.0	61.300	38.70	32800.0	22.000	396.00	0.0642	23.400	0.9870
85002.0	NEWPORT BAY (616)	1388	9/1/94	34.0	65.700	75.20	37900.0	35.400	402.00	0.7690	23.800	0.3200
85003.0	NEWPORT BAY (791)	1389	8/31/94	34.0	39.200	42.20	22900.0	24.100	262.00	0.3430	14.100	0.4060
85004.0	NEWPORT BAY (877)	1390	9/1/94	34.0	60.000	60.30	30900.0	24.300	321.00	0.3840	21.900	0.3830
85005.0	NEWPORT BAY (949)	1391	8/31/94	34.0	83.100	91.80	48000.0	37.600	452.00	0.4480	31.800	0.3430

Trace Metal Concentrations in Sediment (ppm)

STANUM	STATION	IDORG	DATE	LEG	CHROMIUM	COPPER	IRON	LEAD	MANGANESE	MERCURY	NICKEL	SILVER
85006.0	NEWPORT BAY (1009)	1392	8/30/94	34.0	59.600	89.30	33600.0	33.600	344.00	1.8100	20.900	0.2700
85007.0	NEWPORT BAY (431)	1418	9/19/94	36.0	24.300	5.80	15000.0	14.200	409.00	-8.0000	6.790	0.5390
85008.0	NEWPORT BAY (670)	1419	9/20/94	36.0	48.600	40.80	30000.0	20.400	325.00	0.0776	18.300	0.6140
85009.0	NEWPORT BAY (705)	1420	9/20/94	36.0	42.500	35.40	27700.0	18.200	267.00	0.0820	13.700	0.5830
85010.0	NEWPORT BAY (819)	1421	9/19/94	36.0	87.500	82.00	53600.0	33.300	451.00	0.2370	33.500	0.3520
85011.0	NEWPORT BAY (905)	1422	9/20/94	36.0	53.200	49.00	32100.0	14.800	277.00	0.1400	20.600	0.4800
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36.0	77.500	60.50	47700.0	28.800	347.00	0.1550	28.700	0.4120
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36.0	69.600	505.00	37100.0	78.100	264.00	8.7400	25.100	0.8240
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36.0	76.800	240.00	41400.0	97.600	394.00	2.0400	30.200	0.6800
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36.0	56.300	101.00	27300.0	114.000	290.00	0.4430	20.000	0.7680
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36.0	35.700	29.50	22200.0	25.200	244.00	0.3970	15.400	0.3960
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36.0	51.100	36.80	30100.0	29.600	341.00	0.0740	25.800	0.8620
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36.0	30.800	10.70	18200.0	15.800	260.00	-8.0000	10.400	1.0400
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45.0	51.500	479.00	36400.0	95.000	311.00	7.6200	27.700	0.1780
85001.0	NEWPORT BAY (523)	1634	6/20/96	45.0	27.400	20.20	22400.0	20.800	408.00	0.0377	14.200	0.0946
85001.0	NEWPORT BAY (523)	1788	8/20/97	54.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
86001.0	SAN DIEGO CREEK- CAMPUS	1789	8/20/97	54.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
86002.0	SAN DIEGO CREEK- MACARTHUR	1790	8/20/97	54.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
86003.0	SANTA ANA/DELHI CHANNEL-BRIDGE	1791	8/20/97	54.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000
86004.0	SANTA ANA/DELHI CHANNEL-OUTER	1792	8/20/97	54.0	-9.000	-9.00	-9.0	-9.000	-9.00	-9.0000	-9.000	-9.0000

Trace Metal Concentrations in Sediment (ppm)

STANUM	STATION	IDORG	DATE	LEG	SELENIUM	TIN	ZINC	ASBATCH	SEBATCH	TMBATCH	TMDATAQC
80024.1	ANAHEIM BAY- OUTER	85	9/15/92	4.0	-8.000	2.5900	95.0000	3.20	3.20	3.10	-9
80024.2	ANAHEIM BAY- OUTER	86	9/15/92	4.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
80024.3	ANAHEIM BAY- OUTER	87	9/15/92	4.0	0.150	2.9000	130.0000	-9.00	-9.00	-9.00	-9
80026.1	HUNTINGTON HARBOR- LOWER	91	9/15/92	4.0	-8.000	2.9800	120.0000	3.20	3.20	3.10	-9
80026.2	HUNTINGTON HARBOR- LOWER	92	9/15/92	4.0	-8.000	1.8000	73.0000	-9.00	-9.00	-9.00	-9
80026.3	HUNTINGTON HARBOR- LOWER	93	9/15/92	4.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
80027.1	HUNTINGTON HARBOR- MIDDLE	94	9/15/92	4.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
80027.2	HUNTINGTON HARBOR- MIDDLE	95	9/15/92	4.0	0.150	4.9000	230.0000	-9.00	-9.00	-9.00	-9
80027.3	HUNTINGTON HARBOR- MIDDLE	96	9/15/92	4.0	0.200	4.9000	210.0000	-9.00	-9.00	-9.00	-9
80028.1	HUNTINGTON HARBOR- UPPER	97	9/15/92	4.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
80028.2	HUNTINGTON HARBOR- UPPER	98	9/15/92	4.0	0.220	4.4000	230.0000	-9.00	-9.00	-9.00	-9
80028.3	HUNTINGTON HARBOR- UPPER	99	9/15/92	4.0	0.230	6.5000	270.0000	-9.00	-9.00	-9.00	-9
80025.1	ANAHEIM BAY- OIL ISLAND	88	10/14/92	5.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
80025.2	ANAHEIM BAY- OIL ISLAND	89	10/14/92	5.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
80025.3	ANAHEIM BAY- OIL ISLAND	90	10/14/92	5.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9.0	-8.000	2.2000	98.0000	2.20	2.20	2.10	-4
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9.0	-8.000	3.8000	160.0000	2.20	2.20	2.10	-4
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9.0	-8.000	5.8000	260.0000	2.20	2.20	2.10	-4
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9.0	-8.000	2.4000	100.0000	2.20	2.20	2.10	-4
82040.0	SEAL BEACH NWR	440	12/11/92	9.0	-8.000	2.5000	85.0000	2.20	2.20	2.10	-4
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
82024.0	BOLSA BAY-MOUTH OF EGGW FLOOD	770	4/21/93	17.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
82023.0	SEAL BEACH NWR-BOLSA AVE.	771	4/22/93	17.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
82030.0	ANAHEIM BAY-NAVAL RESERVE	772	4/22/93	17.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
80024.3	ANAHEIM BAY- OUTER	807	5/27/93	19.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
82009.0	HUNTINGTON HARBOR-HAR. LA	808	5/27/93	19.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
82002.0	ANAHEIM BAY-NAVY MARSH #2	809	5/27/93	19.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
82030.0	ANAHEIM BAY-NAVAL RES.- REP 1	1044	2/2/94	25.0	0.370	3.3800	163.0000	7.10	7.10	7.10	-4

Trace Metal Concentrations in Sediment (ppm)

STANUM	STATION	IDORG	DATE	LEG	SELENIUM	TIN	ZINC	ASBATCH	SEBATCH	TMBATCH	TMDATAQC
82030.0	ANAHEIM BAY-NAVAL RES.- REP 2	1045	2/2/94	25.0	0.360	3.3300	159.0000	7.10	7.10	7.10	-4
82030.0	ANAHEIM BAY-NAVAL RES.- REP 3	1046	2/2/94	25.0	0.350	3.4900	168.0000	7.10	7.10	8.30	-4
82001.0	ANAHEIM BAY-NAVY MARSH-REP 1	1086	2/16/94	26.0	-8.000	1.3900	96.2000	8.30	8.30	8.20	-4
82001.0	ANAHEIM BAY-NAVY MARSH-REP 2	1087	2/16/94	26.0	-8.000	1.0400	77.1000	8.30	8.30	8.20	-4
82001.0	ANAHEIM BAY-NAVY MARSH-REP 3	1088	2/16/94	26.0	-8.000	1.8400	144.0000	8.30	8.30	8.20	-4
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP1	1089	2/16/94	26.0	0.247	1.8400	134.0000	8.30	8.30	8.20	-4
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP2	1090	2/16/94	26.0	0.204	1.7400	117.0000	8.30	8.30	8.20	-4
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP3	1091	2/16/94	26.0	0.240	1.8600	132.0000	8.30	8.30	8.20	-4
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 1	1092	2/16/94	26.0	0.391	1.8300	127.0000	8.30	8.30	8.20	-4
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 2	1093	2/16/94	26.0	0.425	1.2300	132.0000	8.30	8.30	8.20	-4
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 3	1094	2/16/94	26.0	0.443	1.9000	155.0000	8.30	8.30	8.20	-4
82040.0	SEAL BEACH NWR-REP 1	1095	2/16/94	26.0	-8.000	1.4000	92.9000	8.30	8.30	8.20	-4
82040.0	SEAL BEACH NWR-REP 2	1096	2/16/94	26.0	-8.000	1.6300	109.0000	8.30	8.30	8.20	-4
82040.0	SEAL BEACH NWR-REP 3	1097	2/16/94	26.0	-8.000	1.3700	99.0000	8.30	8.30	8.20	-4
80024.3	ANAHEIM BAY, OUTER-REP 1	1171	3/31/94	29.0	-8.000	3.7400	173.0000	7.30	7.30	7.10	-4
80024.3	ANAHEIM BAY, OUTER-REP 2	1172	3/31/94	29.0	-8.000	2.9600	167.0000	7.30	7.30	7.10	-4
80024.3	ANAHEIM BAY, OUTER-REP 3	1173	3/31/94	29.0	0.240	3.2800	159.0000	7.30	7.30	7.10	-4
80028.3	HUNTINGTON HARBOR, UPPER-REP 1	1174	3/30/94	29.0	0.618	2.1500	305.0000	8.60	8.60	8.30	-4
80028.3	HUNTINGTON HARBOR, UPPER-REP 2	1175	3/30/94	29.0	0.621	2.3200	288.0000	8.60	8.60	8.30	-4
80028.3	HUNTINGTON HARBOR, UPPER-REP 3	1176	3/30/94	29.0	0.660	2.1000	305.0000	8.60	8.60	8.30	-4
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 1	1177	3/30/94	29.0	0.327	1.9800	214.0000	8.60	8.60	8.30	-4
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 2	1178	3/30/94	29.0	0.296	2.1200	215.0000	8.60	8.60	8.30	-4
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 3	1179	3/30/94	29.0	0.295	2.0000	213.0000	8.60	8.60	8.30	-4
82030.0	ANAHEIM BAY-NAVAL RES.-REP 1	1195	4/12/94	30.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
82030.0	ANAHEIM BAY-NAVAL RES.-REP 2	1196	4/12/94	30.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
82030.0	ANAHEIM BAY-NAVAL RES.-REP 3	1197	4/12/94	30.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 1	1201	4/12/94	30.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 2	1202	4/12/94	30.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 3	1203	4/12/94	30.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
82039.0	BOLSA CHICA ECOL RESERVE-REP 1	1204	4/12/94	30.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
82039.0	BOLSA CHICA ECOL RESERVE-REP 2	1205	4/12/94	30.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
82039.0	BOLSA CHICA ECOL RESERVE-REP 3	1206	4/12/94	30.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
82030.0	ANAHEIM BAY-NAVAL RESERVE	1335	5/19/94	32.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
85001.0	NEWPORT BAY (523)	1387	9/1/94	34.0	0.158	2.2800	169.0000	13.10	13.10	13.10	-4
85002.0	NEWPORT BAY (616)	1388	9/1/94	34.0	0.210	3.2600	209.0000	13.10	13.10	13.10	-4
85003.0	NEWPORT BAY (791)	1389	8/31/94	34.0	0.110	1.7200	99.8000	13.10	13.10	13.10	-4
85004.0	NEWPORT BAY (877)	1390	9/1/94	34.0	0.163	2.8400	162.0000	13.10	13.10	13.10	-4
85005.0	NEWPORT BAY (949)	1391	8/31/94	34.0	0.232	3.6900	247.0000	13.10	13.10	13.10	-4

Trace Metal Concentrations in Sediment (ppm)

STANUM	STATION	IDORG	DATE	LEG	SELENIUM	TIN	ZINC	ASBATCH	SEBATCH	TMBATCH	TMDATAQC
85006.0	NEWPORT BAY (1009)	1392	8/30/94	34.0	0.166	2.7100	190.0000	13.10	13.10	13.10	-4
85007.0	NEWPORT BAY (431)	1418	9/19/94	36.0	-8.000	0.8290	46.4000	13.10	13.10	13.10	-4
85008.0	NEWPORT BAY (670)	1419	9/20/94	36.0	0.146	1.4100	141.0000	13.10	13.10	13.10	-4
85009.0	NEWPORT BAY (705)	1420	9/20/94	36.0	0.113	1.3700	136.0000	13.10	13.10	13.10	-4
85010.0	NEWPORT BAY (819)	1421	9/19/94	36.0	0.204	2.7800	237.0000	13.10	13.10	13.10	-4
85011.0	NEWPORT BAY (905)	1422	9/20/94	36.0	0.149	2.6900	155.0000	13.20	13.20	13.10	-4
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36.0	0.186	2.7100	209.0000	13.20	13.20	13.10	-4
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36.0	0.264	8.7700	303.0000	13.20	13.20	13.10	-4
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36.0	0.269	5.5100	460.0000	13.20	13.20	13.10	-4
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36.0	0.346	6.9300	359.0000	13.20	13.20	13.10	-4
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36.0	0.121	1.2900	86.5000	13.20	13.20	13.10	-4
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36.0	0.154	2.3600	171.0000	13.20	13.20	13.10	-4
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36.0	-8.000	1.0400	59.6000	13.20	13.20	13.10	-4
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45.0	0.900	6.4700	236.0000	19.00	19.00	4.00	-4
85001.0	NEWPORT BAY (523)	1634	6/20/96	45.0	0.920	1.3200	84.2000	19.00	19.00	4.00	-4
85001.0	NEWPORT BAY (523)	1788	8/20/97	54.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
86001.0	SAN DIEGO CREEK- CAMPUS	1789	8/20/97	54.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
86002.0	SAN DIEGO CREEK- MACARTHUR	1790	8/20/97	54.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
86003.0	SANTA ANA/DELHI CHANNEL-BRIDGE	1791	8/20/97	54.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9
86004.0	SANTA ANA/DELHI CHANNEL-OUTER	1792	8/20/97	54.0	-9.000	-9.0000	-9.0000	-9.00	-9.00	-9.00	-9

Section 2

Trace Metal Concentrations in Porewater

Trace Metal Concentrations in Porewater (ppb)

STANUM	STATION	IDORG	DATE	LEG	PWAL	PWCD	PWCU	PWFE	PWPB	PWMN	PWNI	PWAG	PWZN	PWBATCH	PWDATAQC
80027.2	HUNTINGTON HARBOR- MIDDLE	95	9/15/92	4.0	76	0.019	2.60	7500	1.30	2300	3.00	-8.0000	14.0	-9.0	-4
80028.2	HUNTINGTON HARBOR- UPPER	98	9/15/92	4.0	45	0.025	1.50	1900	0.56	600	2.70	-8.0000	25.0	-9.0	-4
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45.0	1090	0.100	30.00	7000	3.48	1270	3.33	0.0008	15.8	athpwm96	-9

Section 3

Acid Volatile Sulfides and Simultaneous Extracted Metals Concentrations

Acid Volatile Sulfides and Simultaneous Extracted Metals Concentrations (ppm)

STANUM	STATION	IDORG	DATE	LEG	AVS	SEM_CD	SEM_CU	SEM_NI	SEM_PB
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45.0	1.4600	0.00220	4.3600	0.0450	0.3740

STANUM	STATION	IDORG	DATE	LEG	SEM_ZN	SEM_SUM	SEM_AVS	AVS_BATCH	AVSDATAQC
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45.0	2.0200	6.8000	4.6450	19.00	-3

Section 4

Pesticide Concentrations

Pesticide Concentrations (ppb)

STANUM	STATION	IDORG	DATE	LEG	SOWEIGHT	SOMOIST	ALDRIN	CCHLOR	TCHLOR	ACDEN	GCDEN	CLPYR
80024.1	ANAHEIM BAY- OUTER	85	9/15/92	4.0	-9.00	-9.00	-8.000	0.700	-9.000	-8.000	-9.000	-9.00
80024.2	ANAHEIM BAY- OUTER	86	9/15/92	4.0	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
80024.3	ANAHEIM BAY- OUTER	87	9/15/92	4.0	-9.00	-9.00	-8.000	1.100	-9.000	-9.000	-9.000	-9.00
80026.1	HUNTINGTON HARBOR- LOWER	91	9/15/92	4.0	-9.00	-9.00	-8.000	1.700	-9.000	-8.000	-9.000	-9.00
80026.2	HUNTINGTON HARBOR- LOWER	92	9/15/92	4.0	-9.00	-9.00	-8.000	0.800	-9.000	-9.000	-9.000	-9.00
80026.3	HUNTINGTON HARBOR- LOWER	93	9/15/92	4.0	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
80027.1	HUNTINGTON HARBOR- MIDDLE	94	9/15/92	4.0	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
80027.2	HUNTINGTON HARBOR- MIDDLE	95	9/15/92	4.0	-9.00	-9.00	-8.000	4.300	-9.000	-9.000	-9.000	-9.00
80027.3	HUNTINGTON HARBOR- MIDDLE	96	9/15/92	4.0	-9.00	-9.00	-8.000	4.300	-9.000	-9.000	-9.000	-9.00
80028.1	HUNTINGTON HARBOR- UPPER	97	9/15/92	4.0	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
80028.2	HUNTINGTON HARBOR- UPPER	98	9/15/92	4.0	-9.00	-9.00	-8.000	8.600	-9.000	-9.000	-9.000	-9.00
80028.3	HUNTINGTON HARBOR- UPPER	99	9/15/92	4.0	-9.00	-9.00	-8.000	8.000	-9.000	-9.000	-9.000	-9.00
80025.1	ANAHEIM BAY- OIL ISLAND	88	10/14/92	5.0	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
80025.2	ANAHEIM BAY- OIL ISLAND	89	10/14/92	5.0	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
80025.3	ANAHEIM BAY- OIL ISLAND	90	10/14/92	5.0	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9.0	-9.00	-9.00	-8.000	-8.000	-9.000	-8.000	-9.000	-9.00
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9.0	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9.0	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9.0	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9.0	-9.00	-9.00	-8.000	1.700	-9.000	-8.000	-9.000	-9.00
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9.0	-9.00	-9.00	-8.000	4.000	-9.000	0.500	-9.000	-9.00
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9.0	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9.0	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9.0	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9.0	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9.0	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9.0	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9.0	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9.0	-9.00	-9.00	-8.000	0.900	-9.000	-8.000	-9.000	-9.00
82040.0	SEAL BEACH NWR	440	12/11/92	9.0	-9.00	-9.00	-8.000	-8.000	-9.000	-8.000	-9.000	-9.00
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17.0	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
82024.0	BOLSA BAY-MOUTH OF EGGW FLOOD	770	4/21/93	17.0	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
82023.0	SEAL BEACH NWR-BOLSA AVE.	771	4/22/93	17.0	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
82030.0	ANAHEIM BAY-NAVAL RESERVE	772	4/22/93	17.0	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
80024.3	ANAHEIM BAY- OUTER	807	5/27/93	19.0	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
82009.0	HUNTINGTON HARBOR-HAR. LA	808	5/27/93	19.0	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
82002.0	ANAHEIM BAY-NAVY MARSH #2	809	5/27/93	19.0	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
82030.0	ANAHEIM BAY-NAVAL RES.- REP 1	1044	2/2/94	25.0	10.29	51.19	-8.000	1.210	1.730	-8.000	-8.000	1.32

Pesticide Concentrations (ppb)

STANUM	STATION	IDORG	DATE	LEG	SOWEIGHT	SOMOIST	ALDRIN	CCHLOR	TCHLOR	ACDEN	GCDEN	CLPYR
82030.0	ANAHEIM BAY-NAVAL RES.- REP 2	1045	2/2/94	25.0	11.00	53.15	0.619	1.260	2.080	-8.000	-8.000	-8.00
82030.0	ANAHEIM BAY-NAVAL RES.- REP 3	1046	2/2/94	25.0	11.73	54.26	0.776	10.300	15.100	-8.000	-8.000	-8.00
82001.0	ANAHEIM BAY-NAVY MARSH-REP 1	1086	2/16/94	26.0	10.07	41.61	-8.000	-8.000	0.563	-8.000	-8.000	-8.00
82001.0	ANAHEIM BAY-NAVY MARSH-REP 2	1087	2/16/94	26.0	10.92	39.23	-8.000	-8.000	0.541	-8.000	-8.000	-8.00
82001.0	ANAHEIM BAY-NAVY MARSH-REP 3	1088	2/16/94	26.0	10.06	37.63	-8.000	-8.000	-8.000	-8.000	-8.000	-8.00
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP1	1089	2/16/94	26.0	10.27	49.80	-8.000	-8.000	-8.000	-8.000	-8.000	-8.00
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP2	1090	2/16/94	26.0	10.31	48.04	-8.000	-8.000	-8.000	-8.000	-8.000	-8.00
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP3	1091	2/16/94	26.0	10.69	47.30	-8.000	-8.000	-8.000	-8.000	-8.000	-8.00
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 1	1092	2/16/94	26.0	10.46	57.83	-8.000	-8.000	-8.000	-8.000	-8.000	-8.00
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 2	1093	2/16/94	26.0	10.45	55.89	-8.000	0.503	-8.000	-8.000	-8.000	-8.00
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 3	1094	2/16/94	26.0	10.65	61.17	-8.000	0.574	0.618	-8.000	-8.000	-8.00
82040.0	SEAL BEACH NWR-REP 1	1095	2/16/94	26.0	10.30	39.88	-8.000	-8.000	-8.000	-8.000	-8.000	-8.00
82040.0	SEAL BEACH NWR-REP 2	1096	2/16/94	26.0	10.05	45.81	-8.000	-8.000	-8.000	-8.000	-8.000	-8.00
82040.0	SEAL BEACH NWR-REP 3	1097	2/16/94	26.0	10.25	39.24	-8.000	-8.000	-8.000	-8.000	-8.000	-8.00
80024.3	ANAHEIM BAY, OUTER-REP 1	1171	3/31/94	29.0	10.79	51.76	0.738	0.641	2.200	0.502	-8.000	2.72
80024.3	ANAHEIM BAY, OUTER-REP 2	1172	3/31/94	29.0	10.13	49.16	0.515	1.700	2.430	-8.000	-8.000	2.96
80024.3	ANAHEIM BAY, OUTER-REP 3	1173	3/31/94	29.0	10.25	49.25	-8.000	1.570	2.300	-8.000	-8.000	2.78
80028.3	HUNTINGTON HARBOR, UPPER-REP 1	1174	3/30/94	29.0	10.13	53.29	-8.000	12.200	11.300	2.860	1.430	41.60
80028.3	HUNTINGTON HARBOR, UPPER-REP 2	1175	3/30/94	29.0	10.29	51.13	-8.000	11.100	12.400	3.230	2.530	41.80
80028.3	HUNTINGTON HARBOR, UPPER-REP 3	1176	3/30/94	29.0	10.36	52.27	-8.000	10.200	10.900	2.690	1.940	29.80
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 1	1177	3/30/94	29.0	10.25	53.76	0.720	4.270	4.140	0.634	-8.000	6.68
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 2	1178	3/30/94	29.0	10.18	51.39	-8.000	3.700	4.610	0.500	-8.000	3.22
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 3	1179	3/30/94	29.0	10.43	51.17	-8.000	4.320	5.410	-8.000	-8.000	9.36
82030.0	ANAHEIM BAY-NAVAL RES.-REP 1	1195	4/12/94	30.0	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
82030.0	ANAHEIM BAY-NAVAL RES.-REP 2	1196	4/12/94	30.0	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
82030.0	ANAHEIM BAY-NAVAL RES.-REP 3	1197	4/12/94	30.0	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 1	1201	4/12/94	30.0	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 2	1202	4/12/94	30.0	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 3	1203	4/12/94	30.0	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
82039.0	BOLSA CHICA ECOL RESERVE-REP 1	1204	4/12/94	30.0	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
82039.0	BOLSA CHICA ECOL RESERVE-REP 2	1205	4/12/94	30.0	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
82039.0	BOLSA CHICA ECOL RESERVE-REP 3	1206	4/12/94	30.0	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
82030.0	ANAHEIM BAY-NAVAL RESERVE	1335	5/19/94	32.0	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
85001.0	NEWPORT BAY (523)	1387	9/1/94	34.0	10.11	55.42	-8.000	2.360	2.990	-8.000	-8.000	1.10
85002.0	NEWPORT BAY (616)	1388	9/1/94	34.0	10.39	59.00	-8.000	1.520	1.560	-8.000	-8.000	-8.00
85003.0	NEWPORT BAY (791)	1389	8/31/94	34.0	10.17	44.09	-8.000	0.859	0.857	-8.000	-8.000	-8.00
85004.0	NEWPORT BAY (877)	1390	9/1/94	34.0	10.56	55.06	-8.000	1.540	2.180	-8.000	-8.000	-8.00
85005.0	NEWPORT BAY (949)	1391	8/31/94	34.0	10.27	66.63	-8.000	1.630	2.600	-8.000	-8.000	-8.00

Pesticide Concentrations (ppb)

STANUM	STATION	IDORG	DATE	LEG	SOWEIGHT	SOMOIST	ALDRIN	CCHLOR	TCHLOR	ACDEN	GCDEN	CLPYR
85006.0	NEWPORT BAY (1009)	1392	8/30/94	34.0	10.27	56.37	-8.000	0.674	0.997	-8.000	-8.000	-8.00
85007.0	NEWPORT BAY (431)	1418	9/19/94	36.0	10.00	32.17	-8.000	-8.000	0.581	-8.000	-8.000	-8.00
85008.0	NEWPORT BAY (670)	1419	9/20/94	36.0	10.22	55.77	-8.000	2.890	3.530	-8.000	-8.000	-8.00
85009.0	NEWPORT BAY (705)	1420	9/20/94	36.0	10.00	46.18	-8.000	1.090	1.400	-8.000	-8.000	-8.00
85010.0	NEWPORT BAY (819)	1421	9/19/94	36.0	10.13	62.34	-8.000	2.060	2.560	-8.000	-8.000	-8.00
85011.0	NEWPORT BAY (905)	1422	9/20/94	36.0	9.98	58.63	-8.000	2.870	3.660	-8.000	-8.000	-8.00
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36.0	10.48	59.50	-8.000	2.730	3.130	-8.000	-8.000	-8.00
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36.0	10.03	58.89	-8.000	1.510	2.100	-8.000	-8.000	-8.00
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36.0	10.33	58.48	-8.000	9.230	13.100	1.630	0.540	-8.00
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36.0	10.24	50.20	-8.000	14.100	15.900	2.740	1.380	-8.00
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36.0	10.39	34.24	-8.000	0.517	0.944	-8.000	-8.000	-8.00
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36.0	10.38	48.01	-8.000	4.870	5.810	0.829	-8.000	1.38
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36.0	10.34	36.72	-8.000	0.955	0.985	-8.000	-8.000	-8.00
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45.0	10.29	61.58	-8.000	0.893	1.460	-8.000	-8.000	1.84
85001.0	NEWPORT BAY (523)	1634	6/20/96	45.0	10.10	47.70	-8.000	0.564	0.683	-8.000	-8.000	-8.00
85001.0	NEWPORT BAY (523)	1788	8/20/97	54.0	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
86001.0	SAN DIEGO CREEK- CAMPUS	1789	8/20/97	54.0	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
86002.0	SAN DIEGO CREEK- MACARTHUR	1790	8/20/97	54.0	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
86003.0	SANTA ANA/DELHI CHANNEL-BRIDGE	1791	8/20/97	54.0	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00
86004.0	SANTA ANA/DELHI CHANNEL-OUTER	1792	8/20/97	54.0	-9.00	-9.00	-9.000	-9.000	-9.000	-9.000	-9.000	-9.00

Pesticide Concentrations (ppb)

STANUM	STATION	IDORG	DATE	LEG	DACTH	OPDDD	PPDDD	OPDDE	PPDDE	PPDDMS	PPDDMU	OPDDT	PPDDT	DICLB
80024.1	ANAHEIM BAY- OUTER	85	9/15/92	4.0	-9.000	-8.00	-8.000	1.10	10.60	-9.00	-9.00	-8.00	1.70	-9.00
80024.2	ANAHEIM BAY- OUTER	86	9/15/92	4.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
80024.3	ANAHEIM BAY- OUTER	87	9/15/92	4.0	-9.000	1.80	3.700	2.40	25.00	-9.00	-9.00	-8.00	-8.00	-9.00
80026.1	HUNTINGTON HARBOR- LOWER	91	9/15/92	4.0	-9.000	-8.00	-8.000	-8.00	12.70	-9.00	-9.00	-8.00	2.10	-9.00
80026.2	HUNTINGTON HARBOR- LOWER	92	9/15/92	4.0	-9.000	1.40	2.500	-8.00	5.60	-9.00	-9.00	-8.00	3.50	-9.00
80026.3	HUNTINGTON HARBOR- LOWER	93	9/15/92	4.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
80027.1	HUNTINGTON HARBOR- MIDDLE	94	9/15/92	4.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
80027.2	HUNTINGTON HARBOR- MIDDLE	95	9/15/92	4.0	-9.000	3.00	11.000	2.30	76.00	-9.00	-9.00	-8.00	3.40	-9.00
80027.3	HUNTINGTON HARBOR- MIDDLE	96	9/15/92	4.0	-9.000	2.70	9.500	2.00	72.00	-9.00	-9.00	-8.00	5.10	-9.00
80028.1	HUNTINGTON HARBOR- UPPER	97	9/15/92	4.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
80028.2	HUNTINGTON HARBOR- UPPER	98	9/15/92	4.0	-9.000	3.60	12.000	1.80	82.00	-9.00	-9.00	-8.00	3.80	-9.00
80028.3	HUNTINGTON HARBOR- UPPER	99	9/15/92	4.0	-9.000	2.80	12.000	1.90	93.00	-9.00	-9.00	-8.00	4.30	-9.00
80025.1	ANAHEIM BAY- OIL ISLAND	88	10/14/92	5.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
80025.2	ANAHEIM BAY- OIL ISLAND	89	10/14/92	5.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
80025.3	ANAHEIM BAY- OIL ISLAND	90	10/14/92	5.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9.0	-9.000	-8.00	1.400	-8.00	8.90	-9.00	-9.00	-8.00	-8.00	-9.00
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9.0	-9.000	-8.00	3.500	1.10	28.80	-9.00	-9.00	-8.00	1.80	-9.00
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9.0	-9.000	3.40	10.000	2.80	78.40	-9.00	-9.00	-8.00	5.70	-9.00
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9.0	-9.000	1.40	6.100	-8.00	11.30	-9.00	-9.00	-8.00	-8.00	-9.00
82040.0	SEAL BEACH NWR	440	12/11/92	9.0	-9.000	-8.00	1.100	-8.00	9.00	-9.00	-9.00	-8.00	-8.00	-9.00
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
82024.0	BOLSA BAY-MOUTH OF EGGW FLOOD	770	4/21/93	17.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
82023.0	SEAL BEACH NWR-BOLSA AVE.	771	4/22/93	17.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
82030.0	ANAHEIM BAY-NAVAL RESERVE	772	4/22/93	17.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
80024.3	ANAHEIM BAY- OUTER	807	5/27/93	19.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
82009.0	HUNTINGTON HARBOR-HAR. LA	808	5/27/93	19.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
82002.0	ANAHEIM BAY-NAVY MARSH #2	809	5/27/93	19.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
82030.0	ANAHEIM BAY-NAVAL RES.- REP 1	1044	2/2/94	25.0	-8.000	1.69	4.570	1.92	29.50	-8.00	3.48	-8.00	5.75	-8.00

Pesticide Concentrations (ppb)

STANUM	STATION	IDORG	DATE	LEG	DACTH	OPDDD	PPDDD	OPDDE	PPDDE	PPDDMS	PPDDMU	OPDDT	PPDDT	DICLB
82030.0	ANAHEIM BAY-NAVAL RES.- REP 2	1045	2/2/94	25.0	0.442	2.00	4.240	3.11	33.50	-8.00	4.30	-8.00	1.01	-8.00
82030.0	ANAHEIM BAY-NAVAL RES.- REP 3	1046	2/2/94	25.0	-8.000	10.00	22.000	3.09	36.80	-8.00	27.80	-8.00	48.30	-8.00
82001.0	ANAHEIM BAY-NAVY MARSH-REP 1	1086	2/16/94	26.0	-8.000	-8.00	1.220	-8.00	7.49	-8.00	-8.00	-8.00	3.38	-8.00
82001.0	ANAHEIM BAY-NAVY MARSH-REP 2	1087	2/16/94	26.0	-8.000	-8.00	1.190	-8.00	6.81	-8.00	-8.00	-8.00	-8.00	-8.00
82001.0	ANAHEIM BAY-NAVY MARSH-REP 3	1088	2/16/94	26.0	-8.000	-8.00	0.593	-8.00	3.95	-8.00	-8.00	-8.00	-8.00	-8.00
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP1	1089	2/16/94	26.0	-8.000	-8.00	0.733	-8.00	4.71	-8.00	-8.00	-8.00	-8.00	-8.00
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP2	1090	2/16/94	26.0	-8.000	-8.00	-8.000	-8.00	4.62	-8.00	-8.00	-8.00	-8.00	-8.00
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP3	1091	2/16/94	26.0	-8.000	-8.00	0.440	-8.00	3.84	-8.00	-8.00	-8.00	-8.00	-8.00
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 1	1092	2/16/94	26.0	0.216	-8.00	1.040	-8.00	8.61	-8.00	-8.00	-8.00	-8.00	-8.00
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 2	1093	2/16/94	26.0	-8.000	-8.00	1.290	-8.00	6.86	-8.00	-8.00	-8.00	-8.00	-8.00
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 3	1094	2/16/94	26.0	0.294	-8.00	1.990	-8.00	11.30	-8.00	-8.00	-8.00	1.17	-8.00
82040.0	SEAL BEACH NWR-REP 1	1095	2/16/94	26.0	-8.000	-8.00	0.971	-8.00	8.42	-8.00	-8.00	-8.00	-8.00	-8.00
82040.0	SEAL BEACH NWR-REP 2	1096	2/16/94	26.0	-8.000	-8.00	1.110	-8.00	11.90	-8.00	-8.00	-8.00	-8.00	-8.00
82040.0	SEAL BEACH NWR-REP 3	1097	2/16/94	26.0	-8.000	-8.00	0.645	-8.00	7.49	-8.00	-8.00	-8.00	-8.00	-8.00
80024.3	ANAHEIM BAY, OUTER-REP 1	1171	3/31/94	29.0	0.974	1.80	3.870	3.14	36.90	-8.00	4.57	1.20	9.93	-8.00
80024.3	ANAHEIM BAY, OUTER-REP 2	1172	3/31/94	29.0	0.244	1.60	5.300	2.28	31.70	-8.00	4.03	-8.00	4.11	-8.00
80024.3	ANAHEIM BAY, OUTER-REP 3	1173	3/31/94	29.0	0.347	1.82	4.640	1.42	30.30	-8.00	3.94	-8.00	11.20	-8.00
80028.3	HUNTINGTON HARBOR, UPPER-REP 1	1174	3/30/94	29.0	-8.000	6.59	25.200	2.48	107.00	5.45	9.58	4.16	22.20	-8.00
80028.3	HUNTINGTON HARBOR, UPPER-REP 2	1175	3/30/94	29.0	1.440	6.61	25.100	2.61	143.00	4.17	7.88	-8.00	16.70	-8.00
80028.3	HUNTINGTON HARBOR, UPPER-REP 3	1176	3/30/94	29.0	1.430	5.80	21.200	2.25	134.00	4.14	10.90	-8.00	18.20	-8.00
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 1	1177	3/30/94	29.0	1.140	2.75	11.100	2.33	53.90	-8.00	4.65	1.51	9.57	-8.00
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 2	1178	3/30/94	29.0	0.409	2 67	8.300	-8.00	65.70	-8.00	-8.00	-8.00	5.34	-8.00
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 3	1179	3/30/94	29.0	0.641	3.60	13.100	-8.00	86.20	-8.00	-8.00	-8.00	8.31	-8.00
82030.0	ANAHEIM BAY-NAVAL RES.-REP 1	1195	4/12/94	30.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
82030.0	ANAHEIM BAY-NAVAL RES.-REP 2	1196	4/12/94	30.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
82030.0	ANAHEIM BAY-NAVAL RES.-REP 3	1197	4/12/94	30.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 1	1201	4/12/94	30.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 2	1202	4/12/94	30.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 3	1203	4/12/94	30.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
82039.0	BOLSA CHICA ECOL RESERVE-REP 1	1204	4/12/94	30.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
82039.0	BOLSA CHICA ECOL RESERVE-REP 2	1205	4/12/94	30.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
82039.0	BOLSA CHICA ECOL RESERVE-REP 3	1206	4/12/94	30.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
82030.0	ANAHEIM BAY-NAVAL RESERVE	1335	5/19/94	32.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
85001.0	NEWPORT BAY (523)	1387	9/1/94	34.0	0.206	2.83	8.750	-8.00	56.00	-8.00	-8.00	-8.00	3.55	-8.00
85002.0	NEWPORT BAY (616)	1388	9/1/94	34.0	-8.000	2.02	8.050	1.31	60.90	-8.00	-8.00	-8.00	2.44	-8.00
85003.0	NEWPORT BAY (791)	1389	8/31/94	34.0	-8.000	1.47	5.310	-8.00	28.20	-8.00	-8.00	-8.00	1.27	-8.00
85004.0	NEWPORT BAY (877)	1390	9/1/94	34.0	-8.000	2.00	8.970	1.30	55.10	-8.00	-8.00	-8.00	2.38	-8.00
85005.0	NEWPORT BAY (949)	1391	8/31/94	34.0	-8.000	2.63	10.800	1.85	62.40	-8.00	-8.00	-8.00	3.12	-8.00

Pesticide Concentrations (ppb)

STANUM	STATION	IDORG	DATE	LEG	DACTH	OPDDD	PPDDD	OPDDE	PPDDE	PPDDMS	PPDDMU	OPDDT	PPDDT	DICLB
85006.0	NEWPORT BAY (1006)	1392	8/30/94	34.0	-8.000	1.31	4.090	-8.00	39.80	-8.00	-8.00	-8.00	1.34	-8.00
85007.0	NEWPORT BAY (431)	1418	9/19/94	36.0	-8.000	-8.00	2.800	-8.00	8.83	-8.00	-8.00	-8.00	18.30	-8.00
85008.0	NEWPORT BAY (670)	1419	9/20/94	36.0	-8.000	4.75	17.200	1.21	67.20	-8.00	-8.00	-8.00	3.60	-8.00
85009.0	NEWPORT BAY (705)	1420	9/20/94	36.0	-8.000	1.57	6.640	-8.00	27.60	-8.00	-8.00	-8.00	1.50	-8.00
85010.0	NEWPORT BAY (819)	1421	9/19/94	36.0	-8.000	3.13	14.000	1.70	70.20	-8.00	-8.00	-8.00	4.41	-8.00
85011.0	NEWPORT BAY (905)	1422	9/20/94	36.0	-8.000	3.75	14.600	1.24	64.60	-8.00	2.50	-8.00	4.06	-8.00
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36.0	-8.000	3.78	16.300	2.01	87.20	-8.00	-8.00	-8.00	4.77	-8.00
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36.0	-8.000	2.66	8.510	-8.00	39.40	-8.00	-8.00	-8.00	2.21	-8.00
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36.0	-8.000	2.99	11.800	1.41	47.70	-8.00	-8.00	-8.00	1.26	-8.00
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36.0	0.478	6.32	30.600	2.27	65.60	-8.00	2.90	-8.00	9.93	-8.00
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36.0	-8.000	1.78	5.630	-8.00	18.40	-8.00	-8.00	-8.00	-8.00	-8.00
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36.0	-8.000	4.91	19.700	-8.00	58.90	-8.00	-8.00	-8.00	4.46	-8.00
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36.0	-8.000	1.47	5.870	-8.00	20.10	-8.00	-8.00	-8.00	2.24	-8.00
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45.0	-8.000	1.47	4.940	2.90	44.40	3.22	2.33	-8.00	1.49	-8.00
85001.0	NEWPORT BAY (523)	1634	6/20/96	45.0	-8.000	-8.00	2.640	-8.00	25.20	-8.00	-8.00	-8.00	1.52	-8.00
85001.0	NEWPORT BAY (523)	1788	8/20/97	54.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
86001.0	SAN DIEGO CREEK- CAMPUS	1789	8/20/97	54.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
86002.0	SAN DIEGO CREEK- MACARTHUR	1790	8/20/97	54.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
86003.0	SANTA ANA/DELHI CHANNEL-BRIDGE	1791	8/20/97	54.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
86004.0	SANTA ANA/DELHI CHANNEL-OUTER	1792	8/20/97	54.0	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00

Pesticide Concentrations (ppb)

STANUM	STATION	IDORG	DATE	LEG	DIELDRIN	ENDO_I	ENDO_II	ESO4	ENDRIN	ETHION	HCHA	HCHB	HCHG	HCHD
80024.1	ANAHEIM BAY- OUTER	85	9/15/92	4.0	1.500	-8.000	-8.00	-8.00	-8.00	-9.00	-9.000	-9.00	-8.000	-9.000
80024.2	ANAHEIM BAY- OUTER	86	9/15/92	4.0	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000
80024.3	ANAHEIM BAY- OUTER	87	9/15/92	4.0	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-9.000	-9.00	-8.000	-9.000
80026.1	HUNTINGTON HARBOR- LOWER	91	9/15/92	4.0	2.000	-8.000	-8.00	-8.00	-8.00	-9.00	-9.000	-9.00	-8.000	-9.000
80026.2	HUNTINGTON HARBOR- LOWER	92	9/15/92	4.0	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-9.000	-9.00	-8.000	-9.000
80026.3	HUNTINGTON HARBOR- LOWER	93	9/15/92	4.0	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000
80027.1	HUNTINGTON HARBOR- MIDDLE	94	9/15/92	4.0	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000
80027.2	HUNTINGTON HARBOR- MIDDLE	95	9/15/92	4.0	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-9.000	-9.00	-8.000	-9.000
80027.3	HUNTINGTON HARBOR- MIDDLE	96	9/15/92	4.0	0.900	-8.000	-8.00	-8.00	-8.00	-9.00	-9.000	-9.00	-8.000	-9.000
80028.1	HUNTINGTON HARBOR- UPPER	97	9/15/92	4.0	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000
80028.2	HUNTINGTON HARBOR- UPPER	98	9/15/92	4.0	1.800	-8.000	-8.00	-8.00	-8.00	-9.00	-9.000	-9.00	-8.000	-9.000
80028.3	HUNTINGTON HARBOR- UPPER	99	9/15/92	4.0	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-9.000	-9.00	-8.000	-9.000
80025.1	ANAHEIM BAY- OIL ISLAND	88	10/14/92	5.0	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000
80025.2	ANAHEIM BAY- OIL ISLAND	89	10/14/92	5.0	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000
80025.3	ANAHEIM BAY- OIL ISLAND	90	10/14/92	5.0	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9.0	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-9.000	-9.00	-8.000	-9.000
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9.0	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9.0	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9.0	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9.0	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-9.000	-9.00	-8.000	-9.000
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9.0	1.100	-8.000	-8.00	-8.00	-8.00	-9.00	-9.000	-9.00	-8.000	-9.000
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9.0	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9.0	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9.0	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9.0	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9.0	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9.0	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9.0	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9.0	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-9.000	-9.00	-8.000	-9.000
82040.0	SEAL BEACH NWR	440	12/11/92	9.0	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-9.000	-9.00	-8.000	-9.000
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17.0	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000
82024.0	BOLSA BAY-MOUTH OF EGGW FLOOD	770	4/21/93	17.0	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE.	771	4/22/93	17.0	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RESERVE	772	4/22/93	17.0	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000
80024.3	ANAHEIM BAY- OUTER	807	5/27/93	19.0	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000
82009.0	HUNTINGTON HARBOR-HAR. LA	808	5/27/93	19.0	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000
82002.0	ANAHEIM BAY-NAVY MARSH #2	809	5/27/93	19.0	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.- REP 1	1044	2/2/94	25.0	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000

Pesticide Concentrations (ppb)

STANUM	STATION	IDORG	DATE	LEG	DIELDRIN	ENDO_I	ENDO_II	ESO4	ENDRIN	ETHION	HCHA	HCHB	HCHG	HCHD
82030.0	ANAHEIM BAY-NAVAL RES.- REP 2	1045	2/2/94	25.0	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
82030.0	ANAHEIM BAY-NAVAL RES.- REP 3	1046	2/2/94	25.0	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
82001.0	ANAHEIM BAY-NAVY MARSH-REP 1	1086	2/16/94	26.0	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
82001.0	ANAHEIM BAY-NAVY MARSH-REP 2	1087	2/16/94	26.0	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
82001.0	ANAHEIM BAY-NAVY MARSH-REP 3	1088	2/16/94	26.0	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP1	1089	2/16/94	26.0	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP2	1090	2/16/94	26.0	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP3	1091	2/16/94	26.0	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 1	1092	2/16/94	26.0	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 2	1093	2/16/94	26.0	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 3	1094	2/16/94	26.0	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
82040.0	SEAL BEACH NWR-REP 1	1095	2/16/94	26.0	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
82040.0	SEAL BEACH NWR-REP 2	1096	2/16/94	26.0	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
82040.0	SEAL BEACH NWR-REP 3	1097	2/16/94	26.0	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
80024.3	ANAHEIM BAY, OUTER-REP 1	1171	3/31/94	29.0	0.674	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
80024.3	ANAHEIM BAY, OUTER-REP 2	1172	3/31/94	29.0	0.507	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
80024.3	ANAHEIM BAY, OUTER-REP 3	1173	3/31/94	29.0	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
80028.3	HUNTINGTON HARBOR, UPPER-REP 1	1174	3/30/94	29.0	3.500	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
80028.3	HUNTINGTON HARBOR, UPPER-REP 2	1175	3/30/94	29.0	3.090	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
80028.3	HUNTINGTON HARBOR, UPPER-REP 3	1176	3/30/94	29.0	2.370	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 1	1177	3/30/94	29.0	1.030	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 2	1178	3/30/94	29.0	0.708	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 3	1179	3/30/94	29.0	1.010	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 1	1195	4/12/94	30.0	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 2	1196	4/12/94	30.0	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 3	1197	4/12/94	30.0	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 1	1201	4/12/94	30.0	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 2	1202	4/12/94	30.0	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 3	1203	4/12/94	30.0	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000
82039.0	BOLSA CHICA ECOL RESERVE-REP 1	1204	4/12/94	30.0	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000
82039.0	BOLSA CHICA ECOL RESERVE-REP 2	1205	4/12/94	30.0	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000
82039.0	BOLSA CHICA ECOL RESERVE-REP 3	1206	4/12/94	30.0	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RESERVE	1335	5/19/94	32.0	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000
85001.0	NEWPORT BAY (523)	1387	9/1/94	34.0	0.608	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
85002.0	NEWPORT BAY (616)	1388	9/1/94	34.0	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
85003.0	NEWPORT BAY (791)	1389	8/31/94	34.0	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
85004.0	NEWPORT BAY (877)	1390	9/1/94	34.0	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
85005.0	NEWPORT BAY (949)	1391	8/31/94	34.0	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000

Pesticide Concentrations (ppb)

STANUM	STATION	IDORG	DATE	LEG	DIELDRIN	ENDO_I	ENDO_II	ESO4	ENDRIN	ETHION	HCHA	HCHB	HCHG	HCHD
85006.0	NEWPORT BAY (1009)	1392	8/30/94	34.0	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
85007.0	NEWPORT BAY (431)	1418	9/19/94	36.0	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
85008.0	NEWPORT BAY (670)	1419	9/20/94	36.0	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
85009.0	NEWPORT BAY (705)	1420	9/20/94	36.0	1.040	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
85010.0	NEWPORT BAY (819)	1421	9/19/94	36.0	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
85011.0	NEWPORT BAY (905)	1422	9/20/94	36.0	0.868	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36.0	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36.0	4.880	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36.0	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36.0	1.460	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36.0	2.510	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36.0	0.512	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36.0	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45.0	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
85001.0	NEWPORT BAY (523)	1634	6/20/96	45.0	-8.000	-8.000	-8.00	-8.00	-8.00	-9.00	-8.000	-8.00	-8.000	-8.000
85001.0	NEWPORT BAY (523)	1788	8/20/97	54.0	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000
86001.0	SAN DIEGO CREEK- CAMPUS	1789	8/20/97	54.0	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000
86002.0	SAN DIEGO CREEK- MACARTHUR	1790	8/20/97	54.0	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000
86003.0	SANTA ANA/DELHI CHANNEL-BRIDGE	1791	8/20/97	54.0	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000
86004.0	SANTA ANA/DELHI CHANNEL-OUTER	1792	8/20/97	54.0	-9.000	-9.000	-9.00	-9.00	-9.00	-9.00	-9.000	-9.00	-9.000	-9.000

Pesticide Concentrations (ppb)

STANUM	STATION	IDORG	DATE	LEG	HEPTACHLOR	HE	HCB	METHOXY	MIREX	CNONA	TNONA	OXAD	OCDAN
80024.1	ANAHEIM BAY- OUTER	85	9/15/92	4.0	-8.000	-8.000	-8.000	-8.00	-8.000	-9.000	0.600	-9.00	-9.000
80024.2	ANAHEIM BAY- OUTER	86	9/15/92	4.0	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000
80024.3	ANAHEIM BAY- OUTER	87	9/15/92	4.0	-8.000	-8.000	-8.000	-8.00	-8.000	-9.000	1.200	-9.00	-9.000
80026.1	HUNTINGTON HARBOR- LOWER	91	9/15/92	4.0	-8.000	-8.000	-8.000	-8.00	-8.000	-9.000	1.900	-9.00	-9.000
80026.2	HUNTINGTON HARBOR- LOWER	92	9/15/92	4.0	-8.000	-8.000	-8.000	-8.00	-8.000	-9.000	0.800	-9.00	-9.000
80026.3	HUNTINGTON HARBOR- LOWER	93	9/15/92	4.0	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000
80027.1	HUNTINGTON HARBOR- MIDDLE	94	9/15/92	4.0	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000
80027.2	HUNTINGTON HARBOR- MIDDLE	95	9/15/92	4.0	-8.000	-8.000	0.500	-8.00	-8.000	-9.000	4.900	-9.00	-9.000
80027.3	HUNTINGTON HARBOR- MIDDLE	96	9/15/92	4.0	-8.000	-8.000	0.200	-8.00	-8.000	-9.000	5.000	-9.00	-9.000
80028.1	HUNTINGTON HARBOR- UPPER	97	9/15/92	4.0	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000
80028.2	HUNTINGTON HARBOR- UPPER	98	9/15/92	4.0	-8.000	-8.000	0.300	-8.00	-8.000	-9.000	8.800	-9.00	-9.000
80028.3	HUNTINGTON HARBOR- UPPER	99	9/15/92	4.0	-8.000	-8.000	0.300	-8.00	-8.000	-9.000	8.400	-9.00	-9.000
80025.1	ANAHEIM BAY- OIL ISLAND	88	10/14/92	5.0	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000
80025.2	ANAHEIM BAY- OIL ISLAND	89	10/14/92	5.0	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000
80025.3	ANAHEIM BAY- OIL ISLAND	90	10/14/92	5.0	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9.0	-8.000	-8.000	-8.000	-8.00	-8.000	-9.000	-8.000	-9.00	-9.000
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9.0	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9.0	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9.0	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9.0	-8.000	-8.000	-8.000	-8.00	-8.000	-9.000	2.300	-9.00	-9.000
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9.0	-8.000	-8.000	0.400	-8.00	-8.000	-9.000	5.000	-9.00	-9.000
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9.0	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9.0	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9.0	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9.0	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9.0	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9.0	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9.0	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9.0	-8.000	-8.000	-8.000	-8.00	-8.000	-9.000	0.800	-9.00	-9.000
82040.0	SEAL BEACH NWR	440	12/11/92	9.0	-8.000	-8.000	-8.000	-8.00	-8.000	-9.000	-8.000	-9.00	-9.000
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17.0	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000
82024.0	BOLSA BAY-MOUTH OF EGGW FLOOD	770	4/21/93	17.0	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE.	771	4/22/93	17.0	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000
82030.0	ANAHEIM BAY-NAVAL RESERVE	772	4/22/93	17.0	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000
80024.3	ANAHEIM BAY- OUTER	807	5/27/93	19.0	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000
82009.0	HUNTINGTON HARBOR-HAR. LA	808	5/27/93	19.0	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000
82002.0	ANAHEIM BAY-NAVY MARSH #2	809	5/27/93	19.0	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.- REP 1	1044	2/2/94	25.0	-8.000	-8.000	-8.000	-8.00	-8.000	0.824	1.370	-8.00	1.190

Pesticide Concentrations (ppb)

STANUM	STATION	IDORG	DATE	LEG	HEPTACHLOR	HE	HCB	METHOXY	MIREX	CNONA	TNONA	OXAD	OCDAN
82030.0	ANAHEIM BAY-NAVAL RES.- REP 2	1045	2/2/94	25.0	-8.000	-8.000	-8.000	-8.00	-8.000	0.913	2.010	-8.00	-8.000
82030.0	ANAHEIM BAY-NAVAL RES.- REP 3	1046	2/2/94	25.0	-8.000	-8.000	-8.000	-8.00	-8.000	7.320	11.600	-8.00	-8.000
82001.0	ANAHEIM BAY-NAVY MARSH-REP 1	1086	2/16/94	26.0	-8.000	-8.000	-8.000	-8.00	-8.000	-8.000	0.500	-8.00	-8.000
82001.0	ANAHEIM BAY-NAVY MARSH-REP 2	1087	2/16/94	26.0	-8.000	-8.000	-8.000	-8.00	-8.000	-8.000	-8.000	-8.00	-8.000
82001.0	ANAHEIM BAY-NAVY MARSH-REP 3	1088	2/16/94	26.0	-8.000	-8.000	-8.000	-8.00	-8.000	-8.000	-8.000	-8.00	-8.000
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP1	1089	2/16/94	26.0	-8.000	-8.000	-8.000	-8.00	-8.000	-8.000	-8.000	-8.00	-8.000
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP2	1090	2/16/94	26.0	-8.000	-8.000	-8.000	-8.00	-8.000	-8.000	-8.000	-8.00	-8.000
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP3	1091	2/16/94	26.0	-8.000	-8.000	-8.000	-8.00	-8.000	-8.000	-8.000	-8.00	-8.000
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 1	1092	2/16/94	26.0	-8.000	-8.000	-8.000	-8.00	-8.000	-8.000	-8.000	-8.00	-8.000
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 2	1093	2/16/94	26.0	-8.000	-8.000	-8.000	-8.00	-8.000	-8.000	0.574	-8.00	-8.000
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 3	1094	2/16/94	26.0	-8.000	-8.000	-8.000	-8.00	-8.000	-8.000	0.677	-8.00	-8.000
82040.0	SEAL BEACH NWR-REP 1	1095	2/16/94	26.0	-8.000	-8.000	-8.000	-8.00	-8.000	-8.000	-8.000	-8.00	-8.000
82040.0	SEAL BEACH NWR-REP 2	1096	2/16/94	26.0	-8.000	-8.000	-8.000	-8.00	-8.000	-8.000	-8.000	-8.00	-8.000
82040.0	SEAL BEACH NWR-REP 3	1097	2/16/94	26.0	-8.000	-8.000	-8.000	-8.00	-8.000	-8.000	-8.000	-8.00	-8.000
80024.3	ANAHEIM BAY, OUTER-REP 1	1171	3/31/94	29.0	-8.000	-8.000	0.205	-8.00	-8.000	1.110	2.920	-8.00	-8.000
80024.3	ANAHEIM BAY, OUTER-REP 2	1172	3/31/94	29.0	-8.000	-8.000	-8.000	-8.00	-8.000	1.270	1.790	-8.00	-8.000
80024.3	ANAHEIM BAY, OUTER-REP 3	1173	3/31/94	29.0	-8.000	-8.000	-8.000	-8.00	-8.000	1.050	1.740	-8.00	-8.000
80028.3	HUNTINGTON HARBOR, UPPER-REP 1	1174	3/30/94	29.0	-8.000	-8.000	0.490	-8.00	-8.000	8.030	9.920	-8.00	-8.000
80028.3	HUNTINGTON HARBOR, UPPER-REP 2	1175	3/30/94	29.0	-8.000	-8.000	0.497	-8.00	-8.000	8.060	8.910	-8.00	-8.000
80028.3	HUNTINGTON HARBOR, UPPER-REP 3	1176	3/30/94	29.0	-8.000	-8.000	0.597	-8.00	-8.000	5.590	9.970	15.60	-8.000
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 1	1177	3/30/94	29.0	-8.000	-8.000	0.266	-8.00	-8.000	2.940	4.020	2.60	-8.000
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 2	1178	3/30/94	29.0	-8.000	-8.000	-8.000	-8.00	-8.000	2.320	3.960	-8.00	-8.000
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 3	1179	3/30/94	29.0	-8.000	-8.000	0.227	-8.00	-8.000	2.760	4.650	2.77	-8.000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 1	1195	4/12/94	30.0	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 2	1196	4/12/94	30.0	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 3	1197	4/12/94	30.0	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 1	1201	4/12/94	30.0	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 2	1202	4/12/94	30.0	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 3	1203	4/12/94	30.0	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000
82039.0	BOLSA CHICA ECOL RESERVE-REP 1	1204	4/12/94	30.0	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000
82039.0	BOLSA CHICA ECOL RESERVE-REP 2	1205	4/12/94	30.0	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000
82039.0	BOLSA CHICA ECOL RESERVE-REP 3	1206	4/12/94	30.0	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000
82030.0	ANAHEIM BAY-NAVAL RESERVE	1335	5/19/94	32.0	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000
85001.0	NEWPORT BAY (523)	1387	9/1/94	34.0	-8.000	-8.000	-8.000	-8.00	-8.000	1.240	2.770	3.41	-8.000
85002.0	NEWPORT BAY (616)	1388	9/1/94	34.0	-8.000	-8.000	-8.000	-8.00	-8.000	1.190	1.720	-8.00	-8.000
85003.0	NEWPORT BAY (791)	1389	8/31/94	34.0	-8.000	-8.000	-8.000	-8.00	-8.000	-8.000	0.921	-8.00	-8.000
85004.0	NEWPORT BAY (877)	1390	9/1/94	34.0	-8.000	-8.000	-8.000	-8.00	-8.000	1.140	1.890	-8.00	-8.000
85005.0	NEWPORT BAY (949)	1391	8/31/94	34.0	-8.000	-8.000	-8.000	-8.00	-8.000	1.160	2.110	-8.00	-8.000

Pesticide Concentrations (ppb)

STANUM	STATION	IDORG	DATE	LEG	HEPTACHLOR	HE	HCB	METHOXY	MIREX	CNONA	TNONA	OXAD	OCDAN
85006.0	NEWPORT BAY (1009)	1392	8/30/94	34.0	-8.000	-8.000	-8.000	-8.00	-8.000	0.788	0.933	-8.00	-8.000
85007.0	NEWPORT BAY (431)	1418	9/19/94	36.0	-8.000	-8.000	-8.000	-8.00	-8.000	-8.000	-8.000	-8.00	-8.000
85008.0	NEWPORT BAY (670)	1419	9/20/94	36.0	-8.000	-8.000	-8.000	-8.00	-8.000	1.800	3.740	-8.00	-8.000
85009.0	NEWPORT BAY (705)	1420	9/20/94	36.0	-8.000	-8.000	-8.000	-8.00	-8.000	0.771	1.320	-8.00	-8.000
85010.0	NEWPORT BAY (819)	1421	9/19/94	36.0	-8.000	-8.000	-8.000	-8.00	-8.000	1.350	2.550	-8.00	-8.000
85011.0	NEWPORT BAY (905)	1422	9/20/94	36.0	-8.000	-8.000	-8.000	-8.00	-8.000	1.610	3.160	-8.00	-8.000
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36.0	-8.000	-8.000	-8.000	-8.00	-8.000	1.600	3.030	-8.00	-8.000
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36.0	-8.000	-8.000	-8.000	-8.00	-8.000	1.800	1.590	-8.00	-8.000
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36.0	-8.000	-8.000	0.275	-8.00	-8.000	6.410	10.900	-8.00	-8.000
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36.0	-8.000	0.679	0.458	-8.00	-8.000	5.960	12.800	-8.00	1.250
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36.0	-8.000	-8.000	-8.000	-8.00	-8.000	-8.000	0.658	-8.00	-8.000
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36.0	-8.000	-8.000	0.212	-8.00	-8.000	2.340	4.810	-8.00	-8.000
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36.0	-8.000	-8.000	-8.000	-8.00	-8.000	-8.000	1.050	-8.00	-8.000
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45.0	0.796	-8.000	-8.000	-8.00	-8.000	1.410	1.750	0.60	-8.000
85001.0	NEWPORT BAY (523)	1634	6/20/96	45.0	-8.000	-8.000	-8.000	-8.00	-8.000	-8.000	0.837	0.87	-8.000
85001.0	NEWPORT BAY (523)	1788	8/20/97	54.0	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000
86001.0	SAN DIEGO CREEK- CAMPUS	1789	8/20/97	54.0	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000
86002.0	SAN DIEGO CREEK- MACARTHUR	1790	8/20/97	54.0	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000
86003.0	SANTA ANA/DELHI CHANNEL-BRIDGE	1791	8/20/97	54.0	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000
86004.0	SANTA ANA/DELHI CHANNEL-OUTER	1792	8/20/97	54.0	-9.000	-9.000	-9.000	-9.00	-9.000	-9.000	-9.000	-9.00	-9.000

Pesticide Concentrations (ppb)

STANUM	STATION	IDORG	DATE	LEG	TOXAPH	PESBATCH	TBT	TBTBATCH
80024.1	ANAHEIM BAY- OUTER	85	9/15/92	4.0	-8.00	-9.00	0.0200	3.1
80024.2	ANAHEIM BAY- OUTER	86	9/15/92	4.0	-9.00	-9.00	-9.0000	-9.0
80024.3	ANAHEIM BAY- OUTER	87	9/15/92	4.0	-8.00	-9.00	-8.0000	-9.0
80026.1	HUNTINGTON HARBOR- LOWER	91	9/15/92	4.0	-8.00	-9.00	0.0200	3.1
80026.2	HUNTINGTON HARBOR- LOWER	92	9/15/92	4.0	-8.00	-9.00	0.0480	-9.0
80026.3	HUNTINGTON HARBOR- LOWER	93	9/15/92	4.0	-9.00	-9.00	-9.0000	-9.0
80027.1	HUNTINGTON HARBOR- MIDDLE	94	9/15/92	4.0	-9.00	-9.00	-9.0000	-9.0
80027.2	HUNTINGTON HARBOR- MIDDLE	95	9/15/92	4.0	-8.00	-9.00	0.0630	-9.0
80027.3	HUNTINGTON HARBOR- MIDDLE	96	9/15/92	4.0	-8.00	-9.00	0.0280	-9.0
80028.1	HUNTINGTON HARBOR- UPPER	97	9/15/92	4.0	-9.00	-9.00	-9.0000	-9.0
80028.2	HUNTINGTON HARBOR- UPPER	98	9/15/92	4.0	-8.00	-9.00	0.0410	-9.0
80028.3	HUNTINGTON HARBOR- UPPER	99	9/15/92	4.0	-8.00	-9.00	0.0420	-9.0
80025.1	ANAHEIM BAY- OIL ISLAND	88	10/14/92	5.0	-9.00	-9.00	-9.0000	-9.0
80025.2	ANAHEIM BAY- OIL ISLAND	89	10/14/92	5.0	-9.00	-9.00	-9.0000	-9.0
80025.3	ANAHEIM BAY- OIL ISLAND	90	10/14/92	5.0	-9.00	-9.00	-9.0000	-9.0
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9.0	-8.00	-9.00	-8.0000	2.1
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9.0	-9.00	-9.00	-9.0000	-9.0
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9.0	-9.00	-9.00	-9.0000	-9.0
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9.0	-9.00	-9.00	-9.0000	-9.0
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9.0	-8.00	-9.00	0.1200	2.1
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9.0	-8.00	-9.00	0.0800	2.2
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9.0	-9.00	-9.00	-9.0000	-9.0
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9.0	-9.00	-9.00	-9.0000	-9.0
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9.0	-9.00	-9.00	-9.0000	-9.0
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9.0	-9.00	-9.00	-9.0000	-9.0
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9.0	-9.00	-9.00	-9.0000	-9.0
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9.0	-9.00	-9.00	-9.0000	-9.0
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9.0	-9.00	-9.00	-9.0000	-9.0
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9.0	-8.00	-9.00	-8.0000	2.2
82040.0	SEAL BEACH NWR	440	12/11/92	9.0	-8.00	-9.00	-8.0000	2.2
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17.0	-9.00	-9.00	-9.0000	-9.0
82024.0	BOLSA BAY-MOUTH OF EGGW FLOOD	770	4/21/93	17.0	-9.00	-9.00	-9.0000	-9.0
82023.0	SEAL BEACH NWR-BOLSA AVE.	771	4/22/93	17.0	-9.00	-9.00	-9.0000	-9.0
82030.0	ANAHEIM BAY-NAVAL RESERVE	772	4/22/93	17.0	-9.00	-9.00	-9.0000	-9.0
80024.3	ANAHEIM BAY- OUTER	807	5/27/93	19.0	-9.00	-9.00	-9.0000	-9.0
82009.0	HUNTINGTON HARBOR-HAR. LA	808	5/27/93	19.0	-9.00	-9.00	-9.0000	-9.0
82002.0	ANAHEIM BAY-NAVY MARSH #2	809	5/27/93	19.0	-9.00	-9.00	-9.0000	-9.0
82030.0	ANAHEIM BAY-NAVAL RES.- REP 1	1044	2/2/94	25.0	-8.00	73.22	0.0910	-9.0

Pesticide Concentrations (ppb)

STANUM	STATION	IDORG	DATE	LEG	TOXAPH	PESBATCH	TBT	TBTBATCH
82030.0	ANAHEIM BAY-NAVAL RES.- REP 2	1045	2/2/94	25.0	-8.00	73.23	0.2500	-9.0
82030.0	ANAHEIM BAY-NAVAL RES.- REP 3	1046	2/2/94	25.0	-8.00	73.23	0.0308	-9.0
82001.0	ANAHEIM BAY-NAVY MARSH-REP 1	1086	2/16/94	26.0	-8.00	73.32	-8.0000	-9.0
82001.0	ANAHEIM BAY-NAVY MARSH-REP 2	1087	2/16/94	26.0	-8.00	73.27	-8.0000	-9.0
82001.0	ANAHEIM BAY-NAVY MARSH-REP 3	1088	2/16/94	26.0	-8.00	73.31	-8.0000	-9.0
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP1	1089	2/16/94	26.0	-8.00	73.32	-8.0000	-9.0
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP2	1090	2/16/94	26.0	-8.00	73.30	-8.0000	-9.0
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP3	1091	2/16/94	26.0	-8.00	73.29	-8.0000	-9.0
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 1	1092	2/16/94	26.0	-8.00	73.31	-8.0000	-9.0
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 2	1093	2/16/94	26.0	-8.00	73.32	-8.0000	-9.0
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 3	1094	2/16/94	26.0	-8.00	73.32	-8.0000	-9.0
82040.0	SEAL BEACH NWR-REP 1	1095	2/16/94	26.0	-8.00	73.31	-8.0000	-9.0
82040.0	SEAL BEACH NWR-REP 2	1096	2/16/94	26.0	-8.00	73.30	-8.0000	-9.0
82040.0	SEAL BEACH NWR-REP 3	1097	2/16/94	26.0	-8.00	73.29	-8.0000	-9.0
80024.3	ANAHEIM BAY, OUTER-REP 1	1171	3/31/94	29.0	-8.00	73.23	0.1040	-9.0
80024.3	ANAHEIM BAY, OUTER-REP 2	1172	3/31/94	29.0	-8.00	73.21	0.5550	-9.0
80024.3	ANAHEIM BAY, OUTER-REP 3	1173	3/31/94	29.0	-8.00	73.22	0.0200	-9.0
80028.3	HUNTINGTON HARBOR, UPPER-REP 1	1174	3/30/94	29.0	-8.00	73.34	0.1080	-9.0
80028.3	HUNTINGTON HARBOR, UPPER-REP 2	1175	3/30/94	29.0	-8.00	73.35	0.1100	-9.0
80028.3	HUNTINGTON HARBOR, UPPER-REP 3	1176	3/30/94	29.0	-8.00	73.39	0.1210	-9.0
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 1	1177	3/30/94	29.0	-8.00	73.34	0.0722	-9.0
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 2	1178	3/30/94	29.0	-8.00	73.38	0.0904	-9.0
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 3	1179	3/30/94	29.0	-8.00	73.39	0.1220	-9.0
82030.0	ANAHEIM BAY-NAVAL RES.-REP 1	1195	4/12/94	30.0	-9.00	-9.00	-9.0000	-9.0
82030.0	ANAHEIM BAY-NAVAL RES.-REP 2	1196	4/12/94	30.0	-9.00	-9.00	-9.0000	-9.0
82030.0	ANAHEIM BAY-NAVAL RES.-REP 3	1197	4/12/94	30.0	-9.00	-9.00	-9.0000	-9.0
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 1	1201	4/12/94	30.0	-9.00	-9.00	-9.0000	-9.0
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 2	1202	4/12/94	30.0	-9.00	-9.00	-9.0000	-9.0
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 3	1203	4/12/94	30.0	-9.00	-9.00	-9.0000	-9.0
82039.0	BOLSA CHICA ECOL RESERVE-REP 1	1204	4/12/94	30.0	-9.00	-9.00	-9.0000	-9.0
82039.0	BOLSA CHICA ECOL RESERVE-REP 2	1205	4/12/94	30.0	-9.00	-9.00	-9.0000	-9.0
82039.0	BOLSA CHICA ECOL RESERVE-REP 3	1206	4/12/94	30.0	-9.00	-9.00	-9.0000	-9.0
82030.0	ANAHEIM BAY-NAVAL RESERVE	1335	5/19/94	32.0	-9.00	-9.00	-9.0000	-9.0
85001.0	NEWPORT BAY (523)	1387	9/1/94	34.0	-8.00	74.40	-8.0000	-9.0
85002.0	NEWPORT BAY (616)	1388	9/1/94	34.0	-8.00	74.30	0.3080	-9.0
85003.0	NEWPORT BAY (791)	1389	8/31/94	34.0	-8.00	74.30	0.0246	-9.0
85004.0	NEWPORT BAY (877)	1390	9/1/94	34.0	-8.00	74.40	0.0650	-9.0
85005.0	NEWPORT BAY (949)	1391	8/31/94	34.0	-8.00	74.40	0.0330	-9.0

Pesticide Concentrations (ppb)

STANUM	STATION	IDORG	DATE	LEG	TOXAPH	PESBATCH	TBT	TBTBATCH
85006.0	NEWPORT BAY (1009)	1392	8/30/94	34.0	-8.00	74.40	-8.0000	-9.0
85007.0	NEWPORT BAY (431)	1418	9/19/94	36.0	-8.00	74.10	-8.0000	-9.0
85008.0	NEWPORT BAY (670)	1419	9/20/94	36.0	-8.00	74.10	-8.0000	-9.0
85009.0	NEWPORT BAY (705)	1420	9/20/94	36.0	-8.00	74.20	-8.0000	-9.0
85010.0	NEWPORT BAY (819)	1421	9/19/94	36.0	-8.00	74.40	-8.0000	-9.0
85011.0	NEWPORT BAY (905)	1422	9/20/94	36.0	-8.00	74.20	-8.0000	-9.0
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36.0	-8.00	74.40	-8.0000	-9.0
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36.0	-8.00	74.20	2.0700	-9.0
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36.0	-8.00	74.30	0.7100	-9.0
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36.0	-8.00	74.20	0.5080	-9.0
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36.0	-8.00	74.20	-8.0000	-9.0
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36.0	-8.00	74.20	0.1480	-9.0
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36.0	-8.00	74.30	-8.0000	-9.0
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45.0	-8.00	75.10	0.8790	28.0
85001.0	NEWPORT BAY (523)	1634	6/20/96	45.0	-8.00	75.10	-8.0000	28.0
85001.0	NEWPORT BAY (523)	1788	8/20/97	54.0	-9.00	-9	-9.0000	-9.0
86001.0	SAN DIEGO CREEK- CAMPUS	1789	8/20/97	54.0	-9.00	-9	-9.0000	-9.0
86002.0	SAN DIEGO CREEK- MACARTHUR	1790	8/20/97	54.0	-9.00	-9	-9.0000	-9.0
86003.0	SANTA ANA/DELHI CHANNEL-BRIDGE	1791	8/20/97	54.0	-9.00	-9	-9.0000	-9.0
86004.0	SANTA ANA/DELHI CHANNEL-OUTER	1792	8/20/97	54.0	-9.00	-9	-9.0000	-9.0

Section 5

PCB and Arochlor Concentrations

PCB and Arochlor Concentrations (ppb)

STANUM	STATION	IDORG	DATE	LEG	PCB5	PCB8	PCB15	PCB18	PCB27	PCB28	PCB29	PCB31	PCB44	PCB49	PCB52
80024.1	ANAHEIM BAY- OUTER	85	9/15/92	4.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000
80024.2	ANAHEIM BAY- OUTER	86	9/15/92	4.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
80024.3	ANAHEIM BAY- OUTER	87	9/15/92	4.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000
80026.1	HUNTINGTON HARBOR- LOWER	91	9/15/92	4.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000
80026.2	HUNTINGTON HARBOR- LOWER	92	9/15/92	4.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000
80026.3	HUNTINGTON HARBOR- LOWER	93	9/15/92	4.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
80027.1	HUNTINGTON HARBOR- MIDDLE	94	9/15/92	4.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
80027.2	HUNTINGTON HARBOR- MIDDLE	95	9/15/92	4.0	-9.000	-8.000	-9.000	-8.000	-9.000	1.000	-9.000	-9.000	-8.000	-9.000	-8.000
80027.3	HUNTINGTON HARBOR- MIDDLE	96	9/15/92	4.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000
80028.1	HUNTINGTON HARBOR- UPPER	97	9/15/92	4.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
80028.2	HUNTINGTON HARBOR- UPPER	98	9/15/92	4.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	1.300	-9.000	1.600
80028.3	HUNTINGTON HARBOR- UPPER	99	9/15/92	4.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	1.100	-9.000	1.400
80025.1	ANAHEIM BAY- OIL ISLAND	88	10/14/92	5.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
80025.2	ANAHEIM BAY- OIL ISLAND	89	10/14/92	5.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
80025.3	ANAHEIM BAY- OIL ISLAND	90	10/14/92	5.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	0.700
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9.0	-9.000	-8.000	-9.000	-8.000	-9.000	0.700	-9.000	-9.000	0.800	-9.000	1.500
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000
82040.0	SEAL BEACH NWR	440	12/11/92	9.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82024.0	BOLSA BAY-MOUTH OF EGGW FLOOD	770	4/21/93	17.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE.	771	4/22/93	17.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RESERVE	772	4/22/93	17.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
80024.3	ANAHEIM BAY- OUTER	807	5/27/93	19.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82009.0	HUNTINGTON HARBOR-HAR. LA	808	5/27/93	19.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82002.0	ANAHEIM BAY-NAVY MARSH #2	809	5/27/93	19.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.- REP 1	1044	2/2/94	25.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	0.596

PCB and Arochlor Concentrations (ppb)

