

CHEMISTRY, TOXICITY AND BENTHIC  
COMMUNITY CONDITIONS IN SEDIMENTS OF  
THE SAN DIEGO BAY REGION

Final Report  
September 1996

State Water Resources Control Board

National Oceanic and Atmospheric Administration

California Department of Fish and Game  
Marine Pollution Studies Laboratory

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## EXECUTIVE SUMMARY

The following report describes and evaluates chemical and biological data collected from San Diego Bay and its historical tributaries between October, 1992 and May, 1994. The study was conducted as part of the ongoing 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 harbors. The workplan for this study resulted from a cooperative agreement between the State Water Resources Control Board 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.

The study objectives were:

1. Determine presence or absence of adverse biological effects in representative areas of the San Diego Bay Region;
2. Determine relative degree or severity of adverse effects, and distinguish more severely impacted sediments from less severely impacted sediments;
3. Determine relative spatial extent of toxicant-associated effects in the San Diego Bay Region;
4. Determine relationships between toxicants and measures of effects in the San Diego Bay Region.

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

Three hundred and fifty stations were sampled between October, 1992 and May, 1994. Areas sampled included San Diego Bay, Mission Bay, the San Diego River Estuary and the Tijuana River Estuary and are collectively termed "the San Diego Bay Region" in the following document. Two types of sampling designs were utilized: direct point sampling and stratified random sampling.

Chemical pollution was demonstrated by using comparisons to established sediment quality guidelines. Two sets of guidelines were used: the Effects Range-Low (ERL)/Effects Range-Median (ERM) guidelines developed by NOAA (Long and Morgan, 1990; Long et al., 1995) and the Threshold Effects Level (TEL)/Probable Effects Level (PEL) guidelines used in Florida (McDonald, 1993; McDonald, 1994). Copper, mercury, zinc, total chlordane, total PCBs and the PAHs were most often found to exceed critical ERM or PEL values



and were considered the major chemicals or chemical groups of concern in the San Diego Bay Region. ERM and PEL summary quotients were used to develop chemical indices for addressing the pollution of sediments with multiple chemicals. An ERM summary quotient  $>0.85$  or a PEL summary quotient  $>1.29$  was indicative of stations where multiple chemicals were significantly elevated. Stations with any chemical concentration  $>4$  times its respective ERM or  $>5.9$  times its respective PEL were considered to exhibit elevated chemistry. Summary quotients and magnitude of sediment quality guideline exceedances were used as additional information to help prioritize stations of concern for Regional Water Quality Control Board staff.

Identification of degraded and undegraded habitat (as determined by macrobenthic community structure) was conducted using a cumulative, weight-of-evidence approach. Analyses were performed to identify relationships between community structure within and between each station or site (e.g., diversity/evenness indices, analyses of habitat and species composition, construction of dissimilarity matrices for pattern testing, assessment of indicator species, and development of a benthic index, cluster analyses, and ordination analyses).

Analyses of the 75 stations sampled for benthic community structure identified 23 undegraded stations, 43 degraded and 9 transitional stations. All sampled stations with an ERM summary quotient  $>0.85$  were found to have degraded communities. All sampled stations with P450 Reporter Gene System responses above  $60 \mu\text{g/g}$  BaPEq. were similarly found to have degraded benthic communities.

The statistical significance of toxicity test results was determined using two approaches: the reference envelope approach and laboratory control comparison approach used by the United States Environmental Protection Agency- Environmental Monitoring and Assessment Program and NOAA- National Status and Trends programs. The reference envelope approach indicated that toxicity for the *Rhepoxynius* (amphipod) sediment test was significant when survival was less than 48% in samples tested. No reference envelope was calculated for the urchin fertilization or development tests due to high variability in pore water data from reference stations.

The laboratory control comparison approach was used to compare test sediment samples against laboratory controls for determination of statistically significant differences in test organism response. Criteria for toxicity in this approach were 1) survival less than 80% of the control value and 2) significant difference between test samples and controls, as determined using a t-test. Using this approach, there was no absolute value below which all samples could be considered toxic, although survival below a range of 72-80% was generally considered toxic.

Using the EMAP definition of toxicity, 56% of the total area sampled was toxic to *Rhepoxynius*. For the *Strongylocentrotus*

larval development test, percent of total area toxic was 29%, 54%, and 72% respectively for 25%, 50%, and undiluted pore water concentrations. Samples representing 14%, 27%, or 36% of the study area were toxic to both *Strongylocentrotus* in pore water (25%, 50%, or undiluted, respectively) and *Rhepoxynius* in solid phase sediment.

Linear regression analyses failed to reveal strong correlations between amphipod survival and chemical concentration. It is suspected instead of a linear response to chemical pollutants, most organisms are tolerant of pollutants until a threshold is exceeded. Comparisons to established sediment quality guideline thresholds demonstrate an increased incidence of toxicity for San Diego Bay Region samples with chemical concentrations exceeding the ERM or PEL values. It is further suspected toxicity in urban bays is caused by exposure to complex mixtures of chemicals. Comparisons to ERM summary quotients (multiple chemical indicators) demonstrate that the highest incidence of toxicity (>78%) is found in samples with elevated ERM summary quotients (>0.85).

Statistical analyses of the P450 Reporter Gene System responses versus the PAHs in sediment extracts demonstrated that this biological response indicator was significantly correlated ( $r^2 = 0.86$ ) with sediment PAH (total and high molecular weight) concentration.

Stations requiring further investigation were prioritized based on existing evidence. Each station receiving a high, moderate or low priority ranking meets one or more of the criteria under evaluation for determining hot spot status in the Bay Protection and Toxic Cleanup Program. Those meeting all criteria were given the highest priority for further action. A ranking scheme was developed to evaluate stations of lower priority.

Seven stations (representing four sites) were given a high priority ranking, 43 stations were given a moderate priority ranking, and 57 stations were given a low priority ranking. The seven stations receiving the high priority ranking were in the Seventh Street channel area, two naval shipyard areas near the Coronado Bridge, and the Downtown Anchorage area west of the airport. The majority of stations given moderate rankings were associated with commercial areas and naval shipyard areas in the vicinity of the Coronado Bridge. Low priority stations were interspersed throughout the San Diego Bay Region.

A review of historical data supports the conclusions of the current research. Recommendations are made for complementary investigations which could provide additional evidence for further characterizing stations of concern.

## ACKNOWLEDGMENTS

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

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

Craig Wilson  
Syed Ali

Mike Reid  
Gita Kapahi

Fred LaCaro

### National Oceanic and Atmospheric Administration

Ed Long

Gail Sloane

### Regional Water Quality Control Board- Region 9

Pete Michael

### California Department of Fish and Game Environmental Services Division

Mark Stephenson  
Kim Paulson

Max Puckett  
Jon Goetzal

Gary Ichikawa  
Jim Kanihan

### San Jose State University- Moss Landing Marine Laboratories

#### Sample Collection And Data Analysis

Russell Fairey  
Ross Clark  
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James Downing  
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Cassandra Roberts  
Michele Jacobi  
Eli Landreau

#### Total Organic Carbon and Grain Size Analyses

Pat Iampietro

Michelle White

Sean McDermott

#### Benthic Community Analysis

John Oliver

Jim Oakden

Carrie Bretz

ACKNOWLEDGMENTS (continued)

University of California at Santa Cruz

Dept. of Chemistry and Biochemistry- Trace Organics Analyses

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

Institute of Marine Sciences- Toxicity Testing

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

Columbia Analytical Services

Jack Anderson

EcoAnalysis

Robert Smith

Funding was provided through a cooperative effort by:

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

National Oceanic and Atmospheric Administration  
Coastal Ocean Program

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## LIST OF ABBREVIATIONS

AA	Atomic Absorption
ASTM	American Society for Testing Materials
AVS	Acid Volatile Sulfide
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
ERL	Effects Range Low
ERM	Effects Range Median
ERMQ	Effects Range Median Summary Quotient
EqP	Equilibrium Partitioning Coefficient
FAAS	Flame Atomic Absorption Spectroscopy
GC/ECD	Gas Chromatograph Electron Capture Detection
GFAAS	Graphite Furnace Atomic Absorption Spectroscopy
HCl	Hydrochloric Acid
HDPE	High-density Polyethylene
HMW PAH	High Molecular Weight Polynuclear Aromatic Hydrocarbons
HNO <sub>3</sub>	Nitric Acid
HPLC/SEC	High Performance Liquid Chromatography Size Exclusion
H <sub>2</sub> S	Hydrogen Sulfide
IDORG	Identification and Organizational Number
KCL	Potassium Chloride
LC <sub>50</sub>	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 <sub>3</sub>	Ammonia
NOAA	National Oceanic and Atmospheric Administration
NOEC	No Observed Effect Concentration
NS&T	National Status and Trends Program
P450	Cytochrome P450 Enzyme System
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
RGS	P450 Reporter Gene System
RWQCB	Regional Water Quality Control Board
SCCWRP	Southern Calif. Coastal Waters Research Project



LIST OF ABBREVIATIONS (continued)

SPARC	Scientific Planning and Review Committee
SQC	Sediment Quality Criteria
SWRCB	State Water Resources Control Board
T	Temperature
TBT	Tributyltin
TFE	Tefzel Teflon®
TEL	Threshold Effects Level
TIE	Toxicity Identification Evaluation
TOC	Total Organic Carbon
TOF	Trace Organics Facility
UCSC	University of California Santa Cruz
USEPA	U.S. Environmental Protection Agency
WCS	Whole Core Squeezing

Units

liter = 1 l

milliliter = 1 ml

microliter = 1  $\mu$ l

gram = 1 g

milligram = 1 mg

microgram = 1  $\mu$ g

nanogram = 1 ng

kilogram = 1 kg

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

1 part per million (ppm) = 1 mg/kg, 1  $\mu$ g/g

1 part per billion (ppb) = 1  $\mu$ g/kg, 1 ng/g

## INTRODUCTION

### Purpose

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 potential adverse biological effects from sediments in coastal bays and harbors of Southern California (SWRCB and NOAA, 1991, 1992, 1993). The study area for the three-year cooperative agreement extended south of the Palos Verdes Peninsula to the USA/Mexico border. The majority of work focused on selected coastal bays, harbors and lagoons where depth ranged from approximately 60 meters to the upper limit of the tidal range. In the first phase of the study, data were collected, analyzed, and reported from the Los Angeles/Long Beach areas (SWRCB and NOAA, 1994).

This report presents results from data collected in the San Diego Bay area during the second and third years of the cooperative agreement. The study was performed in San Diego Bay, Mission Bay, San Diego River Estuary, and Tijuana River Estuary in southern California (Figure 1).

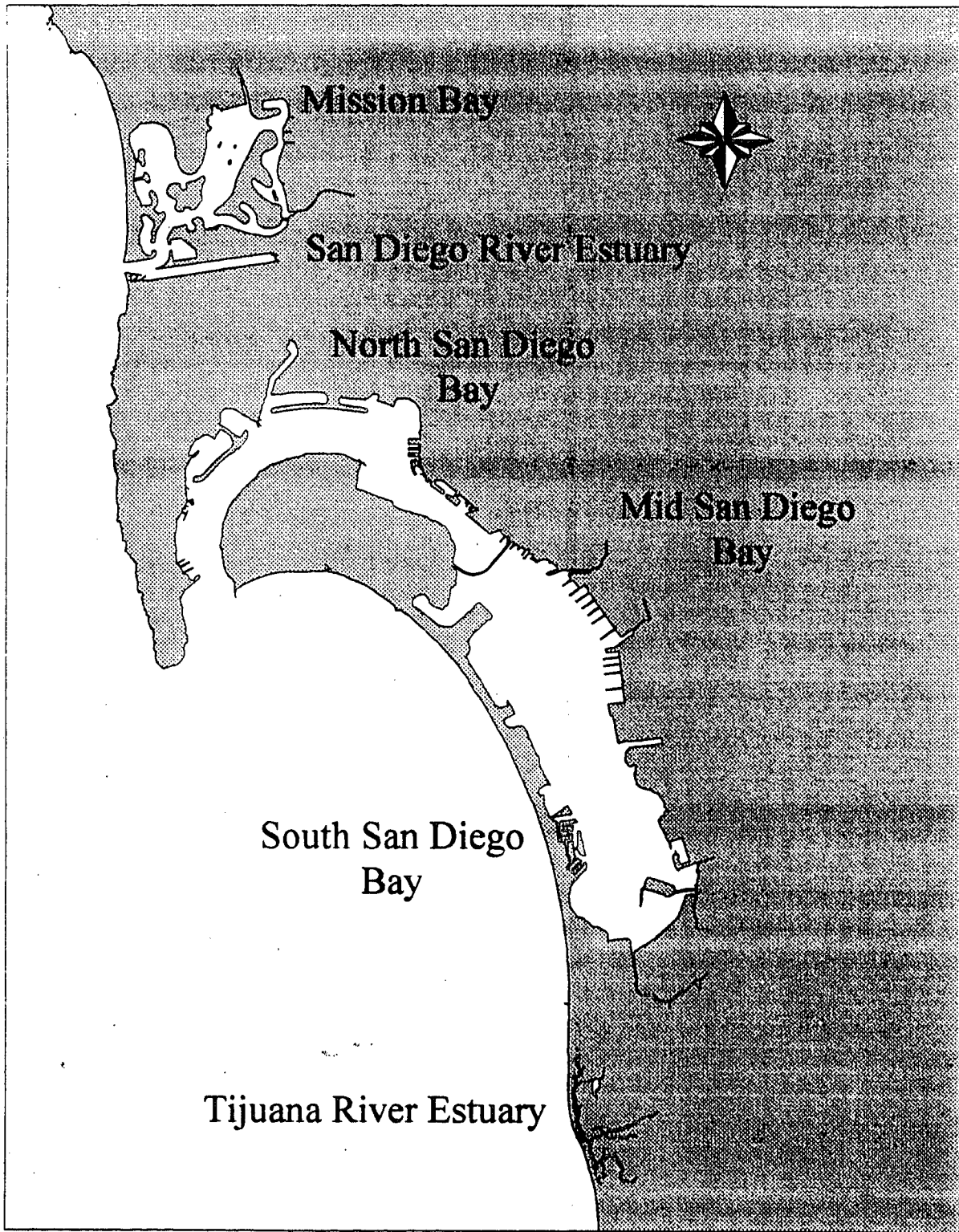
The purposes of the present study were:

1. Determine presence or absence of statistically significant toxicity effects in representative areas of the San Diego Bay Region;
2. Determine relative degree or severity of observed effects, and distinguish more severely impacted sediments from less severely impacted sediments;
3. Determine relative areal extent of significant toxicity in the San Diego Bay Region;
4. Determine relationships between pollutants and measures of effects in these bays.

### Programmatic Background and Needs

Due to the long history of human activity in San Diego Bay and its surrounding waters, there is a need to assess any environmentally detrimental effects which have been associated with those activities. The cooperative agreement between NOAA and SWRCB was designed to investigate these environmental effects by evaluating the biological and chemical state of San Diego Bay sediments. The methods used to assess environmental impacts include sediment and interstitial water bioassays, sediment chemistry analysis, and benthic community analysis. The study areas included San Diego Bay, Mission Bay, Tijuana River Estuary, and the San Diego River. Although these water bodies are separated physically, and are quite different in character, for simplicity they will often be referred to collectively as the "San Diego Bay Region" in this report (Figure 1). The SWRCB and NOAA have common programmatic needs for this research, however, some differences exist. NOAA is mandated by Congress to conduct a

Figure 1  
San Diego Bay Region Study Area



program of research and monitoring on marine pollution. Much of this research is conducted through the National Status and Trends (NS&T) Program and the Coastal Ocean Program. The NS&T Program performs intensive regional studies on the magnitude and extent of toxicant-associated bioeffects in selected coastal embayments and estuaries. Areas chosen for these regional studies were those in which pollutant concentrations indicate the greatest potential for biological effect. These biological studies augment regular chemical monitoring activities of the NS&T Program, and provide a means for estimating the extent of 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.