STANUM	STATION	IDORG	DATE	LEG	PCB5	PCB8	PCB15	PCB18	PCB27	PCB28	PCB29	PCB31	PCB44	PCB49	PCB52
82030.0	ANAHEIM BAY-NAVAL RES.- REP 2	1045	2/2/94	25.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	0.655
82030.0	ANAHEIM BAY-NAVAL RES.- REP 3	1046	2/2/94	25.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	0.899
82001.0	ANAHEIM BAY-NAVY MARSH-REP 1	1086	2/16/94	26.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000
82001.0	ANAHEIM BAY-NAVY MARSH-REP 2	1087	2/16/94	26.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000
82001.0	ANAHEIM BAY-NAVY MARSH-REP 3	1088	2/16/94	26.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP1	1089	2/16/94	26.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP2	1090	2/16/94	26.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP3	1091	2/16/94	26.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 1	1092	2/16/94	26.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	0.688
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 2	1093	2/16/94	26.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 3	1094	2/16/94	26.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000
82040.0	SEAL BEACH NWR-REP 1	1095	2/16/94	26.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000
82040.0	SEAL BEACH NWR-REP 2	1096	2/16/94	26.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000
82040.0	SEAL BEACH NWR-REP 3	1097	2/16/94	26.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	0.900
80024.3	ANAHEIM BAY, OUTER-REP 1	1171	3/31/94	29.0	-9.000	-8.000	-9.000	-8.000	-9.000	0.622	-9.000	-9.000	0.562	-9.000	0.879
80024.3	ANAHEIM BAY, OUTER-REP 2	1172	3/31/94	29.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	0.771
80024.3	ANAHEIM BAY, OUTER-REP 3	1173	3/31/94	29.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	0.640
80028.3	HUNTINGTON HARBOR, UPPER-REP 1	1174	3/30/94	29.0	-9.000	-8.000	-9.000	-8.000	-9.000	0.764	-9.000	-9.000	1.830	-9.000	2.190
80028.3	HUNTINGTON HARBOR, UPPER-REP 2	1175	3/30/94	29.0	-9.000	-8.000	-9.000	-8.000	-9.000	0.597	-9.000	-9.000	1.110	-9.000	1.790
80028.3	HUNTINGTON HARBOR, UPPER-REP 3	1176	3/30/94	29.0	-9.000	-8.000	-9.000	-8.000	-9.000	0.534	-9.000	-9.000	1.190	-9.000	1.560
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 1	1177	3/30/94	29.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	0.543	-9.000	0.822
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 2	1178	3/30/94	29.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	0.525	-9.000	0.913
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 3	1179	3/30/94	29.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	0.590	-9.000	2.700
82030.0	ANAHEIM BAY-NAVAL RES.-REP 1	1195	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 2	1196	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 3	1197	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 1	1201	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 2	1202	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 3	1203	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82039.0	BOLSA CHICA ECOL RESERVE-REP 1	1204	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82039.0	BOLSA CHICA ECOL RESERVE-REP 2	1205	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82039.0	BOLSA CHICA ECOL RESERVE-REP 3	1206	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RESERVE	1335	5/19/94	32.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
85001.0	NEWPORT BAY (523)	1387	9/1/94	34.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	0.736
85002.0	NEWPORT BAY (616)	1388	9/1/94	34.0	-9.000	-8.000	-9.000	-8.000	-9.000	0.502	-9.000	-9.000	0.605	-9.000	1.260
85003.0	NEWPORT BAY (791)	1389	8/31/94	34.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	0.767
85004.0	NEWPORT BAY (877)	1390	9/1/94	34.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	0.832
85005.0	NEWPORT BAY (949)	1391	8/31/94	34.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	1.240

PCB and Arochlor Concentrations (ppb)

STANUM	STATION	IDORG	DATE	LEG	PCB5	PCB8	PCB15	PCB18	PCB27	PCB28	PCB29	PCB31	PCB44	PCB49	PCB52
85006.0	NEWPORT BAY (1009)	1392	8/30/94	34.0	-9.000	-8.000	-9.000	-8.000	-9.000	0.729	-9.000	-9.000	0.839	-9.000	1.750
85007.0	NEWPORT BAY (431)	1418	9/19/94	36.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000
85008.0	NEWPORT BAY (670)	1419	9/20/94	36.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000
85009.0	NEWPORT BAY (705)	1420	9/20/94	36.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000
85010.0	NEWPORT BAY (819)	1421	9/19/94	36.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	0.757
85011.0	NEWPORT BAY (905)	1422	9/20/94	36.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	0.515
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	0.588
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36.0	-9.000	0.688	-9.000	2.100	-9.000	4.620	-9.000	-9.000	8.490	-9.000	15.600
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36.0	-9.000	-8.000	-9.000	-8.000	-9.000	2.410	-9.000	-9.000	3.820	-9.000	6.470
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36.0	-9.000	-8.000	-9.000	0.588	-9.000	0.950	-9.000	-9.000	2.030	-9.000	2.960
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	0.900
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	0.792
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36.0	-9.000	-8.000	-9.000	-8.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45.0	-8.000	0.648	-9.000	2.410	-8.000	5.360	-8.000	4.410	9.070	9.510	16.800
85001.0	NEWPORT BAY (523)	1634	6/20/96	45.0	-8.000	-8.000	-9.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	0.753
85001.0	NEWPORT BAY (523)	1788	8/20/97	54.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
86001.0	SAN DIEGO CREEK- CAMPUS	1789	8/20/97	54.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
86002.0	SAN DIEGO CREEK- MACARTHUR	1790	8/20/97	54.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
86003.0	SANTA ANA/DELHI CHANNEL-BRIDGE	1791	8/20/97	54.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
86004.0	SANTA ANA/DELHI CHANNEL-OUTER	1792	8/20/97	54.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000

PCB and Arochlor Concentrations (ppb)

STANUM	STATION	IDORG	DATE	LEG	PCB66	PCB70	PCB74	PCB87	PCB95	PCB97	PCB99	PCB101	PCB105	PCB110
80024.1	ANAHEIM BAY- OUTER	85	9/15/92	4.0	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000	-9.000	0.600	-8.000	-9.000
80024.2	ANAHEIM BAY- OUTER	86	9/15/92	4.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
80024.3	ANAHEIM BAY- OUTER	87	9/15/92	4.0	1.600	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	1.900	-8.000	-9.000
80026.1	HUNTINGTON HARBOR- LOWER	91	9/15/92	4.0	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000	-9.000	0.700	-8.000	-9.000
80026.2	HUNTINGTON HARBOR- LOWER	92	9/15/92	4.0	-8.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-8.000	-8.000	-9.000
80026.3	HUNTINGTON HARBOR- LOWER	93	9/15/92	4.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
80027.1	HUNTINGTON HARBOR- MIDDLE	94	9/15/92	4.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
80027.2	HUNTINGTON HARBOR- MIDDLE	95	9/15/92	4.0	1.500	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	3.200	-8.000	-9.000
80027.3	HUNTINGTON HARBOR- MIDDLE	96	9/15/92	4.0	1.400	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	2.800	1.200	-9.000
80028.1	HUNTINGTON HARBOR- UPPER	97	9/15/92	4.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
80028.2	HUNTINGTON HARBOR- UPPER	98	9/15/92	4.0	1.600	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	3.400	1.300	-9.000
80028.3	HUNTINGTON HARBOR- UPPER	99	9/15/92	4.0	1.600	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	3.800	1.600	-9.000
80025.1	ANAHEIM BAY- OIL ISLAND	88	10/14/92	5.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
80025.2	ANAHEIM BAY- OIL ISLAND	89	10/14/92	5.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
80025.3	ANAHEIM BAY- OIL ISLAND	90	10/14/92	5.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9.0	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000	-9.000	-8.000	-8.000	-9.000
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9.0	0.800	-9.000	-9.000	-8.000	-9.000	-9.000	-9.000	1.900	0.600	-9.000
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9.0	1.900	-9.000	-9.000	1.100	-9.000	-9.000	-9.000	4.000	1.400	-9.000
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9.0	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000	-9.000	1.000	-8.000	-9.000
82040.0	SEAL BEACH NWR	440	12/11/92	9.0	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000	-9.000	-8.000	-8.000	-9.000
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82024.0	BOLSA BAY-MOUTH OF EGGW FLOOD	770	4/21/93	17.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE.	771	4/22/93	17.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RESERVE	772	4/22/93	17.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
80024.3	ANAHEIM BAY- OUTER	807	5/27/93	19.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82009.0	HUNTINGTON HARBOR-HAR. LA	808	5/27/93	19.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82002.0	ANAHEIM BAY-NAVY MARSH #2	809	5/27/93	19.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.- REP 1	1044	2/2/94	25.0	0.811	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	1.390	-8.000	-9.000

PCB and Arochlor Concentrations (ppb)

STANUM	STATION	IDORG	DATE	LEG	PCB66	PCB70	PCB74	PCB87	PCB95	PCB97	PCB99	PCB101	PCB105	PCB110
82030.0	ANAHEIM BAY-NAVAL RES.- REP 2	1045	2/2/94	25.0	0.997	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	1.650	0.683	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.- REP 3	1046	2/2/94	25.0	1.050	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	1.760	0.711	-9.000
82001.0	ANAHEIM BAY-NAVY MARSH-REP 1	1086	2/16/94	26.0	-8.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-8.000	-8.000	-9.000
82001.0	ANAHEIM BAY-NAVY MARSH-REP 2	1087	2/16/94	26.0	-8.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-8.000	-8.000	-9.000
82001.0	ANAHEIM BAY-NAVY MARSH-REP 3	1088	2/16/94	26.0	-8.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-8.000	-8.000	-9.000
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP1	1089	2/16/94	26.0	-8.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-8.000	-8.000	-9.000
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP2	1090	2/16/94	26.0	-8.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-8.000	-8.000	-9.000
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP3	1091	2/16/94	26.0	-8.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-8.000	-8.000	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 1	1092	2/16/94	26.0	-8.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	1.180	-8.000	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 2	1093	2/16/94	26.0	-8.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-8.000	-8.000	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 3	1094	2/16/94	26.0	-8.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-8.000	-8.000	-9.000
82040.0	SEAL BEACH NWR-REP 1	1095	2/16/94	26.0	-8.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-8.000	-8.000	-9.000
82040.0	SEAL BEACH NWR-REP 2	1096	2/16/94	26.0	-8.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-8.000	-8.000	-9.000
82040.0	SEAL BEACH NWR-REP 3	1097	2/16/94	26.0	-8.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	1.660	-8.000	-9.000
80024.3	ANAHEIM BAY, OUTER-REP 1	1171	3/31/94	29.0	1.100	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	1.940	0.750	-9.000
80024.3	ANAHEIM BAY, OUTER-REP 2	1172	3/31/94	29.0	1.160	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	1.550	-8.000	-9.000
80024.3	ANAHEIM BAY, OUTER-REP 3	1173	3/31/94	29.0	0.692	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	1.540	-8.000	-9.000
80028.3	HUNTINGTON HARBOR, UPPER-REP 1	1174	3/30/94	29.0	1.800	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	4.450	2.270	-9.000
80028.3	HUNTINGTON HARBOR, UPPER-REP 2	1175	3/30/94	29.0	1.860	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	3.940	1.530	-9.000
80028.3	HUNTINGTON HARBOR, UPPER-REP 3	1176	3/30/94	29.0	1.730	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	4.100	1.880	-9.000
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 1	1177	3/30/94	29.0	1.070	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	2.160	0.982	-9.000
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 2	1178	3/30/94	29.0	1.190	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	2.510	1.300	-9.000
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 3	1179	3/30/94	29.0	1.460	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	2.780	1.280	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 1	1195	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 2	1196	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 3	1197	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 1	1201	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 2	1202	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 3	1203	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82039.0	BOLSA CHICA ECOL RESERVE-REP 1	1204	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82039.0	BOLSA CHICA ECOL RESERVE-REP 2	1205	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82039.0	BOLSA CHICA ECOL RESERVE-REP 3	1206	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RESERVE	1335	5/19/94	32.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
85001.0	NEWPORT BAY (523)	1387	9/1/94	34.0	-8.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	0.769	-8.000	-9.000
85002.0	NEWPORT BAY (616)	1388	9/1/94	34.0	1.970	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	2.610	0.939	-9.000
85003.0	NEWPORT BAY (791)	1389	8/31/94	34.0	0.971	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	2.170	0.769	-9.000
85004.0	NEWPORT BAY (877)	1390	9/1/94	34.0	0.737	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	1.810	0.501	-9.000
85005.0	NEWPORT BAY (949)	1391	8/31/94	34.0	1.130	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	1.970	0.686	-9.000

PCB and Arochlor Concentrations (ppb)

STANUM	STATION	IDORG	DATE	LEG	PCB66	PCB70	PCB74	PCB87	PCB95	PCB97	PCB99	PCB101	PCB105	PCB110
85006.0	NEWPORT BAY (1009)	1392	8/30/94	34.0	2.550	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	3.730	1.220	-9.000
85007.0	NEWPORT BAY (431)	1418	9/19/94	36.0	-8.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-8.000	-8.000	-9.000
85008.0	NEWPORT BAY (670)	1419	9/20/94	36.0	-8.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	0.907	-8.000	-9.000
85009.0	NEWPORT BAY (705)	1420	9/20/94	36.0	-8.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	1.380	-8.000	-9.000
85010.0	NEWPORT BAY (819)	1421	9/19/94	36.0	0.789	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	1.450	0.507	-9.000
85011.0	NEWPORT BAY (905)	1422	9/20/94	36.0	0.650	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	1.010	-8.000	-9.000
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36.0	0.504	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	1.020	-8.000	-9.000
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36.0	24.500	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	24.300	5.730	-9.000
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36.0	7.950	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	11.400	3.450	-9.000
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36.0	3.060	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	6.130	2.540	-9.000
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36.0	0.999	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	1.450	-8.000	-9.000
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36.0	-8.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	1.440	-8.000	-9.000
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36.0	-8.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-8.000	-8.000	-9.000
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45.0	23.700	15.100	8.130	5.640	12.900	8.020	11.400	21.500	6.990	21.800
85001.0	NEWPORT BAY (523)	1634	6/20/96	45.0	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	0.579
85001.0	NEWPORT BAY (523)	1788	8/20/97	54.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
86001.0	SAN DIEGO CREEK- CAMPUS	1789	8/20/97	54.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
86002.0	SAN DIEGO CREEK- MACARTHUR	1790	8/20/97	54.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
86003.0	SANTA ANA/DELHI CHANNEL-BRIDGE	1791	8/20/97	54.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
86004.0	SANTA ANA/DELHI CHANNEL-OUTER	1792	8/20/97	54.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000

PCB and Arochlor Concentrations (ppb)

STANUM	STATION	IDORG	DATE	LEG	PCB118	PCB128	PCB132	PCB137	PCB138	PCB149	PCB151	PCB153	PCB156
80024.1	ANAHEIM BAY- OUTER	85	9/15/92	4.0	0.600	-8.000	-9.000	-9.000	1.100	-9.000	-9.000	0.800	-9.000
80024.2	ANAHEIM BAY- OUTER	86	9/15/92	4.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
80024.3	ANAHEIM BAY- OUTER	87	9/15/92	4.0	1.300	-8.000	-9.000	-9.000	2.700	-9.000	-9.000	1.800	-9.000
80026.1	HUNTINGTON HARBOR- LOWER	91	9/15/92	4.0	0.700	-8.000	-9.000	-9.000	1.600	-9.000	-9.000	1.000	-9.000
80026.2	HUNTINGTON HARBOR- LOWER	92	9/15/92	4.0	-8.000	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000
80026.3	HUNTINGTON HARBOR- LOWER	93	9/15/92	4.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
80027.1	HUNTINGTON HARBOR- MIDDLE	94	9/15/92	4.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
80027.2	HUNTINGTON HARBOR- MIDDLE	95	9/15/92	4.0	3.000	1.000	-9.000	-9.000	7.300	-9.000	-9.000	5.800	-9.000
80027.3	HUNTINGTON HARBOR- MIDDLE	96	9/15/92	4.0	2.700	1.000	-9.000	-9.000	5.800	-9.000	-9.000	4.900	-9.000
80028.1	HUNTINGTON HARBOR- UPPER	97	9/15/92	4.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
80028.2	HUNTINGTON HARBOR- UPPER	98	9/15/92	4.0	3.300	1.100	-9.000	-9.000	6.800	-9.000	-9.000	4.500	-9.000
80028.3	HUNTINGTON HARBOR- UPPER	99	9/15/92	4.0	3.800	1.500	-9.000	-9.000	8.300	-9.000	-9.000	6.300	-9.000
80025.1	ANAHEIM BAY- OIL ISLAND	88	10/14/92	5.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
80025.2	ANAHEIM BAY- OIL ISLAND	89	10/14/92	5.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
80025.3	ANAHEIM BAY- OIL ISLAND	90	10/14/92	5.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9.0	-8.000	-8.000	-9.000	-9.000	0.900	-9.000	-9.000	0.800	-9.000
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9.0	1.800	0.500	-9.000	-9.000	4.900	-9.000	-9.000	4.500	-9.000
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9.0	3.800	1.500	-9.000	-9.000	9.200	-9.000	-9.000	7.700	-9.000
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9.0	1.000	-8.000	-9.000	-9.000	2.600	-9.000	-9.000	2.100	-9.000
82040.0	SEAL BEACH NWR	440	12/11/92	9.0	-8.000	0.500	-9.000	-9.000	0.800	-9.000	-9.000	0.500	-9.000
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82024.0	BOLSA BAY-MOUTH OF EGGW FLOOD	770	4/21/93	17.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE.	771	4/22/93	17.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RESERVE	772	4/22/93	17.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
80024.3	ANAHEIM BAY- OUTER	807	5/27/93	19.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82009.0	HUNTINGTON HARBOR-HAR. LA	808	5/27/93	19.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82002.0	ANAHEIM BAY-NAVY MARSH #2	809	5/27/93	19.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.- REP 1	1044	2/2/94	25.0	1.610	-8.000	-9.000	-9.000	2.790	-9.000	-9.000	2.150	-9.000

PCB and Arochlor Concentrations (ppb)

STANUM	STATION	IDORG	DATE	LEG	PCB118	PCB128	PCB132	PCB137	PCB138	PCB149	PCB151	PCB153	PCB156
82030.0	ANAHEIM BAY-NAVAL RES.- REP 2	1045	2/2/94	25.0	1.720	0.706	-9.000	-9.000	3.100	-9.000	-9.000	2.360	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.- REP 3	1046	2/2/94	25.0	1.870	0.728	-9.000	-9.000	3.200	-9.000	-9.000	2.520	-9.000
82001.0	ANAHEIM BAY-NAVY MARSH-REP 1	1086	2/16/94	26.0	-8.000	-8.000	-9.000	-9.000	0.752	-9.000	-9.000	0.589	-9.000
82001.0	ANAHEIM BAY-NAVY MARSH-REP 2	1087	2/16/94	26.0	-8.000	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000
82001.0	ANAHEIM BAY-NAVY MARSH-REP 3	1088	2/16/94	26.0	-8.000	-8.000	-9.000	-9.000	0.746	-9.000	-9.000	0.505	-9.000
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP1	1089	2/16/94	26.0	-8.000	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP2	1090	2/16/94	26.0	-8.000	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP3	1091	2/16/94	26.0	-8.000	-8.000	-9.000	-9.000	0.611	-9.000	-9.000	-8.000	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 1	1092	2/16/94	26.0	1.040	-8.000	-9.000	-9.000	1.730	-9.000	-9.000	1.090	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 2	1093	2/16/94	26.0	-8.000	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 3	1094	2/16/94	26.0	-8.000	-8.000	-9.000	-9.000	0.654	-9.000	-9.000	0.546	-9.000
82040.0	SEAL BEACH NWR-REP 1	1095	2/16/94	26.0	-8.000	-8.000	-9.000	-9.000	0.604	-9.000	-9.000	-8.000	-9.000
82040.0	SEAL BEACH NWR-REP 2	1096	2/16/94	26.0	-8.000	-8.000	-9.000	-9.000	0.856	-9.000	-9.000	0.631	-9.000
82040.0	SEAL BEACH NWR-REP 3	1097	2/16/94	26.0	1.290	-8.000	-9.000	-9.000	2.320	-9.000	-9.000	1.410	-9.000
80024.3	ANAHEIM BAY, OUTER-REP 1	1171	3/31/94	29.0	1.880	0.777	-9.000	-9.000	3.130	-9.000	-9.000	2.460	-9.000
80024.3	ANAHEIM BAY, OUTER-REP 2	1172	3/31/94	29.0	1.740	-8.000	-9.000	-9.000	3.270	-9.000	-9.000	2.300	-9.000
80024.3	ANAHEIM BAY, OUTER-REP 3	1173	3/31/94	29.0	1.710	0.966	-9.000	-9.000	3.140	-9.000	-9.000	2.340	-9.000
80028.3	HUNTINGTON HARBOR, UPPER-REP 1	1174	3/30/94	29.0	4.670	1.500	-9.000	-9.000	9.680	-9.000	-9.000	5.600	-9.000
80028.3	HUNTINGTON HARBOR, UPPER-REP 2	1175	3/30/94	29.0	3.440	1.390	-9.000	-9.000	6.770	-9.000	-9.000	5.690	-9.000
80028.3	HUNTINGTON HARBOR, UPPER-REP 3	1176	3/30/94	29.0	3.740	1.050	-9.000	-9.000	7.240	-9.000	-9.000	5.560	-9.000
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 1	1177	3/30/94	29.0	2.330	0.785	-9.000	-9.000	6.190	-9.000	-9.000	4.050	-9.000
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 2	1178	3/30/94	29.0	2.080	0.590	-9.000	-9.000	4.970	-9.000	-9.000	4.480	-9.000
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 3	1179	3/30/94	29.0	2.330	0.670	-9.000	-9.000	5.210	-9.000	-9.000	4.570	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 1	1195	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 2	1196	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 3	1197	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 1	1201	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 2	1202	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 3	1203	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82039.0	BOLSA CHICA ECOL RESERVE-REP 1	1204	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82039.0	BOLSA CHICA ECOL RESERVE-REP 2	1205	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82039.0	BOLSA CHICA ECOL RESERVE-REP 3	1206	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RESERVE	1335	5/19/94	32.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
85001.0	NEWPORT BAY (523)	1387	9/1/94	34.0	0.682	-8.000	-9.000	-9.000	1.870	-9.000	-9.000	1.340	-9.000
85002.0	NEWPORT BAY (616)	1388	9/1/94	34.0	2.750	0.520	-9.000	-9.000	5.450	-9.000	-9.000	4.600	-9.000
85003.0	NEWPORT BAY (791)	1389	8/31/94	34.0	2.340	0.522	-9.000	-9.000	4.990	-9.000	-9.000	3.990	-9.000
85004.0	NEWPORT BAY (877)	1390	9/1/94	34.0	1.460	-8.000	-9.000	-9.000	5.890	-9.000	-9.000	6.140	-9.000
85005.0	NEWPORT BAY (949)	1391	8/31/94	34.0	1.790	-8.000	-9.000	-9.000	4.520	-9.000	-9.000	3.470	-9.000

PCB and Arochlor Concentrations (ppb)

STANUM	STATION	IDORG	DATE	LEG	PCB118	PCB128	PCB132	PCB137	PCB138	PCB149	PCB151	PCB153	PCB156
85006.0	NEWPORT BAY (1009)	1392	8/30/94	34.0	3.780	0.782	-9.000	-9.000	7.950	-9.000	-9.000	7.410	-9.000
85007.0	NEWPORT BAY (431)	1418	9/19/94	36.0	-8.000	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000
85008.0	NEWPORT BAY (670)	1419	9/20/94	36.0	0.848	-8.000	-9.000	-9.000	1.930	-9.000	-9.000	1.370	-9.000
85009.0	NEWPORT BAY (705)	1420	9/20/94	36.0	1.030	-8.000	-9.000	-9.000	2.220	-9.000	-9.000	1.750	-9.000
85010.0	NEWPORT BAY (819)	1421	9/19/94	36.0	1.570	-8.000	-9.000	-9.000	3.420	-9.000	-9.000	2.600	-9.000
85011.0	NEWPORT BAY (905)	1422	9/20/94	36.0	0.880	-8.000	-9.000	-9.000	2.230	-9.000	-9.000	1.730	-9.000
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36.0	1.040	-8.000	-9.000	-9.000	2.700	-9.000	-9.000	2.070	-9.000
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36.0	24.200	2.230	-9.000	-9.000	21.600	-9.000	-9.000	20.400	-9.000
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36.0	12.000	1.520	-9.000	-9.000	14.600	-9.000	-9.000	12.900	-9.000
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36.0	5.590	1.280	-9.000	-9.000	8.660	-9.000	-9.000	6.840	-9.000
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36.0	1.360	-8.000	-9.000	-9.000	2.150	-9.000	-9.000	1.980	-9.000
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36.0	1.420	-8.000	-9.000	-9.000	3.260	-9.000	-9.000	2.580	-9.000
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36.0	-8.000	-8.000	-9.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45.0	20.600	3.280	4.790	0.848	20.100	12.300	3.850	19.200	1.950
85001.0	NEWPORT BAY (523)	1634	6/20/96	45.0	-8.000	-8.000	-8.000	-8.000	0.851	-8.000	-8.000	-8.000	-8.000
85001.0	NEWPORT BAY (523)	1788	8/20/97	54.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
86001.0	SAN DIEGO CREEK- CAMPUS	1789	8/20/97	54.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
86002.0	SAN DIEGO CREEK- MACARTHUR	1790	8/20/97	54.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
86003.0	SANTA ANA/DELHI CHANNEL-BRIDGE	1791	8/20/97	54.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
86004.0	SANTA ANA/DELHI CHANNEL-OUTER	1792	8/20/97	54.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000

PCB and Arochlor Concentrations (ppb)

STANUM	STATION	IDORG	DATE	LEG	PCB157	PCB158	PCB170	PCB174	PCB177	PCB180	PCB183	PCB187	PCB189
80024.1	ANAHEIM BAY- OUTER	85	9/15/92	4.0	-9.000	-9.000	-8.000	-9.000	-9.000	0.500	-9.000	-8.000	-9.000
80024.2	ANAHEIM BAY- OUTER	86	9/15/92	4.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
80024.3	ANAHEIM BAY- OUTER	87	9/15/92	4.0	-9.000	-9.000	-8.000	-9.000	-9.000	1.300	-9.000	-8.000	-9.000
80026.1	HUNTINGTON HARBOR- LOWER	91	9/15/92	4.0	-9.000	-9.000	-8.000	-9.000	-9.000	0.600	-9.000	-8.000	-9.000
80026.2	HUNTINGTON HARBOR- LOWER	92	9/15/92	4.0	-9.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000	-9.000
80026.3	HUNTINGTON HARBOR- LOWER	93	9/15/92	4.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
80027.1	HUNTINGTON HARBOR- MIDDLE	94	9/15/92	4.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
80027.2	HUNTINGTON HARBOR- MIDDLE	95	9/15/92	4.0	-9.000	-9.000	1.800	-9.000	-9.000	4.000	-9.000	2.100	-9.000
80027.3	HUNTINGTON HARBOR- MIDDLE	96	9/15/92	4.0	-9.000	-9.000	1.500	-9.000	-9.000	3.200	-9.000	1.900	-9.000
80028.1	HUNTINGTON HARBOR- UPPER	97	9/15/92	4.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
80028.2	HUNTINGTON HARBOR- UPPER	98	9/15/92	4.0	-9.000	-9.000	1.500	-9.000	-9.000	3.100	-9.000	1.600	-9.000
80028.3	HUNTINGTON HARBOR- UPPER	99	9/15/92	4.0	-9.000	-9.000	1.900	-9.000	-9.000	3.900	-9.000	2.300	-9.000
80025.1	ANAHEIM BAY- OIL ISLAND	88	10/14/92	5.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
80025.2	ANAHEIM BAY- OIL ISLAND	89	10/14/92	5.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
80025.3	ANAHEIM BAY- OIL ISLAND	90	10/14/92	5.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9.0	-9.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000	-9.000
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9.0	-9.000	-9.000	-8.000	-9.000	-9.000	2.600	-9.000	1.800	-9.000
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9.0	-9.000	-9.000	2.300	-9.000	-9.000	5.000	-9.000	2.900	-9.000
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9.0	-9.000	-9.000	0.600	-9.000	-9.000	1.300	-9.000	0.800	-9.000
82040.0	SEAL BEACH NWR	440	12/11/92	9.0	-9.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000	-9.000
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82024.0	BOLSA BAY-MOUTH OF EGGW FLOOD	770	4/21/93	17.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE.	771	4/22/93	17.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RESERVE	772	4/22/93	17.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
80024.3	ANAHEIM BAY- OUTER	807	5/27/93	19.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82009.0	HUNTINGTON HARBOR-HAR. LA	808	5/27/93	19.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82002.0	ANAHEIM BAY-NAVY MARSH #2	809	5/27/93	19.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.- REP 1	1044	2/2/94	25.0	-9.000	-9.000	-8.000	-9.000	-9.000	1.150	-9.000	0.797	-9.000

PCB and Arochlor Concentrations (ppb)

STANUM	STATION	IDORG	DATE	LEG	PCB157	PCB158	PCB170	PCB174	PCB177	PCB180	PCB183	PCB187	PCB189
82030.0	ANAHEIM BAY-NAVAL RES.- REP 2	1045	2/2/94	25.0	-9.000	-9.000	0.873	-9.000	-9.000	1.390	-9.000	0.963	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.- REP 3	1046	2/2/94	25.0	-9.000	-9.000	0.853	-9.000	-9.000	1.560	-9.000	1.010	-9.000
82001.0	ANAHEIM BAY-NAVY MARSH-REP 1	1086	2/16/94	26.0	-9.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000	-9.000
82001.0	ANAHEIM BAY-NAVY MARSH-REP 2	1087	2/16/94	26.0	-9.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000	-9.000
82001.0	ANAHEIM BAY-NAVY MARSH-REP 3	1088	2/16/94	26.0	-9.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000	-9.000
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP1	1089	2/16/94	26.0	-9.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000	-9.000
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP2	1090	2/16/94	26.0	-9.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000	-9.000
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP3	1091	2/16/94	26.0	-9.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 1	1092	2/16/94	26.0	-9.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 2	1093	2/16/94	26.0	-9.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 3	1094	2/16/94	26.0	-9.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000	-9.000
82040.0	SEAL BEACH NWR-REP 1	1095	2/16/94	26.0	-9.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000	-9.000
82040.0	SEAL BEACH NWR-REP 2	1096	2/16/94	26.0	-9.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000	-9.000
82040.0	SEAL BEACH NWR-REP 3	1097	2/16/94	26.0	-9.000	-9.000	-8.000	-9.000	-9.000	0.578	-9.000	-8.000	-9.000
80024.3	ANAHEIM BAY, OUTER-REP 1	1171	3/31/94	29.0	-9.000	-9.000	0.603	-9.000	-9.000	1.840	-9.000	1.120	-9.000
80024.3	ANAHEIM BAY, OUTER-REP 2	1172	3/31/94	29.0	-9.000	-9.000	0.795	-9.000	-9.000	1.640	-9.000	0.981	-9.000
80024.3	ANAHEIM BAY, OUTER-REP 3	1173	3/31/94	29.0	-9.000	-9.000	-8.000	-9.000	-9.000	1.410	-9.000	0.914	-9.000
80028.3	HUNTINGTON HARBOR, UPPER-REP 1	1174	3/30/94	29.0	-9.000	-9.000	1.940	-9.000	-9.000	3.990	-9.000	1.620	-9.000
80028.3	HUNTINGTON HARBOR, UPPER-REP 2	1175	3/30/94	29.0	-9.000	-9.000	1.220	-9.000	-9.000	3.770	-9.000	1.330	-9.000
80028.3	HUNTINGTON HARBOR, UPPER-REP 3	1176	3/30/94	29.0	-9.000	-9.000	1.380	-9.000	-9.000	2.980	-9.000	1.540	-9.000
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 1	1177	3/30/94	29.0	-9.000	-9.000	1.410	-9.000	-9.000	3.050	-9.000	1.720	-9.000
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 2	1178	3/30/94	29.0	-9.000	-9.000	1.040	-9.000	-9.000	2.330	-9.000	1.440	-9.000
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 3	1179	3/30/94	29.0	-9.000	-9.000	1.140	-9.000	-9.000	2.440	-9.000	1.420	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 1	1195	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 2	1196	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 3	1197	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 1	1201	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 2	1202	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 3	1203	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82039.0	BOLSA CHICA ECOL RESERVE-REP 1	1204	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82039.0	BOLSA CHICA ECOL RESERVE-REP 2	1205	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82039.0	BOLSA CHICA ECOL RESERVE-REP 3	1206	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RESERVE	1335	5/19/94	32.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
85001.0	NEWPORT BAY (523)	1387	9/1/94	34.0	-9.000	-9.000	-8.000	-9.000	-9.000	0.960	-9.000	-8.000	-9.000
85002.0	NEWPORT BAY (616)	1388	9/1/94	34.0	-9.000	-9.000	1.050	-9.000	-9.000	3.060	-9.000	1.170	-9.000
85003.0	NEWPORT BAY (791)	1389	8/31/94	34.0	-9.000	-9.000	0.991	-9.000	-9.000	2.550	-9.000	1.350	-9.000
85004.0	NEWPORT BAY (877)	1390	9/1/94	34.0	-9.000	-9.000	2.170	-9.000	-9.000	7.250	-9.000	3.420	-9.000
85005.0	NEWPORT BAY (949)	1391	8/31/94	34.0	-9.000	-9.000	1.060	-9.000	-9.000	2.850	-9.000	1.220	-9.000

PCB and Arochlor Concentrations (ppb)

STANUM	STATION	IDORG	DATE	LEG	PCB157	PCB158	PCB170	PCB174	PCB177	PCB180	PCB183	PCB187	PCB189
85006.0	NEWPORT BAY (1009)	1392	8/30/94	34.0	-9.000	-9.000	1.770	-9.000	-9.000	4.810	-9.000	2.030	-9.000
85007.0	NEWPORT BAY (431)	1418	9/19/94	36.0	-9.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000	-9.000
85008.0	NEWPORT BAY (670)	1419	9/20/94	36.0	-9.000	-9.000	-8.000	-9.000	-9.000	0.870	-9.000	-8.000	-9.000
85009.0	NEWPORT BAY (705)	1420	9/20/94	36.0	-9.000	-9.000	-8.000	-9.000	-9.000	0.842	-9.000	-8.000	-9.000
85010.0	NEWPORT BAY (819)	1421	9/19/94	36.0	-9.000	-9.000	0.717	-9.000	-9.000	1.850	-9.000	0.725	-9.000
85011.0	NEWPORT BAY (905)	1422	9/20/94	36.0	-9.000	-9.000	0.510	-9.000	-9.000	1.180	-9.000	0.621	-9.000
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36.0	-9.000	-9.000	0.625	-9.000	-9.000	1.520	-9.000	0.642	-9.000
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36.0	-9.000	-9.000	3.100	-9.000	-9.000	10.500	-9.000	6.580	-9.000
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36.0	-9.000	-9.000	2.130	-9.000	-9.000	7.140	-9.000	4.150	-9.000
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36.0	-9.000	-9.000	1.620	-9.000	-9.000	5.050	-9.000	2.740	-9.000
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36.0	-9.000	-9.000	-8.000	-9.000	-9.000	0.919	-9.000	0.681	-9.000
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36.0	-9.000	-9.000	0.769	-9.000	-9.000	2.190	-9.000	0.923	-9.000
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36.0	-9.000	-9.000	-8.000	-9.000	-9.000	-8.000	-9.000	-8.000	-9.000
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45.0	1.170	1.410	3.700	2.950	2.910	9.910	2.130	6.000	-8.000
85001.0	NEWPORT BAY (523)	1634	6/20/96	45.0	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000
85001.0	NEWPORT BAY (523)	1788	8/20/97	54.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
86001.0	SAN DIEGO CREEK- CAMPUS	1789	8/20/97	54.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
86002.0	SAN DIEGO CREEK- MACARTHUR	1790	8/20/97	54.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
86003.0	SANTA ANA/DELHI CHANNEL-BRIDGE	1791	8/20/97	54.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
86004.0	SANTA ANA/DELHI CHANNEL-OUTER	1792	8/20/97	54.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000

PCB and Arochlor Concentrations (ppb)

STANUM	STATION	IDORG	DATE	LEG	PCB194	PCB195	PCB201	PCB203	PCB206	PCB209	ARO1248	ARO1254	ARO1260
80024.1	ANAHEIM BAY- OUTER	85	9/15/92	4.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
80024.2	ANAHEIM BAY- OUTER	86	9/15/92	4.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
80024.3	ANAHEIM BAY- OUTER	87	9/15/92	4.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
80026.1	HUNTINGTON HARBOR- LOWER	91	9/15/92	4.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
80026.2	HUNTINGTON HARBOR- LOWER	92	9/15/92	4.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
80026.3	HUNTINGTON HARBOR- LOWER	93	9/15/92	4.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
80027.1	HUNTINGTON HARBOR- MIDDLE	94	9/15/92	4.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
80027.2	HUNTINGTON HARBOR- MIDDLE	95	9/15/92	4.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
80027.3	HUNTINGTON HARBOR- MIDDLE	96	9/15/92	4.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
80028.1	HUNTINGTON HARBOR- UPPER	97	9/15/92	4.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
80028.2	HUNTINGTON HARBOR- UPPER	98	9/15/92	4.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
80028.3	HUNTINGTON HARBOR- UPPER	99	9/15/92	4.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
80025.1	ANAHEIM BAY- OIL ISLAND	88	10/14/92	5.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
80025.2	ANAHEIM BAY- OIL ISLAND	89	10/14/92	5.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
80025.3	ANAHEIM BAY- OIL ISLAND	90	10/14/92	5.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9.0	-9.000	-8.000	-9.000	-9.000	0.800	-8.000	-9.000	-9.000	-9.000
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
82040.0	SEAL BEACH NWR	440	12/11/92	9.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82024.0	BOLSA BAY-MOUTH OF EGGW FLOOD	770	4/21/93	17.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE.	771	4/22/93	17.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RESERVE	772	4/22/93	17.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
80024.3	ANAHEIM BAY- OUTER	807	5/27/93	19.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82009.0	HUNTINGTON HARBOR-HAR. LA	808	5/27/93	19.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82002.0	ANAHEIM BAY-NAVY MARSH #2	809	5/27/93	19.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.- REP 1	1044	2/2/94	25.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000

PCB and Arochlor Concentrations (ppb)

STANUM	STATION	IDORG	DATE	LEG	PCB194	PCB195	PCB201	PCB203	PCB206	PCB209	ARO1248	ARO1254	ARO1260
82030.0	ANAHEIM BAY-NAVAL RES.- REP 2	1045	2/2/94	25.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.- REP 3	1046	2/2/94	25.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
82001.0	ANAHEIM BAY-NAVY MARSH-REP 1	1086	2/16/94	26.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
82001.0	ANAHEIM BAY-NAVY MARSH-REP 2	1087	2/16/94	26.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
82001.0	ANAHEIM BAY-NAVY MARSH-REP 3	1088	2/16/94	26.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP1	1089	2/16/94	26.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP2	1090	2/16/94	26.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP3	1091	2/16/94	26.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 1	1092	2/16/94	26.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 2	1093	2/16/94	26.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 3	1094	2/16/94	26.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
82040.0	SEAL BEACH NWR-REP 1	1095	2/16/94	26.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
82040.0	SEAL BEACH NWR-REP 2	1096	2/16/94	26.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
82040.0	SEAL BEACH NWR-REP 3	1097	2/16/94	26.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
80024.3	ANAHEIM BAY, OUTER-REP 1	1171	3/31/94	29.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
80024.3	ANAHEIM BAY, OUTER-REP 2	1172	3/31/94	29.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
80024.3	ANAHEIM BAY, OUTER-REP 3	1173	3/31/94	29.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
80028.3	HUNTINGTON HARBOR, UPPER-REP 1	1174	3/30/94	29.0	-9.000	-8.000	-9.000	-9.000	0.569	-8.000	-9.000	-9.000	-9.000
80028.3	HUNTINGTON HARBOR, UPPER-REP 2	1175	3/30/94	29.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
80028.3	HUNTINGTON HARBOR, UPPER-REP 3	1176	3/30/94	29.0	-9.000	-8.000	-9.000	-9.000	0.526	-8.000	-9.000	-9.000	-9.000
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 1	1177	3/30/94	29.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 2	1178	3/30/94	29.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 3	1179	3/30/94	29.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 1	1195	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 2	1196	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 3	1197	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 1	1201	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 2	1202	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 3	1203	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82039.0	BOLSA CHICA ECOL RESERVE-REP 1	1204	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82039.0	BOLSA CHICA ECOL RESERVE-REP 2	1205	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82039.0	BOLSA CHICA ECOL RESERVE-REP 3	1206	4/12/94	30.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RESERVE	1335	5/19/94	32.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
85001.0	NEWPORT BAY (523)	1387	9/1/94	34.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
85002.0	NEWPORT BAY (616)	1388	9/1/94	34.0	-9.000	-8.000	-9.000	-9.000	0.546	-8.000	-9.000	-9.000	-9.000
85003.0	NEWPORT BAY (791)	1389	8/31/94	34.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
85004.0	NEWPORT BAY (877)	1390	9/1/94	34.0	-9.000	0.659	-9.000	-9.000	0.552	-8.000	-9.000	-9.000	-9.000
85005.0	NEWPORT BAY (949)	1391	8/31/94	34.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000

PCB and Arochlor Concentrations (ppb)

STANUM	STATION	IDORG	DATE	LEG	PCB194	PCB195	PCB201	PCB203	PCB206	PCB209	ARO1248	ARO1254	ARO1260
85006.0	NEWPORT BAY (1009)	1392	8/30/94	34.0	-9.000	-8.000	-9.000	-9.000	0.690	-8.000	-9.000	-9.000	-9.000
85007.0	NEWPORT BAY (431)	1418	9/19/94	36.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
85008.0	NEWPORT BAY (670)	1419	9/20/94	36.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
85009.0	NEWPORT BAY (705)	1420	9/20/94	36.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
85010.0	NEWPORT BAY (819)	1421	9/19/94	36.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
85011.0	NEWPORT BAY (905)	1422	9/20/94	36.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36.0	-9.000	0.905	-9.000	-9.000	3.270	5.600	-9.000	-9.000	-9.000
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36.0	-9.000	0.568	-9.000	-9.000	2.080	1.540	-9.000	-9.000	-9.000
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36.0	-9.000	0.556	-9.000	-9.000	3.980	1.680	-9.000	-9.000	-9.000
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36.0	-9.000	-8.000	-9.000	-9.000	-8.000	-8.000	-9.000	-9.000	-9.000
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45.0	3.130	0.750	3.500	1.780	3.410	6.010	130.000	210.000	130.000
85001.0	NEWPORT BAY (523)	1634	6/20/96	45.0	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	-8.000	7.900	6.300
35001.0	NEWPORT BAY (523)	1788	8/20/97	54.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
86001.0	SAN DIEGO CREEK- CAMPUS	1789	8/20/97	54.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
86002.0	SAN DIEGO CREEK- MACARTHUR	1790	8/20/97	54.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
86003.0	SANTA ANA/DELHI CHANNEL-BRIDGE	1791	8/20/97	54.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000
86004.0	SANTA ANA/DELHI CHANNEL-OUTER	1792	8/20/97	54.0	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000	-9.000

PCB and Arochlor Concentrations (ppb)

STANUM	STATION	IDORG	DATE	LEG	ARO5460	PCBBATCH
80024.1	ANAHEIM BAY- OUTER	85	9/15/92	4.0	-9.000	73.20
80024.2	ANAHEIM BAY- OUTER	86	9/15/92	4.0	-9.000	-9.00
80024.3	ANAHEIM BAY- OUTER	87	9/15/92	4.0	-9.000	-90.00
80026.1	HUNTINGTON HARBOR- LOWER	91	9/15/92	4.0	-9.000	973.20
80026.2	HUNTINGTON HARBOR- LOWER	92	9/15/92	4.0	-9.000	-9.00
80026.3	HUNTINGTON HARBOR- LOWER	93	9/15/92	4.0	-9.000	-9.00
80027.1	HUNTINGTON HARBOR- MIDDLE	94	9/15/92	4.0	-9.000	-9.00
80027.2	HUNTINGTON HARBOR- MIDDLE	95	9/15/92	4.0	-9.000	-9.00
80027.3	HUNTINGTON HARBOR- MIDDLE	96	9/15/92	4.0	-9.000	-9.00
80028.1	HUNTINGTON HARBOR- UPPER	97	9/15/92	4.0	-9.000	-9.00
80028.2	HUNTINGTON HARBOR- UPPER	98	9/15/92	4.0	-9.000	-9.00
80028.3	HUNTINGTON HARBOR- UPPER	99	9/15/92	4.0	-9.000	-9.00
80025.1	ANAHEIM BAY- OIL ISLAND	88	10/14/92	5.0	-9.000	-9.00
80025.2	ANAHEIM BAY- OIL ISLAND	89	10/14/92	5.0	-9.000	-9.00
80025.3	ANAHEIM BAY- OIL ISLAND	90	10/14/92	5.0	-9.000	-9.00
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9.0	-9.000	72.10
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9.0	-9.000	-9.00
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9.0	-9.000	-9.00
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9.0	-9.000	-9.00
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9.0	-9.000	72.10
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9.0	-9.000	72.80
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9.0	-9.000	-9.00
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9.0	-9.000	-9.00
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9.0	-9.000	-9.00
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9.0	-9.000	-9.00
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9.0	-9.000	-9.00
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9.0	-9.000	-9.00
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9.0	-9.000	-9.00
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9.0	-9.000	72.80
82040.0	SEAL BEACH NWR	440	12/11/92	9.0	-9.000	72.80
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17.0	-9.000	-9.00
82024.0	BOLSA BAY-MOUTH OF EGGW FLOOD	770	4/21/93	17.0	-9.000	-9.00
82023.0	SEAL BEACH NWR-BOLSA AVE.	771	4/22/93	17.0	-9.000	-9.00
82030.0	ANAHEIM BAY-NAVAL RESERVE	772	4/22/93	17.0	-9.000	-9.00
80024.3	ANAHEIM BAY- OUTER	807	5/27/93	19.0	-9.000	-9.00
82009.0	HUNTINGTON HARBOR-HAR. LA	808	5/27/93	19.0	-9.000	-9.00
82002.0	ANAHEIM BAY-NAVY MARSH #2	809	5/27/93	19.0	-9.000	-9.00
82030.0	ANAHEIM BAY-NAVAL RES.- REP 1	1044	2/2/94	25.0	11.900	73.22

PCB and Arochlor Concentrations (ppb)

STANUM	STATION	IDORG	DATE	LEG	ARO5460	PCBBATCH
82030.0	ANAHEIM BAY-NAVAL RES.- REP 2	1045	2/2/94	25.0	45.000	73.23
82030.0	ANAHEIM BAY-NAVAL RES.- REP 3	1046	2/2/94	25.0	49.800	73.23
82001.0	ANAHEIM BAY-NAVY MARSH-REP 1	1086	2/16/94	26.0	8.800	73.32
82001.0	ANAHEIM BAY-NAVY MARSH-REP 2	1087	2/16/94	26.0	7.500	73.27
82001.0	ANAHEIM BAY-NAVY MARSH-REP 3	1088	2/16/94	26.0	10.800	73.31
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP1	1089	2/16/94	26.0	-8.000	73.32
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP2	1090	2/16/94	26.0	-8.000	73.30
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP3	1091	2/16/94	26.0	10.600	73.29
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 1	1092	2/16/94	26.0	24.300	73.31
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 2	1093	2/16/94	26.0	5.100	73.32
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 3	1094	2/16/94	26.0	8.400	73.32
82040.0	SEAL BEACH NWR-REP 1	1095	2/16/94	26.0	10.400	73.31
82040.0	SEAL BEACH NWR-REP 2	1096	2/16/94	26.0	10.900	73.30
82040.0	SEAL BEACH NWR-REP 3	1097	2/16/94	26.0	42.900	73.29
80024.3	ANAHEIM BAY, OUTER-REP 1	1171	3/31/94	29.0	60.000	73.23
80024.3	ANAHEIM BAY, OUTER-REP 2	1172	3/31/94	29.0	26.700	73.21
80024.3	ANAHEIM BAY, OUTER-REP 3	1173	3/31/94	29.0	-8.000	73.22
80028.3	HUNTINGTON HARBOR, UPPER-REP 1	1174	3/30/94	29.0	45.300	73.34
80028.3	HUNTINGTON HARBOR, UPPER-REP 2	1175	3/30/94	29.0	49.300	73.35
80028.3	HUNTINGTON HARBOR, UPPER-REP 3	1176	3/30/94	29.0	48.300	73.39
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 1	1177	3/30/94	29.0	41.900	73.34
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 2	1178	3/30/94	29.0	54.100	73.38
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 3	1179	3/30/94	29.0	49.000	73.39
82030.0	ANAHEIM BAY-NAVAL RES.-REP 1	1195	4/12/94	30.0	-9.000	-9.00
82030.0	ANAHEIM BAY-NAVAL RES.-REP 2	1196	4/12/94	30.0	-9.000	-9.00
82030.0	ANAHEIM BAY-NAVAL RES.-REP 3	1197	4/12/94	30.0	-9.000	-9.00
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 1	1201	4/12/94	30.0	-9.000	-9.00
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 2	1202	4/12/94	30.0	-9.000	-9.00
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 3	1203	4/12/94	30.0	-9.000	-9.00
82039.0	BOLSA CHICA ECOL RESERVE-REP 1	1204	4/12/94	30.0	-9.000	-9.00
82039.0	BOLSA CHICA ECOL RESERVE-REP 2	1205	4/12/94	30.0	-9.000	-9.00
82039.0	BOLSA CHICA ECOL RESERVE-REP 3	1206	4/12/94	30.0	-9.000	-9.00
82030.0	ANAHEIM BAY-NAVAL RESERVE	1335	5/19/94	32.0	-9.000	-9.00
85001.0	NEWPORT BAY (523)	1387	9/1/94	34.0	-9.000	74.40
85002.0	NEWPORT BAY (616)	1388	9/1/94	34.0	-9.000	74.30
85003.0	NEWPORT BAY (791)	1389	8/31/94	34.0	-9.000	74.30
85004.0	NEWPORT BAY (877)	1390	9/1/94	34.0	-9.000	74.40
85005.0	NEWPORT BAY (949)	1391	8/31/94	34.0	-9.000	74.40

PCB and Arochlor Concentrations (ppb)

STANUM	STATION	IDORG	DATE	LEG	ARO5460	PCBBATCH
85006.0	NEWPORT BAY (1009)	1392	8/30/94	34.0	-9.000	74.40
85007.0	NEWPORT BAY (431)	1418	9/19/94	36.0	-9.000	74.10
85008.0	NEWPORT BAY (670)	1419	9/20/94	36.0	-9.000	74.10
85009.0	NEWPORT BAY (705)	1420	9/20/94	36.0	-9.000	74.20
85010.0	NEWPORT BAY (819)	1421	9/19/94	36.0	-9.000	74.40
85011.0	NEWPORT BAY (905)	1422	9/20/94	36.0	-9.000	74.20
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36.0	-9.000	74.40
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36.0	-9.000	74.20
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36.0	-9.000	74.30
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36.0	-9.000	74.20
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36.0	-9.000	74.20
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36.0	-9.000	74.20
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36.0	-9.000	74.30
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45.0	214.000	75.10
85001.0	NEWPORT BAY (523)	1634	6/20/96	45.0	-8.000	75.10
85001.0	NEWPORT BAY (523)	1788	8/20/97	54.0	-9.000	-9
86001.0	SAN DIEGO CREEK- CAMPUS	1789	8/20/97	54.0	-9.000	-9
86002.0	SAN DIEGO CREEK- MACARTHUR	1790	8/20/97	54.0	-9.000	-9
86003.0	SANTA ANA/DELHI CHANNEL-BRIDGE	1791	8/20/97	54.0	-9.000	-9
86004.0	SANTA ANA/DELHI CHANNEL-OUTER	1792	8/20/97	54.0	-9.000	-9

Section 6

PAH Concentrations

PAH Concentrations (ppb)

STANUM	STATION	IDORG	DATE	LEG	ANT	BAA	BAP	BBF	BKF	BGP	BEP	BPH	CHR	COR	DBA	DBT
80024.1	ANAHEIM BAY- OUTER	85	9/15/92	4.0	157.00	117.00	81.40	-9.00	-9.00	-9.00	69.70	6.30	466.00	-9.00	10.40	-9.00
80024.2	ANAHEIM BAY- OUTER	86	9/15/92	4.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
80024.3	ANAHEIM BAY- OUTER	87	9/15/92	4.0	22.00	110.00	67.00	-9.00	-9.00	-9.00	120.00	-8.00	210.00	-9.00	20.00	-9.00
80026.1	HUNTINGTON HARBOR- LOWER	91	9/15/92	4.0	-8.00	19.20	29.00	-9.00	-9.00	-9.00	35.10	-8.00	31.80	-9.00	5.30	-9.00
80026.2	HUNTINGTON HARBOR- LOWER	92	9/15/92	4.0	8.70	21.00	26.00	-9.00	-9.00	-9.00	26.00	-8.00	30.00	-9.00	5.80	-9.00
80026.3	HUNTINGTON HARBOR- LOWER	93	9/15/92	4.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
80027.1	HUNTINGTON HARBOR- MIDDLE	94	9/15/92	4.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
80027.2	HUNTINGTON HARBOR- MIDDLE	95	9/15/92	4.0	17.00	53.00	88.00	-9.00	-9.00	-9.00	110.00	-8.00	90.00	-9.00	24.00	-9.00
80027.3	HUNTINGTON HARBOR- MIDDLE	96	9/15/92	4.0	9.90	59.00	83.00	-9.00	-9.00	-9.00	110.00	-8.00	110.00	-9.00	24.00	-9.00
80028.1	HUNTINGTON HARBOR- UPPER	97	9/15/92	4.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
80028.2	HUNTINGTON HARBOR- UPPER	98	9/15/92	4.0	16.00	82.00	110.00	-9.00	-9.00	-9.00	130.00	-8.00	130.00	-9.00	31.00	-9.00
80028.3	HUNTINGTON HARBOR- UPPER	99	9/15/92	4.0	17.00	140.00	150.00	-9.00	-9.00	-9.00	200.00	7.20	240.00	-9.00	34.00	-9.00
80025.1	ANAHEIM BAY- OIL ISLAND	88	10/14/92	5.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
80025.2	ANAHEIM BAY- OIL ISLAND	89	10/14/92	5.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
80025.3	ANAHEIM BAY- OIL ISLAND	90	10/14/92	5.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9.0	5.80	13.60	15.10	-9.00	-9.00	-9.00	15.60	-8.00	18.00	-9.00	-8.00	-9.00
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9.0	-8.00	19.90	33.30	-9.00	-9.00	-9.00	43.10	-8.00	37.70	-9.00	5.50	-9.00
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9.0	7.00	50.20	96.40	-9.00	-9.00	-9.00	105.00	-8.00	98.40	-9.00	22.40	-9.00
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9.0	-8.00	13.50	24.00	-9.00	-9.00	-9.00	50.50	-8.00	23.60	-9.00	11.70	-9.00
82040.0	SEAL BEACH NWR	440	12/11/92	9.0	18.10	23.70	33.50	-9.00	-9.00	-9.00	23.20	-8.00	42.40	-9.00	-8.00	-9.00
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
82030.0	ANAHEIM BAY-NAVAL RES.- REP 1	1044	2/2/94	25.0	21.00	42.00	98.50	96.30	33.90	58.40	51.90	-8.00	65.30	-9.00	13.90	-9.00
82030.0	ANAHEIM BAY-NAVAL RES.- REP 2	1045	2/2/94	25.0	19.80	46.20	59.90	92.90	33.90	57.20	55.50	-8.00	69.50	-9.00	11.50	-9.00
82030.0	ANAHEIM BAY-NAVAL RES.- REP 3	1046	2/2/94	25.0	25.80	51.20	70.70	102.00	37.60	63.80	61.20	-8.00	80.10	-9.00	13.90	-9.00
82001.0	ANAHEIM BAY-NAVY MARSH-REP 1	1086	2/16/94	26.0	-8.00	5.99	12.90	19.20	6.94	10.90	9.67	-8.00	10.20	-9.00	-8.00	-9.00
82001.0	ANAHEIM BAY-NAVY MARSH-REP 2	1087	2/16/94	26.0	-8.00	6.03	8.76	15.00	6.53	10.00	9.53	-8.00	10.30	-9.00	-8.00	-9.00
82001.0	ANAHEIM BAY-NAVY MARSH-REP 3	1088	2/16/94	26.0	-8.00	-8.00	-8.00	7.30	-8.00	-8.00	5.12	-8.00	5.80	-9.00	-8.00	-9.00
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP1	1089	2/16/94	26.0	-8.00	-8.00	6.56	7.95	-8.00	-8.00	-8.00	-8.00	5.27	-9.00	-8.00	-9.00
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP2	1090	2/16/94	26.0	-8.00	-8.00	-8.00	6.39	-8.00	-8.00	5.09	-8.00	5.60	-9.00	-8.00	-9.00
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP3	1091	2/16/94	26.0	-8.00	-8.00	6.10	7.42	-8.00	-8.00	5.75	-8.00	5.81	-9.00	-8.00	-9.00
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 1	1092	2/16/94	26.0	-8.00	-8.00	-8.00	9.35	-8.00	-8.00	7.51	-8.00	9.71	-9.00	-8.00	-9.00
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 2	1093	2/16/94	26.0	-8.00	-8.00	6.41	9.70	-8.00	-8.00	5.22	-8.00	7.34	-9.00	-8.00	-9.00
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 3	1094	2/16/94	26.0	-8.00	7.39	12.30	21.60	11.60	10.50	9.96	-8.00	23.10	-9.00	-8.00	-9.00
82040.0	SEAL BEACH NWR-REP 1	1095	2/16/94	26.0	8.84	13.30	13.70	20.80	9.78	15.30	14.40	-8.00	21.30	-9.00	-8.00	-9.00
82040.0	SEAL BEACH NWR-REP 2	1096	2/16/94	26.0	36.80	23.10	18.40	32.30	11.30	14.60	17.70	-8.00	28.50	-9.00	-8.00	-9.00

PAH Concentrations (ppb)

STANUM	STATION	IDORG	DATE	LEG	ANT	BAA	BAP	BBF	BKF	BGP	BEP	BPH	CHR	COR	DBA	DBT
82040.0	SEAL BEACH NWR-REP 3	1097	2/16/94	26.0	-8.00	5.98	9.96	14.80	7.94	12.30	10.90	-8.00	12.00	-9.00	-8.00	-9.00
80024.3	ANAHEIM BAY, OUTER-REP 1	1171	3/31/94	29.0	13.10	42.70	60.10	101.00	35.70	70.20	62.40	-8.00	71.10	-9.00	12.20	-9.00
80024.3	ANAHEIM BAY, OUTER-REP 2	1172	3/31/94	29.0	20.70	38.60	109.00	111.00	38.30	67.80	57.20	-8.00	65.60	-9.00	15.10	-9.00
80024.3	ANAHEIM BAY, OUTER-REP 3	1173	3/31/94	29.0	55.70	54.70	119.00	119.00	43.70	71.20	62.00	10.50	95.20	-9.00	15.60	-9.00
80028.3	HUNTINGTON HARBOR, UPPER-REP 1	1174	3/30/94	29.0	18.40	88.30	180.00	273.00	99.30	207.00	156.00	6.14	145.00	-9.00	46.10	-9.00
80028.3	HUNTINGTON HARBOR, UPPER-REP 2	1175	3/30/94	29.0	16.10	83.70	170.00	253.00	93.70	194.00	149.00	6.25	136.00	-9.00	43.50	-9.00
80028.3	HUNTINGTON HARBOR, UPPER-REP 3	1176	3/30/94	29.0	18.50	84.60	252.00	319.00	116.00	221.00	153.00	-8.00	124.00	-9.00	61.90	-9.00
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 1	1177	3/30/94	29.0	-8.00	37.10	91.80	132.00	49.80	93.40	72.20	-8.00	59.80	-9.00	21.60	-9.00
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 2	1178	3/30/94	29.0	7.58	32.20	122.00	159.00	57.20	97.90	70.50	-8.00	47.80	-9.00	26.60	-9.00
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 3	1179	3/30/94	29.0	8.57	41.00	145.00	190.00	70.30	116.00	83.70	-8.00	52.10	-9.00	33.10	-9.00
85001.0	NEWPORT BAY (523)	1387	9/1/94	34.0	-8.00	22.20	47.70	62.40	21.80	50.70	38.10	-8.00	29.10	-9.00	10.00	-9.00
85002.0	NEWPORT BAY (616)	1388	9/1/94	34.0	-8.00	19.50	57.20	72.90	32.70	56.60	41.70	-8.00	30.60	-9.00	-8.00	-9.00
85003.0	NEWPORT BAY (791)	1389	8/31/94	34.0	-8.00	24.20	61.90	72.80	35.20	45.00	38.30	-8.00	37.00	-9.00	-8.00	-9.00
85004.0	NEWPORT BAY (877)	1390	9/1/94	34.0	-8.00	22.70	48.80	70.10	25.00	43.60	38.70	-8.00	27.70	-9.00	-8.00	-9.00
85005.0	NEWPORT BAY (949)	1391	8/31/94	34.0	7.79	47.30	105.00	132.00	48.90	83.30	73.50	-8.00	59.50	-9.00	17.50	-9.00
85006.0	NEWPORT BAY (1009)	1392	8/30/94	34.0	-8.00	20.00	56.10	83.30	30.60	46.00	41.40	-8.00	29.10	-9.00	10.30	-9.00
85007.0	NEWPORT BAY (431)	1418	9/19/94	36.0	-8.00	5.71	6.10	8.88	-8.00	6.27	5.82	-8.00	7.39	-9.00	-8.00	-9.00
85008.0	NEWPORT BAY (670)	1419	9/20/94	36.0	-8.00	27.90	49.30	65.80	30.10	53.60	43.60	5.25	50.30	-9.00	16.70	-9.00
85009.0	NEWPORT BAY (705)	1420	9/20/94	36.0	-8.00	12.50	21.90	28.50	12.80	25.20	20.30	-8.00	21.60	-9.00	-8.00	-9.00
85010.0	NEWPORT BAY (819)	1421	9/19/94	36.0	-8.00	26.30	62.70	77.60	27.10	59.30	45.70	-8.00	33.80	-9.00	12.10	-9.00
85011.0	NEWPORT BAY (905)	1422	9/20/94	36.0	-8.00	35.90	62.60	79.80	36.40	61.50	51.30	-8.00	55.30	-9.00	20.40	-9.00
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36.0	-8.00	24.30	58.20	69.40	24.30	55.20	42.50	-8.00	28.50	-9.00	11.20	-9.00
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36.0	31.00	115.00	263.00	407.00	160.00	222.00	192.00	-8.00	184.00	-9.00	86.90	-9.00
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36.0	20.00	87.30	320.00	439.00	159.00	388.00	248.00	-8.00	125.00	-9.00	63.90	-9.00
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36.0	94.70	390.00	552.00	800.00	324.00	529.00	488.00	10.00	600.00	-9.00	181.00	-9.00
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36.0	23.40	76.70	142.00	161.00	69.50	71.50	70.70	-8.00	104.00	-9.00	73.30	-9.00
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36.0	7.55	65.60	108.00	150.00	58.70	117.00	98.50	-8.00	110.00	-9.00	35.40	-9.00
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36.0	-8.00	6.72	9.43	18.00	7.57	15.70	11.60	-8.00	9.46	-9.00	-8.00	-9.00
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45.0	75.70	242.00	333.00	483.00	175.00	300.00	243.00	-8.00	264.00	117.00	76.70	15.30
85001.0	NEWPORT BAY (523)	1634	6/20/96	45.0	-8.00	23.20	30.20	40.40	14.90	35.30	24.60	-8.00	27.00	16.80	7.33	-8.00

PAH Concentrations (ppb)

STANUM	STATION	IDORG	DATE	LEG	DMN	FLA	FLU	IND	MNP1	MNP2	MPH1	NPH	PHN	PER	PYR	TMN
80024.1	ANAHEIM BAY- OUTER	85	9/15/92	4.0	-8.00	326.00	49.10	-9.00	5.40	11.30	13.20	-9.00	247.00	24.50	293.00	-9.00
80024.2	ANAHEIM BAY- OUTER	86	9/15/92	4.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
80024.3	ANAHEIM BAY- OUTER	87	9/15/92	4.0	-8.00	180.00	13.00	-9.00	-8.00	8.50	7.90	-9.00	75.00	23.00	170.00	-9.00
80026.1	HUNTINGTON HARBOR- LOWER	91	9/15/92	4.0	-8.00	70.80	-8.00	-9.00	-8.00	-8.00	-8.00	-9.00	23.80	9.00	71.80	-9.00
80026.2	HUNTINGTON HARBOR- LOWER	92	9/15/92	4.0	-8.00	58.00	6.80	-9.00	-8.00	-8.00	-8.00	-9.00	29.00	8.90	56.00	-9.00
80026.3	HUNTINGTON HARBOR- LOWER	93	9/15/92	4.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
80027.1	HUNTINGTON HARBOR- MIDDLE	94	9/15/92	4.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
80027.2	HUNTINGTON HARBOR- MIDDLE	95	9/15/92	4.0	13.00	150.00	-8.00	-9.00	-8.00	8.50	7.10	-9.00	52.00	29.00	170.00	-9.00
80027.3	HUNTINGTON HARBOR- MIDDLE	96	9/15/92	4.0	6.90	160.00	8.20	-9.00	-8.00	8.50	10.00	-9.00	67.00	28.00	180.00	-9.00
80028.1	HUNTINGTON HARBOR- UPPER	97	9/15/92	4.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
80028.2	HUNTINGTON HARBOR- UPPER	98	9/15/92	4.0	5.40	230.00	6.80	-9.00	-8.00	12.00	11.00	-9.00	93.00	38.00	260.00	-9.00
80028.3	HUNTINGTON HARBOR- UPPER	99	9/15/92	4.0	18.00	390.00	8.50	-9.00	-8.00	13.00	19.00	-9.00	140.00	53.00	400.00	-9.00
80025.1	ANAHEIM BAY- OIL ISLAND	88	10/14/92	5.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
80025.2	ANAHEIM BAY- OIL ISLAND	89	10/14/92	5.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
80025.3	ANAHEIM BAY- OIL ISLAND	90	10/14/92	5.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9.0	-8.00	44.80	-8.00	-9.00	-8.00	-8.00	-8.00	-9.00	9.60	10.50	40.80	-9.00
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9.0	-8.00	71.10	-8.00	-9.00	-8.00	-8.00	-8.00	-9.00	23.20	15.30	86.00	-9.00
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9.0	-8.00	139.00	-8.00	-9.00	-8.00	7.10	6.10	-9.00	51.40	32.60	160.00	-9.00
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9.0	-8.00	35.30	-8.00	-9.00	-8.00	-8.00	-8.00	-9.00	12.70	71.00	40.80	-9.00
82040.0	SEAL BEACH NWR	440	12/11/92	9.0	-8.00	94.50	8.20	-9.00	-8.00	-8.00	-8.00	-9.00	39.30	12.90	82.90	-9.00
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17.0	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
82030.0	ANAHEIM BAY-NAVAL RES.- REP 1	1044	2/2/94	25.0	-8.00	99.20	-8.00	52.70	-8.00	6.83	5.14	7.13	38.80	21.90	105.00	-8.00
82030.0	ANAHEIM BAY-NAVAL RES.- REP 2	1045	2/2/94	25.0	-8.00	94.70	-8.00	42.60	-8.00	7.17	-8.00	8.63	35.10	22.20	100.00	-8.00
82030.0	ANAHEIM BAY-NAVAL RES.- REP 3	1046	2/2/94	25.0	-8.00	108.00	5.58	50.00	-8.00	8.13	-8.00	8.65	38.80	23.80	109.00	-8.00
82001.0	ANAHEIM BAY-NAVY MARSH-REP 1	1086	2/16/94	26.0	-8.00	18.90	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	17.30	-8.00
82001.0	ANAHEIM BAY-NAVY MARSH-REP 2	1087	2/16/94	26.0	-8.00	20.90	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	5.24	-8.00	18.30	-8.00
82001.0	ANAHEIM BAY-NAVY MARSH-REP 3	1088	2/16/94	26.0	-8.00	12.20	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	10.20	-8.00
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP1	1089	2/16/94	26.0	-8.00	7.16	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	6.65	-8.00
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP2	1090	2/16/94	26.0	-8.00	8.95	-8.00	-8.00	-8.00	-8.00	-8.00	5.18	-8.00	-8.00	7.24	-8.00
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP3	1091	2/16/94	26.0	-8.00	8.77	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	8.13	-8.00
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 1	1092	2/16/94	26.0	-8.00	14.30	-8.00	-8.00	-8.00	-8.00	-8.00	6.03	-8.00	-8.00	11.10	-8.00
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 2	1093	2/16/94	26.0	-8.00	9.09	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	9.01	-8.00
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 3	1094	2/16/94	26.0	-8.00	18.40	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	5.49	-8.00	16.90	-8.00
82040.0	SEAL BEACH NWR-REP 1	1095	2/16/94	26.0	-8.00	74.30	-8.00	15.10	-8.00	-8.00	-8.00	7.21	30.50	9.50	54.60	-8.00
82040.0	SEAL BEACH NWR-REP 2	1096	2/16/94	26.0	-8.00	121.00	10.30	14.00	-8.00	5.31	9.86	6.91	55.60	9.70	86.70	-8.00

PAH Concentrations (ppb)

STANUM	STATION	IDORG	DATE	LEG	DMN	FLA	FLU	IND	MNP1	MNP2	MPH1	NPH	PHN	PER	PYR	TMN
82040.0	SEAL BEACH NWR-REP 3	1097	2/16/94	26.0	-8.00	18.30	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	7.09	5.37	18.50	-8.00
80024.3	ANAHEIM BAY, OUTER-REP 1	1171	3/31/94	29.0	-8.00	115.00	-8.00	47.30	-8.00	9.42	5.61	11.30	42.80	21.90	118.00	-8.00
80024.3	ANAHEIM BAY, OUTER-REP 2	1172	3/31/94	29.0	-8.00	109.00	6.75	60.50	5.61	9.73	6.12	10.20	56.70	22.30	117.00	-8.00
80024.3	ANAHEIM BAY, OUTER-REP 3	1173	3/31/94	29.0	-8.00	162.00	59.70	62.20	13.20	27.70	12.40	9.95	229.00	23.50	157.00	-8.00
80028.3	HUNTINGTON HARBOR, UPPER-REP 1	1174	3/30/94	29.0	5.28	364.00	12.40	185.00	10.10	25.50	29.90	25.10	149.00	51.60	332.00	-8.00
80028.3	HUNTINGTON HARBOR, UPPER-REP 2	1175	3/30/94	29.0	10.30	321.00	12.20	169.00	11.50	26.40	29.30	28.50	130.00	52.80	296.00	-8.00
80028.3	HUNTINGTON HARBOR, UPPER-REP 3	1176	3/30/94	29.0	5.91	342.00	8.77	166.00	7.19	18.70	29.30	21.30	166.00	45.20	315.00	-8.00
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 1	1177	3/30/94	29.0	-8.00	115.00	-8.00	86.10	-8.00	7.77	6.88	10.90	36.00	25.30	116.00	-8.00
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 2	1178	3/30/94	29.0	-8.00	111.00	-8.00	74.60	-8.00	5.58	7.55	7.45	37.90	21.90	113.00	-8.00
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 3	1179	3/30/94	29.0	-8.00	137.00	-8.00	88.90	-8.00	6.35	9.78	8.55	49.50	25.30	140.00	-8.00
85001.0	NEWPORT BAY (523)	1387	9/1/94	34.0	-8.00	56.00	-8.00	42.10	-8.00	-8.00	-8.00	-8.00	17.20	14.60	58.60	-8.00
85002.0	NEWPORT BAY (616)	1388	9/1/94	34.0	-8.00	51.70	-8.00	52.40	-8.00	-8.00	-8.00	-8.00	15.80	11.20	55.00	-8.00
85003.0	NEWPORT BAY (791)	1389	8/31/94	34.0	-8.00	61.00	-8.00	45.00	-8.00	-8.00	-8.00	-8.00	21.60	14.70	59.80	-8.00
85004.0	NEWPORT BAY (877)	1390	9/1/94	34.0	-8.00	53.00	-8.00	39.90	-8.00	-8.00	-8.00	-8.00	15.50	13.60	58.10	-8.00
85005.0	NEWPORT BAY (949)	1391	8/31/94	34.0	-8.00	105.00	-8.00	76.90	-8.00	5.87	5.29	5.34	39.80	27.70	112.00	-8.00
85006.0	NEWPORT BAY (1009)	1392	8/30/94	34.0	-8.00	44.50	-8.00	45.60	-8.00	-8.00	-8.00	-8.00	16.10	12.50	47.70	-8.00
85007.0	NEWPORT BAY (431)	1418	9/19/94	36.0	-8.00	12.60	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	10.30	-8.00
85008.0	NEWPORT BAY (670)	1419	9/20/94	36.0	-8.00	61.60	-8.00	46.50	-8.00	-8.00	-8.00	-8.00	17.60	14.00	61.50	-8.00
85009.0	NEWPORT BAY (705)	1420	9/20/94	36.0	-8.00	24.80	-8.00	21.40	-8.00	-8.00	-8.00	-8.00	6.62	6.70	26.20	-8.00
85010.0	NEWPORT BAY (819)	1421	9/19/94	36.0	7.75	56.10	-8.00	53.40	-8.00	-8.00	-8.00	-8.00	22.00	16.60	62.20	-8.00
85011.0	NEWPORT BAY (905)	1422	9/20/94	36.0	-8.00	72.50	-8.00	52.50	-8.00	-8.00	-8.00	-8.00	24.80	17.40	75.00	-8.00
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36.0	-8.00	52.70	-8.00	48.30	-8.00	-8.00	-8.00	-8.00	16.30	16.50	59.10	-8.00
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36.0	-8.00	330.00	6.80	226.00	-8.00	5.88	18.10	12.90	106.00	43.50	300.00	-8.00
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36.0	-8.00	270.00	-8.00	311.00	8.11	16.00	17.80	23.80	88.00	136.00	315.00	-8.00
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36.0	33.40	987.00	40.00	463.00	66.10	95.60	45.50	42.80	474.00	161.00	991.00	16.40
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36.0	-8.00	183.00	-8.00	88.90	-8.00	-8.00	12.30	-8.00	73.90	29.40	160.00	-8.00
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36.0	-8.00	181.00	7.07	97.60	-8.00	9.55	8.89	15.80	55.10	31.30	178.00	-8.00
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36.0	-8.00	17.60	-8.00	13.30	-8.00	-8.00	-8.00	-8.00	6.07	5.78	16.80	-8.00
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45.0	7.17	397.00	20.20	273.00	6.12	8.85	28.50	19.20	224.00	82.50	442.00	-8.00
85001.0	NEWPORT BAY (523)	1634	6/20/96	45.0	-8.00	41.50	-8.00	28.00	-8.00	-8.00	-8.00	-8.00	16.00	10.60	44.80	-8.00

PAH Concentrations (ppb)