A cooperative agreement between NOAA and SWRCB has been implemented through the Bay Protection and Toxic Cleanup Program (BPTCP). Sediment characterization approaches currently used by the BPTCP range from chemical or toxicity monitoring only, to monitoring designs which attempt to generally correlate the presence of pollutants with toxicity or benthic community degradation. Studies were designed, managed, and coordinated by the SWRCB's Bays and Estuaries Unit 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.

Research for the San Diego Bay Region involved toxicity testing and chemical analysis of sediments and sediment pore water. Toxicity tests and chemical analysis were performed using aliquots of homogenized sediment samples collected synoptically from each station, resulting in paired data. Analyses of benthic community structure and P450 enzyme induction were also made on a subset of the total number of stations sampled.

Field and laboratory work was accomplished under interagency agreement with, and under the direction of, the CDFG. Sample collections were performed by staff of the San Jose State University Foundation at the Moss Landing Marine Laboratories, Moss Landing, CA (MLML). Trace metals analyses were performed by CDFG personnel at the trace metal facility at Moss Landing Marine Laboratories. 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, California. 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,

California. P450 Reporter Gene System analyses were conducted by Columbia Analytical Services in Carlsbad, CA.

### Study Area

#### San Diego Bay

San Diego Bay is the southern-most embayment on the west coast of the United States. It is located within the Southern California Bight and is the largest embayment along the 1450 kilometer stretch of coastline between San Francisco and Central Baja California. Located 16 kilometers northwest of the Mexico border, it is considered one of the finest natural harbors in the world. This reputation is due mainly to its deep entrance and protection from weather it provides ships. San Diego Bay lies entirely in the county of San Diego, extending from the entrance at Point Loma southward to the mouth of the Otay River.

San Diego Bay is a natural, nearly-enclosed, crescent-shaped estuary that encompasses approximately 52 square kilometers. It is approximately 24 kilometers (km) in length and varies from 0.4 km to 5.8 km in width. Depths in the Bay vary from 18 meters near the mouth to less than 1 meter in the southern part of the bay, with the average depth for the entire bay being slightly more than 12 meters. The Bay is much deeper and narrower than it was historically, due mainly to dredging of channels and filling of nearshore areas.

San Diego Bay opens to the Pacific Ocean and is classified as an estuarine system due to its fresh water dilution. The diversion of the San Diego River to Mission Bay by the U.S. Army Corps of Engineers in 1857 was the first major reduction of freshwater input into the bay (Smith, 1977). Sweetwater River and the Otay River were also main sources of freshwater for San Diego Bay, although these sources have been greatly reduced over the years as a result of dam construction, extensive ground water use, and limited rainfall in recent years. Freshwater input is now limited to periodic surface drainage from the metropolitan area and intermittent flow from several rivers and creeks during periods of rainfall. Because of the dry Mediterranean-like climate that characterizes San Diego Bay, average annual rainfall in the Bay is usually between 10 and 13 inches, the majority of which falls between November and February.

Tides in San Diego Bay demonstrate marked variation between the heights of two high tides and two low tides that occur daily, classifying them as diurnal. The range between mean higher high water (MHHW) and mean lower low water (MLLW) is 1.6 meters and the extreme range of tides within the Bay is approximately 2.9 meters (Browning and Speth, 1973). Tidal currents are strongest in the northern part of the Bay where surface velocities reach 2.9 knots on ebb tide and 2.2 knots on flood tide (U.S. Army Corps of Engineers, 1973). Tidal currents are reduced considerably in the shallower central and south bay areas. Average tidal flushing for San Diego Bay is about 30% of the

entire Bay water volume exchanged per tidal cycle (12.5 hours). This volume of water is referred to as the tidal prism and in San Diego Bay represents approximately 74,000,000 cubic meters. Tidal flushing rates differ drastically between the Bay entrance and South Bay. Complete tidal flushing for the South Bay requires seven to fourteen days, whereas, the entrance of the Bay may only require one to two days. It has been estimated over the last century, tidal flushing in San Diego Bay has been reduced by 30% due to channel dredging and landfill projects (Browning and Speth, 1973).

San Diego Bay is a sedimentary environment with the bay floor and bay margins characterized by sand, silt and clay deposits (Peeling, 1974). Sand deposits are found near the Bay's mouth and along western margins, while finer silt and clay deposits are located on the eastern margins and at the southern end of the Bay.

An early navigation chart issued by the U.S. Coastal Survey in 1859 shows an undredged Bay fifteen miles long with a channel varying in depth from 22.2 meters decreasing to 3.6 meters. This natural channel stretched for 13 kilometers from the tip of Point Loma to the South Bay. Salt marshes existed at the mouths of seven creeks and river tributaries.

The early residents of the San Diego Bay area were Native Americans, who hunted and fished in the Bay; Spanish, Mexican, and American ranchers, who traded hides and tallow; and the early Yankee whalers who established camps in North Bay. These groups appeared to have little impact on the water quality in the Bay. By 1830 there were 16 American whaling vessels operating out of San Diego Bay. The whaling industry reached its peak in 1871-72 when 55,000 gallons of oil and 200 tons of whalebone were shipped from Point Loma. Americans participating in the New Town land boom of the 1880's settled in the central San Diego Bay area, site of the present downtown San Diego. This settlement soon represented a considerable increase in the population of the area as well as a dramatic threat to water quality in the Bay.

The Cuyamaca Dam and a flume were completed in 1888, diverting freshwater from eastern mountains into what is now Chollas Reservoir. Forty miles of sewers coupled with a sewage reservoir and outfall located in San Diego Bay off Market street were also completed in 1888. This sewage system marked the beginning of the decline in water quality for the Bay. Conditions within the Bay continued to decline because of the increase in population (30,000 in 1901) and acceptance of the Bay as a major harbor for the U.S. Navy and civilian commerce.

During the next four decades communications and aviation stations were added and docking facilities expanded. Naval facilities expanded greatly during World War II as business and industry boomed. In 1940, the population had increased to 200,000 causing a failure of the overloaded sewage collection and treatment facilities. In 1943, raw or minimally treated sewage was being

discharged into the Bay from 15 outfalls. After World War II and the Korean War, San Diego Bay was subject to the dumping of more than 50 million gallons of sewage and industrial waste per day (San Diego Interagency Water Quality Panel, 1989).

In 1950, the population of the San Diego metropolitan area had increased to over 400,000. In an attempt to curtail the flow of raw sewage into the Bay, San Diego and several neighboring communities combined their sewage outfalls into one system. Unfortunately, this new system was constantly operating on overload and discharging directly into the Bay. Simultaneously, the Bay received untreated industrial discharge from five fish canneries, a large rendering operation, a kelp processing plant, four aircraft manufacturing plants, several shipyards, and the Pacific coast's largest naval base, naval air station, and submarine base (San Diego Interagency Water Quality Panel, 1989).

The California Regional Water Quality Control Board was established in 1950 (following the passage of the Dickey Act in 1949). Through extensive water sampling it was concluded that the entire Bay had become contaminated, due to heavy loading of domestic and industrial wastes. Dissolved oxygen concentrations in the Bay had declined to about half normal levels and turbidity in the water resulted in a visibility of less than 1 meter. Bait and game fish had virtually disappeared from the Bay. Coliform bacteria were routinely isolated from the Bay at significant levels. In 1955, the State Board of Public Health and the San Diego Department of Public Health declared much of the Bay contaminated, and posted quarantine and warning signs along 10 miles of shoreline. By 1963, sludge deposits from the treatment plant outfall were two meters deep, extended 200 meters seaward, and along 9000 meters of the shoreline.

A report in the early 1950's from the Regional Board and the San Diego Sewerage Survey report indicated sewage discharge into the Bay was becoming a major problem which had to be corrected. In 1960, San Diego voters approved a bond (\$42.5 million) which allowed construction to begin on the Metropolitan Sewerage System. In August of 1963, a massive collection, treatment, and ocean disposal system began operation and by February, 1964, domestic sewage disposal had been eliminated from San Diego Bay. Following the completion of the new sewage treatment plant, dissolved oxygen concentrations rose to an average of more than 5 parts per million, visibility increased to 2 meters, and coliform bacteria counts dropped within the federal safety standards. Plankton blooms were scarce and sludge deposits of more than 30 cm were seldom reported. The sewage system currently processes 170 million gallons of waste per day (City of San Diego, 1995)

Routine sampling, beginning in the 1970's, revealed new information regarding the presence of industrial wastes in the Bay. Regulatory standards were developed for the protection of humans and wildlife based on new sampling systems and more refined analytical techniques. The conventional engineering and

bacteriological data gathered earlier did not adequately address the issue of toxic waste in the Bay. During the late 1980's, the press regarded San Diego Bay as being heavily contaminated, particularly for PCBs. Although conditions in the Bay are similar to other urban influenced embayments in the United States, San Diego Bay has serious problems with chemical pollution. A number of toxic hotspots in the Bay have been identified on lists of water quality impairment such as Clean Water Act Section 303(d), Section 319, Section 304(1) and Section 131.11.

### **Mission Bay**

Mission Bay is located 9 kilometers north of Point Loma and encompasses an area of 1860 hectares. It has two main tributaries, Tecolote creek and Rose creek (Dexter, 1983). Originally named False Bay because its entrance was near San Diego Bay and occasionally fooled ship captains, it is now considered a recreational small-craft harbor (United States Coast Pilot, 1994). Prior to the development of Mission Bay park in 1946, Mission Bay was a natural estuary of over 2020 hectares of salt marshes, tidal channels, and a shallow central bay. Between 1946 and 1962 major dredging within the Bay and modifications to the San Diego River flood control channel gave way to its present-day configuration. Today it is a highly modified lagoon which receives freshwater input only during infrequent, heavy rains. The major additions of freshwater into Mission Bay occur at Rose Inlet, in the northeastern portion of the Bay, and Tecolote Creek, in the southeast. Because of this limited amount of freshwater, the salinities throughout the Bay do not change markedly. Mean tidal range is 1.2 meters and the mean diurnal range is 1.7 meters at the Bay entrance (Levin, 1983).

As a result of circulation patterns within Mission Bay, a variety of sediments are found. In the mouth of the Bay and near the main channel, water movement is sufficient to maintain a sandy bottom. In other parts of the Bay, such as Sail Bay and sites located further east, sediments are muddy with a high silt and clay content (Dexter, 1983).

Tecolote and Rose creeks carry urban pollutants such as oil, grease, fertilizers, and high sediment loads into the back bay. Furthermore, sewer lines back up occasionally into the back bay. The lack of water circulation in the back bay allows these pollutants to accumulate and has resulted in quarantines for several months at a time (Marcus, 1989).

### **Tijuana River Estuary**

The Tijuana River Estuary is located 16 kilometers southeast of Point Loma. Although the estuary is situated entirely within the boundaries of San Diego County, three-fourths of its watershed is in Mexico. It is a wetland dominated estuary with no major embayment, however, a series of channels allows for a relatively narrow ocean connection (Herron, 1972). In the classification scheme developed by Prichard (1967), Tijuana Estuary is



considered an intermittent coastal plain estuary due to the large freshwater input during the winter wet season. During most years, the river mouth has been open and tidal flushing has prevailed. The intertidal area supports salt marsh vegetation (*Salicornia virginica*, *Spartina foliosa*), whereas mudflats and sandflats occupy only a small fraction of the estuary (Zedler et al., 1992).

The Tijuana River Estuary has been altered substantially by natural and human disturbances. In the early 1900's, sewage disposal practices led to dredging of the east-west channel in order to connect an adjacent waste collecting lagoon with the estuary. Dikes were then created to subdivide the lagoon into three wastewater receiving ponds, however, these dikes were later removed to increase tidal flow. Gravel extraction for street and dike construction created isolated ponds within the estuary. Long-term dumping and filling altered most of the peripheral topography, while extensive damage to the southern half of the estuary from military, agricultural, and horse-raising activities is evident (Marcus, 1989).

Wastewater flow from Tijuana has been a serious threat to water quality in the estuary. In 1988, approximately 30 million gallons of sewage per day were produced while only 17 million gallons were collected. The remaining 13 million gallons emptied directly into the Tijuana River and estuary (Seamans, 1988). Breaks in the Tijuana sewer line, which carried collected sewage to an ocean outfall, were also common.

Recent U.S. projects have reduced the threat of sewage pollution. An interceptor on the Tijuana River, completed in early October 1991, diverts approximately 15 million gallons of sewage a day to the San Diego wastewater facility (Zedler, 1992). A sewage treatment plant is planned for the U.S. side of the border, and a new ocean outfall is under evaluation.

## METHODS

### Sampling Design

Two basic sampling designs were used to meet both SWRCB's and NOAA's goals. A directed point sampling design was required to address SWRCB's need to identify specific toxic hot spots. A stratified random sampling design was required to address NOAA's need to evaluate spatial extent of pollution. This has resulted in a data set of 350 samples collected between October, 1992 and May, 1994. Of the 350 total samples, 229 were collected from directed point sampled stations and 121 were collected from randomly sampled stations.

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

This phase of work was intended to give a broad assessment of toxicity throughout the San Diego Bay area using multiple test species and toxicity endpoints. Fifty-six stations were sampled during the period between October, 1992 and January, 1993. Chemical analysis was performed on selected samples in which toxicity results prompted further analysis. Stations which 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 sampling was replicated and chemical analysis of samples was more extensive. In addition, benthic community analysis was performed on all confirmation stations sampled during the summer of 1993. Evidence from this two step process is used to establish a higher level of certainty for stations which may later be identified as "toxic hot spots".

Stratified random sampling began in March, 1993 and continued through August, 1993, with a total of 121 stations sampled. The San Diego Bay Region was stratified into areas of similar physical characteristics or uses, such as transit channels, anchorages, marinas, commercial shipping or military uses, and designated as 95 blocks of known size (Figures 2a & 2b). Station coordinates were chosen randomly within the boundaries of each sampling block by USEPA Environmental Monitoring and Assessment Program (USEPA-EMAP) personnel using a computer program developed for that purpose. Eight alternate locations were chosen for each block, a maximum of two of which were actually sampled (Weisberg et al., 1993). This stratified random design "forces"

Figure 2a  
Sampling Blocks for Random Stations  
San Diego Bay

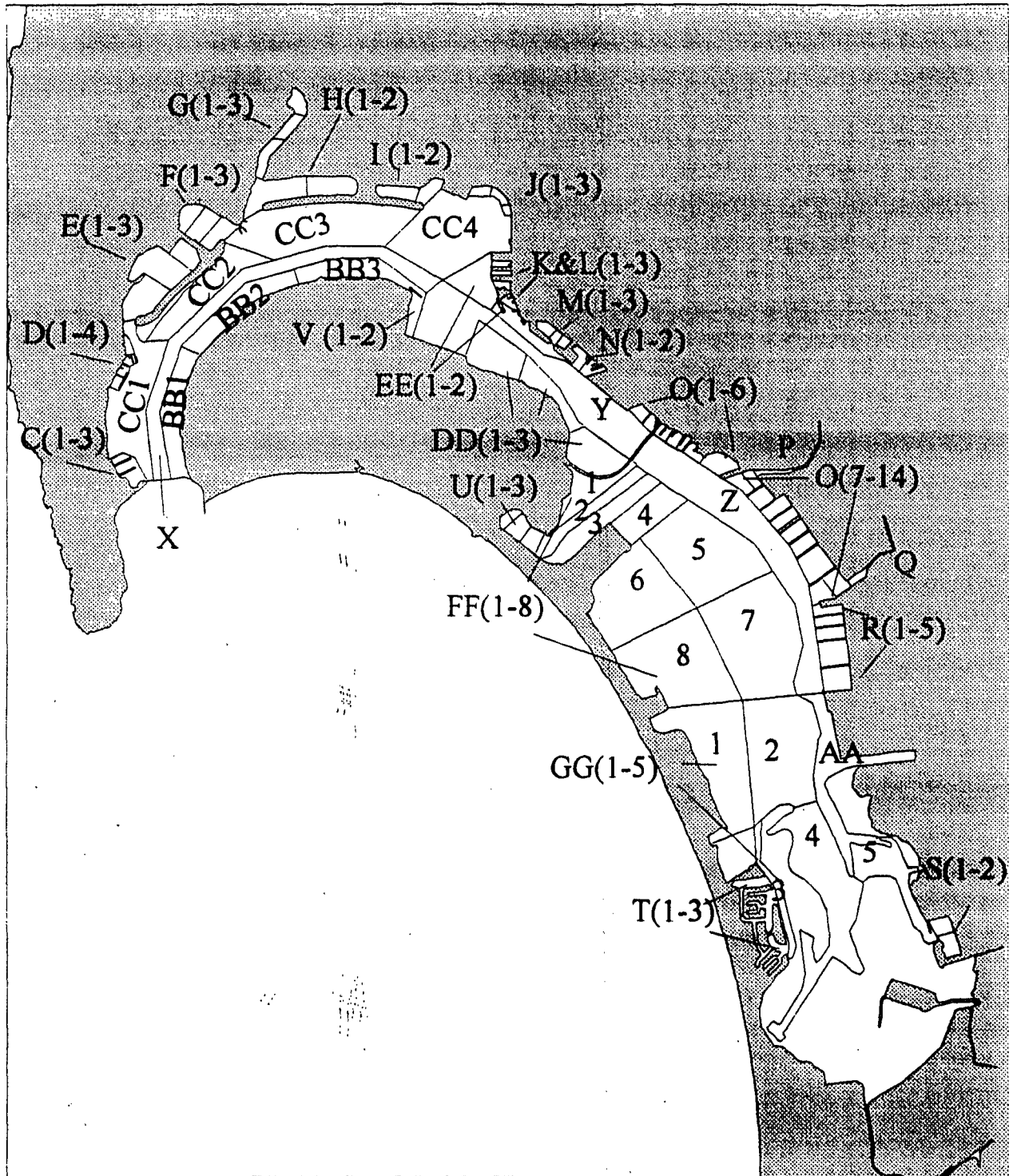
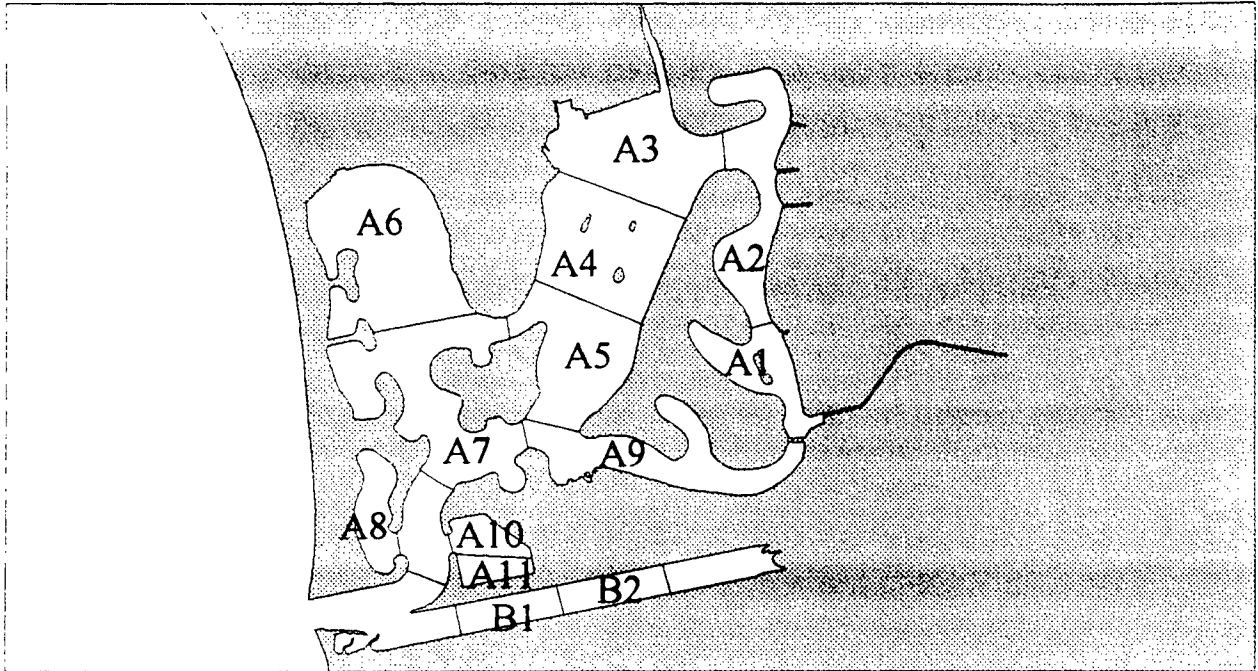
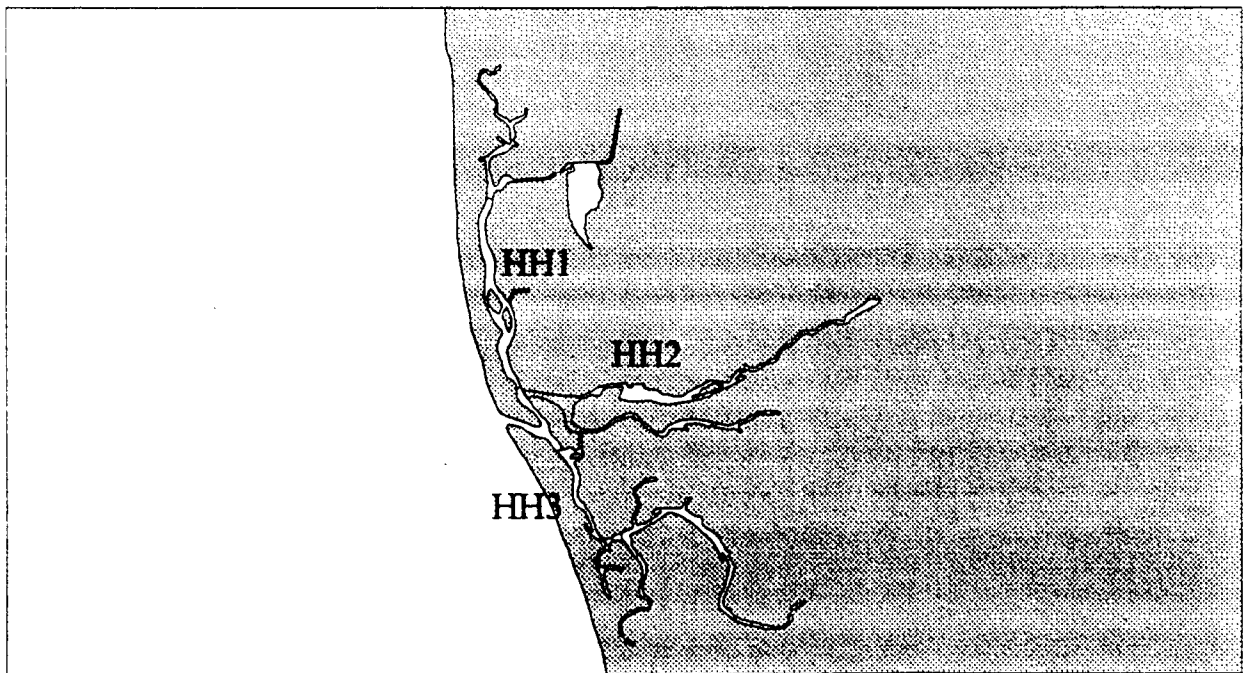


Figure 2b  
Sampling Blocks for Random Stations  
Mission Bay and San Diego River Estuary



Tijuana River Estuary



random samples to cover all areas of the Bay, whereas a pure random design most likely would miss some areas and oversample others. In the field, sampling was attempted at each designated location (x1-x8), beginning with x1, until a sample was retrieved which met sample acceptability criteria. For example, in block FF2, Station number 93124 was sampled at the random location x1 while in block FF3, Station #93172 was sampled at random location x4 because the grain size was too coarse at locations x1, x2 and x3. Of the 121 stations sampled,  $\approx 15\%$  could not be sampled at the random x1 location, due to the location being inaccessible by boat because of obstructions, vessel moorings, piers or shallow depths. Similarly,  $\approx 3\%$  were not sampled because the grain size was too coarse at the x1 location. Samples were collected successfully at alternate locations (x2, x3, x4, ...) for all stations where x1 was not sampled. This sampling design allows data from random stations to be used for calculation of areal extent of toxicity in the San Diego Bay Region. Chemical analyses were only performed on a limited number of random station samples.

From the combined sampling designs, a total of 350 samples were collected from 183 station locations in the San Diego Bay Region (Figure 3(a-d)). Station locations which 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 350 samples. Trace metal analysis was performed on 217 samples. Trace synthetic organic analysis was performed on 229 samples. Benthic community analysis was performed on 75 samples.