STANUM	STATION	IDORG	DATE	LEG	TRY	PAHBATCH	SODATAQA
80024.1	ANAHEIM BAY- OUTER	85	9/15/92	4.0	-9.00	73.20	-9
80024.2	ANAHEIM BAY- OUTER	86	9/15/92	4.0	-9.00	-9.00	-9
80024.3	ANAHEIM BAY- OUTER	87	9/15/92	4.0	-9.00	-9.00	-9
80026.1	HUNTINGTON HARBOR- LOWER	91	9/15/92	4.0	-9.00	73.20	-9
80026.2	HUNTINGTON HARBOR- LOWER	92	9/15/92	4.0	-9.00	-9.00	-9
80026.3	HUNTINGTON HARBOR- LOWER	93	9/15/92	4.0	-9.00	-9.00	-9
80027.1	HUNTINGTON HARBOR- MIDDLE	94	9/15/92	4.0	-9.00	-9.00	-9
80027.2	HUNTINGTON HARBOR- MIDDLE	95	9/15/92	4.0	-9.00	-9.00	-9
80027.3	HUNTINGTON HARBOR- MIDDLE	96	9/15/92	4.0	-9.00	-9.00	-9
80028.1	HUNTINGTON HARBOR- UPPER	97	9/15/92	4.0	-9.00	-9.00	-9
80028.2	HUNTINGTON HARBOR- UPPER	98	9/15/92	4.0	-9.00	-9.00	-9
80028.3	HUNTINGTON HARBOR- UPPER	99	9/15/92	4.0	-9.00	-9.00	-9
80025.1	ANAHEIM BAY- OIL ISLAND	88	10/14/92	5.0	-9.00	-9.00	-9
80025.2	ANAHEIM BAY- OIL ISLAND	89	10/14/92	5.0	-9.00	-9.00	-9
80025.3	ANAHEIM BAY- OIL ISLAND	90	10/14/92	5.0	-9.00	-9.00	-9
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9.0	-9.00	72.10	-4
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9.0	-9.00	-9.00	-9
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9.0	-9.00	-9.00	-9
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9.0	-9.00	-9.00	-9
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9.0	-9.00	72.10	-4
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9.0	-9.00	72.80	-4
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9.0	-9.00	72.80	-4
82040.0	SEAL BEACH NWR	440	12/11/92	9.0	-9.00	72.80	-4
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17.0	-9.00	-9.00	-9
82030.0	ANAHEIM BAY-NAVAL RES.- REP 1	1044	2/2/94	25.0	-9.00	73.22	-5
82030.0	ANAHEIM BAY-NAVAL RES.- REP 2	1045	2/2/94	25.0	-9.00	73.23	-5
82030.0	ANAHEIM BAY-NAVAL RES.- REP 3	1046	2/2/94	25.0	-9.00	73.23	-5
82001.0	ANAHEIM BAY-NAVY MARSH-REP 1	1086	2/16/94	26.0	-9.00	73.32	-5
82001.0	ANAHEIM BAY-NAVY MARSH-REP 2	1087	2/16/94	26.0	-9.00	73.27	-5
82001.0	ANAHEIM BAY-NAVY MARSH-REP 3	1088	2/16/94	26.0	-9.00	73.31	-5
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP1	1089	2/16/94	26.0	-9.00	73.32	-5
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP2	1090	2/16/94	26.0	-9.00	73.30	-5
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP3	1091	2/16/94	26.0	-9.00	73.29	-5
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 1	1092	2/16/94	26.0	-9.00	73.31	-5
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 2	1093	2/16/94	26.0	-9.00	73.32	-5
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 3	1094	2/16/94	26.0	-9.00	73.32	-5
82040.0	SEAL BEACH NWR-REP 1	1095	2/16/94	26.0	-9.00	73.31	-5
82040.0	SEAL BEACH NWR-REP 2	1096	2/16/94	26.0	-9.00	73.30	-5

PAH Concentrations (ppb)

STANUM	STATION	IDORG	DATE	LEG	TRY	PAHBATCH	SODATAQA
82040.0	SEAL BEACH NWR-REP 3	1097	2/16/94	26.0	-9.00	73.29	-5
80024.3	ANAHEIM BAY, OUTER-REP 1	1171	3/31/94	29.0	-9.00	73.23	-5
80024.3	ANAHEIM BAY, OUTER-REP 2	1172	3/31/94	29.0	-9.00	73.21	-5
80024.3	ANAHEIM BAY, OUTER-REP 3	1173	3/31/94	29.0	-9.00	73.22	-5
80028.3	HUNTINGTON HARBOR, UPPER-REP 1	1174	3/30/94	29.0	-9.00	73.34	-5
80028.3	HUNTINGTON HARBOR, UPPER-REP 2	1175	3/30/94	29.0	-9.00	73.35	-5
80028.3	HUNTINGTON HARBOR, UPPER-REP 3	1176	3/30/94	29.0	-9.00	73.39	-5
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 1	1177	3/30/94	29.0	-9.00	73.34	-5
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 2	1178	3/30/94	29.0	-9.00	73.38	-5
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 3	1179	3/30/94	29.0	-9.00	73.39	-5
85001.0	NEWPORT BAY (523)	1387	9/1/94	34.0	-9.00	74.40	-5
85002.0	NEWPORT BAY (616)	1388	9/1/94	34.0	-9.00	74.30	-5
85003.0	NEWPORT BAY (791)	1389	8/31/94	34.0	-9.00	74.30	-5
85004.0	NEWPORT BAY (877)	1390	9/1/94	34.0	-9.00	74.40	-5
85005.0	NEWPORT BAY (949)	1391	8/31/94	34.0	-9.00	74.40	-5
85006.0	NEWPORT BAY (1009)	1392	8/30/94	34.0	-9.00	74.40	-5
85007.0	NEWPORT BAY (431)	1418	9/19/94	36.0	-9.00	74.10	-5
85008.0	NEWPORT BAY (670)	1419	9/20/94	36.0	-9.00	74.10	-5
85009.0	NEWPORT BAY (705)	1420	9/20/94	36.0	-9.00	74.20	-5
85010.0	NEWPORT BAY (819)	1421	9/19/94	36.0	-9.00	74.40	-5
85011.0	NEWPORT BAY (905)	1422	9/20/94	36.0	-9.00	74.20	-5
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36.0	-9.00	74.40	-5
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36.0	-9.00	74.20	-5
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36.0	-9.00	74.30	-5
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36.0	-9.00	74.20	-5
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36.0	-9.00	74.20	-5
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36.0	-9.00	74.20	-5
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36.0	-9.00	74.30	-5
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45.0	81.10	75.10	-5
85001.0	NEWPORT BAY (523)	1634	6/20/96	45.0	8.18	75.10	-5

Section 7

Chemistry Summations and Quotients

Chemistry Summations and Quotients

STANUM	STATION	IDORG	DATE	LEG	TTL_CHLR	TTL_DDT	TTL_PCB	LMW_PAH	HMW_PAH	TTL_PAH	ANTIMOQE
80025.1	ANAHEIM BAY- OIL ISLAND	88	10/14/92	5	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000
80025.2	ANAHEIM BAY- OIL ISLAND	89	10/14/92	5	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000
80025.3	ANAHEIM BAY- OIL ISLAND	90	10/14/92	5	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000
80024.1	ANAHEIM BAY- OUTER	85	9/15/92	4	1.300	14.60	13.700	540.50	1388.00	1928.50	0.028
80024.2	ANAHEIM BAY- OUTER	86	9/15/92	4	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000
80024.3	ANAHEIM BAY- OUTER	87	9/15/92	4	2.300	33.90	27.200	146.90	900.00	1046.90	0.280
80024.3	ANAHEIM BAY- OUTER	807	5/27/93	19	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000
80024.3	ANAHEIM BAY, OUTER-REP 1	1171	3/31/94	29	7.121	56.84	37.826	99.73	757.60	857.33	0.432
80024.3	ANAHEIM BAY, OUTER-REP 2	1172	3/31/94	29	7.440	45.49	32.914	131.36	811.40	942.76	0.395
80024.3	ANAHEIM BAY, OUTER-REP 3	1173	3/31/94	29	6.910	49.88	31.204	474.95	985.10	1460.05	0.196
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.- REP 1	1044	2/2/94	25	6.324	43.93	27.588	96.40	739.00	835.40	0.282
82030.0	ANAHEIM BAY-NAVAL RES.- REP 2	1045	2/2/94	25	6.513	44.36	33.694	90.70	686.10	776.80	0.262
82030.0	ANAHEIM BAY-NAVAL RES.- REP 3	1046	2/2/94	25	44.570	120.69	35.822	104.46	771.30	875.76	0.324
82030.0	ANAHEIM BAY-NAVAL RES.-REP 1	1195	4/12/94	30	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 2	1196	4/12/94	30	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 3	1197	4/12/94	30	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000
82030.0	ANAHEIM BAY-NAVAL RESERVE	772	4/22/93	17	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000
82030.0	ANAHEIM BAY-NAVAL RESERVE	1335	5/19/94	32	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9	0.500	12.30	11.400	32.90	163.40	196.30	0.200
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000
82002.0	ANAHEIM BAY-NAVY MARSH #2	809	5/27/93	19	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP1	1089	2/16/94	26	1.250	7.44	9.000	30.00	58.59	88.59	0.386
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP2	1090	2/16/94	26	1.250	6.82	9.000	32.68	58.27	90.95	0.282
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP3	1091	2/16/94	26	1.250	6.28	9.722	30.00	64.48	94.48	0.309
82001.0	ANAHEIM BAY-NAVY MARSH-REP 1	1086	2/16/94	26	1.813	13.59	10.682	30.00	118.60	148.60	0.156
82001.0	ANAHEIM BAY-NAVY MARSH-REP 2	1087	2/16/94	26	1.541	10.00	9.000	32.74	112.85	145.59	0.278
82001.0	ANAHEIM BAY-NAVY MARSH-REP 3	1088	2/16/94	26	1.250	6.54	10.502	30.00	65.62	95.62	0.416
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000
82040.0	SEAL BEACH NWR	440	12/11/92	9	0.500	12.10	11.100	84.60	318.10	402.70	0.292
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE.	771	4/22/93	17	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 1	1092	2/16/94	26	1.250	11.65	17.956	33.53	76.97	110.50	0.388
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 2	1093	2/16/94	26	1.827	10.15	9.000	30.00	69.27	99.27	0.254
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 3	1094	2/16/94	26	2.369	15.96	10.400	32.99	138.75	171.74	0.380
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000

Chemistry Summations and Quotients

STANUM	STATION	IDORG	DATE	LEG	TTL_CHLR	TTL_DDT	TTL_PCB	LMW_PAH	HMW_PAH	TTL_PAH	ANTIMOQE
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000
82040.0	SEAL BEACH NWR-REP 1	1095	2/16/94	26	1.250	11.39	9.708	69.05	256.78	325.83	0.281
82040.0	SEAL BEACH NWR-REP 2	1096	2/16/94	26	1.250	15.01	10.974	139.78	372.70	512.48	0.258
82040.0	SEAL BEACH NWR-REP 3	1097	2/16/94	26	1.250	10.14	22.316	34.59	118.75	153.34	0.203
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000
82024.0	BOLSA BAY-MOUTH OF EGGW FLOOD	770	4/21/93	17	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9	1.700	20.30	24.300	32.70	270.40	303.10	0.736
82039.0	BOLSA CHICA ECOL RESERVE-REP 1	1204	4/12/94	30	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000
82039.0	BOLSA CHICA ECOL RESERVE-REP 2	1205	4/12/94	30	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000
82039.0	BOLSA CHICA ECOL RESERVE-REP 3	1206	4/12/94	30	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000
80026.1	Huntington Harbor- Lower	91	9/15/92	4	3.600	16.50	15.700	43.80	272.00	315.80	0.044
80026.2	Huntington Harbor- Lower	92	9/15/92	4	1.600	14.00	9.000	59.50	231.70	291.20	0.200
80026.3	Huntington Harbor- Lower	93	9/15/92	4	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000
80027.1	Huntington Harbor- Middle	94	9/15/92	4	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000
80027.2	Huntington Harbor- Middle	95	9/15/92	4	9.200	96.20	65.400	107.60	714.00	821.60	0.240
80027.3	Huntington Harbor- Middle	96	9/15/92	4	9.300	91.80	56.800	118.00	754.00	872.00	0.240
80028.1	Huntington Harbor- Upper	97	9/15/92	4	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000
80028.2	Huntington Harbor- Upper	98	9/15/92	4	17.400	103.70	65.200	151.70	1011.00	1162.70	0.240
80028.3	Huntington Harbor- Upper	99	9/15/92	4	16.400	114.50	78.000	227.70	1607.00	1834.70	0.200
80028.3	HUNTINGTON HARBOR, UPPER-REP 1	1174	3/30/94	29	41.700	167.63	87.746	292.30	2127.30	2419.60	0.260
80028.3	HUNTINGTON HARBOR, UPPER-REP 2	1175	3/30/94	29	40.720	194.52	71.374	283.95	1961.70	2245.65	0.194
80028.3	HUNTINGTON HARBOR, UPPER-REP 3	1176	3/30/94	29	36.910	181.95	72.020	289.05	2199.70	2488.75	0.187
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 1	1177	3/30/94	29	15.620	81.16	53.224	81.55	900.10	981.65	0.142
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 2	1178	3/30/94	29	14.840	83.01	49.736	83.56	933.70	1017.26	0.138
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 3	1179	3/30/94	29	17.390	112.21	56.180	100.25	1122.40	1222.65	0.152
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000
82009.0	HUNTINGTON HARBOR-HAR. LA	808	5/27/93	19	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9	4.000	36.20	44.200	43.20	311.90	355.10	0.308
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 1	1201	4/12/94	30	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 2	1202	4/12/94	30	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 3	1203	4/12/94	30	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9	9.000	100.80	89.000	84.10	704.00	788.10	0.396
85006.0	NEWPORT BAY (1009)	1392	8/30/94	34	1.921	47.44	82.080	43.60	467.10	510.70	0.271
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36	6.110	114.56	25.918	43.80	490.20	534.00	0.404
85007.0	NEWPORT BAY (431)	1418	9/19/94	36	1.081	31.43	9.000	30.00	76.80	106.80	0.226
85001.0	NEWPORT BAY (523)	1387	9/1/94	34	5.600	72.13	18.714	44.70	453.30	498.00	0.278
85001.0	NEWPORT BAY (523)	1634	6/20/96	45	2.584	30.86	11.208	43.50	327.83	371.33	0.094

Chemistry Summations and Quotients

STANUM	STATION	IDORG	DATE	LEG	TTL_CHLR	TTL_DDT	TTL_PCB	LMW_PAH	HMW_PAH	TTL_PAH	ANTIMOQE
85001.0	NEWPORT BAY (523)	1788	8/20/97	54	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000
85002.0	NEWPORT BAY (616)	1388	9/1/94	34	3.330	75.22	56.064	43.30	434.90	478.20	0.326
85008.0	NEWPORT BAY (670)	1419	9/20/94	36	6.670	94.46	18.350	47.85	520.90	568.75	0.251
85009.0	NEWPORT BAY (705)	1420	9/20/94	36	2.740	38.31	20.944	34.12	206.70	240.82	0.214
85003.0	NEWPORT BAY (791)	1389	8/31/94	34	1.966	37.25	46.320	49.10	459.90	509.00	0.230
85010.0	NEWPORT BAY (819)	1421	9/19/94	36	4.870	93.94	32.770	54.75	532.90	587.65	0.392
85004.0	NEWPORT BAY (877)	1390	9/1/94	34	3.970	70.25	65.842	43.00	407.60	450.60	0.260
85011.0	NEWPORT BAY (905)	1422	9/20/94	36	6.780	88.75	23.152	52.30	620.60	672.90	0.344
85005.0	NEWPORT BAY (949)	1391	8/31/94	34	4.480	81.30	43.872	81.59	888.60	970.19	0.448
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36	31.250	115.22	113.008	960.85	6466.00	7426.85	0.568
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36	22.580	65.66	189.256	193.16	2862.20	3055.36	0.484
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36	3.860	53.78	368.826	209.04	2529.40	2738.44	0.528
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45	5.763	55.70	358.876	428.44	3311.20	3739.64	0.424
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36	2.190	30.68	9.000	33.57	126.26	159.83	0.158
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36	10.930	88.97	31.748	118.96	1231.10	1350.06	0.396
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36	1.711	27.31	25.878	132.10	1230.00	1362.10	0.217
86001.0	SAN DIEGO CREEK- CAMPUS	1789	8/20/97	54	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000
86002.0	SAN DIEGO CREEK- MACARTHUR	1790	8/20/97	54	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000
86003.0	SANTA ANA/DELHI CHANNEL-BRIDGE	1791	8/20/97	54	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000
86004.0	SANTA ANA/DELHI CHANNEL-OUTER	1792	8/20/97	54	-9.000	-9.00	-9.000	-9.00	-9.00	-9.00	-9.000

STANUM	STATION	IDORG	DATE	LEG	ARSENIQE	ARSENIQP	CADMIUQE	CADMIUQP	CHROMIQE	CHROMIQP
80025.1	ANAHEIM BAY- OIL ISLAND	88	10/14/92	5	-9.000	-9.000	-9.0000	-9.0000	-9.000	-9.000
80025.2	ANAHEIM BAY- OIL ISLAND	89	10/14/92	5	-9.000	-9.000	-9.0000	-9.0000	-9.000	-9.000
80025.3	ANAHEIM BAY- OIL ISLAND	90	10/14/92	5	-9.000	-9.000	-9.0000	-9.0000	-9.000	-9.000
80024.1	ANAHEIM BAY- OUTER	85	9/15/92	4	0.070	0.118	0.0219	0.0499	0.100	0.231
80024.2	ANAHEIM BAY- OUTER	86	9/15/92	4	-9.000	-9.000	-9.0000	-9.0000	-9.000	-9.000
80024.3	ANAHEIM BAY- OUTER	87	9/15/92	4	0.096	0.161	0.0313	0.0713	0.132	0.305
80024.3	ANAHEIM BAY- OUTER	807	5/27/93	19	-9.000	-9.000	-9.0000	-9.0000	-9.000	-9.000
80024.3	ANAHEIM BAY, OUTER-REP 1	1171	3/31/94	29	0.143	0.240	0.0445	0.1014	0.183	0.422
80024.3	ANAHEIM BAY, OUTER-REP 2	1172	3/31/94	29	0.143	0.240	0.0436	0.0995	0.184	0.425
80024.3	ANAHEIM BAY, OUTER-REP 3	1173	3/31/94	29	0.171	0.288	0.0335	0.0765	0.172	0.396
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9	-9.000	-9.000	-9.0000	-9.0000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.- REP 1	1044	2/2/94	25	0.143	0.240	0.0322	0.0734	0.156	0.360
82030.0	ANAHEIM BAY-NAVAL RES.- REP 2	1045	2/2/94	25	0.143	0.240	0.0282	0.0644	0.151	0.347
82030.0	ANAHEIM BAY-NAVAL RES.- REP 3	1046	2/2/94	25	0.143	0.240	0.0306	0.0698	0.178	0.411
82030.0	ANAHEIM BAY-NAVAL RES.-REP 1	1195	4/12/94	30	-9.000	-9.000	-9.0000	-9.0000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 2	1196	4/12/94	30	-9.000	-9.000	-9.0000	-9.0000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 3	1197	4/12/94	30	-9.000	-9.000	-9.0000	-9.0000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9	-9.000	-9.000	-9.0000	-9.0000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RESERVE	772	4/22/93	17	-9.000	-9.000	-9.0000	-9.0000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RESERVE	1335	5/19/94	32	-9.000	-9.000	-9.0000	-9.0000	-9.000	-9.000
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9	0.077	0.130	0.0177	0.0404	0.111	0.256
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9	-9.000	-9.000	-9.0000	-9.0000	-9.000	-9.000
82002.0	ANAHEIM BAY-NAVY MARSH #2	809	5/27/93	19	-9.000	-9.000	-9.0000	-9.0000	-9.000	-9.000
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP1	1089	2/16/94	26	0.214	0.361	0.0250	0.0570	0.152	0.350
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP2	1090	2/16/94	26	0.150	0.252	0.0203	0.0463	0.141	0.325
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP3	1091	2/16/94	26	0.147	0.248	0.0264	0.0601	0.164	0.377
82001.0	ANAHEIM BAY-NAVY MARSH-REP 1	1086	2/16/94	26	0.095	0.160	0.0260	0.0594	0.111	0.256
82001.0	ANAHEIM BAY-NAVY MARSH-REP 2	1087	2/16/94	26	0.086	0.145	0.0204	0.0466	0.089	0.205
82001.0	ANAHEIM BAY-NAVY MARSH-REP 3	1088	2/16/94	26	0.076	0.129	0.0141	0.0321	0.156	0.359
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9	-9.000	-9.000	-9.0000	-9.0000	-9.000	-9.000
82040.0	SEAL BEACH NWR	440	12/11/92	9	0.089	0.149	0.0156	0.0356	0.111	0.256
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9	-9.000	-9.000	-9.0000	-9.0000	-9.000	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE.	771	4/22/93	17	-9.000	-9.000	-9.0000	-9.0000	-9.000	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 1	1092	2/16/94	26	0.184	0.310	0.0182	0.0416	0.162	0.373
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 2	1093	2/16/94	26	0.376	0.632	0.0250	0.0570	0.164	0.377
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 3	1094	2/16/94	26	0.236	0.397	0.0343	0.0781	0.176	0.406
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9	-9.000	-9.000	-9.0000	-9.0000	-9.000	-9.000
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9	-9.000	-9.000	-9.0000	-9.0000	-9.000	-9.000

Chemistry Summations and Quotients

STANUM	STATION	IDORG	DATE	LEG	ARSENIQE	ARSENIQP	CADMIUQE	CADMIUQP	CHROMIQE	CHROMIQP
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17	-9.000	-9.000	-9.0000	-9.0000	-9.000	-9.000
82040.0	SEAL BEACH NWR-REP 1	1095	2/16/94	26	0.104	0.176	0.0209	0.0477	0.111	0.256
82040.0	SEAL BEACH NWR-REP 2	1096	2/16/94	26	0.129	0.217	0.0247	0.0563	0.128	0.294
82040.0	SEAL BEACH NWR-REP 3	1097	2/16/94	26	0.102	0.172	0.0227	0.0518	0.111	0.255
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9	-9.000	-9.000	-9.0000	-9.0000	-9.000	-9.000
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9	-9.000	-9.000	-9.0000	-9.0000	-9.000	-9.000
82024.0	BOLSA BAY-MOUTH OF EGGW FLOOD	770	4/21/93	17	-9.000	-9.000	-9.0000	-9.0000	-9.000	-9.000
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9	0.121	0.204	0.0281	0.0641	0.203	0.468
82039.0	BOLSA CHICA ECOL RESERVE-REP 1	1204	4/12/94	30	-9.000	-9.000	-9.0000	-9.0000	-9.000	-9.000
82039.0	BOLSA CHICA ECOL RESERVE-REP 2	1205	4/12/94	30	-9.000	-9.000	-9.0000	-9.0000	-9.000	-9.000
82039.0	BOLSA CHICA ECOL RESERVE-REP 3	1206	4/12/94	30	-9.000	-9.000	-9.0000	-9.0000	-9.000	-9.000
80026.1	Huntington Harbor- Lower	91	9/15/92	4	0.060	0.101	0.0198	0.0451	0.092	0.212
80026.2	Huntington Harbor- Lower	92	9/15/92	4	0.029	0.048	0.0094	0.0214	0.068	0.156
80026.3	Huntington Harbor- Lower	93	9/15/92	4	-9.000	-9.000	-9.0000	-9.0000	-9.000	-9.000
80027.1	Huntington Harbor- Middle	94	9/15/92	4	-9.000	-9.000	-9.0000	-9.0000	-9.000	-9.000
80027.2	Huntington Harbor- Middle	95	9/15/92	4	0.094	0.159	0.0281	0.0641	0.162	0.374
80027.3	Huntington Harbor- Middle	96	9/15/92	4	0.086	0.144	0.0354	0.0808	0.154	0.355
80028.1	Huntington Harbor- Upper	97	9/15/92	4	-9.000	-9.000	-9.0000	-9.0000	-9.000	-9.000
80028.2	Huntington Harbor- Upper	98	9/15/92	4	0.070	0.118	0.0646	0.1473	0.124	0.287
80028.3	Huntington Harbor- Upper	99	9/15/92	4	0.089	0.149	0.0771	0.1758	0.132	0.305
80028.3	HUNTINGTON HARBOR, UPPER-REP 1	1174	3/30/94	29	0.115	0.194	0.1271	0.2898	0.133	0.307
80028.3	HUNTINGTON HARBOR, UPPER-REP 2	1175	3/30/94	29	0.111	0.188	0.1521	0.3468	0.129	0.298
80028.3	HUNTINGTON HARBOR, UPPER-REP 3	1176	3/30/94	29	0.121	0.204	0.1250	0.2850	0.138	0.318
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 1	1177	3/30/94	29	0.144	0.243	0.0398	0.0907	0.165	0.380
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 2	1178	3/30/94	29	0.121	0.204	0.0436	0.0995	0.161	0.370
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 3	1179	3/30/94	29	0.129	0.217	0.0482	0.1100	0.162	0.373
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9	-9.000	-9.000	-9.0000	-9.0000	-9.000	-9.000
82009.0	HUNTINGTON HARBOR-HAR. LA	808	5/27/93	19	-9.000	-9.000	-9.0000	-9.0000	-9.000	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9	0.077	0.130	0.0156	0.0356	0.135	0.312
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 1	1201	4/12/94	30	-9.000	-9.000	-9.0000	-9.0000	-9.000	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 2	1202	4/12/94	30	-9.000	-9.000	-9.0000	-9.0000	-9.000	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 3	1203	4/12/94	30	-9.000	-9.000	-9.0000	-9.0000	-9.000	-9.000
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9	0.109	0.183	0.0271	0.0618	0.181	0.418
85006.0	NEWPORT BAY (1009)	1392	8/30/94	34	0.113	0.189	0.0493	0.1124	0.161	0.372
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36	0.126	0.211	0.1115	0.2542	0.209	0.483
85007.0	NEWPORT BAY (431)	1418	9/19/94	36	0.035	0.059	0.0236	0.0539	0.066	0.151
85001.0	NEWPORT BAY (523)	1387	9/1/94	34	0.080	0.134	0.1063	0.2423	0.166	0.382
85001.0	NEWPORT BAY (523)	1634	6/20/96	45	0.087	0.147	0.0735	0.1677	0.074	0.171

Chemistry Summations and Quotients

STANUM	STATION	IDORG	DATE	LEG	ARSENIQE	ARSENIQP	CADMIUQE	CADMIUQP	CHROMIQE	CHROMIQP
85001.0	NEWPORT BAY (523)	1788	8/20/97	54	-9.000	-9.000	-9.0000	-9.0000	-9.000	-9.000
85002.0	NEWPORT BAY (616)	1388	9/1/94	34	0.096	0.162	0.0675	0.1539	0.178	0.410
85008.0	NEWPORT BAY (670)	1419	9/20/94	36	0.089	0.150	0.0861	0.1964	0.131	0.303
85009.0	NEWPORT BAY (705)	1420	9/20/94	36	0.070	0.117	0.0786	0.1793	0.115	0.265
85003.0	NEWPORT BAY (791)	1389	8/31/94	34	0.118	0.198	0.0333	0.0760	0.106	0.244
85010.0	NEWPORT BAY (819)	1421	9/19/94	36	0.100	0.169	0.1034	0.2359	0.236	0.546
85004.0	NEWPORT BAY (877)	1390	9/1/94	34	0.117	0.196	0.0638	0.1454	0.162	0.374
85011.0	NEWPORT BAY (905)	1422	9/20/94	36	0.134	0.225	0.0927	0.2114	0.144	0.332
85005.0	NEWPORT BAY (949)	1391	8/31/94	34	0.104	0.175	0.0883	0.2014	0.225	0.518
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36	0.151	0.255	0.1740	0.3967	0.152	0.351
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36	0.147	0.248	0.1281	0.2922	0.208	0.479
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36	0.354	0.596	0.0735	0.1677	0.188	0.434
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45	0.249	0.418	0.0924	0.2107	0.139	0.321
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36	0.068	0.115	0.0543	0.1238	0.083	0.192
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36	0.105	0.176	0.1219	0.2779	0.138	0.319
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36	0.164	0.276	0.0406	0.0926	0.096	0.223
86001.0	SAN DIEGO CREEK- CAMPUS	1789	8/20/97	54	-9.000	-9.000	-9.0000	-9.0000	-9.000	-9.000
86002.0	SAN DIEGO CREEK- MACARTHUR	1790	8/20/97	54	-9.000	-9.000	-9.0000	-9.0000	-9.000	-9.000
86003.0	SANTA ANA/DELHI CHANNEL-BRIDGE	1791	8/20/97	54	-9.000	-9.000	-9.0000	-9.0000	-9.000	-9.000
86004.0	SANTA ANA/DELHI CHANNEL-OUTER	1792	8/20/97	54	-9.000	-9.000	-9.0000	-9.0000	-9.000	-9.000

Chemistry Summations and Quotients

STANUM	STATION	IDORG	DATE	LEG	COPPERQE	COPPERQP	LEADQE	LEADQP	MERCURQE	MERCURQP	NICKELQE
80025.1	ANAHEIM BAY- OIL ISLAND	88	10/14/92	5	-9.00	-9.00	-9.000	-9.000	-9.0000	-9.0000	-9.000
80025.2	ANAHEIM BAY- OIL ISLAND	89	10/14/92	5	-9.00	-9.00	-9.000	-9.000	-9.0000	-9.0000	-9.000
80025.3	ANAHEIM BAY- OIL ISLAND	90	10/14/92	5	-9.00	-9.00	-9.000	-9.000	-9.0000	-9.0000	-9.000
80024.1	ANAHEIM BAY- OUTER	85	9/15/92	4	0.08	0.20	0.127	0.246	0.0634	0.0647	0.349
80024.2	ANAHEIM BAY- OUTER	86	9/15/92	4	-9.00	-9.00	-9.000	-9.000	-9.0000	-9.0000	-9.000
80024.3	ANAHEIM BAY- OUTER	87	9/15/92	4	0.16	0.39	0.161	0.312	0.2113	0.2155	0.523
80024.3	ANAHEIM BAY- OUTER	807	5/27/93	19	-9.00	-9.00	-9.000	-9.000	-9.0000	-9.0000	-9.000
80024.3	ANAHEIM BAY, OUTER-REP 1	1171	3/31/94	29	0.17	0.43	0.134	0.260	0.1187	0.1211	0.599
80024.3	ANAHEIM BAY, OUTER-REP 2	1172	3/31/94	29	0.16	0.41	0.135	0.262	0.0838	0.0855	0.583
80024.3	ANAHEIM BAY, OUTER-REP 3	1173	3/31/94	29	0.17	0.42	0.120	0.234	0.1111	0.1134	0.599
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9	-9.00	-9.00	-9.000	-9.000	-9.0000	-9.0000	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.- REP 1	1044	2/2/94	25	0.17	0.43	0.154	0.300	0.1097	0.1119	0.610
82030.0	ANAHEIM BAY-NAVAL RES.- REP 2	1045	2/2/94	25	0.17	0.43	0.131	0.254	0.1286	0.1312	0.626
82030.0	ANAHEIM BAY-NAVAL RES.- REP 3	1046	2/2/94	25	0.19	0.48	0.203	0.395	0.1345	0.1372	0.647
82030.0	ANAHEIM BAY-NAVAL RES.-REP 1	1195	4/12/94	30	-9.00	-9.00	-9.000	-9.000	-9.0000	-9.0000	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 2	1196	4/12/94	30	-9.00	-9.00	-9.000	-9.000	-9.0000	-9.0000	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 3	1197	4/12/94	30	-9.00	-9.00	-9.000	-9.000	-9.0000	-9.0000	-9.000
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9	-9.00	-9.00	-9.000	-9.000	-9.0000	-9.0000	-9.000
82030.0	ANAHEIM BAY-NAVAL RESERVE	772	4/22/93	17	-9.00	-9.00	-9.000	-9.000	-9.0000	-9.0000	-9.000
82030.0	ANAHEIM BAY-NAVAL RESERVE	1335	5/19/94	32	-9.00	-9.00	-9.000	-9.000	-9.0000	-9.0000	-9.000
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9	0.10	0.25	0.106	0.207	0.0535	0.0546	0.349
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9	-9.00	-9.00	-9.000	-9.000	-9.0000	-9.0000	-9.000
82002.0	ANAHEIM BAY-NAVY MARSH #2	809	5/27/93	19	-9.00	-9.00	-9.000	-9.000	-9.0000	-9.0000	-9.000
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP1	1089	2/16/94	26	0.12	0.31	0.113	0.219	0.0283	0.0289	0.560
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP2	1090	2/16/94	26	0.11	0.26	0.077	0.150	0.0211	0.0216	0.529
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP3	1091	2/16/94	26	0.13	0.33	0.107	0.208	0.0211	0.0216	0.599
82001.0	ANAHEIM BAY-NAVY MARSH-REP 1	1086	2/16/94	26	0.09	0.23	0.103	0.200	0.0211	0.0216	0.421
82001.0	ANAHEIM BAY-NAVY MARSH-REP 2	1087	2/16/94	26	0.07	0.17	0.076	0.148	0.0211	0.0216	0.432
82001.0	ANAHEIM BAY-NAVY MARSH-REP 3	1088	2/16/94	26	0.10	0.25	0.100	0.193	0.0356	0.0364	0.581
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9	-9.00	-9.00	-9.000	-9.000	-9.0000	-9.0000	-9.000
82040.0	SEAL BEACH NWR	440	12/11/92	9	0.09	0.23	0.082	0.159	0.0521	0.0532	0.349
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9	-9.00	-9.00	-9.000	-9.000	-9.0000	-9.0000	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE.	771	4/22/93	17	-9.00	-9.00	-9.000	-9.000	-9.0000	-9.0000	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 1	1092	2/16/94	26	0.13	0.33	0.078	0.152	0.0211	0.0216	0.628
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 2	1093	2/16/94	26	0.15	0.38	0.095	0.185	0.0211	0.0216	0.607
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 3	1094	2/16/94	26	0.17	0.42	0.097	0.188	0.0554	0.0565	0.618
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9	-9.00	-9.00	-9.000	-9.000	-9.0000	-9.0000	-9.000
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9	-9.00	-9.00	-9.000	-9.000	-9.0000	-9.0000	-9.000

Chemistry Summations and Quotients

STANUM	STATION	IDORG	DATE	LEG	COPPERQE	COPPERQP	LEADQE	LEADQP	MERCURQE	MERCURQP	NICKELQE
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17	-9.00	-9.00	-9.000	-9.000	-9.0000	-9.0000	-9.000
82040.0	SEAL BEACH NWR-REP 1	1095	2/16/94	26	0.08	0.19	0.102	0.198	0.0497	0.0507	0.391
82040.0	SEAL BEACH NWR-REP 2	1096	2/16/94	26	0.10	0.24	0.094	0.183	0.0680	0.0694	0.450
82040.0	SEAL BEACH NWR-REP 3	1097	2/16/94	26	0.08	0.21	0.146	0.284	0.0694	0.0708	0.440
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9	-9.00	-9.00	-9.000	-9.000	-9.0000	-9.0000	-9.000
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9	-9.00	-9.00	-9.000	-9.000	-9.0000	-9.0000	-9.000
82024.0	BOLSA BAY-MOUTH OF EGGW FLOOD	770	4/21/93	17	-9.00	-9.00	-9.000	-9.000	-9.0000	-9.0000	-9.000
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9	0.11	0.27	0.283	0.549	0.0592	0.0603	0.465
82039.0	BOLSA CHICA ECOL RESERVE-REP 1	1204	4/12/94	30	-9.00	-9.00	-9.000	-9.000	-9.0000	-9.0000	-9.000
82039.0	BOLSA CHICA ECOL RESERVE-REP 2	1205	4/12/94	30	-9.00	-9.00	-9.000	-9.000	-9.0000	-9.0000	-9.000
82039.0	BOLSA CHICA ECOL RESERVE-REP 3	1206	4/12/94	30	-9.00	-9.00	-9.000	-9.000	-9.0000	-9.0000	-9.000
80026.1	Huntington Harbor- Lower	91	9/15/92	4	0.10	0.24	0.151	0.293	0.0521	0.0532	0.310
80026.2	Huntington Harbor- Lower	92	9/15/92	4	0.05	0.12	0.128	0.250	0.0563	0.0575	0.213
80026.3	Huntington Harbor- Lower	93	9/15/92	4	-9.00	-9.00	-9.000	-9.000	-9.0000	-9.0000	-9.000
80027.1	Huntington Harbor- Middle	94	9/15/92	4	-9.00	-9.00	-9.000	-9.000	-9.0000	-9.0000	-9.000
80027.2	Huntington Harbor- Middle	95	9/15/92	4	0.29	0.71	0.353	0.686	0.2113	0.2155	0.562
80027.3	Huntington Harbor- Middle	96	9/15/92	4	0.25	0.63	0.261	0.508	0.2254	0.2299	0.523
80028.1	Huntington Harbor- Upper	97	9/15/92	4	-9.00	-9.00	-9.000	-9.000	-9.0000	-9.0000	-9.000
80028.2	Huntington Harbor- Upper	98	9/15/92	4	0.22	0.55	0.330	0.642	0.2958	0.3017	0.465
80028.3	Huntington Harbor- Upper	99	9/15/92	4	0.27	0.67	0.326	0.633	0.3099	0.3161	0.504
80028.3	HUNTINGTON HARBOR, UPPER-REP 1	1174	3/30/94	29	0.21	0.52	0.352	0.685	0.1944	0.1983	0.591
80028.3	HUNTINGTON HARBOR, UPPER-REP 2	1175	3/30/94	29	0.19	0.48	0.275	0.534	0.2338	0.2385	0.638
80028.3	HUNTINGTON HARBOR, UPPER-REP 3	1176	3/30/94	29	0.21	0.53	0.308	0.598	0.1746	0.1782	0.616
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 1	1177	3/30/94	29	0.24	0.60	0.209	0.406	0.1972	0.2011	0.669
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 2	1178	3/30/94	29	0.23	0.58	0.253	0.492	0.1845	0.1882	0.612
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 3	1179	3/30/94	29	0.23	0.59	0.235	0.457	0.1901	0.1940	0.645
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9	-9.00	-9.00	-9.000	-9.000	-9.0000	-9.0000	-9.000
82009.0	HUNTINGTON HARBOR-HAR. LA	808	5/27/93	19	-9.00	-9.00	-9.000	-9.000	-9.0000	-9.0000	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9	0.20	0.50	0.250	0.485	0.1141	0.1164	0.388
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 1	1201	4/12/94	30	-9.00	-9.00	-9.000	-9.000	-9.0000	-9.0000	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 2	1202	4/12/94	30	-9.00	-9.00	-9.000	-9.000	-9.0000	-9.0000	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 3	1203	4/12/94	30	-9.00	-9.00	-9.000	-9.000	-9.0000	-9.0000	-9.000
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9	0.31	0.78	0.459	0.891	0.1465	0.1494	0.601
85006.0	NEWPORT BAY (1009)	1392	8/30/94	34	0.33	0.83	0.154	0.300	2.5493	2.6006	0.405
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36	0.22	0.56	0.132	0.257	0.2183	0.2227	0.556
85007.0	NEWPORT BAY (431)	1418	9/19/94	36	0.02	0.05	0.065	0.127	0.0211	0.0216	0.132
85001.0	NEWPORT BAY (523)	1387	9/1/94	34	0.14	0.36	0.101	0.196	0.0904	0.0922	0.453
85001.0	NEWPORT BAY (523)	1634	6/20/96	45	0.07	0.19	0.095	0.185	0.0531	0.0542	0.275

Chemistry Summations and Quotients

STANUM	STATION	IDORG	DATE	LEG	COPPERQE	COPPERQP	LEADQE	LEADQP	MERCURQE	MERCURQP	NICKELQE
85001.0	NEWPORT BAY (523)	1788	8/20/97	54	-9.00	-9.00	-9.000	-9.000	-9.0000	-9.0000	-9.000
85002.0	NEWPORT BAY (616)	1388	9/1/94	34	0.28	0.70	0.162	0.316	1.0831	1.1049	0.461
85008.0	NEWPORT BAY (670)	1419	9/20/94	36	0.15	0.38	0.094	0.182	0.1093	0.1115	0.355
85009.0	NEWPORT BAY (705)	1420	9/20/94	36	0.13	0.33	0.083	0.162	0.1155	0.1178	0.266
85003.0	NEWPORT BAY (791)	1389	8/31/94	34	0.16	0.39	0.111	0.215	0.4831	0.4928	0.273
85010.0	NEWPORT BAY (819)	1421	9/19/94	36	0.30	0.76	0.153	0.297	0.3338	0.3405	0.649
85004.0	NEWPORT BAY (877)	1390	9/1/94	34	0.22	0.56	0.111	0.217	0.5408	0.5517	0.424
85011.0	NEWPORT BAY (905)	1422	9/20/94	36	0.18	0.45	0.068	0.132	0.1972	0.2011	0.399
85005.0	NEWPORT BAY (949)	1391	8/31/94	34	0.34	0.85	0.172	0.335	0.6310	0.6437	0.616
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36	0.37	0.93	0.523	1.016	0.6239	0.6365	0.388
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36	0.89	2.22	0.448	0.870	2.8732	2.9310	0.585
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36	1.87	4.67	0.358	0.696	12.3099	12.5575	0.486
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45	1.77	4.43	0.436	0.847	10.7324	10.9483	0.537
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36	0.04	0.10	0.072	0.141	0.0211	0.0216	0.202
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36	0.14	0.34	0.136	0.264	0.1042	0.1063	0.500
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36	0.11	0.27	0.116	0.225	0.5592	0.5704	0.298
86001.0	SAN DIEGO CREEK- CAMPUS	1789	8/20/97	54	-9.00	-9.00	-9.000	-9.000	-9.0000	-9.0000	-9.000
86002.0	SAN DIEGO CREEK- MACARTHUR	1790	8/20/97	54	-9.00	-9.00	-9.000	-9.000	-9.0000	-9.0000	-9.000
86003.0	SANTA ANA/DELHI CHANNEL-BRIDGE	1791	8/20/97	54	-9.00	-9.00	-9.000	-9.000	-9.0000	-9.0000	-9.000
86004.0	SANTA ANA/DELHI CHANNEL-OUTER	1792	8/20/97	54	-9.00	-9.00	-9.000	-9.000	-9.0000	-9.0000	-9.000

Chemistry Summations and Quotients

STANUM	STATION	IDORG	DATE	LEG	NICKELQP	SILVERQE	SILVERQP	ZINCQE	ZINCQP	METSUMQE	METSUMQP
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17	-9.000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000
82040.0	SEAL BEACH NWR-REP 1	1095	2/16/94	26	0.472	0.0235	0.0492	0.2266	0.3428	0.9987	1.3104
82040.0	SEAL BEACH NWR-REP 2	1096	2/16/94	26	0.542	0.0278	0.0582	0.2659	0.4022	1.0954	1.5201
82040.0	SEAL BEACH NWR-REP 3	1097	2/16/94	26	0.530	0.0265	0.0554	0.2415	0.3653	1.0021	1.4643
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9	-9.000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9	-9.000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000
82024.0	BOLSA BAY-MOUTH OF EGGW FLOOD	770	4/21/93	17	-9.000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9	0.561	0.0189	0.0395	0.2439	0.3690	1.8031	2.0239
82039.0	BOLSA CHICA ECOL RESERVE-REP 1	1204	4/12/94	30	-9.000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000
82039.0	BOLSA CHICA ECOL RESERVE-REP 2	1205	4/12/94	30	-9.000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000
82039.0	BOLSA CHICA ECOL RESERVE-REP 3	1206	4/12/94	30	-9.000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000
80026.1	Huntington Harbor- Lower	91	9/15/92	4	0.374	0.0189	0.0395	0.2927	0.4428	0.8305	1.4266
80026.2	Huntington Harbor- Lower	92	9/15/92	4	0.257	0.0757	0.1582	0.1780	0.2694	0.7944	1.0805
80026.3	Huntington Harbor- Lower	93	9/15/92	4	-9.000	-9.0000	-9.0000	-9.0000	9.0000	-9.0000	-9.0000
80027.1	Huntington Harbor- Middle	94	9/15/92	4	-9.000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000
80027.2	Huntington Harbor- Middle	95	9/15/92	4	0.678	0.0595	0.1243	0.5610	0.8487	1.9989	3.1816
80027.3	Huntington Harbor- Middle	96	9/15/92	4	0.631	0.0568	0.1186	0.5122	0.7749	1.8208	2.8412
80028.1	Huntington Harbor- Upper	97	9/15/92	4	-9.000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000
80028.2	Huntington Harbor- Upper	98	9/15/92	4	0.561	0.0514	0.1073	0.5610	0.8487	1.9568	3.0020
80028.3	Huntington Harbor- Upper	99	9/15/92	4	0.607	0.0595	0.1243	0.6585	0.9963	2.1220	3.3695
80028.3	HUNTINGTON HARBOR, UPPER-REP 1	1174	3/30/94	29	0.713	0.0568	0.1186	0.7439	1.1255	2.1922	3.4382
80028.3	HUNTINGTON HARBOR, UPPER-REP 2	1175	3/30/94	29	0.769	0.0668	0.1395	0.7024	1.0627	2.0541	3.2875
80028.3	HUNTINGTON HARBOR, UPPER-REP 3	1176	3/30/94	29	0.743	0.0605	0.1266	0.7439	1.1255	2.0680	3.3653
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 1	1177	3/30/94	29	0.806	0.0495	0.1034	0.5220	0.7897	1.7085	2.8139
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 2	1178	3/30/94	29	0.738	0.0441	0.0921	0.5244	0.7934	1.6996	2.8192
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 3	1179	3/30/94	29	0.778	0.0578	0.1209	0.5195	0.7860	1.7236	2.8479
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9	-9.000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000
82009.0	HUNTINGTON HARBOR-HAR. LA	808	5/27/93	19	-9.000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9	0.467	0.0351	0.0734	0.3902	0.5904	1.5250	2.2428
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 1	1201	4/12/94	30	-9.000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 2	1202	4/12/94	30	-9.000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 3	1203	4/12/94	30	-9.000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9	0.724	0.0757	0.1582	0.6341	0.9594	2.3384	3.6008
85006.0	NEWPORT BAY (1009)	1392	8/30/94	34	0.488	0.0730	0.1525	0.4634	0.7011	4.1640	5.2576
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36	0.671	0.1114	0.2328	0.5098	0.7712	2.0420	2.9919
85007.0	NEWPORT BAY (431)	1418	9/19/94	36	0.159	0.1457	0.3045	0.1132	0.1712	0.7156	0.9382
85001.0	NEWPORT BAY (523)	1387	9/1/94	34	0.547	0.2668	0.5576	0.4122	0.6236	1.6407	2.5877
85001.0	NEWPORT BAY (523)	1634	6/20/96	45	0.332	0.0256	0.0534	0.2054	0.3107	0.7776	1.2790

Chemistry Summations and Quotients

STANUM	STATION	IDORG	DATE	LEG	NICKELQP	SILVERQE	SILVERQP	ZINCQE	ZINCQP	METSUMQE	METSUMQP
80025.1	ANAHEIM BAY- OIL ISLAND	88	10/14/92	5	-9.000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000
80025.2	ANAHEIM BAY- OIL ISLAND	89	10/14/92	5	-9.000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000
80025.3	ANAHEIM BAY- OIL ISLAND	90	10/14/92	5	-9.000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000
80024.1	ANAHEIM BAY- OUTER	85	9/15/92	4	0.421	0.0270	0.0565	0.2317	0.3506	0.7490	1.3167
80024.2	ANAHEIM BAY- OUTER	86	9/15/92	4	-9.000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000
80024.3	ANAHEIM BAY- OUTER	87	9/15/92	4	0.631	0.0541	0.1130	0.3171	0.4797	1.4428	2.0475
80024.3	ANAHEIM BAY- OUTER	807	5/27/93	19	-9.000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000
80024.3	ANAHEIM BAY, OUTER-REP 1	1171	3/31/94	29	0.722	0.0670	0.1401	0.4220	0.6384	1.7142	2.3530
80024.3	ANAHEIM BAY, OUTER-REP 2	1172	3/31/94	29	0.703	0.0622	0.1299	0.4073	0.6162	1.6139	2.2681
80024.3	ANAHEIM BAY, OUTER-REP 3	1173	3/31/94	29	0.722	0.0662	0.1384	0.3878	0.5867	1.4276	2.2530
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9	-9.000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000
82030.0	ANAHEIM BAY-NAVAL RES.- REP 1	1044	2/2/94	25	0.736	0.0697	0.1458	0.3976	0.6015	1.5142	2.2626
82030.0	ANAHEIM BAY-NAVAL RES.- REP 2	1045	2/2/94	25	0.755	0.0697	0.1458	0.3878	0.5867	1.4713	2.1991
82030.0	ANAHEIM BAY-NAVAL RES.- REP 3	1046	2/2/94	25	0.780	0.0589	0.1232	0.4098	0.6199	1.6718	2.4761
82030.0	ANAHEIM BAY-NAVAL RES.-REP 1	1195	4/12/94	30	-9.000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 2	1196	4/12/94	30	-9.000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 3	1197	4/12/94	30	-9.000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9	-9.000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000
82030.0	ANAHEIM BAY-NAVAL RESERVE	772	4/22/93	17	-9.000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000
82030.0	ANAHEIM BAY-NAVAL RESERVE	1335	5/19/94	32	-9.000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9	0.421	0.0243	0.0508	0.2390	0.3616	0.9285	1.3504
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9	-9.000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000
82002.0	ANAHEIM BAY-NAVY MARSH #2	809	5/27/93	19	-9.000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP1	1089	2/16/94	26	0.675	0.0224	0.0469	0.3268	0.4945	1.3875	1.8673
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP2	1090	2/16/94	26	0.638	0.0189	0.0395	0.2854	0.4317	1.1057	1.5261
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP3	1091	2/16/94	26	0.722	0.0232	0.0486	0.3220	0.4871	1.2497	1.7804
82001.0	ANAHEIM BAY-NAVY MARSH-REP 1	1086	2/16/94	26	0.507	0.0259	0.0542	0.2346	0.3550	0.8626	1.3362
82001.0	ANAHEIM BAY-NAVY MARSH-REP 2	1087	2/16/94	26	0.521	0.0197	0.0412	0.1880	0.2845	0.8482	1.0619
82001.0	ANAHEIM BAY-NAVY MARSH-REP 3	1088	2/16/94	26	0.701	0.0232	0.0486	0.3512	0.5314	1.2721	1.5795
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9	-9.000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000
82040.0	SEAL BEACH NWR	440	12/11/92	9	0.421	0.0243	0.0508	0.2073	0.3137	0.9633	1.2473
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9	-9.000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000
82023.0	SEAL BEACH NWR-BOLSA AVE.	771	4/22/93	17	-9.000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 1	1092	2/16/94	26	0.757	0.0262	0.0548	0.3098	0.4686	1.3173	1.7516
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 2	1093	2/16/94	26	0.731	0.0308	0.0644	0.3220	0.4871	1.4379	2.2041
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 3	1094	2/16/94	26	0.745	0.0332	0.0695	0.3780	0.5720	1.5599	2.1871
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9	-9.000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9	-9.000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000

Chemistry Summations and Quotients

STANUM	STATION	IDORG	DATE	LEG	NICKELQP	SILVERQE	SILVERQP	ZINCQE	ZINCQP	METSUMQE	METSUMQP
85001.0	NEWPORT BAY (523)	1788	8/20/97	54	-9.000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000
85002.0	NEWPORT BAY (616)	1388	9/1/94	34	0.556	0.0865	0.1808	0.5098	0.7712	2.7889	3.7988
85008.0	NEWPORT BAY (670)	1419	9/20/94	36	0.428	0.1659	0.3469	0.3439	0.5203	1.4202	2.1901
85009.0	NEWPORT BAY (705)	1420	9/20/94	36	0.320	0.1576	0.3294	0.3317	0.5018	1.2954	2.0023
85003.0	NEWPORT BAY (791)	1389	8/31/94	34	0.329	0.1097	0.2294	0.2434	0.3683	1.5945	2.2135
85010.0	NEWPORT BAY (819)	1421	9/19/94	36	0.783	0.0951	0.1989	0.5780	0.8745	2.2913	3.4218
85004.0	NEWPORT BAY (877)	1390	9/1/94	34	0.512	0.1035	0.2164	0.3951	0.5978	1.9732	2.8583
85011.0	NEWPORT BAY (905)	1422	9/20/94	36	0.481	0.1297	0.2712	0.3780	0.5720	1.6676	2.3947
85005.0	NEWPORT BAY (949)	1391	8/31/94	34	0.743	0.0927	0.1938	0.6024	0.9114	2.7034	3.8283
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36	0.467	0.2076	0.4339	0.8756	1.3247	3.6451	5.3438
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36	0.706	0.1838	0.3842	1.1220	1.6974	6.4841	9.1218
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36	0.586	0.2227	0.4655	0.7390	1.1181	16.6431	20.7048
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45	0.647	0.0481	0.1006	0.5756	0.8708	14.4665	18.1464
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36	0.243	0.2811	0.5876	0.1454	0.2199	0.9229	1.5009
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36	0.603	0.2330	0.4870	0.4171	0.6310	1.7912	2.6012
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36	0.360	0.1070	0.2237	0.2110	0.3192	1.6208	2.1999
86001.0	SAN DIEGO CREEK- CAMPUS	1789	8/20/97	54	-9.000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000
86002.0	SAN DIEGO CREEK- MACARTHUR	1790	8/20/97	54	-9.000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000
86003.0	SANTA ANA/DELHI CHANNEL-BRIDGE	1791	8/20/97	54	-9.000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000
86004.0	SANTA ANA/DELHI CHANNEL-OUTER	1792	8/20/97	54	-9.000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000	-9.0000

STANUM	STATION	IDORG	DATE	LEG	TTLCHLQE	TTLCHLQP	PPDDEQE	PPDDEQP	PPDDTQP	TTLDDTQE	TTLDDTQP
80025.1	ANAHEIM BAY- OIL ISLAND	88	10/14/92	5	-9.000	-9.000	-9.00000	-9.00000	-9.00000	-9.00	-9.00
80025.2	ANAHEIM BAY- OIL ISLAND	89	10/14/92	5	-9.000	-9.000	-9.00000	-9.00000	-9.00000	-9.00	-9.00
80025.3	ANAHEIM BAY- OIL ISLAND	90	10/14/92	5	-9.000	-9.000	-9.00000	-9.00000	-9.00000	-9.00	-9.00
80024.1	ANAHEIM BAY- OUTER	85	9/15/92	4	0.217	0.271	0.39259	0.02833	0.35639	0.05	0.05
80024.2	ANAHEIM BAY- OUTER	86	9/15/92	4	-9.000	-9.000	-9.00000	-9.00000	-9.00000	-9.00	-9.00
80024.3	ANAHEIM BAY- OUTER	87	9/15/92	4	0.383	0.480	0.92593	0.06681	0.10482	0.08	0.08
80024.3	ANAHEIM BAY- OUTER	807	5/27/93	19	-9.000	-9.000	-9.00000	-9.00000	-9.00000	-9.00	-9.00
80024.3	ANAHEIM BAY, OUTER-REP 1	1171	3/31/94	29	1.187	1.487	1.36667	0.09861	2.08176	0.04	0.04
80024.3	ANAHEIM BAY, OUTER-REP 2	1172	3/31/94	29	1.240	1.553	1.17407	0.08471	0.86164	0.04	0.04
80024.3	ANAHEIM BAY, OUTER-REP 3	1173	3/31/94	29	1.152	1.443	1.12222	0.08097	2.34801	0.04	0.04
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9	-9.000	-9.000	-9.00000	-9.00000	-9.00000	-9.00	-9.00
82030.0	ANAHEIM BAY-NAVAL RES.- REP 1	1044	2/2/94	25	1.054	1.320	1.09259	0.07883	1.20545	0.03	0.03
82030.0	ANAHEIM BAY-NAVAL RES.- REP 2	1045	2/2/94	25	1.086	1.360	1.24074	0.08952	0.21174	0.03	0.03
82030.0	ANAHEIM BAY-NAVAL RES.- REP 3	1046	2/2/94	25	7.428	9.305	1.36296	0.09834	10.12579	0.08	0.08
82030.0	ANAHEIM BAY-NAVAL RES.-REP 1	1195	4/12/94	30	-9.000	-9.000	-9.00000	-9.00000	-9.00000	-9.00	-9.00
82030.0	ANAHEIM BAY-NAVAL RES.-REP 2	1196	4/12/94	30	-9.000	-9.000	-9.00000	-9.00000	-9.00000	-9.00	-9.00
82030.0	ANAHEIM BAY-NAVAL RES.-REP 3	1197	4/12/94	30	-9.000	-9.000	-9.00000	-9.00000	-9.00000	-9.00	-9.00
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9	-9.000	-9.000	-9.00000	-9.00000	-9.00000	-9.00	-9.00
82030.0	ANAHEIM BAY-NAVAL RESERVE	772	4/22/93	17	-9.000	-9.000	-9.00000	-9.00000	-9.00000	-9.00	-9.00
82030.0	ANAHEIM BAY-NAVAL RESERVE	1335	5/19/94	32	-9.000	-9.000	-9.00000	-9.00000	-9.00000	-9.00	-9.00
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9	0.083	0.104	0.32963	0.02378	0.10482	0.02	0.02
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9	-9.000	-9.000	-9.00000	-9.00000	-9.00000	-9.00	-9.00
82002.0	ANAHEIM BAY-NAVY MARSH #2	809	5/27/93	19	-9.000	-9.000	-9.00000	-9.00000	-9.00000	-9.00	-9.00
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP1	1089	2/16/94	26	0.208	0.261	0.17444	0.01259	0.10482	0.01	0.01
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP2	1090	2/16/94	26	0.208	0.261	0.17111	0.01235	0.10482	0.01	0.01
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP3	1091	2/16/94	26	0.208	0.261	0.14222	0.01026	0.10482	0.00	0.00
82001.0	ANAHEIM BAY-NAVY MARSH-REP 1	1086	2/16/94	26	0.302	0.378	0.27741	0.02002	0.70860	0.02	0.02
82001.0	ANAHEIM BAY-NAVY MARSH-REP 2	1087	2/16/94	26	0.257	0.322	0.25222	0.01820	0.10482	0.01	0.01
82001.0	ANAHEIM BAY-NAVY MARSH-REP 3	1088	2/16/94	26	0.208	0.261	0.14630	0.01056	0.10482	0.01	0.01
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9	-9.000	-9.000	-9.00000	-9.00000	-9.00000	-9.00	-9.00
82040.0	SEAL BEACH NWR	440	12/11/92	9	0.083	0.104	0.33333	0.02405	0.10482	0.02	0.02
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9	-9.000	-9.000	-9.00000	-9.00000	-9.00000	-9.00	-9.00
82023.0	SEAL BEACH NWR-BOLSA AVE.	771	4/22/93	17	-9.000	-9.000	-9.00000	-9.00000	-9.00000	-9.00	-9.00
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 1	1092	2/16/94	26	0.208	0.261	0.31889	0.02301	0.10482	0.01	0.01
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 2	1093	2/16/94	26	0.305	0.381	0.25407	0.01833	0.10482	0.01	0.01
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 3	1094	2/16/94	26	0.395	0.495	0.41852	0.03020	0.24528	0.01	0.01
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9	-9.000	-9.000	-9.00000	-9.00000	-9.00000	-9.00	-9.00
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9	-9.000	-9.000	-9.00000	-9.00000	-9.00000	-9.00	-9.00

STANUM	STATION	IDORG	DATE	LEG	TTLCHLQE	TTLCHLQP	PPDDEQE	PPDDEQP	PPDDTQP	TTLDDTQE	TTLDDTQP
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17	-9.000	-9.000	-9.00000	-9.00000	-9.00000	-9.00	-9.00
82040.0	SEAL BEACH NWR-REP 1	1095	2/16/94	26	0.208	0.261	0.31185	0.02250	0.10482	0.01	0.01
82040.0	SEAL BEACH NWR-REP 2	1096	2/16/94	26	0.208	0.261	0.44074	0.03180	0.10482	0.01	0.01
82040.0	SEAL BEACH NWR-REP 3	1097	2/16/94	26	0.208	0.261	0.27741	0.02002	0.10482	0.01	0.01
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9	-9.000	-9.000	-9.00000	-9.00000	-9.00000	-9.00	-9.00
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9	-9.000	-9.000	-9.00000	-9.00000	-9.00000	-9.00	-9.00
82024.0	BOLSA BAY-MOUTH OF EGGW FLOOD	770	4/21/93	17	-9.000	-9.000	-9.00000	-9.00000	-9.00000	-9.00	-9.00
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9	0.283	0.355	0.41852	0.03020	0.10482	0.02	0.02
82039.0	BOLSA CHICA ECOL RESERVE-REP 1	1204	4/12/94	30	-9.000	-9.000	-9.00000	-9.00000	-9.00000	-9.00	-9.00
82039.0	BOLSA CHICA ECOL RESERVE-REP 2	1205	4/12/94	30	-9.000	-9.000	-9.00000	-9.00000	-9.00000	-9.00	-9.00
82039.0	BOLSA CHICA ECOL RESERVE-REP 3	1206	4/12/94	30	-9.000	-9.000	-9.00000	-9.00000	-9.00000	-9.00	-9.00
80026.1	Huntington Harbor- Lower	91	9/15/92	4	0.600	0.752	0.47037	0.03394	0.44025	0.04	0.04
80026.2	Huntington Harbor- Lower	92	9/15/92	4	0.267	0.334	0.20741	0.01497	0.73375	0.01	0.01
80026.3	Huntington Harbor- Lower	93	9/15/92	4	-9.000	-9.000	-9.00000	-9.00000	-9.00000	-9.00	-9.00
80027.1	Huntington Harbor- Middle	94	9/15/92	4	-9.000	-9.000	-9.00000	-9.00000	-9.00000	-9.00	-9.00
80027.2	Huntington Harbor- Middle	95	9/15/92	4	1.533	1.921	2.81481	0.20310	0.71279	0.12	0.12
80027.3	Huntington Harbor- Middle	96	9/15/92	4	1.550	1.942	2.66667	0.19241	1.06918	0.07	0.07
80028.1	Huntington Harbor- Upper	97	9/15/92	4	-9.000	-9.000	-9.00000	-9.00000	-9.00000	-9.00	-9.00
80028.2	Huntington Harbor- Upper	98	9/15/92	4	2.900	3.633	3.03704	0.21913	0.79665	0.07	0.07
80028.3	Huntington Harbor- Upper	99	9/15/92	4	2.733	3.424	3.44444	0.24853	0.90147	0.05	0.05
80028.3	HUNTINGTON HARBOR, UPPER-REP 1	1174	3/30/94	29	6.950	8.706	3.96296	0.28594	4.65409	0.06	0.06
80028.3	HUNTINGTON HARBOR, UPPER-REP 2	1175	3/30/94	29	6.787	8.501	5.29630	0.38215	3.50105	0.07	0.07
80028.3	HUNTINGTON HARBOR, UPPER-REP 3	1176	3/30/94	29	6.152	7.706	4.96296	0.35810	3.81551	0.06	0.06
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 1	1177	3/30/94	29	2.603	3.261	1.99630	0.14404	2.00629	0.06	0.06
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 2	1178	3/30/94	29	2.473	3.098	2.43333	0.17557	1.11950	0.06	0.06
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 3	1179	3/30/94	29	2.898	3.630	3.19259	0.23036	1.74214	0.08	0.08
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9	-9.000	-9.000	-9.00000	-9.00000	-9.00000	-9.00	-9.00
82009.0	HUNTINGTON HARBOR-HAR. LA	808	5/27/93	19	-9.000	-9.000	-9.00000	-9.00000	-9.00000	-9.00	-9.00
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9	0.667	0.835	1.06667	0.07696	0.37736	0.07	0.07
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 1	1201	4/12/94	30	-9.000	-9.000	-9.00000	-9.00000	-9.00000	-9.00	-9.00
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 2	1202	4/12/94	30	-9.000	-9.000	-9.00000	-9.00000	-9.00000	-9.00	-9.00
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 3	1203	4/12/94	30	-9.000	-9.000	-9.00000	-9.00000	-9.00000	-9.00	-9.00
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9	1.500	1.879	2.90370	0.20951	1.19497	0.15	0.15
85006.0	NEWPORT BAY (1009)	1392	8/30/94	34	0.320	0.401	1.47407	0.10636	0.28092	0.04	0.04
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36	1.018	1.276	3.22963	0.23303	1.00000	0.07	0.07
85007.0	NEWPORT BAY (431)	1418	9/19/94	36	0.180	0.226	0.32704	0.02360	3.83648	0.10	0.10
85001.0	NEWPORT BAY (523)	1387	9/1/94	34	0.933	1.169	2.07407	0.14965	0.74423	0.05	0.05
85001.0	NEWPORT BAY (523)	1634	6/20/96	45	0.431	0.539	0.93333	0.06734	0.31866	0.05	0.05

Chemistry Summations and Quotients

STANUM	STATION	IDORG	DATE	LEG	TTLCHLQE	TTLCHLQP	PPDDEQE	PPDDEQP	PPDDTQP	TTLDDTQE	TTLDDTQP
85001.0	NEWPORT BAY (523)	1788	8/20/97	54	-9.000	-9.000	-9.00000	-9.00000	-9.00000	-9.00	-9.00
85002.0	NEWPORT BAY (616)	1388	9/1/94	34	0.555	0.695	2.25556	0.16275	0.51153	0.06	0.06
85008.0	NEWPORT BAY (670)	1419	9/20/94	36	1.112	1.392	2.48889	0.17958	0.75472	0.05	0.05
85009.0	NEWPORT BAY (705)	1420	9/20/94	36	0.457	0.572	1.02222	0.07376	0.31447	0.05	0.05
85003.0	NEWPORT BAY (791)	1389	8/31/94	34	0.328	0.410	1.04444	0.07536	0.26625	0.05	0.05
85010.0	NEWPORT BAY (819)	1421	9/19/94	36	0.812	1.017	2.60000	0.18760	0.92453	0.04	0.04
85004.0	NEWPORT BAY (877)	1390	9/1/94	34	0.662	0.829	2.04074	0.14725	0.49895	0.06	0.06
85011.0	NEWPORT BAY (905)	1422	9/20/94	36	1.130	1.415	2.39259	0.17263	0.85115	0.06	0.06
85005.0	NEWPORT BAY (949)	1391	8/31/94	34	0.747	0.935	2.31111	0.16676	0.65409	0.04	0.04
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36	5.208	6.524	2.42963	0.17531	2.08176	0.03	0.03
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36	3.763	4.714	1.76667	0.12747	0.26415	0.02	0.02
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36	0.643	0.806	1.45926	0.10529	0.46331	0.03	0.03
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45	0.961	1.203	1.64444	0.11865	0.31237	0.03	0.03
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36	0.365	0.457	0.74444	0.05371	0.46960	0.07	0.07
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36	1.822	2.282	2.18148	0.15740	0.93501	0.05	0.05
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36	0.285	0.357	0.68148	0.04917	0.10482	0.05	0.05
86001.0	SAN DIEGO CREEK- CAMPUS	1789	8/20/97	54	-9.000	-9.000	-9.00000	-9.00000	-9.00000	-9.00	-9.00
86002.0	SAN DIEGO CREEK- MACARTHUR	1790	8/20/97	54	-9.000	-9.000	-9.00000	-9.00000	-9.00000	-9.00	-9.00
86003.0	SANTA ANA/DELHI CHANNEL-BRIDGE	1791	8/20/97	54	-9.000	-9.000	-9.00000	-9.00000	-9.00000	-9.00	-9.00
86004.0	SANTA ANA/DELHI CHANNEL-OUTER	1792	8/20/97	54	-9.000	-9.000	-9.00000	-9.00000	-9.00000	-9.00	-9.00

STANUM	STATION	IDORG	DATE	LEG	DIELDRQE	DIELDRQP	ENDRINQE	LINDANEQP	TTLPCBQE	TTLPCBQP	ACYQE
80025.1	ANAHEIM BAY- OIL ISLAND	88	10/14/92	5	-9.000	-9.000	-9.00000	-9.000	-9.000	-9.000	-9.00000
80025.2	ANAHEIM BAY- OIL ISLAND	89	10/14/92	5	-9.000	-9.000	-9.00000	-9.000	-9.000	-9.000	-9.00000
80025.3	ANAHEIM BAY- OIL ISLAND	90	10/14/92	5	-9.000	-9.000	-9.00000	-9.000	-9.000	-9.000	-9.00000
80024.1	ANAHEIM BAY- OUTER	85	9/15/92	4	0.188	0.349	0.02222	0.101	0.076	0.073	-9.00000
80024.2	ANAHEIM BAY- OUTER	86	9/15/92	4	-9.000	-9.000	-9.00000	-9.000	-9.000	-9.000	-9.00000
80024.3	ANAHEIM BAY- OUTER	87	9/15/92	4	0.031	0.058	0.02222	0.101	0.151	0.144	-9.00000
80024.3	ANAHEIM BAY- OUTER	807	5/27/93	19	-9.000	-9.000	-9.00000	-9.000	-9.000	-9.000	-9.00000
80024.3	ANAHEIM BAY, OUTER-REP 1	1171	3/31/94	29	0.084	0.157	0.02222	0.101	0.210	0.200	0.00391
80024.3	ANAHEIM BAY, OUTER-REP 2	1172	3/31/94	29	0.063	0.118	0.02222	0.101	0.183	0.174	0.00391
80024.3	ANAHEIM BAY, OUTER-REP 3	1173	3/31/94	29	0.031	0.058	0.02222	0.101	0.173	0.165	0.00391
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9	-9.000	-9.000	-9.00000	-9.000	-9.000	-9.000	-9.00000
82030.0	ANAHEIM BAY-NAVAL RES.- REP 1	1044	2/2/94	25	0.031	0.058	0.02222	0.101	0.153	0.146	0.00391
82030.0	ANAHEIM BAY-NAVAL RES.- REP 2	1045	2/2/94	25	0.031	0.058	0.02222	0.101	0.187	0.178	0.00391
82030.0	ANAHEIM BAY-NAVAL RES.- REP 3	1046	2/2/94	25	0.031	0.058	0.02222	0.101	0.199	0.190	0.00391
82030.0	ANAHEIM BAY-NAVAL RES.-REP 1	1195	4/12/94	30	-9.000	-9.000	-9.00000	-9.000	-9.000	-9.000	-9.00000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 2	1196	4/12/94	30	-9.000	-9.000	-9.00000	-9.000	-9.000	-9.000	-9.00000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 3	1197	4/12/94	30	-9.000	-9.000	-9.00000	-9.000	-9.000	-9.000	-9.00000
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9	-9.000	-9.000	-9.00000	-9.000	-9.000	-9.000	-9.00000
82030.0	ANAHEIM BAY-NAVAL RESERVE	772	4/22/93	17	-9.000	-9.000	-9.00000	-9.000	-9.000	-9.000	-9.00000
82030.0	ANAHEIM BAY-NAVAL RESERVE	1335	5/19/94	32	-9.000	-9.000	-9.00000	-9.000	-9.000	-9.000	-9.00000
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9	0.031	0.058	0.02222	0.101	0.063	0.060	-9.00000
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9	-9.000	-9.000	-9.00000	-9.000	-9.000	-9.000	-9.00000
82002.0	ANAHEIM BAY-NAVY MARSH #2	809	5/27/93	19	-9.000	-9.000	-9.00000	-9.000	-9.000	-9.000	-9.00000
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP1	1089	2/16/94	26	0.031	0.058	0.02222	0.101	0.050	0.048	0.00391
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP2	1090	2/16/94	26	0.031	0.058	0.02222	0.101	0.050	0.048	0.00391
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP3	1091	2/16/94	26	0.031	0.058	0.02222	0.101	0.054	0.051	0.00391
82001.0	ANAHEIM BAY-NAVY MARSH-REP 1	1086	2/16/94	26	0.031	0.058	0.02222	0.101	0.059	0.057	0.00391
82001.0	ANAHEIM BAY-NAVY MARSH-REP 2	1087	2/16/94	26	0.031	0.058	0.02222	0.101	0.050	0.048	0.00391
82001.0	ANAHEIM BAY-NAVY MARSH-REP 3	1088	2/16/94	26	0.031	0.058	0.02222	0.101	0.058	0.056	0.00391
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9	-9.000	-9.000	-9.00000	-9.000	-9.000	-9.000	-9.00000
82040.0	SEAL BEACH NWR	440	12/11/92	9	0.031	0.058	0.02222	0.101	0.062	0.059	-9.00000
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9	-9.000	-9.000	-9.00000	-9.000	-9.000	-9.000	-9.00000
82023.0	SEAL BEACH NWR-BOLSA AVE.	771	4/22/93	17	-9.000	-9.000	-9.00000	-9.000	-9.000	-9.000	-9.00000
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 1	1092	2/16/94	26	0.031	0.058	0.02222	0.101	0.100	0.095	0.00391
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 2	1093	2/16/94	26	0.031	0.058	0.02222	0.101	0.050	0.048	0.00391
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 3	1094	2/16/94	26	0.031	0.058	0.02222	0.101	0.058	0.055	0.00391
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9	-9.000	-9.000	-9.00000	-9.000	-9.000	-9.000	-9.00000
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9	-9.000	-9.000	-9.00000	-9.000	-9.000	-9.000	-9.00000

Chemistry Summations and Quotients

STANUM	STATION	IDORG	DATE	LEG	DIELDRQE	DIELDRQP	ENDRINQE	LINDANEQP	TTLPCBQE	TTLPCBQP	ACYQE
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17	-9.000	-9.000	-9.00000	-9.000	-9.000	-9.000	-9.00000
82040.0	SEAL BEACH NWR-REP 1	1095	2/16/94	26	0.031	0.058	0.02222	0.101	0.054	0.051	0.00391
82040.0	SEAL BEACH NWR-REP 2	1096	2/16/94	26	0.031	0.058	0.02222	0.101	0.061	0.058	0.00391
82040.0	SEAL BEACH NWR-REP 3	1097	2/16/94	26	0.031	0.058	0.02222	0.101	0.124	0.118	0.00391
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9	-9.000	-9.000	-9.00000	-9.000	-9.000	-9.000	-9.00000
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9	-9.000	-9.000	-9.00000	-9.000	-9.000	-9.000	-9.00000
82024.0	BOLSA BAY-MOUTH OF EGGW FLOOD	770	4/21/93	17	-9.000	-9.000	-9.00000	-9.000	-9.000	-9.000	-9.00000
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9	0.031	0.058	0.02222	0.101	0.135	0.129	-9.00000
82039.0	BOLSA CHICA ECOL RESERVE-REP 1	1204	4/12/94	30	-9.000	-9.000	-9.00000	-9.000	-9.000	-9.000	-9.00000
82039.0	BOLSA CHICA ECOL RESERVE-REP 2	1205	4/12/94	30	-9.000	-9.000	-9.00000	-9.000	-9.000	-9.000	-9.00000
82039.0	BOLSA CHICA ECOL RESERVE-REP 3	1206	4/12/94	30	-9.000	-9.000	-9.00000	-9.000	-9.000	-9.000	-9.00000
80026.1	Huntington Harbor- Lower	91	9/15/92	4	0.250	0.465	0.02222	0.101	0.087	0.083	-9.00000
80026.2	Huntington Harbor- Lower	92	9/15/92	4	0.031	0.058	0.02222	0.101	0.050	0.048	-9.00000
80026.3	Huntington Harbor- Lower	93	9/15/92	4	-9.000	-9.000	-9.00000	-9.000	-9.000	-9.000	-9.00000
80027.1	Huntington Harbor- Middle	94	9/15/92	4	-9.000	-9.000	-9.00000	-9.000	-9.000	-9.000	-9.00000
80027.2	Huntington Harbor- Middle	95	9/15/92	4	0.031	0.058	0.02222	0.101	0.363	0.346	-9.00000
80027.3	Huntington Harbor- Middle	96	9/15/92	4	0.113	0.209	0.02222	0.101	0.316	0.301	-9.00000
80028.1	Huntington Harbor- Upper	97	9/15/92	4	-9.000	-9.000	-9.00000	-9.000	-9.000	-9.000	-9.00000
80028.2	Huntington Harbor- Upper	98	9/15/92	4	0.225	0.419	0.02222	0.101	0.362	0.345	-9.00000
80028.3	Huntington Harbor- Upper	99	9/15/92	4	0.031	0.058	0.02222	0.101	0.433	0.413	-9.00000
80028.3	HUNTINGTON HARBOR, UPPER-REP 1	1174	3/30/94	29	0.438	0.814	0.02222	0.101	0.487	0.465	0.00391
80028.3	HUNTINGTON HARBOR, UPPER-REP 2	1175	3/30/94	29	0.386	0.719	0.02222	0.101	0.397	0.378	0.00855
80028.3	HUNTINGTON HARBOR, UPPER-REP 3	1176	3/30/94	29	0.296	0.551	0.02222	0.101	0.400	0.381	0.00391
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 1	1177	3/30/94	29	0.129	0.240	0.02222	0.101	0.296	0.282	0.00391
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 2	1178	3/30/94	29	0.089	0.165	0.02222	0.101	0.276	0.263	0.00391
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 3	1179	3/30/94	29	0.126	0.235	0.02222	0.101	0.312	0.298	0.00391
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9	-9.000	-9.000	-9.00000	-9.000	-9.000	-9.000	-9.00000
82009.0	HUNTINGTON HARBOR-HAR. LA	808	5/27/93	19	-9.000	-9.000	-9.00000	-9.000	-9.000	-9.000	-9.00000
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9	0.031	0.058	0.02222	0.101	0.246	0.234	-9.00000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 1	1201	4/12/94	30	-9.000	-9.000	-9.00000	-9.000	-9.000	-9.000	-9.00000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 2	1202	4/12/94	30	-9.000	-9.000	-9.00000	-9.000	-9.000	-9.000	-9.00000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 3	1203	4/12/94	30	-9.000	-9.000	-9.00000	-9.000	-9.000	-9.000	-9.00000
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9	0.138	0.256	0.02222	0.101	0.494	0.471	-9.00000
85006.0	NEWPORT BAY (1009)	1392	8/30/94	34	0.031	0.058	0.02222	0.101	0.456	0.435	0.00391
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36	0.031	0.058	0.02222	0.101	0.144	0.137	0.00391
85007.0	NEWPORT BAY (431)	1418	9/19/94	36	0.031	0.058	0.02222	0.101	0.050	0.048	0.00391
85001.0	NEWPORT BAY (523)	1387	9/1/94	34	0.076	0.141	0.02222	0.101	0.104	0.099	0.00391
85001.0	NEWPORT BAY (523)	1634	6/20/96	45	0.031	0.058	0.02222	0.101	0.062	0.059	0.00391

Chemistry Summations and Quotients

STANUM	STATION	IDORG	DATE	LEG	DIELDRQE	DIELDRQP	ENDRINQE	LINDANEQP	TTLPCBQE	TTLPCBQP	ACYQE
85001.0	NEWPORT BAY (523)	1788	8/20/97	54	-9.000	-9.000	-9.00000	-9.000	-9.000	-9.000	-9.00000
85002.0	NEWPORT BAY (616)	1388	9/1/94	34	0.031	0.058	0.02222	0.101	0.311	0.297	0.00391
85008.0	NEWPORT BAY (670)	1419	9/20/94	36	0.031	0.058	0.02222	0.101	0.102	0.097	0.00391
85009.0	NEWPORT BAY (705)	1420	9/20/94	36	0.130	0.242	0.02222	0.101	0.116	0.111	0.00391
85003.0	NEWPORT BAY (791)	1389	8/31/94	34	0.031	0.058	0.02222	0.101	0.257	0.245	0.00391
85010.0	NEWPORT BAY (819)	1421	9/19/94	36	0.031	0.058	0.02222	0.101	0.182	0.174	0.00391
85004.0	NEWPORT BAY (877)	1390	9/1/94	34	0.031	0.058	0.02222	0.101	0.366	0.349	0.00391
85011.0	NEWPORT BAY (905)	1422	9/20/94	36	0.109	0.202	0.02222	0.101	0.129	0.123	0.00391
85005.0	NEWPORT BAY (949)	1391	8/31/94	34	0.031	0.058	0.02222	0.101	0.244	0.232	0.00391
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36	0.183	0.340	0.02222	0.101	0.628	0.599	0.01414
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36	0.031	0.058	0.02222	0.101	1.051	1.002	0.01086
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36	0.610	1.135	0.02222	0.101	2.049	1.954	0.01938
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45	0.031	0.058	0.02222	0.101	1.994	1.901	0.02297
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36	0.031	0.058	0.02222	0.101	0.050	0.048	0.00391
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36	0.064	0.119	0.02222	0.101	0.176	0.168	0.00391
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36	0.314	0.584	0.02222	0.101	0.144	0.137	0.00391
86001.0	SAN DIEGO CREEK- CAMPUS	1789	8/20/97	54	-9.000	-9.000	-9.00000	-9.000	-9.000	-9.000	-9.00000
86002.0	SAN DIEGO CREEK- MACARTHUR	1790	8/20/97	54	-9.000	-9.000	-9.00000	-9.000	-9.000	-9.000	-9.00000
86003.0	SANTA ANA/DELHI CHANNEL-BRIDGE	1791	8/20/97	54	-9.000	-9.000	-9.00000	-9.000	-9.000	-9.000	-9.00000
86004.0	SANTA ANA/DELHI CHANNEL-OUTER	1792	8/20/97	54	-9.000	-9.000	-9.00000	-9.000	-9.000	-9.000	-9.00000

Chemistry Summations and Quotients

STANUM	STATION	IDORG	DATE	LEG	ACYQP	ACEQE	ACEQP	ANTQE	ANTQP	BAAQE	BAAQP	BAPQE	BAPQP
80025.1	ANAHEIM BAY- OIL ISLAND	88	10/14/92	5	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
80025.2	ANAHEIM BAY- OIL ISLAND	89	10/14/92	5	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
80025.3	ANAHEIM BAY- OIL ISLAND	90	10/14/92	5	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
80024.1	ANAHEIM BAY- OUTER	85	9/15/92	4	-9.00000	0.09740	0.54781	0.14273	0.64082	0.07313	0.16895	0.05088	0.10665
80024.2	ANAHEIM BAY- OUTER	86	9/15/92	4	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
80024.3	ANAHEIM BAY- OUTER	87	9/15/92	4	-9.00000	0.02600	0.14623	0.02000	0.08980	0.06875	0.15884	0.04188	0.08779
80024.3	ANAHEIM BAY- OUTER	807	5/27/93	19	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
80024.3	ANAHEIM BAY, OUTER-REP 1	1171	3/31/94	29	0.01955	0.00500	0.02812	0.01191	0.05347	0.02669	0.06166	0.03756	0.07875
80024.3	ANAHEIM BAY, OUTER-REP 2	1172	3/31/94	29	0.01955	0.01110	0.06243	0.01882	0.08449	0.02413	0.05574	0.06813	0.14282
80024.3	ANAHEIM BAY, OUTER-REP 3	1173	3/31/94	29	0.01955	0.09860	0.55456	0.05064	0.22735	0.03419	0.07899	0.07438	0.15592
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82030.0	ANAHEIM BAY-NAVAL RES.- REP 1	1044	2/2/94	25	0.01955	0.00500	0.02812	0.01909	0.08571	0.02625	0.06065	0.06156	0.12906
82030.0	ANAHEIM BAY-NAVAL RES.- REP 2	1045	2/2/94	25	0.01955	0.00500	0.02812	0.01800	0.08082	0.02888	0.06671	0.03744	0.07848
82030.0	ANAHEIM BAY-NAVAL RES.- REP 3	1046	2/2/94	25	0.01955	0.00500	0.02812	0.02345	0.10531	0.03200	0.07393	0.04419	0.09263
82030.0	ANAHEIM BAY-NAVAL RES.-REP 1	1195	4/12/94	30	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 2	1196	4/12/94	30	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 3	1197	4/12/94	30	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82030.0	ANAHEIM BAY-NAVAL RESERVE	772	4/22/93	17	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82030.0	ANAHEIM BAY-NAVAL RESERVE	1335	5/19/94	32	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9	-9.00000	0.00500	0.02812	0.00527	0.02367	0.00850	0.01964	0.00944	0.01978
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82002.0	ANAHEIM BAY-NAVY MARSH #2	809	5/27/93	19	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP1	1089	2/16/94	26	0.01955	0.00500	0.02812	0.00227	0.01020	0.00156	0.00361	0.00410	0.00860
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP2	1090	2/16/94	26	0.01955	0.00500	0.02812	0.00227	0.01020	0.00156	0.00361	0.00156	0.00328
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP3	1091	2/16/94	26	0.01955	0.00500	0.02812	0.00227	0.01020	0.00156	0.00361	0.00381	0.00799
82001.0	ANAHEIM BAY-NAVY MARSH-REP 1	1086	2/16/94	26	0.01955	0.00500	0.02812	0.00227	0.01020	0.00374	0.00865	0.00806	0.01690
82001.0	ANAHEIM BAY-NAVY MARSH-REP 2	1087	2/16/94	26	0.01955	0.00500	0.02812	0.00227	0.01020	0.00377	0.00871	0.00548	0.01148
82001.0	ANAHEIM BAY-NAVY MARSH-REP 3	1088	2/16/94	26	0.01955	0.00500	0.02812	0.00227	0.01020	0.00156	0.00361	0.00156	0.00328
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82040.0	SEAL BEACH NWR	440	12/11/92	9	-9.00000	0.01300	0.07312	0.01645	0.07388	0.01481	0.03422	0.02094	0.04389
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82023.0	SEAL BEACH NWR-BOLSA AVE.	771	4/22/93	17	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 1	1092	2/16/94	26	0.01955	0.00500	0.02812	0.00227	0.01020	0.00156	0.00361	0.00156	0.00328
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 2	1093	2/16/94	26	0.01955	0.00500	0.02812	0.00227	0.01020	0.00156	0.00361	0.00401	0.00840
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 3	1094	2/16/94	26	0.01955	0.00500	0.02812	0.00227	0.01020	0.00462	0.01067	0.00769	0.01612
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000

Chemistry Summations and Quotients

STANUM	STATION	IDORG	DATE	LEG	ACYQP	ACEQE	ACEQP	ANTQE	ANTQP	BAAQE	BAAQP	BAPQE	BAPQP
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82040.0	SEAL BEACH NWR-REP 1	1095	2/16/94	26	0.01955	0.00500	0.02812	0.00804	0.03608	0.00831	0.01920	0.00856	0.01795
82040.0	SEAL BEACH NWR-REP 2	1096	2/16/94	26	0.01955	0.00500	0.02812	0.03345	0.15020	0.01444	0.03336	0.01150	0.02411
82040.0	SEAL BEACH NWR-REP 3	1097	2/16/94	26	0.01955	0.00500	0.02812	0.00227	0.01020	0.00374	0.00864	0.00623	0.01305
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82024.0	BOLSA BAY-MOUTH OF EGGW FLOOD	770	4/21/93	17	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9	-9.00000	0.00500	0.02812	0.00227	0.01020	0.00844	0.01949	0.01500	0.03145
82039.0	BOLSA CHICA ECOL RESERVE-REP 1	1204	4/12/94	30	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82039.0	BOLSA CHICA ECOL RESERVE-REP 2	1205	4/12/94	30	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82039.0	BOLSA CHICA ECOL RESERVE-REP 3	1206	4/12/94	30	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
80026.1	Huntington Harbor- Lower	91	9/15/92	4	-9.00000	0.00500	0.02812	0.00227	0.01020	0.01200	0.02772	0.01813	0.03800
80026.2	Huntington Harbor- Lower	92	9/15/92	4	-9.00000	0.00500	0.02812	0.00791	0.03551	0.01313	0.03032	0.01625	0.03407
80026.3	Huntington Harbor- Lower	93	9/15/92	4	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
80027.1	Huntington Harbor- Middle	94	9/15/92	4	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
80027.2	Huntington Harbor- Middle	95	9/15/92	4	-9.00000	0.00500	0.02812	0.01545	0.06939	0.03313	0.07653	0.05500	0.11530
80027.3	Huntington Harbor- Middle	96	9/15/92	4	-9.00000	0.00500	0.02812	0.00900	0.04041	0.03688	0.08519	0.05188	0.10875
80028.1	Huntington Harbor- Upper	97	9/15/92	4	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
80028.2	Huntington Harbor- Upper	98	9/15/92	4	-9.00000	0.00500	0.02812	0.01455	0.06531	0.05125	0.11841	0.06875	0.14413
80028.3	Huntington Harbor- Upper	99	9/15/92	4	-9.00000	0.00500	0.02812	0.01545	0.06939	0.08750	0.20216	0.09375	0.19654
80028.3	HUNTINGTON HARBOR, UPPER-REP 1	1174	3/30/94	29	0.01955	0.01096	0.06164	0.01673	0.07510	0.05519	0.12750	0.11250	0.23584
80028.3	HUNTINGTON HARBOR, UPPER-REP 2	1175	3/30/94	29	0.04277	0.01086	0.06108	0.01464	0.06571	0.05231	0.12086	0.10625	0.22274
80028.3	HUNTINGTON HARBOR, UPPER-REP 3	1176	3/30/94	29	0.01955	0.01176	0.06614	0.01682	0.07551	0.05288	0.12216	0.15750	0.33018
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 1	1177	3/30/94	29	0.01955	0.00500	0.02812	0.00227	0.01020	0.02319	0.05357	0.05738	0.12028
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 2	1178	3/30/94	29	0.01955	0.00500	0.02812	0.00689	0.03094	0.02013	0.04650	0.07625	0.15985
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 3	1179	3/30/94	29	0.01955	0.00500	0.02812	0.00779	0.03498	0.02563	0.05920	0.09063	0.18998
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82009.0	HUNTINGTON HARBOR-HAR. LA	808	5/27/93	19	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9	-9.00000	0.00500	0.02812	0.00227	0.01020	0.01244	0.02874	0.02081	0.04363
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 1	1201	4/12/94	30	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 2	1202	4/12/94	30	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 3	1203	4/12/94	30	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9	-9.00000	0.00500	0.02812	0.00636	0.02857	0.03138	0.07249	0.06025	0.12631
85006.0	NEWPORT BAY (1009)	1392	8/30/94	34	0.01955	0.00500	0.02812	0.00227	0.01020	0.01250	0.02888	0.03506	0.07350
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36	0.01955	0.00500	0.02812	0.00227	0.01020	0.01519	0.03509	0.03638	0.07626
85007.0	NEWPORT BAY (431)	1418	9/19/94	36	0.01955	0.00500	0.02812	0.00227	0.01020	0.00357	0.00825	0.00381	0.00799
85001.0	NEWPORT BAY (523)	1387	9/1/94	34	0.01955	0.00500	0.02812	0.00227	0.01020	0.01388	0.03206	0.02981	0.06250
85001.0	NEWPORT BAY (523)	1634	6/20/96	45	0.01955	0.00500	0.02812	0.00227	0.01020	0.01450	0.03350	0.01888	0.03957

Chemistry Summations and Quotients

STANUM	STATION	IDORG	DATE	LEG	ACYQP	ACEQE	ACEQP	ANTQE	ANTQP	BAAQE	BAAQP	BAPQE	BAPQP
85001.0	NEWPORT BAY (523)	1788	8/20/97	54	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
85002.0	NEWPORT BAY (616)	1388	9/1/94	34	0.01955	0.00500	0.02812	0.00227	0.01020	0.01219	0.02816	0.03575	0.07495
85008.0	NEWPORT BAY (670)	1419	9/20/94	36	0.01955	0.00500	0.02812	0.00227	0.01020	0.01744	0.04029	0.03081	0.06459
85009.0	NEWPORT BAY (705)	1420	9/20/94	36	0.01955	0.00500	0.02812	0.00227	0.01020	0.00781	0.01805	0.01369	0.02869
85003.0	NEWPORT BAY (791)	1389	8/31/94	34	0.01955	0.00500	0.02812	0.00227	0.01020	0.01513	0.03494	0.03869	0.08110
85010.0	NEWPORT BAY (819)	1421	9/19/94	36	0.01955	0.00500	0.02812	0.00227	0.01020	0.01644	0.03798	0.03919	0.08215
85004.0	NEWPORT BAY (877)	1390	9/1/94	34	0.01955	0.00500	0.02812	0.00227	0.01020	0.01419	0.03278	0.03050	0.06394
85011.0	NEWPORT BAY (905)	1422	9/20/94	36	0.01955	0.00500	0.02812	0.00227	0.01020	0.02244	0.05184	0.03913	0.08202
85005.0	NEWPORT BAY (949)	1391	8/31/94	34	0.01955	0.00500	0.02812	0.00708	0.03180	0.02956	0.06830	0.06563	0.13758
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36	0.07076	0.06660	0.37458	0.08609	0.38653	0.24375	0.56315	0.34500	0.72325
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36	0.05434	0.00500	0.02812	0.01818	0.08163	0.05456	0.12606	0.20000	0.41928
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36	0.09696	0.01192	0.06704	0.02818	0.12653	0.07188	0.16606	0.16438	0.34459
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45	0.11494	0.03800	0.21372	0.06882	0.30898	0.15125	0.34944	0.20813	0.43631
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36	0.01955	0.00500	0.02812	0.00227	0.01020	0.00420	0.00970	0.00589	0.01236
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36	0.01955	0.00500	0.02812	0.00686	0.03082	0.04100	0.09473	0.06750	0.14151
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36	0.01955	0.00500	0.02812	0.02127	0.09551	0.04794	0.11075	0.08875	0.18605
86001.0	SAN DIEGO CREEK- CAMPUS	1789	8/20/97	54	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
86002.0	SAN DIEGO CREEK- MACARTHUR	1790	8/20/97	54	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
86003.0	SANTA ANA/DELHI CHANNEL-BRIDGE	1791	8/20/97	54	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
86004.0	SANTA ANA/DELHI CHANNEL-OUTER	1792	8/20/97	54	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000

STANUM	STATION	IDORG	DATE	LEG	CHRQE	CHRQP	DBAQE	DBAQP	FLAQE	FLAQP	FLUQE	FLUQP	MNP2QE
80025.1	ANAHEIM BAY- OIL ISLAND	88	10/14/92	5	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
80025.2	ANAHEIM BAY- OIL ISLAND	89	10/14/92	5	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
80025.3	ANAHEIM BAY- OIL ISLAND	90	10/14/92	5	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
80024.1	ANAHEIM BAY- OUTER	85	9/15/92	4	0.16643	0.55084	0.04000	0.07726	0.06392	0.21827	0.09093	0.34015	0.01687
80024.2	ANAHEIM BAY- OUTER	86	9/15/92	4	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
80024.3	ANAHEIM BAY- OUTER	87	9/15/92	4	0.07500	0.24823	0.07692	0.14858	0.03529	0.12052	0.02407	0.09006	0.01269
80024.3	ANAHEIM BAY- OUTER	807	5/27/93	19	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
80024.3	ANAHEIM BAY, OUTER-REP 1	1171	3/31/94	29	0.02539	0.08404	0.04692	0.09063	0.02255	0.07700	0.00463	0.01732	0.01406
80024.3	ANAHEIM BAY, OUTER-REP 2	1172	3/31/94	29	0.02343	0.07754	0.05808	0.11218	0.02137	0.07298	0.01250	0.04676	0.01452
80024.3	ANAHEIM BAY, OUTER-REP 3	1173	3/31/94	29	0.03400	0.11253	0.06000	0.11589	0.03176	0.10847	0.11056	0.41358	0.04134
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82030.0	ANAHEIM BAY-NAVAL RES.- REP 1	1044	2/2/94	25	0.02332	0.07719	0.05346	0.10326	0.01945	0.06642	0.00463	0.01732	0.01019
82030.0	ANAHEIM BAY-NAVAL RES.- REP 2	1045	2/2/94	25	0.02482	0.08215	0.04423	0.08543	0.01857	0.06341	0.00463	0.01732	0.01070
82030.0	ANAHEIM BAY-NAVAL RES.- REP 3	1046	2/2/94	25	0.02861	0.09468	0.05346	0.10326	0.02118	0.07231	0.01033	0.03866	0.01213
82030.0	ANAHEIM BAY-NAVAL RES.-REP 1	1195	4/12/94	30	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 2	1196	4/12/94	30	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 3	1197	4/12/94	30	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82030.0	ANAHEIM BAY-NAVAL RESERVE	772	4/22/93	17	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82030.0	ANAHEIM BAY-NAVAL RESERVE	1335	5/19/94	32	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9	0.00643	0.02128	0.01923	0.03714	0.00878	0.03000	0.00463	0.01732	0.00373
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82002.0	ANAHEIM BAY-NAVY MARSH #2	809	5/27/93	19	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP1	1089	2/16/94	26	0.00188	0.00623	0.01923	0.03714	0.00140	0.00479	0.00463	0.01732	0.00373
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP2	1090	2/16/94	26	0.00200	0.00662	0.01923	0.03714	0.00175	0.00599	0.00463	0.01732	0.00373
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP3	1091	2/16/94	26	0.00208	0.00687	0.01923	0.03714	0.00172	0.00587	0.00463	0.01732	0.00373
82001.0	ANAHEIM BAY-NAVY MARSH-REP 1	1086	2/16/94	26	0.00364	0.01206	0.01923	0.03714	0.00371	0.01265	0.00463	0.01732	0.00373
82001.0	ANAHEIM BAY-NAVY MARSH-REP 2	1087	2/16/94	26	0.00368	0.01218	0.01923	0.03714	0.00410	0.01399	0.00463	0.01732	0.00373
82001.0	ANAHEIM BAY-NAVY MARSH-REP 3	1088	2/16/94	26	0.00207	0.00686	0.01923	0.03714	0.00239	0.00817	0.00463	0.01732	0.00373
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82040.0	SEAL BEACH NWR	440	12/11/92	9	0.01514	0.05012	0.01923	0.03714	0.01853	0.06327	0.01519	0.05681	0.00373
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82023.0	SEAL BEACH NWR-BOLSA AVE.	771	4/22/93	17	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 1	1092	2/16/94	26	0.00347	0.01148	0.01923	0.03714	0.00280	0.00957	0.00463	0.01732	0.00373
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 2	1093	2/16/94	26	0.00262	0.00868	0.01923	0.03714	0.00178	0.00609	0.00463	0.01732	0.00373
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 3	1094	2/16/94	26	0.00825	0.02731	0.01923	0.03714	0.00361	0.01232	0.00463	0.01732	0.00373
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000

Chemistry Summations and Quotients

STANUM	STATION	IDORG	DATE	LEG	CHRQE	CHRQP	DBAQE	DBAQP	FLAQE	FLAQP	FLUQE	FLUQP	MNP2QE
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82040.0	SEAL BEACH NWR-REP 1	1095	2/16/94	26	0.00761	0.02518	0.01923	0.03714	0.01457	0.04975	0.00463	0.01732	0.00373
82040.0	SEAL BEACH NWR-REP 2	1096	2/16/94	26	0.01018	0.03369	0.01923	0.03714	0.02373	0.08102	0.01907	0.07135	0.00793
82040.0	SEAL BEACH NWR-REP 3	1097	2/16/94	26	0.00429	0.01418	0.01923	0.03714	0.00359	0.01225	0.00463	0.01732	0.00373
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82024.0	BOLSA BAY-MOUTH OF EGGW FLOOD	770	4/21/93	17	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9	0.00843	0.02790	0.04500	0.08692	0.00692	0.02364	0.00463	0.01732	0.00373
82039.0	BOLSA CHICA ECOL RESERVE-REP 1	1204	4/12/94	30	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82039.0	BOLSA CHICA ECOL RESERVE-REP 2	1205	4/12/94	30	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82039.0	BOLSA CHICA ECOL RESERVE-REP 3	1206	4/12/94	30	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
80026.1	Huntington Harbor- Lower	91	9/15/92	4	0.01136	0.03759	0.02038	0.03937	0.01388	0.04740	0.00463	0.01732	0.00373
80026.2	Huntington Harbor- Lower	92	9/15/92	4	0.01071	0.03546	0.02231	0.04309	0.01137	0.03883	0.01259	0.04711	0.00373
80026.3	Huntington Harbor- Lower	93	9/15/92	4	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
80027.1	Huntington Harbor- Middle	94	9/15/92	4	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
80027.2	Huntington Harbor- Middle	95	9/15/92	4	0.03214	0.10639	0.09231	0.17829	0.02941	0.10043	0.00463	0.01732	0.01269
80027.3	Huntington Harbor- Middle	96	9/15/92	4	0.03929	0.13003	0.09231	0.17829	0.03137	0.10713	0.01519	0.05681	0.01269
80028.1	Huntington Harbor- Upper	97	9/15/92	4	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
80028.2	Huntington Harbor- Upper	98	9/15/92	4	0.04643	0.15367	0.11923	0.23029	0.04510	0.15400	0.01259	0.04711	0.01791
80028.3	Huntington Harbor- Upper	99	9/15/92	4	0.08571	0.28369	0.13077	0.25258	0.07647	0.26112	0.01574	0.05888	0.01940
80028.3	HUNTINGTON HARBOR, UPPER-REP 1	1174	3/30/94	29	0.05179	0.17140	0.17731	0.34247	0.07137	0.24372	0.02296	0.08590	0.03806
80028.3	HUNTINGTON HARBOR, UPPER-REP 2	1175	3/30/94	29	0.04857	0.16076	0.16731	0.32316	0.06294	0.21493	0.02259	0.08452	0.03940
80028.3	HUNTINGTON HARBOR, UPPER-REP 3	1176	3/30/94	29	0.04429	0.14658	0.23808	0.45985	0.06706	0.22899	0.01624	0.06076	0.02791
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 1	1177	3/30/94	29	0.02136	0.07069	0.08308	0.16046	0.02255	0.07700	0.00463	0.01732	0.01160
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 2	1178	3/30/94	29	0.01707	0.05650	0.10231	0.19761	0.02176	0.07432	0.00463	0.01732	0.00833
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 3	1179	3/30/94	29	0.01861	0.06159	0.12731	0.24590	0.02686	0.09173	0.00463	0.01732	0.00948
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82009.0	HUNTINGTON HARBOR-HAR. LA	808	5/27/93	19	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9	0.01346	0.04456	0.02115	0.04086	0.01394	0.04761	0.00463	0.01732	0.00373
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 1	1201	4/12/94	30	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 2	1202	4/12/94	30	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 3	1203	4/12/94	30	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9	0.03514	0.11631	0.08615	0.16641	0.02725	0.09307	0.00463	0.01732	0.01060
85006.0	NEWPORT BAY (1009)	1392	8/30/94	34	0.01039	0.03440	0.03962	0.07652	0.00873	0.02979	0.00463	0.01732	0.00373
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36	0.01018	0.03369	0.04308	0.08320	0.01033	0.03529	0.00463	0.01732	0.00373
85007.0	NEWPORT BAY (431)	1418	9/19/94	36	0.00264	0.00874	0.01923	0.03714	0.00247	0.00844	0.00463	0.01732	0.00373
85001.0	NEWPORT BAY (523)	1387	9/1/94	34	0.01039	0.03440	0.03846	0.07429	0.01098	0.03749	0.00463	0.01732	0.00373
85001.0	NEWPORT BAY (523)	1634	6/20/96	45	0.00964	0.03192	0.02819	0.05445	0.00814	0.02779	0.00463	0.01732	0.00373

Chemistry Summations and Quotients

STANUM	STATION	IDORG	DATE	LEG	CHRQE	CHRQP	DBAQE	DBAQP	FLAQE	FLAQP	FLUQE	FLUQP	MNP2QE
85001.0	NEWPORT BAY (523)	1788	8/20/97	54	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
85002.0	NEWPORT BAY (616)	1388	9/1/94	34	0.01093	0.03617	0.01923	0.03714	0.01014	0.03462	0.00463	0.01732	0.00373
85008.0	NEWPORT BAY (670)	1419	9/20/94	36	0.01796	0.05946	0.06423	0.12406	0.01208	0.04124	0.00463	0.01732	0.00373
85009.0	NEWPORT BAY (705)	1420	9/20/94	36	0.00771	0.02553	0.01923	0.03714	0.00486	0.01660	0.00463	0.01732	0.00373
85003.0	NEWPORT BAY (791)	1389	8/31/94	34	0.01321	0.04374	0.01923	0.03714	0.01196	0.04084	0.00463	0.01732	0.00373
85010.0	NEWPORT BAY (819)	1421	9/19/94	36	0.01207	0.03995	0.04654	0.08989	0.01100	0.03756	0.00463	0.01732	0.00373
85004.0	NEWPORT BAY (877)	1390	9/1/94	34	0.00989	0.03274	0.01923	0.03714	0.01039	0.03549	0.00463	0.01732	0.00373
85011.0	NEWPORT BAY (905)	1422	9/20/94	36	0.01975	0.06537	0.07846	0.15155	0.01422	0.04854	0.00463	0.01732	0.00373
85005.0	NEWPORT BAY (949)	1391	8/31/94	34	0.02125	0.07033	0.06731	0.13001	0.02059	0.07030	0.00463	0.01732	0.00876
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36	0.21429	0.70924	0.69615	1.34463	0.19353	0.66085	0.07407	0.27710	0.14269
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36	0.04464	0.14776	0.24577	0.47470	0.05294	0.18078	0.00463	0.01732	0.02388
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36	0.06571	0.21750	0.33423	0.64557	0.06471	0.22095	0.01259	0.04711	0.00878
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45	0.09429	0.31206	0.29500	0.56979	0.07784	0.26581	0.03741	0.13994	0.01321
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36	0.00338	0.01118	0.01923	0.03714	0.00345	0.01178	0.00463	0.01732	0.00373
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36	0.03929	0.13003	0.13615	0.26298	0.03549	0.12119	0.01309	0.04898	0.01425
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36	0.03714	0.12293	0.28192	0.54454	0.03588	0.12253	0.00463	0.01732	0.00373
86001.0	SAN DIEGO CREEK- CAMPUS	1789	8/20/97	54	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
86002.0	SAN DIEGO CREEK- MACARTHUR	1790	8/20/97	54	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
86003.0	SANTA ANA/DELHI CHANNEL-BRIDGE	1791	8/20/97	54	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
86004.0	SANTA ANA/DELHI CHANNEL-OUTER	1792	8/20/97	54	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000

Chemistry Summations and Quotients

STANUM	STATION	IDORG	DATE	LEG	MNP2QP	NPHQE	NPHQP	PHNQE	PHNQP	PYRQE	PYRQP	LMWPAHQE
80025.1	ANAHEIM BAY- OIL ISLAND	88	10/14/92	5	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
80025.2	ANAHEIM BAY- OIL ISLAND	89	10/14/92	5	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
80025.3	ANAHEIM BAY- OIL ISLAND	90	10/14/92	5	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
80024.1	ANAHEIM BAY- OUTER	85	9/15/92	4	0.05614	-9.00000	-9.00000	0.16467	0.45444	0.11269	0.20965	0.17104
80024.2	ANAHEIM BAY- OUTER	86	9/15/92	4	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
80024.3	ANAHEIM BAY- OUTER	87	9/15/92	4	0.04223	-9.00000	-9.00000	0.05000	0.13799	0.06538	0.12164	0.04649
80024.3	ANAHEIM BAY- OUTER	807	5/27/93	19	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
80024.3	ANAHEIM BAY, OUTER-REP 1	1171	3/31/94	29	0.04680	0.00538	0.02893	0.02853	0.07874	0.04538	0.08443	0.03156
80024.3	ANAHEIM BAY, OUTER-REP 2	1172	3/31/94	29	0.04834	0.00486	0.02611	0.03780	0.10432	0.04500	0.08371	0.04157
80024.3	ANAHEIM BAY, OUTER-REP 3	1173	3/31/94	29	0.13762	0.00474	0.02547	0.15267	0.42132	0.06038	0.11234	0.15030
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82030.0	ANAHEIM BAY-NAVAL RES.- REP 1	1044	2/2/94	25	0.03393	0.00340	0.01825	0.02587	0.07139	0.04038	0.07513	0.03051
82030.0	ANAHEIM BAY-NAVAL RES.- REP 2	1045	2/2/94	25	0.03562	0.00411	0.02209	0.02340	0.06458	0.03846	0.07155	0.02870
82030.0	ANAHEIM BAY-NAVAL RES.- REP 3	1046	2/2/94	25	0.04039	0.00412	0.02214	0.02587	0.07139	0.04192	0.07799	0.03306
82030.0	ANAHEIM BAY-NAVAL RES.-REP 1	1195	4/12/94	30	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 2	1196	4/12/94	30	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 3	1197	4/12/94	30	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82030.0	ANAHEIM BAY-NAVAL RESERVE	772	4/22/93	17	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82030.0	ANAHEIM BAY-NAVAL RESERVE	1335	5/19/94	32	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9	0.01242	-9.00000	-9.00000	0.00640	0.01766	0.01569	0.02919	0.01041
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82002.0	ANAHEIM BAY-NAVY MARSH #2	809	5/27/93	19	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP1	1089	2/16/94	26	0.01242	0.00119	0.00640	0.00167	0.00460	0.00256	0.00476	0.00949
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP2	1090	2/16/94	26	0.01242	0.00247	0.01326	0.00167	0.00460	0.00278	0.00518	0.01034
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP3	1091	2/16/94	26	0.01242	0.00119	0.00640	0.00167	0.00460	0.00313	0.00582	0.00949
82001.0	ANAHEIM BAY-NAVY MARSH-REP 1	1086	2/16/94	26	0.01242	0.00119	0.00640	0.00167	0.00460	0.00665	0.01238	0.00949
82001.0	ANAHEIM BAY-NAVY MARSH-REP 2	1087	2/16/94	26	0.01242	0.00119	0.00640	0.00349	0.00964	0.00704	0.01309	0.01036
82001.0	ANAHEIM BAY-NAVY MARSH-REP 3	1088	2/16/94	26	0.01242	0.00119	0.00640	0.00167	0.00460	0.00392	0.00730	0.00949
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82040.0	SEAL BEACH NWR	440	12/11/92	9	0.01242	-9.00000	-9.00000	0.02620	0.07231	0.03188	0.05932	0.02677
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82023.0	SEAL BEACH NWR-BOLSA AVE.	771	4/22/93	17	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 1	1092	2/16/94	26	0.01242	0.00287	0.01544	0.00167	0.00460	0.00427	0.00794	0.01061
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 2	1093	2/16/94	26	0.01242	0.00119	0.00640	0.00167	0.00460	0.00347	0.00645	0.00949
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 3	1094	2/16/94	26	0.01242	0.00119	0.00640	0.00366	0.01010	0.00650	0.01209	0.01044
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000

STANUM	STATION	IDORG	DATE	LEG	MNP2QP	NPHQE	NPHQP	PHNQE	PHNQP	PYRQE	PYRQP	LMWPAHQE
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82040.0	SEAL BEACH NWR-REP 1	1095	2/16/94	26	0.01242	0.00343	0.01846	0.02033	0.05611	0.02100	0.03907	0.02185
82040.0	SEAL BEACH NWR-REP 2	1096	2/16/94	26	0.02638	0.00329	0.01769	0.03707	0.10229	0.03335	0.06203	0.04423
82040.0	SEAL BEACH NWR-REP 3	1097	2/16/94	26	0.01242	0.00119	0.00640	0.00473	0.01304	0.00712	0.01324	0.01095
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82024.0	BOLSA BAY-MOUTH OF EGGW FLOOD	770	4/21/93	17	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9	0.01242	-9.00000	-9.00000	0.00847	0.02337	0.01569	0.02919	0.01035
82039.0	BOLSA CHICA ECOL RESERVE-REP 1	1204	4/12/94	30	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82039.0	BOLSA CHICA ECOL RESERVE-REP 2	1205	4/12/94	30	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82039.0	BOLSA CHICA ECOL RESERVE-REP 3	1206	4/12/94	30	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
80026.1	Huntington Harbor- Lower	91	9/15/92	4	0.01242	-9.00000	-9.00000	0.01587	0.04379	0.02762	0.05137	0.01386
80026.2	Huntington Harbor- Lower	92	9/15/92	4	0.01242	-9.00000	-9.00000	0.01933	0.05335	0.02154	0.04007	0.01883
80026.3	Huntington Harbor- Lower	93	9/15/92	4	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
80027.1	Huntington Harbor- Middle	94	9/15/92	4	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
80027.2	Huntington Harbor- Middle	95	9/15/92	4	0.04223	-9.00000	-9.00000	0.03467	0.09567	0.06538	0.12164	0.03405
80027.3	Huntington Harbor- Middle	96	9/15/92	4	0.04223	-9.00000	-9.00000	0.04467	0.12327	0.06923	0.12879	0.03734
80028.1	Huntington Harbor- Upper	97	9/15/92	4	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
80028.2	Huntington Harbor- Upper	98	9/15/92	4	0.05962	-9.00000	-9.00000	0.06200	0.17110	0.10000	0.18603	0.04801
80028.3	Huntington Harbor- Upper	99	9/15/92	4	0.06459	-9.00000	-9.00000	0.09333	0.25758	0.15385	0.28620	0.07206
80028.3	HUNTINGTON HARBOR, UPPER-REP 1	1174	3/30/94	29	0.12669	0.01195	0.06425	0.09933	0.27413	0.12769	0.23755	0.09250
80028.3	HUNTINGTON HARBOR, UPPER-REP 2	1175	3/30/94	29	0.13116	0.01357	0.07296	0.08667	0.23918	0.11385	0.21179	0.08986
80028.3	HUNTINGTON HARBOR, UPPER-REP 3	1176	3/30/94	29	0.09291	0.01014	0.05453	0.11067	0.30541	0.12115	0.22539	0.09147
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 1	1177	3/30/94	29	0.03860	0.00519	0.02790	0.02400	0.06623	0.04462	0.08300	0.02581
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 2	1178	3/30/94	29	0.02772	0.00355	0.01907	0.02527	0.06973	0.04346	0.08085	0.02644
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 3	1179	3/30/94	29	0.03155	0.00407	0.02189	0.03300	0.09107	0.05385	0.10017	0.03172
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82009.0	HUNTINGTON HARBOR-HAR. LA	808	5/27/93	19	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9	0.01242	-9.00000	-9.00000	0.01547	0.04268	0.03308	0.06153	0.01367
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 1	1201	4/12/94	30	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 2	1202	4/12/94	30	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 3	1203	4/12/94	30	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9	0.03527	-9.00000	-9.00000	0.03427	0.09457	0.06154	0.11448	0.02661
85006.0	NEWPORT BAY (1009)	1392	8/30/94	34	0.01242	0.00119	0.00640	0.01073	0.02962	0.01835	0.03413	0.01380
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36	0.01242	0.00119	0.00640	0.01087	0.02999	0.02273	0.04229	0.01386
85007.0	NEWPORT BAY (431)	1418	9/19/94	36	0.01242	0.00119	0.00640	0.00167	0.00460	0.00396	0.00737	0.00949
85001.0	NEWPORT BAY (523)	1387	9/1/94	34	0.01242	0.00119	0.00640	0.01147	0.03164	0.02254	0.04193	0.01415
85001.0	NEWPORT BAY (523)	1634	6/20/96	45	0.01242	0.00119	0.00640	0.01067	0.02944	0.01723	0.03205	0.01377

Chemistry Summations and Quotients

STANUM	STATION	IDORG	DATE	LEG	MNP2QP	NPHQE	NPHQP	PHNQE	PHNQP	PYRQE	PYRQP	LMWPAHQE
85001.0	NEWPORT BAY (523)	1788	8/20/97	54	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
85002.0	NEWPORT BAY (616)	1388	9/1/94	34	0.01242	0.00119	0.00640	0.01053	0.02907	0.02115	0.03935	0.01370
85008.0	NEWPORT BAY (670)	1419	9/20/94	36	0.01242	0.00119	0.00640	0.01173	0.03238	0.02365	0.04400	0.01514
85009.0	NEWPORT BAY (705)	1420	9/20/94	36	0.01242	0.00119	0.00640	0.00441	0.01218	0.01008	0.01875	0.01080
85003.0	NEWPORT BAY (791)	1389	8/31/94	34	0.01242	0.00119	0.00640	0.01440	0.03974	0.02300	0.04279	0.01554
85010.0	NEWPORT BAY (819)	1421	9/19/94	36	0.01242	0.00119	0.00640	0.01467	0.04048	0.02392	0.04450	0.01733
85004.0	NEWPORT BAY (877)	1390	9/1/94	34	0.01242	0.00119	0.00640	0.01033	0.02852	0.02235	0.04157	0.01361
85011.0	NEWPORT BAY (905)	1422	9/20/94	36	0.01242	0.00119	0.00640	0.01653	0.04563	0.02885	0.05366	0.01655
85005.0	NEWPORT BAY (949)	1391	8/31/94	34	0.02916	0.00254	0.01367	0.02653	0.07323	0.04308	0.08014	0.02582
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36	0.47496	0.02038	0.10956	0.31600	0.87208	0.38115	0.70907	0.30407
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36	0.07949	0.01133	0.06093	0.05867	0.16190	0.12115	0.22539	0.06113
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36	0.02921	0.00614	0.03302	0.07067	0.19502	0.11538	0.21465	0.06615
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45	0.04397	0.00914	0.04915	0.14933	0.41212	0.17000	0.31626	0.13558
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36	0.01242	0.00119	0.00640	0.00405	0.01117	0.00646	0.01202	0.01062
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36	0.04745	0.00752	0.04045	0.03673	0.10137	0.06846	0.12736	0.03765
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36	0.01242	0.00119	0.00640	0.04927	0.13596	0.06154	0.11448	0.04180
86001.0	SAN DIEGO CREEK- CAMPUS	1789	8/20/97	54	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
86002.0	SAN DIEGO CREEK- MACARTHUR	1790	8/20/97	54	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
86003.0	SANTA ANA/DELHI CHANNEL-BRIDGE	1791	8/20/97	54	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000
86004.0	SANTA ANA/DELHI CHANNEL-OUTER	1792	8/20/97	54	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000

Chemistry Summations and Quotients

STANUM	STATION	IDORG	DATE	LEG	LMWPAHQP	HMWPAHQE	HMWPAHQP	TTLPAHQE	TTLPAHQP	ERMQ	PELQ
80025.1	ANAHEIM BAY- OIL ISLAND	88	10/14/92	5	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.000	-9.000
80025.2	ANAHEIM BAY- OIL ISLAND	89	10/14/92	5	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.000	-9.000
80025.3	ANAHEIM BAY- OIL ISLAND	90	10/14/92	5	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.000	-9.000
80024.1	ANAHEIM BAY- OUTER	85	9/15/92	4	0.37483	0.14458	0.20790	0.04305	0.11499	0.101	0.183
80024.2	ANAHEIM BAY- OUTER	86	9/15/92	4	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.000	-9.000
80024.3	ANAHEIM BAY- OUTER	87	9/15/92	4	0.10187	0.09375	0.13481	0.02337	0.06243	0.141	0.210
80024.3	ANAHEIM BAY- OUTER	807	5/27/93	19	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.000	-9.000
80024.3	ANAHEIM BAY, OUTER-REP 1	1171	3/31/94	29	0.06916	0.07892	0.11348	0.01914	0.05112	0.210	0.301
80024.3	ANAHEIM BAY, OUTER-REP 2	1172	3/31/94	29	0.09110	0.08452	0.12154	0.02105	0.05622	0.206	0.298
80024.3	ANAHEIM BAY, OUTER-REP 3	1173	3/31/94	29	0.32937	0.10261	0.14756	0.03260	0.08706	0.194	0.302
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.- REP 1	1044	2/2/94	25	0.06685	0.07698	0.11069	0.01865	0.04981	0.182	0.273
82030.0	ANAHEIM BAY-NAVAL RES.- REP 2	1045	2/2/94	25	0.06290	0.07147	0.10277	0.01734	0.04632	0.183	0.273
82030.0	ANAHEIM BAY-NAVAL RES.- REP 3	1046	2/2/94	25	0.07244	0.08034	0.11553	0.01955	0.05222	0.597	0.827
82030.0	ANAHEIM BAY-NAVAL RES.-REP 1	1195	4/12/94	30	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 2	1196	4/12/94	30	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 3	1197	4/12/94	30	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RESERVE	772	4/22/93	17	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RESERVE	1335	5/19/94	32	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.000	-9.000
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9	0.02282	0.01702	0.02448	0.00438	0.01171	0.073	0.116
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.000	-9.000
82002.0	ANAHEIM BAY-NAVY MARSH #2	809	5/27/93	19	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.000	-9.000
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP1	1089	2/16/94	26	0.02080	0.00610	0.00878	0.00198	0.00528	0.108	0.158
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP2	1090	2/16/94	26	0.02266	0.00607	0.00873	0.00203	0.00542	0.090	0.136
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP3	1091	2/16/94	26	0.02080	0.00672	0.00966	0.00211	0.00563	0.099	0.152
82001.0	ANAHEIM BAY-NAVY MARSH-REP 1	1086	2/16/94	26	0.02080	0.01235	0.01776	0.00332	0.00886	0.082	0.133
82001.0	ANAHEIM BAY-NAVY MARSH-REP 2	1087	2/16/94	26	0.02270	0.01176	0.01690	0.00325	0.00868	0.078	0.109
82001.0	ANAHEIM BAY-NAVY MARSH-REP 3	1088	2/16/94	26	0.02080	0.00684	0.00983	0.00213	0.00570	0.101	0.140
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.000	-9.000
82040.0	SEAL BEACH NWR	440	12/11/92	9	0.05867	0.03314	0.04765	0.00899	0.02401	0.078	0.113
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.000	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE.	771	4/22/93	17	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.000	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 1	1092	2/16/94	26	0.02325	0.00802	0.01153	0.00247	0.00659	0.107	0.154
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 2	1093	2/16/94	26	0.02080	0.00722	0.01038	0.00222	0.00592	0.117	0.189
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 3	1094	2/16/94	26	0.02288	0.01445	0.02078	0.00383	0.01024	0.131	0.197
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.000	-9.000
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.000	-9.000

Chemistry Summations and Quotients

STANUM	STATION	IDORG	DATE	LEG	LMWPAHQP	HMWPAHQE	HMWPAHQP	TTLPAHQE	TTLPAHQP	ERMQ	PELQ
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.000	-9.000
82040.0	SEAL BEACH NWR-REP 1	1095	2/16/94	26	0.04788	0.02675	0.03846	0.00727	0.01943	0.086	0.125
82040.0	SEAL BEACH NWR-REP 2	1096	2/16/94	26	0.09693	0.03882	0.05583	0.01144	0.03056	0.094	0.144
82040.0	SEAL BEACH NWR-REP 3	1097	2/16/94	26	0.02399	0.01237	0.01779	0.00342	0.00914	0.089	0.137
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.000	-9.000
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.000	-9.000
82024.0	BOLSA BAY-MOUTH OF EGGW FLOOD	770	4/21/93	17	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.000	-9.000
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9	0.02268	0.02817	0.04050	0.00677	0.01807	0.146	0.183
82039.0	BOLSA CHICA ECOL RESERVE-REP 1	1204	4/12/94	30	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.000	-9.000
82039.0	BOLSA CHICA ECOL RESERVE-REP 2	1205	4/12/94	30	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.000	-9.000
82039.0	BOLSA CHICA ECOL RESERVE-REP 3	1206	4/12/94	30	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.000	-9.000
80026.1	Huntington Harbor- Lower	91	9/15/92	4	0.03037	0.02833	0.04074	0.00705	0.01883	0.117	0.196
80026.2	Huntington Harbor- Lower	92	9/15/92	4	0.04126	0.02414	0.03471	0.00650	0.01736	0.076	0.114
80026.3	Huntington Harbor- Lower	93	9/15/92	4	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.000	-9.000
80027.1	Huntington Harbor- Middle	94	9/15/92	4	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.000	-9.000
80027.2	Huntington Harbor- Middle	95	9/15/92	4	0.07462	0.07438	0.10695	0.01834	0.04899	0.261	0.394
80027.3	Huntington Harbor- Middle	96	9/15/92	4	0.08183	0.07854	0.11294	0.01947	0.05200	0.250	0.377
80028.1	Huntington Harbor- Upper	97	9/15/92	4	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.000	-9.000
80028.2	Huntington Harbor- Upper	98	9/15/92	4	0.10520	0.10531	0.15143	0.02596	0.06933	0.356	0.522
80028.3	Huntington Harbor- Upper	99	9/15/92	4	0.15791	0.16740	0.24071	0.04096	0.10940	0.352	0.521
80028.3	HUNTINGTON HARBOR, UPPER-REP 1	1174	3/30/94	29	0.20270	0.22159	0.31864	0.05402	0.14428	0.654	0.940
80028.3	HUNTINGTON HARBOR, UPPER-REP 2	1175	3/30/94	29	0.19691	0.20434	0.29384	0.05014	0.13390	0.626	0.903
80028.3	HUNTINGTON HARBOR, UPPER-REP 3	1176	3/30/94	29	0.20045	0.22914	0.32949	0.05556	0.14840	0.582	0.846
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 1	1177	3/30/94	29	0.05655	0.09376	0.13482	0.02192	0.05853	0.309	0.463
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 2	1178	3/30/94	29	0.05795	0.09726	0.13986	0.02271	0.06066	0.296	0.447
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 3	1179	3/30/94	29	0.06952	0.11692	0.16812	0.02730	0.07290	0.332	0.495
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.000	-9.000
82009.0	HUNTINGTON HARBOR-HAR. LA	808	5/27/93	19	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.000	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9	0.02996	0.03249	0.04672	0.00793	0.02117	0.163	0.241
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 1	1201	4/12/94	30	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.000	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 2	1202	4/12/94	30	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.000	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 3	1203	4/12/94	30	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.000	-9.000
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9	0.05832	0.07333	0.10545	0.01759	0.04699	0.296	0.441
85006.0	NEWPORT BAY (1009)	1392	8/30/94	34	0.03024	0.04866	0.06997	0.01140	0.03045	0.318	0.426
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36	0.03037	0.05106	0.07343	0.01192	0.03184	0.212	0.316
85007.0	NEWPORT BAY (431)	1418	9/19/94	36	0.02080	0.00800	0.01150	0.00238	0.00637	0.070	0.100
85001.0	NEWPORT BAY (523)	1387	9/1/94	34	0.03100	0.04722	0.06790	0.01112	0.02969	0.180	0.283
85001.0	NEWPORT BAY (523)	1634	6/20/96	45	0.03017	0.03415	0.04910	0.00829	0.02214	0.089	0.144

Chemistry Summations and Quotients

STANUM	STATION	IDORG	DATE	LEG	LMWPAHQP	HMWPAHQE	HMWPAHQP	TTLPAHQE	TTLPAHQP	ERMQ	PELQ
85001.0	NEWPORT BAY (523)	1788	8/20/97	54	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.000	-9.000
85002.0	NEWPORT BAY (616)	1388	9/1/94	34	0.03003	0.04530	0.06514	0.01068	0.02851	0.239	0.340
85008.0	NEWPORT BAY (670)	1419	9/20/94	36	0.03318	0.05426	0.07802	0.01270	0.03391	0.175	0.267
85009.0	NEWPORT BAY (705)	1420	9/20/94	36	0.02366	0.02153	0.03096	0.00538	0.01436	0.131	0.209
85003.0	NEWPORT BAY (791)	1389	8/31/94	34	0.03405	0.04791	0.06889	0.01136	0.03035	0.147	0.212
85010.0	NEWPORT BAY (819)	1421	9/19/94	36	0.03797	0.05551	0.07982	0.01312	0.03504	0.216	0.329
85004.0	NEWPORT BAY (877)	1390	9/1/94	34	0.02982	0.04246	0.06105	0.01006	0.02687	0.198	0.290
85011.0	NEWPORT BAY (905)	1422	9/20/94	36	0.03627	0.06465	0.09296	0.01502	0.04012	0.200	0.295
85005.0	NEWPORT BAY (949)	1391	8/31/94	34	0.05658	0.09256	0.13310	0.02166	0.05785	0.244	0.359
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36	0.66633	0.67354	0.96852	0.16581	0.44285	0.668	0.972
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36	0.13395	0.29815	0.42872	0.06821	0.18219	0.733	1.039
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36	0.14497	0.26348	0.37887	0.06114	0.16329	1.270	1.684
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45	0.29712	0.34492	0.49598	0.08349	0.22299	1.124	1.482
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36	0.02328	0.01315	0.01891	0.00357	0.00953	0.093	0.152
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36	0.08250	0.12824	0.18440	0.03014	0.08050	0.256	0.373
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36	0.09161	0.12813	0.18424	0.03041	0.08122	0.163	0.247
86001.0	SAN DIEGO CREEK- CAMPUS	1789	8/20/97	54	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.000	-9.000
86002.0	SAN DIEGO CREEK- MACARTHUR	1790	8/20/97	54	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.000	-9.000
86003.0	SANTA ANA/DELHI CHANNEL-BRIDGE	1791	8/20/97	54	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.000	-9.000
86004.0	SANTA ANA/DELHI CHANNEL-OUTER	1792	8/20/97	54	-9.00000	-9.00000	-9.00000	-9.00000	-9.00000	-9.000	-9.000

STANUM	STATION	IDORG	DATE	LEG	ERMEXCDS	PELEXCDS
80025.1	ANAHEIM BAY- OIL ISLAND	88	10/14/92	5		-9
80025.2	ANAHEIM BAY- OIL ISLAND	89	10/14/92	5		-9
80025.3	ANAHEIM BAY- OIL ISLAND	90	10/14/92	5		-9
80024.1	ANAHEIM BAY- OUTER	85	9/15/92	4	0	0
80024.2	ANAHEIM BAY- OUTER	86	9/15/92	4		-9
80024.3	ANAHEIM BAY- OUTER	87	9/15/92	4	0	0
80024.3	ANAHEIM BAY- OUTER	807	5/27/93	19		-9
80024.3	ANAHEIM BAY, OUTER-REP 1	1171	3/31/94	29	2	2
80024.3	ANAHEIM BAY, OUTER-REP 2	1172	3/31/94	29	2	1
80024.3	ANAHEIM BAY, OUTER-REP 3	1173	3/31/94	29	2	2
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9		-9
82030.0	ANAHEIM BAY-NAVAL RES.- REP 1	1044	2/2/94	25	2	2
82030.0	ANAHEIM BAY-NAVAL RES.- REP 2	1045	2/2/94	25	2	1
82030.0	ANAHEIM BAY-NAVAL RES.- REP 3	1046	2/2/94	25	2	2
82030.0	ANAHEIM BAY-NAVAL RES.-REP 1	1195	4/12/94	30		-9
82030.0	ANAHEIM BAY-NAVAL RES.-REP 2	1196	4/12/94	30		-9
82030.0	ANAHEIM BAY-NAVAL RES.-REP 3	1197	4/12/94	30		-9
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9		-9
82030.0	ANAHEIM BAY-NAVAL RESERVE	772	4/22/93	17		-9
82030.0	ANAHEIM BAY-NAVAL RESERVE	1335	5/19/94	32		-9
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9	0	0
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9		-9
82002.0	ANAHEIM BAY-NAVY MARSH #2	809	5/27/93	19		-9
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP1	1089	2/16/94	26	0	0
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP2	1090	2/16/94	26	0	0
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP3	1091	2/16/94	26	0	0
82001.0	ANAHEIM BAY-NAVY MARSH-REP 1	1086	2/16/94	26	0	0
82001.0	ANAHEIM BAY-NAVY MARSH-REP 2	1087	2/16/94	26	0	0
82001.0	ANAHEIM BAY-NAVY MARSH-REP 3	1088	2/16/94	26	0	0
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9		-9
82040.0	SEAL BEACH NWR	440	12/11/92	9	0	0
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9		-9
82023.0	SEAL BEACH NWR-BOLSA AVE.	771	4/22/93	17		-9
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 1	1092	2/16/94	26	0	0
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 2	1093	2/16/94	26	0	0
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 3	1094	2/16/94	26	0	0
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9		-9
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9		-9

Chemistry Summations and Quotients

STANUM	STATION	IDORG	DATE	LEG	ERMEXCDS	PELEXCDS
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17		-9
82040.0	SEAL BEACH NWR-REP 1	1095	2/16/94	26	0	0
82040.0	SEAL BEACH NWR-REP 2	1096	2/16/94	26	0	0
82040.0	SEAL BEACH NWR-REP 3	1097	2/16/94	26	0	0
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9		-9
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9		-9
82024.0	BOLSA BAY-MOUTH OF EGGW FLOOD	770	4/21/93	17		-9
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9	0	0
82039.0	BOLSA CHICA ECOL RESERVE-REP 1	1204	4/12/94	30		-9
82039.0	BOLSA CHICA ECOL RESERVE-REP 2	1205	4/12/94	30		-9
82039.0	BOLSA CHICA ECOL RESERVE-REP 3	1206	4/12/94	30		-9
80026.1	Huntington Harbor- Lower	91	9/15/92	4	0	0
80026.2	Huntington Harbor- Lower	92	9/15/92	4	0	0
80026.3	Huntington Harbor- Lower	93	9/15/92	4		-9
80027.1	Huntington Harbor- Middle	94	9/15/92	4		-9
80027.2	Huntington Harbor- Middle	95	9/15/92	4	2	1
80027.3	Huntington Harbor- Middle	96	9/15/92	4	2	2
80028.1	Huntington Harbor- Upper	97	9/15/92	4		-9
80028.2	Huntington Harbor- Upper	98	9/15/92	4	2	1
80028.3	Huntington Harbor- Upper	99	9/15/92	4	2	1
80028.3	HUNTINGTON HARBOR, UPPER-REP 1	1174	3/30/94	29	2	3
80028.3	HUNTINGTON HARBOR, UPPER-REP 2	1175	3/30/94	29	2	3
80028.3	HUNTINGTON HARBOR, UPPER-REP 3	1176	3/30/94	29	2	3
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 1	1177	3/30/94	29	2	2
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 2	1178	3/30/94	29	2	2
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 3	1179	3/30/94	29	2	2
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9		-9
82009.0	HUNTINGTON HARBOR-HAR. LA	808	5/27/93	19		-9
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9	1	0
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 1	1201	4/12/94	30		-9
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 2	1202	4/12/94	30		-9
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 3	1203	4/12/94	30		-9
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9	2	2
85006.0	NEWPORT BAY (1009)	1392	8/30/94	34	2	1
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36	2	1
85007.0	NEWPORT BAY (431)	1418	9/19/94	36	0	1
85001.0	NEWPORT BAY (523)	1387	9/1/94	34	1	1
85001.0	NEWPORT BAY (523)	1634	6/20/96	45	0	0

Chemistry Summations and Quotients

STANUM	STATION	IDORG	DATE	LEG	ERMEXCDS	PELEXCDS
85001.0	NEWPORT BAY (523)	1788	8/20/97	54		-9
85002.0	NEWPORT BAY (616)	1388	9/1/94	34	2	1
85008.0	NEWPORT BAY (670)	1419	9/20/94	36	2	1
85009.0	NEWPORT BAY (705)	1420	9/20/94	36	1	0
85003.0	NEWPORT BAY (791)	1389	8/31/94	34	1	0
85010.0	NEWPORT BAY (819)	1421	9/19/94	36	1	1
85004.0	NEWPORT BAY (877)	1390	9/1/94	34	1	0
85011.0	NEWPORT BAY (905)	1422	9/20/94	36	2	1
85005.0	NEWPORT BAY (949)	1391	8/31/94	34	1	0
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36	2	5
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36	5	5
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36	4	5
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45	4	4
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36	0	0
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36	2	1
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36	0	0
86001.0	SAN DIEGO CREEK- CAMPUS	1789	8/20/97	54		-9
86002.0	SAN DIEGO CREEK- MACARTHUR	1790	8/20/97	54		-9
86003.0	SANTA ANA/DELHI CHANNEL-BRIDGE	1791	8/20/97	54		-9
86004.0	SANTA ANA/DELHI CHANNEL-OUTER	1792	8/20/97	54		-9

Section 8

Fish Tissue Chemistry

Fish Tissue Chemistry

STANUM	STATION	IDORG	DATE	LEG	TISS_TYPE	NO_IN_COMP	TMMOIST	ALUMINUM	ANTIMONY
82017.0	RHINE CHANNEL-NEWPORT	285.0	10/6/92	-9.0	FISH- TOPSMELT	15	74.46	-9.00	-9.000

ARSENIC	CADMIUM	CHROMIUM	COPPER	IRON	LEAD	MANGANESE	MERCURY	NICKEL	SILVER
-9.000	-9.0000	-9.000	-9.00	-9.0	-9.000	-9.00	0.0040	-9.000	-9.0000

SELENIUM	TIN	ZINC	ASBATCH	SEBATCH	TMBATCH	TMDATAQC	SOWEIGHT	SOMOIST	SOLIPID
-9.000	-9.0000	-9.0000	-9.0	-9.0	-9.0	-4	2.81	74.46	1.14

ALDRIN	CCHLOR	TCHLOR	ACDEN	GCDEN	TTL_CHLR	CLPYR	DACTH	OPDDD	PPDDD
-8.000	0.293	0.089	-8.000	-8.000	1.566	-8.00	-8.000	0.30	1.890

OPDDE	PPDDE	PPDDMS	PPDDMU	OPDDT	PPDDT	TTL_DDT	DICLB	DIELDRIN	ENDO_I
-8.00	26.40	-8.00	1.35	-8.00	0.69	29.98	-8.00	-8.000	-8.000

ENDO_II	ESO4	ENDRIN	HCHA	HCHB	HCHG	HCHD	HEPTACHLOR	HE	HCB
-8.00	-8.00	-8.00	-8.000	-8.00	-8.000	-8.000	-8.000	-8.000	-8.000

METHOXY	MIREX	CNONA	TNONA	OXAD	OCDAN	TOXAPH	PESBATCH	PCB5	PCB8
-8.00	-8.000	0.380	0.656	-9.00	0.148	-8.00	73.70	-9.000	-8.000

PCB15	PCB18	PCB27	PCB28	PCB29	PCB31	PCB44	PCB49	PCB52	PCB66
-9.000	-8.000	-9.000	0.723	-9.000	-9.000	0.179	-9.000	1.020	1.020

PCB70	PCB74	PCB87	PCB95	PCB97	PCB99	PCB101	PCB105	PCB110	PCB118
-9.000	-9.000	0.138	-9.000	-9.000	-9.000	1.460	0.162	-9.000	1.410

PCB128	PCB132	PCB137	PCB138	PCB149	PCB151	PCB153	PCB156	PCB157	PCB158
0.070	-9.000	-9.000	1.490	-9.000	-9.000	1.880	-9.000	-9.000	-9.000

PCB170	PCB174	PCB177	PCB180	PCB183	PCB187	PCB189	PCB194	PCB195	PCB201
0.193	-9.000	-9.000	0.558	-9.000	0.617	-9.000	-9.000	-8.000	-9.000

PCB203	PCB206	PCB209	PCBBATCH	ARO5460	ARO1248	ARO1254	ARO1260	TTL_PCB	ACY
-9.000	-8.000	-8.000	73.70	-9.000	-9.000	-9.000	-9.000	22.564	-8.00

Fish Tissue Chemistry

STANUM	STATION	IDORG	DATE	LEG	ACE	ANT	BAA	BAP	ANTIMONY
82017.0	RHINE CHANNEL-NEWPORT	285.0	10/6/92	-9.0	-8.00	-8.00	-8.00	-8.00	-9.000

BBF	BKF	BGP	BEP	BPH	CHR	COR	DBA	DBT	DMN
-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	-9.00	-8.00	-9.00	-8.00

FLA	FLU	IND	MNP1	MNP2	MPH1	NPH	PHN	PER	PYR
-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00	-8.00

TMN	TRY	PAHBATCH	SODATAQA
-8.00	-9 00	73.70	-5

Appendix D

Sediment Grain Size and Total Organic Carbon Analyses

Grain Size and Total Organic Carbon Analyses

STANUM	STATION	IDORG	DATE	LEG	FINES	FINEBATCH	FINEDATAQC	COARSESAND	FINESAND	COARSESILT	FINESILT
80024.1	ANAHEIM BAY- OUTER	85	9/15/92	4.0	31.00	4	-9	-9.00	-9.00	-9.00	-9.00
80024.2	ANAHEIM BAY- OUTER	86	9/15/92	4.0	73.00	4	-9	-9.00	-9.00	-9.00	-9.00
80024.3	ANAHEIM BAY- OUTER	87	9/15/92	4.0	64.79	4	-9	-9.00	-9.00	-9.00	-9.00
80026.1	HUNTINGTON HARBOR- LOWER	91	9/15/92	4.0	27.00	4	-9	-9.00	-9.00	-9.00	-9.00
80026.2	HUNTINGTON HARBOR- LOWER	92	9/15/92	4.0	9.79	4	-9	-9.00	-9.00	-9.00	-9.00
80026.3	HUNTINGTON HARBOR- LOWER	93	9/15/92	4.0	44.00	4	-9	-9.00	-9.00	-9.00	-9.00
80027.1	HUNTINGTON HARBOR- MIDDLE	94	9/15/92	4.0	79.00	4	-9	-9.00	-9.00	-9.00	-9.00
80027.2	HUNTINGTON HARBOR- MIDDLE	95	9/15/92	4.0	88.96	4	-9	-9.00	-9.00	-9.00	-9.00
80027.3	HUNTINGTON HARBOR- MIDDLE	96	9/15/92	4.0	80.77	4	-9	-9.00	-9.00	-9.00	-9.00
80028.1	HUNTINGTON HARBOR- UPPER	97	9/15/92	4.0	42.00	4	-9	-9.00	-9.00	-9.00	-9.00
80028.2	HUNTINGTON HARBOR- UPPER	98	9/15/92	4.0	59.94	4	-9	-9.00	-9.00	-9.00	-9.00
80028.3	HUNTINGTON HARBOR- UPPER	99	9/15/92	4.0	68.40	4	-9	-9.00	-9.00	-9.00	-9.00
80025.1	ANAHEIM BAY- OIL ISLAND	88	10/14/92	5.0	48.00	5	-9	-9.00	-9.00	-9.00	-9.00
80025.2	ANAHEIM BAY- OIL ISLAND	89	10/14/92	5.0	52.00	5	-9	-9.00	-9.00	-9.00	-9.00
80025.3	ANAHEIM BAY- OIL ISLAND	90	10/14/92	5.0	56.00	5	-9	-9.00	-9.00	-9.00	-9.00
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9.0	46.00	9	-3	-9.00	-9.00	-9.00	-9.00
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9.0	73.00	9	-3	-9.00	-9.00	-9.00	-9.00
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9.0	19.00	9	-3	-9.00	-9.00	-9.00	-9.00
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9.0	22.00	9	-3	-9.00	-9.00	-9.00	-9.00
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9.0	66.00	9	-3	-9.00	-9.00	-9.00	-9.00
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9.0	90.00	9	-3	-9.00	-9.00	-9.00	-9.00
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9.0	86.00	9	-3	-9.00	-9.00	-9.00	-9.00
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9.0	52.00	9	-3	-9.00	-9.00	-9.00	-9.00
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9.0	28.00	9	-3	-9.00	-9.00	-9.00	-9.00
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9.0	61.00	9	-3	-9.00	-9.00	-9.00	-9.00
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9.0	99.00	9	-3	-9.00	-9.00	-9.00	-9.00
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9.0	37.00	9	-3	-9.00	-9.00	-9.00	-9.00
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9.0	42.00	9	-3	-9.00	-9.00	-9.00	-9.00
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9.0	59.00	9	-3	-9.00	-9.00	-9.00	-9.00
82040.0	SEAL BEACH NWR	440	12/11/92	9.0	56.00	9	-3	-9.00	-9.00	-9.00	-9.00
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17.0	72.00	17	-3	-9.00	-9.00	-9.00	-9.00
82024.0	BOLSA BAY-MOUTH OF EGGW FLOOD	770	4/21/93	17.0	45.00	17	-3	-9.00	-9.00	-9.00	-9.00
82023.0	SEAL BEACH NWR-BOLSA AVE.	771	4/22/93	17.0	81.00	17	-3	-9.00	-9.00	-9.00	-9.00
82030.0	ANAHEIM BAY-NAVAL RESERVE	772	4/22/93	17.0	27.00	17	-3	-9.00	-9.00	-9.00	-9.00
80024.3	ANAHEIM BAY- OUTER	807	5/27/93	19.0	70.33	19	-4	-9.00	-9.00	-9.00	-9.00
82009.0	HUNTINGTON HARBOR-HAR. LA	808	5/27/93	19.0	91.41	19	-4	-9.00	-9.00	-9.00	-9.00
82002.0	ANAHEIM BAY-NAVY MARSH #2	809	5/27/93	19.0	67.90	19	-4	-9.00	-9.00	-9.00	-9.00
82030.0	ANAHEIM BAY-NAVAL RES.- REP 1	1044	2/2/94	25.0	71.25	25	-4	-9.00	-9.00	-9.00	-9.00

Grain Size and Total Organic Carbon Analyses

STANUM	STATION	IDORG	DATE	LEG	FINES	FINEBATCH	FINEDATAQC	COARSESAND	FINESAND	COARSESILT	FINESILT
82030.0	ANAHEIM BAY-NAVAL RES.- REP 2	1045	2/2/94	25.0	71.84	25	-4	-9.00	-9.00	-9.00	-9.00
82030.0	ANAHEIM BAY-NAVAL RES.- REP 3	1046	2/2/94	25.0	79.00	25	-4	-9.00	-9.00	-9.00	-9.00
82001.0	ANAHEIM BAY-NAVY MARSH-REP 1	1086	2/16/94	26.0	33.51	26	-4	-9.00	-9.00	-9.00	-9.00
82001.0	ANAHEIM BAY-NAVY MARSH-REP 2	1087	2/16/94	26.0	28.56	26	-4	-9.00	-9.00	-9.00	-9.00
82001.0	ANAHEIM BAY-NAVY MARSH-REP 3	1088	2/16/94	26.0	26.66	26	-4	-9.00	-9.00	-9.00	-9.00
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP1	1089	2/16/94	26.0	71.91	26	-4	-9.00	-9.00	-9.00	-9.00
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP2	1090	2/16/94	26.0	66.25	26	-4	-9.00	-9.00	-9.00	-9.00
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP3	1091	2/16/94	26.0	71.90	26	-4	-9.00	-9.00	-9.00	-9.00
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 1	1092	2/16/94	26.0	82.95	26	-4	-9.00	-9.00	-9.00	-9.00
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 2	1093	2/16/94	26.0	87.84	26	-4	-9.00	-9.00	-9.00	-9.00
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 3	1094	2/16/94	26.0	87.68	26	-4	-9.00	-9.00	-9.00	-9.00
82040.0	SEAL BEACH NWR-REP 1	1095	2/16/94	26.0	37.33	26	-4	-9.00	-9.00	-9.00	-9.00
82040.0	SEAL BEACH NWR-REP 2	1096	2/16/94	26.0	53.22	26	-4	-9.00	-9.00	-9.00	-9.00
82040.0	SEAL BEACH NWR-REP 3	1097	2/16/94	26.0	49.63	26	-4	-9.00	-9.00	-9.00	-9.00
80024.3	ANAHEIM BAY, OUTER-REP 1	1171	3/31/94	29.0	78.29	29	-4	-9.00	-9.00	-9.00	-9.00
80024.3	ANAHEIM BAY, OUTER-REP 2	1172	3/31/94	29.0	75.21	29	-4	-9.00	-9.00	-9.00	-9.00
80024.3	ANAHEIM BAY, OUTER-REP 3	1173	3/31/94	29.0	78.41	29	-4	-9.00	-9.00	-9.00	-9.00
80028.3	HUNTINGTON HARBOR, UPPER-REP 1	1174	3/30/94	29.0	74.92	29	-4	-9.00	-9.00	-9.00	-9.00
80028.3	HUNTINGTON HARBOR, UPPER-REP 2	1175	3/30/94	29.0	71.15	29	-4	-9.00	-9.00	-9.00	-9.00
80028.3	HUNTINGTON HARBOR, UPPER-REP 3	1176	3/30/94	29.0	76.80	29	-4	-9.00	-9.00	-9.00	-9.00
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 1	1177	3/30/94	29.0	89.02	29	-4	-9.00	-9.00	-9.00	-9.00
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 2	1178	3/30/94	29.0	78.49	29	-4	-9.00	-9.00	-9.00	-9.00
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 3	1179	3/30/94	29.0	82.05	29	-4	-9.00	-9.00	-9.00	-9.00
82030.0	ANAHEIM BAY-NAVAL RES.-REP 1	1195	4/12/94	30.0	42.95	30	-4	-9.00	-9.00	-9.00	-9.00
82030.0	ANAHEIM BAY-NAVAL RES.-REP 2	1196	4/12/94	30.0	92.45	30	-4	-9.00	-9.00	-9.00	-9.00
82030.0	ANAHEIM BAY-NAVAL RES.-REP 3	1197	4/12/94	30.0	91.11	30	-4	-9.00	-9.00	-9.00	-9.00
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 1	1201	4/12/94	30.0	71.82	30	-4	-9.00	-9.00	-9.00	-9.00
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 2	1202	4/12/94	30.0	73.24	30	-4	-9.00	-9.00	-9.00	-9.00
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 3	1203	4/12/94	30.0	80.07	30	-4	-9.00	-9.00	-9.00	-9.00
82039.0	BOLSA CHICA ECOL RESERVE-REP 1	1204	4/12/94	30.0	53.62	30	-4	-9.00	-9.00	-9.00	-9.00
82039.0	BOLSA CHICA ECOL RESERVE-REP 2	1205	4/12/94	30.0	68.70	30	-4	-9.00	-9.00	-9.00	-9.00
82039.0	BOLSA CHICA ECOL RESERVE-REP 3	1206	4/12/94	30.0	63.30	30	-4	-9.00	-9.00	-9.00	-9.00
82030.0	ANAHEIM BAY-NAVAL RESERVE	1335	5/19/94	32.0	76.02	32	-4	-9.00	-9.00	-9.00	-9.00
85001.0	NEWPORT BAY (523)	1387	9/1/94	34.0	81.41	34	-4	-9.00	-9.00	-9.00	-9.00
85002.0	NEWPORT BAY (616)	1388	9/1/94	34.0	64.00	34	-4	-9.00	-9.00	-9.00	-9.00
85003.0	NEWPORT BAY (791)	1389	8/31/94	34.0	32.80	34	-4	-9.00	-9.00	-9.00	-9.00
85004.0	NEWPORT BAY (877)	1390	9/1/94	34.0	67.50	34	-4	-9.00	-9.00	-9.00	-9.00
85005.0	NEWPORT BAY (949)	1391	8/31/94	34.0	97.38	34	-4	-9.00	-9.00	-9.00	-9.00

Grain Size and Total Organic Carbon Analyses

STANUM	STATION	IDORG	DATE	LEG	FINES	FINEBATCH	FINEDATAQC	COARSESAND	FINESAND	COARSESILT	FINESILT
85006.0	NEWPORT BAY (1009)	1392	8/30/94	34.0	54.66	34	-4	-9.00	-9.00	-9.00	-9.00
85007.0	NEWPORT BAY (431)	1418	9/19/94	36.0	16.10	36	-4	-9.00	-9.00	-9.00	-9.00
85008.0	NEWPORT BAY (670)	1419	9/20/94	36.0	65.50	36	-4	-9.00	-9.00	-9.00	-9.00
85009.0	NEWPORT BAY (705)	1420	9/20/94	36.0	47.67	36	-4	-9.00	-9.00	-9.00	-9.00
85010.0	NEWPORT BAY (819)	1421	9/19/94	36.0	98.58	36	-4	-9.00	-9.00	-9.00	-9.00
85011.0	NEWPORT BAY (905)	1422	9/20/94	36.0	95.04	36	-4	-9.00	-9.00	-9.00	-9.00
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36.0	98.83	36	-4	-9.00	-9.00	-9.00	-9.00
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36.0	64.72	36	-4	-9.00	-9.00	-9.00	-9.00
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36.0	85.40	36	-4	-9.00	-9.00	-9.00	-9.00
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36.0	44.22	36	-4	-9.00	-9.00	-9.00	-9.00
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36.0	27.79	36	-4	-9.00	-9.00	-9.00	-9.00
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36.0	62.46	36	-4	-9.00	-9.00	-9.00	-9.00
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36.0	29.34	36	-4	-9.00	-9.00	-9.00	-9.00
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45.0	72.02	B96222	-4	2.05	25.92	1.69	48.64
85001.0	NEWPORT BAY (523)	1634	6/20/96	45.0	60.82	B96222	-4	0.00	39.18	9.61	30.68
85001.0	NEWPORT BAY (523)	1788	8/20/97	54.0	52.63	B97337	-4	1.40	45.96	11.65	29.20
86001.0	SAN DIEGO CREEK- CAMPUS	1789	8/20/97	54.0	16.91	B97337	-4	5.95	77.13	4.97	9.80
86002.0	SAN DIEGO CREEK- MACARTHUR	1790	8/20/97	54.0	44.56	B97337	-4	0.00	55.44	12.06	23.00
86003.0	SANTA ANA/DELHI CHANNEL-BRIDGE	1791	8/20/97	54.0	69.48	B97337	-4	8.52	22.00	11.22	44.37
86004.0	SANTA ANA/DELHI CHANNEL-OUTER	1792	8/20/97	54.0	54.98	B97337	-4	13.93	31.09	5.12	36.03