## 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, 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





Figure 3b  
Sampling Locations  
Mid San Diego Bay

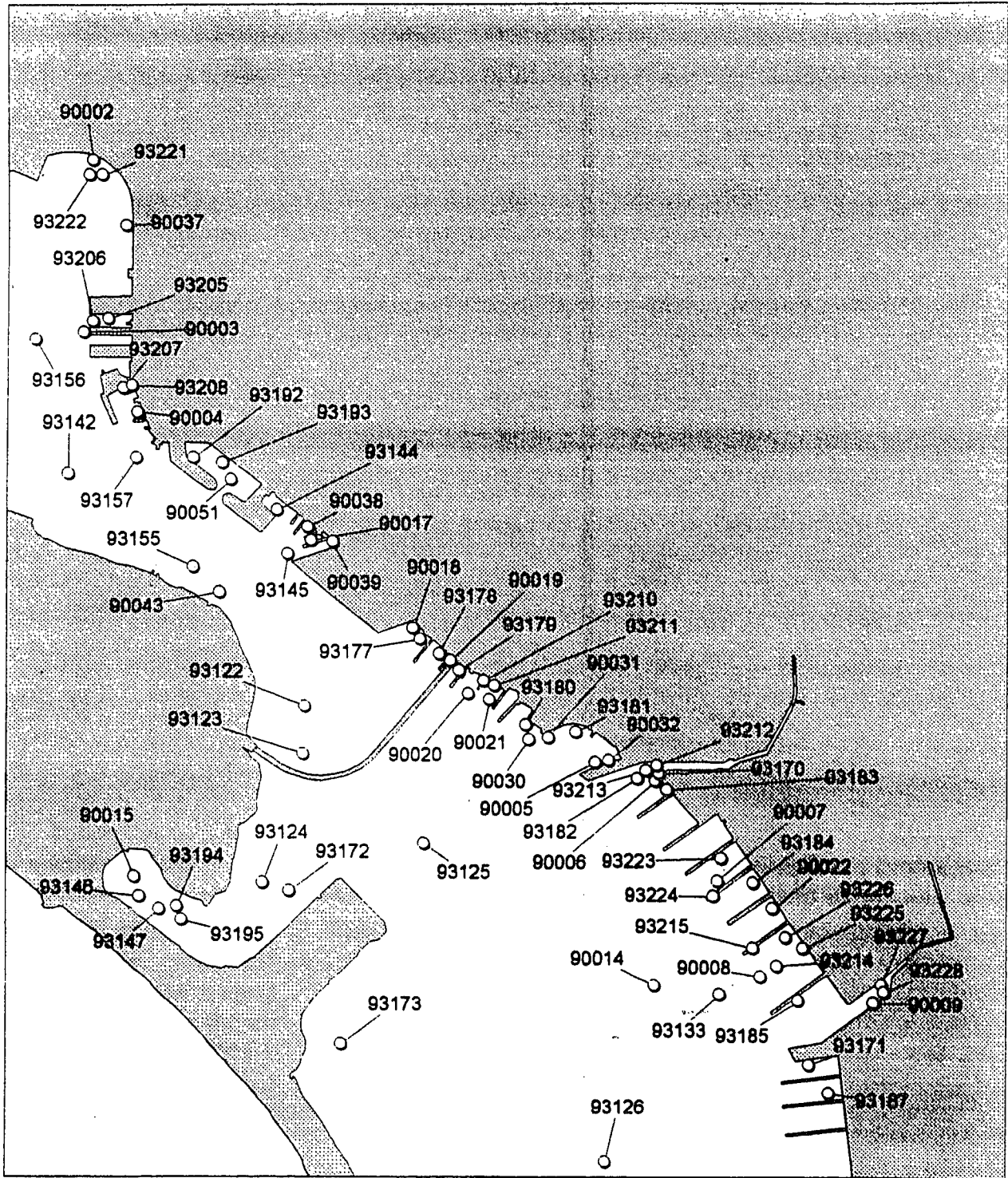


Figure 3c  
Sampling Locations  
South San Diego Bay

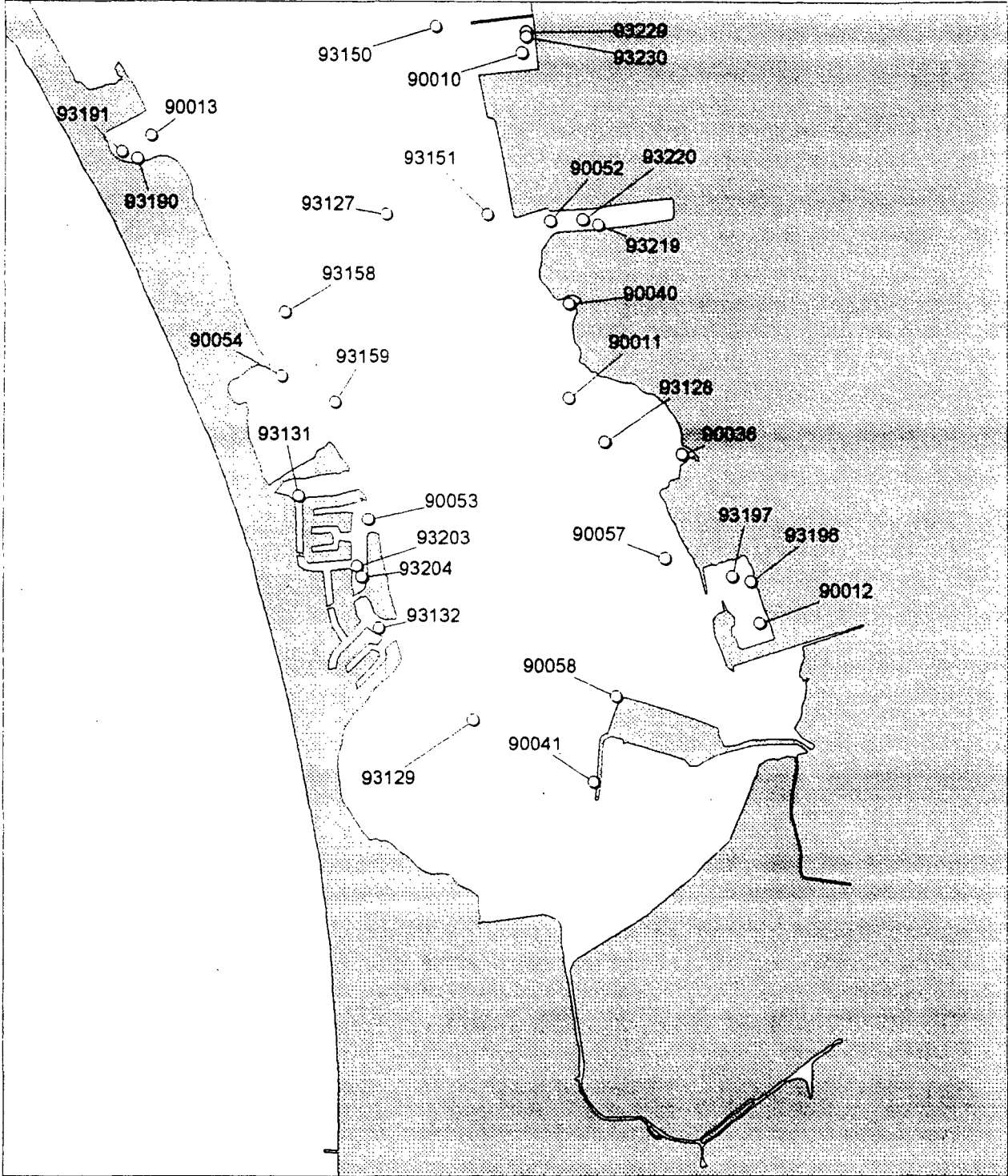
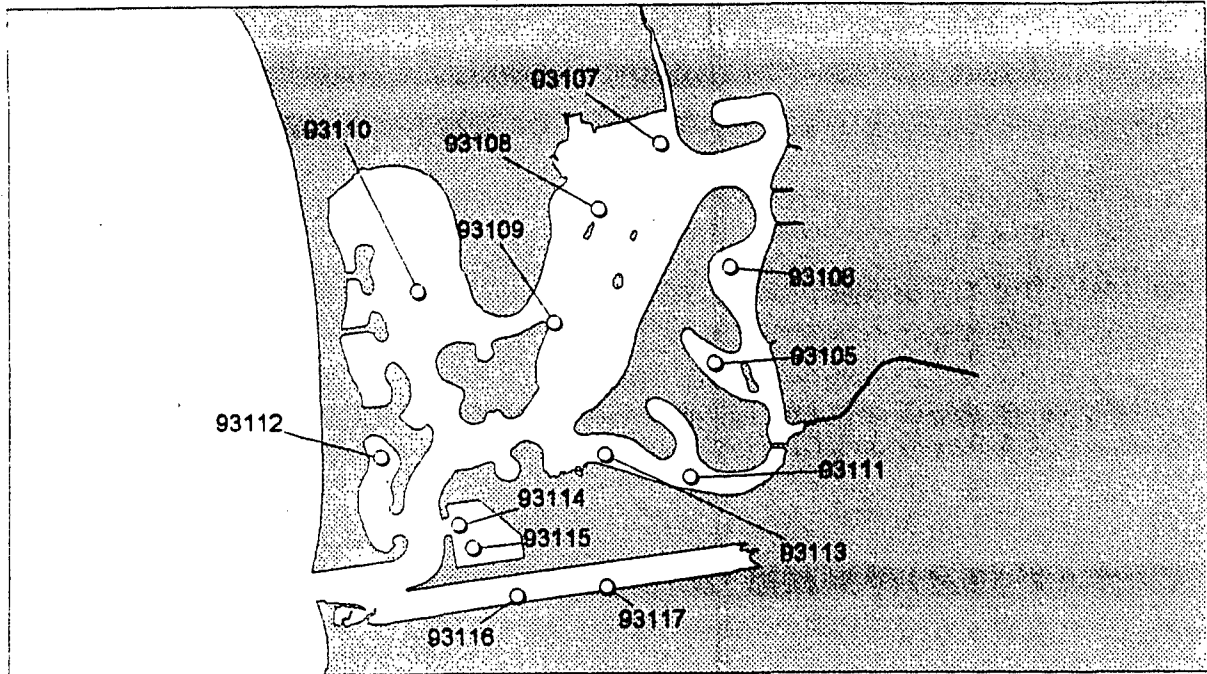
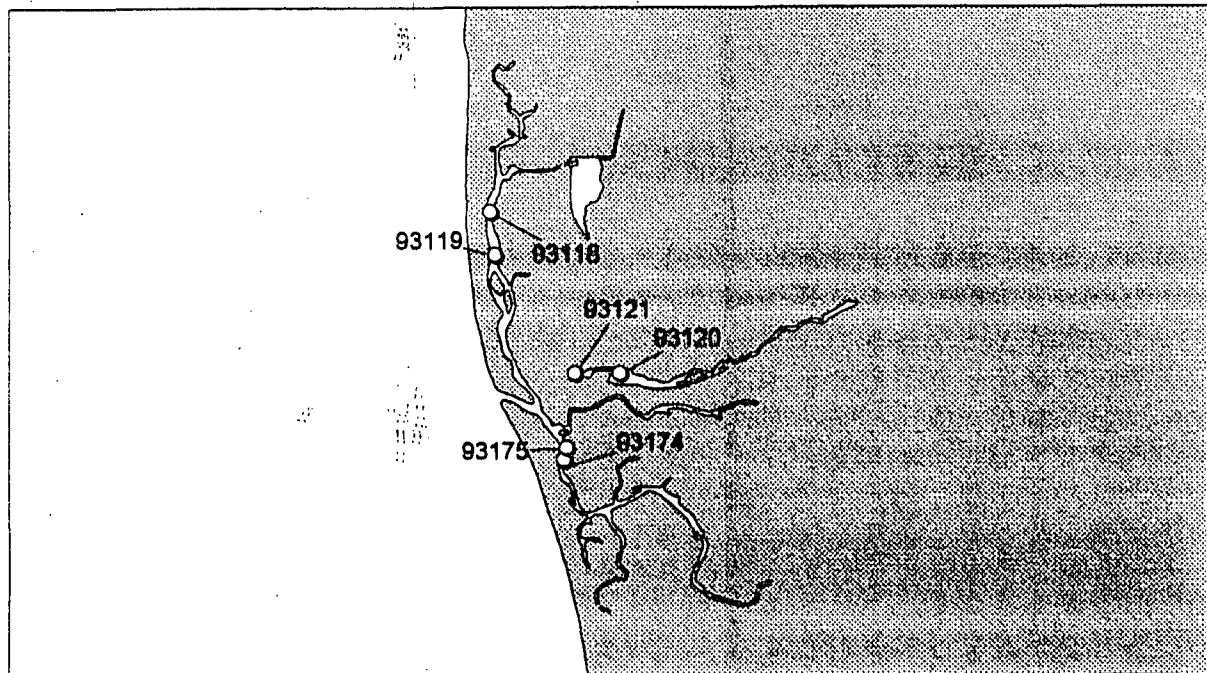




Figure 3d  
Sampling Locations  
Mission Bay and San Diego River Estuary



Tijuana River Estuary



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<sub>3</sub>, 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<sub>3</sub>, 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 0.1m<sup>2</sup> 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 pre-cleaned flat bottom scoop. This device allowed a relatively large sub-sample to be taken from a consistent depth. When subsampling surficial sediments, unrepresentative material (*e.g.*, large stones or vegetative material) was removed from the sample in the field. 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, so as to not disturb 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=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<sup>2</sup> 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.

#### **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 precleaned, large plastic bags closed with a cable tie to prevent contact with other samples or ice or water. Ice chests were driven back to the laboratory by the sampling crew or flown by air freight within 24 hours of collection.

#### **Homogenization and Aliquoting of Samples**

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

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

#### **Procedures for the Extraction of Pore Water**

The BPTCP primarily used whole core squeezing to extract pore

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

#### **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**

##### **Summary of Methods**

Trace Metals analyses were conducted at the California Department of Fish and Game's (CDFG) Trace Metals Facility at Moss Landing, CA. Table 1 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 1 - Trace Metal Detection Limits in Sediments ( $\mu\text{g/g}$ , dry weight).

Aluminum	1	Antimony	0.1
Arsenic	0.1	Cadmium	0.01
Chromium	0.1	Copper	0.1
Iron	0.1	Lead	0.1
Manganese	0.05	Mercury	0.03
Nickel	0.1	Selenium	0.2
Silver	0.01	Tin	0.02
Tributyltin	0.013	Zinc	0.05

#### **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  $130^{\circ}\text{C}$  for four hours. Three ml Hydrofluoric acid were 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.

#### **Atomic Absorption Methods**

Samples were analyzed by furnace AA on a Perkin-Elmer Zeeman 3030 Atomic Absorption Spectrophotometer, with an AS60 auto sampler, or a flame AA Perkin Elmer Model 2280. Samples, blanks, matrix modifiers, and standards were prepared using clean techniques inside a clean laboratory. ASTM Type II water and ultra clean chemicals were used for all standard preparations. All elements were analyzed with platforms for stabilization of temperatures. Matrix modifiers were used when components of the matrix 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.

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

##### **Summary of Methods**

Analytical sets of 12 samples were scheduled such that extraction and analysis will occur within a 40 day window. The methods employed by the UCSC-TOF were modifications of those described by Sloan et al. (1993). Tables 2 and 3 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 2. Organochlorine Pesticides Analyzed and Their Detection Limits in Sediment, ng/g dry weight.

Aldrin	0.5
cis-Chlordane	0.5
trans-Chlordane	0.5
alpha-Chlordene	0.5
gamma-Chlordene	0.5
Chlorpyrifos	1.0
Dacthal	0.2
o,p'-DDD	1.0
p,p'-DDD	0.4
o,p'-DDE	1.0
p,p'-DDE	1.0
p,p'-DDMS	3.0
p,p'-DDMU	2.0
o,p'-DDT	1.0
p,p'-DDT	1.0
p,p'-Dichlorobenzophenone	3.0
Dieldrin	0.5
Endosulfan I	0.5
Endosulfan II	1.0
Endosulfan sulfate	2.0
Endrin	2.0
Ethion	2.0
alpha-HCH	0.2
beta-HCH	1.0
gamma-HCH	0.2
delta-HCH	0.5
Heptachlor	0.5
Heptachlor Epoxide	0.5
Hexachlorobenzene	0.2
Methoxychlor	1.5
Mirex	0.5
cis-Nonachlor	0.5
trans-Nonachlor	0.5
Oxadiazon	2.0
Oxychlordane	0.5
Toxaphene	10

Table 3. PCB Congeners and PAHs Analyzed and Their Detection Limits in Sediment, ng/g dry weight.

NIST Congeners:

PCB Congener 8	PCB Congener 128
PCB Congener 18	PCB Congener 138
PCB Congener 28	PCB Congener 153
PCB Congener 44	PCB Congener 170
PCB Congener 52	PCB Congener 180
PCB Congener 66	PCB Congener 187
PCB Congener 87	PCB Congener 195
PCB Congener 101	PCB Congener 206

Table 3 (cont.). PCB Congeners and PAHs Analyzed and Their Detection Limits in Sediment, ng/g dry weight.

PCB Congener 105	PCB Congener 209
PCB Congener 118	

Additional Congeners:

PCB Congener 5	PCB Congener 137
PCB Congener 15	PCB Congener 149
PCB Congener 27	PCB Congener 151
PCB Congener 29	PCB Congener 156
PCB Congener 31	PCB Congener 157
PCB Congener 49	PCB Congener 158
PCB Congener 70	PCB Congener 174
PCB Congener 74	PCB Congener 177
PCB Congener 95	PCB Congener 183
PCB Congener 97	PCB Congener 189
PCB Congener 99	PCB Congener 194
PCB Congener 110	PCB Congener 201
PCB Congener 132	PCB Congener 203

All individual PCB Congener detection limits were 1 ng/g dry weight.

Aroclors:

Aroclor 5460	50
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Polycyclic Aromatic Hydrocarbons

Naphthalene	5
2-Methylnaphthalene	5
1-Methylnaphthalene	5
Biphenyl	5
2,6-Dimethylnaphthalene	5
Acenaphthylene	5
Acenaphthene	5
2,3,5-Trimethylnaphthalene	5
Fluorene	5
Phenanthrene	5
Anthracene	5
1-Methylphenanthrene	5
Fluoranthrene	5
Pyrene	5
Benz[a]anthracene	5
Chrysene	5
Benzo[b]fluoranthrene	5
Benzo[k]fluoranthrene	5
Benzo[e]pyrene	5
Benzo[a]pyrene	5
Perylene	5
Indo[1,2,3-cd]pyrene	5
Dibenz[a,h]anthracene	5
Benzo[ghi]perylene	5



### **Extraction and Analysis**

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.

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 contains > 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 60m x 0.25mm 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**

#### **Summary of Methods**

Samples were received in the frozen state and allowed to thaw at room temperature. Source samples were gently stirred and sub-samples were removed with a stainless steel spatula and placed in labeled 20 ml polyethylene scintillation vials. Approximately 5 grams equivalent 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<sup>3-</sup>), agitated, and centrifuged to a clear supernate. Some samples were retreated

with HCl to remove residual inorganic carbon. The evolution of gas during HCl treatment indicates the direct presence of inorganic carbon ( $\text{CO}^{-3}$ ). After HCl treatment and decanting, samples were washed with approximately 15 ml of deionized-distilled water, agitated, centrifuged to a clear supernate, and decanted. Two sample washings were required to remove weight determination and analysis interferences.

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

A modification of the high temperature combustion method, utilizing a Wheatstone 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 aliquotes of 5-10 mg of dried prepared sub-sample were used to determine carbon and nitrogen weight percent values. Calibration of the instrument was with known standards using Acetanilide or L-Cystine. Detection limits are 0.2 ug/mg, carbon and 0.01 ug/mg nitrogen dry weight.

The above methods and protocols are modifications of several published papers, reference procedures and analytical experimentation experience (Franson, 1981; Froelich, 1980; Hedges and Stern, 1983; MARPCPN I, 1992).

#### **Quality Control/Quality Assurance**

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

## Grain Size Analysis of Sediments

### **Summary of Methods**

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

### **Sample Splitting and Preparation**

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

### **Wet Sieve Analysis (separation of coarse and fine fraction)**

Beakers were placed in a drying oven and sediments were dried at less than 55°C until completely dry (approximately three days). Beakers were removed from drying oven and allowed to equilibrate to room temperature for a least a half-hour. Each beaker and its contents were weighed to the nearest .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.

## **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.

## **Benthic Community Analysis**

### **Summary of Methods**

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 labelled 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.

## **Toxicity Testing**

### **Summary of Methods**

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

### **Pore Water Samples**

Once at MPSL, frozen pore water samples were stored in the dark, at  $-12^{\circ}\text{C}$ , 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). Samples were thawed 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 test protocol. 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 parts per thousand (ppt), drawn from partially frozen seawater. Dilution water consisted of Granite Canyon seawater (32 to 34 ppt). Water quality parameters were measured at the beginning and end of each test. Dissolved oxygen concentrations and pH were measured using an Orion EA940 expandable ion analyzer. Salinity was measured with a refractometer. Temperature of each sample was measured with a mercury thermometer.

#### 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):

$$[\text{NH}_3] = [\text{total ammonia}] \times ((1 + \text{antilog}(\text{pK}_a^\circ - \text{pH}))^{-1}),$$

where  $\text{pK}_a^\circ$  is the stoichiometric acidic hydrolysis constant for the test temperature and salinity. Values for  $\text{pK}_a^\circ$  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. in press). The concentration of hydrogen sulfide was derived from the concentration of total sulfide by using the following equation (ASCE 1989):

$$[\text{H}_2\text{S}] = [\text{S}^{2-}] \times (1 - ((1 + \text{antilog}(\text{pK}_a^\circ - \text{pH}))^{-1})),$$

where temperature and salinity dependent  $\text{pK}_a^\circ$  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.

#### Subsurface Water Samples

The subsurface water toxicity tests are water column toxicity tests (abalone development, mussel development, etc..) performed on water collected with the modified Van Veen grab. A water sample bottle on the frame of the grab and a stopper is pulled as the jaws of the grab close for a sediment sample. The water sample is consequently collected approximately 0.5 meters above the bottom. 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.

#### **Sediment Samples**

Bedded sediment samples were held at 4°C until required for testing. All *Rhepoxynius abronius* and *Neanthes arenaceodentata* solid phase sediment tests were initiated within 14 days of the sample collection date. All sediment samples were processed according to procedures described in ASTM (1992). 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 *Rhepoxynius* and *Neanthes* tests, and during overlying water renewals in the *Neanthes* tests.