Grain Size and Total Organic Carbon Analyses

STANUM	STATION	IDORG	DATE	LEG	CLAY	EXPANDEDQC	TOC	TOCBATCH	TOCDATAQC	DOC
80024.1	ANAHEIM BAY- OUTER	85	9/15/92	4.0	-9.00	-9	0.29	4	-9	-9
80024.2	ANAHEIM BAY- OUTER	86	9/15/92	4.0	-9.00	-9	0.60	4	-9	-9
80024.3	ANAHEIM BAY- OUTER	87	9/15/92	4.0	-9.00	-9	0.40	4	-9	-9
80026.1	HUNTINGTON HARBOR- LOWER	91	9/15/92	4.0	-9.00	-9	0.37	4	-9	-9
80026.2	HUNTINGTON HARBOR- LOWER	92	9/15/92	4.0	-9.00	-9	1.40	4	-9	-9
80026.3	HUNTINGTON HARBOR- LOWER	93	9/15/92	4.0	-9.00	-9	0.40	4	-9	-9
80027.1	HUNTINGTON HARBOR- MIDDLE	94	9/15/92	4.0	-9.00	-9	0.60	4	-9	-9
80027.2	HUNTINGTON HARBOR- MIDDLE	95	9/15/92	4.0	-9.00	-9	0.80	4	-9	-9
80027.3	HUNTINGTON HARBOR- MIDDLE	96	9/15/92	4.0	-9.00	-9	1.40	4	-9	-9
80028.1	HUNTINGTON HARBOR- UPPER	97	9/15/92	4.0	-9.00	-9	0.60	4	-9	-9
80028.2	HUNTINGTON HARBOR- UPPER	98	9/15/92	4.0	-9.00	-9	1.50	4	-9	-9
80028.3	HUNTINGTON HARBOR- UPPER	99	9/15/92	4.0	-9.00	-9	2.10	4	-9	-9
80025.1	ANAHEIM BAY- OIL ISLAND	88	10/14/92	5.0	-9.00	-9	0.70	5	-9	-9
80025.2	ANAHEIM BAY- OIL ISLAND	89	10/14/92	5.0	-9.00	-9	1.00	5	-9	-9
80025.3	ANAHEIM BAY- OIL ISLAND	90	10/14/92	5.0	-9.00	-9	0.60	5	-9	-9
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9.0	-9.00	-9	0.51	9	-3	-9
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9.0	-9.00	-9	0.62	9	-3	-9
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9.0	-9.00	-9	0.53	9	-3	-9
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9.0	-9.00	-9	0.72	9	-3	-9
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9.0	-9.00	-9	0.50	9	-3	-9
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9.0	-9.00	-9	0.68	9	-3	-9
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9.0	-9.00	-9	1.10	9	-3	-9
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9.0	-9.00	-9	0.88	9	-3	-9
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9.0	-9.00	-9	0.40	9	-3	-9
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9.0	-9.00	-9	0.62	9	-3	-9
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9.0	-9.00	-9	4.51	9	-3	-9
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9.0	-9.00	-9	0.41	9	-3	-9
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9.0	-9.00	-9	0.68	9	-3	-9
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9.0	-9.00	-9	0.84	9	-3	-9
82040.0	SEAL BEACH NWR	440	12/11/92	9.0	-9.00	-9	0.60	9	-3	-9
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17.0	-9.00	-9	0.23	17	-3	-9
82024.0	BOLSA BAY-MOUTH OF EGGW FLOOD	770	4/21/93	17.0	-9.00	-9	1.50	17	-3	-9
82023.0	SEAL BEACH NWR-BOLSA AVE.	771	4/22/93	17.0	-9.00	-9	1.20	17	-3	-9
82030.0	ANAHEIM BAY-NAVAL RESERVE	772	4/22/93	17.0	-9.00	-9	0.86	17	-3	-9
80024.3	ANAHEIM BAY- OUTER	807	5/27/93	19.0	-9.00	-9	1.36	19	-4	-9
82009.0	HUNTINGTON HARBOR-HAR. LA	808	5/27/93	19.0	-9.00	-9	1.95	19	-4	-9
82002.0	ANAHEIM BAY-NAVY MARSH #2	809	5/27/93	19.0	-9.00	-9	1.52	19	-4	-9
82030.0	ANAHEIM BAY-NAVAL RES.- REP 1	1044	2/2/94	25.0	-9.00	-9	1.35	25	-4	-9

Grain Size and Total Organic Carbon Analyses

STANUM	STATION	IDORG	DATE	LEG	CLAY	EXPANDEDQC	TOC	TOCBATCH	TOCDATAQC	DOC
82030.0	ANAHEIM BAY-NAVAL RES.- REP 2	1045	2/2/94	25.0	-9.00	-9	1.39	25	-4	-9
82030.0	ANAHEIM BAY-NAVAL RES.- REP 3	1046	2/2/94	25.0	-9.00	-9	1.47	25	-4	-9
82001.0	ANAHEIM BAY-NAVY MARSH-REP 1	1086	2/16/94	26.0	-9.00	-9	0.76	26	-4	-9
82001.0	ANAHEIM BAY-NAVY MARSH-REP 2	1087	2/16/94	26.0	-9.00	-9	0.68	26	-4	-9
82001.0	ANAHEIM BAY-NAVY MARSH-REP 3	1088	2/16/94	26.0	-9.00	-9	0.60	26	-4	-9
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP1	1089	2/16/94	26.0	-9.00	-9	1.32	26	-4	-9
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP2	1090	2/16/94	26.0	-9.00	-9	1.12	26	-4	-9
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP3	1091	2/16/94	26.0	-9.00	-9	1.33	26	-4	-9
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 1	1092	2/16/94	26.0	-9.00	-9	1.68	26	-4	-9
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 2	1093	2/16/94	26.0	-9.00	-9	1.81	26	-4	-9
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 3	1094	2/16/94	26.0	-9.00	-9	1.88	26	-4	-9
82040.0	SEAL BEACH NWR-REP 1	1095	2/16/94	26.0	-9.00	-9	0.86	26	-4	-9
82040.0	SEAL BEACH NWR-REP 2	1096	2/16/94	26.0	-9.00	-9	1.09	26	-4	-9
82040.0	SEAL BEACH NWR-REP 3	1097	2/16/94	26.0	-9.00	-9	0.75	26	-4	-9
80024.3	ANAHEIM BAY, OUTER-REP 1	1171	3/31/94	29.0	-9.00	-9	1.32	29	-4	-9
80024.3	ANAHEIM BAY, OUTER-REP 2	1172	3/31/94	29.0	-9.00	-9	1.21	29	-4	-9
80024.3	ANAHEIM BAY, OUTER-REP 3	1173	3/31/94	29.0	-9.00	-9	1.25	29	-4	-9
80028.3	HUNTINGTON HARBOR, UPPER-REP 1	1174	3/30/94	29.0	-9.00	-9	2.73	29	-4	-9
80028.3	HUNTINGTON HARBOR, UPPER-REP 2	1175	3/30/94	29.0	-9.00	-9	2.84	29	-4	-9
80028.3	HUNTINGTON HARBOR, UPPER-REP 3	1176	3/30/94	29.0	-9.00	-9	2.90	29	-4	-9
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 1	1177	3/30/94	29.0	-9.00	-9	1.46	29	-4	-9
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 2	1178	3/30/94	29.0	-9.00	-9	1.34	29	-4	-9
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 3	1179	3/30/94	29.0	-9.00	-9	1.46	29	-4	-9
82030.0	ANAHEIM BAY-NAVAL RES.-REP 1	1195	4/12/94	30.0	-9.00	-9	0.61	30	-4	-9
82030.0	ANAHEIM BAY-NAVAL RES.-REP 2	1196	4/12/94	30.0	-9.00	-9	1.51	30	-4	-9
82030.0	ANAHEIM BAY-NAVAL RES.-REP 3	1197	4/12/94	30.0	-9.00	-9	1.54	30	-4	-9
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 1	1201	4/12/94	30.0	-9.00	-9	1.16	30	-4	-9
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 2	1202	4/12/94	30.0	-9.00	-9	1.34	30	-4	-9
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 3	1203	4/12/94	30.0	-9.00	-9	1.50	30	-4	-9
82039.0	BOLSA CHICA ECOL RESERVE-REP 1	1204	4/12/94	30.0	-9.00	-9	2.38	30	-4	-9
82039.0	BOLSA CHICA ECOL RESERVE-REP 2	1205	4/12/94	30.0	-9.00	-9	3.21	30	-4	-9
82039.0	BOLSA CHICA ECOL RESERVE-REP 3	1206	4/12/94	30.0	-9.00	-9	2.73	30	-4	-9
82030.0	ANAHEIM BAY-NAVAL RESERVE	1335	5/19/94	32.0	-9.00	-9	1.29	32	-4	-9
85001.0	NEWPORT BAY (523)	1387	9/1/94	34.0	-9.00	-9	1.41	34	-4	-9
85002.0	NEWPORT BAY (616)	1388	9/1/94	34.0	-9.00	-9	1.26	34	-4	-9
85003.0	NEWPORT BAY (791)	1389	8/31/94	34.0	-9.00	-9	0.73	34	-4	-9
85004.0	NEWPORT BAY (877)	1390	9/1/94	34.0	-9.00	-9	1.11	34	-4	-9
85005.0	NEWPORT BAY (949)	1391	8/31/94	34.0	-9.00	-9	1.82	34	-4	-9

Grain Size and Total Organic Carbon Analyses

STANUM	STATION	IDORG	DATE	LEG	CLAY	EXPANDEDQC	TOC	TOCBATCH	TOCDATAQC	DOC
85006.0	NEWPORT BAY (1009)	1392	8/30/94	34.0	-9.00	-9	1.13	34	-4	-9
85007.0	NEWPORT BAY (431)	1418	9/19/94	36.0	-9.00	-9	0.30	36	-4	-9
85008.0	NEWPORT BAY (670)	1419	9/20/94	36.0	-9.00	-9	1.88	36	-4	-9
85009.0	NEWPORT BAY (705)	1420	9/20/94	36.0	-9.00	-9	0.85	36	-4	-9
85010.0	NEWPORT BAY (819)	1421	9/19/94	36.0	-9.00	-9	2.47	36	-4	-9
85011.0	NEWPORT BAY (905)	1422	9/20/94	36.0	-9.00	-9	1.49	36	-4	-9
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36.0	-9.00	-9	1.69	36	-4	-9
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36.0	-9.00	-9	1.98	36	-4	-9
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36.0	-9.00	-9	3.29	36	-4	-9
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36.0	-9.00	-9	3.80	36	-4	-9
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36.0	-9.00	-9	0.56	36	-4	-9
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36.0	-9.00	-9	1.93	36	-4	-9
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36.0	-9.00	-9	0.44	36	-4	-9
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45.0	21.69	-4	1.70	45	-4	2971
85001.0	NEWPORT BAY (523)	1634	6/20/96	45.0	20.53	-4	0.65	45	-4	-9
85001.0	NEWPORT BAY (523)	1788	8/20/97	54.0	11.78	-4	0.56	54	-4	-9
86001.0	SAN DIEGO CREEK- CAMPUS	1789	8/20/97	54.0	2.14	-4	0.41	54	-4	-9
86002.0	SAN DIEGO CREEK- MACARTHUR	1790	8/20/97	54.0	9.51	-4	0.89	54	-4	-9
86003.0	SANTA ANA/DELHI CHANNEL-BRIDGE	1791	8/20/97	54.0	13.90	-4	1.44	54	-4	-9
86004.0	SANTA ANA/DELHI CHANNEL-OUTER	1792	8/20/97	54.0	13.83	-4	1.70	54	-4	-9

Appendix E

Toxicity Test Data

Section 1

Rhepoxynius abronius Survival in Sediment

Rhepoxynius abronius Survival Toxicity Test Data for Sediment

STANUM	STATION	IDORG	DATE	LEG	TYPE	METADATA	CTRL	RA_MN	RA_SD	RA_SG	RA_TOX	RA_OTNH3	RA_OUNH3
80024.1	ANAHEIM BAY- OUTER	85	9/15/92	4.0	-9	-9	-9	87.00	4.50	*	NT	-9.000	0.012
80024.2	ANAHEIM BAY- OUTER	86	9/15/92	4.0	-9	-9	-9	84.00	8.20	*	NT	-9.000	0.009
80024.3	ANAHEIM BAY- OUTER	87	9/15/92	4.0	-9	-9	-9	82.00	14.40	ns	NT	-9.000	0.010
80026.1	HUNTINGTON HARBOR- LOWER	91	9/15/92	4.0	-9	-9	-9	86.00	8.20	ns	NT	-9.000	0.197
80026.2	HUNTINGTON HARBOR- LOWER	92	9/15/92	4.0	-9	-9	-9	92.00	5.70	ns	NT	-9.000	0.067
80026.3	HUNTINGTON HARBOR- LOWER	93	9/15/92	4.0	-9	-9	-9	82.00	7.60	*	NT	-9.000	0.103
80027.1	HUNTINGTON HARBOR- MIDDLE	94	9/15/92	4.0	-9	-9	-9	64.00	9.60	*	T	-9.000	0.039
80027.2	HUNTINGTON HARBOR- MIDDLE	95	9/15/92	4.0	-9	-9	-9	67.00	13.00	*	T	-9.000	0.134
80027.3	HUNTINGTON HARBOR- MIDDLE	96	9/15/92	4.0	-9	-9	-9	44.00	23.80	*	T	-9.000	0.060
80028.1	HUNTINGTON HARBOR- UPPER	97	9/15/92	4.0	-9	-9	-9	73.00	13.00	*	NT	-9.000	0.111
80028.2	HUNTINGTON HARBOR- UPPER	98	9/15/92	4.0	-9	-9	-9	73.00	16.00	*	NT	-9.000	0.117
80028.3	HUNTINGTON HARBOR- UPPER	99	9/15/92	4.0	-9	-9	-9	52.00	14.40	*	T	-9.000	0.205
80025.1	ANAHEIM BAY- OIL ISLAND	88	10/14/92	5.0	-9	-9	-9	65.00	11.20	*	T	-9.000	0.089
80025.2	ANAHEIM BAY- OIL ISLAND	89	10/14/92	5.0	-9	-9	-9	80.00	10.00	*	NT	-9.000	0.145
80025.3	ANAHEIM BAY- OIL ISLAND	90	10/14/92	5.0	-9	-9	-9	75.00	10.00	*	NT	-9.000	0.168
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9.0	-9	-9	-9	42.00	31.10	*	T	-9.000	0.109
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9.0	-9	-9	-9	72.00	17.50	*	T	-9.000	0.011
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9.0	-9	-9	-9	93.00	2.70	*	NT	-9.000	0.084
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9.0	-9	-9	-9	91.00	5.50	*	NT	-9.000	0.061
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9.0	-9	-9	-9	43.00	19.90	*	T	-9.000	0.257
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9.0	-9	-9	-9	22.00	10.40	*	T	-9.000	0.125
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9.0	-9	-9	-9	73.00	7.60	*	T	-9.000	0.021
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9.0	-9	-9	-9	84.00	8.20	*	NT	-9.000	0.109
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9.0	-9	-9	-9	94.00	6.50	ns	NT	-9.000	0.032
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9.0	-9	-9	-9	79.00	6.50	*	NT	-9.000	0.014
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9.0	-9	-9	-9	86.00	6.50	*	NT	-9.000	0.145
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9.0	-9	-9	-9	81.00	8.20	*	NT	-9.000	0.015
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9.0	-9	-9	-9	87.00	7.60	*	NT	-9.000	0.032
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9.0	-9	-9	-9	57.00	14.80	*	T	-9.000	0.029
82040.0	SEAL BEACH NWR	440	12/11/92	9.0	-9	-9	-9	59.00	17.50	*	T	-9.000	0.109
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17.0	-9	-9	-9	49.00	18.80	*	T	-9.000	0.261
82024.0	BOLSA BAY-MOUTH OF EGGW FLOOD	770	4/21/93	17.0	-9	-9	-9	66.00	14.30	*	T	-9.000	0.154
82023.0	SEAL BEACH NWR-BOLSA AVE.	771	4/22/93	17.0	-9	-9	-9	59.00	7.40	*	T	-9.000	0.072
82030.0	ANAHEIM BAY-NAVAL RESERVE	772	4/22/93	17.0	-9	-9	-9	87.00	9.70	ns	NT	-9.000	0.069
80024.3	ANAHEIM BAY- OUTER	807	5/27/93	19.0	-9	-9	-9	34.00	15.20	*	T	-9.000	0.041
82009.0	HUNTINGTON HARBOR-HAR. LA	808	5/27/93	19.0	-9	-9	-9	20.00	7.90	*	T	-9.000	0.024
82002.0	ANAHEIM BAY-NAVY MARSH #2	809	5/27/93	19.0	-9	-9	-9	32.00	10.40	*	T	-9.000	0.083
	CONTROL-CH3			25.0	CH3	toxmeta.wpd	-9	95.00	6.12	-9	-9	0.140	-8.000
	CONTROL-CH2			25.0	CH2	toxmeta.wpd	-9	97.00	2.74	-9	-9	0.190	0.006

Rhepoxynius abronius Survival Toxicity Test Data for Sediment

STANUM	STATION	IDORG	DATE	LEG	TYPE	METADATA	CTRL	RA_MN	RA_SD	RA_SG	RA_TOX	RA_OTNH3	RA_OUNH3
	CONTROL-CH1			25.0	CH1	toxmeta.wpd	-9	97.00	6.71	-9	-9	0.160	0.004
82030.0	ANAHEIM BAY-NAVAL RES.- REP 1	1044	2/2/94	25.0	SAM	toxmeta.wpd	-9	38.00	16.81	*	T	0.530	0.018
82030.0	ANAHEIM BAY-NAVAL RES.- REP 2	1045	2/2/94	25.0	FR	toxmeta.wpd	-9	69.00	19.17	*	T	0.280	0.006
82030.0	ANAHEIM BAY-NAVAL RES.- REP 3	1046	2/2/94	25.0	FR	toxmeta.wpd	-9	62.00	13.51	*	T	0.380	0.010
	CONTROL-CH1			26.0	CH1	toxmeta.wpd	-9	92.50	5.00	-9	-9	1.200	0.016
	CONTROL-CH3			26.0	CH3	toxmeta.wpd	-9	96.00	4.18	-9	-9	1.200	0.015
	CONTROL-CH2			26.0	CH2	toxmeta.wpd	-9	97.00	2.74	-9	-9	1.000	0.015
82001.0	ANAHEIM BAY-NAVY MARSH-REP 1	1086	2/16/94	26.0	SAM	toxmeta.wpd	-9	64.00	36.64	ns	NT	33.000	1.162
82001.0	ANAHEIM BAY-NAVY MARSH-REP 2	1087	2/16/94	26.0	FR	toxmeta.wpd	-9	57.00	27.75	*	T	18.000	0.708
82001.0	ANAHEIM BAY-NAVY MARSH-REP 3	1088	2/16/94	26.0	FR	toxmeta.wpd	-9	91.00	5.48	*	NT	5.500	0.231
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP1	1089	2/16/94	26.0	SAM	toxmeta.wpd	-9	72.00	13.04	*	NT	3.200	0.103
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP2	1090	2/16/94	26.0	FR	toxmeta.wpd	-9	76.00	4.18	*	NT	2.900	0.087
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP3	1091	2/16/94	26.0	FR	toxmeta.wpd	-9	79.00	9.62	*	NT	2.900	0.073
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 1	1092	2/16/94	26.0	SAM	toxmeta.wpd	-9	59.00	12.94	*	T	4.800	0.151
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 2	1093	2/16/94	26.0	FR	toxmeta.wpd	-9	67.00	18.23	*	NT	1.600	0.043
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 3	1094	2/16/94	26.0	FR	toxmeta.wpd	-9	51.00	11.94	*	T	3.700	0.136
82040.0	SEAL BEACH NWR-REP 1	1095	2/16/94	26.0	SAM	toxmeta.wpd	-9	62.00	12.04	*	T	7.500	0.270
82040.0	SEAL BEACH NWR-REP 2	1096	2/16/94	26.0	FR	toxmeta.wpd	-9	63.00	10.37	*	T	6.000	0.252
82040.0	SEAL BEACH NWR-REP 3	1097	2/16/94	26.0	FR	toxmeta.wpd	-9	87.00	10.37	*	NT	3.900	0.140
	CONTROL-CH2			29.0	CH2	toxmeta.wpd	-9	99.00	2.24	-9	-9	-8.000	-8.000
	CONTROL-CH1			29.0	CH1	toxmeta.wpd	-9	99.00	2.24	-9	-9	0.190	0.007
	CONTROL-CH3			29.0	CH3	toxmeta.wpd	-9	100.00	0.00	-9	-9	-8.000	-8.000
80024.3	ANAHEIM BAY, OUTER-REP 1	1171	3/31/94	29.0	SAM	toxmeta.wpd	-9	91.00	8.94	ns	NT	0.640	0.024
80024.3	ANAHEIM BAY, OUTER-REP 2	1172	3/31/94	29.0	FR	toxmeta.wpd	-9	88.00	5.70	*	NT	0.610	0.021
80024.3	ANAHEIM BAY, OUTER-REP 3	1173	3/31/94	29.0	FR	toxmeta.wpd	-9	85.00	3.54	*	NT	0.920	0.028
80028.3	HUNTINGTON HARBOR, UPPER-REP 1	1174	3/30/94	29.0	SAM	toxmeta.wpd	-9	75.00	7.91	*	T	5.500	0.216
80028.3	HUNTINGTON HARBOR, UPPER-REP 2	1175	3/30/94	29.0	FR	toxmeta.wpd	-9	83.00	12.04	*	NT	7.500	0.337
80028.3	HUNTINGTON HARBOR, UPPER-REP 3	1176	3/30/94	29.0	FR	toxmeta.wpd	-9	80.00	7.91	*	NT	5.900	0.302
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 1	1177	3/30/94	29.0	SAM	toxmeta.wpd	-9	93.00	5.70	*	NT	1.100	0.033
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 2	1178	3/30/94	29.0	FR	toxmeta.wpd	-9	78.00	35.46	ns	NT	2.400	0.071
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 3	1179	3/30/94	29.0	FR	toxmeta.wpd	-9	89.00	9.62	*	NT	2.900	0.119
	CONTROL-CH1			30.0	CH1	toxmeta.wpd	-9	96.00	4.18	-9	-9	-8.000	-8.000
	CONTROL-CH2			30.0	CH2	toxmeta.wpd	-9	95.00	6.12	-9	-9	-8.000	-8.000
	CONTROL-CH3			30.0	CH3	toxmeta.wpd	-9	97.00	4.47	-9	-9	-8.000	-8.000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 1	1195	4/12/94	30.0	SAM	toxmeta.wpd	-9	82.00	24.14	ns	NT	0.290	0.010
82030.0	ANAHEIM BAY-NAVAL RES.-REP 2	1196	4/12/94	30.0	FR	toxmeta.wpd	-9	79.00	2.24	*	NT	0.300	0.008
82030.0	ANAHEIM BAY-NAVAL RES.-REP 3	1197	4/12/94	30.0	FR	toxmeta.wpd	-9	90.00	6.12	ns	NT	0.290	0.011
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 1	1201	4/12/94	30.0	SAM	toxmeta.wpd	-9	80.00	11.73	*	NT	2.500	0.072
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 2	1202	4/12/94	30.0	FR	toxmeta.wpd	-9	87.00	9.08	*	NT	2.900	0.076

Rhepoxynius abronius Survival Toxicity Test Data for Sediment

STANUM	STATION	IDORG	DATE	LEG	TYPE	METADATA	CTRL	RA_MN	RA_SD	RA_SG	RA_TOX	RA_OTNH3	RA_OUNH3
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 3	1203	4/12/94	30.0	FR	toxmeta.wpd	-9	74.00	23.02	ns	NT	1.000	0.038
82039.0	BOLSA CHICA ECOL RESERVE-REP 1	1204	4/12/94	30.0	SAM	toxmeta.wpd	-9	21.00	35.95	*	T	3.900	0.112
82039.0	BOLSA CHICA ECOL RESERVE-REP 2	1205	4/12/94	30.0	FR	toxmeta.wpd	-9	9.00	8.94	*	T	4.200	0.106
82039.0	BOLSA CHICA ECOL RESERVE-REP 3	1206	4/12/94	30.0	FR	toxmeta.wpd	-9	38.00	29.07	*	T	4.100	0.101
	CONTROL-CH2			32.0	CH2	toxmeta.wpd	-9	99.00	2.24	-9	-9	0.120	0.002
	CONTROL-CH3			32.0	CH3	toxmeta.wpd	-9	100.00	0.00	-9	-9	0.110	0.003
	CONTROL-CH1			32.0	CH1	toxmeta.wpd	-9	96.00	8.94	-9	-9	-8.000	-8.000
82030.0	ANAHEIM BAY-NAVAL RESERVE	1335	5/19/94	32.0	SAM	toxmeta.wpd	-9	79.00	9.62	*	NT	1.000	0.029
	CONTROL-C1			34.0	C1	toxmeta3.wpd	-9	95.00	5.00	-9	-9	0.590	0.017
85001.0	NEWPORT BAY (523)	1387	9/1/94	34.0	SAM	toxmeta3.wpd	-9	29.00	15.00	*	T	15.000	0.590
85002.0	NEWPORT BAY (616)	1388	9/1/94	34.0	SAM	toxmeta3.wpd	-9	58.00	16.00	*	T	3.900	0.088
85003.0	NEWPORT BAY (791)	1389	8/31/94	34.0	SAM	toxmeta3.wpd	-9	72.00	10.00	*	NT	1.300	0.025
85004.0	NEWPORT BAY (877)	1390	9/1/94	34.0	SAM	toxmeta3.wpd	-9	70.00	10.00	*	NT	1.200	0.019
85005.0	NEWPORT BAY (949)	1391	8/31/94	34.0	SAM	toxmeta3.wpd	-9	63.00	19.00	*	T	5.900	0.194
85006.0	NEWPORT BAY (1009)	1392	9/1/94	34.0	SAM	toxmeta3.wpd	-9	79.00	10.00	*	NT	5.300	0.146
	CONTROL-C1			36.0	C1	toxmeta3.wpd	-9	100.00	0.00	-9	-9	3.300	0.055
85007.0	NEWPORT BAY (431)	1418	9/19/94	36.0	SAM	toxmeta3.wpd	-9	93.00	6.00	*	NT	2.700	0.116
85008.0	NEWPORT BAY (670)	1419	9/20/94	36.0	SAM	toxmeta3.wpd	-9	57.00	14.00	*	T	47.000	1.583
85009.0	NEWPORT BAY (705)	1420	9/20/94	36.0	SAM	toxmeta3.wpd	-9	93.00	6.00	*	NT	7.400	0.174
85010.0	NEWPORT BAY (819)	1421	9/19/94	36.0	SAM	toxmeta3.wpd	-9	74.00	14.00	*	T	3.300	0.058
85011.0	NEWPORT BAY (905)	1422	9/20/94	36.0	SAM	toxmeta3.wpd	-9	80.00	17.00	*	NT	1.300	0.024
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36.0	SAM	toxmeta3.wpd	-9	59.00	16.00	*	T	3.400	0.058
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36.0	SAM	toxmeta3.wpd	-9	60.00	21.00	*	T	12.000	0.180
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36.0	SAM	toxmeta3.wpd	-9	56.00	15.00	*	T	6.100	0.110
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36.0	SAM	toxmeta3.wpd	-9	93.00	6.00	ns	NT	1.900	0.076
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36.0	SAM	toxmeta3.wpd	-9	85.00	8.00	*	NT	0.900	0.013
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36.0	SAM	toxmeta3.wpd	-9	81.00	4.00	*	NT	2.600	0.057
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36.0	SAM	toxmeta3.wpd	-9	89.00	11.00	*	NT	3.500	0.088
	CONTROL-C1			45.0	C1	toxdata6.wpd	C1	-9.00	-9.00	-9	-9	-9.000	-9.000
	CONTROL-C2			45.0	C2	toxdata6.wpd	C1	-9.00	-9.00	-9	-9	-9.000	-9.000
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45.0	SAM	toxdata6.wpd	C1	-9.00	-9.00	-9	-9	-9.000	-9.000
85011.0	NEWPORT BAY (523)	1634	6/20/96	45.0	SAM	toxdata6.wpd	C1	-9.00	-9.00	-9	-9	-9.000	-9.000
	CONTROL-C1			54.0	C1	toxmeta8	C1	-9.00	-9.00	-9	-9	-9.000	-9.000
85001.0	NEWPORT BAY (523)	1788	8/20/97	54.0	SAM	toxmeta8	C1	-9.00	-9.00	-9	-9	-9.000	-9.000
86001.0	SAN DIEGO CREEK- CAMPUS	1789	8/20/97	54.0	SAM	toxmeta8	C1	-9.00	-9.00	-9	-9	-9.000	-9.000
86002.0	SAN DIEGO CREEK- MACARTHUR	1790	8/20/97	54.0	SAM	toxmeta8	C1	-9.00	-9.00	-9	-9	-9.000	-9.000
86003.0	SANTA ANA/DELHI CHANNEL-BRIDGE	1791	8/20/97	54.0	SAM	toxmeta8	C1	-9.00	-9.00	-9	-9	-9.000	-9.000
86004.0	SANTA ANA/DELHI CHANNEL-OUTER	1792	8/20/97	54.0	SAM	toxmeta8	C1	-9.00	-9.00	-9	-9	-9.000	-9.000

Rhepoxynius abronius Survival Toxicity Test Data for Sediment

STANUM	STATION	IDORG	DATE	LEG	RA_OH2S	RA_ITNH3	RA_IUNH3	RA_IH2S	RA_BATCH	RAQC
80024.1	ANAHEIM BAY- OUTER	85	9/15/92	4.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
80024.2	ANAHEIM BAY- OUTER	86	9/15/92	4.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
80024.3	ANAHEIM BAY- OUTER	87	9/15/92	4.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
80026.1	HUNTINGTON HARBOR- LOWER	91	9/15/92	4.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
80026.2	HUNTINGTON HARBOR- LOWER	92	9/15/92	4.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
80026.3	HUNTINGTON HARBOR- LOWER	93	9/15/92	4.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
80027.1	HUNTINGTON HARBOR- MIDDLE	94	9/15/92	4.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
80027.2	HUNTINGTON HARBOR- MIDDLE	95	9/15/92	4.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
80027.3	HUNTINGTON HARBOR- MIDDLE	96	9/15/92	4.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
80028.1	HUNTINGTON HARBOR- UPPER	97	9/15/92	4.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
80028.2	HUNTINGTON HARBOR- UPPER	98	9/15/92	4.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
80028.3	HUNTINGTON HARBOR- UPPER	99	9/15/92	4.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
80025.1	ANAHEIM BAY- OIL ISLAND	88	10/14/92	5.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
80025.2	ANAHEIM BAY- OIL ISLAND	89	10/14/92	5.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
80025.3	ANAHEIM BAY- OIL ISLAND	90	10/14/92	5.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
82040.0	SEAL BEACH NWR	440	12/11/92	9.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
82024.0	BOLSA BAY-MOUTH OF EGGW FLOOD	770	4/21/93	17.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
82023.0	SEAL BEACH NWR-BOLSA AVE.	771	4/22/93	17.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
82030.0	ANAHEIM BAY-NAVAL RESERVE	772	4/22/93	17.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
80024.3	ANAHEIM BAY- OUTER	807	5/27/93	19.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
82009.0	HUNTINGTON HARBOR-HAR. LA	808	5/27/93	19.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
82002.0	ANAHEIM BAY-NAVY MARSH #2	809	5/27/93	19.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
	CONTROL-CH3			25.0	0.0049	-9.000	-9.000	-9.0000	B025RASA01	-3
	CONTROL-CH2			25.0	0.0082	-9.000	-9.000	-9.0000	B025RASA01	-3

Rhepoxynius abronius Survival Toxicity Test Data for Sediment

STANUM	STATION	IDORG	DATE	LEG	RA_OH2S	RA_ITNH3	RA_IUNH3	RA_IH2S	RA_BATCH	RAQC
	CONTROL-CH1			25.0	-8.0000	-9.000	-9.000	-9.0000	B025RASA01	-3
82030.0	ANAHEIM BAY-NAVAL RES.- REP 1	1044	2/2/94	25.0	0.0474	-9.000	-9.000	-9.0000	B025RASA01	-3
82030.0	ANAHEIM BAY-NAVAL RES.- REP 2	1045	2/2/94	25.0	0.0180	-9.000	-9.000	-9.0000	B025RASA01	-3
82030.0	ANAHEIM BAY-NAVAL RES.- REP 3	1046	2/2/94	25.0	0.0165	-9.000	-9.000	-9.0000	B025RASA01	-3
	CONTROL-CH1			26.0	-8.0000	-9.000	-9.000	-9.0000	B026RASA01	-3
	CONTROL-CH3			26.0	-8.0000	-9.000	-9.000	-9.0000	B026RASA01	-3
	CONTROL-CH2			26.0	-8.0000	-9.000	-9.000	-9.0000	B026RASA01	-3
82001.0	ANAHEIM BAY-NAVY MARSH-REP 1	1086	2/16/94	26.0	0.0004	-9.000	-9.000	-9.0000	B026RASA01	-3
82001.0	ANAHEIM BAY-NAVY MARSH-REP 2	1087	2/16/94	26.0	-8.0000	-9.000	-9.000	-9.0000	B026RASA01	-3
82001.0	ANAHEIM BAY-NAVY MARSH-REP 3	1088	2/16/94	26.0	-8.0000	-9.000	-9.000	-9.0000	B026RASA01	-3
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP1	1089	2/16/94	26.0	-8.0000	-9.000	-9.000	-9.0000	B026RASA01	-3
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP2	1090	2/16/94	26.0	-8.0000	-9.000	-9.000	-9.0000	B026RASA01	-3
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP3	1091	2/16/94	26.0	-8.0000	-9.000	-9.000	-9.0000	B026RASA01	-3
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 1	1092	2/16/94	26.0	-8.0000	-9.000	-9.000	-9.0000	B026RASA01	-3
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 2	1093	2/16/94	26.0	-8.0000	-9.000	-9.000	-9.0000	B026RASA01	-3
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 3	1094	2/16/94	26.0	0.0027	-9.000	-9.000	-9.0000	B026RASA01	-3
82040.0	SEAL BEACH NWR-REP 1	1095	2/16/94	26.0	-8.0000	-9.000	-9.000	-9.0000	B026RASA01	-3
82040.0	SEAL BEACH NWR-REP 2	1096	2/16/94	26.0	-8.0000	-9.000	-9.000	-9.0000	B026RASA01	-3
82040.0	SEAL BEACH NWR-REP 3	1097	2/16/94	26.0	-8.0000	-9.000	-9.000	-9.0000	B026RASA01	-3
	CONTROL-CH2			29.0	0.0006	-9.000	-9.000	-9.0000	B029RASA01	-3
	CONTROL-CH1			29.0	-8.0000	-9.000	-9.000	-9.0000	B029RASA01	-3
	CONTROL-CH3			29.0	0.0008	-9.000	-9.000	-9.0000	B029RASA01	-3
80024.3	ANAHEIM BAY, OUTER-REP 1	1171	3/31/94	29.0	0.0013	-9.000	-9.000	-9.0000	B029RASA01	-3
80024.3	ANAHEIM BAY, OUTER-REP 2	1172	3/31/94	29.0	0.0009	-9.000	-9.000	-9.0000	B029RASA01	-3
80024.3	ANAHEIM BAY, OUTER-REP 3	1173	3/31/94	29.0	0.0006	-9.000	-9.000	-9.0000	B029RASA01	-3
80028.3	HUNTINGTON HARBOR, UPPER-REP 1	1174	3/30/94	29.0	0.0068	-9.000	-9.000	-9.0000	B029RASA01	-3
80028.3	HUNTINGTON HARBOR, UPPER-REP 2	1175	3/30/94	29.0	0.0021	-9.000	-9.000	-9.0000	B029RASA01	-3
80028.3	HUNTINGTON HARBOR, UPPER-REP 3	1176	3/30/94	29.0	0.0047	-9.000	-9.000	-9.0000	B029RASA01	-3
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 1	1177	3/30/94	29.0	0.0014	-9.000	-9.000	-9.0000	B029RASA01	-3
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 2	1178	3/30/94	29.0	0.0019	-9.000	-9.000	-9.0000	B029RASA01	-3
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 3	1179	3/30/94	29.0	0.0005	-9.000	-9.000	-9.0000	B029RASA01	-3
	CONTROL-CH1			30.0	0.0011	-9.000	-9.000	-9.0000	B030RASA01	-3
	CONTROL-CH2			30.0	0.0014	-9.000	-9.000	-9.0000	B030RASA01	-3
	CONTROL-CH3			30.0	0.0024	-9.000	-9.000	-9.0000	B030RASA01	-3
82030.0	ANAHEIM BAY-NAVAL RES.-REP 1	1195	4/12/94	30.0	0.0017	-9.000	-9.000	-9.0000	B030RASA01	-3
82030.0	ANAHEIM BAY-NAVAL RES.-REP 2	1196	4/12/94	30.0	0.0006	-9.000	-9.000	-9.0000	B030RASA01	-3
82030.0	ANAHEIM BAY-NAVAL RES.-REP 3	1197	4/12/94	30.0	0.0014	2.840	0.034	0.0185	B030RASA01	-3
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 1	1201	4/12/94	30.0	0.0027	6.740	0.038	0.0152	B030RASA01	-3
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 2	1202	4/12/94	30.0	0.0028	-9.000	-9.000	-9.0000	B030RASA01	-3

Rhepoxynius abronius Survival Toxicity Test Data for Sediment

STANUM	STATION	IDORG	DATE	LEG	RA_OH2S	RA_ITNH3	RA_IUNH3	RA_IH2S	RA_BATCH	RAQC
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 3	1203	4/12/94	30.0	0.0020	-9.000	-9.000	-9.0000	B030RASA01	-3
82039.0	BOLSA CHICA ECOL RESERVE-REP 1	1204	4/12/94	30.0	0.0190	9.200	0.115	1.6200	B030RASA01	-3
82039.0	BOLSA CHICA ECOL RESERVE-REP 2	1205	4/12/94	30.0	0.0053	-9.000	-9.000	-9.0000	B030RASA01	-3
82039.0	BOLSA CHICA ECOL RESERVE-REP 3	1206	4/12/94	30.0	0.0029	-9.000	-9.000	-9.0000	B030RASA01	-3
	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
82030.0	ANAHEIM BAY-NAVAL RESERVE	1335	5/19/94	32.0	0.0029	4.800	0.019	0.0246	B032RASA01	-3
	CONTROL-C1			34.0	-8.0000	-8.000	-8.000	-8.0000	b034rasa01	-4
85001.0	NEWPORT BAY (523)	1387	9/1/94	34.0	0.0070	25.000	0.095	0.1246	b034rasa01	-4
85002.0	NEWPORT BAY (616)	1388	9/1/94	34.0	0.0011	10.000	0.041	0.0160	b034rasa01	-4
85003.0	NEWPORT BAY (791)	1389	8/31/94	34.0	0.0010	5.370	0.038	0.0340	b034rasa01	-4
85004.0	NEWPORT BAY (877)	1390	9/1/94	34.0	0.0030	3.400	0.017	0.0210	b034rasa01	-4
85005.0	NEWPORT BAY (949)	1391	8/31/94	34.0	0.0030	15.000	0.119	0.0200	b034rasa01	-4
85006.0	NEWPORT BAY (1009)	1392	9/1/94	34.0	0.0005	10.000	0.041	0.0500	b034rasa01	-4
	CONTROL-C1			36.0	0.0081	-8.000	-8.000	-8.0000	b036rasa01	-5
85007.0	NEWPORT BAY (431)	1418	9/19/94	36.0	0.0026	35.000	0.843	0.0208	b036rasa01	-5
85008.0	NEWPORT BAY (670)	1419	9/20/94	36.0	0.0167	67.000	0.730	0.8190	b036rasa01	-5
85009.0	NEWPORT BAY (705)	1420	9/20/94	36.0	0.0072	16.000	0.187	0.7640	b036rasa01	-5
85010.0	NEWPORT BAY (819)	1421	9/19/94	36.0	-8.0000	4.300	0.036	0.0094	b036rasa01	-5
85011.0	NEWPORT BAY (905)	1422	9/20/94	36.0	0.0339	3.700	0.041	0.0117	b036rasa01	-5
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36.0	0.0061	4.100	0.041	0.0284	b036rasa01	-5
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36.0	0.0082	15.000	0.167	0.0108	b036rasa01	-5
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36.0	0.0071	7.200	0.082	0.0470	b036rasa01	-5
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36.0	0.0031	5.300	0.052	0.0453	b036rasa01	-5
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36.0	0.0083	4.200	0.072	0.0030	b036rasa01	-5
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36.0	0.0059	5.600	0.061	0.0253	b036rasa01	-5
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36.0	-8.0000	16.000	0.281	0.0160	b036rasa01	-5
	CONTROL-C1			45.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
	CONTROL-C2			45.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
85011.0	NEWPORT BAY (523)	1634	6/20/96	45.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
	CONTROL-C1			54.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
85001.0	NEWPORT BAY (523)	1788	8/20/97	54.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
86001.0	SAN DIEGO CREEK- CAMPUS	1789	8/20/97	54.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
86002.0	SAN DIEGO CREEK- MACARTHUR	1790	8/20/97	54.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
86003.0	SANTA ANA/DELHI CHANNEL-BRIDGE	1791	8/20/97	54.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9
86004.0	SANTA ANA/DELHI CHANNEL-OUTER	1792	8/20/97	54.0	-9.0000	-9.000	-9.000	-9.0000	-9	-9

Section 2

Eohaustorius estuarius Survival in Sediment

Eohaustorius estuarius Survival Toxicity Test Data for Sediment

STANUM	STATION	IDORG	DATE	LEG	EE_MN	EE_SD	EE_SG	EE_TOX	EE_BATCH	EEQC
	CONTROL-C1			45.0	99.00	2.00	-9	-9	145tee.xls	-4
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45.0	49.00	19.00	*	T	145tee.xls	-3
85011.0	NEWPORT BAY (523)	1634	6/20/96	45.0	93.00	8.00	ns	NT	145tee.xls	-3
	CONTROL-C1			54.0	94.00	8.00	-9	-9	154tee	-4
85001.0	NEWPORT BAY (523)	1788	8/20/97	54.0	93.00	7.00	ns	NT	154tee	-3
86002.0	SAN DIEGO CREEK- MACARTHUR	1790	8/20/97	54.0	97.00	4.00	ns	NT	154tee	-4
86003.0	SANTA ANA/DELHI CHANNEL-BRIDGE	1791	8/20/97	54.0	91.00	7.00	ns	NT	154tee	-4
86004.0	SANTA ANA/DELHI CHANNEL-OUTER	1792	8/20/97	54.0	95.00	4.00	ns	NT	154tee	-4

STANUM	STATION	IDORG	DATE	LEG	EE_OTNH3	EE_OUNH3	EE_OH2S	EE_ITNH3	EE_IUNH3	EE_IH2S
	CONTROL-C1			45.0	0.350	0.011	-9.0000	-9.000	-9.000	-9.0000
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45.0	44.000	1.696	-9.0000	91.000	0.949	0.0220
85011.0	NEWPORT BAY (523)	1634	6/20/96	45.0	24.000	0.925	-9.0000	43.000	0.400	0.0110
	CONTROL-C1			54.0	2.000	0.059	-9.0000	-9.000	-9.000	-9.0000
85001.0	NEWPORT BAY (523)	1788	8/20/97	54.0	2.700	0.154	-9.0000	20.000	0.195	0.0881
86002.0	SAN DIEGO CREEK- MACARTHUR	1790	8/20/97	54.0	7.600	0.695	-9.0000	17.000	0.238	0.1551
86003.0	SANTA ANA/DELHI CHANNEL-BRIDGE	1791	8/20/97	54.0	6.800	0.251	-9.0000	19.000	0.232	0.1431
86004.0	SANTA ANA/DELHI CHANNEL-OUTER	1792	8/20/97	54.0	2.300	0.202	-9.0000	15.000	0.197	0.2068

Section 3

Haliotis rufescens Larval Shell Development in Subsurface Water

Haliotis rufescens Larval Shell Development Toxicity Test Data for Subsurface Water

STANUM	STATION	IDORG	DATE	LEG	HRS100_MN	HRS100_SD	HRS100_SG	HRS100_TOX	HRS_OUNH3	HRS_OTNH3
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9.0	93.30	1.00	*	NT	0.002	-9.000
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9.0	88.40	4.30	ns	NT	0.002	-9.000
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9.0	88.50	2.10	ns	NT	0.002	-9.000
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9.0	90.00	3.80	ns	NT	-8.000	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9.0	84.80	5.10	ns	NT	0.002	-9.000
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9.0	90.50	2.70	ns	NT	-8.000	-9.000
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9.0	89.70	5.10	ns	NT	-8.000	-9.000
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9.0	89.80	3.20	ns	NT	-8.000	-9.000
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9.0	72.50	40.60	ns	NT	-8.000	-9.000
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9.0	87.50	3.70	ns	NT	0.002	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9.0	90.50	2.60	ns	NT	0.011	-9.000
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9.0	89.50	4.20	ns	NT	0.006	-9.000
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9.0	90.00	3.80	ns	NT	0.003	-9.000
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9.0	88.50	6.60	ns	NT	0.003	-9.000
82040.0	SEAL BEACH NWR	440	12/11/92	9.0	90.50	2.90	ns	NT	0.006	-9.000

Haliotis rufescens Larval Shell Development Toxicity Test Data for Subsurface Water

STANUM	STATION	IDORG	DATE	LEG	HRS_OH2S	HRS_BATCH	HRSQC
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9.0	-9.0000	-9	-9
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9.0	-9.0000	-9	-9
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9.0	-9.0000	-9	-9
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9.0	-9.0000	-9	-9
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9.0	-9.0000	-9	-9
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9.0	-9.0000	-9	-9
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9.0	-9.0000	-9	-9
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9.0	-9.0000	-9	-9
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9.0	-9.0000	-9	-9
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9.0	-9.0000	-9	-9
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9.0	-9.0000	-9	-9
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9.0	-9.0000	-9	-9
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9.0	-9.0000	-9	-9
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9.0	-9.0000	-9	-9
82040.0	SEAL BEACH NWR	440	12/11/92	9.0	-9.0000	-9	-9

Section 4

Haliotis rufescens Larval Shell Development in Porewater

Haliotis rufescens Larval Shell Toxicity Test Data for Porewater

STANUM	STATION	IDORG	DATE	LEG	HRP100_MN	HRP100_SD	HRP100_SG	HRP100_TOX	HRP50_MN	HRP50_SD	HRP50_SG
80024.1	ANAHEIM BAY- OUTER	85	9/15/92	4.0	12.10	10.70	*	T	97.90	1.30	ns
80024.2	ANAHEIM BAY- OUTER	86	9/15/92	4.0	0.00	0.00	*	T	97.60	2.30	ns
80024.3	ANAHEIM BAY- OUTER	87	9/15/92	4.0	17.50	20.00	*	T	99.30	0.60	ns
80026.1	HUNTINGTON HARBOR- LOWER	91	9/15/92	4.0	0.00	0.00	*	T	0.00	0.00	*
80026.2	HUNTINGTON HARBOR- LOWER	92	9/15/92	4.0	0.00	0.00	*	T	0.00	0.00	*
80026.3	HUNTINGTON HARBOR- LOWER	93	9/15/92	4.0	0.00	0.00	*	T	0.00	0.00	*
80027.1	HUNTINGTON HARBOR- MIDDLE	94	9/15/92	4.0	0.00	0.00	*	T	0.00	0.00	*
80027.2	HUNTINGTON HARBOR- MIDDLE	95	9/15/92	4.0	0.00	0.00	*	T	0.00	0.00	*
80027.3	HUNTINGTON HARBOR- MIDDLE	96	9/15/92	4.0	0.00	0.00	*	T	0.00	0.00	*
80028.1	HUNTINGTON HARBOR- UPPER	97	9/15/92	4.0	0.00	0.00	*	T	0.00	0.00	*
80028.2	HUNTINGTON HARBOR- UPPER	98	9/15/92	4.0	0.00	0.00	*	T	0.40	0.60	*
80028.3	HUNTINGTON HARBOR- UPPER	99	9/15/92	4.0	0.00	0.00	*	T	3.70	6.40	*
80025.1	ANAHEIM BAY- OIL ISLAND	88	10/14/92	5.0	12.40	8.70	*	T	91.10	3.60	ns
80025.2	ANAHEIM BAY- OIL ISLAND	89	10/14/92	5.0	32.20	13.10	*	T	97.40	0.80	*
80025.3	ANAHEIM BAY- OIL ISLAND	90	10/14/92	5.0	29.10	24.20	*	T	73.80	9.70	*

Haliotis rufescens Larval Shell Toxicity Test Data for Porewater

STANUM	STATION	IDORG	DATE	LEG	HRP50_TOX	HRP25_MN	HRP25_SD	HRP25_SG	HRP25_TOX	HRP_IUNH3	HRP_ITNH3
80024.1	ANAHEIM BAY- OUTER	85	9/15/92	4.0	NT	66.30	53.70	ns	NT	0.025	-9.000
80024.2	ANAHEIM BAY- OUTER	86	9/15/92	4.0	NT	97.20	2.00	ns	NT	0.069	-9.000
80024.3	ANAHEIM BAY- OUTER	87	9/15/92	4.0	NT	99.30	1.20	ns	NT	0.074	-9.000
80026.1	HUNTINGTON HARBOR- LOWER	91	9/15/92	4.0	T	0.00	0.00	*	T	0.172	-9.000
80026.2	HUNTINGTON HARBOR- LOWER	92	9/15/92	4.0	T	0.00	0.00	*	T	0.038	-9.000
80026.3	HUNTINGTON HARBOR- LOWER	93	9/15/92	4.0	T	61.20	27.60	ns	NT	0.047	-9.000
80027.1	HUNTINGTON HARBOR- MIDDLE	94	9/15/92	4.0	T	0.00	0.00	*	T	0.040	-9.000
80027.2	HUNTINGTON HARBOR- MIDDLE	95	9/15/92	4.0	T	13.60	10.70	*	T	0.068	-9.000
80027.3	HUNTINGTON HARBOR- MIDDLE	96	9/15/92	4.0	T	0.00	0.00	*	T	0.039	-9.000
80028.1	HUNTINGTON HARBOR- UPPER	97	9/15/92	4.0	T	64.70	22.00	ns	NT	0.049	-9.000
80028.2	HUNTINGTON HARBOR- UPPER	98	9/15/92	4.0	T	5.30	5.20	*	T	0.062	-9.000
80028.3	HUNTINGTON HARBOR- UPPER	99	9/15/92	4.0	T	82.40	7.00	*	T	0.055	-9.000
80025.1	ANAHEIM BAY- OIL ISLAND	88	10/14/92	5.0	NT	97.00	3.80	ns	NT	0.043	-9.000
80025.2	ANAHEIM BAY- OIL ISLAND	89	10/14/92	5.0	NT	96.60	1.60	ns	NT	0.041	-9.000
80025.3	ANAHEIM BAY- OIL ISLAND	90	10/14/92	5.0	T	96.40	1.30	ns	NT	0.170	-9.000

Haliotis rufescens Larval Shell Toxicity Test Data for Porewater

STANUM	STATION	IDORG	DATE	LEG	HRP_IH2S	HRP_BATCH	HRPQC
80024.1	ANAHEIM BAY- OUTER	85	9/15/92	4.0	-8.0000	-9	-9
80024.2	ANAHEIM BAY- OUTER	86	9/15/92	4.0	-8.0000	-9	-9
80024.3	ANAHEIM BAY- OUTER	87	9/15/92	4.0	-8.0000	-9	-9
80026.1	HUNTINGTON HARBOR- LOWER	91	9/15/92	4.0	-8.0000	-9	-9
80026.2	HUNTINGTON HARBOR- LOWER	92	9/15/92	4.0	-8.0000	-9	-9
80026.3	HUNTINGTON HARBOR- LOWER	93	9/15/92	4.0	-8.0000	-9	-9
80027.1	HUNTINGTON HARBOR- MIDDLE	94	9/15/92	4.0	-8.0000	-9	-9
80027.2	HUNTINGTON HARBOR- MIDDLE	95	9/15/92	4.0	-8.0000	-9	-9
80027.3	HUNTINGTON HARBOR- MIDDLE	96	9/15/92	4.0	-8.0000	-9	-9
80028.1	HUNTINGTON HARBOR- UPPER	97	9/15/92	4.0	-8.0000	-9	-9
80028.2	HUNTINGTON HARBOR- UPPER	98	9/15/92	4.0	-8.0000	-9	-9
80028.3	HUNTINGTON HARBOR- UPPER	99	9/15/92	4.0	-8.0000	-9	-9
80025.1	ANAHEIM BAY- OIL ISLAND	88	10/14/92	5.0	-9.0000	-9	-9
80025.2	ANAHEIM BAY- OIL ISLAND	89	10/14/92	5.0	-9.0000	-9	-9
80025.3	ANAHEIM BAY- OIL ISLAND	90	10/14/92	5.0	-9.0000	-9	-9

Section 5

Strongylocentrotus purpuratus Fertilization in Porewater

Strongylocentrotus purpuratus Fertilization Toxicity Test Data for Porewater

STANUM	STATION	IDORG	DATE	LEG	SPPF100_MN	SPPF100_SD	SPPF100_SG	SPPF100TOX	SPPF50_MN	SPPF50_SD
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9.0	0.30	0.80	*	-9	-9.00	-9.00
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9.0	99.40	0.80	ns	-9	-9.00	-9.00
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9.0	98.60	1.10	ns	-9	-9.00	-9.00
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9.0	50.30	15.40	*	-9	-9.00	-9.00
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9.0	1.00	2.20	*	-9	-9.00	-9.00
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9.0	88.90	3.20	ns	-9	-9.00	-9.00
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9.0	69.70	15.40	*	-9	-9.00	-9.00
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9.0	95.30	2.50	ns	-9	-9.00	-9.00
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9.0	98.30	1.90	ns	-9	-9.00	-9.00
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9.0	16.40	17.50	*	-9	-9.00	-9.00
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9.0	93.60	5.20	ns	-9	-9.00	-9.00
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9.0	36.40	20.10	*	-9	-9.00	-9.00
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9.0	89.30	2.90	ns	-9	-9.00	-9.00
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9.0	-9.00	-9.00	-9	-9	-9.00	-9.00
82040.0	SEAL BEACH NWR	440	12/11/92	9.0	95.40	3.80	ns	-9	-9.00	-9.00
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17.0	0.00	0.00	*	-9	0.30	0.50
82024.0	BOLSA BAY-MOUTH OF EGGW FLOOD	770	4/21/93	17.0	-7.00	-7.00	-9	-9	-7.00	-7.00
82023.0	SEAL BEACH NWR-BOLSA AVE.	771	4/22/93	17.0	21.40	13.40	*	-9	3.80	6.60
82030.0	ANAHEIM BAY-NAVAL RESERVE	772	4/22/93	17.0	8.20	4.70	*	-9	2.40	0.50
80024.3	ANAHEIM BAY- OUTER	807	5/27/93	19.0	0.00	0.00	*	-9	0.00	0.00
82009.0	HUNTINGTON HARBOR-HAR. LA	808	5/27/93	19.0	75.10	18.30	ns	-9	88.30	7.60
82002.0	ANAHEIM BAY-NAVY MARSH #2	809	5/27/93	19.0	96.20	1.80	ns	-9	98.40	1.50
	CONTROL-C1			34.0	92.00	2.00	-9	-9	92.00	2.00
85001.0	NEWPORT BAY (523)	1387	9/1/94	34.0	47.00	12.00	*	T	94.00	1.00
85002.0	NEWPORT BAY (616)	1388	9/1/94	34.0	93.00	3.00	ns	NT	94.00	2.00
85003.0	NEWPORT BAY (791)	1389	8/31/94	34.0	91.00	2.00	ns	NT	95.00	5.00
85004.0	NEWPORT BAY (877)	1390	9/1/94	34.0	92.00	2.00	ns	NT	96.00	2.00
85005.0	NEWPORT BAY (949)	1391	8/31/94	34.0	96.00	3.00	ns	NT	98.00	1.00
85006.0	NEWPORT BAY (1009)	1392	9/1/94	34.0	94.00	0.00	ns	NT	94.00	4.00
	CONTROL-C1			36.0	91.00	8.00	-9	-9	-9.00	-9.00
85007.0	NEWPORT BAY (431)	1418	9/19/94	36.0	0.00	0.00	*	T	-9.00	-9.00
85008.0	NEWPORT BAY (670)	1419	9/20/94	36.0	0.00	0.00	*	T	-9.00	-9.00
85009.0	NEWPORT BAY (705)	1420	9/20/94	36.0	0.00	0.00	*	T	-9.00	-9.00
85010.0	NEWPORT BAY (819)	1421	9/19/94	36.0	72.00	5.00	*	NT	-9.00	-9.00
85011.0	NEWPORT BAY (905)	1422	9/20/94	36.0	95.00	3.00	ns	NT	-9.00	-9.00
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36.0	86.00	6.00	ns	NT	-9.00	-9.00
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36.0	93.00	5.00	ns	NT	-9.00	-9.00
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36.0	96.00	2.00	ns	NT	-9.00	-9.00

Strongylocentrotus purpuratus Fertilization Toxicity Test Data for Porewater

STANUM	STATION	IDORG	DATE	LEG	SPPF100_MN	SPPF100_SD	SPPF100_SG	SPPF100TOX	SPPF50_MN	SPPF50_SD
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36.0	92.00	4.00	ns	NT	-9.00	-9.00
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36.0	86.00	4.00	ns	NT	-9.00	-9.00
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36.0	96.00	1.00	ns	NT	-9.00	-9.00
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36.0	29.00	15.00	*	T	-9.00	-9.00

Strongylocentrotus purpuratus Fertilization Toxicity Test Data for Porewater

STANUM	STATION	IDORG	DATE	LEG	SPPF50_SG	SPPF50_TOX	SPPF25_MN	SPPF25_SD	SPPF25_SG	SPPF25_TOX
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9.0	-9	-9	-9.00	-9.00	-9	-9
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9.0	-9	-9	-9.00	-9.00	-9	-9
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9.0	-9	-9	-9.00	-9.00	-9	-9
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9.0	-9	-9	-9.00	-9.00	-9	-9
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9.0	-9	-9	-9.00	-9.00	-9	-9
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9.0	-9	-9	-9.00	-9.00	-9	-9
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9.0	-9	-9	-9.00	-9.00	-9	-9
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9.0	-9	-9	-9.00	-9.00	-9	-9
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9.0	-9	-9	-9.00	-9.00	-9	-9
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9.0	-9	-9	-9.00	-9.00	-9	-9
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9.0	-9	-9	-9.00	-9.00	-9	-9
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9.0	-9	-9	-9.00	-9.00	-9	-9
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9.0	-9	-9	-9.00	-9.00	-9	-9
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9.0	-9	-9	-9.00	-9.00	-9	-9
82040.0	SEAL BEACH NWR	440	12/11/92	9.0	-9	-9	-9.00	-9.00	-9	-9
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17.0	*	-9	8.40	5.50	*	-9
82024.0	BOLSA BAY-MOUTH OF EGGW FLOOD	770	4/21/93	17.0	-9	-9	-7.00	-7.00	-9	-9
82023.0	SEAL BEACH NWR-BOLSA AVE.	771	4/22/93	17.0	*	-9	7.30	2.70	*	-9
82030.0	ANAHEIM BAY-NAVAL RESERVE	772	4/22/93	17.0	*	-9	11.20	5.80	*	-9
80024.3	ANAHEIM BAY- OUTER	807	5/27/93	19.0	*	-9	49.70	13.60	*	-9
82009.0	HUNTINGTON HARBOR-HAR. LA	808	5/27/93	19.0	ns	-9	94.10	5.10	ns	-9
82002.0	ANAHEIM BAY-NAVY MARSH #2	809	5/27/93	19.0	ns	-9	95.40	2.90	ns	-9
	CONTROL-C1			34.0	-9	-9	92.00	2.00	-9	-9
85001.0	NEWPORT BAY (523)	1387	9/1/94	34.0	ns	NT	96.00	3.00	ns	NT
85002.0	NEWPORT BAY (616)	1388	9/1/94	34.0	ns	NT	93.00	5.00	ns	NT
85003.0	NEWPORT BAY (791)	1389	8/31/94	34.0	ns	NT	96.00	3.00	ns	NT
85004.0	NEWPORT BAY (877)	1390	9/1/94	34.0	*	NT	93.00	2.00	ns	NT
85005.0	NEWPORT BAY (949)	1391	8/31/94	34.0	*	NT	95.00	3.00	ns	NT
85006.0	NEWPORT BAY (1009)	1392	9/1/94	34.0	ns	NT	97.00	2.00	*	NT
	CONTROL-C1			36.0	-9	-9	-9.00	-9.00	-9	-9
85007.0	NEWPORT BAY (431)	1418	9/19/94	36.0	-9	-9	-9.00	-9.00	-9	-9
85008.0	NEWPORT BAY (670)	1419	9/20/94	36.0	-9	-9	-9.00	-9.00	-9	-9
85009.0	NEWPORT BAY (705)	1420	9/20/94	36.0	-9	-9	-9.00	-9.00	-9	-9
85010.0	NEWPORT BAY (819)	1421	9/19/94	36.0	-9	-9	-9.00	-9.00	-9	-9
85011.0	NEWPORT BAY (905)	1422	9/20/94	36.0	-9	-9	-9.00	-9.00	-9	-9
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36.0	-9	-9	-9.00	-9.00	-9	-9
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36.0	-9	-9	-9.00	-9.00	-9	-9
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36.0	-9	-9	-9.00	-9.00	-9	-9

Strongylocentrotus purpuratus Fertilization Toxicity Test Data for Porewater

STANUM	STATION	IDORG	DATE	LEG	SPPF50_SG	SPPF50_TOX	SPPF25_MN	SPPF25_SD	SPPF25_SG	SPPF25_TOX
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36.0	-9	-9	-9.00	-9.00	-9	-9
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36.0	-9	-9	-9.00	-9.00	-9	-9
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36.0	-9	-9	-9.00	-9.00	-9	-9
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36.0	-9	-9	-9.00	-9.00	-9	-9

Strongylocentrotus purpuratus Development Toxicity Test Data for Porewater

STANUM	STATION	IDORG	DATE	LEG	SPPD100_MN	SPPD100_SD	SPPD100_SG	SPPD100TOX	SPPD50_MN	SPPD50_SD
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9.0	69.00	32.80	ns	NT	-9.00	-9.00
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9.0	0.00	0.00	*	T	-9.00	-9.00
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9.0	0.00	0.00	*	T	-9.00	-9.00
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9.0	0.00	0.00	*	T	-9.00	-9.00
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9.0	0.00	0.00	*	T	-9.00	-9.00
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9.0	0.00	0.00	*	T	-9.00	-9.00
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9.0	0.00	0.00	*	T	-9.00	-9.00
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9.0	0.00	0.00	*	T	-9.00	-9.00
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9.0	0.00	0.00	*	T	-9.00	-9.00
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9.0	0.00	0.00	*	T	-9.00	-9.00
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9.0	92.00	6.00	*	NT	-9.00	-9.00
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9.0	0.00	0.00	*	T	-9.00	-9.00
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9.0	0.00	0.00	*	T	-9.00	-9.00
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9.0	-9.00	-9.00	-9	-9	-9.00	-9.00
82040.0	SEAL BEACH NWR	440	12/11/92	9.0	49.70	22.70	*	T	-9.00	-9.00
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17.0	0.00	0.00	*	T	0.00	0.00
82024.0	BOLSA BAY-MOUTH OF EGGW FLOOD	770	4/21/93	17.0	0.00	0.00	*	T	0.00	0.00
82023.0	SEAL BEACH NWR-BOLSA AVE.	771	4/22/93	17.0	0.00	0.00	*	T	0.00	0.00
82030.0	ANAHEIM BAY-NAVAL RESERVE	772	4/22/93	17.0	0.00	0.00	*	T	0.00	0.00
80024.3	ANAHEIM BAY- OUTER	807	5/27/93	19.0	0.00	0.00	*	T	0.00	0.00
82009.0	HUNTINGTON HARBOR-HAR. LA	808	5/27/93	19.0	0.00	0.00	*	T	0.00	0.00
82002.0	ANAHEIM BAY-NAVY MARSH #2	809	5/27/93	19.0	0.00	0.00	*	T	0.00	0.00
	CONTROL-C1			34.0	89.00	4.00	-9	-9	89.00	4.00
85001.0	NEWPORT BAY (523)	1387	9/1/94	34.0	0.00	0.00	*	T	0.00	0.00
85002.0	NEWPORT BAY (616)	1388	9/1/94	34.0	0.00	0.00	*	T	0.00	0.00
85003.0	NEWPORT BAY (791)	1389	8/31/94	34.0	0.00	0.00	*	T	0.00	0.00
85004.0	NEWPORT BAY (877)	1390	9/1/94	34.0	0.00	0.00	*	T	0.00	0.00
85005.0	NEWPORT BAY (949)	1391	8/31/94	34.0	0.00	0.00	*	T	0.00	0.00
85006.0	NEWPORT BAY (1009)	1392	9/1/94	34.0	0.00	0.00	*	T	0.00	0.00
	CONTROL-C1			36.0	98.00	1.00	-9	-9	98.00	1.00
85007.0	NEWPORT BAY (431)	1418	9/19/94	36.0	0.00	0.00	*	T	0.00	0.00
85008.0	NEWPORT BAY (670)	1419	9/20/94	36.0	0.00	0.00	*	T	0.00	0.00
85009.0	NEWPORT BAY (705)	1420	9/20/94	36.0	0.00	0.00	*	T	1.00	1.00
85010.0	NEWPORT BAY (819)	1421	9/19/94	36.0	0.00	0.00	*	T	0.00	0.00
85011.0	NEWPORT BAY (905)	1422	9/20/94	36.0	0.00	0.00	*	T	0.00	0.00
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36.0	2.00	3.00	*	T	43.00	16.00
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36.0	0.00	0.00	*	T	70.00	9.00
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36.0	0.00	0.00	*	T	0.00	0.00

Strongylocentrotus purpuratus Development Toxicity Test Data for Porewater

STANUM	STATION	IDORG	DATE	LEG	SPPD100_MN	SPPD100_SD	SPPD100_SG	SPPD100TOX	SPPD50_MN	SPPD50_SD
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36.0	0.00	1.00	*	T	87.00	10.00
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36.0	81.00	8.00	*	NT	97.00	1.00
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36.0	0.00	0.00	*	T	1.00	2.00
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36.0	0.00	0.00	*	T	0.00	0.00
	CONTROL-C1			45.0	88.00	4.00	-9	-9	-9.00	-9.00
	CONTROL-C2			45.0	90.00	3.00	-9	-9	-9.00	-9.00
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45.0	0.00	0.00	*	T	-9.00	-9.00
85011.0	NEWPORT BAY (523)	1634	6/20/96	45.0	1.00	2.00	*	T	-9.00	-9.00

Strongylocentrotus purpuratus Development Toxicity Test Data for Porewater

STANUM	STATION	IDORG	DATE	LEG	SPPD50_SG	SPPD50_TOX	SPPD25_MN	SPPD25_SD	SPPD25_SG	SPPD25_TOX
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9.0	-9	-9	-9.00	-9.00	-9	-9
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9.0	-9	-9	-9.00	-9.00	-9	-9
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9.0	-9	-9	-9.00	-9.00	-9	-9
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9.0	-9	-9	-9.00	-9.00	-9	-9
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9.0	-9	-9	-9.00	-9.00	-9	-9
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9.0	-9	-9	-9.00	-9.00	-9	-9
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9.0	-9	-9	-9.00	-9.00	-9	-9
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9.0	-9	-9	-9.00	-9.00	-9	-9
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9.0	-9	-9	-9.00	-9.00	-9	-9
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9.0	-9	-9	-9.00	-9.00	-9	-9
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9.0	-9	-9	-9.00	-9.00	-9	-9
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9.0	-9	-9	-9.00	-9.00	-9	-9
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9.0	-9	-9	-9.00	-9.00	-9	-9
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9.0	-9	-9	-9.00	-9.00	-9	-9
82040.0	SEAL BEACH NWR	440	12/11/92	9.0	-9	-9	-9.00	-9.00	-9	-9
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17.0	*	T	-9.00	-9.00	-9	-9
82024.0	BOLSA BAY-MOUTH OF EGGW FLOOD	770	4/21/93	17.0	*	T	-9.00	-9.00	-9	-9
82023.0	SEAL BEACH NWR-BOLSA AVE.	771	4/22/93	17.0	*	T	-9.00	-9.00	-9	-9
82030.0	ANAHEIM BAY-NAVAL RESERVE	772	4/22/93	17.0	*	T	-9.00	-9.00	-9	-9
80024.3	ANAHEIM BAY- OUTER	807	5/27/93	19.0	*	T	-9.00	-9.00	-9	-9
82009.0	HUNTINGTON HARBOR-HAR. LA	808	5/27/93	19.0	*	T	-9.00	-9.00	-9	-9
82002.0	ANAHEIM BAY-NAVY MARSH #2	809	5/27/93	19.0	*	T	-9.00	-9.00	-9	-9
	CONTROL-C1			34.0	-9	-9	89.00	4.00	-9	-9
85001.0	NEWPORT BAY (523)	1387	9/1/94	34.0	*	T	0.00	0.00	*	T
85002.0	NEWPORT BAY (616)	1388	9/1/94	34.0	*	T	58.00	48.00	ns	NT
85003.0	NEWPORT BAY (791)	1389	8/31/94	34.0	*	T	2.00	3.00	*	T
85004.0	NEWPORT BAY (877)	1390	9/1/94	34.0	*	T	34.00	31.00	*	T
85005.0	NEWPORT BAY (949)	1391	8/31/94	34.0	*	T	22.00	37.00	*	T
85006.0	NEWPORT BAY (1009)	1392	9/1/94	34.0	*	T	23.00	21.00	*	T
	CONTROL-C1			36.0	-9	-9	98.00	1.00	-9	-9
85007.0	NEWPORT BAY (431)	1418	9/19/94	36.0	*	T	0.00	0.00	*	T
85008.0	NEWPORT BAY (670)	1419	9/20/94	36.0	*	T	0.00	0.00	*	T
85009.0	NEWPORT BAY (705)	1420	9/20/94	36.0	*	T	51.00	15.00	*	T
85010.0	NEWPORT BAY (819)	1421	9/19/94	36.0	*	T	50.00	47.00	ns	NT
85011.0	NEWPORT BAY (905)	1422	9/20/94	36.0	*	T	3.00	4.00	*	T
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36.0	*	T	23.00	4.00	*	T
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36.0	*	NT	86.00	15.00	ns	NT
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36.0	*	T	62.00	21.00	*	NT

Strongylocentrotus purpuratus Development Toxicity Test Data for Porewater

STANUM	STATION	IDORG	DATE	LEG	SPPD50_SG	SPPD50_TOX	SPPD25_MN	SPPD25_SD	SPPD25_SG	SPPD25_TOX
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36.0	ns	NT	95.00	3.00	ns	NT
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36.0	ns	NT	97.00	0.00	ns	NT
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36.0	*	T	80.00	6.00	*	NT
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36.0	*	T	2.00	0.00	*	T
	CONTROL-C1			45.0	-9	-9	-9.00	-9.00	-9	-9
	CONTROL-C2			45.0	-9	-9	-9.00	-9.00	-9	-9
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45.0	-9	-9	-9.00	-9.00	-9	-9
85011.0	NEWPORT BAY (523)	1634	6/20/96	45.0	-9	-9	-9.00	-9.00	-9	-9

Strongylocentrotus purpuratus Fertilization Toxicity Test Data for Porewater

STANUM	STATION	IDORG	DATE	LEG	SPPF_ITNH3	SPPF_IUNH3	SPPF_IH2S	SPPF_BATCH	SPPFQC
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9.0	-9.000	0.082	-8.0000	-9	-9
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9.0	-9.000	0.098	-8.0000	-9	-9
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9.0	-9.000	0.175	-8.0000	-9	-9
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9.0	-9.000	0.080	-8.0000	-9	-9
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9.0	-9.000	0.188	-8.0000	-9	-9
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9.0	-9.000	0.196	-8.0000	-9	-9
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9.0	-9.000	0.100	-8.0000	-9	-9
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9.0	-9.000	0.228	-8.0000	-9	-9
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9.0	-9.000	0.108	-8.0000	-9	-9
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9.0	-9.000	0.209	-8.0000	-9	-9
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9.0	-9.000	0.029	-8.0000	-9	-9
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9.0	-9.000	0.374	-8.0000	-9	-9
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9.0	-9.000	0.132	-8.0000	-9	-9
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9.0	-9.000	-9.000	-9.0000	-9	-9
82040.0	SEAL BEACH NWR	440	12/11/92	9.0	-9.000	0.084	-8.0000	-9	-9
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17.0	-9.000	0.180	0.0007	-9	-9
82024.0	BOLSA BAY-MOUTH OF EGGW FLOOD	770	4/21/93	17.0	-9.000	0.006	-8.0000	-9	-9
82023.0	SEAL BEACH NWR-BOLSA AVE.	771	4/22/93	17.0	-9.000	0.034	0.0013	-9	-9
82030.0	ANAHEIM BAY-NAVAL RESERVE	772	4/22/93	17.0	-9.000	0.052	0.0013	-9	-9
80024.3	ANAHEIM BAY- OUTER	807	5/27/93	19.0	-9.000	0.025	-8.0000	-9	-9
82009.0	HUNTINGTON HARBOR-HAR. LA	808	5/27/93	19.0	-9.000	0.035	-8.0000	-9	-9
82002.0	ANAHEIM BAY-NAVY MARSH #2	809	5/27/93	19.0	-9.000	0.081	-8.0000	-9	-9
	CONTROL-C1			34.0	0.240	0.005	-8.0000	b034spfa01	-4
85001.0	NEWPORT BAY (523)	1387	9/1/94	34.0	4.570	0.047	0.0320	b034spfa01	-4
85002.0	NEWPORT BAY (616)	1388	9/1/94	34.0	2.420	0.026	0.0030	b034spfa01	-4
85003.0	NEWPORT BAY (791)	1389	8/31/94	34.0	4.130	0.055	-8.0000	b034spfa01	-4
85004.0	NEWPORT BAY (877)	1390	9/1/94	34.0	2.050	0.030	-8.0000	b034spfa01	-4
85005.0	NEWPORT BAY (949)	1391	8/31/94	34.0	2.020	0.026	0.0080	b034spfa01	-4
85006.0	NEWPORT BAY (1009)	1392	9/1/94	34.0	1.990	0.020	-8.0000	b034spfa01	-4
	CONTROL-C1			36.0	-8.000	-8.000	-9.0000	b036spfa01	-4
85007.0	NEWPORT BAY (431)	1418	9/19/94	36.0	18.000	0.295	0.0170	b036spfa01	-5
85008.0	NEWPORT BAY (670)	1419	9/20/94	36.0	13.000	0.250	0.0060	b036spfa01	-5
85009.0	NEWPORT BAY (705)	1420	9/20/94	36.0	11.000	0.211	0.0070	b036spfa01	-4
85010.0	NEWPORT BAY (819)	1421	9/19/94	36.0	5.200	0.066	-8.0000	b036spfa01	-4
85011.0	NEWPORT BAY (905)	1422	9/20/94	36.0	4.900	0.051	-8.0000	b036spfa01	-4
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36.0	4.400	0.045	0.0000	b036spfa01	-4
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36.0	4.300	0.058	0.0010	b036spfa01	-4
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36.0	5.700	0.100	0.0180	b036spfa01	-4