#### **Sea Urchin Larval Development Test**

The sea urchin (*Strongylocentrotus purpuratus*) larval development test was conducted on all pore water samples. Details of the test protocol were given in Dinnel (1992). 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 (approx. 32±2 ppt) 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, 20ml glass scintillation vials containing 5 mls of pore water. Each test container was inoculated with approximately 150 embryos (30/ml). All pore water samples were tested at three concentrations: 100, 50 and 25% pore water, each having three replicates. Pore water samples were diluted when necessary 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, and in some tests a frozen seawater control consisting of Granite Canyon seawater that has been frozen along with the pore water samples. Tests were conducted at ambient seawater salinity (usually 33±2 ppt). A positive control reference test was conducted concurrently with each pore water test using a dilution series of copper chloride as a reference toxicant.

After an exposure of 72 or 96 hours (no difference in results was detectable between these periods), 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 by Dinnel (1992). 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. Slow growing embryos were considered abnormal.

Percent normal development was calculated as:

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

#### Sea Urchin Fertilization Test

The sea urchin (*Strongylocentrotus purpuratus*) fertilization test was conducted on pore water samples. Details of the test protocol were 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 (raised chorion completely surrounding the egg). Test containers were polyethylene-capped, sea-water leached, 20ml glass scintillation vials containing 5 mls of pore water. All pore water samples were tested at three concentrations: 100, 50 and 25% pore water, each having three replicates. Pore water samples were diluted with one micron-filtered Granite Canyon seawater. Laboratory controls were included with each set of samples tested. Controls included a dilution water control consisting of Granite Canyon seawater, a brine control with all samples that require brine adjustment, and in some tests a frozen seawater control consisting of Granite Canyon seawater that has been frozen along with the pore water samples. Tests were conducted at ambient seawater salinity (usually 33±2 ppt). A positive control reference test 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:

$$\frac{(\text{Number of fertilized eggs}) \times 100}{(\text{Number of fertilized eggs} + \text{number of unfertilized eggs})}$$

#### Sea Urchin Cytogenetics Test

Analysis of cytogenetic abnormalities using sea urchin embryos followed methods described in Hose (1985). Sea urchin embryos were exposed to pore water for 48 hours then preserved in 5% buffered formalin. Embryos were placed on a clean glass microscope slide and excess formalin removed with tissue paper. Embryos were then treated with a few drops of aceto-orcein stain (19 parts aceto-orcein:one part propionic acid) for approximately 1 to 3 minutes, and a cover slip was then applied to the darkly

stained embryos. Excess stain was removed by blotting, and embryos were compressed into a monolayer by application of direct pressure. Embryo monolayer preparations were observed under oil immersion using either an Olympus BH2 or Tiyoda light microscope at 100x magnification. Cytogenetic abnormalities were observed in mitotic cells in anaphase and telophase. Possible aberrations observed followed those described in Hose (1985), including: stray or lagging chromosomes, accentric or attached chromosome fragments, and translocated or side-arm bridges. Because a majority of the embryos exposed to the 100 and 50% pore water concentrations displayed gross developmental abnormalities, mitotic aberrations were generally assessed using embryos exposed to 25% pore water.

#### **Red Abalone Larval Development Test**

The red abalone (*Haliotis rufescens*) larval development test was conducted on all subsurface water samples. Details of the test protocol were described in Anderson et al. (1990). The following was a brief description of the method. Adult male and female abalone were induced to spawn separately using a dilute solution of hydrogen peroxide in sea water. Fertilized eggs were distributed to the test containers within 1 hour of fertilization. Test containers were polyethylene-capped, seawater leached scintillation vials containing 10 mls of sample water. Each of five replicate test containers were inoculated with 100 embryos (10/ml).

Positive control reference tests using zinc sulfate as a reference toxicant were conducted concurrently with each batch of samples. A negative sea water control consisting of one micron-filtered Granite Canyon seawater was tested along with subsurface water samples and zinc concentrations. After 48 hours of exposure, developing 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 veliger larvae with normal shells as described in Anderson et al. (1990).

Percent normal development was calculated as:

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

#### **Amphipod Tests**

Solid-phase sediment sample toxicity was assessed using the 10-day amphipod survival toxicity test protocol for *Rhepoxynius abronius* (ASTM 1993).

All test organisms were obtained from Northwest Aquatic Sciences in Yaquina Bay, Oregon. Amphipods were separated into groups of approximately 100 each, placed in polyethylene boxes containing Yaquina Bay collection site sediment, and then shipped on ice via overnight courier. Upon arrival at Granite Canyon, the amphipods were acclimated slowly (<2 ppt per day) to 28 ppt sea water (T =15°C). Once acclimated to 28 ppt, 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 two cm of sediment and filled to the 700 ml line with seawater adjusted to 28 ppt 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 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 28 ppt seawater to fill test containers to the one liter line. Test chambers were aerated gently and illuminated continuously at ambient laboratory light levels.

Five laboratory replicates of each sample were tested for ten days. A negative sediment control consisting of five lab replicates of Yaquina Bay home sediment was included with each sediment test. After ten days, the sediments were sieved through a 0.5 mm Nytex 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 sea water, diluted to 28 ppt was compared to all cadmium concentrations.

Amphipod survival for each replicate was calculated as:

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

#### **Polychaete Tests**

A subset of sediment samples was tested using *Neanthes arenaceodentata*. The protocol follows procedures described by Johns et al. (1990). Newly emergent juvenile *Neanthes* (2 to 3 weeks old) were obtained from Dr. Donald Reish in Long Beach, California. Worms were shipped in seawater in plastic bags at ambient temperature via overnight mail. Upon arrival at MPSL, worms were allowed to acclimate gradually to 28 ppt with <2 ppt daily incremental salinity adjustments. Once acclimated, the worms were maintained for at least 48 hours, and no longer than 10 days, before the start of a test.

The test setup was similar to the amphipod test. Test containers were one liter glass beakers or jars, each containing 2 cm of sediment and filled to the 700 ml line with 28 ppt seawater. Seawater was adjusted to the appropriate salinity using spring water or distilled well water. After test sediment and overlying water were allowed to equilibrate for 24 hours, 5 worms were placed in each of 5 replicate beakers per sample, and 28 ppt seawater was added up to the one liter line. Test chambers were

aerated and illuminated continuously during the 20-day test period. Worms were fed TetraMin® every 2 days, and water was renewed every 3 days. At the end of 20 days, samples were sieved through 0.5mm Nitex® screens, and the number of surviving worms recorded. Surviving worms were placed in pre-weighed foil in a drying oven until they reached a constant weight. Worms were weighed to the nearest 0.1mg.

Worm survival for each replicate was calculated as:

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

Mean weight/worm for each replicate was calculated as:

$$\frac{(\text{Total weight}) - (\text{foil weight})}{\text{Number of surviving worms}}$$

Positive control reference tests were conducted using cadmium chloride as a reference toxicant. Worm survival for 10 worms was recorded in three replicates of four cadmium concentrations in seawater after 96 hours of exposure. A negative seawater control consisting of one micron-filtered Granite Canyon seawater was compared to all cadmium concentrations. A negative sediment control consisting of Yaquina Bay amphipod home sediment was also included in each test.

#### **Mussel Development Test**

The bay mussel (*Mytilus edulis*) larval development test was conducted on pore water and sub-surface water samples for which salinity was in the range of 0-26 parts per thousand (ppt). Details of the test protocol are given in ASTM (1992). A brief description of the method follows.

Mussels were shipped via overnight courier and held at MPSL at ambient temperature (11-13°C) and salinity (32-34 ppt) until testing. On the day of a test, adult mussels were transferred to 25°C water to induce spawning through heat stress. Sperm and eggs were mixed in 25 ppt water to give a final sperm-to-egg ratio of 15 to 1. After approximately 20 minutes, fertilized eggs were rinsed on a 25 µm screen to remove excess sperm. Embryos were distributed to the test containers after approximately 90% of the embryos exhibited first cell cleavage (approximately 1 hour).

Test containers were polyethylene-capped, sea water-leached, 20 ml glass scintillation vials containing 10 mls of test solution. Each test container was inoculated with approximately 250 embryos (25/ml). Pore water samples were tested at 25 ± 2 ppt. Low salinity samples were adjusted to 25 ppt using frozen seawater brine. Controls consisted of one micron-filtered Granite Canyon sea water adjusted to 25 ppt, and a separate brine control consisting of sea water brine adjusted to 25 ppt with distilled water. A positive control reference test was conducted concurrently with each test using a dilution series of cadmium chloride as a reference toxicant.

After a 48-hour exposure period, larvae were fixed in 5% buffered formalin. All larvae in each container were examined under an inverted light microscope at 100x to determine the proportion of normally developed larvae as described in ASTM (1992). The percentage normally developed larvae was calculated as:

$$\frac{\text{Observed number of live normal larvae} \times 100}{\text{Mean number of live embryos inoculated at start of test}}$$

#### Statistical Analysis of Toxicity Test Data

A total of three hundred fifty solid-phase sediment samples were tested for toxicity to amphipods (*Rhepoxynius abronius*) as part of this study. A subset of 154 samples of solid-phase sediment samples were tested with the polychaete *Neanthes arenaceodentata*. Two hundred twenty-five pore water samples were tested using the purple sea urchin (*Strongylocentrotus purpuratus*) fertilization test; 196 samples were tested using the sea urchin larval development test; and 65 subsurface water (water column) samples were tested with the red abalone (*Haliotis rufescens*) larval development test. The bivalve mollusc (*Mytilus edulis*) larval development test was used to test eight sub-surface water and three pore water samples that had salinities below the threshold (26 ppt) selected for use of the sea urchin test.

There were three primary objectives for the toxicity testing portion of this study:

(1) Investigate the areal extent of toxicity in the San Diego Bay region by estimating the percent area considered toxic, based on toxicity test data for each individual protocol; (2) Identify those sites which were most toxic to assist in prioritization and designation of "toxic hot spots"; and (3) Evaluate the performance of each toxicity test protocol.

The first objective (investigating the spatial extent of toxicity) was primarily for use of the National Oceanic and Atmospheric Administration (NOAA)- National Status and Trends Program. The second objective (identifying and prioritizing individual sites as "toxic hot spots") was primarily for the California State Water Resources Control Board.

The different objectives required different sampling designs and different statistical approaches. The first objective, determination of the areal extent of toxicity, was accomplished through a process this report will refer to as the "EMAP approach": statistical procedures that compared samples from randomly selected stations against the test controls. In this approach, classification of a particular test sample as "toxic" was determined by a two step statistical approach comparing test samples to laboratory controls, as described below.

To accomplish the second objective, distinguishing the most toxic stations in the region to assist in the designation and prioritization of "toxic hot spots", a relatively new statistical method was employed, termed the "reference envelope approach". This approach compared organism response (e.g. % survival) from

an individual test sample with mean organism response from a group of reference sites presumed to represent optimal ambient conditions in the San Diego Bay region. Optimal ambient conditions are defined as indicative of conditions that can be found within the study area at sites that have relatively low pollutant concentrations and relatively undisturbed benthic communities. This method was intended to refine the definition of sample toxicity in order to identify a subset of toxic sites that were of greatest concern. This method is also described in detail below.

It should be noted that the EMAP approach and the reference envelope approach are distinctly different, yet complementary, statistical methods for determining toxicity. The intent of using two approaches is to identify non-toxic, significantly toxic and highly toxic locations based on multiple analyses of the data, for ranking toxicity results in a tiered approach.

#### **EMAP Approach for Determining Spatial Extent of Toxicity**

The "San Diego Bay Region" incorporates three non-connecting water bodies: San Diego Bay, Mission Bay and Tijuana Slough. Ideally these water bodies should be treated as discrete areas and analyzed separately to determine percent area toxic for each. However, the number of samples from Mission Bay and Tijuana Slough were 13 and 6, respectively, and these were considered too few to accurately represent toxicity in a frequency distribution.

Consequently, data from all three water bodies were combined in this report to determine the percentage of total area that was toxic.

In this analysis, sample toxicity was determined using procedures described by Schimmel et al. (1991); a method used in the EPA Environmental Monitoring Assessment Program (EMAP) and in similar NOAA studies nationwide (e.g., Long et al., 1994). Using the EMAP approach, samples were defined as toxic if the following two criteria were met: (1) there was a significant difference in mean organism response (e.g. percent survival) between a sample and the control as determined using a t-test, and (2) mean organism response in the toxicity test was less than 80% of the laboratory control value. The t-test generates a t statistic by dividing the difference between control and test sample response by an expression of the variance between laboratory replicates. If the variation between control and test sample is sufficiently greater than the variation among laboratory replicates, the t-test indicates a significant difference in response. A "separate variance" t-test was used to adjust the degrees of freedom to account for variance heterogeneity among samples (SYSTAT, 1992).

The second criterion, that sample response must be less than 80% of the control value to be considered toxic, is useful in eliminating those samples that were statistically different from controls only because of a very small variance among laboratory replicates. For example, a sample that had  $90 \pm 2\%$  *Rhepoxynius* survival would be significantly different from a control with

survival of  $96 \pm 2 \%$ , and would therefore be considered toxic based on a simple t-test even though the biological significance of this response would be negligible. By adding the second criterion, any sample with percent survival exceeding 80% of the controls would be considered non-toxic. The 80% level was established by examination of numerous amphipod toxicity data sets (Thursby and Schlekot, 1993). These researchers found that samples with survival less than 80% relative to controls were significantly different from controls about 90% of the time. Preliminary analyses of *Rhepoxynius* test data from the BPTCP indicate a similar level of statistical sensitivity. Based on this observation, the 80% criterion has been adopted previously (Schimmel et al., 1991; USEPA/USACOE, 1991). Samples identified as toxic according to these criteria were used to estimate the percent of total area toxic within the San Diego Bay region.

#### **Using Cumulative Distribution Frequencies to Characterize Spatial Extent**

The stratified random sampling design, allowed 121 of the total 350 samples collected in this study, to be used to estimate the areal extent of toxicity. Samples collected using directed sampling (non-random sampling directed to areas of particular characteristics) were not included in this analysis since they may have been biased toward increased contamination. Directed non-random sampling was designed to address the State and Regional Water Quality Boards objective to identify and prioritize potential toxic hot spots. Samples were collected from randomly selected stations within 95 non-overlapping mapped blocks of known area in the San Diego Bay region (Figure 2). Total area sampled, calculated as the sum of all 95 block areas, was 40.9 km<sup>2</sup>. The estimate of spatial toxicity was determined from cumulative distribution frequencies (CDFs) that relate toxicity response to percent of total sampled area. CDF calculations follow procedures used by both EMAP and NS&T.

CDFs were determined using calculated areas of each block normalized to the number of samples per block. Block areas were calculated using a planimeter on NOAA National Ocean Service navigation chart (means of three trials), calibrated to the scale of the charts. Because no more than two samples were collected per block, numbers of toxic samples per block ranged from 0 to 2, representing 0%, 50% or 100% of a given block area. By combining the blocks with their toxicity designations in a cumulative manner, the CDFs indicate the percentage of total area sampled that was toxic. Sample toxicity was determined from comparisons with laboratory controls as described above in the EMAP approach; each sample with a mean significantly different from, and less than 80% of, the laboratory control mean was considered toxic. Calculations used to derive percent areas determined to be toxic are shown on worksheets in Appendix F. CDFs were generated from toxicity tests using *Rhepoxynius* survival (solid phase) and *Strongylocentrotus* larval development (pore water). There were insufficient data from randomly selected sites to generate CDFs for *Haliotis*, *Mytilus* and *Neanthes* tests.

### The Reference Envelope Approach for Determining Toxicity

The second objective of this study was to assist in the identification of "toxic hotspots", where adverse biological impacts are observed in areas with localized concentrations of pollutants. Identification of problem sites was an essential step in prioritizing efforts to improve sediment and water quality through regulation and remediation programs. While it was possible large areas of San Diego Bay may be degraded to some extent, logistical constraints required efforts be focused on localized areas that were significantly more toxic than optimal ambient conditions that exist in the greater portion of the bay. In this study, a "reference envelope" statistical approach was employed (Smith, 1995) to identify samples that exhibit significantly greater toxicity than expected in San Diego Bay as a whole.