Strongylocentrotus purpuratus Development Toxicity Test Data for Porewater

STANUM	STATION	IDORG	DATE	LEG	SPPD_BATCH	SPPDQC	SPPD_ITNH3	SPPD_IUNH3	SPPD_IH2S
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9.0	-9	-9	-9.000	0.082	-8.0000
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9.0	-9	-9	-9.000	0.098	-8.0000
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9.0	-9	-9	-9.000	0.175	-8.0000
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9.0	-9	-9	-9.000	0.080	-8.0000
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9.0	-9	-9	-9.000	0.188	-8.0000
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9.0	-9	-9	-9.000	0.196	-8.0000
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9.0	-9	-9	-9.000	0.100	-8.0000
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9.0	-9	-9	-9.000	0.228	-8.0000
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9.0	-9	-9	-9.000	0.108	-8.0000
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9.0	-9	-9	-9.000	0.209	-8.0000
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9.0	-9	-9	-9.000	0.029	-8.0000
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9.0	-9	-9	-9.000	0.374	-8.0000
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9.0	-9	-9	-9.000	0.132	-8.0000
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9.0	-9	-9	-9.000	-9.000	-9.0000
82040.0	SEAL BEACH NWR	440	12/11/92	9.0	-9	-9	-9.000	0.084	-8.0000
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17.0	-9	-9	-9.000	0.180	-8.0000
82024.0	BOLSA BAY-MOUTH OF EGGW FLOOD	770	4/21/93	17.0	-9	-9	-9.000	0.102	0.0008
82023.0	SEAL BEACH NWR-BOLSA AVE.	771	4/22/93	17.0	-9	-9	-9.000	0.034	0.0013
82030.0	ANAHEIM BAY-NAVAL RESERVE	772	4/22/93	17.0	-9	-9	-9.000	0.052	0.0013
80024.3	ANAHEIM BAY- OUTER	807	5/27/93	19.0	-9	-9	-9.000	0.025	-8.0000
82009.0	HUNTINGTON HARBOR-HAR. LA	808	5/27/93	19.0	-9	-9	-9.000	0.050	-8.0000
82002.0	ANAHEIM BAY-NAVY MARSH #2	809	5/27/93	19.0	-9	-9	-9.000	0.096	-8.0000
	CONTROL-C1			34.0	b034spda01	-4	0.240	0.005	-8.0000
85001.0	NEWPORT BAY (523)	1387	9/1/94	34.0	b034spda01	-4	11.100	0.358	0.0323
85002.0	NEWPORT BAY (616)	1388	9/1/94	34.0	b034spda01	-4	4.210	0.028	0.0034
85003.0	NEWPORT BAY (791)	1389	8/31/94	34.0	b034spda01	-4	7.000	0.055	-8.0000
85004.0	NEWPORT BAY (877)	1390	9/1/94	34.0	b034spda01	-4	4.100	0.030	-8.0000
85005.0	NEWPORT BAY (949)	1391	8/31/94	34.0	b034spda01	-4	3.890	0.026	0.0085
85006.0	NEWPORT BAY (1009)	1392	9/1/94	34.0	b034spda01	-4	4.560	0.075	-8.0000
	CONTROL-C1			36.0	b036spda01	-4	0.200	0.002	-8.0000
85007.0	NEWPORT BAY (431)	1418	9/19/94	36.0	b036spda01	-5	24.000	0.528	0.0170
85008.0	NEWPORT BAY (670)	1419	9/20/94	36.0	b036spda01	-5	14.000	0.353	0.0063
85009.0	NEWPORT BAY (705)	1420	9/20/94	36.0	b036spda01	-3	11.000	0.484	0.0065
85010.0	NEWPORT BAY (819)	1421	9/19/94	36.0	b036spda01	-4	5.200	0.075	-8.0000
85011.0	NEWPORT BAY (905)	1422	9/20/94	36.0	b036spda01	-3	4.900	0.080	-8.0000
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36.0	b036spda01	-4	4.400	0.060	0.0002
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36.0	b036spda01	-4	4.300	0.102	0.0009
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36.0	b036spda01	-4	6.500	0.261	0.0180

Strongylocentrotus purpuratus Fertilization Toxicity Test Data for Porewater

STANUM	STATION	IDORG	DATE	LEG	SPPF_ITNH3	SPPF_IUNH3	SPPF_IH2S	SPPF_BATCH	SPPFQC
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36.0	5.400	0.099	0.0030	b036spfa01	-4
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36.0	5.400	0.060	-8.0000	b036spfa01	-4
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36.0	4.800	0.086	0.0090	b036spfa01	-4
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36.0	5.900	0.121	0.0060	b036spfa01	-4

Strongylocentrotus purpuratus Development Toxicity Test Data for Porewater

STANUM	STATION	IDORG	DATE	LEG	SPPD_BATCH	SPPDQC	SPPD_ITNH3	SPPD_IUNH3	SPPD_IH2S
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36.0	b036spda01	-3	5.400	0.150	0.0034
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36.0	b036spda01	-3	5.400	0.060	-8.0000
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36.0	b036spda01	-4	5.800	0.266	0.0093
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36.0	b036spda01	-3	11.000	0.700	0.0061
	CONTROL-C1			45.0	145tspd.xl	-4	1.600	0.049	-9.0000
	CONTROL-C2			45.0	145tspd.xl	-4	0.860	0.027	-9.0000
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45.0	145tspd.xl	-4	1.600	0.011	0.0156
85011.0	NEWPORT BAY (523)	1634	6/20/96	45.0	145tspd.xl	-4	3.700	0.026	0.0113

Section 6

Strongylocentrotus purpuratus Development in Porewater

Section 7

Strongylocentrotus purpuratus Development in Intact Sediment Cores

Strongylocentrotus purpuratus Development Toxicity Test Data for Intact Sediment Cores

STANUM	STATION	IDORG	DATE	LEG	SPDI_MN	SPDI_SD	SPDI_SG	SPDI_TOX	SPDI_BATCH
	CONTROL-C1			45.0	94.00	2.00	-9	-9	145tswi.xl
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45.0	20.00	18.00	*	T	145tswi.xl
85011.0	NEWPORT BAY (523)	1634	6/20/96	45.0	46.00	41.00	*	T	145tswi.xl
	CONTROL-C1			54.0	97.00	1.00	-9	-9	154tspdswi
85001.0	NEWPORT BAY (523)	1788	8/20/97	54.0	57.00	40.00	*	NT	154tspdswi
86002.0	SAN DIEGO CREEK- MACARTHUR	1790	8/20/97	54.0	89.00	3.00	*	NT	154tspdswi
86003.0	SANTA ANA/DELHI CHANNEL-BRIDGE	1791	8/20/97	54.0	65.00	42.00	ns	NT	154tspdswi
86004.0	SANTA ANA/DELHI CHANNEL-OUTER	1792	8/20/97	54.0	78.00	43.00	ns	NT	154tspdswi

STANUM	STATION	IDORG	DATE	LEG	SPDIQC	SPDI_OTNH3	SPDI_OUNH3	SPDI_OH2S
	CONTROL-C1			45.0	-4	0.620	0.015	-9.0000
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45.0	-4	5.900	0.055	0.0620
85011.0	NEWPORT BAY (523)	1634	6/20/96	45.0	-5	6.300	0.066	0.0048
	CONTROL-C1			54.0	-4	1.300	0.030	0.0038
85001.0	NEWPORT BAY (523)	1788	8/20/97	54.0	-4	2.700	0.030	0.0052
86002.0	SAN DIEGO CREEK- MACARTHUR	1790	8/20/97	54.0	-4	3.100	0.050	0.0048
86003.0	SANTA ANA/DELHI CHANNEL-BRIDGE	1791	8/20/97	54.0	-4	7.300	0.083	0.0625
86004.0	SANTA ANA/DELHI CHANNEL-OUTER	1792	8/20/97	54.0	-4	1.600	0.062	0.0047

Mytilus Shell Development Toxicity Test Data for Porewater

STANUM	STATION	IDORG	DATE	LEG	MEP100_MN	MEP100_SD	MEP100_SG	MEP100_TOX	MEP_ITNH3
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9.0	0.00	0.00	*	T	-9.000

STANUM	STATION	IDORG	DATE	LEG	MEP_IUNH3	MEP_IH2S	MEP_BATCH	MEPQC
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/9.:	9.0	0.135	-8.0000	-9	-9

Section 8

Mytilus Larval Shell Development in Porewater

Section 9

Neanthes arenaceodentata Survival in Sediment

Neanthes arenaceodentata Survival Toxicity Test Data for Sediment

STANUM	STATION	IDORG	DATE	LEG	NASURV_MN	NASURV_SD	NASURV_SG	NASURV_TOX
	CONTROL-CH3			25.0	100.00	0.00	-9	-9
	CONTROL-CH2			25.0	100.00	0.00	-9	-9
	CONTROL-CH1			25.0	100.00	0.00	-9	-9
82030.0	ANAHEIM BAY-NAVAL RES.- REP 1	1044	2/2/94	25.0	96.00	8.94	ns	NT
82030.0	ANAHEIM BAY-NAVAL RES.- REP 2	1045	2/2/94	25.0	92.00	10.95	ns	NT
82030.0	ANAHEIM BAY-NAVAL RES.- REP 3	1046	2/2/94	25.0	100.00	0.00	ns	NT
	CONTROL-CH1			26.0	95.00	10.00	-9	-9
	CONTROL-CH3			26.0	100.00	0.00	-9	-9
	CONTROL-CH2			26.0	92.00	11.00	-9	-9
82001.0	ANAHEIM BAY-NAVY MARSH-REP 1	1086	2/16/94	26.0	60.00	42.43	ns	NT
82001.0	ANAHEIM BAY-NAVY MARSH-REP 2	1087	2/16/94	26.0	92.00	10.95	ns	NT
82001.0	ANAHEIM BAY-NAVY MARSH-REP 3	1088	2/16/94	26.0	80.00	34.64	ns	NT
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP1	1089	2/16/94	26.0	76.00	16.73	ns	NT
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP2	1090	2/16/94	26.0	88.00	17.89	ns	NT
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP3	1091	2/16/94	26.0	64.00	32.86	ns	NT
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 1	1092	2/16/94	26.0	52.00	36.33	ns	NT
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 2	1093	2/16/94	26.0	72.00	33.47	ns	NT
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 3	1094	2/16/94	26.0	56.00	16.73	ns	NT
82040.0	SEAL BEACH NWR-REP 1	1095	2/16/94	26.0	84.00	16.73	ns	NT
82040.0	SEAL BEACH NWR-REP 2	1096	2/16/94	26.0	76.00	16.73	ns	NT
82040.0	SEAL BEACH NWR-REP 3	1097	2/16/94	26.0	92.00	10.95	ns	NT
	CONTROL-CH2			29.0	100.00	0.00	-9	-9
	CONTROL-CH1			29.0	100.00	0.00	-9	-9
	CONTROL-CH3			29.0	100.00	0.00	-9	-9
80024.3	ANAHEIM BAY, OUTER-REP 1	1171	3/31/94	29.0	84.00	21.91	ns	NT
80024.3	ANAHEIM BAY, OUTER-REP 2	1172	3/31/94	29.0	96.00	8.94	ns	NT
80024.3	ANAHEIM BAY, OUTER-REP 3	1173	3/31/94	29.0	80.00	24.49	ns	NT
80028.3	HUNTINGTON HARBOR, UPPER-REP 1	1174	3/30/94	29.0	68.00	41.47	ns	NT
80028.3	HUNTINGTON HARBOR, UPPER-REP 2	1175	3/30/94	29.0	88.00	10.95	ns	NT
80028.3	HUNTINGTON HARBOR, UPPER-REP 3	1176	3/30/94	29.0	80.00	24.49	ns	NT
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 1	1177	3/30/94	29.0	96.00	8.94	ns	NT
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 2	1178	3/30/94	29.0	88.00	10.95	ns	NT
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 3	1179	3/30/94	29.0	96.00	8.94	ns	NT
	CONTROL-CH1			30.0	88.00	11.00	-9	-9
	CONTROL-CH2			30.0	96.00	8.90	-9	-9
	CONTROL-CH3			30.0	72.00	41.50	-9	-9
82030.0	ANAHEIM BAY-NAVAL RES.-REP 1	1195	4/12/94	30.0	88.00	17.89	ns	NT
82030.0	ANAHEIM BAY-NAVAL RES.-REP 2	1196	4/12/94	30.0	88.00	10.95	ns	NT

Neanthes arenaceodentata Survival Toxicity Test Data for Sediment

STANUM	STATION	IDORG	DATE	LEG	NASURV_MN	NASURV_SD	NASURV_SG	NASURV_TOX
82030.0	ANAHEIM BAY-NAVAL RES.-REP 3	1197	4/12/94	30.0	88.00	10.95	ns	NT
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 1	1201	4/12/94	30.0	76.00	43.36	ns	NT
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 2	1202	4/12/94	30.0	76.00	43.36	ns	NT
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 3	1203	4/12/94	30.0	96.00	8.94	ns	NT
82039.0	BOLSA CHICA ECOL RESERVE-REP 1	1204	4/12/94	30.0	52.00	48.17	*	T
82039.0	BOLSA CHICA ECOL RESERVE-REP 2	1205	4/12/94	30.0	65.00	19.15	*	NT
82039.0	BOLSA CHICA ECOL RESERVE-REP 3	1206	4/12/94	30.0	68.00	41.47	ns	NT
	CONTROL-CH1			32.0	96.00	9.00	-9	-9
82030.0	ANAHEIM BAY-NAVAL RESERVE	1335	5/19/94	32.0	100.00	0.00	ns	NT

Section 10

Neanthes arenaceodentata Weight Change in Sediment

Neanthes arenaceodentata Weight Change Toxicity Test Data for Sediment

STANUM	STATION	IDORG	DATE	LEG	NAWT_MN	NAWT_SD	NAWT_SG	NAWT_TOX	NA_OTNH3	NA_OUNH3	NA_OH2S
	CONTROL-CH3			25.0	12.20	4.63	-9	-9	3.120	0.127	-8.0000
	CONTROL-CH2			25.0	11.52	3.92	-9	-9	2.910	0.068	0.0026
	CONTROL-CH1			25.0	10.76	2.07	-9	-9	2.750	0.079	-8.0000
82030.0	ANAHEIM BAY-NAVAL RES.- REP 1	1044	2/2/94	25.0	8.45	3.67	ns	NT	3.200	0.171	0.0024
82030.0	ANAHEIM BAY-NAVAL RES.- REP 2	1045	2/2/94	25.0	11.09	2.99	ns	NT	3.300	0.127	-8.0000
82030.0	ANAHEIM BAY-NAVAL RES.- REP 3	1046	2/2/94	25.0	12.09	1.78	ns	NT	3.100	0.093	-8.0000
	CONTROL-CH1			26.0	4.51	2.71	-9	-9	3.500	0.497	0.0018
	CONTROL-CH3			26.0	3.66	0.75	-9	-9	3.800	0.125	-8.0000
	CONTROL-CH2			26.0	4.59	1.93	-9	-9	3.600	0.152	-8.0000
82001.0	ANAHEIM BAY-NAVY MARSH-REP 1	1086	2/16/94	26.0	4.15	1.78	ns	NT	11.000	0.401	-8.0000
82001.0	ANAHEIM BAY-NAVY MARSH-REP 2	1087	2/16/94	26.0	2.89	0.83	ns	NT	6.400	0.279	-8.0000
82001.0	ANAHEIM BAY-NAVY MARSH-REP 3	1088	2/16/94	26.0	3.98	2.77	ns	NT	5.500	0.232	-8.0000
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP1	1089	2/16/94	26.0	3.79	2.03	ns	NT	5.200	0.222	-8.0000
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP2	1090	2/16/94	26.0	3.01	1.04	ns	NT	6.100	0.213	-8.0000
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP3	1091	2/16/94	26.0	3.36	0.95	ns	NT	7.900	0.193	-8.0000
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 1	1092	2/16/94	26.0	5.16	0.85	ns	NT	5.400	0.214	-8.0000
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 2	1093	2/16/94	26.0	3.56	1.14	ns	NT	6.300	0.251	-8.0000
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 3	1094	2/16/94	26.0	3.52	0.78	ns	NT	5.500	0.195	-8.0000
82040.0	SEAL BEACH NWR-REP 1	1095	2/16/94	26.0	3.48	1.01	ns	NT	4.300	0.271	-8.0000
82040.0	SEAL BEACH NWR-REP 2	1096	2/16/94	26.0	2.97	0.55	ns	NT	4.000	0.139	-8.0000
82040.0	SEAL BEACH NWR-REP 3	1097	2/16/94	26.0	4.08	2.24	ns	NT	3.900	0.221	-8.0000
	CONTROL-CH2			29.0	12.07	4.06	-9	-9	4.300	0.123	0.0035
	CONTROL-CH1			29.0	14.44	3.11	-9	-9	3.670	0.164	0.0031
	CONTROL-CH3			29.0	15.28	6.32	-9	-9	4.100	0.130	0.0035
80024.3	ANAHEIM BAY, OUTER-REP 1	1171	3/31/94	29.0	15.01	4.66	ns	NT	4.340	0.116	0.0025
80024.3	ANAHEIM BAY, OUTER-REP 2	1172	3/31/94	29.0	12.22	4.50	ns	NT	3.720	0.104	0.0030
80024.3	ANAHEIM BAY, OUTER-REP 3	1173	3/31/94	29.0	13.56	3.34	ns	NT	5.400	0.151	0.0030
80028.3	HUNTINGTON HARBOR, UPPER-REP 1	1174	3/30/94	29.0	10.08	2.84	*	NT	11.200	0.499	0.0053
80028.3	HUNTINGTON HARBOR, UPPER-REP 2	1175	3/30/94	29.0	12.06	3.51	ns	NT	9.490	0.396	0.0054
80028.3	HUNTINGTON HARBOR, UPPER-REP 3	1176	3/30/94	29.0	9.83	3.97	*	NT	10.000	0.430	0.0064
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 1	1177	3/30/94	29.0	13.72	2.81	ns	NT	5.320	0.271	0.0026
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 2	1178	3/30/94	29.0	15.17	5.44	ns	NT	4.870	0.189	0.0026
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 3	1179	3/30/94	29.0	12.85	5.11	ns	NT	6.870	0.179	0.0038
	CONTROL-CH1			30.0	3.78	1.36	-9	-9	6.710	0.256	0.0007
	CONTROL-CH2			30.0	7.52	2.90	-9	-9	6.200	0.170	0.0009
	CONTROL-CH3			30.0	4.88	0.70	-9	-9	6.200	0.194	0.0007
82030.0	ANAHEIM BAY-NAVAL RES.-REP 1	1195	4/12/94	30.0	5.20	2.99	ns	NT	7.380	0.189	0.0153
82030.0	ANAHEIM BAY-NAVAL RES.-REP 2	1196	4/12/94	30.0	6.69	3.15	ns	NT	8.620	0.288	0.0021

Neanthes arenaceodentata Weight Change Toxicity Test Data for Sediment

STANUM	STATION	IDORG	DATE	LEG	NAWT_MN	NAWT_SD	NAWT_SG	NAWT_TOX	NA_OTNH3	NA_OUNH3	NA_OH2S
82030.0	ANAHEIM BAY-NAVAL RES.-REP 3	1197	4/12/94	30.0	5.62	1.88	ns	NT	8.900	0.260	0.0031
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 1	1201	4/12/94	30.0	5.18	1.76	ns	NT	9.100	0.254	0.0031
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 2	1202	4/12/94	30.0	5.19	0.84	ns	NT	8.900	0.272	0.0057
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 3	1203	4/12/94	30.0	5.26	2.85	ns	NT	6.700	0.224	0.0022
82039.0	BOLSA CHICA ECOL RESERVE-REP 1	1204	4/12/94	30.0	5.76	3.52	ns	NT	14.000	0.355	0.0875
82039.0	BOLSA CHICA ECOL RESERVE-REP 2	1205	4/12/94	30.0	5.72	2.38	ns	NT	11.300	0.471	0.0082
82039.0	BOLSA CHICA ECOL RESERVE-REP 3	1206	4/12/94	30.0	7.79	3.90	ns	NT	9.260	0.277	0.0052
	CONTROL-CH1			32.0	10.99	3.94	-9	-9	9.500	0.189	-8.0000
82030.0	ANAHEIM BAY-NAVAL RESERVE	1335	5/19/94	32.0	8.46	4.97	ns	NT	4.900	0.107	0.0015

Neanthes arenaceodentata Weight Change Toxicity Test Data for Sediment

STANUM	STATION	IDORG	DATE	LEG	NA_ITNH3	NA_IUNH3	NA_IH2S	NA_BATCH	NAQC
	CONTROL-CH3			25.0	-9.000	-9.000	-9.0000	-9	-9
	CONTROL-CH2			25.0	-9.000	-9.000	-9.0000	-9	-9
	CONTROL-CH1			25.0	-9.000	-9.000	-9.0000	-9	-9
82030.0	ANAHEIM BAY-NAVAL RES.- REP 1	1044	2/2/94	25.0	-9.000	-9.000	-9.0000	-9	-9
82030.0	ANAHEIM BAY-NAVAL RES.- REP 2	1045	2/2/94	25.0	-9.000	-9.000	-9.0000	-9	-9
82030.0	ANAHEIM BAY-NAVAL RES.- REP 3	1046	2/2/94	25.0	-9.000	-9.000	-9.0000	-9	-9
	CONTROL-CH1			26.0	-9.000	-9.000	-9.0000	-9	-9
	CONTROL-CH3			26.0	-9.000	-9.000	-9.0000	-9	-9
	CONTROL-CH2			26.0	-9.000	-9.000	-9.0000	-9	-9
82001.0	ANAHEIM BAY-NAVY MARSH-REP 1	1086	2/16/94	26.0	-9.000	-9.000	-9.0000	-9	-9
82001.0	ANAHEIM BAY-NAVY MARSH-REP 2	1087	2/16/94	26.0	-9.000	-9.000	-9.0000	-9	-9
82001.0	ANAHEIM BAY-NAVY MARSH-REP 3	1088	2/16/94	26.0	-9.000	-9.000	-9.0000	-9	-9
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP1	1089	2/16/94	26.0	-9.000	-9.000	-9.0000	-9	-9
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP2	1090	2/16/94	26.0	-9.000	-9.000	-9.0000	-9	-9
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP3	1091	2/16/94	26.0	-9.000	-9.000	-9.0000	-9	-9
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 1	1092	2/16/94	26.0	-9.000	-9.000	-9.0000	-9	-9
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 2	1093	2/16/94	26.0	-9.000	-9.000	-9.0000	-9	-9
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 3	1094	2/16/94	26.0	-9.000	-9.000	-9.0000	-9	-9
82040.0	SEAL BEACH NWR-REP 1	1095	2/16/94	26.0	-9.000	-9.000	-9.0000	-9	-9
82040.0	SEAL BEACH NWR-REP 2	1096	2/16/94	26.0	-9.000	-9.000	-9.0000	-9	-9
82040.0	SEAL BEACH NWR-REP 3	1097	2/16/94	26.0	-9.000	-9.000	-9.0000	-9	-9
	CONTROL-CH2			29.0	-9.000	-9.000	-9.0000	-9	-9
	CONTROL-CH1			29.0	-9.000	-9.000	-9.0000	-9	-9
	CONTROL-CH3			29.0	-9.000	-9.000	-9.0000	-9	-9
80024.3	ANAHEIM BAY, OUTER-REP 1	1171	3/31/94	29.0	-9.000	-9.000	-9.0000	-9	-9
80024.3	ANAHEIM BAY, OUTER-REP 2	1172	3/31/94	29.0	-9.000	-9.000	-9.0000	-9	-9
80024.3	ANAHEIM BAY, OUTER-REP 3	1173	3/31/94	29.0	-9.000	-9.000	-9.0000	-9	-9
80028.3	HUNTINGTON HARBOR, UPPER-REP 1	1174	3/30/94	29.0	-9.000	-9.000	-9.0000	-9	-9
80028.3	HUNTINGTON HARBOR, UPPER-REP 2	1175	3/30/94	29.0	-9.000	-9.000	-9.0000	-9	-9
80028.3	HUNTINGTON HARBOR, UPPER-REP 3	1176	3/30/94	29.0	-9.000	-9.000	-9.0000	-9	-9
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 1	1177	3/30/94	29.0	-9.000	-9.000	-9.0000	-9	-9
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 2	1178	3/30/94	29.0	-9.000	-9.000	-9.0000	-9	-9
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 3	1179	3/30/94	29.0	-9.000	-9.000	-9.0000	-9	-9
	CONTROL-CH1			30.0	-9.000	-9.000	-9.0000	-9	-9
	CONTROL-CH2			30.0	-9.000	-9.000	-9.0000	-9	-9
	CONTROL-CH3			30.0	-9.000	-9.000	-9.0000	-9	-9
82030.0	ANAHEIM BAY-NAVAL RES.-REP 1	1195	4/12/94	30.0	-9.000	-9.000	-9.0000	-9	-9
82030.0	ANAHEIM BAY-NAVAL RES.-REP 2	1196	4/12/94	30.0	-9.000	-9.000	-9.0000	-9	-9

Neanthes arenaceodentata Weight Change Toxicity Test Data for Sediment

STANUM	STATION	IDORG	DATE	LEG	NA_ITNH3	NA_IUNH3	NA_IH2S	NA_BATCH	NAQC
82030.0	ANAHEIM BAY-NAVAL RES.-REP 3	1197	4/12/94	30.0	10.000	0.049	0.0167	-9	-9
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 1	1201	4/12/94	30.0	26.000	0.191	0.0271	-9	-9
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 2	1202	4/12/94	30.0	-9.000	-9.000	-9.0000	-9	-9
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 3	1203	4/12/94	30.0	-9.000	-9.000	-9.0000	-9	-9
82039.0	BOLSA CHICA ECOL RESERVE-REP 1	1204	4/12/94	30.0	31.000	0.267	1.4052	-9	-9
82039.0	BOLSA CHICA ECOL RESERVE-REP 2	1205	4/12/94	30.0	-9.000	-9.000	-9.0000	-9	-9
82039.0	BOLSA CHICA ECOL RESERVE-REP 3	1206	4/12/94	30.0	-9.000	-9.000	-9.0000	-9	-9
	CONTROL-CH1			32.0	-9.000	-9.000	-9.0000	-9	-9
82030.0	ANAHEIM BAY-NAVAL RESERVE	1335	5/19/94	32.0	4.200	0.025	0.0730	-9	-9

Section 11

Ampelisca abdita Survival in Sediment

Ampelisca abdita Survival Toxicity Test Data for Sediment

STANUM	STATION	IDORG	DATE	LEG	AA_MN	AA_SD	AA_SG	AA_TOX	AA_BATCH	AAQC	AA_OTNH3	AA_OUNH3
	CONTROL-C1			36.0	92	13	-9	-9	b036aasa01	-5	1.200	0.074
85007.0	NEWPORT BAY (431)	1418	9/19/94	36.0	87	13	ns	NT	b036aasa01	-5	5.700	0.254
85008.0	NEWPORT BAY (670)	1419	9/20/94	36.0	0	0	*	T	b036aasa01	-5	26.000	1.990
85009.0	NEWPORT BAY (705)	1420	9/20/94	36.0	87	10	ns	NT	b036aasa01	-5	5.800	0.270
85010.0	NEWPORT BAY (819)	1421	9/19/94	36.0	76	13	*	NT	b036aasa01	-5	1.600	0.045
85011.0	NEWPORT BAY (905)	1422	9/20/94	36.0	95	5	ns	NT	b036aasa01	-5	1.300	0.036
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36.0	67	39	ns	NT	b036aasa01	-5	5.300	0.269
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36.0	4	5	*	T	b036aasa01	-5	21.000	1.242
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36.0	26	20	*	T	b036aasa01	-5	6.900	0.417
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36.0	77	16	ns	NT	b036aasa01	-5	1.900	0.100
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36.0	89	11	ns	NT	b036aasa01	-5	1.300	0.042
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36.0	93	6	ns	NT	b036aasa01	-5	2.600	0.135
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36.0	86	13	ns	NT	b036aasa01	-5	3.700	0.154

Ampelisca abdita Survival Toxicity Test Data for Sediment

STANUM	STATION	IDORG	DATE	LEG	AA_OH2S	AA_ITNH3	AA_IUNH3	AA_IH2S
	CONTROL-C1			36.0	-8.0000	-9.000	-9.000	-9.0000
85007.0	NEWPORT BAY (431)	1418	9/19/94	36.0	-8.0000	-9.000	-9.000	-9.0000
85008.0	NEWPORT BAY (670)	1419	9/20/94	36.0	0.0054	-9.000	-9.000	-9.0000
85009.0	NEWPORT BAY (705)	1420	9/20/94	36.0	-8.0000	-9.000	-9.000	-9.0000
85010.0	NEWPORT BAY (819)	1421	9/19/94	36.0	-8.0000	-9.000	-9.000	-9.0000
85011.0	NEWPORT BAY (905)	1422	9/20/94	36.0	-8.0000	-9.000	-9.000	-9.0000
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36.0	-8.0000	-9.000	-9.000	-9.0000
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36.0	-8.0000	-9.000	-9.000	-9.0000
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36.0	-8.0000	-9.000	-9.000	-9.0000
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36.0	-8.0000	-9.000	-9.000	-9.0000
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36.0	-8.0000	-9.000	-9.000	-9.0000
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36.0	-8.0000	-9.000	-9.000	-9.0000
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36.0	0.0006	-9.000	-9.000	-9.0000

Section 12

Ceriodaphnia dubia Survival in Intact Sediment Cores

Ceriodaphnia dubia Development Toxicity Test Data for Intact Sediment Cores

STANUM	STATION	IDORG	DATE	LEG	CDSI_MN	CDSI_SD	CDSI_SG	CDSI_TOX	CDSI_BATCH	CDSIQC
	CONTROL-C1			54.0	88	8	-9	-9	I54tcdswi	-3
86001.0	SAN DIEGO CREEK- CAMPUS	1789	8/20/97	54.0	94	13	ns	NT	I54tcdswi	-3

STANUM	STATION	IDORG	DATE	LEG	CDSI_OTNH3	CDSI_OUNH3	CDSI_OH2S	CDSI_OHDLO	CDSI_OHDHI	CDSI_OCYHI
	CONTROL-C1			54.0	0.620	0.225	0.0048	35	-9	218
86001.0	SAN DIEGO CREEK- CAMPUS	1789	8/20/97	54.0	6.900	0.661	0.0074	70	-9	1770

Hyalella azteca Development Toxicity Test Data for Sediment

STANUM	STATION	IDORG	DATE	LEG	HA_MN	HA_SD	HA_SG	HA_TOX	HA_BATCH	HAQC	HA_OTNH3	HA_OUNH3	HA_ITNH3
80024.1	ANAHEIM BAY- OUTER	85	9/15/92	4.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
80024.2	ANAHEIM BAY- OUTER	86	9/15/92	4.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
80024.3	ANAHEIM BAY- OUTER	87	9/15/92	4.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
80026.1	HUNTINGTON HARBOR- LOWER	91	9/15/92	4.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
80026.2	HUNTINGTON HARBOR- LOWER	92	9/15/92	4.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
80026.3	HUNTINGTON HARBOR- LOWER	93	9/15/92	4.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
80027.1	HUNTINGTON HARBOR- MIDDLE	94	9/15/92	4.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
80027.2	HUNTINGTON HARBOR- MIDDLE	95	9/15/92	4.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
80027.3	HUNTINGTON HARBOR- MIDDLE	96	9/15/92	4.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
80028.1	HUNTINGTON HARBOR- UPPER	97	9/15/92	4.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
80028.2	HUNTINGTON HARBOR- UPPER	98	9/15/92	4.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
80028.3	HUNTINGTON HARBOR- UPPER	99	9/15/92	4.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
80025.1	ANAHEIM BAY- OIL ISLAND	88	10/14/92	5.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
80025.2	ANAHEIM BAY- OIL ISLAND	89	10/14/92	5.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
80025.3	ANAHEIM BAY- OIL ISLAND	90	10/14/92	5.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82040.0	SEAL BEACH NWR	440	12/11/92	9.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82024.0	BOLSA BAY-MOUTH OF EGGW FLOOD	770	4/21/93	17.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE.	771	4/22/93	17.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RESERVE	772	4/22/93	17.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
80024.3	ANAHEIM BAY- OUTER	807	5/27/93	19.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82009.0	HUNTINGTON HARBOR-HAR. LA	808	5/27/93	19.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82002.0	ANAHEIM BAY-NAVY MARSH #2	809	5/27/93	19.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
	CONTROL-CH3			25.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
	CONTROL-CH2			25.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000

Section 13

Hyalella azteca Survival in Sediment

Hyalella azteca Development Toxicity Test Data for Sediment

STANUM	STATION	IDORG	DATE	LEG	HA_MN	HA_SD	HA_SG	HA_TOX	HA_BATCH	HAQC	HA_OTNH3	HA_OUNH3	HA_ITNH3
	CONTROL-CH1			25.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.- REP 1	1044	2/2/94	25.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.- REP 2	1045	2/2/94	25.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.- REP 3	1046	2/2/94	25.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
	CONTROL-CH1			26.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
	CONTROL-CH3			26.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
	CONTROL-CH2			26.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82001.0	ANAHEIM BAY-NAVY MARSH-REP 1	1086	2/16/94	26.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82001.0	ANAHEIM BAY-NAVY MARSH-REP 2	1087	2/16/94	26.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82001.0	ANAHEIM BAY-NAVY MARSH-REP 3	1088	2/16/94	26.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP1	1089	2/16/94	26.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP2	1090	2/16/94	26.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP3	1091	2/16/94	26.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 1	1092	2/16/94	26.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 2	1093	2/16/94	26.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 3	1094	2/16/94	26.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82040.0	SEAL BEACH NWR-REP 1	1095	2/16/94	26.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82040.0	SEAL BEACH NWR-REP 2	1096	2/16/94	26.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82040.0	SEAL BEACH NWR-REP 3	1097	2/16/94	26.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
	CONTROL-CH2			29.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
	CONTROL-CH1			29.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
	CONTROL-CH3			29.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
80024.3	ANAHEIM BAY, OUTER-REP 1	1171	3/31/94	29.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
80024.3	ANAHEIM BAY, OUTER-REP 2	1172	3/31/94	29.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
80024.3	ANAHEIM BAY, OUTER-REP 3	1173	3/31/94	29.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
80028.3	HUNTINGTON HARBOR, UPPER-REP 1	1174	3/30/94	29.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
80028.3	HUNTINGTON HARBOR, UPPER-REP 2	1175	3/30/94	29.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
80028.3	HUNTINGTON HARBOR, UPPER-REP 3	1176	3/30/94	29.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 1	1177	3/30/94	29.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 2	1178	3/30/94	29.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 3	1179	3/30/94	29.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
	CONTROL-CH1			30.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
	CONTROL-CH2			30.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
	CONTROL-CH3			30.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 1	1195	4/12/94	30.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 2	1196	4/12/94	30.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RES.-REP 3	1197	4/12/94	30.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 1	1201	4/12/94	30.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 2	1202	4/12/94	30.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000

Hyalella azteca Development Toxicity Test Data for Sediment

STANUM	STATION	IDORG	DATE	LEG	HA_MN	HA_SD	HA_SG	HA_TOX	HA_BATCH	HAQC	HA_OTNH3	HA_OUNH3	HA_ITNH3
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 3	1203	4/12/94	30.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82039.0	BOLSA CHICA ECOL RESERVE-REP 1	1204	4/12/94	30.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82039.0	BOLSA CHICA ECOL RESERVE-REP 2	1205	4/12/94	30.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82039.0	BOLSA CHICA ECOL RESERVE-REP 3	1206	4/12/94	30.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
	CONTROL-CH2			32.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
	CONTROL-CH3			32.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
	CONTROL-CH1			32.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
82030.0	ANAHEIM BAY-NAVAL RESERVE	1335	5/19/94	32.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
	CONTROL-C1			34.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
85001.0	NEWPORT BAY (523)	1387	9/1/94	34.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
85002.0	NEWPORT BAY (616)	1388	9/1/94	34.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
85003.0	NEWPORT BAY (791)	1389	8/31/94	34.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
85004.0	NEWPORT BAY (877)	1390	9/1/94	34.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
85005.0	NEWPORT BAY (949)	1391	8/31/94	34.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
85006.0	NEWPORT BAY (1009)	1392	9/1/94	34.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
	CONTROL-C1			36.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
85007.0	NEWPORT BAY (431)	1418	9/19/94	36.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
85008.0	NEWPORT BAY (670)	1419	9/20/94	36.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
85009.0	NEWPORT BAY (705)	1420	9/20/94	36.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
85010.0	NEWPORT BAY (819)	1421	9/19/94	36.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
85011.0	NEWPORT BAY (905)	1422	9/20/94	36.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
	CONTROL-C1			45.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
	CONTROL-C2			45.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
85011.0	NEWPORT BAY (523)	1634	6/20/96	45.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
	CONTROL-C1			54.0	92	8	-9	-9	154tha	-4	1.400	0.032	-9.000
85001.0	NEWPORT BAY (523)	1788	8/20/97	54.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
86001.0	SAN DIEGO CREEK- CAMPUS	1789	8/20/97	54.0	96	5	ns	NT	154tha	-4	1.800	0.624	7.000
86002.0	SAN DIEGO CREEK- MACARTHUR	1790	8/20/97	54.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
86003.0	SANTA ANA/DELHI CHANNEL-BRIDGE	1791	8/20/97	54.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000
86004.0	SANTA ANA/DELHI CHANNEL-OUTER	1792	8/20/97	54.0	-9	-9	-9	-9	-9	-9	-9.000	-9.000	-9.000

Hyalella azteca Development Toxicity Test Data for Sediment

STANUM	STATION	IDORG	DATE	LEG	HA_IUNH3	HA_IH2S	HA_OHDLO	HA_OHDHI	HA_OCYHI	MB_META	TIE_META
80024.1	ANAHEIM BAY- OUTER	85	9/15/92	4.0	-9.000	-9.0000	-9	-9	-9	-9	-9
80024.2	ANAHEIM BAY- OUTER	86	9/15/92	4.0	-9.000	-9.0000	-9	-9	-9	-9	-9
80024.3	ANAHEIM BAY- OUTER	87	9/15/92	4.0	-9.000	-9.0000	-9	-9	-9	-9	-9
80026.1	HUNTINGTON HARBOR- LOWER	91	9/15/92	4.0	-9.000	-9.0000	-9	-9	-9	-9	-9
80026.2	HUNTINGTON HARBOR- LOWER	92	9/15/92	4.0	-9.000	-9.0000	-9	-9	-9	-9	-9
80026.3	HUNTINGTON HARBOR- LOWER	93	9/15/92	4.0	-9.000	-9.0000	-9	-9	-9	-9	-9
80027.1	HUNTINGTON HARBOR- MIDDLE	94	9/15/92	4.0	-9.000	-9.0000	-9	-9	-9	-9	-9
80027.2	HUNTINGTON HARBOR- MIDDLE	95	9/15/92	4.0	-9.000	-9.0000	-9	-9	-9	-9	-9
80027.3	HUNTINGTON HARBOR- MIDDLE	96	9/15/92	4.0	-9.000	-9.0000	-9	-9	-9	-9	-9
80028.1	HUNTINGTON HARBOR- UPPER	97	9/15/92	4.0	-9.000	-9.0000	-9	-9	-9	-9	-9
80028.2	HUNTINGTON HARBOR- UPPER	98	9/15/92	4.0	-9.000	-9.0000	-9	-9	-9	-9	-9
80028.3	HUNTINGTON HARBOR- UPPER	99	9/15/92	4.0	-9.000	-9.0000	-9	-9	-9	-9	-9
80025.1	ANAHEIM BAY- OIL ISLAND	88	10/14/92	5.0	-9.000	-9.0000	-9	-9	-9	-9	-9
80025.2	ANAHEIM BAY- OIL ISLAND	89	10/14/92	5.0	-9.000	-9.0000	-9	-9	-9	-9	-9
80025.3	ANAHEIM BAY- OIL ISLAND	90	10/14/92	5.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82001.0	ANAHEIM BAY-NAVY MARSH	401	12/11/92	9.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82002.0	ANAHEIM BAY-NAVY MARSH #2	402	12/11/92	9.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82003.0	ANEHEIM BAY-ENTRANCE	403	12/11/92	9.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82004.0	ANAHEIM BAY-FUEL DOCK S.	404	12/10/92	9.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82005.0	HUNTINGTON HARBOR-LAUNCH	405	12/10/92	9.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82006.0	HUNTINGTON HARBOR-PETER'S	406	12/10/92	9.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82009.0	HUNTINGTON HARBOR-HAR. LA	409	12/10/92	9.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82020.0	SEAL BEACH NWR-NASA IS.	420	12/11/92	9.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82021.0	SEAL BEACH NWR-HOG IS.	421	12/11/92	9.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82022.0	SEAL BEACH NWR-SUNSET AGU	422	12/11/92	9.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82023.0	SEAL BEACH NWR-BOLSA AVE	423	12/11/92	9.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82024.0	BOLSA BAY-MOUTH OF EGGW	424	12/10/92	9.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82030.0	ANAHEIM BAY-NAVAL RESERVE	430	12/10/92	9.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82039.0	BOLSA CHICA ECOL RESERVE	439	12/10/92	9.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82040.0	SEAL BEACH NWR	440	12/11/92	9.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82020.0	SEAL BEACH NWR-NASA IS.	769	4/22/93	17.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82024.0	BOLSA BAY-MOUTH OF EGGW FLOOD	770	4/21/93	17.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82023.0	SEAL BEACH NWR-BOLSA AVE.	771	4/22/93	17.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82030.0	ANAHEIM BAY-NAVAL RESERVE	772	4/22/93	17.0	-9.000	-9.0000	-9	-9	-9	-9	-9
80024.3	ANAHEIM BAY- OUTER	807	5/27/93	19.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82009.0	HUNTINGTON HARBOR-HAR. LA	808	5/27/93	19.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82002.0	ANAHEIM BAY-NAVY MARSH #2	809	5/27/93	19.0	-9.000	-9.0000	-9	-9	-9	-9	-9
	CONTROL-CH3			25.0	-9.000	-9.0000	-9	-9	-9	-9	-9
	CONTROL-CH2			25.0	-9.000	-9.0000	-9	-9	-9	-9	-9

Hyalella azteca Development Toxicity Test Data for Sediment

STANUM	STATION	IDORG	DATE	LEG	HA_IUNH3	HA_IH2S	HA_OHDLO	HA_OHDHI	HA_OCYHI	MB_META	TIE_META
	CONTROL-CH1			25.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82030.0	ANAHEIM BAY-NAVAL RES.- REP 1	1044	2/2/94	25.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82030.0	ANAHEIM BAY-NAVAL RES.- REP 2	1045	2/2/94	25.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82030.0	ANAHEIM BAY-NAVAL RES.- REP 3	1046	2/2/94	25.0	-9.000	-9.0000	-9	-9	-9	-9	-9
	CONTROL-CH1			26.0	-9.000	-9.0000	-9	-9	-9	-9	-9
	CONTROL-CH3			26.0	-9.000	-9.0000	-9	-9	-9	-9	-9
	CONTROL-CH2			26.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82001.0	ANAHEIM BAY-NAVY MARSH-REP 1	1086	2/16/94	26.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82001.0	ANAHEIM BAY-NAVY MARSH-REP 2	1087	2/16/94	26.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82001.0	ANAHEIM BAY-NAVY MARSH-REP 3	1088	2/16/94	26.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP1	1089	2/16/94	26.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP2	1090	2/16/94	26.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82002.0	ANAHEIM BAY-NAVY MARSH #2-REP3	1091	2/16/94	26.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 1	1092	2/16/94	26.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 2	1093	2/16/94	26.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82023.0	SEAL BEACH NWR-BOLSA AVE-REP 3	1094	2/16/94	26.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82040.0	SEAL BEACH NWR-REP 1	1095	2/16/94	26.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82040.0	SEAL BEACH NWR-REP 2	1096	2/16/94	26.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82040.0	SEAL BEACH NWR-REP 3	1097	2/16/94	26.0	-9.000	-9.0000	-9	-9	-9	-9	-9
	CONTROL-CH2			29.0	-9.000	-9.0000	-9	-9	-9	-9	-9
	CONTROL-CH1			29.0	-9.000	-9.0000	-9	-9	-9	-9	-9
	CONTROL-CH3			29.0	-9.000	-9.0000	-9	-9	-9	-9	-9
80024.3	ANAHEIM BAY, OUTER-REP 1	1171	3/31/94	29.0	-9.000	-9.0000	-9	-9	-9	-9	-9
80024.3	ANAHEIM BAY, OUTER-REP 2	1172	3/31/94	29.0	-9.000	-9.0000	-9	-9	-9	-9	-9
80024.3	ANAHEIM BAY, OUTER-REP 3	1173	3/31/94	29.0	-9.000	-9.0000	-9	-9	-9	-9	-9
80028.3	HUNTINGTON HARBOR, UPPER-REP 1	1174	3/30/94	29.0	-9.000	-9.0000	-9	-9	-9	-9	-9
80028.3	HUNTINGTON HARBOR, UPPER-REP 2	1175	3/30/94	29.0	-9.000	-9.0000	-9	-9	-9	-9	-9
80028.3	HUNTINGTON HARBOR, UPPER-REP 3	1176	3/30/94	29.0	-9.000	-9.0000	-9	-9	-9	-9	-9
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 1	1177	3/30/94	29.0	-9.000	-9.0000	-9	-9	-9	-9	-9
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 2	1178	3/30/94	29.0	-9.000	-9.0000	-9	-9	-9	-9	-9
80027.3	HUNTINGTON HARBOR,MIDDLE-REP 3	1179	3/30/94	29.0	-9.000	-9.0000	-9	-9	-9	-9	-9
	CONTROL-CH1			30.0	-9.000	-9.0000	-9	-9	-9	-9	-9
	CONTROL-CH2			30.0	-9.000	-9.0000	-9	-9	-9	-9	-9
	CONTROL-CH3			30.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82030.0	ANAHEIM BAY-NAVAL RES.-REP 1	1195	4/12/94	30.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82030.0	ANAHEIM BAY-NAVAL RES.-REP 2	1196	4/12/94	30.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82030.0	ANAHEIM BAY-NAVAL RES.-REP 3	1197	4/12/94	30.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 1	1201	4/12/94	30.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 2	1202	4/12/94	30.0	-9.000	-9.0000	-9	-9	-9	-9	-9

Hyalella azteca Development Toxicity Test Data for Sediment

STANUM	STATION	IDORG	DATE	LEG	HA_IUNH3	HA_IH2S	HA_OHDLO	HA_OHDHI	HA_OCYHI	MB_META	TIE_META
82005.0	HUNTINGTON HARBOR-LAUNCH-REP 3	1203	4/12/94	30.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82039.0	BOLSA CHICA ECOL RESERVE-REP 1	1204	4/12/94	30.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82039.0	BOLSA CHICA ECOL RESERVE-REP 2	1205	4/12/94	30.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82039.0	BOLSA CHICA ECOL RESERVE-REP 3	1206	4/12/94	30.0	-9.000	-9.0000	-9	-9	-9	-9	-9
	CONTROL-CH2			32.0	-9.000	-9.0000	-9	-9	-9	-9	-9
	CONTROL-CH3			32.0	-9.000	-9.0000	-9	-9	-9	-9	-9
	CONTROL-CH1			32.0	-9.000	-9.0000	-9	-9	-9	-9	-9
82030.0	ANAHEIM BAY-NAVAL RESERVE	1335	5/19/94	32.0	-9.000	-9.0000	-9	-9	-9	-9	-9
	CONTROL-C1			34.0	-9.000	-9.0000	-9	-9	-9	-9	-9
85001.0	NEWPORT BAY (523)	1387	9/1/94	34.0	-9.000	-9.0000	-9	-9	-9	-9	-9
85002.0	NEWPORT BAY (616)	1388	9/1/94	34.0	-9.000	-9.0000	-9	-9	-9	-9	-9
85003.0	NEWPORT BAY (791)	1389	8/31/94	34.0	-9.000	-9.0000	-9	-9	-9	-9	-9
85004.0	NEWPORT BAY (877)	1390	9/1/94	34.0	-9.000	-9.0000	-9	-9	-9	-9	-9
85005.0	NEWPORT BAY (949)	1391	8/31/94	34.0	-9.000	-9.0000	-9	-9	-9	-9	-9
85006.0	NEWPORT BAY (1009)	1392	9/1/94	34.0	-9.000	-9.0000	-9	-9	-9	-9	-9
	CONTROL-C1			36.0	-9.000	-9.0000	-9	-9	-9	-9	-9
85007.0	NEWPORT BAY (431)	1418	9/19/94	36.0	-9.000	-9.0000	-9	-9	-9	-9	-9
85008.0	NEWPORT BAY (670)	1419	9/20/94	36.0	-9.000	-9.0000	-9	-9	-9	-9	-9
85009.0	NEWPORT BAY (705)	1420	9/20/94	36.0	-9.000	-9.0000	-9	-9	-9	-9	-9
85010.0	NEWPORT BAY (819)	1421	9/19/94	36.0	-9.000	-9.0000	-9	-9	-9	-9	-9
85011.0	NEWPORT BAY (905)	1422	9/20/94	36.0	-9.000	-9.0000	-9	-9	-9	-9	-9
85012.0	NEWPORT BAY (1064)	1423	9/19/94	36.0	-9.000	-9.0000	-9	-9	-9	-9	-9
85013.0	NEWPORT BAY (RHINE CHANNEL)	1424	9/19/94	36.0	-9.000	-9.0000	-9	-9	-9	-9	-9
85014.0	NEWPORT BAY (NEWPORT ISLAND)	1425	9/19/94	36.0	-9.000	-9.0000	-9	-9	-9	-9	-9
85015.0	NEWPORT BAY (ARCHES S. DRAINS)	1426	9/19/94	36.0	-9.000	-9.0000	-9	-9	-9	-9	-9
85016.0	NEWPORT BAY (YACHTMANS COVE)	1427	9/20/94	36.0	-9.000	-9.0000	-9	-9	-9	-9	-9
85017.0	NEWPORT BAY (UNIT II BASIN)	1428	9/19/94	36.0	-9.000	-9.0000	-9	-9	-9	-9	-9
85018.0	NEWPORT BAY (UNIT I BASIN)	1429	9/19/94	36.0	-9.000	-9.0000	-9	-9	-9	-9	-9
	CONTROL-C1			45.0	-9.000	-9.0000	-9	-9	-9	-9	-9
	CONTROL-C2			45.0	-9.000	-9.0000	-9	-9	-9	-9	-9
85013.0	NEWPORT BAY (RHINE CHANNEL)	1633	6/20/96	45.0	-9.000	-9.0000	-9	-9	-9	-9	-9
85011.0	NEWPORT BAY (523)	1634	6/20/96	45.0	-9.000	-9.0000	-9	-9	-9	-9	-9
	CONTROL-C1			54.0	-9.000	-9.0000	130	136	782	-9	-9
85001.0	NEWPORT BAY (523)	1788	8/20/97	54.0	-9.000	-9.0000	-9	-9	-9	-9	-9
86001.0	SAN DIEGO CREEK- CAMPUS	1789	8/20/97	54.0	0.032	0.0028	115	194	1536	-9	-9
86002.0	SAN DIEGO CREEK- MACARTHUR	1790	8/20/97	54.0	-9.000	-9.0000	-9	-9	-9	-9	-9
86003.0	SANTA ANA/DELHI CHANNEL-BRIDGE	1791	8/20/97	54.0	-9.000	-9.0000	-9	-9	-9	-9	-9
86004.0	SANTA ANA/DELHI CHANNEL-OUTER	1792	8/20/97	54.0	-9.000	-9.0000	-9	-9	-9	-9	-9

Appendix F

Benthic Community Data

Benthic Community Data

STANUM	STATION	IDORG	LEG	DATE
80024.1	ANAHEIM BAY, OUTER	85	4	09/15/92

SPECIES	TAXA	NO. PER CORE rep 1	rep 2	rep 3	rep 4	rep 5	SUMMARY STATISTICS mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Acmira catherinae	Polychaeta	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Amphicteis scaphobranchiata	Polychaeta	0	1	1			0.7	0.5	0	1	0.6	0.3	1.3	2
Cossura candida	Polychaeta	7	11	2			6.7	6.5	2	11	4.5	2.6	10.1	20
Eranno lagunae	Polychaeta	0	2	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Euclymeninae spp. indet.	Polychaeta	0	2	1			1.0	1.0	0	2	1.0	0.6	2.3	3
Glycera americana	Polychaeta	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Leitoscoloplos pugettensis	Polychaeta	1	3	0			1.3	1.5	0	3	1.5	0.9	3.4	4
Maldane glebifex	Polychaeta	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Malmgreniella macginitiei	Polychaeta	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Mediomastus californiensis	Polychaeta	7	6	8			7.0	7.0	6	8	1.0	0.6	2.3	21
Monticellina dorsobranchialis	Polychaeta	1	2	2			1.7	1.5	1	2	0.6	0.3	1.3	5
Monticellina sp. C	Polychaeta	1	5	1			2.3	3.0	1	5	2.3	1.3	5.2	7
Nereis procera	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Paraprionospio pinnata	Polychaeta	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Pectinaria californiensis	Polychaeta	2	0	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Phyllodoce hartmanae	Polychaeta	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Pista alata	Polychaeta	0	1	1			0.7	0.5	0	1	0.6	0.3	1.3	2
Praxillella pacifica	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Prionospio lighti	Polychaeta	2	2	6			3.3	4.0	2	6	2.3	1.3	5.2	10
Scoletoma erecta	Polychaeta	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Sigambra tentaculata	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Spiophanes missionensis	Polychaeta	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Streblosoma sp. B	Polychaeta	1	1	0			0.7	0.5	0	1	0.6	0.3	1.3	2
nemertea	Nemertea	3	3	1			2.3	2.0	1	3	1.2	0.7	2.6	7
Bathyleberis californica	Ostracoda	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Euphilomedes carcharodonta	Ostracoda	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Monoculodes hartmanae	Amphipoda	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Crangon sp.	Decapoda	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Pinnixa longipes	Decapoda	0	2	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Tagelus subteres	Bivalvia	2	0	1			1.0	1.0	0	2	1.0	0.6	2.3	3
Mysella tumida	Bivalvia	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Cylichna diegensis	Gastropoda	2	0	1			1.0	1.0	0	2	1.0	0.6	2.3	3
Amphiodia sp.	Ophiuroidea	1	0	2			1.0	1.0	0	2	1.0	0.6	2.3	3
Ophiuroid	Ophiuroidea	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1

		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
TOTAL INDIVIDUALS		38	44	33			38.3	38.5	33	44	5.5	3.2	12.4	115
TOTAL SPECIES	34	20	16	18			18.0	18.0	16	20	2.0	1.2	4.5	54
TOTAL CRUST. INDIV.		3	2	1			2.0	2.0	1	3	1.0	0.6	2.3	6
TOTAL CRUST. SP.	5	3	1	1			1.7	2.0	1	3	1.2	0.7	2.6	5
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.		2	2	1			1.7	1.5	1	2	0.6	0.3	1.3	5
OTHER CRUSTACEAN SP.	4	2	1	1			1.3	1.5	1	2	0.6	0.3	1.3	4
TOTAL ECHINODERM INDIV.		1	0	2			1.0	1.0	0	2	1.0	0.6	2.3	3
TOTAL ECHINODERM SP.	1	1	0	1			0.7	0.5	0	1	0.6	0.3	1.3	2
TOTAL MOLLUSC INDIV.		4	0	3			2.3	2.0	0	4	2.1	1.2	4.7	7
TOTAL MOLLUSC SP.	3	2	0	3			1.7	1.5	0	3	1.5	0.9	3.4	5
TOTAL POLYCHAETE INDIV.		27	39	25			30.3	32.0	25	39	7.6	4.4	17.0	91
TOTAL POLYCHAETE SP.	23	13	14	11			12.7	12.5	11	14	1.5	0.9	3.4	38

STANUM	STATION	IDORG	LEG	DATE
80024.2	ANAHEIM BAY, OUTER	86	4	09/15/92

SPECIES	TAXA	NO. PER CORE					SUMMARY STATISTICS							
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Amaeana occidentalis	Polychaeta	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Amphicteis scaphobranchiata	Polychaeta	3	0	0			1.0	1.5	0	3	1.7	1.0	3.9	3
Chaetozone corona	Polychaeta	5	1	2			2.7	3.0	1	5	2.1	1.2	4.7	8
Cossura candida	Polychaeta	43	49	27			39.7	38.0	27	49	11.4	6.6	25.6	119
Euchone limnicola	Polychaeta	17	5	19			13.7	12.0	5	19	7.6	4.4	17.0	41
Euclymeninae spp. indet.	Polychaeta	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Eumida spp. juv.	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Glycera americana	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Glycinde armigera	Polychaeta	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Leitoscoloplos pugettensis	Polychaeta	20	9	9			12.7	14.5	9	20	6.4	3.7	14.3	38
Mediomastus californiensis	Polychaeta	12	18	17			15.7	15.0	12	18	3.2	1.9	7.2	47
Monticellina dorsobranchialis	Polychaeta	8	5	1			4.7	4.5	1	8	3.5	2.0	7.9	14
Monticellina sp. C	Polychaeta	2	3	9			4.7	5.5	2	9	3.8	2.2	8.5	14
Nephtys cornuta	Polychaeta	6	3	14			7.7	8.5	3	14	5.7	3.3	12.8	23
Notomastus tenuis	Polychaeta	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Paraprionospio pinnata	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Prionospio heterobranchia	Polychaeta	2	0	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Prionospio lighti	Polychaeta	0	2	2			1.3	1.0	0	2	1.2	0.7	2.6	4
Sphaerosyllis californiensis	Polychaeta	0	2	0			0.7	1.0	0	2	1.2	0.7	2.6	2

nemertea	Nemertea		1	0	2			1.0	1.0	0	2	1.0	0.6	2.3	3
Euphilomedes carcharodonta	Ostracoda		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Rudilemboides stenopropodus	Amphipoda		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Laevicardium substriatum	Bivalvia		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
	TOTAL INDIVIDUALS		121	99	108			109.3	110.0	99	121	11.1	6.4	24.9	328
	TOTAL SPECIES	23	13	12	16			13.7	14.0	12	16	2.1	1.2	4.7	41
	TOTAL CRUST. INDIV.		0	0	2			0.7	1.0	0	2	1.2	0.7	2.6	2
	TOTAL CRUST. SP.	2	0	0	2			0.7	1.0	0	2	1.2	0.7	2.6	2
	GAMMARID INDIV.		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
	GAMMARID SP.	1	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
	OTHER CRUSTACEAN INDIV.		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
	OTHER CRUSTACEAN SP.	1	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
	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	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
	TOTAL MOLLUSC SP.	1	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
	TOTAL POLYCHAETE INDIV.		120	99	103			107.3	109.5	99	120	11.2	6.4	25.1	322
	TOTAL POLYCHAETE SP.	19	12	12	12			12.0	12.0	12	12	0.0	0.0	0.0	36

STANUM	STATION	IDORG	LEG	DATE
80024.3	ANAHEIM BAY, OUTER	87	4	09/15/92

SPECIES	TAXA	NO. PER CORE					SUMMARY STATISTICS							
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Acmira catherinae	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Amphicteis scaphobranchiata	Polychaeta	2	2	0			1.3	1.0	0	2	1.2	0.7	2.6	4
Capitella capitata	Polychaeta	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Chaetozone corona	Polychaeta	1	2	0			1.0	1.0	0	2	1.0	0.6	2.3	3
Chaetozone sp. 1	Polychaeta	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Cossura candida	Polychaeta	14	22	25			20.3	19.5	14	25	5.7	3.3	12.8	61
Eranno lagunae	Polychaeta	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Euchone limnicola	Polychaeta	6	4	2			4.0	4.0	2	6	2.0	1.2	4.5	12
Eumida longicornuta	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Leitoscoloplos pugettensis	Polychaeta	4	4	1			3.0	2.5	1	4	1.7	1.0	3.9	9
Malmgreniella spp. juv.	Polychaeta	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Mediomastus californiensis	Polychaeta	9	16	13			12.7	12.5	9	16	3.5	2.0	7.9	38
Monticellina dorsobranchialis	Polychaeta	1	4	4			3.0	2.5	1	4	1.7	1.0	3.9	9
Monticellina sp. C	Polychaeta	4	5	3			4.0	4.0	3	5	1.0	0.6	2.3	12
Nephtys cornuta	Polychaeta	4	4	4			4.0	4.0	4	4	0.0	0.0	0.0	12

SPECIES	TAXA		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Notomastus tenuis	Polychaeta		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Prionospio heterobranchia	Polychaeta		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Prionospio lighti	Polychaeta		23	21	5			16.3	14.0	5	23	9.9	5.7	22.2	49
Scoletoma erecta	Polychaeta		1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Sphaerosyllis californiensis	Polychaeta		1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Spiochaetopterus costarum	Polychaeta		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Spiophanes missionensis	Polychaeta		0	0	2			0.7	1.0	0	2	1.2	0.7	2.6	2
nemertea	Nemertea		1	2	0			1.0	1.0	0	2	1.0	0.6	2.3	3
Bathyleberis californica	Ostracoda		0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Rudilemboides stenopropodus	Amphipoda		1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Aglajidae	Gastropoda		0	1	1			0.7	0.5	0	1	0.6	0.3	1.3	2
Amphiodia sp.	Ophiuroidea		0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Poromya sp.	Bivalvia		0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Mysella sp. A	Bivalvia		1	0	1			0.7	0.5	0	1	0.6	0.3	1.3	2
	TOTAL INDIVIDUALS		76	91	66			77.7	78.5	66	91	12.6	7.3	28.3	233
	TOTAL SPECIES	29	18	16	16			16.7	17.0	16	18	1.2	0.7	2.6	50
	TOTAL CRUST. INDIV.		1	1	0			0.7	0.5	0	1	0.6	0.3	1.3	2
	TOTAL CRUST. SP.	2	1	1	0			0.7	0.5	0	1	0.6	0.3	1.3	2
	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.		0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
	OTHER CRUSTACEAN SP.	1	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
	TOTAL ECHINODERM INDIV.		0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
	TOTAL ECHINODERM SP.	1	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
	TOTAL MOLLUSC INDIV.		1	2	2			1.7	1.5	1	2	0.6	0.3	1.3	5
	TOTAL MOLLUSC SP.	3	1	2	2			1.7	1.5	1	2	0.6	0.3	1.3	5
	TOTAL POLYCHAETE INDIV.		73	85	64			74.0	74.5	64	85	10.5	6.1	23.7	222
	TOTAL POLYCHAETE SP.	22	15	11	14			13.3	13.0	11	15	2.1	1.2	4.7	40

STANUM	STATION	IDORG	LEG	DATE
80024.4	ANAHEIM BAY, OUTER	145	4	09/15/92

SPECIES	TAXA	NO. PER CORE					SUMMARY STATISTICS							
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Amaeana occidentalis	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Amphicteis scaphobranchiata	Polychaeta	2	4	4			3.3	3.0	2	4	1.2	0.7	2.6	10
Aphelochaeta monilaris	Polychaeta	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Chaetozone corona	Polychaeta	3	0	1			1.3	1.5	0	3	1.5	0.9	3.4	4
Cossura candida	Polychaeta	20	20	29			23.0	24.5	20	29	5.2	3.0	11.7	69

Euchone limnicola	Polychaeta		6	9	5	6.7	7.0	5	9	2.1	1.2	4.7	20
Euclymeninae spp. indet.	Polychaeta		2	1	0	1.0	1.0	0	2	1.0	0.6	2.3	3
Exogone lourei	Polychaeta		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Leitoscoloplos pugettensis	Polychaeta		12	4	8	8.0	8.0	4	12	4.0	2.3	9.0	24
Mediomastus californiensis	Polychaeta		20	9	10	13.0	14.5	9	20	6.1	3.5	13.7	39
Monticellina dorsobranchialis	Polychaeta		3	3	1	2.3	2.0	1	3	1.2	0.7	2.6	7
Monticellina sp. C	Polychaeta		8	8	10	8.7	9.0	8	10	1.2	0.7	2.6	26
Nephtys cornuta	Polychaeta		12	4	6	7.3	8.0	4	12	4.2	2.4	9.4	22
Notomastus tenuis	Polychaeta		0	2	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Podarkeopsis glabra	Polychaeta		0	1	1	0.7	0.5	0	1	0.6	0.3	1.3	2
Praxillella pacifica	Polychaeta		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Pista disjuncta	Polychaeta		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Prionospio lighti	Polychaeta		13	6	1	6.7	7.0	1	13	6.0	3.5	13.6	20
Spiophanes bombyx	Polychaeta		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
nemertea	Nemertea		1	0	1	0.7	0.5	0	1	0.6	0.3	1.3	2
Rudilemboides stenopropodus	Amphipoda		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Amphideutopus oculatus	Amphipoda		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Listriella goleta	Amphipoda		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Megaluropus longimerus	Amphipoda		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Mayerella banksia	Amphipoda		0	0	2	0.7	1.0	0	2	1.2	0.7	2.6	2
Cooperella subdiaphana	Bivalvia		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Sulcoretusa xystrum	Gastropoda		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Mysella sp. A	Bivalvia		0	0	3	1.0	1.5	0	3	1.7	1.0	3.9	3
Mactra californica	Bivalvia		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Aglajidae	Gastropoda		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
	TOTAL INDIVIDUALS		106	73	91	90.0	89.5	73	106	16.5	9.5	37.2	270
	TOTAL SPECIES	31	16	14	23	17.7	18.5	14	23	4.7	2.7	10.6	53
	TOTAL CRUST. INDIV.		1	0	5	2.0	2.5	0	5	2.6	1.5	6.0	6
	TOTAL CRUST. SP.	5	1	0	4	1.7	2.0	0	4	2.1	1.2	4.7	5
	GAMMARID INDIV.		1	0	5	2.0	2.5	0	5	2.6	1.5	6.0	6
	GAMMARID SP.	5	1	0	4	1.7	2.0	0	4	2.1	1.2	4.7	5
	OTHER CRUSTACEAN INDIV.		0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
	OTHER CRUSTACEAN SP.	0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
	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.		1	1	5	2.3	3.0	1	5	2.3	1.3	5.2	7
	TOTAL MOLLUSC SP.	5	1	1	3	1.7	2.0	1	3	1.2	0.7	2.6	5
	TOTAL POLYCHAETE INDIV.		103	72	80	85.0	87.5	72	103	16.1	9.3	36.2	255
	TOTAL POLYCHAETE SP.	20	13	13	15	13.7	14.0	13	15	1.2	0.7	2.6	41

STANUM	STATION	IDORG	LEG	DATE
80026.1	HUNTINGTON HARBOR, LOWER	91	4	09/15/92

SPECIES	TAXA	NO. PER CORE rep 1	rep 2	rep 3	rep 4	rep 5	SUMMARY STATISTICS mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Amphicteis scaphobranchiata	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Aphelochaeta multifilis	Polychaeta	2	1	2			1.7	1.5	1	2	0.6	0.3	1.3	5
Apoprionospio pygmaea	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Cirriformia spirabrancha	Polychaeta	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Euchone limnicola	Polychaeta	1	0	1			0.7	0.5	0	1	0.6	0.3	1.3	2
Euclymeninae spp. indet.	Polychaeta	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Fabricinuda limnicola	Polychaeta	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Goniada littorea	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Leitoscoloplos pugettensis	Polychaeta	5	2	2			3.0	3.5	2	5	1.7	1.0	3.9	9
Marphysa sp. A	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Mediomastus californiensis	Polychaeta	31	31	30			30.7	30.5	30	31	0.6	0.3	1.3	92
Monticellina sp. C	Polychaeta	3	0	0			1.0	1.5	0	3	1.7	1.0	3.9	3
Nephtys caecoides	Polychaeta	1	0	1			0.7	0.5	0	1	0.6	0.3	1.3	2
Pista alata	Polychaeta	0	3	2			1.7	1.5	0	3	1.5	0.9	3.4	5
Prionospio heterobranchia	Polychaeta	5	3	10			6.0	6.5	3	10	3.6	2.1	8.1	18
Prionospio lighti	Polychaeta	0	0	13			4.3	6.5	0	13	7.5	4.3	16.9	13
Pseudopolydora paucibranchiata	Polychaeta	3	2	0			1.7	1.5	0	3	1.5	0.9	3.4	5
Sabellidae spp. indet.	Polychaeta	0	1	1			0.7	0.5	0	1	0.6	0.3	1.3	2
Scoletoma erecta	Polychaeta	1	0	5			2.0	2.5	0	5	2.6	1.5	6.0	6
Sphaerosyllis californiensis	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Spiophanes missionensis	Polychaeta	0	2	1			1.0	1.0	0	2	1.0	0.6	2.3	3
nemertea	Nemertea	1	1	6			2.7	3.5	1	6	2.9	1.7	6.5	8
oligochaeta	Oligochaeta	7	6	2			5.0	4.5	2	7	2.6	1.5	6.0	15
Rudilemboides stenopropodus	Amphipoda	22	2	14			12.7	12.0	2	22	10.1	5.8	22.6	38
Mayerella banksia	Amphipoda	2	3	2			2.3	2.5	2	3	0.6	0.3	1.3	7
Leptochelia dubia	Tanaidacea	2	0	1			1.0	1.0	0	2	1.0	0.6	2.3	3
Amphideutopus oculatus	Amphipoda	1	1	0			0.7	0.5	0	1	0.6	0.3	1.3	2
Bathyleberis californica	Ostracoda	0	1	2			1.0	1.0	0	2	1.0	0.6	2.3	3
Paranthura elegans	Isopoda	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Isaeidae sp.	Amphipoda	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Microdeutopus schmitti	Amphipoda	0	0	3			1.0	1.5	0	3	1.7	1.0	3.9	3
Lophopanopeus bellus	Decapoda	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

Tagelus subteres	Bivalvia		0	0	2			0.7	1.0	0	2	1.2	0.7	2.6	2
Mactra california	Bivalvia		2	3	0			1.7	1.5	0	3	1.5	0.9	3.4	5
Musculista senhousei	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
Amphiodia sp.	Ophiuroidea		0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Molpadia			0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
	TOTAL INDIVIDUALS		89	69	109			89.0	89.0	69	109	20.0	11.5	45.0	267
	TOTAL SPECIES	39	16	22	28			22.0	22.0	16	28	6.0	3.5	13.5	66
	TOTAL CRUST. INDIV.		27	9	23			19.7	18.0	9	27	9.5	5.5	21.3	59
	TOTAL CRUST. SP.	9	4	6	6			5.3	5.0	4	6	1.2	0.7	2.6	16
	GAMMARID INDIV.		25	7	19			17.0	16.0	7	25	9.2	5.3	20.6	51
	GAMMARID SP.	5	3	4	3			3.3	3.5	3	4	0.6	0.3	1.3	10
	OTHER CRUSTACEAN INDIV.		2	2	4			2.7	3.0	2	4	1.2	0.7	2.6	8
	OTHER CRUSTACEAN SP.	4	1	2	3			2.0	2.0	1	3	1.0	0.6	2.3	6
	TOTAL ECHINODERM INDIV.		0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
	TOTAL ECHINODERM SP.	1	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
	TOTAL MOLLUSC INDIV.		2	3	5			3.3	3.5	2	5	1.5	0.9	3.4	10
	TOTAL MOLLUSC SP.	5	1	1	4			2.0	2.5	1	4	1.7	1.0	3.9	6
	TOTAL POLYCHAETE INDIV.		52	48	73			57.7	60.5	48	73	13.4	7.8	30.2	173
	TOTAL POLYCHAETE SP.	21	9	11	16			12.0	12.5	9	16	3.6	2.1	8.1	36

STANUM	STATION	IDORG	LEG	DATE
80026.2	HUNTINGTON HARBOR, LOWER	92	4	09/15/92

SPECIES	TAXA	NO. PER CORE					SUMMARY STATISTICS							
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Acmira catherinae	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Apoprionospio pygmaea	Polychaeta	3	1	0			1.3	1.5	0	3	1.5	0.9	3.4	4
Brania brevipharyngea	Polychaeta	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Chaetozone corona	Polychaeta	1	0	1			0.7	0.5	0	1	0.6	0.3	1.3	2
Chaetozone sp. 1	Polychaeta	2	0	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Cirriformia spirabrancha	Polychaeta	1	0	1			0.7	0.5	0	1	0.6	0.3	1.3	2
Diopatra spp. juv.	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Dorvillea longicornis	Polychaeta	4	1	1			2.0	2.5	1	4	1.7	1.0	3.9	6
Euclymeninae spp. indet.	Polychaeta	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Exogone uniformis	Polychaeta	9	11	2			7.3	6.5	2	11	4.7	2.7	10.6	22
Glycera convoluta	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Glycera spp. juv.	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Goniada littorea	Polychaeta	1	6	1			2.7	3.5	1	6	2.9	1.7	6.5	8

Leitoscoloplos pugettensis	Polychaeta		1	1	2	1.3	1.5	1	2	0.6	0.3	1.3	4
Mediomastus californiensis	Polychaeta		51	37	26	38.0	38.5	26	51	12.5	7.2	28.2	114
Monticellina sp. C	Polychaeta		0	6	2	2.7	3.0	0	6	3.1	1.8	6.9	8
Nereididae spp. juv.	Polychaeta		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Pectinaria californiensis	Polychaeta		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Pista disjuncta	Polychaeta		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Prionospio heterobranchia	Polychaeta		9	5	3	5.7	6.0	3	9	3.1	1.8	6.9	17
Prionospio lighti	Polychaeta		4	0	4	2.7	2.0	0	4	2.3	1.3	5.2	8
Pseudopolydora paucibranchiata	Polychaeta		0	2	1	1.0	1.0	0	2	1.0	0.6	2.3	3
Scolelepis quinquedentata	Polychaeta		1	2	0	1.0	1.0	0	2	1.0	0.6	2.3	3
Sphaerosyllis californiensis	Polychaeta		4	2	1	2.3	2.5	1	4	1.5	0.9	3.4	7
Spiophanes missionensis	Polychaeta		0	2	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Streblospio benedicti	Polychaeta		0	4	0	1.3	2.0	0	4	2.3	1.3	5.2	4
nemertinea	Nemertea		3	5	4	4.0	4.0	3	5	1.0	0.6	2.3	12
oligochaeta	Oligochaeta		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Rudilemboides stenopropodus	Amphipoda		42	14	6	20.7	24.0	6	42	18.9	10.9	42.5	62
Mayerella banksia	Amphipoda		2	0	1	1.0	1.0	0	2	1.0	0.6	2.3	3
Leptochelia dubia	Tanaidacea		0	1	2	1.0	1.0	0	2	1.0	0.6	2.3	3
Amphideutopus oculatus	Amphipoda		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Microdeutopus schmitti	Amphipoda		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Grandidierella japonica	Amphipoda		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Leptostylis sp.	Cumacea		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Laevicardium substriatum	Bivalvia		1	3	1	1.7	2.0	1	3	1.2	0.7	2.6	5
Musculista senhousei	Bivalvia		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Leptosynaptus sp.	Holothuroidea		9	18	5	10.7	11.5	5	18	6.7	3.8	15.0	32
Molpadia			4	1	2	2.3	2.5	1	4	1.5	0.9	3.4	7
Edwardsia sp.	Anthozoa		2	1	2	1.7	1.5	1	2	0.6	0.3	1.3	5
	TOTAL INDIVIDUALS		157	126	77	120.0	117.0	77	157	40.3	23.3	90.8	360
	TOTAL SPECIES	40	23	23	29	25.0	26.0	23	29	3.5	2.0	7.8	75
	TOTAL CRUST. INDIV.		45	16	11	24.0	28.0	11	45	18.4	10.6	41.3	72
	TOTAL CRUST. SP.	7	3	3	5	3.7	4.0	3	5	1.2	0.7	2.6	11
	GAMMARID INDIV.		45	15	8	22.7	26.5	8	45	19.7	11.3	44.2	68
	GAMMARID SP.	5	3	2	3	2.7	2.5	2	3	0.6	0.3	1.3	8
	OTHER CRUSTACEAN INDIV.		0	1	3	1.3	1.5	0	3	1.5	0.9	3.4	4
	OTHER CRUSTACEAN SP.	2	0	1	2	1.0	1.0	0	2	1.0	0.6	2.3	3
	TOTAL ECHINODERM INDIV.		9	18	5	10.7	11.5	5	18	6.7	3.8	15.0	32
	TOTAL ECHINODERM SP.	1	1	1	1	1.0	1.0	1	1	0.0	0.0	0.0	3
	TOTAL MOLLUSC INDIV.		1	3	2	2.0	2.0	1	3	1.0	0.6	2.3	6
	TOTAL MOLLUSC SP.	2	1	1	2	1.3	1.5	1	2	0.6	0.3	1.3	4

			rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
TOTAL POLYCHAETE INDIV.			93	82	50			75.0	71.5	50	93	22.3	12.9	50.3	225
TOTAL POLYCHAETE SP.		26	15	15	17			15.7	16.0	15	17	1.2	0.7	2.6	47