The reference envelope approach uses data from "reference sites" to characterize the response expected from sites in the absence of localized pollution. Using data from the reference site population, a tolerance limit was calculated for comparison with data from test sites. Samples with toxicity values greater than the tolerance limit were considered toxic relative to the optimal ambient condition of the Bay.

This relative standard established using reference sites was conceptually different from what might be termed the absolute standard of test organism response in laboratory controls. Rather than comparing sample data to control data using t-tests, with laboratory replication used to characterize the variance component (as in the "EMAP approach" described above), the reference envelope approach compared sample data against a percentile of the reference population of data values, using variation among reference sites as the variance component. The reference envelope variance component, therefore, included variation among laboratory replicates, among field replicates, among sites, and among sampling events.

The reference stations were assumed to be a random sample from an underlying population of reference locations that serve as a standard for what we considered relatively non-impacted conditions. The toxicity measured at different reference locations will vary due to the different local conditions that can affect the toxicity results. In order to determine whether sediments from a test location were toxic, bioassay results for the test location were compared with bioassay results from the population of reference locations.

Assuming the bioassay results from the population of reference locations are normally distributed, an estimate of the probability that the test sediment is from the underlying reference station distribution can be made. For example, if the result for a test sediment was at the first percentile of the underlying reference location distribution (in the direction of toxicity), then there would be about a 1% chance that the test sediment was from the distribution of reference locations.

The toxicity level at the first percentile of the reference distribution is not known because there were only limited samples from the underlying distribution and only an estimate could be made of where the first percentile lies. If an estimate of the first percentile value was made a large number of times, using different random samples from the reference distribution, a (non-central t) distribution of estimates, with the distribution mode at the actual first percentile would be obtained (Figure 4). In Figure 4, it can be seen from the distribution of estimates that about one half of the time the estimate from the sample was above the actual first percentile. Ideally, identification of an estimated toxicity value would cover the actual first percentile for a large percentage of the estimates (say 95% of the time). Such a value can be obtained from the left tail of the distribution of estimates where 5% of the estimates are less than the chosen value. The definition of p is the percentile of interest, and alpha is the acceptable error probability associated with an estimate of the pth percentile. Thus, in this example, p=1 and alpha = .05.

The toxicity level can be computed that will cover the pth percentile 1 minus alpha proportion of the time as the lower bound (L) of a tolerance interval (Vardeman 1992) as follows.

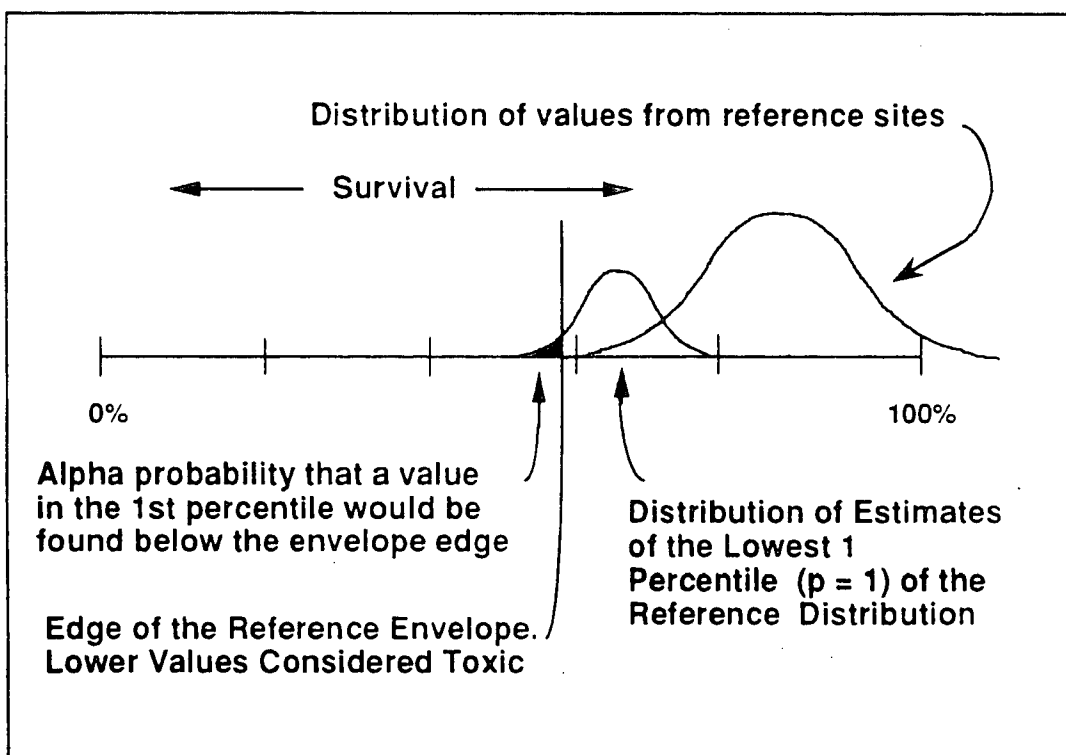
$$L = X_r - [ g_{\alpha,p,n} \cdot S_r ]$$

where  $X_r$  is the mean of the sample of reference stations,  $S_r$  is the standard deviation of the toxicity results among the reference stations, and n is the number of reference stations. The g values, for the given alpha, p, and n values, can be obtained from tables in Hahn and Meeker (1991) or Gilbert (1987). S contains the within- and between-location variability expected among reference locations. If the reference stations are sampled at different times, then S will also incorporate between-time variability. The "edge of the reference envelope" (L) represents a cutoff toxicity level used to distinguish toxic from non-toxic sediments. The value used for p will depend on the level of certainty needed for a particular regulatory situation. In this study a p value equal to 1% was chosen, to distinguish only the most toxic samples, that is, samples having a 95% certainty of being in the most toxic 1%.

#### **Reference Station Selection for Reference Envelope**

Reference stations were selected to represent optimal ambient conditions available in San Diego Bay, based on available chemistry and benthic community data. Toxicity data were not used in the selection process. Stations were selected if both of the following criteria were met: 1) the benthic communities appeared relatively undisturbed (based on indices described in the benthic community analysis section), and 2) sediment chemical concentrations were below Effects Range Median (ERM) levels (Long et al., 1995) and Probable Effects levels (PELs) (McDonald, 1994). Among all stations, both randomly and non-randomly

**Figure 4. Schematic illustration of the method for determining the lower tolerance interval bound (edge of the reference envelope) to determine sample toxicity relative to a percentile of the reference site distribution.**





selected, a total of 75 samples were analyzed for toxicity, chemistry and benthic ecology in this study. After screening these 75 samples, eleven stations in the San Diego Bay region were selected as reference stations (Table 4). It should be noted these stations were not selected prior to the initiation of the study, but were selected after all of the analyses for the study were completed.

### P450 Reporter Gene System

#### **Summary of Methods**

A subset of thirty sediment samples was sent to Columbia Analytical Services (CAS) in Kelso, Washington for extraction with methylene chloride. Extracts of 20 g sediment samples were evaporated to 1 ml and placed in small vials for shipment to the Carlsbad, CA laboratory of CAS where 2  $\mu$ l samples were applied in triplicate to genetically engineered human liver cancer cells (101L cells) developed by Dr. Robert Tukey of the University of California, at San Diego. A previous study partially funded by the State Board (Anderson et al., 1995) had demonstrated that low levels of dioxin, coplanar PCBs and selected PAHs could be detected by the P450-RGS response to the extracts. When this small volume of solvent (with extracted contaminants) is applied to approximately one million cells in 2 ml of medium, induction of the CYP1A1 gene leads to production of the detoxification enzyme, P450, and the luminescent enzyme, luciferase. When the cells are lysed (after 16 hours) and the centrifugate tested with luciferin, the amount of light measured in a luminometer is a function of the concentration and potency of the contaminants on the sediments. When the contents of a single well (containing  $\approx$  one million cells) are centrifuged and placed in the luminometer the resulting measure is in Relative Light Units (RLU). The RLUs of the solvent blank are set to unity and by dividing all RLU readings for the reference toxicant and samples by the RLUs of the blank, the data are converted to Fold Induction (or times background). To make the data more relevant to environmental samples, the data are converted to Equivalents of Benzo(a)pyrene (BaPEq), a ubiquitous PAH compound of environmental concern (U.S. EPA, 1995). To convert mean fold induction to BaPEq in  $\mu$ g/g dry weight, the fold induction values are divided by sixty, which (based on a dose response curve) is the response of the assay to  $1\mu$ g/ml of Benzo(a)pyrene (BaP). The  $\mu$ g of BaP per volume of extract (e.g. 10  $\mu$ l) is adjusted to an initial volume of 1 ml and this product divided by the dry grams of sample contained in the 1 ml extract. This method can be used to calculate Equivalents for PAHs, from benz(a)anthracene to benzo(g,h,i)perylene (Table 4), as well as dioxins/furans and coplanar PCBs. Both sediments and tissues (marine mussel) from San Diego Bay have been analyzed for the presence of P450 inducing compounds in previous studies (Anderson et al. 1996, in press a). The detailed methods and results of P450-RGS testing with standards and sediment extracts are described in Postlind et al. (1994), and Anderson et al. (1995). In 1996, three publications will be available describing the specific test methods (ASTM, Standard Methods, and CRC Press).

**TABLE 4  
REFERENCE STATIONS SELECTED FOR REFERENCE ENVELOPE ANALYSIS**

Station #	Station Name	IDORG #	Leg	% Fines	TOC	ERMQ	PELQ	BENTHICS	Amphipod Surv.	Urchin Devo.(25%)
93112.0	MISSION BAY A8 (x1)-REP 1	856	21	30.12	0.81	0.065	0.116	UNDEGRADED	98 ± 5	20.2 ± 1
93112.0	MISSION BAY A8 (x1)-REP 2	857	21	37.28	0.94	0.082	0.134	UNDEGRADED	98 ± 3	89 ± 4
93112.0	MISSION BAY A8 (x1)-REP 3	858	21	43.58	0.91	0.089	0.145	UNDEGRADED	94 ± 5	53.6 ± 49
93202.0	EAST BASIN II (x5)	842	21	48.28	1.11	0.238	0.362	UNDEGRADED	83 ± 8	87.2 ± 17
90013.0	37 SWARTZ (MARINA)	815	20	88.21	1.37	0.217	0.347	UNDEGRADED	81 ± 8	73.8 ± 10
93190.0	MARINA III (x1)	816	20	83.97	1.22	0.219	0.358	UNDEGRADED	87 ± 12	59.4 ± 9
90053.0	35 SWARTZ (CORONADO CAYS)	843	21	91.85	1.47	0.180	0.292	UNDEGRADED	75 ± 11	29 ± 25
93108.0	MISSION BAY A4 (x1)-REP 2	860	21	64.60	1.87	0.104	0.168	UNDEGRADED	69 ± 14	78.5 ± 16
93195.0	GLORIETTA BAY U1 (x2)	823	20	48.24	0.95	0.239	0.369	UNDEGRADED	81 ± 9	0 ± 0
93194.0	GLORIETTA BAY U1 (x1)	822	20	55.80	1.14	0.232	0.371	UNDEGRADED	89 ± 7	48.3 ± 7
93231.0	CARRIER BASE V2 (x8)	1000	23	57.68	1.57	0.252	0.404	UNDEGRADED	74 ± 12	0 ± 0

None of the above samples exhibited any chemical exceedance of an ERM or PEL.  
None of the above samples exhibited elevated ammonia or hydrogen sulfide during toxicity testing.  
Amphipod Survival value is the mean and standard deviation from 5 laboratory replicates.  
Urchin Development values are the mean and standard deviation of 5 replicates in 25% porewater.  
ERM and PEL summary quotients are discussed in Appendix B and the report text.

## Quality Assurance/Quality Control

### **Summary of Methods**

Summaries of quality assurance and quality control procedures are described under separate cover in the Bay Protection and Toxic Cleanup Program Quality Assurance Project Plan (QAPP). 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**

Tabulated data for all chemical, benthic, toxicological and P450-RGS analyses are presented in Appendices B, C, D and E. The summary data presented in the following results sections were used to demonstrate significant findings from the analysis of the full data set in Appendices B, C, and D.

### Distribution of Chemical Pollutants

#### **Chemical Specific Screening Values**

There have been several recent studies associating pollutant concentrations with biological responses (Long and Morgan, 1990; MacDonald, 1992). These studies provide guidance for evaluating the degree to which sediment chemical pollutants levels are responsible for effects observed in a toxicity test. Reported values are based on individual chemical pollutants within sediments. Therefore, their application may be confounded when dealing with: biological effects which could be attributed to a synergistic effect of low levels of multiple chemicals, unrecognized chemicals, or physical parameters in the sediment which were not measured.

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

- 1) **Minimal Effects Range:** The range in concentration over which toxic effects are rarely observed;
- 2) **Possible Effects Range:** The range in concentrations over which toxic effects are occasionally observed;

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

Two slightly different methods were used to determine these chemical ranges. One method developed by NOAA (Long and Morgan, 1990; Long et al., 1995) used chemical data which were associated with a toxic biological effect. These data were used to determine the lower 10th percentile of ranked data where the chemical level was associated with an effect (Effects Range-Low, or ERL). Sediment samples in which all chemical concentrations were below the 25 ERL values were not expected to be toxic. The Effects Range-Median (ERM) reflects the 50th percentile of ranked data and represents the level above which effects are expected to occur. Effects are expected to occur occasionally when chemical concentrations fall between the ERL and ERM. The probability of toxicity was expected to increase with the number and degree of exceedances of the ERM values.

Another method identifies three ranges using chemical concentration data associated with both toxic biological effects and no observed effects (MacDonald, 1992; MacDonald, 1994; MacDonald et al., *In Press*). The ranges are identified as TEL (Threshold Effects Level) and the PEL (Probable Effects Level). TEL values were derived by taking the geometric mean of the 50th percentile of the "no effects" data and the 15th percentile of the "effects" data. The PEL values were derived by taking the geometric mean of the 85th percentile of the "no effects" data and the 50th percentile of the "effects" data. Although different percentiles were used for these two methods, they are in close agreement, usually within a factor of 2. Values reported for both methods are shown in Table 5. Neither of these methods is advocated over the use of the other in this report. Instead, both are used in the following analysis to create a weight of evidence which should help explain toxicity observed from some sediments.

A cautionary note should be included; the degree of confidence which MacDonald (1994) and Long et al. (1995) had in their respective guidelines varied considerably among the different chemicals. For example, they express low confidence in the values derived for nickel, mercury, DDTs, chlordane, dieldrin, and endrin. When more data becomes available regarding these chemicals and their potential effects, the guidelines may be revised, probably upward for some substances.