STANUM	STATION	IDORG	LEG	DATE
80026.3	HUNTINGTON HARBOR, LOWER	93	4	09/15/92

SPECIES	TAXA	NO. PER CORE					SUMMARY STATISTICS							
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Cossura candida	Polychaeta	1	3	4			2.7	2.5	1	4	1.5	0.9	3.4	8
Eranno lagunae	Polychaeta	1	1	5			2.3	3.0	1	5	2.3	1.3	5.2	7
Euchone limnicola	Polychaeta	1	4	2			2.3	2.5	1	4	1.5	0.9	3.4	7
Euclymeninae spp. indet.	Polychaeta	1	2	2			1.7	1.5	1	2	0.6	0.3	1.3	5
Eumida longicornuta	Polychaeta	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Exogone lourei	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Exogone uniformis	Polychaeta	1	2	0			1.0	1.0	0	2	1.0	0.6	2.3	3
Leitoscoloplos pugettensis	Polychaeta	6	3	5			4.7	4.5	3	6	1.5	0.9	3.4	14
Malmgreniella spp. indet.	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Mediomastus californiensis	Polychaeta	19	21	46			28.7	32.5	19	46	15.0	8.7	33.9	86
Megalomma pigmentum	Polychaeta	0	0	2			0.7	1.0	0	2	1.2	0.7	2.6	2
Monticellina sp. C	Polychaeta	1	3	1			1.7	2.0	1	3	1.2	0.7	2.6	5
Pista alata	Polychaeta	0	1	1			0.7	0.5	0	1	0.6	0.3	1.3	2
Prionospio heterobranchia	Polychaeta	12	2	8			7.3	7.0	2	12	5.0	2.9	11.3	22
Prionospio lighti	Polychaeta	1	1	3			1.7	2.0	1	3	1.2	0.7	2.6	5
Pseudopolydora paucibranchiata	Polychaeta	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Scolelepis quinquedentata	Polychaeta	0	0	2			0.7	1.0	0	2	1.2	0.7	2.6	2
Scoletoma erecta	Polychaeta	2	2	1			1.7	1.5	1	2	0.6	0.3	1.3	5
Sphaerosyllis californiensis	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Spiophanes missionensis	Polychaeta	0	1	2			1.0	1.0	0	2	1.0	0.6	2.3	3
nemertinea	Nemertea	2	1	5			2.7	3.0	1	5	2.1	1.2	4.7	8
oligochaeta	Oligochaeta	0	2	12			4.7	6.0	0	12	6.4	3.7	14.5	14
Rudilemboides stenopropodus	Amphipoda	3	6	21			10.0	12.0	3	21	9.6	5.6	21.7	30
Mayerella banksia	Amphipoda	0	3	5			2.7	2.5	0	5	2.5	1.5	5.7	8
Leptochelia dubia	Tanaidacea	0	0	2			0.7	1.0	0	2	1.2	0.7	2.6	2
Amphideutopus oculatus	Amphipoda	0	0	2			0.7	1.0	0	2	1.2	0.7	2.6	2
Bathyleberis californica	Ostracoda	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Microdeutopus schmitti	Amphipoda	2	1	0			1.0	1.0	0	2	1.0	0.6	2.3	3
Microjassa litotes	Amphipoda	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Haminoea virescens	Gastropoda	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Laevicardium substriatum	Bivalvia	0	1	2			1.0	1.0	0	2	1.0	0.6	2.3	3

Protothaca staminea	Bivalvia		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Tagelus subteres	Bivalvia		1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Mactra california	Bivalvia		1	0	1			0.7	0.5	0	1	0.6	0.3	1.3	2
Amphiodia sp.	Ophiuroidea		1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Leptosynaptus sp.	Holothuroidea		1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Mysella tumida	Bivalvia		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Cylichina diegensis	Gastropoda		0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Molpadia			3	1	3			2.3	2.0	1	3	1.2	0.7	2.6	7
Edwardsia sp	Anthozoa		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
	TOTAL INDIVIDUALS		62	65	143			90.0	102.5	62	143	45.9	26.5	103.3	270
	TOTAL SPECIES	40	21	24	29			24.7	25.0	21	29	4.0	2.3	9.1	74
	TOTAL CRUST. INDIV.		6	11	30			15.7	18.0	6	30	12.7	7.3	28.5	47
	TOTAL CRUST. SP.	7	3	4	4			3.7	3.5	3	4	0.6	0.3	1.3	11
	GAMMARID INDIV.		6	10	28			14.7	17.0	6	28	11.7	6.8	26.4	44
	GAMMARID SP.	5	3	3	3			3.0	3.0	3	3	0.0	0.0	0.0	9
	OTHER CRUSTACEAN INDIV.		0	1	2			1.0	1.0	0	2	1.0	0.6	2.3	3
	OTHER CRUSTACEAN SP.	2	0	1	1			0.7	0.5	0	1	0.6	0.3	1.3	2
	TOTAL ECHINODERM INDIV.		2	0	0			0.7	1.0	0	2	1.2	0.7	2.6	2
	TOTAL ECHINODERM SP.	2	2	0	0			0.7	1.0	0	2	1.2	0.7	2.6	2
	TOTAL MOLLUSC INDIV.		3	2	5			3.3	3.5	2	5	1.5	0.9	3.4	10
	TOTAL MOLLUSC SP.	7	3	2	4			3.0	3.0	2	4	1.0	0.6	2.3	9
	TOTAL POLYCHAETE INDIV.		46	48	87			60.3	66.5	46	87	23.1	13.3	52.0	181
	TOTAL POLYCHAETE SP.	20	11	15	17			14.3	14.0	11	17	3.1	1.8	6.9	43

STANUM	STATION	IDORG	LEG	DATE
80027.1	HUNTINGTON HARBOR, MIDDLE	94	4	09/15/92

SPECIES	TAXA		NO. PER CORE					SUMMARY STATISTICS							
			rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Aphelochaeta multifilis	Polychaeta		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Caulleriella alata	Polychaeta		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Cirriformia spirabrancha	Polychaeta		2	0	1			1.0	1.0	0	2	1.0	0.6	2.3	3
Cossura candida	Polychaeta		1	4	1			2.0	2.5	1	4	1.7	1.0	3.9	6
Eranno lagunae	Polychaeta		1	1	0			0.7	0.5	0	1	0.6	0.3	1.3	2
Euchone limnicola	Polychaeta		11	6	5			7.3	8.0	5	11	3.2	1.9	7.2	22
Exogone lourei	Polychaeta		20	14	12			15.3	16.0	12	20	4.2	2.4	9.4	46
Exogone uniformis	Polychaeta		2	0	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Fabricinuda limnicola	Polychaeta		28	31	33			30.7	30.5	28	33	2.5	1.5	5.7	92
Harmothoe imbricata	Polychaeta		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1

Leitoscoloplos pugettensis	Polychaeta		7	3	4	4.7	5.0	3	7	2.1	1.2	4.7	14
Mediomastus californiensis	Polychaeta		4	2	8	4.7	5.0	2	8	3.1	1.8	6.9	14
Megalomma pigmentum	Polychaeta		4	2	1	2.3	2.5	1	4	1.5	0.9	3.4	7
Monticellina sp. C	Polychaeta		2	0	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Paraprionospio pinnata	Polychaeta		0	3	0	1.0	1.5	0	3	1.7	1.0	3.9	3
Pista alata	Polychaeta		5	1	0	2.0	2.5	0	5	2.6	1.5	6.0	6
Prionospio heterobranchia	Polychaeta		2	1	2	1.7	1.5	1	2	0.6	0.3	1.3	5
Prionospio lighti	Polychaeta		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Pseudopolydora paucibranchiata	Polychaeta		4	0	1	1.7	2.0	0	4	2.1	1.2	4.7	5
Sphaerosyllis californiensis	Polychaeta		1	1	0	0.7	0.5	0	1	0.6	0.3	1.3	2
Spiophanes missionensis	Polychaeta		0	1	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
Bathyleberis californica	Ostracoda		1	1	0	0.7	0.5	0	1	0.6	0.3	1.3	2
Monoculodes hartmanae	Amphipoda		1	1	2	1.3	1.5	1	2	0.6	0.3	1.3	4
Mayerella banksia	Amphipoda		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Zeuxo normani	Tanaidacea		0	2	1	1.0	1.0	0	2	1.0	0.6	2.3	3
Paranthura elegans	Isopoda		0	1	1	0.7	0.5	0	1	0.6	0.3	1.3	2
Serolis carinata	Isopoda		0	1	1	0.7	0.5	0	1	0.6	0.3	1.3	2
Theora fragilis	Bivalvia		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Haminoea vesicula	Gastropoda		2	3	2	2.3	2.5	2	3	0.6	0.3	1.3	7
Cylichna digensis	Gastropoda		0	1	1	0.7	0.5	0	1	0.6	0.3	1.3	2
Odostomia sp.	Gastropoda		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Leptosynaptus sp.	Holothuroidea		0	2	0	0.7	1.0	0	2	1.2	0.7	2.6	2
	TOTAL INDIVIDUALS		100	84	81	88.3	90.5	81	100	10.2	5.9	23.0	265
	TOTAL SPECIES	33	20	23	21	21.3	21.5	20	23	1.5	0.9	3.4	64
	TOTAL CRUST. INDIV.		2	6	6	4.7	4.0	2	6	2.3	1.3	5.2	14
	TOTAL CRUST. SP.	6	2	5	5	4.0	3.5	2	5	1.7	1.0	3.9	12
	GAMMARID INDIV.		1	1	3	1.7	2.0	1	3	1.2	0.7	2.6	5
	GAMMARID SP.	2	1	1	2	1.3	1.5	1	2	0.6	0.3	1.3	4
	OTHER CRUSTACEAN INDIV.		1	5	3	3.0	3.0	1	5	2.0	1.2	4.5	9
	OTHER CRUSTACEAN SP.	4	1	4	3	2.7	2.5	1	4	1.5	0.9	3.4	8
	TOTAL ECHINODERM INDIV.		0	2	0	0.7	1.0	0	2	1.2	0.7	2.6	2
	TOTAL ECHINODERM SP.	1	0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
	TOTAL MOLLUSC INDIV.		3	5	3	3.7	4.0	3	5	1.2	0.7	2.6	11
	TOTAL MOLLUSC SP.	4	2	3	2	2.3	2.5	2	3	0.6	0.3	1.3	7
	TOTAL POLYCHAETE INDIV.		94	70	72	78.7	82.0	70	94	13.3	7.7	30.0	236
	TOTAL POLYCHAETE SP.	21	15	13	14	14.0	14.0	13	15	1.0	0.6	2.3	42

Benthic Community Data

STANUM	STATION	IDORG	LEG	DATE
80027.2	HUNTINGTON HARBOR, MIDDLE	95	4	09/15/92

SPECIES	TAXA	NO. PER CORE					SUMMARY STATISTICS							
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Cirriformia spirabrancha	Polychaeta	12	24	16			17.3	18.0	12	24	6.1	3.5	13.7	52
Cossura candida	Polychaeta	2	4	4			3.3	3.0	2	4	1.2	0.7	2.6	10
Dorvillea longicornis	Polychaeta	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Eranno lagunae	Polychaeta	4	0	3			2.3	2.0	0	4	2.1	1.2	4.7	7
Euchone limnicola	Polychaeta	21	12	25			19.3	18.5	12	25	6.7	3.8	15.0	58
Exogone lourei	Polychaeta	1	0	2			1.0	1.0	0	2	1.0	0.6	2.3	3
Leitoscoloplos pugettensis	Polychaeta	3	3	1			2.3	2.0	1	3	1.2	0.7	2.6	7
Marphysa sp. A	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Mediomastus californiensis	Polychaeta	6	8	11			8.3	8.5	6	11	2.5	1.5	5.7	25
Megalomma pigmentum	Polychaeta	1	2	0			1.0	1.0	0	2	1.0	0.6	2.3	3
Monticellina sp. C	Polychaeta	2	1	0			1.0	1.0	0	2	1.0	0.6	2.3	3
Paraprionospio pinnata	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Pista alata	Polychaeta	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Polyophthalmus pictus	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Prionospio heterobranchia	Polychaeta	2	0	4			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
Pseudopolydora paucibranchiata	Polychaeta	2	1	2			1.7	1.5	1	2	0.6	0.3	1.3	5
Scolelepis quinquedentata	Polychaeta	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Scoletoma erecta	Polychaeta	1	3	4			2.7	2.5	1	4	1.5	0.9	3.4	8
Spiophanes missionensis	Polychaeta	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
nemertea	Nemertea	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Bathyleberis californica	Ostracoda	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Rudilemboides stenopropodus	Amphipoda	0	1	4			1.7	2.0	0	4	2.1	1.2	4.7	5
Monoculodes hartmanae	Amphipoda	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Zeuxo normani	Tanaidacea	5	1	7			4.3	4.0	1	7	3.1	1.8	6.9	13
Paranthura elegans	Isopoda	2	0	2			1.3	1.0	0	2	1.2	0.7	2.6	4
Haminoea vesicula	Gastropoda	0	1	2			1.0	1.0	0	2	1.0	0.6	2.3	3
Cylichna digensis	Gastropoda	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Turbonilla sp.	Gastropoda	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Laevicardium substriatum	Bivalvia	0	1	1			0.7	0.5	0	1	0.6	0.3	1.3	2
Lyonsia californica	Bivalvia	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Theora fragilis	Bivalvia	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Molpadia		2	1	0			1.0	1.0	0	2	1.0	0.6	2.3	3
pycnogonid	Pycnogonida	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1

		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
TOTAL INDIVIDUALS		73	68	92			77.7	80.0	68	92	12.7	7.3	28.5	233
TOTAL SPECIES	34	22	19	19			20.0	20.5	19	22	1.7	1.0	3.9	60
TOTAL CRUST. INDIV.		9	3	13			8.3	8.0	3	13	5.0	2.9	11.3	25
TOTAL CRUST. SP.	6	4	3	3			3.3	3.5	3	4	0.6	0.3	1.3	10
GAMMARID INDIV.		1	1	4			2.0	2.5	1	4	1.7	1.0	3.9	6
GAMMARID SP.	2	1	1	1			1.0	1.0	1	1	0.0	0.0	0.0	3
OTHER CRUSTACEAN INDIV.		8	2	9			6.3	5.5	2	9	3.8	2.2	8.5	19
OTHER CRUSTACEAN SP.	4	3	2	2			2.3	2.5	2	3	0.6	0.3	1.3	7
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	3	4			3.0	3.0	2	4	1.0	0.6	2.3	9
TOTAL MOLLUSC SP.	6	2	3	3			2.7	2.5	2	3	0.6	0.3	1.3	8
TOTAL POLYCHAETE INDIV.		60	60	75			65.0	67.5	60	75	8.7	5.0	19.5	195
TOTAL POLYCHAETE SP.	20	15	11	13			13.0	13.0	11	15	2.0	1.2	4.5	39

STANUM	STATION	IDORG	LEG	DATE
80027.3	HUNTINGTON HARBOR, MIDDLE	96	4	09/15/92

SPECIES	TAXA	NO. PER CORE					SUMMARY STATISTICS							
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Aphelochaeta multifilis	Polychaeta	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Cirriformia spirabrancha	Polychaeta	2	5	2			3.0	3.5	2	5	1.7	1.0	3.9	9
Cossura candida	Polychaeta	3	3	2			2.7	2.5	2	3	0.6	0.3	1.3	8
Eranno lagunae	Polychaeta	0	1	1			0.7	0.5	0	1	0.6	0.3	1.3	2
Euchone limnicola	Polychaeta	1	1	25			9.0	13.0	1	25	13.9	8.0	31.2	27
Euclymeninae spp. indet.	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Exogone lourei	Polychaeta	3	25	7			11.7	14.0	3	25	11.7	6.8	26.4	35
Fabricinuda limnicola	Polychaeta	14	39	14			22.3	26.5	14	39	14.4	8.3	32.5	67
Leitoscoloplos pugettensis	Polychaeta	5	8	6			6.3	6.5	5	8	1.5	0.9	3.4	19
Mediomastus californiensis	Polychaeta	16	4	2			7.3	9.0	2	16	7.6	4.4	17.0	22
Megalomma pigmentum	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Monticellina sp. C	Polychaeta	4	0	1			1.7	2.0	0	4	2.1	1.2	4.7	5
Paraprionospio pinnata	Polychaeta	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Pista alata	Polychaeta	1	1	1			1.0	1.0	1	1	0.0	0.0	0.0	3
Pista disjuncta	Polychaeta	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Prionospio heterobranchia	Polychaeta	0	4	1			1.7	2.0	0	4	2.1	1.2	4.7	5
Prionospio lighti	Polychaeta	0	0	2			0.7	1.0	0	2	1.2	0.7	2.6	2
Prionospio sp. A	Polychaeta	1	1	0			0.7	0.5	0	1	0.6	0.3	1.3	2
Pseudopolydora paucibranchiata	Polychaeta	8	2	1			3.7	4.5	1	8	3.8	2.2	8.5	11

Sabellidae spp. indet.	Polychaeta		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Scoletoma erecta	Polychaeta		1	2	1	1.3	1.5	1	2	0.6	0.3	1.3	4
Sphaerosyllis californiensis	Polychaeta		1	1	2	1.3	1.5	1	2	0.6	0.3	1.3	4
Streblospio benedicti	Polychaeta		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
nemertea	Nemertea		1	2	0	1.0	1.0	0	2	1.0	0.6	2.3	3
Rudilemboides stenopropodus	Amphipoda		1	4	0	1.7	2.0	0	4	2.1	1.2	4.7	5
Monoculodes hartmanae	Amphipoda		1	1	0	0.7	0.5	0	1	0.6	0.3	1.3	2
Zeuxo normani	Tanaidacea		1	3	0	1.3	1.5	0	3	1.5	0.9	3.4	4
Paranthura elegans	Isopoda		1	2	0	1.0	1.0	0	2	1.0	0.6	2.3	3
Melita sp.	Amphipoda		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Cylichna digensis	Gastropoda		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Musculista senhousei	Bivalvia		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Theora fragilis	Bivalvia		0	0	2	0.7	1.0	0	2	1.2	0.7	2.6	2
Lyonsia californica	Bivalvia		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Mactra californica	Bivalvia		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Protothaca sp.	Bivalvia		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Molpadia			0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
	TOTAL INDIVÍDUALS		70	114	74	86.0	92.0	70	114	24.3	14.0	54.7	258
	TOTAL SPECIES	36	23	24	20	22.3	22.0	20	24	2.1	1.2	4.7	67
	TOTAL CRUST. INDIV.		4	10	1	5.0	5.5	1	10	4.6	2.6	10.3	15
	TOTAL CRUST. SP.	5	4	4	1	3.0	2.5	1	4	1.7	1.0	3.9	9
	GAMMARID INDIV.		2	5	1	2.7	3.0	1	5	2.1	1.2	4.7	8
	GAMMARID SP.	3	2	2	1	1.7	1.5	1	2	0.6	0.3	1.3	5
	OTHER CRUSTACEAN INDIV.		2	5	0	2.3	2.5	0	5	2.5	1.5	5.7	7
	OTHER CRUSTACEAN SP.	2	2	2	0	1.3	1.0	0	2	1.2	0.7	2.6	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.		2	2	3	2.3	2.5	2	3	0.6	0.3	1.3	7
	TOTAL MOLLUSC SP.	6	2	2	2	2.0	2.0	2	2	0.0	0.0	0.0	6
	TOTAL POLYCHAETE INDIV.		63	99	70	77.3	81.0	63	99	19.1	11.0	42.9	232
	TOTAL POLYCHAETE SP.	23	16	16	17	16.3	16.5	16	17	0.6	0.3	1.3	49

Benthic Community Data

STANUM	STATION	IDORG	LEG	DATE
80028.1	HUNTINGTON HARBOR, UPPER	97	4	09/15/92

SPECIES	TAXA		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
			NO. PER CORE					SUMMARY STATISTICS							
Aphelochaeta multifilis	Polychaeta		8	7	5			6.7	6.5	5	8	1.5	0.9	3.4	20
Capitella capitata	Polychaeta		1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Cirratulidae spp. juv.	Polychaeta		1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Cirriformia spirabrancha	Polychaeta		3	2	0			1.7	1.5	0	3	1.5	0.9	3.4	5
Cossura candida	Polychaeta		12	2	0			4.7	6.0	0	12	6.4	3.7	14.5	14
Dorvillea longicornis	Polychaeta		1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Eranno lagunae	Polychaeta		1	1	1			1.0	1.0	1	1	0.0	0.0	0.0	3
Euchone limnicola	Polychaeta		3	1	0			1.3	1.5	0	3	1.5	0.9	3.4	4
Exogone lourei	Polychaeta		4	0	0			1.3	2.0	0	4	2.3	1.3	5.2	4
Fabricinuda limnicola	Polychaeta		7	0	0			2.3	3.5	0	7	4.0	2.3	9.1	7
Leitoscoloplos pugettensis	Polychaeta		11	3	0			4.7	5.5	0	11	5.7	3.3	12.8	14
Mediomastus californiensis	Polychaeta		4	6	0			3.3	3.0	0	6	3.1	1.8	6.9	10
Megalomma pigmentum	Polychaeta		3	1	0			1.3	1.5	0	3	1.5	0.9	3.4	4
Neanthes arenaceodentata	Polychaeta		3	2	0			1.7	1.5	0	3	1.5	0.9	3.4	5
Pista brevibranchiata	Polychaeta		0	1	2			1.0	1.0	0	2	1.0	0.6	2.3	3
Prionospio heterobranchia	Polychaeta		2	0	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Pseudopolydora paucibranchiata	Polychaeta		7	0	0			2.3	3.5	0	7	4.0	2.3	9.1	7
Scoletoma erecta	Polychaeta		2	0	1			1.0	1.0	0	2	1.0	0.6	2.3	3
Sphaerosyllis californiensis	Polychaeta		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		2	0	0			0.7	1.0	0	2	1.2	0.7	2.6	2
oligochaeta	Oligochaeta		2	0	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Acuminodeutopus oculatus	Amphipoda		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Rudilemboides stenopropodus	Amphipoda		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Bathyleberis carcharodonta	Ostracoda		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Janiralata occidentalis	Isopoda		1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Monoculodes hartmanae	Amphipoda		1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Cylichna diegensis	Gastropoda		3	0	0			1.0	1.5	0	3	1.7	1.0	3.9	3
Edwardsia sp.	Anthozoa		3	0	0			1.0	1.5	0	3	1.7	1.0	3.9	3
Molpadia			3	0	0			1.0	1.5	0	3	1.7	1.0	3.9	3
	TOTAL INDIVIDUALS		90	26	12			42.7	51.0	12	90	41.6	24.0	93.6	128
	TOTAL SPECIES	30	26	10	7			14.3	16.5	7	26	10.2	5.9	23.0	43
	TOTAL CRUST. INDIV.		2	0	3			1.7	1.5	0	3	1.5	0.9	3.4	5
	TOTAL CRUST. SP.	5	2	0	3			1.7	1.5	0	3	1.5	0.9	3.4	5

					mean	median	min	max	St. Dev.	S.E.	95%CL	sum
GAMMARID INDIV.		1	0	2	1.0	1.0	0	2	1.0	0.6	2.3	3
GAMMARID SP.	3	1	0	2	1.0	1.0	0	2	1.0	0.6	2.3	3
OTHER CRUSTACEAN INDIV.		1	0	1	0.7	0.5	0	1	0.6	0.3	1.3	2
OTHER CRUSTACEAN SP.	2	1	0	1	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.		0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
TOTAL MOLLUSC SP.	0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
TOTAL POLYCHAETE INDIV.		74	26	9	36.3	41.5	9	74	33.7	19.5	75.8	109
TOTAL POLYCHAETE SP.	19	18	10	4	10.7	11.0	4	18	7.0	4.1	15.8	32

STANUM	STATION	IDORG	LEG	DATE
80028.2	HUNTINGTON HARBOR, UPPER	98	4	09/15/92

SPECIES	TAXA	NO. PER CORE					SUMMARY STATISTICS							
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Aphelochaeta multifilis	Polychaeta	4	0	9			4.3	4.5	0	9	4.5	2.6	10.1	13
Capitella capitata	Polychaeta	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Cirratulidae spp. indet.	Polychaeta	0	0	2			0.7	1.0	0	2	1.2	0.7	2.6	2
Cirriformia spirabrancha	Polychaeta	4	2	0			2.0	2.0	0	4	2.0	1.2	4.5	6
Cossura candida	Polychaeta	1	1	5			2.3	3.0	1	5	2.3	1.3	5.2	7
Eranno lagunae	Polychaeta	2	0	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Euchone limnicola	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Exogone uniformis	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Fabricinuda limnicola	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Leitoscoloplos pugettensis	Polychaeta	5	5	6			5.3	5.5	5	6	0.6	0.3	1.3	16
Mediomastus acutus	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Mediomastus californiensis	Polychaeta	8	4	6			6.0	6.0	4	8	2.0	1.2	4.5	18
Megalomma pigmentum	Polychaeta	2	0	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Neanthes arenaceodentata	Polychaeta	4	2	6			4.0	4.0	2	6	2.0	1.2	4.5	12
Pista brevibranchiata	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Prionospio heterobranchia	Polychaeta	0	0	4			1.3	2.0	0	4	2.3	1.3	5.2	4
Prionospio lighti	Polychaeta	1	1	1			1.0	1.0	1	1	0.0	0.0	0.0	3
Pseudopolydora paucibranchiata	Polychaeta	0	0	1			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	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
oligochaeta	Oligochaeta	9	15	11			11.7	12.0	9	15	3.1	1.8	6.9	35
Cylichna diegensis	Gastropoda	1	0	1			0.7	0.5	0	1	0.6	0.3	1.3	2
Leptosynaptus sp.	Holothuroidea	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1

Mayerella banksia	Amphipoda		0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Molpadia			1	0	1			0.7	0.5	0	1	0.6	0.3	1.3	2
	TOTAL INDIVIDUALS		43	32	60			45.0	46.0	32	60	14.1	8.1	31.7	135
	TOTAL SPECIES	25	13	9	19			13.7	14.0	9	19	5.0	2.9	11.3	41
	TOTAL CRUST. INDIV.		0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
	TOTAL CRUST. SP.	1	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
	GAMMARID INDIV.		0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
	GAMMARID SP.	1	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
	OTHER CRUSTACEAN INDIV.		0	0	0			0.0	0.0	0	0	0.0	0.0	0.0	0
	OTHER CRUSTACEAN SP.	0	0	0	0			0.0	0.0	0	0	0.0	0.0	0.0	0
	TOTAL ECHINODERM INDIV.		1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
	TOTAL ECHINODERM SP.	1	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
	TOTAL MOLLUSC INDIV.		1	0	1			0.7	0.5	0	1	0.6	0.3	1.3	2
	TOTAL MOLLUSC SP.	1	1	0	1			0.7	0.5	0	1	0.6	0.3	1.3	2
	TOTAL POLYCHAETE INDIV.		31	16	45			30.7	30.5	16	45	14.5	8.4	32.6	92
	TOTAL POLYCHAETE SP.	18	9	7	14			10.0	10.5	7	14	3.6	2.1	8.1	30

STANUM	**STATION**	**IDORG**	**LEG**	**DATE**
80028.3	HUNTINGTON HARBOR, UPPER	99	4	09/15/92

SPECIES	**TAXA**	**NO. PER CORE**					**SUMMARY STATISTICS**							
		rep 1	**rep 2**	**rep 3**	**rep 4**	**rep 5**	**mean**	**median**	**min**	**max**	**St. Dev.**	**S.E.**	**95%CL**	**sum**
Aphelochaeta multifilis	Polychaeta	6	0	0			2.0	3.0	0	6	3.5	2.0	7.8	6
Cirriformia spirabrancha	Polychaeta	1	7	6			4.7	4.0	1	7	3.2	1.9	7.2	14
Cossura candida	Polychaeta	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Dorvillea longicornis	Polychaeta	2	3	0			1.7	1.5	0	3	1.5	0.9	3.4	5
Eranno lagunae	Polychaeta	4	4	2			3.3	3.0	2	4	1.2	0.7	2.6	10
Euchone limnicola	Polychaeta	1	0	2			1.0	1.0	0	2	1.0	0.6	2.3	3
Fabricinuda limnicola	Polychaeta	7	5	4			5.3	5.5	4	7	1.5	0.9	3.4	16
Leitoscoloplos pugettensis	Polychaeta	6	10	12			9.3	9.0	6	12	3.1	1.8	6.9	28
Marphysa sp. A	Polychaeta	2	0	1			1.0	1.0	0	2	1.0	0.6	2.3	3
Mediomastus californiensis	Polychaeta	4	1	6			3.7	3.5	1	6	2.5	1.5	5.7	11
Neanthes arenaceodentata	Polychaeta	5	1	3			3.0	3.0	1	5	2.0	1.2	4.5	9
Pista brevibranchiata	Polychaeta	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Prionospio heterobranchia	Polychaeta	1	0	6			2.3	3.0	0	6	3.2	1.9	7.2	7
Pseudopolydora paucibranchiata	Polychaeta	4	2	5			3.7	3.5	2	5	1.5	0.9	3.4	11
Scoletoma erecta	Polychaeta	2	0	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Streblospio benedicti	Polychaeta	2	0	0			0.7	1.0	0	2	1.2	0.7	2.6	2
nemertea	Nemertea	2	0	0			0.7	1.0	0	2	1.2	0.7	2.6	2

oligochaeta	Oligocheata		1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Bathyleberis carcharodonta	Ostracoda		2	0	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Paranthura elegans	Isopoda		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Gammaridae			1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Leptosynaptus sp.	Holothuroidea		0	0	3			1.0	1.5	0	3	1.7	1.0	3.9	3
Molpadia			0	2	5			2.3	2.5	0	5	2.5	1.5	5.7	7
	TOTAL INDIVIDUALS		53	37	56			48.7	46.5	37	56	10.2	5.9	23.0	146
	TOTAL SPECIES	23	18	11	13			14.0	14.5	11	18	3.6	2.1	8.1	42
	TOTAL CRUST. INDIV.		3	0	1			1.3	1.5	0	3	1.5	0.9	3.4	4
	TOTAL CRUST. SP.	3	2	0	1			1.0	1.0	0	2	1.0	0.6	2.3	3
	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.		3	0	1			1.3	1.5	0	3	1.5	0.9	3.4	4
	OTHER CRUSTACEAN SP.	3	2	0	1			1.0	1.0	0	2	1.0	0.6	2.3	3
	TOTAL ECHINODERM INDIV.		0	0	3			1.0	1.5	0	3	1.7	1.0	3.9	3
	TOTAL ECHINODERM SP.	1	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
	TOTAL MOLLUSC INDIV.		0	0	0			0.0	0.0	0	0	0.0	0.0	0.0	0
	TOTAL MOLLUSC SP.	0	0	0	0			0.0	0.0	0	0	0.0	0.0	0.0	0
	TOTAL POLYCHAETE INDIV.		47	35	47			43.0	41.0	35	47	6.9	4.0	15.6	129
	TOTAL POLYCHAETE SP.	16	14	10	10			11.3	12.0	10	14	2.3	1.3	5.2	34

STANUM	STATION	IDORG	LEG	DATE
80025.1	ANAHEIM BAY, OIL ISLAND	88	5	10/14/92

SPECIES	TAXA	NO. PER CORE					SUMMARY STATISTICS							
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Amaeana occidentalis	Polychaeta	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Apoprionospio pygmaea	Polychaeta	2	0	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Armandia brevis	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Chaetozone sp. 1	Polychaeta	3	0	3			2.0	1.5	0	3	1.7	1.0	3.9	6
Exogone lourei	Polychaeta	1	2	6			3.0	3.5	1	6	2.6	1.5	6.0	9
Goniada littorea	Polychaeta	2	1	1			1.3	1.5	1	2	0.6	0.3	1.3	4
Glycera convoluta	Polychaeta	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Glycera nana	Polychaeta	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Leitoscoloplos pugettensis	Polychaeta	1	1	4			2.0	2.5	1	4	1.7	1.0	3.9	6
Mediomastus californiensis	Polychaeta	24	13	26			21.0	19.5	13	26	7.0	4.0	15.8	63
Monticellina dorsobranchialis	Polychaeta	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Nephtys caecoides	Polychaeta	0	0	2			0.7	1.0	0	2	1.2	0.7	2.6	2
Nephtys cornuta	Polychaeta	1	1	0			0.7	0.5	0	1	0.6	0.3	1.3	2

Prionospio heterobranchia	Polychaeta		8	3	13			8.0	8.0	3	13	5.0	2.9	11.3	24
Prionospio lighti	Polychaeta		0	0	2			0.7	1.0	0	2	1.2	0.7	2.6	2
Scolelepis quinquedentata	Polychaeta		1	0	1			0.7	0.5	0	1	0.6	0.3	1.3	2
Spionidae spp. indet.	Polychaeta		0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Spiophanes missionensis	Polychaeta		1	1	0			0.7	0.5	0	1	0.6	0.3	1.3	2
nematoda	Nematoda		2	0	2			1.3	1.0	0	2	1.2	0.7	2.6	4
nemertea	Nemertea		2	2	4			2.7	3.0	2	4	1.2	0.7	2.6	8
oligochaeta	Oligochaeta		41	20	37			32.7	30.5	20	41	11.2	6.4	25.1	98
Rudilemboides stenopropodus	Amphipoda		4	0	6			3.3	3.0	0	6	3.1	1.8	6.9	10
pycnogonid	Pycnogonida		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Amphiodia sp.	Ophiuroidea		11	5	8			8.0	8.0	5	11	3.0	1.7	6.8	24
Laevicardium substriatum	Bivalvia		1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Haminoea vesicula	Gastropoda		1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Mysella tumida	Bivalvia		2	0	1			1.0	1.0	0	2	1.0	0.6	2.3	3
Tagelus subteres	Bivalvia		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Molpadia sp.			0	2	1			1.0	1.0	0	2	1.0	0.6	2.3	3
Edwardsia sp.	Anthozoa		1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Enteropneust	Enteropneusta		0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
	TOTAL INDIVIDUALS					112	54	120			95.3	87.0	54	120	36.0
	TOTAL SPECIES	31				22	14	19			18.3	18.0	14	22	4.0
	TOTAL CRUST. INDIV.					4	0	7			3.7	3.5	0	7	3.5
	TOTAL CRUST. SP.	2				1	0	2			1.0	1.0	0	2	1.0
	GAMMARID INDIV.					4	0	6			3.3	3.0	0	6	3.1
	GAMMARID SP.	1				1	0	1			0.7	0.5	0	1	0.6
	OTHER CRUSTACEAN INDIV.					0	0	1			0.3	0.5	0	1	0.6
	OTHER CRUSTACEAN SP.	1				0	0	1			0.3	0.5	0	1	0.6
	TOTAL ECHINODERM INDIV.					11	5	8			8.0	8.0	5	11	3.0
	TOTAL ECHINODERM SP.	1				1	1	1			1.0	1.0	1	1	0.0
	TOTAL MOLLUSC INDIV.					4	0	2			2.0	2.0	0	4	2.0
	TOTAL MOLLUSC SP.	4				3	0	2			1.7	1.5	0	3	1.5
	TOTAL POLYCHAETE INDIV.					47	24	59			43.3	41.5	24	59	17.8
	TOTAL POLYCHAETE SP.	18				13	9	10			10.7	11.0	9	13	2.1

Benthic Community Data

STANUM	STATION	IDORG	LEG	DATE
80025.2	ANAHEIM BAY, OIL ISLAND	89	5	10/14/92

SPECIES	TAXA		NO. PER CORE					SUMMARY STATISTICS							
			rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Aphelochaeta multifilis	Polychaeta		3	1	5			3.0	3.0	1	5	2.0	1.2	4.5	9
Brania brevipharyngea	Polychaeta		1	2	0			1.0	1.0	0	2	1.0	0.6	2.3	3
Cossura candida	Polychaeta		13	10	14			12.3	12.0	10	14	2.1	1.2	4.7	37
Eranno lagunae	Polychaeta		3	1	1			1.7	2.0	1	3	1.2	0.7	2.6	5
Exogone uniformis	Polychaeta		0	1	2			1.0	1.0	0	2	1.0	0.6	2.3	3
Fabricinuda limnicola	Polychaeta		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Leitoscoloplos pugettensis	Polychaeta		0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Mediomastus californiensis	Polychaeta		20	37	12			23.0	24.5	12	37	12.8	7.4	28.7	69
Monticellina sp. C	Polychaeta		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Nephtys caecoides	Polychaeta		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Nereis procera	Polychaeta		0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Notomastus tenuis	Polychaeta		0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Polyophthalmus pictus	Polychaeta		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Prionospio heterobranchia	Polychaeta		6	5	2			4.3	4.0	2	6	2.1	1.2	4.7	13
Prionospio sp. A	Polychaeta		1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Scolelepis quinquedentata	Polychaeta		2	0	2			1.3	1.0	0	2	1.2	0.7	2.6	4
Spiophanes missionensis	Polychaeta		0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Streblospio benedicti	Polychaeta		2	5	4			3.7	3.5	2	5	1.5	0.9	3.4	11
nematoda	Nematoda		0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
nemertea	Nemertea		3	8	1			4.0	4.5	1	8	3.6	2.1	8.1	12
oligochaeta	Oligochaeta		0	8	0			2.7	4.0	0	8	4.6	2.7	10.4	8
Rudilemboides stenopropodus	Amphipoda		15	20	12			15.7	16.0	12	20	4.0	2.3	9.1	47
Acuminodeutopus heteruropus	Amphipoda		0	1	1			0.7	0.5	0	1	0.6	0.3	1.3	2
Bathyleberis californica	Ostracoda		3	2	0			1.7	1.5	0	3	1.5	0.9	3.4	5
Grandidierella japonica	Amphipoda		3	10	16			9.7	9.5	3	16	6.5	3.8	14.6	29
Leptochelia dubia	Tanaidacea		3	7	4			4.7	5.0	3	7	2.1	1.2	4.7	14
Mayerella banksia	Amphipoda		1	8	4			4.3	4.5	1	8	3.5	2.0	7.9	13
Paranthura elegans	Isopoda		0	2	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Photis sp.	Amphipoda		0	1	2			1.0	1.0	0	2	1.0	0.6	2.3	3
Podocerus brasiliensis	Amphipoda		0	2	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Calliopiid amphipod	Amphipoda		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Molpadia			6	12	4			7.3	8.0	4	12	4.2	2.4	9.4	22
	TOTAL INDIVIDUALS		85	148	91			108.0	116.5	85	148	34.8	20.1	78.2	324
	TOTAL SPECIES	32	16	25	21			20.7	20.5	16	25	4.5	2.6	10.1	62

TOTAL CRUST. INDIV.		25	53	40			39.3	39.0	25	53	14.0	8.1	31.5	118
TOTAL CRUST. SP.	10	5	9	7			7.0	7.0	5	9	2.0	1.2	4.5	21
GAMMARID INDIV.		19	42	36			32.3	30.5	19	42	11.9	6.9	26.8	97
GAMMARID SP.	7	3	6	6			5.0	4.5	3	6	1.7	1.0	3.9	15
OTHER CRUSTACEAN INDIV.		6	11	4			7.0	7.5	4	11	3.6	2.1	8.1	21
OTHER CRUSTACEAN SP.	3	2	3	1			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.		0	0	0			0.0	0.0	0	0	0.0	0.0	0.0	0
TOTAL MOLLUSC SP.	0	0	0	0			0.0	0.0	0	0	0.0	0.0	0.0	0
TOTAL POLYCHAETE INDIV.		51	66	46			54.3	56.0	46	66	10.4	6.0	23.4	163
TOTAL POLYCHAETE SP.	18	9	12	12			11.0	10.5	9	12	1.7	1.0	3.9	33

STANUM	STATION	IDORG	LEG	DATE
80025.3	ANAHEIM BAY, OIL ISLAND	90	5	10/14/92

SPECIES	TAXA	NO. PER CORE					SUMMARY STATISTICS							
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Aphelochaeta multifilis	Polychaeta	2	5	2			3.0	3.5	2	5	1.7	1.0	3.9	9
Brania brevipharyngea	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Cossura candida	Polychaeta	5	7	8			6.7	6.5	5	8	1.5	0.9	3.4	20
Eranno lagunae	Polychaeta	1	1	0			0.7	0.5	0	1	0.6	0.3	1.3	2
Euchone limnicola	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Fabricinuda limnicola	Polychaeta	1	1	0			0.7	0.5	0	1	0.6	0.3	1.3	2
Glycera convoluta	Polychaeta	1	0	1			0.7	0.5	0	1	0.6	0.3	1.3	2
Goniada littorea	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Mediomastus californiensis	Polychaeta	9	19	21			16.3	15.0	9	21	6.4	3.7	14.5	49
Monticellina sp. C	Polychaeta	0	0	2			0.7	1.0	0	2	1.2	0.7	2.6	2
Nephtys caecoides	Polychaeta	2	0	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Nephtys signifera	Polychaeta	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Nereis procera	Polychaeta	1	0	1			0.7	0.5	0	1	0.6	0.3	1.3	2
Polydora cornuta	Polychaeta	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Prionospio heterobranchia	Polychaeta	1	0	1			0.7	0.5	0	1	0.6	0.3	1.3	2
Scolelepis quinquedentata	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Scoletoma erecta	Polychaeta	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Sphaerosyllis californiensis	Polychaeta	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Spiophanes missionensis	Polychaeta	3	0	1			1.3	1.5	0	3	1.5	0.9	3.4	4
Streblospio benedicti	Polychaeta	1	4	6			3.7	3.5	1	6	2.5	1.5	5.7	11
nematoda	Nematoda	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1

nemertea	Nemertea		1	5	0	2.0	2.5	0	5	2.6	1.5	6.0	6
oligochaeta	Oligochaeta		0	1	4	1.7	2.0	0	4	2.1	1.2	4.7	5
Rudilemboides stenopropodus	Amphipoda		14	20	24	19.3	19.0	14	24	5.0	2.9	11.3	58
Amphideutopus oculatus	Amphipoda		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Photis sp.	Amphipoda		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Grandidierella japonica	Amphipoda		9	1	2	4.0	5.0	1	9	4.4	2.5	9.8	12
Bathyleberis californica	Ostracoda		0	2	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Mayerella banksia	Amphipoda		1	5	10	5.3	5.5	1	10	4.5	2.6	10.1	16
Caprella sp.	Caprellida		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Leptochelia dubia	Tanaidacea		1	2	0	1.0	1.0	0	2	1.0	0.6	2.3	3
Hyale sp.	Amphipoda		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Monoculodes hartmanae	Amphipoda		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Microjassa litotes	Amphipoda		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Mactra california	Bivalvia		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Theora fragilis	Bivalvia		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Cylichna diegensis	Gastropoda		1	1	0	0.7	0.5	0	1	0.6	0.3	1.3	2
Leptosynaptus sp.	Holothuroidea		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Edwardsia sp.	Anthozoa		1	0	2	1.0	1.0	0	2	1.0	0.6	2.3	3
Molpadia			10	7	6	7.7	8.0	6	10	2.1	1.2	4.7	23
Phoronid			1	0	3	1.3	1.5	0	3	1.5	0.9	3.4	4
	TOTAL INDIVIDUALS		75	84	100	86.3	87.5	75	100	12.7	7.3	28.5	259
	TOTAL SPECIES	41	29	18	22	23.0	23.5	18	29	5.6	3.2	12.5	69
	TOTAL CRUST. INDIV.		28	33	36	32.3	32.0	28	36	4.0	2.3	9.1	97
	TOTAL CRUST. SP.	11	7	8	3	6.0	5.5	3	8	2.6	1.5	6.0	18
	GAMMARID INDIV.		26	29	36	30.3	31.0	26	36	5.1	3.0	11.5	91
	GAMMARID SP.	8	5	6	3	4.7	4.5	3	6	1.5	0.9	3.4	14
	OTHER CRUSTACEAN INDIV.		2	4	0	2.0	2.0	0	4	2.0	1.2	4.5	6
	OTHER CRUSTACEAN SP.	3	2	2	0	1.3	1.0	0	2	1.2	0.7	2.6	4
	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.		3	1	0	1.3	1.5	0	3	1.5	0.9	3.4	4
	TOTAL MOLLUSC SP.	3	3	1	0	1.3	1.5	0	3	1.5	0.9	3.4	4
	TOTAL POLYCHAETE INDIV.		31	37	47	38.3	39.0	31	47	8.1	4.7	18.2	115
	TOTAL POLYCHAETE SP.	20	15	6	13	11.3	10.5	6	15	4.7	2.7	10.6	34

Benthic Community Data

STANUM	STATION	IDORG	LEG	DATE
85002	NEWPORT BAY (616)	1388	34	09/01/94

SPECIES	TAXA	rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
		NO. PER CORE					SUMMARY STATISTICS							
Aphelochaeta cf. parva	Polychaeta	3	5	0			2.7	2.5	0	5	2.5	1.5	5.7	8
Aphelochaeta sp.	Polychaeta	2	3	0			1.7	1.5	0	3	1.5	0.9	3.4	5
Armandia brevis	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Cirratulus cirratus	Polychaeta	2	2	1			1.7	1.5	1	2	0.6	0.3	1.3	5
Cirriformia spirabrancha	Polychaeta	19	17	9			15.0	14.0	9	19	5.3	3.1	11.9	45
Cossura candida	Polychaeta	0	3	2			1.7	1.5	0	3	1.5	0.9	3.4	5
Cossura sp. A	Polychaeta	2	1	1			1.3	1.5	1	2	0.6	0.3	1.3	4
Diplocirrus sp.	Polychaeta	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Dorvillea longicornis	Polychaeta	30	0	10			13.3	15.0	0	30	15.3	8.8	34.4	40
Euchone limnicola	Polychaeta	2	4	0			2.0	2.0	0	4	2.0	1.2	4.5	6
Exogone lourei	Polychaeta	2	29	0			10.3	14.5	0	29	16.2	9.4	36.4	31
Fabriciinae sp. A	Polychaeta	2	0	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Leitoscoloplos pugettensis	Polychaeta	5	2	4			3.7	3.5	2	5	1.5	0.9	3.4	11
Mediomastus californiensis	Polychaeta	4	24	7			11.7	14.0	4	24	10.8	6.2	24.3	35
Mediomastus sp.	Polychaeta	3	15	6			8.0	9.0	3	15	6.2	3.6	14.1	24
Monticellina dorsobranchialis	Polychaeta	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Neanthes acuminata	Polychaeta	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Nephtys cornuta	Polychaeta	0	0	4			1.3	2.0	0	4	2.3	1.3	5.2	4
Nereis procera	Polychaeta	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Paraprionospio pinnata	Polychaeta	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Pherusa capulata	Polychaeta	2	4	0			2.0	2.0	0	4	2.0	1.2	4.5	6
Polyophthalmus pictus	Polychaeta	2	0	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Prionospio heterobranchia	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Prionospio lighti	Polychaeta	0	9	0			3.0	4.5	0	9	5.2	3.0	11.7	9
Pseudopolydora paucibranchiata	Polychaeta	3	2	2			2.3	2.5	2	3	0.6	0.3	1.3	7
Scoletoma minima	Polychaeta	5	6	4			5.0	5.0	4	6	1.0	0.6	2.3	15
Scoletoma sp.	Polychaeta	13	10	3			8.7	8.0	3	13	5.1	3.0	11.5	26
Scoletoma zonata	Polychaeta	9	14	19			14.0	14.0	9	19	5.0	2.9	11.3	42
Sthenelanella uniformis	Polychaeta	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Streblospio benedicti	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Syllides japonica	Polychaeta	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
nematoda	Nematoda	0	12	8			6.7	6.0	0	12	6.1	3.5	13.7	20
nemertea	Nemertea	0	4	1			1.7	2.0	0	4	2.1	1.2	4.7	5
Leptopecten latiauratus	Mollusca	0	2	0			0.7	1.0	0	2	1.2	0.7	2.6	2

Musculista senhousei	Mollusca		7	15	1			7.7	8.0	1	15	7.0	4.1	15.8	23
Odostomia sp.	Mollusca		21	1	0			7.3	10.5	0	21	11.8	6.8	26.7	22
Theora fragilis	Mollusca		0	2	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Acuminodeutopus heteruropus	Crustacea		6	3	2			3.7	4.0	2	6	2.1	1.2	4.7	11
Anatanais pseudonormani	Crustacea		2	2	0			1.3	1.0	0	2	1.2	0.7	2.6	4
Bathyleberis = Cylindrolebridae	Crustacea		1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Bemlos concavus	Crustacea		2	0	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Elasmopus bampo	Crustacea		0	6	1			2.3	3.0	0	6	3.2	1.9	7.2	7
Eobrolgus spinosus	Crustacea		0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Liljeborgia sp.	Crustacea		1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Lophopanopeus sp.	Crustacea		0	2	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Monoculodes hartmanae	Crustacea		0	1	3			1.3	1.5	0	3	1.5	0.9	3.4	4
Paranthura elegans	Crustacea		1	0	1			0.7	0.5	0	1	0.6	0.3	1.3	2
Podocerus cristatus	Crustacea		0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
	TOTAL INDIVIDUALS		154	206	92			150.7	149.0	92	206	57.1	33.0	128.4	452
	TOTAL SPECIES	48	29	34	23			28.7	28.5	23	34	5.5	3.2	12.4	86
	TOTAL CRUST. INDIV.		13	16	7			12.0	11.5	7	16	4.6	2.6	10.3	36
	TOTAL CRUST. SP.	11	6	7	4			5.7	5.5	4	7	1.5	0.9	3.4	17
	GAMMARID INDIV.		9	12	6			9.0	9.0	6	12	3.0	1.7	6.8	27
	GAMMARID SP.	7	3	5	3			3.7	4.0	3	5	1.2	0.7	2.6	11
	OTHER CRUSTACEAN INDIV.		4	4	1			3.0	2.5	1	4	1.7	1.0	3.9	9
	OTHER CRUSTACEAN SP.	4	3	2	1			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.		28	20	1			16.3	14.5	1	28	13.9	8.0	31.2	49
	TOTAL MOLLUSC SP.	4	2	4	1			2.3	2.5	1	4	1.5	0.9	3.4	7
	TOTAL POLYCHAETE INDIV.		113	154	75			114.0	114.5	75	154	39.5	22.8	88.9	342
	TOTAL POLYCHAETE SP.	31	21	21	16			19.3	18.5	16	21	2.9	1.7	6.5	58

STANUM	STATION	IDORG	LEG	DATE
85003	NEWPORT BAY (791)	1389	34	08/31/94

SPECIES	TAXA	NO. PER CORE					SUMMARY STATISTICS							
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Aphelochaeta cf. parva	Polychaeta	3	1	0			1.3	1.5	0	3	1.5	0.9	3.4	4
Aphelochaeta sp.	Polychaeta	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Cirriformia spirabrancha	Polychaeta	14	4	6			8.0	9.0	4	14	5.3	3.1	11.9	24
Cossura candida	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Cossura sp. A	Polychaeta	23	10	6			13.0	14.5	6	23	8.9	5.1	20.0	39

Dipplocirrus sp.	Polychaeta	0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Dorvillea longicornis	Polychaeta	5	2	3	3.3	3.5	2	5	1.5	0.9	3.4	10
Euchone limnicola	Polychaeta	4	7	9	6.7	6.5	4	9	2.5	1.5	5.7	20
Exogone cf. verugera	Polychaeta	0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Exogone lourei	Polychaeta	0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Fabricinuda limnicola	Polychaeta	1	1	0	0.7	0.5	0	1	0.6	0.3	1.3	2
Leitoscoloplos pugettensis	Polychaeta	22	23	8	17.7	15.5	8	23	8.4	4.8	18.9	53
Mediomastus ambiseta	Polychaeta	2	3	7	4.0	4.5	2	7	2.6	1.5	6.0	12
Mediomastus sp.	Polychaeta	2	4	8	4.7	5.0	2	8	3.1	1.8	6.9	14
Nephtys caecoides	Polychaeta	1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Nephtys cornuta	Polychaeta	0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Nereis procera	Polychaeta	1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Pista cf. alata	Polychaeta	9	4	6	6.3	6.5	4	9	2.5	1.5	5.7	19
Prionospio heterobranchia	Polychaeta	1	4	0	1.7	2.0	0	4	2.1	1.2	4.7	5
Pseudopolydora paucibranchiata	Polychaeta	4	9	1	4.7	5.0	1	9	4.0	2.3	9.1	14
Scoletoma zonata	Polychaeta	6	9	7	7.3	7.5	6	9	1.5	0.9	3.4	22
Sphaerosyllis californiensis	Polychaeta	3	0	2	1.7	1.5	0	3	1.5	0.9	3.4	5
Spiophanes missionensis	Polychaeta	0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
nematoda	Nematoda	0	5	16	7.0	8.0	0	16	8.2	4.7	18.4	21
nemertea	Nemertea	3	1	1	1.7	2.0	1	3	1.2	0.7	2.6	5
oligochaeta	Oligochaeta	0	3	2	1.7	1.5	0	3	1.5	0.9	3.4	5
phoronida	Phoronida	1	1	0	0.7	0.5	0	1	0.6	0.3	1.3	2
Acteocina sp.	Mollusca	1	1	2	1.3	1.5	1	2	0.6	0.3	1.3	4
Musculista senhousei	Mollusca	0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Odostomia sp.	Mollusca	0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Protothaca staminea	Mollusca	0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Tagelus subteres	Mollusca	0	4	4	2.7	2.0	0	4	2.3	1.3	5.2	8
Theora fragilis	Mollusca	3	3	0	2.0	1.5	0	3	1.7	1.0	3.9	6
Acuminodeutopus heteruropus	Crustacea	1	3	0	1.3	1.5	0	3	1.5	0.9	3.4	4
Anatanais pseudonormani	Crustacea	1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Bathyleberis = Cylindrolebridae	Crustacea	0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Bemlos concavus	Crustacea	1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Euphilomedes carcharodonta	Crustacea	2	1	0	1.0	1.0	0	2	1.0	0.6	2.3	3
Leptognathia sp. A	Crustacea	0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Mayerella banksia	Crustacea	8	2	4	4.7	5.0	2	8	3.1	1.8	6.9	14
Monoculodes hartmanae	Crustacea	2	0	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Paranthura elegans	Crustacea	1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Rudilemboides stenopropodus	Crustacea	5	5	2	4.0	3.5	2	5	1.7	1.0	3.9	12
anemone		0	2	0	0.7	1.0	0	2	1.2	0.7	2.6	2

Dipplocirrus sp.	Polychaeta	0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Dorvillea longicornis	Polychaeta	5	2	3	3.3	3.5	2	5	1.5	0.9	3.4	10
Euchone limnicola	Polychaeta	4	7	9	6.7	6.5	4	9	2.5	1.5	5.7	20
Exogone cf. verugera	Polychaeta	0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Exogone lourei	Polychaeta	0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Fabricinuda limnicola	Polychaeta	1	1	0	0.7	0.5	0	1	0.6	0.3	1.3	2
Leitoscoloplos pugettensis	Polychaeta	22	23	8	17.7	15.5	8	23	8.4	4.8	18.9	53
Mediomastus ambiseta	Polychaeta	2	3	7	4.0	4.5	2	7	2.6	1.5	6.0	12
Mediomastus sp.	Polychaeta	2	4	8	4.7	5.0	2	8	3.1	1.8	6.9	14
Nephtys caecoides	Polychaeta	1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Nephtys cornuta	Polychaeta	0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Nereis procera	Polychaeta	1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Pista cf. alata	Polychaeta	9	4	6	6.3	6.5	4	9	2.5	1.5	5.7	19
Prionospio heterobranchia	Polychaeta	1	4	0	1.7	2.0	0	4	2.1	1.2	4.7	5
Pseudopolydora paucibranchiata	Polychaeta	4	9	1	4.7	5.0	1	9	4.0	2.3	9.1	14
Scoletoma zonata	Polychaeta	6	9	7	7.3	7.5	6	9	1.5	0.9	3.4	22
Sphaerosyllis californiensis	Polychaeta	3	0	2	1.7	1.5	0	3	1.5	0.9	3.4	5
Spiophanes missionensis	Polychaeta	0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
nematoda	Nematoda	0	5	16	7.0	8.0	0	16	8.2	4.7	18.4	21
nemertea	Nemertea	3	1	1	1.7	2.0	1	3	1.2	0.7	2.6	5
oligochaeta	Oligochaeta	0	3	2	1.7	1.5	0	3	1.5	0.9	3.4	5
phoronida	Phoronida	1	1	0	0.7	0.5	0	1	0.6	0.3	1.3	2
Acteocina sp.	Mollusca	1	1	2	1.3	1.5	1	2	0.6	0.3	1.3	4
Musculista senhousei	Mollusca	0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Odostomia sp.	Mollusca	0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Protothaca staminea	Mollusca	0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Tagelus subteres	Mollusca	0	4	4	2.7	2.0	0	4	2.3	1.3	5.2	8
Theora fragilis	Mollusca	3	3	0	2.0	1.5	0	3	1.7	1.0	3.9	6
Acuminodeutopus heteruropus	Crustacea	1	3	0	1.3	1.5	0	3	1.5	0.9	3.4	4
Anatanais pseudonormani	Crustacea	1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Bathyleberis = Cylindrolebridae	Crustacea	0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Bemlos concavus	Crustacea	1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Euphilomedes carcharodonta	Crustacea	2	1	0	1.0	1.0	0	2	1.0	0.6	2.3	3
Leptognathia sp. A	Crustacea	0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Mayerella banksia	Crustacea	8	2	4	4.7	5.0	2	8	3.1	1.8	6.9	14
Monoculodes hartmanae	Crustacea	2	0	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Paranthura elegans	Crustacea	1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Rudilemboides stenopropodus	Crustacea	5	5	2	4.0	3.5	2	5	1.7	1.0	3.9	12
anemone		0	2	0	0.7	1.0	0	2	1.2	0.7	2.6	2

						mean	median	min	max	St. Dev.	S.E.	95%CL	sum
TOTAL INDIVIDUALS		131	116	101		116.0	116.0	101	131	15.0	8.7	33.8	348
TOTAL SPECIES	44	29	29	25		27.7	27.0	25	29	2.3	1.3	5.2	83
TOTAL CRUST. INDIV.		21	12	7		13.3	14.0	7	21	7.1	4.1	16.0	40
TOTAL CRUST. SP.	10	8	5	3		5.3	5.5	3	8	2.5	1.5	5.7	16
GAMMARID INDIV.		4	3	0		2.3	2.0	0	4	2.1	1.2	4.7	7
GAMMARID SP.	3	3	1	0		1.3	1.5	0	3	1.5	0.9	3.4	4
OTHER CRUSTACEAN INDIV.		17	9	7		11.0	12.0	7	17	5.3	3.1	11.9	33
OTHER CRUSTACEAN SP.	7	5	4	3		4.0	4.0	3	5	1.0	0.6	2.3	12
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	9	8		7.0	6.5	4	9	2.6	1.5	6.0	21
TOTAL MOLLUSC SP.	6	2	4	4		3.3	3.0	2	4	1.2	0.7	2.6	10
TOTAL POLYCHAETE INDIV.		102	83	67		84.0	84.5	67	102	17.5	10.1	39.4	252
TOTAL POLYCHAETE SP.	23	17	15	15		15.7	16.0	15	17	1.2	0.7	2.6	47

STANUM	STATION	IDORG	LEG	DATE
85001	NEWPORT BAY (523)	1387	34	09/01/94

SPECIES	TAXA	NO. PER CORE rep 1	rep 2	rep 3	rep 4	rep 5	SUMMARY STATISTICS mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Aphelochaeta cf. parva	Polychaeta	3	0	3			2.0	1.5	0	3	1.7	1.0	3.9	6
Aphelochaeta sp.	Polychaeta	8	2	3			4.3	5.0	2	8	3.2	1.9	7.2	13
Cirratulus cirratus	Polychaeta	0	2	3			1.7	1.5	0	3	1.5	0.9	3.4	5
Cirriformia spirabrancha	Polychaeta	5	19	24			16.0	14.5	5	24	9.8	5.7	22.2	48
Cossura sp. A	Polychaeta	2	3	4			3.0	3.0	2	4	1.0	0.6	2.3	9
Diplocirrus sp.	Polychaeta	2	0	1			1.0	1.0	0	2	1.0	0.6	2.3	3
Dorvillea longicornis	Polychaeta	6	0	1			2.3	3.0	0	6	3.2	1.9	7.2	7
Euchone limnicola	Polychaeta	1	0	4			1.7	2.0	0	4	2.1	1.2	4.7	5
Exogone lourei	Polychaeta	9	0	4			4.3	4.5	0	9	4.5	2.6	10.1	13
Fabricinuda limnicola	Polychaeta	1	3	10			4.7	5.5	1	10	4.7	2.7	10.6	14
Leitoscoloplos pugettensis	Polychaeta	28	9	25			20.7	18.5	9	28	10.2	5.9	23.0	62
Mediomastus ambiseta	Polychaeta	0	3	1			1.3	1.5	0	3	1.5	0.9	3.4	4
Mediomastus sp.	Polychaeta	8	2	8			6.0	5.0	2	8	3.5	2.0	7.8	18
Nephtys cornuta	Polychaeta	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Pista cf. alata	Polychaeta	1	4	4			3.0	2.5	1	4	1.7	1.0	3.9	9
Polyophthalmus pictus	Polychaeta	2	0	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Prionospio heterobranchia	Polychaeta	2	0	4			2.0	2.0	0	4	2.0	1.2	4.5	6
Pseudopolydora paucibranchiata	Polychaeta	41	5	57			34.3	31.0	5	57	26.6	15.4	59.9	103
Scolelepis quequindentata	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1

Benthic Community Data

Scoletoma minima	Polychaeta		5	8	6	6.3	6.5	5	8	1.5	0.9	3.4	19
Scoletoma zonata	Polychaeta		5	6	11	7.3	8.0	5	11	3.2	1.9	7.2	22
Sphaerosyllis californiensis	Polychaeta		6	2	2	3.3	4.0	2	6	2.3	1.3	5.2	10
nematoda	Nematoda		79	11	63	51.0	45.0	11	79	35.6	20.5	80.0	153
nemertea	Nemertea		3	0	1	1.3	1.5	0	3	1.5	0.9	3.4	4
oligochaeta	Oligochaeta		8	1	2	3.7	4.5	1	8	3.8	2.2	8.5	11
phoronida	Phoronida		1	0	1	0.7	0.5	0	1	0.6	0.3	1.3	2
Acteocina sp.	Mollusca		3	0	3	2.0	1.5	0	3	1.7	1.0	3.9	6
Aglaja sp.	Mollusca		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Musculista senhousei	Mollusca		10	3	10	7.7	6.5	3	10	4.0	2.3	9.1	23
Theora fragilis	Mollusca		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Acuminodeutopus heteruropus	Crustacea		3	3	2	2.7	2.5	2	3	0.6	0.3	1.3	8
Bathyleberis = Cylindrolebridae	Crustacea		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Euphilomedes carcharodonta	Crustacea		12	0	2	4.7	6.0	0	12	6.4	3.7	14.5	14
Mayerella banksia	Crustacea		7	3	8	6.0	5.5	3	8	2.6	1.5	6.0	18
Paranthura elegans	Crustacea		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
pycnogonid	Arachnida		2	1	0	1.0	1.0	0	2	1.0	0.6	2.3	3
cucumber	Echinodermata		10	9	6	8.3	8.0	6	10	2.1	1.2	4.7	25
anemone			2	0	1	1.0	1.0	0	2	1.0	0.6	2.3	3
	TOTAL INDIVIDUALS		278	99	277	218.0	188.5	99	278	103.1	59.5	231.9	654
	TOTAL SPECIES	38	33	20	33	28.7	26.5	20	33	7.5	4.3	16.9	86
	TOTAL CRUST. INDIV.		23	6	13	14.0	14.5	6	23	8.5	4.9	19.2	42
	TOTAL CRUST. SP.	5	4	2	4	3.3	3.0	2	4	1.2	0.7	2.6	10
	GAMMARID INDIV.		3	3	2	2.7	2.5	2	3	0.6	0.3	1.3	8
	GAMMARID SP.	1	1	1	1	1.0	1.0	1	1	0.0	0.0	0.0	3
	OTHER CRUSTACEAN INDIV.		20	3	11	11.3	11.5	3	20	8.5	4.9	19.1	34
	OTHER CRUSTACEAN SP.	4	3	1	3	2.3	2.0	1	3	1.2	0.7	2.6	7
	TOTAL ECHINODERM INDIV.		10	9	6	8.3	8.0	6	10	2.1	1.2	4.7	25
	TOTAL ECHINODERM SP.	1	1	1	1	1.0	1.0	1	1	0.0	0.0	0.0	3
	TOTAL MOLLUSC INDIV.		14	3	14	10.3	8.5	3	14	6.4	3.7	14.3	31
	TOTAL MOLLUSC SP.	4	3	1	3	2.3	2.0	1	3	1.2	0.7	2.6	7
	TOTAL POLYCHAETE INDIV.		136	68	176	126.7	122.0	68	176	54.6	31.5	122.9	380
	TOTAL POLYCHAETE SP.	22	19	13	20	17.3	16.5	13	20	3.8	2.2	8.5	52

Benthic Community Data

STANUM	STATION	IDORG	LEG	DATE
85004	NEWPORT BAY (877)	1390	34	09/01/94

SPECIES	TAXA		NO. PER CORE rep 1	rep 2	rep 3	rep 4	rep 5	SUMMARY STATISTICS mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Cirriformia spirabrancha	Polychaeta		4	0	0			1.3	2.0	0	4	2.3	1.3	5.2	4
Cossura sp. A	Polychaeta		5	4	0			3.0	2.5	0	5	2.6	1.5	6.0	9
Diplocirrus sp.	Polychaeta		0	2	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Dorvillea longicornis	Polychaeta		4	7	2			4.3	4.5	2	7	2.5	1.5	5.7	13
Exogone lourei	Polychaeta		0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Leitoscoloplos pugettensis	Polychaeta		0	2	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Mediomastus californiensis	Polychaeta		0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Mediomastus sp.	Polychaeta		0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Nephtys cornuta	Polychaeta		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Nereis procera	Polychaeta		4	3	4			3.7	3.5	3	4	0.6	0.3	1.3	11
Paraprionospio pinnata	Polychaeta		0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Pherusa capulata	Polychaeta		1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Pista alata	Polychaeta		0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Polydora ligni	Polychaeta		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Prionospio heterobranchia	Polychaeta		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Pseudopolydora paucibranchiata	Polychaeta		1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Scoletoma zonata	Polychaeta		2	8	0			3.3	4.0	0	8	4.2	2.4	9.4	10
Syllides sp.	Polychaeta		0	3	0			1.0	1.5	0	3	1.7	1.0	3.9	3
nematoda	Nematoda		0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
oligochaeta	Oligochaeta		1	1	4			2.0	2.5	1	4	1.7	1.0	3.9	6
Musculista senhousei	Mollusca		3	1	0			1.3	1.5	0	3	1.5	0.9	3.4	4
Bathyleberis = Cylindrolebridae	Crustacea		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Bemlos concavus	Crustacea		2	0	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Elasmopus bampo	Crustacea		0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Euphilomedes carcharodonta	Crustacea		0	1	5			2.0	2.5	0	5	2.6	1.5	6.0	6
Paracerceis sculpta	Crustacea		1	1	1			1.0	1.0	1	1	0.0	0.0	0.0	3
Paranthura elegans	Crustacea		0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
	TOTAL INDIVIDUALS		28	41	20			29.7	30.5	20	41	10.6	6.1	23.8	89
	TOTAL SPECIES	27	11	19	9			13.0	14.0	9	19	5.3	3.1	11.9	39
	TOTAL CRUST. INDIV.		3	4	7			4.7	5.0	3	7	2.1	1.2	4.7	14
	TOTAL CRUST. SP.	6	2	4	3			3.0	3.0	2	4	1.0	0.6	2.3	9
	GAMMARID INDIV.		2	1	0			1.0	1.0	0	2	1.0	0.6	2.3	3
	GAMMARID SP.	2	1	1	0			0.7	0.5	0	1	0.6	0.3	1.3	2
	OTHER CRUSTACEAN INDIV.		1	3	7			3.7	4.0	1	7	3.1	1.8	6.9	11

OTHER CRUSTACEAN SP.	4	1	3	3			2.3	2.0	1	3	1.2	0.7	2.6	7
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	1	0			1.3	1.5	0	3	1.5	0.9	3.4	4
TOTAL MOLLUSC SP.	1	1	1	0			0.7	0.5	0	1	0.6	0.3	1.3	2
TOTAL POLYCHAETE INDIV.		21	34	9			21.3	21.5	9	34	12.5	7.2	28.1	64
TOTAL POLYCHAETE SP.	18	7	12	5			8.0	8.5	5	12	3.6	2.1	8.1	24

STANUM	STATION	IDORG	LEG	DATE
85005	NEWPORT BAY (949)	1391	34	08/31/94

SPECIES	TAXA	NO. PER CORE					SUMMARY STATISTICS							
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Aphelochaeta cf. parva	Polychaeta	3	16	7			8.7	9.5	3	16	6.7	3.8	15.0	26
Capitella capitata complex	Polychaeta	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Cirriformia spirabrancha	Polychaeta	16	40	15			23.7	27.5	15	40	14.2	8.2	31.8	71
Cossura pygodactylata	Polychaeta	1	3	0			1.3	1.5	0	3	1.5	0.9	3.4	4
Cossura sp. A	Polychaeta	26	6	0			10.7	13.0	0	26	13.6	7.9	30.6	32
Leitoscoloplos puggetensis	Polychaeta	1	1	4			2.0	2.5	1	4	1.7	1.0	3.9	6
Pherusa capulata	Polychaeta	0	2	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Prionospio heterobranchia	Polychaeta	0	1	1			0.7	0.5	0	1	0.6	0.3	1.3	2
Scoletoma zonata	Polychaeta	0	0	2			0.7	1.0	0	2	1.2	0.7	2.6	2
Sphaerosyllis californiensis	Polychaeta	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
nematoda	Nematoda	39	25	37			33.7	32.0	25	39	7.6	4.4	17.0	101
nemertea	Nemertea	0	2	4			2.0	2.0	0	4	2.0	1.2	4.5	6
oligochaeta	Oligochaeta	95	105	10			70.0	57.5	10	105	52.2	30.1	117.5	210
phoronida	Phoronida	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Musculista senhousei	Mollusca	3	4	4			3.7	3.5	3	4	0.6	0.3	1.3	11
Odostomia sp.	Mollusca	5	7	4			5.3	5.5	4	7	1.5	0.9	3.4	16
Theora fragilis	Mollusca	0	2	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Ampithoe plumulosa	Crustacea	0	6	2			2.7	3.0	0	6	3.1	1.8	6.9	8
Bathyleberis = Cylindrolebridae	Crustacea	0	6	0			2.0	3.0	0	6	3.5	2.0	7.8	6
Bemlos concavus	Crustacea	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Corophium acherusicum/insidiosum	Crustacea	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Elasmopus bampo	Crustacea	2	7	1			3.3	4.0	1	7	3.2	1.9	7.2	10
Grandidierella japonica	Crustacea	4	0	4			2.7	2.0	0	4	2.3	1.3	5.2	8
Paracerceis sculpta	Crustacea	3	2	1			2.0	2.0	1	3	1.0	0.6	2.3	6
Paranthura elegans	Crustacea	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
	TOTAL INDIVIDUALS	200	238	97			178.3	167.5	97	238	73.0	42.1	164.1	535

					mean	median	min	max	St. Dev.	S.E.	95%CL	sum
TOTAL SPECIES	25	14	20	15	16.3	17.0	14	20	3.2	1.9	7.2	49
TOTAL CRUST. INDIV.		9	23	9	13.7	16.0	9	23	8.1	4.7	18.2	41
TOTAL CRUST. SP.	8	3	6	5	4.7	4.5	3	6	1.5	0.9	3.4	14
GAMMARID INDIV.		6	15	7	9.3	10.5	6	15	4.9	2.8	11.1	28
GAMMARID SP.	5	2	4	3	3.0	3.0	2	4	1.0	0.6	2.3	9
OTHER CRUSTACEAN INDIV.		3	8	2	4.3	5.0	2	8	3.2	1.9	7.2	13
OTHER CRUSTACEAN SP.	3	1	2	2	1.7	1.5	1	2	0.6	0.3	1.3	5
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.		8	13	8	9.7	10.5	8	13	2.9	1.7	6.5	29
TOTAL MOLLUSC SP.	3	2	3	2	2.3	2.5	2	3	0.6	0.3	1.3	7
TOTAL POLYCHAETE INDIV.		48	70	29	49.0	49.5	29	70	20.5	11.8	46.2	147
TOTAL POLYCHAETE SP.	10	6	8	5	6.3	6.5	5	8	1.5	0.9	3.4	19

STANUM	STATION	IDORG	LEG	DATE
85006	NEWPORT BAY (1009)	1392	34	09/01/94

SPECIES	TAXA	NO. PER CORE					SUMMARY STATISTICS							
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Aphelochaeta cf. parva	Polychaeta	23	32	21			25.3	26.5	21	32	5.9	3.4	13.2	76
Brania brevipharyngea	Polychaeta	1	1	2			1.3	1.5	1	2	0.6	0.3	1.3	4
Capitella capitata complex	Polychaeta	0	2	1			1.0	1.0	0	2	1.0	0.6	2.3	3
Cirriformia spirabrancha	Polychaeta	1	0	4			1.7	2.0	0	4	2.1	1.2	4.7	5
Cossura sp. A	Polychaeta	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Dorvillea longicornis	Polychaeta	8	4	6			6.0	6.0	4	8	2.0	1.2	4.5	18
Euchone limnicola	Polychaeta	4	2	6			4.0	4.0	2	6	2.0	1.2	4.5	12
Eupolymnia heterobranchia	Polychaeta	5	11	6			7.3	8.0	5	11	3.2	1.9	7.2	22
Leitoscoloplos pugettensis	Polychaeta	3	7	2			4.0	4.5	2	7	2.6	1.5	6.0	12
Mediomastus californiensis	Polychaeta	0	3	2			1.7	1.5	0	3	1.5	0.9	3.4	5
Mediomastus sp.	Polychaeta	2	2	1			1.7	1.5	1	2	0.6	0.3	1.3	5
Megalomma pigmetum	Polychaeta	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Nereis procera	Polychaeta	4	0	5			3.0	2.5	0	5	2.6	1.5	6.0	9
Polydora cornuta	Polychaeta	4	5	2			3.7	3.5	2	5	1.5	0.9	3.4	11
Prionospio heterobranchia	Polychaeta	1	3	0			1.3	1.5	0	3	1.5	0.9	3.4	4
Pseudopolydora paucibranchiata	Polychaeta	38	68	53			53.0	53.0	38	68	15.0	8.7	33.8	159
Scoletoma zonata	Polychaeta	0	2	1			1.0	1.0	0	2	1.0	0.6	2.3	3
Sphaerosyllis californiensis	Polychaeta	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Syllides sp.	Polychaeta	0	2	2			1.3	1.0	0	2	1.2	0.7	2.6	4
nematoda	Nematoda	23	10	2			11.7	12.5	2	23	10.6	6.1	23.8	35

oligochaeta	Oligochaeta		11	19	7	12.3	13.0	7	19	6.1	3.5	13.7	37
phoronida	Phoronida		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
platyhelminthes	Platyhelminthes		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Musculista senhousei	Mollusca		17	12	16	15.0	14.5	12	17	2.6	1.5	6.0	45
Anatanais pseudonormani	Crustacea		1	0	3	1.3	1.5	0	3	1.5	0.9	3.4	4
Bemlos macromanus	Crustacea		7	3	7	5.7	5.0	3	7	2.3	1.3	5.2	17
Elasmopus bampo	Crustacea		36	23	28	29.0	29.5	23	36	6.6	3.8	14.8	87
Mayerella banksia	Crustacea		1	1	0	0.7	0.5	0	1	0.6	0.3	1.3	2
Melphisiana bola	Crustacea		1	6	2	3.0	3.5	1	6	2.6	1.5	6.0	9
Paracerceis sculpta	Crustacea		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Paranthura elegans	Crustacea		1	0	1	0.7	0.5	0	1	0.6	0.3	1.3	2
Podocerus cristatus	Crustacea		0	1	1	0.7	0.5	0	1	0.6	0.3	1.3	2
	TOTAL INDIVIDUALS		192	225	181	199.3	203.0	181	225	22.9	13.2	51.5	598
	TOTAL SPECIES	32	21	28	24	24.3	24.5	21	28	3.5	2.0	7.9	73
	TOTAL CRUST. INDIV.		47	35	42	41.3	41.0	35	47	6.0	3.5	13.6	124
	TOTAL CRUST. SP.	8	6	6	6	6.0	6.0	6	6	0.0	0.0	0.0	18
	GAMMARID INDIV.		44	33	38	38.3	38.5	33	44	5.5	3.2	12.4	115
	GAMMARID SP.	4	3	4	4	3.7	3.5	3	4	0.6	0.3	1.3	11
	OTHER CRUSTACEAN INDIV.		3	2	4	3.0	3.0	2	4	1.0	0.6	2.3	9
	OTHER CRUSTACEAN SP.	4	3	2	2	2.3	2.5	2	3	0.6	0.3	1.3	7
	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	12	16	15.0	14.5	12	17	2.6	1.5	6.0	45
	TOTAL MOLLUSC SP.	1	1	1	1	1.0	1.0	1	1	0.0	0.0	0.0	3
	TOTAL POLYCHAETE INDIV.		94	147	114	118.3	120.5	94	147	26.8	15.5	60.2	355
	TOTAL POLYCHAETE SP.	19	12	17	15	14.7	14.5	12	17	2.5	1.5	5.7	44