#### Primary Chemicals of Concern

Figure 5 presents a summary of the chemicals and chemical groups which exceeded ERM or PEL values at the 217 stations where complete chemical analysis was performed. Copper, mercury, zinc, total chlordane, total PCBs and the PAHs were most often found to exceed ERM or PEL values and are considered the six major chemicals or chemical groups of concern in the San Diego Bay

Table 5- Comparison of Sediment Screening Levels  
Developed by NOAA and the State of Florida

SUBSTANCE	State of Florida (1)		NOAA (2)	
	TEL	PEL	ERL	ERM
<u>Organics (ug/kg- dry weight)</u>				
Total PCBs	21.550	188.79	22.70	180.0
<u>PAHs</u>				
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
<u>Pesticides</u>				
p,p'-DDE	2.070	374.17	2.20	27.0
p,p'-DDT	1.190	4.77		
Total DDT	3.890	51.70	1.58	46.1
Lindane	0.320	0.99		
Chlordane	2.260	4.79	0.50	6.0
Dieldrin	0.715	4.30	0.02	8.0
Endrin			0.02	45.0
<u>Metals (mg/kg- dry weight)</u>				
Arsenic	7.240	41.60	8.20	70.0
Antimony			2.00	2.5
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

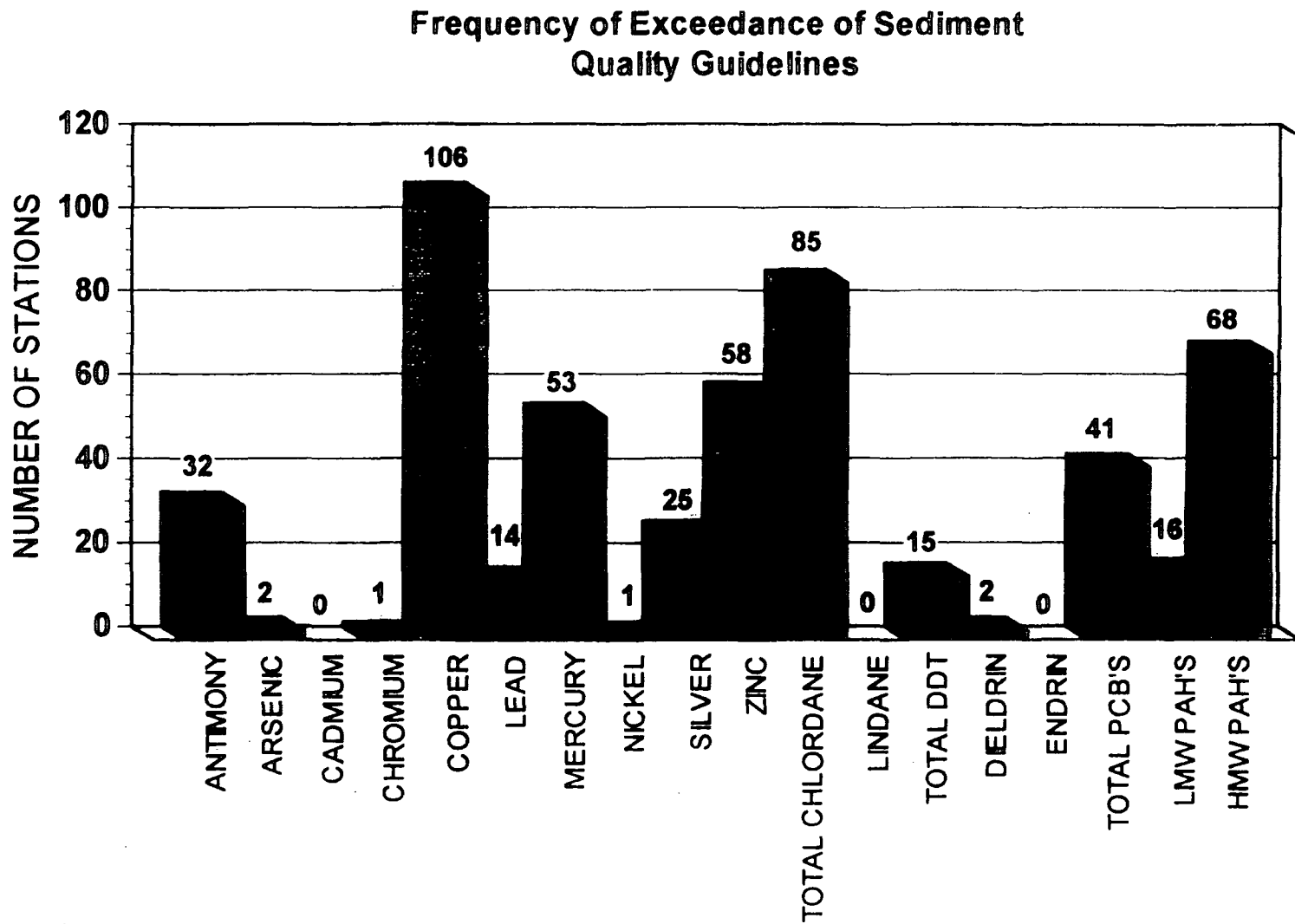


Figure 5. Number of stations which exceeded either the PEL or ERM values.

Region. MacDonald (1994) and Long et al. (1995) express relatively high confidence in the ERM and PEL values derived for copper, zinc, total PCBs and PAHs. Figures 6-12 map the geographical distribution of the six chemicals of concern throughout the San Diego Bay Region. Three ranges of chemical concentration are given for each chemical: (1) below the TEL, (2) between the TEL and PEL and (3) above the PEL to the maximum concentration determined.

Copper is a broad spectrum biocide which may be associated with acute and chronic toxicity, reduction in growth, and a wide variety of sublethal effects (Spear and Pierce, 1979). Elevated copper concentrations above the PEL (>108.2 mg/kg) or ERM (>270 mg/kg) were found throughout San Diego Bay (Figure 6(a-d)), with small boat harbors, commercial shipping berths and military berths most often impacted. Considering the historical use of copper based anti-fouling paint in the area, this distribution pattern is expected.

Zinc demonstrates a similar pattern of distribution, although actual exceedances of PEL levels (>271 mg/kg) or ERM levels (>410 mg/kg) only occur in the central portion of the bay, along the naval shipyard waterfront (Figure 7(a-d)).

Mercury, particularly methylmercury, is highly toxic to aquatic biota. Although there is variability in sensitivity of different organisms to the substance, bioaccumulation of mercury in aquatic species has significant implications with respect to human health. PEL exceedances (> 0.696 mg/kg) and ERM exceedances (>0.71 mg/kg) of mercury were found in several small boat areas, near commercial shipping operations and predominately near naval shipyard areas (Figure 8(a-d)).

Polycyclic (polynuclear) aromatic hydrocarbons (PAHs) are base/neutral organic compounds with a fused ring structure of two or more benzene rings. They are components of crude and refined petroleum products and are also products of incomplete combustion of organic materials. Exposure to PAHs may result in a wide range of carcinogenic, teratogenic and mutagenic effects to terrestrial and aquatic organisms (Eisler, 1987). Due to their similar modes of toxic action, individual PAHs are often grouped into low and high molecular weight compounds, for concise reporting purposes. Individual PAHs used for the summations of low and high molecular weight PAHs in this report are given in Appendix B -Section VII. PAH pollution, as shown for high molecular weight PAHs in Figure 9(a-d), exceeds the PEL (>6676.14  $\mu\text{g}/\text{kg}$ ) or ERM (>9600  $\mu\text{g}/\text{kg}$ ) near commercial shipping operations and naval shipyard areas, as well as the submarine facility near the mouth of the harbor. The pattern for PEL (>1442  $\mu\text{g}/\text{kg}$ ) or ERM (>3160  $\mu\text{g}/\text{kg}$ ) exceedances of low molecular weight PAHs is similar to high molecular weight PAHs (Fig. 10(a-d)).

A significant concern is polychlorinated biphenyls (PCBs) levels found in sediments throughout San Diego Bay. PCBs are base/neutral compounds which are formed by direct chlorination of