STANUM	STATION	IDORG	LEG	DATE
85007	NEWPORT BAY (431)	1418	36	09/19/94

SPECIES	TAXA	NO. PER CORE					SUMMARY STATISTICS							
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Aphelochaeta sp.	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Cirriformia spirabrancha	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Cossura sp. A	Polychaeta	2	6	1	4	7	4.0	4.0	1	7	2.5	1.1	3.3	20
Diplocirrus sp.	Polychaeta	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Exogone lourei	Polychaeta	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Fabricinuda limnicola	Polychaeta	1	0	0	2	0	0.6	1.0	0	2	0.9	0.4	1.1	3
Glycera americana	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1

Benthic Community Data

Goniada littorea	Polychaeta	2	0	1	0	0	0.6	1.0	0	2	0.9	0.4	1.1	3
Leitoscoloplos pugettensis	Polychaeta	3	12	7	9	5	7.2	7.5	3	12	3.5	1.6	4.5	36
Mediomastus ambiseta	Polychaeta	6	5	3	2	2	3.6	4.0	2	6	1.8	0.8	2.3	18
Mediomastus sp.	Polychaeta	4	2	6	2	7	4.2	4.5	2	7	2.3	1.0	2.9	21
Monticellina sp.	Polychaeta	0	0	0	1	1	0.4	0.5	0	1	0.5	0.2	0.7	2
Nephtys caecoides	Polychaeta	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Nephtys californiensis	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Nephtys cornuta	Polychaeta	0	0	1	1	1	0.6	0.5	0	1	0.5	0.2	0.7	3
Notomastus tenuis	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Prionospio heterobranchia	Polychaeta	0	2	0	1	1	0.8	1.0	0	2	0.8	0.4	1.1	4
Scoletoma minima	Polychaeta	2	0	3	3	1	1.8	1.5	0	3	1.3	0.6	1.7	9
Scoletoma tetraura	Polychaeta	0	0	1	2	1	0.8	1.0	0	2	0.8	0.4	1.1	4
Scoletoma zonata	Polychaeta	9	28	4	6	7	10.8	16.0	4	28	9.8	4.4	12.6	54
Scyphoproctus oculatus	Polychaeta	2	0	1	1	2	1.2	1.0	0	2	0.8	0.4	1.1	6
Sthenelanella uniformis	Polychaeta	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
nematoda	Nematoda	0	0	1	0	1	0.4	0.5	0	1	0.5	0.2	0.7	2
nemertea	Nemertea	1	6	3	0	1	2.2	3.0	0	6	2.4	1.1	3.1	11
oligochaeta	Oligochaeta	0	1	0	9	1	2.2	4.5	0	9	3.8	1.7	4.9	11
phoronida	Phoronida	15	2	0	1	0	3.6	7.5	0	15	6.4	2.9	8.3	18
Acteocina sp.	Mollusca	0	0	1	0	1	0.4	0.5	0	1	0.5	0.2	0.7	2
Epitonium sp.	Mollusca	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Macoma yoldiformis	Mollusca	0	0	0	0	2	0.4	1.0	0	2	0.9	0.4	1.1	2
Mactra californica	Mollusca	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Musculista senhousei	Mollusca	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Protothaca staminea	Mollusca	0	1	0	2	2	1.0	1.0	0	2	1.0	0.4	1.3	5
Tagelus subteres	Mollusca	7	2	4	7	7	5.4	4.5	2	7	2.3	1.0	3.0	27
Tellina carpenteri	Mollusca	3	0	1	2	0	1.2	1.5	0	3	1.3	0.6	1.7	6
Theora fragilis	Mollusca	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Acuminodeutopus heteruropus	Crustacea	0	3	1	1	1	1.2	1.5	0	3	1.1	0.5	1.4	6
Asteropella slatteryi	Crustacea	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Bemlos concavus	Crustacea	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Corophium acherusicum/insidiosum	Crustacea	1	2	0	0	0	0.6	1.0	0	2	0.9	0.4	1.1	3
Euphilomedes carcharodonta	Crustacea	1	2	0	3	0	1.2	1.5	0	3	1.3	0.6	1.7	6
Lophopanopeus sp.	Crustacea	0	0	1	0	1	0.4	0.5	0	1	0.5	0.2	0.7	2
Mayerella banksia	Crustacea	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Monoculodes hartmanae	Crustacea	0	0	0	1	1	0.4	0.5	0	1	0.5	0.2	0.7	2
Mysidopsis californica	Crustacea	0	2	0	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2
Paranthura elegans	Crustacea	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Rudilemboides stenopropodus	Crustacea	4	4	0	32	5	9.0	16.0	0	32	13.0	5.8	16.7	45

Serolis carinata	Crustacea		0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Amphiodia sp.	Echinodermata		0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
cucumber	Echinodermata		0	0	0	0	2	0.4	1.0	0	2	0.9	0.4	1.1	2
	TOTAL INDIVIDUALS		66	82	41	99	66	70.8	70.0	41	99	21.5	9.6	27.7	354
	TOTAL SPECIES	49	19	18	18	28	29	22.4	23.5	18	29	5.6	2.5	7.2	112
	TOTAL CRUST. INDIV.		7	13	3	39	9	14.2	21.0	3	39	14.3	6.4	18.4	71
	TOTAL CRUST. SP.	12	4	5	3	6	5	4.6	4.5	3	6	1.1	0.5	1.5	23
	GAMMARID INDIV.		1	5	2	2	2	2.4	3.0	1	5	1.5	0.7	1.9	12
	GAMMARID SP.	4	1	2	2	2	2	1.8	1.5	1	2	0.4	0.2	0.6	9
	OTHER CRUSTACEAN INDIV.		6	8	1	37	7	11.8	19.0	1	37	14.3	6.4	18.4	59
	OTHER CRUSTACEAN SP.	8	3	3	1	4	3	2.8	2.5	1	4	1.1	0.5	1.4	14
	TOTAL ECHINODERM INDIV.		0	0	0	0	3	0.6	1.5	0	3	1.3	0.6	1.7	3
	TOTAL ECHINODERM SP.	2	0	0	0	0	2	0.4	1.0	0	2	0.9	0.4	1.1	2
	TOTAL MOLLUSC INDIV.		10	4	6	13	13	9.2	8.5	4	13	4.1	1.8	5.3	46
	TOTAL MOLLUSC SP.	9	2	3	3	5	5	3.6	3.5	2	5	1.3	0.6	1.7	18
	TOTAL POLYCHAETE INDIV.		33	56	28	37	38	38.4	42.0	28	56	10.6	4.7	13.6	192
	TOTAL POLYCHAETE SP.	22	11	7	10	15	14	11.4	11.0	7	15	3.2	1.4	4.1	57

STANUM	STATION	IDORG	LEG	DATE
85008	NEWPORT BAY (670)	1419	36	09/20/94

SPECIES	TAXA	NO. PER CORE					SUMMARY STATISTICS							
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Capitella capitata	Polychaeta	13	27	18			19.3	20.0	13	27	7.1	4.1	16.0	58
Cirriformia spirabrancha	Polychaeta	14	16	5			11.7	10.5	5	16	5.9	3.4	13.2	35
Exogone cf. verugera	Polychaeta	14	20	13			15.7	16.5	13	20	3.8	2.2	8.5	47
Marphysa sanguinea	Polychaeta	1	3	1			1.7	2.0	1	3	1.2	0.7	2.6	5
Nereis procera	Polychaeta	4	5	1			3.3	3.0	1	5	2.1	1.2	4.7	10
Pseudopolydora paucibranchiata	Polychaeta	99	71	84			84.7	85.0	71	99	14.0	8.1	31.5	254
Streblospio benedicti	Polychaeta	49	96	50			65.0	72.5	49	96	26.9	15.5	60.4	195
nematoda	Nematoda	4	11	20			11.7	12.0	4	20	8.0	4.6	18.0	35
nemertea	Nemertea	0	1	1			0.7	0.5	0	1	0.6	0.3	1.3	2
oligochaeta	Oligochaeta	0	31	7			12.7	15.5	0	31	16.3	9.4	36.6	38
phoronida	Phoronida	4	4	8			5.3	6.0	4	8	2.3	1.3	5.2	16
platyhelminthes	Platyhelminthes	2	1	0			1.0	1.0	0	2	1.0	0.6	2.3	3
Acteocina sp.	Mollusca	8	5	6			6.3	6.5	5	8	1.5	0.9	3.4	19
Cerithidea californica	Mollusca	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Musculista senhousei	Mollusca	29	49	25			34.3	37.0	25	49	12.9	7.4	28.9	103
Odostomia sp.	Mollusca	12	8	11			10.3	10.0	8	12	2.1	1.2	4.7	31

SPECIES	TAXA		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Tagelus subteres	Mollusca		5	14	5			8.0	9.5	5	14	5.2	3.0	11.7	24
Ampithoe valida	Crustacea		58	133	84			91.7	95.5	58	133	38.1	22.0	85.7	275
Corophium acherusicum/insidiosum	Crustacea		16	11	4			10.3	10.0	4	16	6.0	3.5	13.6	31
Grandidierella japonica	Crustacea		176	186	110			157.3	148.0	110	186	41.3	23.8	92.9	472
Monoculodes hartmanae	Crustacea		1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
	TOTAL INDIVIDUALS		509	692	454			551.7	573.0	454	692	124.6	71.9	280.4	1655
	TOTAL SPECIES	21	18	19	19			18.7	18.5	18	19	0.6	0.3	1.3	56
	TOTAL CRUST. INDIV.		251	330	198			259.7	264.0	198	330	66.4	38.4	149.5	779
	TOTAL CRUST. SP.	4	4	3	3			3.3	3.5	3	4	0.6	0.3	1.3	10
	GAMMARID INDIV.		251	330	198			259.7	264.0	198	330	66.4	38.4	149.5	779
	GAMMARID SP.	4	4	3	3			3.3	3.5	3	4	0.6	0.3	1.3	10
	OTHER CRUSTACEAN INDIV.		0	0	0			0.0	0.0	0	0	0.0	0.0	0.0	0
	OTHER CRUSTACEAN SP.	0	0	0	0			0.0	0.0	0	0	0.0	0.0	0.0	0
	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.		54	76	48			59.3	62.0	48	76	14.7	8.5	33.2	178
	TOTAL MOLLUSC SP.	5	4	4	5			4.3	4.5	4	5	0.6	0.3	1.3	13
	TOTAL POLYCHAETE INDIV.		194	238	172			201.3	205.0	172	238	33.6	19.4	75.6	604
	TOTAL POLYCHAETE SP.	7	7	7	7			7.0	7.0	7	7	0.0	0.0	0.0	21

STANUM	STATION	IDORG	LEG	DATE
85009	NEWPORT BAY (705)	1420	36	09/20/94

SPECIES	TAXA	NO. PER CORE					SUMMARY STATISTICS							
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Aphelochaeta cf. parva	Polychaeta	0	0	2	1	0	0.6	1.0	0	2	0.9	0.4	1.1	3
Brania brevipharyngea	Polychaeta	0	3	0	0	0	0.6	1.5	0	3	1.3	0.6	1.7	3
Capitella capitata	Polychaeta	2	1	0	1	0	0.8	1.0	0	2	0.8	0.4	1.1	4
Chone sp.	Polychaeta	1	1	0	0	0	0.4	0.5	0	1	0.5	0.2	0.7	2
Cirriformia spirabrancha	Polychaeta	5	6	5	5	1	4.4	3.5	1	6	1.9	0.9	2.5	22
Dorvillea longicornis	Polychaeta	3	2	3	0	5	2.6	2.5	0	5	1.8	0.8	2.3	13
Exogone cf. verugera	Polychaeta	1	30	4	11	1	9.4	15.5	1	30	12.2	5.5	15.7	47
Fabricinuda limnicola	Polychaeta	6	6	15	8	6	8.2	10.5	6	15	3.9	1.7	5.0	41
Halosydna johnsoni	Polychaeta	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Leitoscoloplos pugettensis	Polychaeta	4	4	4	0	1	2.6	2.0	0	4	1.9	0.9	2.5	13
Marphysa sanguinea	Polychaeta	6	3	2	9	11	6.2	6.5	2	11	3.8	1.7	4.9	31
Marphysa spp. juv.	Polychaeta	2	1	1	2	1	1.4	1.5	1	2	0.5	0.2	0.7	7
Mediomastus californiensis	Polychaeta	2	5	6	8	8	5.8	5.0	2	8	2.5	1.1	3.2	29
Megalomma pigmentum	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1

Nereis procera	Polychaeta		10	8	11	9	15	10.6	11.5	8	15	2.7	1.2	3.5	53
Notomastus tenuis	Polychaeta		0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Paleanotus bellis	Polychaeta		0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Pista cf. alata	Polychaeta		12	7	10	8	13	10.0	10.0	7	13	2.5	1.1	3.3	50
Polyophthalmus pictus	Polychaeta		1	2	0	1	0	0.8	1.0	0	2	0.8	0.4	1.1	4
Prionospio heterobranchia	Polychaeta		2	2	0	2	1	1.4	1.0	0	2	0.9	0.4	1.1	7
Pseudopolydora paucibranchiata	Polychaeta		6	26	11	5	11	11.8	15.5	5	26	8.4	3.8	10.8	59
Scoletoma minima	Polychaeta		1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Scoletoma zonata	Polychaeta		1	1	5	0	2	1.8	2.5	0	5	1.9	0.9	2.5	9
Sphaerosyllis californiensis	Polychaeta		0	5	1	0	0	1.2	2.5	0	5	2.2	1.0	2.8	6
Streblospio benedicti	Polychaeta		0	1	1	0	1	0.6	0.5	0	1	0.5	0.2	0.7	3
Terebella sp.	Polychaeta		1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
nematoda	Nematoda		12	115	4	31	18	36.0	59.5	4	115	45.2	20.2	58.2	180
nemertea	Nemertea		0	1	1	0	0	0.4	0.5	0	1	0.5	0.2	0.7	2
oligochaeta	Oligochaeta		3	7	20	11	13	10.8	11.5	3	20	6.4	2.9	8.3	54
platyhelminthes	Platyhelminthes		2	0	0	0	1	0.6	1.0	0	2	0.9	0.4	1.1	3
Acteocina sp.	Mollusca		3	2	3	0	0	1.6	1.5	0	3	1.5	0.7	1.9	8
Aglaja sp.	Mollusca		0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Bulla gouldiana	Mollusca		1	0	2	0	0	0.6	1.0	0	2	0.9	0.4	1.1	3
Musculista senhousei	Mollusca		13	8	12	26	12	14.2	17.0	8	26	6.9	3.1	8.8	71
Mya arenaria	Mollusca		0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Ampithoe valida	Crustacea		1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Anatanais pseudonormani	Crustacea		0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Bathyleberis = Cylindrolebridae	Crustacea		0	5	2	2	1	2.0	2.5	0	5	1.9	0.8	2.4	10
Elasmopus bampo	Crustacea		4	10	7	5	11	7.4	7.5	4	11	3.0	1.4	3.9	37
Euphilomedes carcharodonta	Crustacea		0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Saeropsis dubia	Crustacea		0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Leptognathia sp. A	Crustacea		0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Mayerella banksia	Crustacea		0	2	3	0	0	1.0	1.5	0	3	1.4	0.6	1.8	5
Monoculodes hartmanae	Crustacea		0	1	0	0	1	0.4	0.5	0	1	0.5	0.2	0.7	2
Paracerceis sculpta	Crustacea		3	0	2	6	1	2.4	3.0	0	6	2.3	1.0	3.0	12
Paranthura elegans	Crustacea		2	2	0	0	0	0.8	1.0	0	2	1.1	0.5	1.4	4
Rudilemboides stenopropodus	Crustacea		0	12	1	0	2	3.0	6.0	0	12	5.1	2.3	6.6	15
Stenothoidae	Crustacea		3	0	1	2	2	1.6	1.5	0	3	1.1	0.5	1.5	8
Amphiodia sp.	Echinodermata		0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
anemone			2	11	0	5	2	4.0	5.5	0	11	4.3	1.9	5.5	20
	TOTAL INDIVIDUALS		116	297	141	159	141	170.8	206.5	116	297	72.2	32.3	92.8	854
	TOTAL SPECIES	50	31	38	29	22	25	29.0	30.0	22	38	6.1	2.7	7.9	145
	TOTAL CRUST. INDIV.		13	35	16	16	18	19.6	24.0	13	35	8.8	3.9	11.3	98

		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
TOTAL CRUST. SP.	13	5	9	6	5	6	6.2	7.0	5	9	1.6	0.7	2.1	31
GAMMARID INDIV.		8	11	8	7	14	9.6	10.5	7	14	2.9	1.3	3.7	48
GAMMARID SP.	4	3	2	2	2	3	2.4	2.5	2	3	0.5	0.2	0.7	12
OTHER CRUSTACEAN INDIV.		5	24	8	9	4	10.0	14.0	4	24	8.1	3.6	10.4	50
OTHER CRUSTACEAN SP.	9	2	7	4	3	3	3.8	4.5	2	7	1.9	0.9	2.5	19
TOTAL ECHINODERM INDIV.		0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
TOTAL ECHINODERM SP.	1	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
TOTAL MOLLUSC INDIV.		17	11	18	26	12	16.8	18.5	11	26	6.0	2.7	7.7	84
TOTAL MOLLUSC SP.	5	3	3	4	1	1	2.4	2.5	1	4	1.3	0.6	1.7	12
TOTAL POLYCHAETE INDIV.		67	116	82	70	77	82.4	91.5	67	116	19.7	8.8	25.3	412
TOTAL POLYCHAETE SP.	26	19	21	16	13	14	16.6	17.0	13	21	3.4	1.5	4.3	83

STANUM	STATION	IDORG	LEG	DATE
85010	NEWPORT BAY (819)	1421	36	09/19/94

SPECIES	TAXA		NO. PER CORE					SUMMARY STATISTICS							
			rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Capitella capitata	Polychaeta		0	0	3	0	0	0.6	1.5	0	3	1.3	0.6	1.7	3
Cirriformia spirabrancha	Polychaeta		0	0	27	0	0	5.4	13.5	0	27	12.1	5.4	15.5	27
Exogone cf. verugera	Polychaeta		0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Marphysa sanguinea	Polychaeta		0	0	0	2	0	0.4	1.0	0	2	0.9	0.4	1.1	2
Nereis procera	Polychaeta		0	0	17	0	0	3.4	8.5	0	17	7.6	3.4	9.8	17
Scoletoma zonata	Polychaeta		0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
nematoda	Nematoda		0	44	147	1	0	38.4	73.5	0	147	63.6	28.4	81.7	192
oligochaeta	Oligochaeta		1	8	183	3	0	39.0	91.5	0	183	80.6	36.0	103.6	195
Odostomia sp.	Mollusca		4	0	0	8	7	3.8	4.0	0	8	3.8	1.7	4.8	19
Ampithoe valida	Crustacea		0	0	1	1	0	0.4	0.5	0	1	0.5	0.2	0.7	2
Corophium acherusicum/insidiosum	Crustacea		0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Elasmopus bampo	Crustacea		0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Nebalia pugettensis	Crustacea		1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Paracerceis sculpta	Crustacea		1	0	1	1	1	0.8	0.5	0	1	0.4	0.2	0.6	4
Paranthura elegans	Crustacea		0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
fish			0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
	TOTAL INDIVIDUALS		7	52	383	18	8	93.6	195.0	7	383	162.8	72.8	209.3	468
	TOTAL SPECIES	16	4	2	11	8	2	5.4	6.5	2	11	4.0	1.8	5.1	27
	TOTAL CRUST. INDIV.		2	0	4	3	1	2.0	2.0	0	4	1.6	0.7	2.0	10
	TOTAL CRUST. SP.	6	2	0	4	3	1	2.0	2.0	0	4	1.6	0.7	2.0	10
	GAMMARID INDIV.		0	0	2	2	0	0.8	1.0	0	2	1.1	0.5	1.4	4
	GAMMARID SP.	3	0	0	2	2	0	0.8	1.0	0	2	1.1	0.5	1.4	4

		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
OTHER CRUSTACEAN INDIV.		2	0	2	1	1	1.2	1.0	0	2	0.8	0.4	1.1	6
OTHER CRUSTACEAN SP.	3	2	0	2	1	1	1.2	1.0	0	2	0.8	0.4	1.1	6
TOTAL ECHINODERM INDIV.		0	0	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	0.0	0
TOTAL MOLLUSC INDIV.		4	0	0	8	7	3.8	4.0	0	8	3.8	1.7	4.8	19
TOTAL MOLLUSC SP.	1	1	0	0	1	1	0.6	0.5	0	1	0.5	0.2	0.7	3
TOTAL POLYCHAETE INDIV.		0	0	49	2	0	10.2	24.5	0	49	21.7	9.7	27.9	51
TOTAL POLYCHAETE SP.	6	0	0	5	1	0	1.2	2.5	0	5	2.2	1.0	2.8	6

STANUM	STATION	IDORG	LEG	DATE
85011	NEWPORT BAY (905)	1422	36	09/20/94

SPECIES	TAXA		NO. PER CORE					SUMMARY STATISTICS							
			rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Capitella capitata	Polychaeta		20	72	1	21	65	35.8	36.5	1	72	31.0	13.9	39.8	179
Exogone cf. verugera	Polychaeta		0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Polydora cornuta	Polychaeta		3	1	0	2	3	1.8	1.5	0	3	1.3	0.6	1.7	9
Polydora nuchalis	Polychaeta		50	13	0	31	38	26.4	25.0	0	50	19.9	8.9	25.6	132
Streblospio benedicti	Polychaeta		96	17	1	55	52	44.2	48.5	1	96	37.0	16.5	47.5	221
nematoda	Nematoda		0	0	0	1	3	0.8	1.5	0	3	1.3	0.6	1.7	4
oligochaeta	Oligochaeta		42	12	1	11	101	33.4	51.0	1	101	40.8	18.2	52.4	167
Acteocina sp.	Mollusca		7	14	4	3	18	9.2	10.5	3	18	6.5	2.9	8.4	46
Musculista senhousei	Mollusca		0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Odostomia sp.	Mollusca		30	288	30	24	118	98.0	156.0	24	288	113.2	50.6	145.5	490
Ostreidae	Mollusca		0	0	0	0	4	0.8	2.0	0	4	1.8	0.8	2.3	4
Tagelus subteres	Mollusca		1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Ampithoe valida	Crustacea		1	1	2	0	0	0.8	1.0	0	2	0.8	0.4	1.1	4
Corophium acherusicum/insidiosum	Crustacea		0	2	2	1	2	1.4	1.0	0	2	0.9	0.4	1.1	7
Grandidierella japonica	Crustacea		1	35	12	7	36	18.2	18.5	1	36	16.3	7.3	20.9	91
Pontogeneia rostrata	Crustacea		0	15	1	0	1	3.4	7.5	0	15	6.5	2.9	8.4	17
	TOTAL INDIVIDUALS		251	471	54	156	442	274.8	262.5	54	471	180.2	80.6	231.6	1374
	TOTAL SPECIES	16	10	12	9	10	13	10.8	11.0	9	13	1.6	0.7	2.1	54
	TOTAL CRUST. INDIV.		2	53	17	8	39	23.8	27.5	2	53	21.5	9.6	27.7	119
	TOTAL CRUST. SP.	4	2	4	4	2	3	3.0	3.0	2	4	1.0	0.4	1.3	15
	GAMMARID INDIV.		2	53	17	8	39	23.8	27.5	2	53	21.5	9.6	27.7	119
	GAMMARID SP.	4	2	4	4	2	3	3.0	3.0	2	4	1.0	0.4	1.3	15
	OTHER CRUSTACEAN INDIV.		0	0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
	OTHER CRUSTACEAN SP.	0	0	0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
	TOTAL ECHINODERM INDIV.		0	0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0

SPECIES	TAXA		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
	TOTAL ECHINODERM SP.	0	0	0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
	TOTAL MOLLUSC INDIV.		38	302	34	27	141	108.4	164.5	27	302	118.0	52.8	151.6	542
	TOTAL MOLLUSC SP.	5	3	2	2	2	4	2.6	3.0	2	4	0.9	0.4	1.1	13
	TOTAL POLYCHAETE INDIV.		169	104	2	109	158	108.4	85.5	2	169	66.1	29.6	85.0	542
	TOTAL POLYCHAETE SP.	5	4	5	2	4	4	3.8	3.5	2	5	1.1	0.5	1.4	19

STANUM	STATION	IDORG	LEG	DATE
85012	NEWPORT BAY (1064)	1423	36	09/19/94

SPECIES	TAXA		NO. PER CORE					SUMMARY STATISTICS							
			rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Capitella capitata	Polychaeta		15	38	13			22.0	25.5	13	38	13.9	8.0	31.3	66
Cirriformia spirabrancha	Polychaeta		8	5	6			6.3	6.5	5	8	1.5	0.9	3.4	19
Exogone cf. verugera	Polychaeta		0	3	0			1.0	1.5	0	3	1.7	1.0	3.9	3
Nereis procera	Polychaeta		6	14	9			9.7	10.0	6	14	4.0	2.3	9.1	29
Polydora cornuta	Polychaeta		5	4	0			3.0	2.5	0	5	2.6	1.5	6.0	9
Pseudopolydora paucibranchiata	Polychaeta		3	3	1			2.3	2.0	1	3	1.2	0.7	2.6	7
Streblospio benedicti	Polychaeta		0	2	0			0.7	1.0	0	2	1.2	0.7	2.6	2
phoronida	Phoronida		2	1	2			1.7	1.5	1	2	0.6	0.3	1.3	5
Musculista senhousei	Mollusca		0	0	3			1.0	1.5	0	3	1.7	1.0	3.9	3
Ampithoe valida	Crustacea		0	6	0			2.0	3.0	0	6	3.5	2.0	7.8	6
Corophium acherusicum/insidiosum	Crustacea		0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Grandidierella japonica	Crustacea		0	8	5			4.3	4.0	0	8	4.0	2.3	9.1	13
Paracerceis sculpta	Crustacea		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Pontogeneia rostrata	Crustacea		0	2	0			0.7	1.0	0	2	1.2	0.7	2.6	2
	TOTAL INDIVIDUALS		39	87	40			55.3	63.0	39	87	27.4	15.8	61.7	166
	TOTAL SPECIES	14	6	12	8			8.7	9.0	6	12	3.1	1.8	6.9	26
	TOTAL CRUST. INDIV.		0	17	6			7.7	8.5	0	17	8.6	5.0	19.4	23
	TOTAL CRUST. SP.	5	0	4	2			2.0	2.0	0	4	2.0	1.2	4.5	6
	GAMMARID INDIV.		0	17	5			7.3	8.5	0	17	8.7	5.0	19.7	22
	GAMMARID SP.	4	0	4	1			1.7	2.0	0	4	2.1	1.2	4.7	5
	OTHER CRUSTACEAN INDIV.		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
	OTHER CRUSTACEAN SP.	1	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
	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	0	3			1.0	1.5	0	3	1.7	1.0	3.9	3
	TOTAL MOLLUSC SP.	1	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
	TOTAL POLYCHAETE INDIV.		37	69	29			45.0	49.0	29	69	21.2	12.2	47.6	135
	TOTAL POLYCHAETE SP.	7	5	7	4			5.3	5.5	4	7	1.5	0.9	3.4	16

STANUM	STATION	IDORG	LEG	DATE
85013	NEWPORT BAY (RHINE CHANNEL)	1424	36	09/19/94

SPECIES	TAXA		NO. PER CORE rep 1	rep 2	rep 3	rep 4	rep 5	SUMMARY STATISTICS mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Aphelochaeta cf. parva	Polychaeta		1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Capitella capitata	Polychaeta		7	7	16			10.0	11.5	7	16	5.2	3.0	11.7	30
Cirriformia spirabrancha	Polychaeta		0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Exogone molesta	Polychaeta		5	6	6			5.7	5.5	5	6	0.6	0.3	1.3	17
Marphysa sanquinea	Polychaeta		7	2	2			3.7	4.5	2	7	2.9	1.7	6.5	11
Marphysa spp. juv.	Polychaeta		3	0	3			2.0	1.5	0	3	1.7	1.0	3.9	6
Nereis procera	Polychaeta		2	8	11			7.0	6.5	2	11	4.6	2.6	10.3	21
Polydora cornuta	Polychaeta		12	10	36			19.3	23.0	10	36	14.5	8.4	32.6	58
Pseudopolydora paucibranchiata	Polychaeta		4	20	7			10.3	12.0	4	20	8.5	4.9	19.1	31
Streblospio benedicti	Polychaeta		10	82	46			46.0	46.0	10	82	36.0	20.8	81.0	138
nematoda	Nematoda		51	5	66			40.7	35.5	5	66	31.8	18.4	71.5	122
oligochaeta	Oligochaeta		216	89	271			192.0	180.0	89	271	93.3	53.9	210.0	576
phoronida	Phoronida		1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Acteocina sp.	Mollusca		0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Musculista senhousei	Mollusca		27	6	0			11.0	13.5	0	27	14.2	8.2	31.9	33
Ampithoe valida	Crustacea		65	70	157			97.3	111.0	65	157	51.7	29.9	116.4	292
Anatanais pseudonormani	Crustacea		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Bemlos macromanus	Crustacea		8	0	1			3.0	4.0	0	8	4.4	2.5	9.8	9
Corophium acherusicum/insidiosum	Crustacea		7	7	10			8.0	8.5	7	10	1.7	1.0	3.9	24
Elasmopus bampo	Crustacea		2	0	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Grandidierella japonica	Crustacea		34	28	71			44.3	49.5	28	71	23.3	13.4	52.4	133
Saeropsis dubia	Crustacea		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Leptognathia sp. A	Crustacea		1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Monoculodes hartmanae	Crustacea		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Mysidopsis californica	Crustacea		1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Paracerceis sculpta	Crustacea		12	10	12			11.3	11.0	10	12	1.2	0.7	2.6	34
Photis sp.	Crustacea		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Pleustidae	Crustacea		2	0	1			1.0	1.0	0	2	1.0	0.6	2.3	3
Podocerus cristatus	Crustacea		2	4	1			2.3	2.5	1	4	1.5	0.9	3.4	7
Pontogeneia rostrata	Crustacea		0	8	2			3.3	4.0	0	8	4.2	2.4	9.4	10
	TOTAL INDIVIDUALS		480	364	723			522.3	543.5	364	723	183.2	105.8	412.2	1567
	TOTAL SPECIES	30	23	18	22			21.0	20.5	18	23	2.6	1.5	6.0	63
	TOTAL CRUST. INDIV.		134	127	259			173.3	193.0	127	259	74.3	42.9	167.1	520

TOTAL CRUST. SP.	15	10	6	12			9.3	9.0	6	12	3.1	1.8	6.9	28
GAMMARID INDIV.		120	117	245			160.7	181.0	117	245	73.1	42.2	164.4	482
GAMMARID SP.	10	7	5	9			7.0	7.0	5	9	2.0	1.2	4.5	21
OTHER CRUSTACEAN INDIV.		14	10	14			12.7	12.0	10	14	2.3	1.3	5.2	38
OTHER CRUSTACEAN SP.	5	3	1	3			2.3	2.0	1	3	1.2	0.7	2.6	7
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.		27	7	0			11.3	13.5	0	27	14.0	8.1	31.5	34
TOTAL MOLLUSC SP.	2	1	2	0			1.0	1.0	0	2	1.0	0.6	2.3	3
TOTAL POLYCHAETE INDIV.		51	136	127			104.7	93.5	51	136	46.7	27.0	105.1	314
TOTAL POLYCHAETE SP.	10	9	8	8			8.3	8.5	8	9	0.6	0.3	1.3	25

STANUM	STATION	IDORG	LEG	DATE
85014	NEWPORT BAY (NEWPORT ISLAND)	1425	36	09/19/94

SPECIES	TAXA	NO. PER CORE					SUMMARY STATISTICS							
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Aphelochaeta cf. parva	Polychaeta	3	2	5			3.3	3.5	2	5	1.5	0.9	3.4	10
Aphelochaeta sp.	Polychaeta	0	1	1			0.7	0.5	0	1	0.6	0.3	1.3	2
Chaetozone sp. juv.	Polychaeta	2	0	2			1.3	1.0	0	2	1.2	0.7	2.6	4
Cirratulus cirratus	Polychaeta	1	1	1			1.0	1.0	1	1	0.0	0.0	0.0	3
Cirriformia spirabrancha	Polychaeta	10	12	10			10.7	11.0	10	12	1.2	0.7	2.6	32
Cossura pygodactylata	Polychaeta	0	1	1			0.7	0.5	0	1	0.6	0.3	1.3	2
Cossura sp. A	Polychaeta	1	1	1			1.0	1.0	1	1	0.0	0.0	0.0	3
Dorvillea longicornis	Polychaeta	10	10	13			11.0	11.5	10	13	1.7	1.0	3.9	33
Euchone limnicola	Polychaeta	9	22	7			12.7	14.5	7	22	8.1	4.7	18.3	38
Exogone lourei	Polychaeta	5	6	0			3.7	3.0	0	6	3.2	1.9	7.2	11
Fabricinuda limnicola	Polychaeta	1	20	14			11.7	10.5	1	20	9.7	5.6	21.9	35
Leitoscoloplos pugettensis	Polychaeta	1	7	6			4.7	4.0	1	7	3.2	1.9	7.2	14
Mediomastus californiensis	Polychaeta	3	8	2			4.3	5.0	2	8	3.2	1.9	7.2	13
Mediomastus sp.	Polychaeta	2	1	0			1.0	1.0	0	2	1.0	0.6	2.3	3
Megalomma pigmentum	Polychaeta	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Nereis procera	Polychaeta	0	1	4			1.7	2.0	0	4	2.1	1.2	4.7	5
Nephtys cornuta	Polychaeta	1	2	1			1.3	1.5	1	2	0.6	0.3	1.3	4
Pherusa capulata	Polychaeta	0	3	0			1.0	1.5	0	3	1.7	1.0	3.9	3
Pista cf. alata	Polychaeta	0	0	2			0.7	1.0	0	2	1.2	0.7	2.6	2
Pista spp. juv.	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Polyophthalmus pictus	Polychaeta	0	2	1			1.0	1.0	0	2	1.0	0.6	2.3	3
Prionospio heterobranchia	Polychaeta	11	1	3			5.0	6.0	1	11	5.3	3.1	11.9	15

Pseudopolydora paucibranchiata	Polychaeta		32	15	13	20.0	22.5	13	32	10.4	6.0	23.5	60
Scolelepis quequindentata	Polychaeta		2	0	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Scoletoma minima	Polychaeta		3	5	2	3.3	3.5	2	5	1.5	0.9	3.4	10
Scoletoma zonata	Polychaeta		2	3	4	3.0	3.0	2	4	1.0	0.6	2.3	9
nematoda	Nematoda		26	23	22	23.7	24.0	22	26	2.1	1.2	4.7	71
nemertea	Nemertea		1	1	1	1.0	1.0	1	1	0.0	0.0	0.0	3
oligochaeta	Oligochaeta		2	3	5	3.3	3.5	2	5	1.5	0.9	3.4	10
Bulla gouldiana	Mollusca		3	0	0	1.0	1.5	0	3	1.7	1.0	3.9	3
Musculista senhousei	Mollusca		5	7	5	5.7	6.0	5	7	1.2	0.7	2.6	17
Odostomia sp.	Mollusca		52	0	1	17.7	26.0	0	52	29.7	17.2	66.9	53
Acuminodeutopus heteruropus	Crustacea		10	14	0	8.0	7.0	0	14	7.2	4.2	16.2	24
Anatanais pseudonormani	Crustacea		2	0	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Bathyleberis = Cylindrolebridae	Crustacea		1	2	2	1.7	1.5	1	2	0.6	0.3	1.3	5
Elasmopus bampo	Crustacea		0	4	2	2.0	2.0	0	4	2.0	1.2	4.5	6
Eobrolgus spinosus	Crustacea		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Euphilomedes carcharodonta	Crustacea		0	4	0	1.3	2.0	0	4	2.3	1.3	5.2	4
Grandidierella japonica	Crustacea		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Mayerella banksia	Crustacea		2	1	4	2.3	2.5	1	4	1.5	0.9	3.4	7
Paracerceis sculpta	Crustacea		3	1	0	1.3	1.5	0	3	1.5	0.9	3.4	4
Paranthura elegans	Crustacea		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
	TOTAL INDIVIDUALS		207	186	137	176.7	172.0	137	207	35.9	20.7	80.8	530
	TOTAL SPECIES	42	30	33	30	31.0	31.5	30	33	1.7	1.0	3.9	93
	TOTAL CRUST. INDIV.		18	28	9	18.3	18.5	9	28	9.5	5.5	21.4	55
	TOTAL CRUST. SP.	10	5	8	4	5.7	6.0	4	8	2.1	1.2	4.7	17
	GAMMARID INDIV.		10	19	3	10.7	11.0	3	19	8.0	4.6	18.0	32
	GAMMARID SP.	4	1	3	2	2.0	2.0	1	3	1.0	0.6	2.3	6
	OTHER CRUSTACEAN INDIV.		8	9	6	7.7	7.5	6	9	1.5	0.9	3.4	23
	OTHER CRUSTACEAN SP.	6	4	5	2	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.		60	7	6	24.3	33.0	6	60	30.9	17.8	69.5	73
	TOTAL MOLLUSC SP.	3	3	1	2	2.0	2.0	1	3	1.0	0.6	2.3	6
	TOTAL POLYCHAETE INDIV.		100	124	94	106.0	109.0	94	124	15.9	9.2	35.7	318
	TOTAL POLYCHAETE SP.	26	19	21	21	20.3	20.0	19	21	1.2	0.7	2.6	61

Benthic Community Data

STANUM	STATION	IDORG	LEG	DATE
85015	NEWPORT BAY (ARCHES S. DRAINS)	1426	36	09/19/94

SPECIES	TAXA	rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
		NO. PER CORE					SUMMARY STATISTICS							
Aphelochaeta cf. parva	Polychaeta	1	3	4			2.7	2.5	1	4	1.5	0.9	3.4	8
Brania brevipharyngea	Polychaeta	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Carazziella califia	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Chaetozone sp. juv.	Polychaeta	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Cirratulus cirratus	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Cirriformia spirabrancha	Polychaeta	2	0	5			2.3	2.5	0	5	2.5	1.5	5.7	7
Cossura sp. A	Polychaeta	5	0	5			3.3	2.5	0	5	2.9	1.7	6.5	10
Euchone limnicola	Polychaeta	0	1	1			0.7	0.5	0	1	0.6	0.3	1.3	2
Exogone lourei	Polychaeta	3	5	0			2.7	2.5	0	5	2.5	1.5	5.7	8
Fabricinuda limnicola	Polychaeta	4	10	5			6.3	7.0	4	10	3.2	1.9	7.2	19
Harmothoe sp.	Polychaeta	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Leitoscoloplos puggetensis	Polychaeta	16	13	10			13.0	13.0	10	16	3.0	1.7	6.8	39
Mediomastus californiensis	Polychaeta	4	20	6			10.0	12.0	4	20	8.7	5.0	19.6	30
Mediomastus sp.	Polychaeta	6	5	2			4.3	4.0	2	6	2.1	1.2	4.7	13
Pista cf. alata	Polychaeta	0	0	2			0.7	1.0	0	2	1.2	0.7	2.6	2
Prionospio heterobranchia	Polychaeta	0	3	0			1.0	1.5	0	3	1.7	1.0	3.9	3
Prionospio lighti	Polychaeta	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Pseudopolydora paucibranchiata	Polychaeta	3	0	0			1.0	1.5	0	3	1.7	1.0	3.9	3
Scoletoma zonata	Polychaeta	4	10	12			8.7	8.0	4	12	4.2	2.4	9.4	26
Scyphoproctus oculatus	Polychaeta	0	0	2			0.7	1.0	0	2	1.2	0.7	2.6	2
Sphaerosyllis californiensis	Polychaeta	1	1	1			1.0	1.0	1	1	0.0	0.0	0.0	3
nematoda	Nematoda	3	2	6			3.7	4.0	2	6	2.1	1.2	4.7	11
nemertea	Nemertea	1	0	2			1.0	1.0	0	2	1.0	0.6	2.3	3
oligochaeta	Oligochaeta	1	1	1			1.0	1.0	1	1	0.0	0.0	0.0	3
phoronida	Phoronida	6	4	19			9.7	11.5	4	19	8.1	4.7	18.3	29
Donax sp.	Mollusca	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Laevicardium substriatum	Mollusca	2	3	0			1.7	1.5	0	3	1.5	0.9	3.4	5
Musculista senhousei	Mollusca	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Musculus sp.	Mollusca	1	1	0			0.7	0.5	0	1	0.6	0.3	1.3	2
Mya arenaria	Mollusca	0	0	3			1.0	1.5	0	3	1.7	1.0	3.9	3
Protothaca staminea	Mollusca	1	0	2			1.0	1.0	0	2	1.0	0.6	2.3	3
Tagelus subteres	Mollusca	10	13	29			17.3	19.5	10	29	10.2	5.9	23.0	52
Tapes philippinarum	Mollusca	4	0	3			2.3	2.0	0	4	2.1	1.2	4.7	7
Amphideutopus oculatus	Crustacea	39	9	10			19.3	24.0	9	39	17.0	9.8	38.3	58

Anatanais pseudonormani	Crustacea		3	0	1			1.3	1.5	0	3	1.5	0.9	3.4	4
Bathyleberis = Cylindrolebridae	Crustacea		2	2	0			1.3	1.0	0	2	1.2	0.7	2.6	4
Corophium acherusicum/insidiosum	Crustacea		8	0	2			3.3	4.0	0	8	4.2	2.4	9.4	10
Elasmopus bampo	Crustacea		1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Euphilomedes carcharodonta	Crustacea		18	20	2			13.3	11.0	2	20	9.9	5.7	22.2	40
Grandidierella japonica	Crustacea		0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Mayerella banksia	Crustacea		14	8	3			8.3	8.5	3	14	5.5	3.2	12.4	25
Monoculodes hartmanae	Crustacea		2	3	0			1.7	1.5	0	3	1.5	0.9	3.4	5
Paranthura elegans	Crustacea		3	0	2			1.7	1.5	0	3	1.5	0.9	3.4	5
Photis sp.	Crustacea		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Rudilemboides stenopropodus	Crustacea		32	40	26			32.7	33.0	26	40	7.0	4.1	15.8	98
pycnogonid	Arachnida		1	0	3			1.3	1.5	0	3	1.5	0.9	3.4	4
	TOTAL INDIVIDUALS		204	181	172			185.7	188.0	172	204	16.5	9.5	37.1	557
	TOTAL SPECIES	46	34	26	31			30.3	30.0	26	34	4.0	2.3	9.1	91
	TOTAL CRUST. INDIV.		122	83	47			84.0	84.5	47	122	37.5	21.7	84.4	252
	TOTAL CRUST. SP.	12	10	7	8			8.3	8.5	7	10	1.5	0.9	3.4	25
	GAMMARID INDIV.		50	13	13			25.3	31.5	13	50	21.4	12.3	48.1	76
	GAMMARID SP.	6	4	3	3			3.3	3.5	3	4	0.6	0.3	1.3	10
	OTHER CRUSTACEAN INDIV.		72	70	34			58.7	53.0	34	72	21.4	12.3	48.1	176
	OTHER CRUSTACEAN SP.	6	6	4	5			5.0	5.0	4	6	1.0	0.6	2.3	15
	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.		19	18	37			24.7	27.5	18	37	10.7	6.2	24.1	74
	TOTAL MOLLUSC SP.	8	6	4	4			4.7	5.0	4	6	1.2	0.7	2.6	14
	TOTAL POLYCHAETE INDIV.		51	73	57			60.3	62.0	51	73	11.4	6.6	25.6	181
	TOTAL POLYCHAETE SP.	21	13	12	14			13.0	13.0	12	14	1.0	0.6	2.3	39

STANUM	STATION	IDORG	LEG	DATE
85016	NEWPORT BAY (YACHTMANS COVE)	1427	36	09/20/94

SPECIES	TAXA	NO. PER CORE					SUMMARY STATISTICS							
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Aphelochaeta cf. parva	Polychaeta	14	22	22			19.3	18.0	14	22	4.6	2.7	10.4	58
Cirriformia spirabrancha	Polychaeta	2	0	9			3.7	4.5	0	9	4.7	2.7	10.6	11
Cossura sp. A	Polychaeta	14	15	44			24.3	29.0	14	44	17.0	9.8	38.3	73
Diplocirrus sp.	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Dorvillea longicornis	Polychaeta	2	0	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Euchone limnicola	Polychaeta	8	0	13			7.0	6.5	0	13	6.6	3.8	14.8	21
Fabricinuda limnicola	Polychaeta	1	8	0			3.0	4.0	0	8	4.4	2.5	9.8	9

Leitoscoloplos pugettensis	Polychaeta		13	15	6	11.3	10.5	6	15	4.7	2.7	10.6	34
Mediomastus californiensis	Polychaeta		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Mediomastus sp.	Polychaeta		0	2	2	1.3	1.0	0	2	1.2	0.7	2.6	4
Nereis procera	Polychaeta		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Nephtys cornuta	Polychaeta		2	0	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Prionospio heterobranchia	Polychaeta		4	2	5	3.7	3.5	2	5	1.5	0.9	3.4	11
Pseudopolydora paucibranchiata	Polychaeta		23	19	50	30.7	34.5	19	50	16.9	9.7	37.9	92
Scoletoma minima	Polychaeta		2	2	1	1.7	1.5	1	2	0.6	0.3	1.3	5
Scoletoma zonata	Polychaeta		12	4	5	7.0	8.0	4	12	4.4	2.5	9.8	21
phoronida	Phoronida		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Acteocina sp.	Mollusca		3	0	1	1.3	1.5	0	3	1.5	0.9	3.4	4
Musculista senhousei	Mollusca		0	2	2	1.3	1.0	0	2	1.2	0.7	2.6	4
Odostomia sp.	Mollusca		0	2	1	1.0	1.0	0	2	1.0	0.6	2.3	3
Protothaca staminea	Mollusca		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Tagelus subteres	Mollusca		0	0	2	0.7	1.0	0	2	1.2	0.7	2.6	2
Acuminodeutopus heteruropus	Crustacea		8	0	2	3.3	4.0	0	8	4.2	2.4	9.4	10
Anatanais pseudonormani	Crustacea		2	0	1	1.0	1.0	0	2	1.0	0.6	2.3	3
Bathyleberis = Cylindrolebridae	Crustacea		6	2	2	3.3	4.0	2	6	2.3	1.3	5.2	10
Corophium acherusicum/insidiosum	Crustacea		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Eobrolgus spinosus	Crustacea		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Euphilomedes carcharodonta	Crustacea		20	24	10	18.0	17.0	10	24	7.2	4.2	16.2	54
Leptognathia sp. A	Crustacea		2	0	1	1.0	1.0	0	2	1.0	0.6	2.3	3
Mayerella banksia	Crustacea		1	2	1	1.3	1.5	1	2	0.6	0.3	1.3	4
Melphisiana bola	Crustacea		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Monoculodes hartmanae	Crustacea		0	1	1	0.7	0.5	0	1	0.6	0.3	1.3	2
Paracerceis sculpta	Crustacea		1	1	1	1.0	1.0	1	1	0.0	0.0	0.0	3
Paranthura elegans	Crustacea		1	1	3	1.7	2.0	1	3	1.2	0.7	2.6	5
Rudilemboides stenopropodus	Crustacea		13	12	14	13.0	13.0	12	14	1.0	0.6	2.3	39
	TOTAL INDIVIDUALS		156	137	204	165.7	170.5	137	204	34.5	19.9	77.7	497
	TOTAL SPECIES	35	24	19	29	24.0	24.0	19	29	5.0	2.9	11.3	72
	TOTAL CRUST. INDIV.		55	43	38	45.3	46.5	38	55	8.7	5.0	19.7	136
	TOTAL CRUST. SP.	13	10	7	12	9.7	9.5	7	12	2.5	1.5	5.7	29
	GAMMARID INDIV.		9	1	5	5.0	5.0	1	9	4.0	2.3	9.0	15
	GAMMARID SP.	5	2	1	4	2.3	2.5	1	4	1.5	0.9	3.4	7
	OTHER CRUSTACEAN INDIV.		46	42	33	40.3	39.5	33	46	6.7	3.8	15.0	121
	OTHER CRUSTACEAN SP.	8	8	6	8	7.3	7.0	6	8	1.2	0.7	2.6	22
	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	4	7	4.7	5.0	3	7	2.1	1.2	4.7	14

		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
TOTAL MOLLUSC SP.	5	1	2	5			2.7	3.0	1	5	2.1	1.2	4.7	8
TOTAL POLYCHAETE INDIV.		98	89	159			115.3	124.0	89	159	38.1	22.0	85.7	346
TOTAL POLYCHAETE SP.	16	13	9	12			11.3	11.0	9	13	2.1	1.2	4.7	34

STANUM	STATION	IDORG	LEG	DATE
85017	NEWPORT BAY (UNIT II BASIN)	1428	36	09/19/94

SPECIES	TAXA	NO. PER CORE					SUMMARY STATISTICS							
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Aphelochaeta cf. parva	Polychaeta	11	8	6			8.3	8.5	6	11	2.5	1.5	5.7	25
Aphelochaeta sp.	Polychaeta	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Chaetozone sp. juv.	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Cirratulus cirratus	Polychaeta	2	4	1			2.3	2.5	1	4	1.5	0.9	3.4	7
Cirriformia spirabrancha	Polychaeta	7	11	7			8.3	9.0	7	11	2.3	1.3	5.2	25
Cossura candida	Polychaeta	7	5	0			4.0	3.5	0	7	3.6	2.1	8.1	12
Cossura pygodactylata	Polychaeta	0	2	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Cossura sp. A	Polychaeta	2	2	3			2.3	2.5	2	3	0.6	0.3	1.3	7
Diplocirrus sp.	Polychaeta	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Dorvillea longicornis	Polychaeta	6	4	4			4.7	5.0	4	6	1.2	0.7	2.6	14
Euchone limnicola	Polychaeta	2	9	5			5.3	5.5	2	9	3.5	2.0	7.9	16
Exogone lourei	Polychaeta	17	3	8			9.3	10.0	3	17	7.1	4.1	16.0	28
Fabricinuda limnicola	Polychaeta	10	4	1			5.0	5.5	1	10	4.6	2.6	10.3	15
Leitoscoloplos pugettensis	Polychaeta	9	3	13			8.3	8.0	3	13	5.0	2.9	11.3	25
Mediomastus californiensis	Polychaeta	7	4	8			6.3	6.0	4	8	2.1	1.2	4.7	19
Mediomastus sp.	Polychaeta	2	0	2			1.3	1.0	0	2	1.2	0.7	2.6	4
Nephtys cornuta	Polychaeta	4	0	1			1.7	2.0	0	4	2.1	1.2	4.7	5
Prionospio heterobranchia	Polychaeta	2	3	4			3.0	3.0	2	4	1.0	0.6	2.3	9
Pseudopolydora paucibranchiata	Polychaeta	81	28	27			45.3	54.0	27	81	30.9	17.8	69.5	136
Scoletoma minima	Polychaeta	1	0	7			2.7	3.5	0	7	3.8	2.2	8.5	8
Scoletoma zonata	Polychaeta	9	13	11			11.0	11.0	9	13	2.0	1.2	4.5	33
Sphaerosyllis californiensis	Polychaeta	2	0	1			1.0	1.0	0	2	1.0	0.6	2.3	3
nematoda	Nematoda	23	4	5			10.7	13.5	4	23	10.7	6.2	24.1	32
nemertea	Nemertea	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
oligochaeta	Oligochaeta	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Bulla gouldiana	Mollusca	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Musculista senhousei	Mollusca	4	0	0			1.3	2.0	0	4	2.3	1.3	5.2	4
Mya arenaria	Mollusca	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Tagelus subteres	Mollusca	1	1	0			0.7	0.5	0	1	0.6	0.3	1.3	2
Tapes philippinarum	Mollusca	1	0	1			0.7	0.5	0	1	0.6	0.3	1.3	2

Acuminodeutopus heteruropus	Crustacea		16	0	0	5.3	8.0	0	16	9.2	5.3	20.8	16
Amphideutopus oculatus	Crustacea		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Anatanais pseudonormani	Crustacea		45	5	8	19.3	25.0	5	45	22.3	12.9	50.1	58
Bathyleberis = Cylindrolebridae	Crustacea		1	0	2	1.0	1.0	0	2	1.0	0.6	2.3	3
Euphilomedes carcharodonta	Crustacea		0	1	2	1.0	1.0	0	2	1.0	0.6	2.3	3
Mayerella banksia	Crustacea		2	0	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Melphisiana bola	Crustacea		3	0	0	1.0	1.5	0	3	1.7	1.0	3.9	3
Paracerceis sculpta	Crustacea		1	0	1	0.7	0.5	0	1	0.6	0.3	1.3	2
Paranthura elegans	Crustacea		8	1	0	3.0	4.0	0	8	4.4	2.5	9.8	9
Rudilemboides stenopropodus	Crustacea		42	13	5	20.0	23.5	5	42	19.5	11.2	43.8	60
	TOTAL INDIVIDUALS		333	129	135	199.0	231.0	129	333	116.1	67.0	261.2	597
	TOTAL SPECIES	40	35	22	26	27.7	28.5	22	35	6.7	3.8	15.0	83
	TOTAL CRUST. INDIV.		118	21	18	52.3	68.0	18	118	56.9	32.8	128.0	157
	TOTAL CRUST. SP.	10	8	5	5	6.0	6.5	5	8	1.7	1.0	3.9	18
	GAMMARID INDIV.		19	1	0	6.7	9.5	0	19	10.7	6.2	24.1	20
	GAMMARID SP.	3	2	1	0	1.0	1.0	0	2	1.0	0.6	2.3	3
	OTHER CRUSTACEAN INDIV.		99	20	18	45.7	58.5	18	99	46.2	26.7	103.9	137
	OTHER CRUSTACEAN SP.	7	6	4	5	5.0	5.0	4	6	1.0	0.6	2.3	15
	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.		7	1	2	3.3	4.0	1	7	3.2	1.9	7.2	10
	TOTAL MOLLUSC SP.	5	4	1	2	2.3	2.5	1	4	1.5	0.9	3.4	7
	TOTAL POLYCHAETE INDIV.		183	103	110	132.0	143.0	103	183	44.3	25.6	99.7	396
	TOTAL POLYCHAETE SP.	22	20	15	18	17.7	17.5	15	20	2.5	1.5	5.7	53

STANUM	STATION	IDORG	LEG	DATE
85018	NEWPORT BAY (UNIT I BASIN)	1429	36	09/19/94

SPECIES	TAXA	NO. PER CORE					SUMMARY STATISTICS							
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Aphelochaeta cf. parva	Polychaeta	1	1	1			1.0	1.0	1	1	0.0	0.0	0.0	3
Cirriformia spirabrancha	Polychaeta	19	9	33			20.3	21.0	9	33	12.1	7.0	27.1	61
Cossura candida	Polychaeta	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Cossura sp. A	Polychaeta	0	2	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Diplocirrus sp.	Polychaeta	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Dorvillea longicornis	Polychaeta	2	0	1			1.0	1.0	0	2	1.0	0.6	2.3	3
Euchone limnicola	Polychaeta	7	18	2			9.0	10.0	2	18	8.2	4.7	18.4	27
Eumida longicornuta	Polychaeta	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Exogone lourei	Polychaeta	3	4	5			4.0	4.0	3	5	1.0	0.6	2.3	12

Leitoscoloplos pugettensis	Polychaeta		12	2	22	12.0	12.0	2	22	10.0	5.8	22.5	36
Mediomastus californiensis	Polychaeta		4	3	2	3.0	3.0	2	4	1.0	0.6	2.3	9
Mediomastus sp.	Polychaeta		1	2	1	1.3	1.5	1	2	0.6	0.3	1.3	4
Nephtys cornuta	Polychaeta		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Nereis procera	Polychaeta		4	2	1	2.3	2.5	1	4	1.5	0.9	3.4	7
Pista cf. alata	Polychaeta		1	0	1	0.7	0.5	0	1	0.6	0.3	1.3	2
Prionospio heterobranchia	Polychaeta		4	4	2	3.3	3.0	2	4	1.2	0.7	2.6	10
Prionospio lighti	Polychaeta		2	0	3	1.7	1.5	0	3	1.5	0.9	3.4	5
Pseudopolydora paucibranchiata	Polychaeta		34	50	6	30.0	28.0	6	50	22.3	12.9	50.1	90
Scoletoma minima	Polychaeta		0	2	5	2.3	2.5	0	5	2.5	1.5	5.7	7
Scoletoma zonata	Polychaeta		3	2	2	2.3	2.5	2	3	0.6	0.3	1.3	7
nematoda	Nematoda		18	87	72	59.0	52.5	18	87	36.3	21.0	81.7	177
nemertea	Nemertea		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
oligochaeta	Oligochaeta		13	1	10	8.0	7.0	1	13	6.2	3.6	14.1	24
phoronida	Phoronida		0	2	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Musculista senhousei	Mollusca		3	2	0	1.7	1.5	0	3	1.5	0.9	3.4	5
Theora fragilis	Mollusca		3	0	0	1.0	1.5	0	3	1.7	1.0	3.9	3
Acuminodeutopus heteruropus	Crustacea		5	0	0	1.7	2.5	0	5	2.9	1.7	6.5	5
Amphideutopus oculatus	Crustacea		4	1	0	1.7	2.0	0	4	2.1	1.2	4.7	5
Bathyleberis = Cylindrolebridae	Crustacea		1	0	7	2.7	3.5	0	7	3.8	2.2	8.5	8
Bemlos concavus	Crustacea		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Elasmopus bampo	Crustacea		1	1	4	2.0	2.5	1	4	1.7	1.0	3.9	6
Euphilomedes carcharodonta	Crustacea		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Mayerella banksia	Crustacea		3	0	0	1.0	1.5	0	3	1.7	1.0	3.9	3
Melphisiana bola	Crustacea		3	0	4	2.3	2.0	0	4	2.1	1.2	4.7	7
Paranthura elegans	Crustacea		2	0	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Podocerus cristatus	Crustacea		0	0	3	1.0	1.5	0	3	1.7	1.0	3.9	3
Rudilemboides stenopropodus	Crustacea		0	0	20	6.7	10.0	0	20	11.5	6.7	26.0	20
	TOTAL INDIVIDUALS		157	197	208	187.3	182.5	157	208	26.8	15.5	60.4	562
	TOTAL SPECIES	37	29	21	23	24.3	25.0	21	29	4.2	2.4	9.4	73
	TOTAL CRUST. INDIV.		20	3	38	20.3	20.5	3	38	17.5	10.1	39.4	61
	TOTAL CRUST. SP.	11	8	3	5	5.3	5.5	3	8	2.5	1.5	5.7	16
	GAMMARID INDIV.		14	2	11	9.0	8.0	2	14	6.2	3.6	14.1	27
	GAMMARID SP.	6	5	2	3	3.3	3.5	2	5	1.5	0.9	3.4	10
	OTHER CRUSTACEAN INDIV.		6	1	27	11.3	14.0	1	27	13.8	8.0	31.0	34
	OTHER CRUSTACEAN SP.	5	3	1	2	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.		6	2	0	2.7	3.0	0	6	3.1	1.8	6.9	8

TOTAL MOLLUSC SP.	2	2	1	0	1.0	1.0	0	2	1.0	0.6	2.3	3
TOTAL POLYCHAETE INDIV.		99	102	88	96.3	95.0	88	102	7.4	4.3	16.6	289
TOTAL POLYCHAETE SP.	20	16	14	16	15.3	15.0	14	16	1.2	0.7	2.6	46

STANUM	STATION	IDORG	LEG	DATE
85013	NEWPORT BAY (RHINE CHANNEL)	1633	45	06/20/96

SPECIES	TAXA	NO. PER CORE					SUMMARY STATISTICS							
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Mayerella banksia	Caprellida	0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Acuminodeutopus heteruropus	Gammaridea	1	1	0			0.7	0.5	0	1	0.6	0.3	1.3	2
Ampithoe valida	Gammaridea	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Aoroides columbiae	Gammaridea	0	0	4			1.3	2.0	0	4	2.3	1.3	5.2	4
Elasmopus mutatus	Gammaridea	0	0	2			0.7	1.0	0	2	1.2	0.7	2.6	2
Gammaropsis thompsoni	Gammaridea	0	6	7			4.3	3.5	0	7	3.8	2.2	8.5	13
Grandidierella japonica	Gammaridea	0	13	0			4.3	6.5	0	13	7.5	4.3	16.9	13
Paramicrodentopus schmitti	Gammaridea	0	2	1			1.0	1.0	0	2	1.0	0.6	2.3	3
Haliophasma geminatum	Isopoda	0	0	3			1.0	1.5	0	3	1.7	1.0	3.9	3
Paracerceis sculpta	Isopoda	1	1	2			1.3	1.5	1	2	0.6	0.3	1.3	4
Zeuxo normani	Tanaidacea	4	0	8			4.0	4.0	0	8	4.0	2.3	9.0	12
Musculista senhousei	Bivalvia	3	11	3			5.7	7.0	3	11	4.6	2.7	10.4	17
Siliqua sp.	Bivalvia	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Cirriformia moorei	Polychaeta	0	0	16			5.3	8.0	0	16	9.2	5.3	20.8	16
Dorvillea longicornis	Polychaeta	4	0	1			1.7	2.0	0	4	2.1	1.2	4.7	5
Euchone limnicola	Polychaeta	3	3	4			3.3	3.5	3	4	0.6	0.3	1.3	10
Exogone dwisula	Polychaeta	0	1	2			1.0	1.0	0	2	1.0	0.6	2.3	3
Leitoscoloplos pugettensis	Polychaeta	13	11	1			8.3	7.0	1	13	6.4	3.7	14.5	25
Mediomastus californiensis	Polychaeta	0	2	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Monticellina siblina	Polychaeta	2	5	2			3.0	3.5	2	5	1.7	1.0	3.9	9
Monticellina sp(p)	Polychaeta	7	5	0			4.0	3.5	0	7	3.6	2.1	8.1	12
Neanthes acuminata	Polychaeta	5	2	1			2.7	3.0	1	5	2.1	1.2	4.7	8
Polydora cornuta	Polychaeta	1	5	3			3.0	3.0	1	5	2.0	1.2	4.5	9
Prionospio heterobranchia	Polychaeta	1	2	1			1.3	1.5	1	2	0.6	0.3	1.3	4
Pseudopolydora paucibranchiata	Polychaeta	27	92	54			57.7	59.5	27	92	32.7	18.9	73.5	173
Scoletoma zonata	Polychaeta	2	1	1			1.3	1.5	1	2	0.6	0.3	1.3	4
Streblospio benedicti	Polychaeta	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Nematoda	Nematoda	13	22	9			14.7	15.5	9	22	6.7	3.8	15.0	44
Nemertea	Nemertea	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Oligochaeta	Oligochaeta	10	3	6			6.3	6.5	3	10	3.5	2.0	7.9	19

Phoronida	Phoronida		0	0	2			0.7	1.0	0	2	1.2	0.7	2.6	2
	TOTAL INDIVIDUALS		98	191	134			141.0	144.5	98	191	46.9	27.1	105.5	423
	TOTAL SPECIES	31	17	22	23			20.7	20.0	17	23	3.2	1.9	7.2	62
	TOTAL CRUST. INDIV.		6	24	28			19.3	17.0	6	28	11.7	6.8	26.4	58
	TOTAL CRUST. SP.	11	3	6	8			5.7	5.5	3	8	2.5	1.5	5.7	17
	GAMMARID INDIV.		1	23	14			12.7	12.0	1	23	11.1	6.4	24.9	38
	GAMMARID SP.	7	1	5	4			3.3	3.0	1	5	2.1	1.2	4.7	10
	OTHER CRUSTACEAN INDIV.		5	1	14			6.7	7.5	1	14	6.7	3.8	15.0	20
	OTHER CRUSTACEAN SP.	4	2	1	4			2.3	2.5	1	4	1.5	0.9	3.4	7
	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	12	3			6.0	7.5	3	12	5.2	3.0	11.7	18
	TOTAL MOLLUSC SP.	2	1	2	1			1.3	1.5	1	2	0.6	0.3	1.3	4
	TOTAL POLYCHAETE INDIV.		66	129	86			93.7	97.5	66	129	32.2	18.6	72.4	281
	TOTAL POLYCHAETE SP.	14	11	11	11			11.0	11.0	11	11	0.0	0.0	0.0	33

STANUM	STATION	IDORG	LEG	DATE
85001	NEWPORT BAY (523)	1634	45	06/20/96

SPECIES	TAXA	NO. PER CORE					SUMMARY STATISTICS							
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Mayerella banksia	Caprellida	2	1	1			1.3	1.5	1	2	0.6	0.3	1.3	4
Ampithoe valida	Gammaridea	11	7	11			9.7	9.0	7	11	2.3	1.3	5.2	29
Corophium stimpsoni	Gammaridea	1	15	7			7.7	8.0	1	15	7.0	4.1	15.8	23
Grandidierella japonica	Gammaridea	95	75	157			109.0	116.0	75	157	42.8	24.7	96.2	327
Melphisana bola	Gammaridea	1	4	8			4.3	4.5	1	8	3.5	2.0	7.9	13
Podocerus brasiliensis	Gammaridea	0	25	4			9.7	12.5	0	25	13.4	7.8	30.2	29
Haliophasma geminatum	Isopoda	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Paracerceis sculpta	Isopoda	0	2	1			1.0	1.0	0	2	1.0	0.6	2.3	3
Leptochelia dubia	Tanaidacea	0	1	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Zeuxo normani	Tanaidacea	0	6	1			2.3	3.0	0	6	3.2	1.9	7.2	7
Crassostrea virginica	Bivalvia	0	21	0			7.0	10.5	0	21	12.1	7.0	27.3	21
Musculista senhousei	Bivalvia	4	26	7			12.3	15.0	4	26	11.9	6.9	26.8	37
Mytilus edulis	Bivalvia	0	41	2			14.3	20.5	0	41	23.1	13.3	52.0	43
Siliqua sp.	Bivalvia	1	0	1			0.7	0.5	0	1	0.6	0.3	1.3	2
Tagelus subteres	Bivalvia	0	2	0			0.7	1.0	0	2	1.2	0.7	2.6	2
Tellina modesta	Bivalvia	1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Acteocina sp.	Gastropoda	4	2	1			2.3	2.5	1	4	1.5	0.9	3.4	7
Barleeia sp.	Gastropoda	0	19	0			6.3	9.5	0	19	11.0	6.3	24.7	19

Bulla sp.	Gastropoda		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Armandia brevis	Polychaeta		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Capitella capitata	Polychaeta		24	2	41	22.3	21.5	2	41	19.6	11.3	44.0	67
Cirriformia moorei	Polychaeta		0	5	0	1.7	2.5	0	5	2.9	1.7	6.5	5
Euchone limnicola	Polychaeta		0	1	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Eulalia sp(p)	Polychaeta		0	0	1	0.3	0.5	0	1	0.6	0.3	1.3	1
Eunicidae, unident.	Polychaeta		2	28	6	12.0	15.0	2	28	14.0	8.1	31.5	36
Exogone molesta	Polychaeta		30	19	46	31.7	32.5	19	46	13.6	7.8	30.5	95
Harmothoinae, unident.	Polychaeta		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Marphysa cf. sanguinea	Polychaeta		5	6	1	4.0	3.5	1	6	2.6	1.5	6.0	12
Neanthes acuminata	Polychaeta		0	2	0	0.7	1.0	0	2	1.2	0.7	2.6	2
Nereididae spp. juv.	Polychaeta		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Polydora cornuta	Polychaeta		13	245	61	106.3	129.0	13	245	122.5	70.7	275.5	319
Pseudopolydora paucibranchiata	Polychaeta		81	5	85	57.0	45.0	5	85	45.1	26.0	101.4	171
Scolelepis texana	Polychaeta		5	0	12	5.7	6.0	0	12	6.0	3.5	13.6	17
Streblospio benedicti	Polychaeta		226	10	291	175.7	150.5	10	291	147.1	84.9	331.0	527
Nemertea	Nemertea		1	0	0	0.3	0.5	0	1	0.6	0.3	1.3	1
Oligochaeta	Oligochaeta		319	422	171	304.0	296.5	171	422	126.2	72.8	283.9	912
Phoronida	Phoronida		3	0	0	1.0	1.5	0	3	1.7	1.0	3.9	3
Platyhelminthes	Platyhelminthes		1	8	0	3.0	4.0	0	8	4.4	2.5	9.8	9
	TOTAL INDIVIDUALS		833	1001	917	917.0	917.0	833	1001	84.0	48.5	189.0	2751
	TOTAL SPECIES	38	24	28	23	25.0	25.5	23	28	2.6	1.5	6.0	75
	TOTAL CRUST. INDIV.		110	137	190	145.7	150.0	110	190	40.7	23.5	91.6	437
	TOTAL CRUST. SP.	10	5	10	8	7.7	7.5	5	10	2.5	1.5	5.7	23
	GAMMARID INDIV.		108	126	187	140.3	147.5	108	187	41.4	23.9	93.2	421
	GAMMARID SP.	5	4	5	5	4.7	4.5	4	5	0.6	0.3	1.3	14
	OTHER CRUSTACEAN INDIV.		2	11	3	5.3	6.5	2	11	4.9	2.8	11.1	16
	OTHER CRUSTACEAN SP.	5	1	5	3	3.0	3.0	1	5	2.0	1.2	4.5	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.		11	111	11	44.3	61.0	11	111	57.7	33.3	129.9	133
	TOTAL MOLLUSC SP.	9	5	6	4	5.0	5.0	4	6	1.0	0.6	2.3	15
	TOTAL POLYCHAETE INDIV.		388	323	545	418.7	434.0	323	545	114.1	65.9	256.8	1256
	TOTAL POLYCHAETE SP.	15	10	10	10	10.0	10.0	10	10	0.0	0.0	0.0	30

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STANUM	STATION	IDORG	LEG	DATE
85001	NEWPORT BAY (523)	1788	54	08/20/97

SPECIES	TAXA		NO. PER CORE					SUMMARY STATISTICS							
			rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CL	sum
Mayerella banksia	Caprellida		1	0	4			1.7	2.0	0	4	2.1	1.2	4.7	5
Ampithoe valida	Gammaridea		29	37	48			38.0	38.5	29	48	9.5	5.5	21.5	114
Corophium acherusicum	Gammaridea		44	16	42			34.0	30.0	16	44	15.6	9.0	35.1	102
Melphisana bola	Gammaridea		2	1	5			2.7	3.0	1	5	2.1	1.2	4.7	8
Paramicrodentopus schmitti	Gammaridea		194	138	159			163.7	166.0	138	194	28.3	16.3	63.7	491
Podocerus fulanus	Gammaridea		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Tethygeneia minuta	Gammaridea		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Anthuridae	Isopoda		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Paracerceis sculpta	Isopoda		1	0	6			2.3	3.0	0	6	3.2	1.9	7.2	7
Leptochelia dubia	Tanaidacea		0	0	4			1.3	2.0	0	4	2.3	1.3	5.2	4
Musculista senhousei	Bivalvia		18	17	21			18.7	19.0	17	21	2.1	1.2	4.7	56
Tagelus subteres	Bivalvia		0	2	2			1.3	1.0	0	2	1.2	0.7	2.6	4
Acteocina sp.	Gastropoda		1	5	2			2.7	3.0	1	5	2.1	1.2	4.7	8
Capitella capitata	Polychaete		9	2	4			5.0	5.5	2	9	3.6	2.1	8.1	15
Exogone molesta	Polychaete		33	13	24			23.3	23.0	13	33	10.0	5.8	22.5	70
Fabricinuda limnicola	Polychaete		41	32	0			24.3	20.5	0	41	21.5	12.4	48.5	73
Leitoscoloplos pugettensis	Polychaete		1	1	4			2.0	2.5	1	4	1.7	1.0	3.9	6
Marphysa cf. sanguinea	Polychaete		2	4	1			2.3	2.5	1	4	1.5	0.9	3.4	7
Megalomma pigmentum	Polychaete		0	0	1			0.3	0.5	0	1	0.6	0.3	1.3	1
Nereis procera	Polychaete		0	0	4			1.3	2.0	0	4	2.3	1.3	5.2	4
Platyhelminthes	Polychaete		0	0	0			0.0	0.0	0	0	0.0	0.0	0.0	0
Polydora comuta	Polychaete		15	3	6			8.0	9.0	3	15	6.2	3.6	14.1	24
Pseudopolydora paucibranchiata	Polychaete		1	4	0			1.7	2.0	0	4	2.1	1.2	4.7	5
Streblospio benedicti	Polychaete		52	40	6			32.7	29.0	6	52	23.9	13.8	53.7	98
Nemertea	Nemertea		1	0	0			0.3	0.5	0	1	0.6	0.3	1.3	1
Oligochaeta	Oligochaeta		48	57	19			41.3	38.0	19	57	19.9	11.5	44.7	124
Phoronida	Phoronida		2	1	1			1.3	1.5	1	2	0.6	0.3	1.3	4
	TOTAL INDIVIDUALS		495	373	366			411.3	430.5	366	495	72.5	41.9	163.2	1234
	TOTAL SPECIES	27	19	17	23			19.7	20.0	17	23	3.1	1.8	6.9	59
	TOTAL CRUST. INDIV.		271	192	271			244.7	231.5	192	271	45.6	26.3	102.6	734
	TOTAL CRUST. SP.	10	6	4	10			6.7	7.0	4	10	3.1	1.8	6.9	20
	GAMMARID INDIV.		269	192	256			239.0	230.5	192	269	41.2	23.8	92.7	717
	GAMMARID SP.	6	4	4	6			4.7	5.0	4	6	1.2	0.7	2.6	14
	OTHER CRUSTACEAN INDIV.		2	0	15			5.7	7.5	0	15	8.1	4.7	18.3	17

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OTHER CRUSTACEAN SP.	4	2	0	4	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.		19	24	25	22.7	22.0	19	25	3.2	1.9	7.2	68
TOTAL MOLLUSC SP.	3	2	3	3	2.7	2.5	2	3	0.6	0.3	1.3	8
TOTAL POLYCHAETE INDIV.		154	99	50	101.0	102.0	50	154	52.0	30.0	117.1	303
TOTAL POLYCHAETE SP.	11	8	8	8	8.0	8.0	8	8	0.0	0.0	0.0	24