Figure 6a  
 Copper Concentrations in Sediment  
 North San Diego Bay

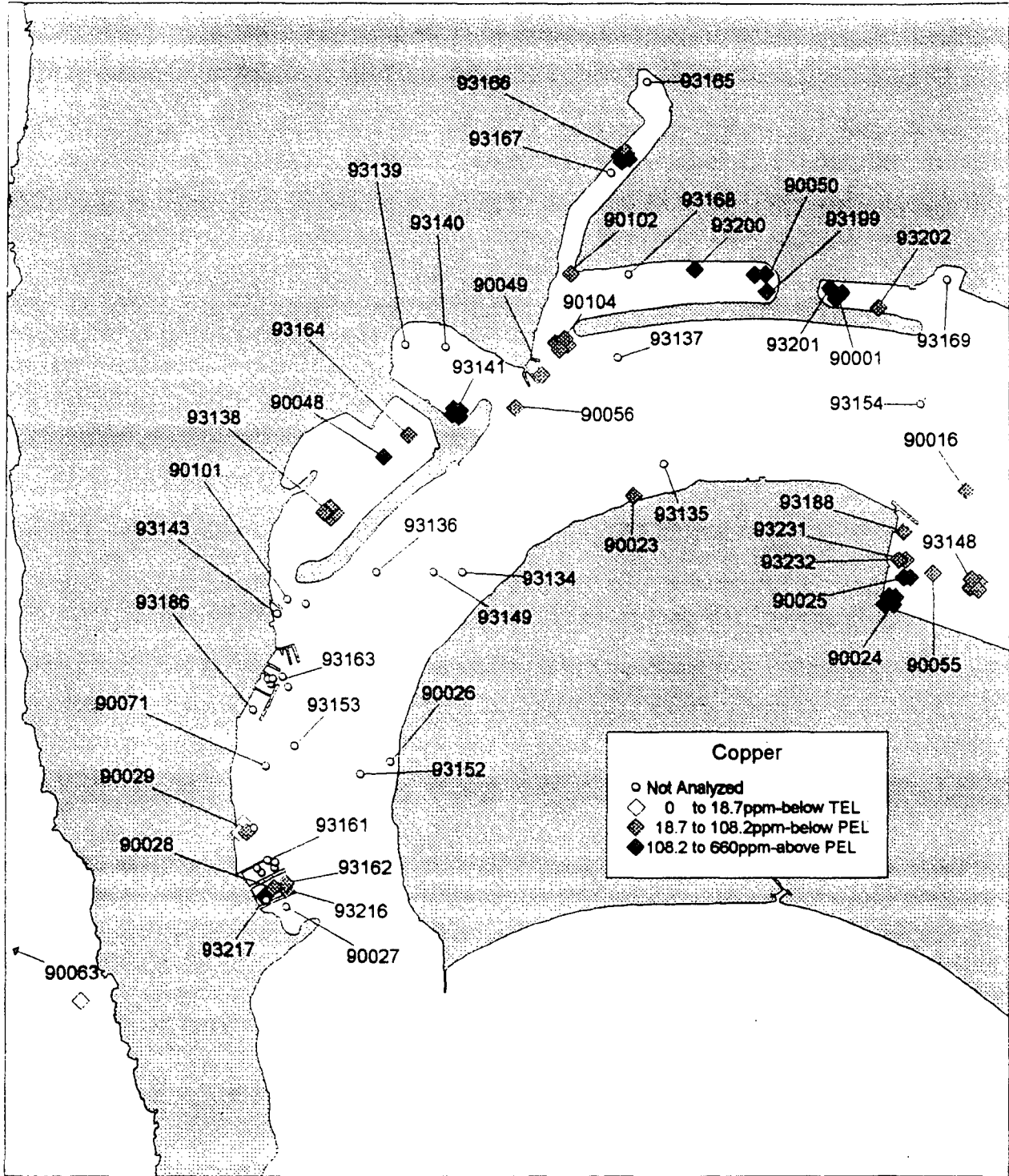




Figure 6b  
Copper Concentrations in Sediment  
Mid San Diego Bay

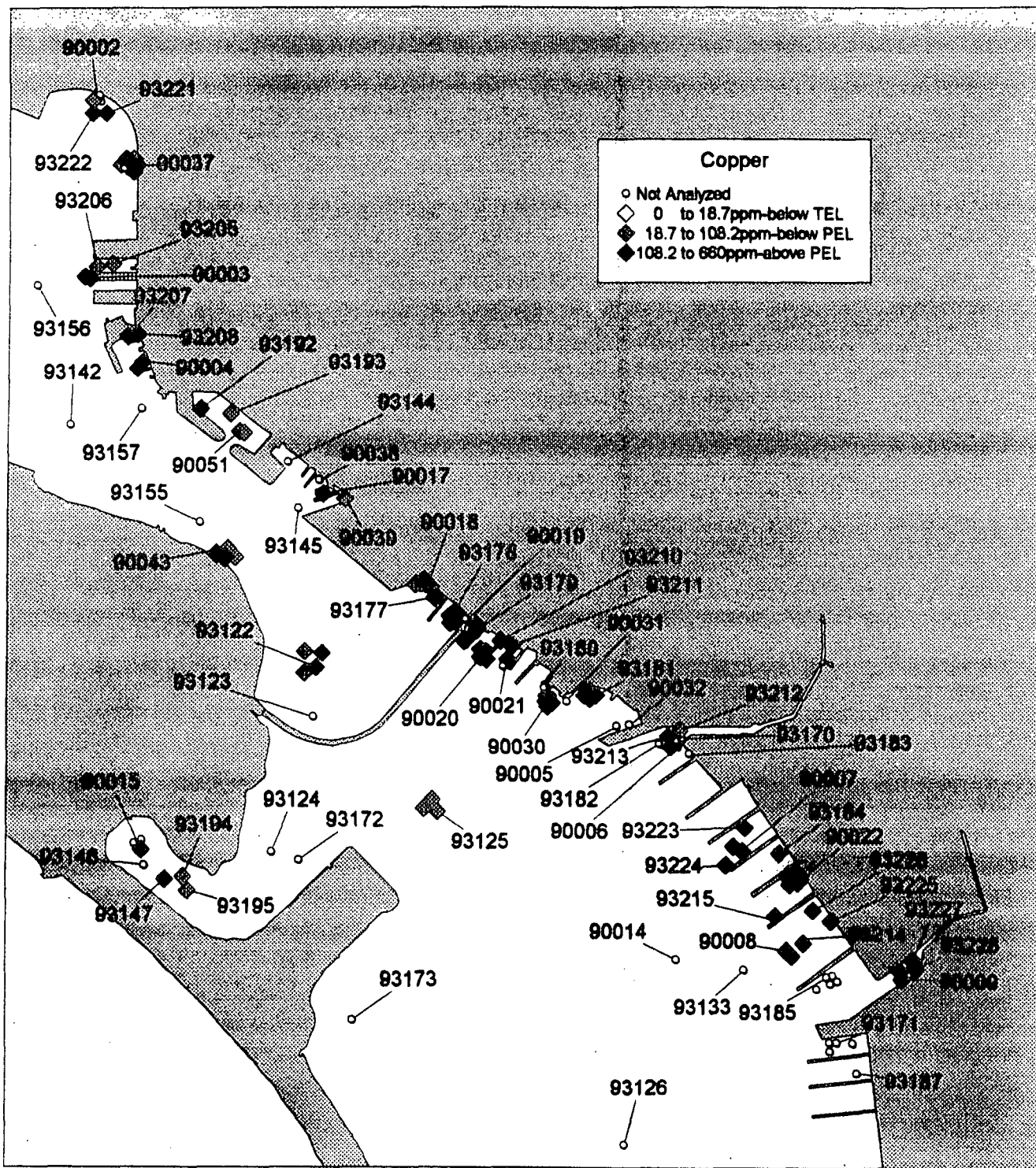


Figure 6c  
Copper Concentrations in Sediment  
South San Diego Bay

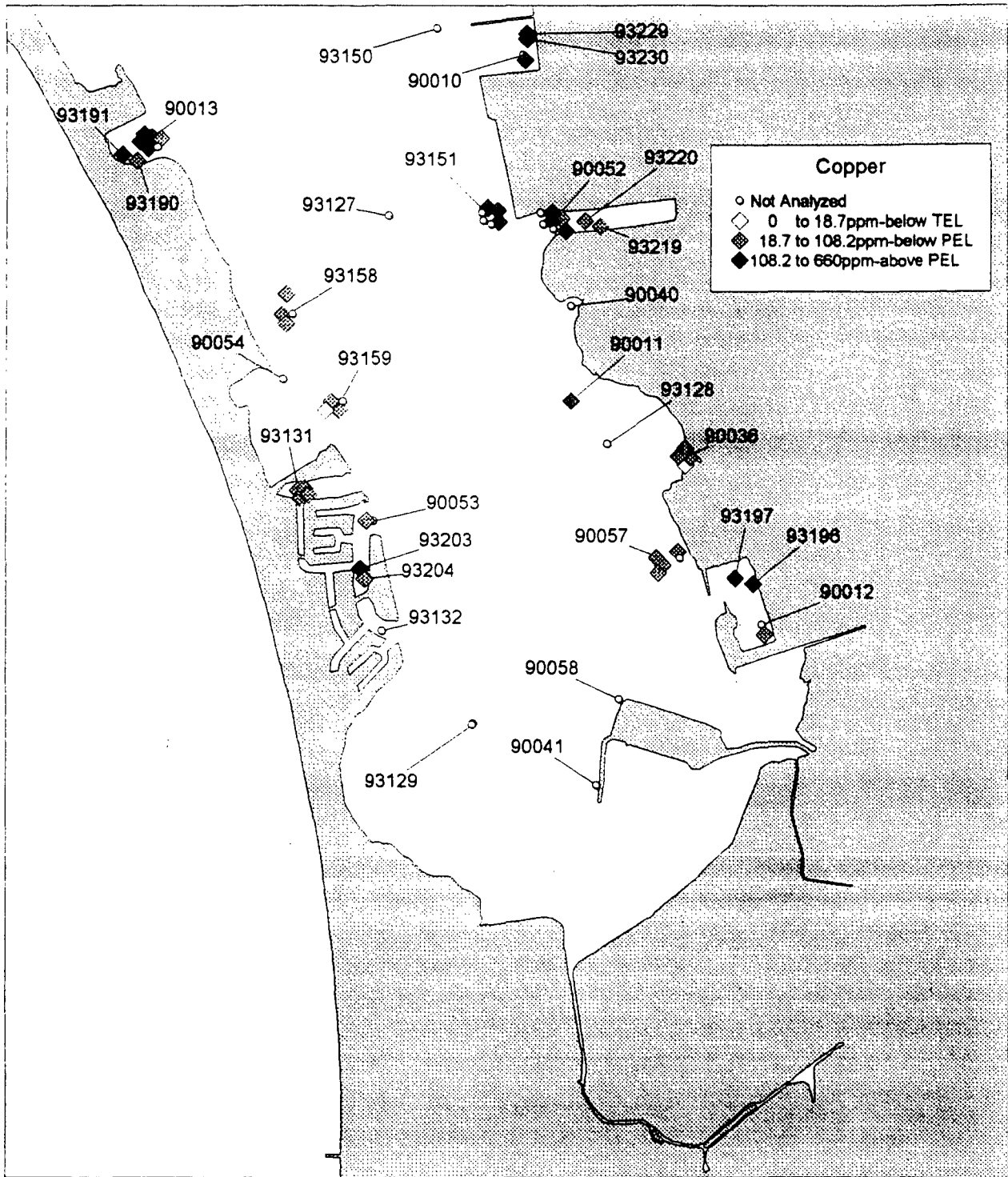
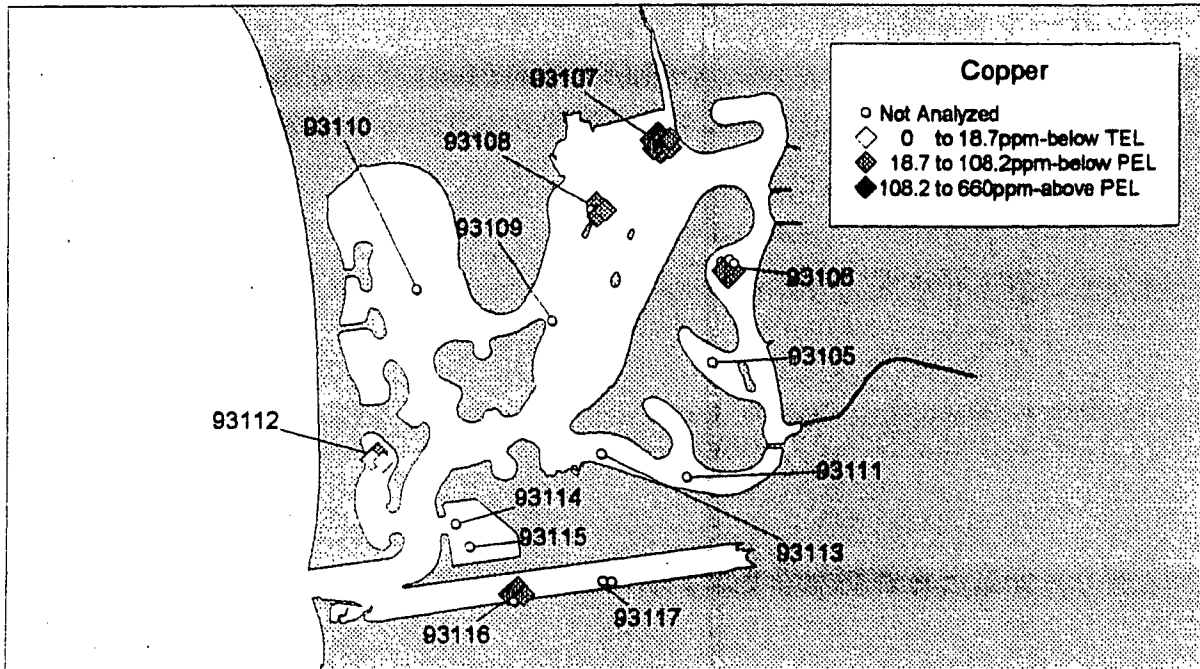


Figure 6d  
 Copper Concentrations in Sediment  
 Mission Bay and San Diego River Estuary



Tijuana River Estuary

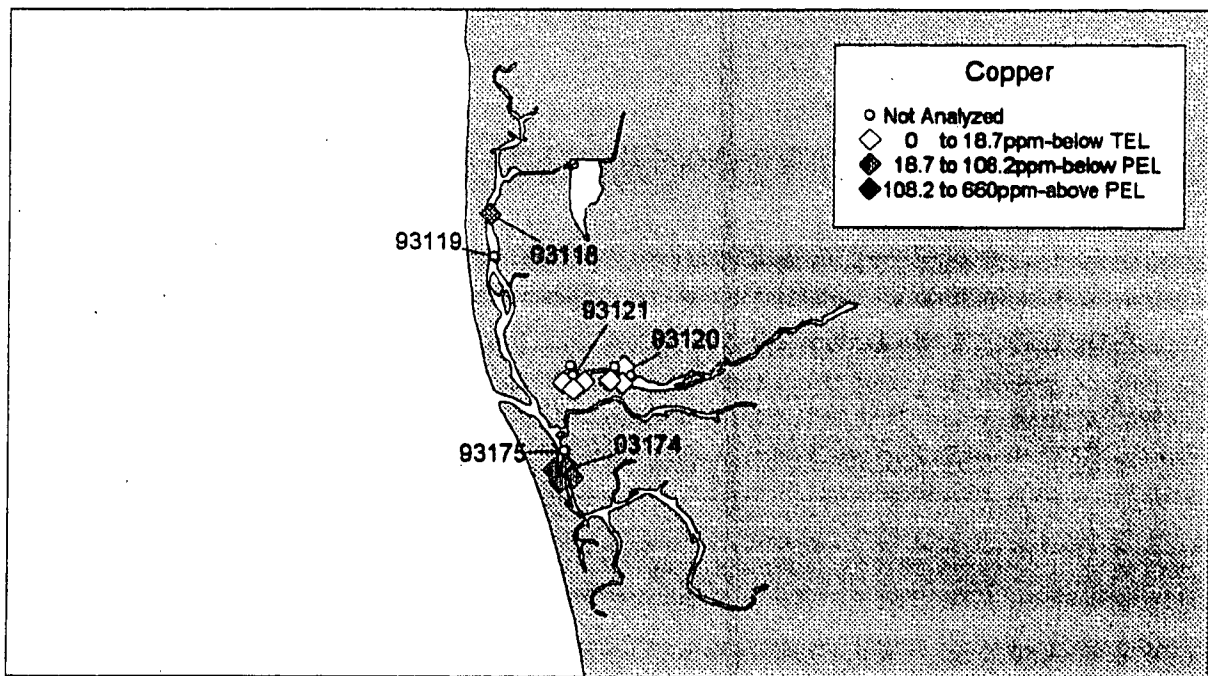


Figure 7a  
Zinc Concentrations in Sediment  
North San Diego Bay

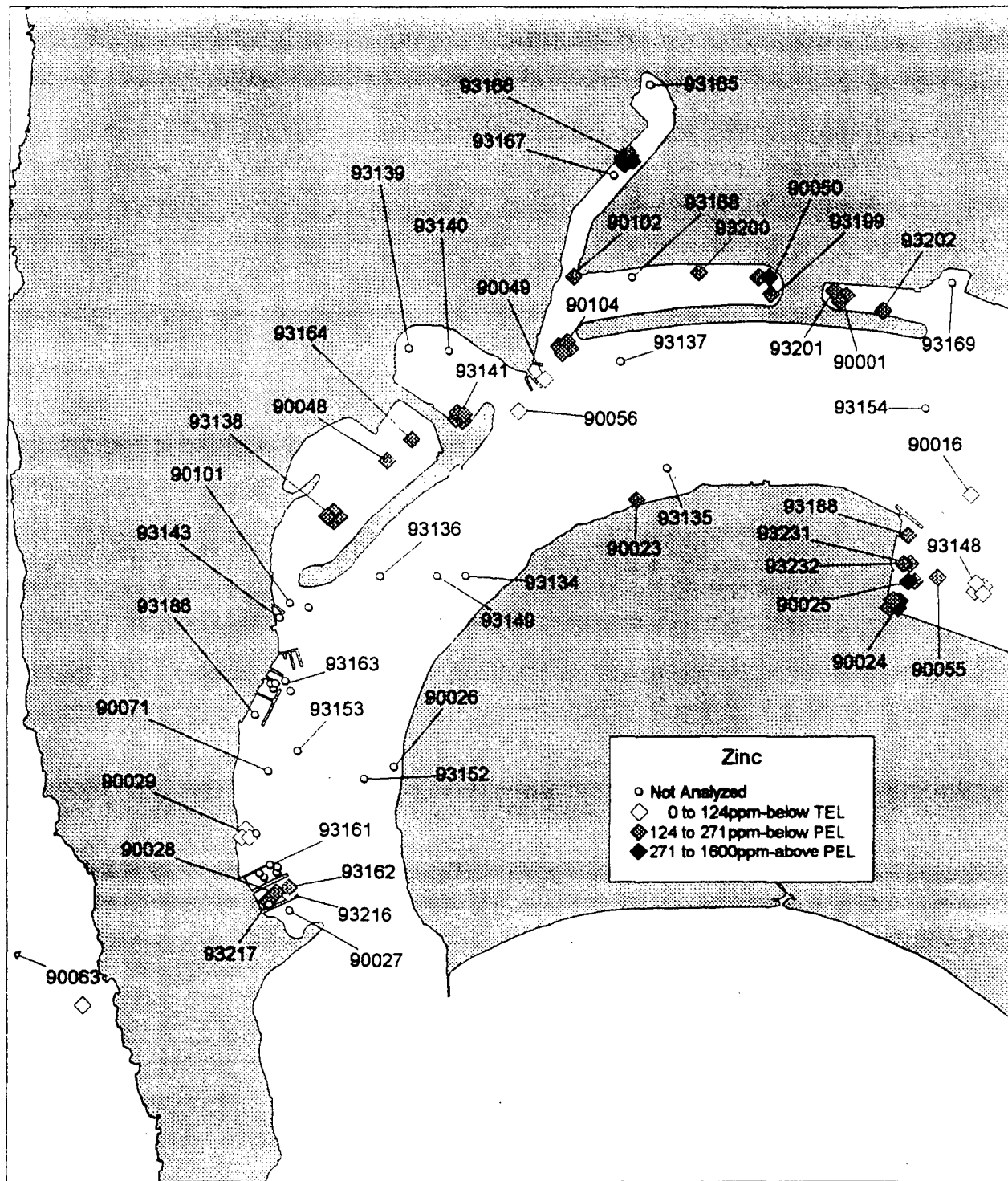


Figure 7b  
Zinc Concentrations in Sediment  
Mid San Diego Bay

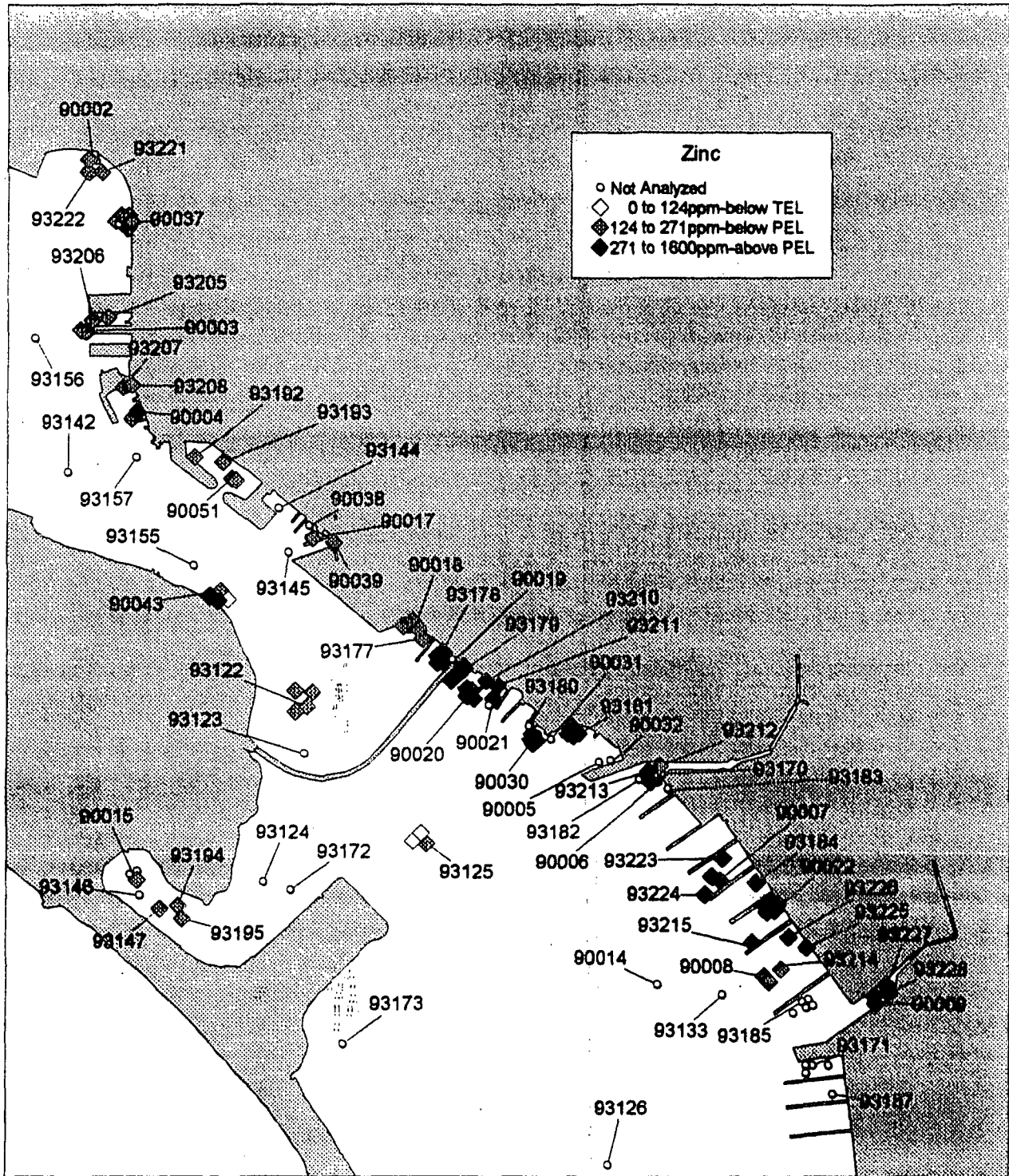




Figure 7c  
Zinc Concentrations in Sediment  
South San Diego Bay

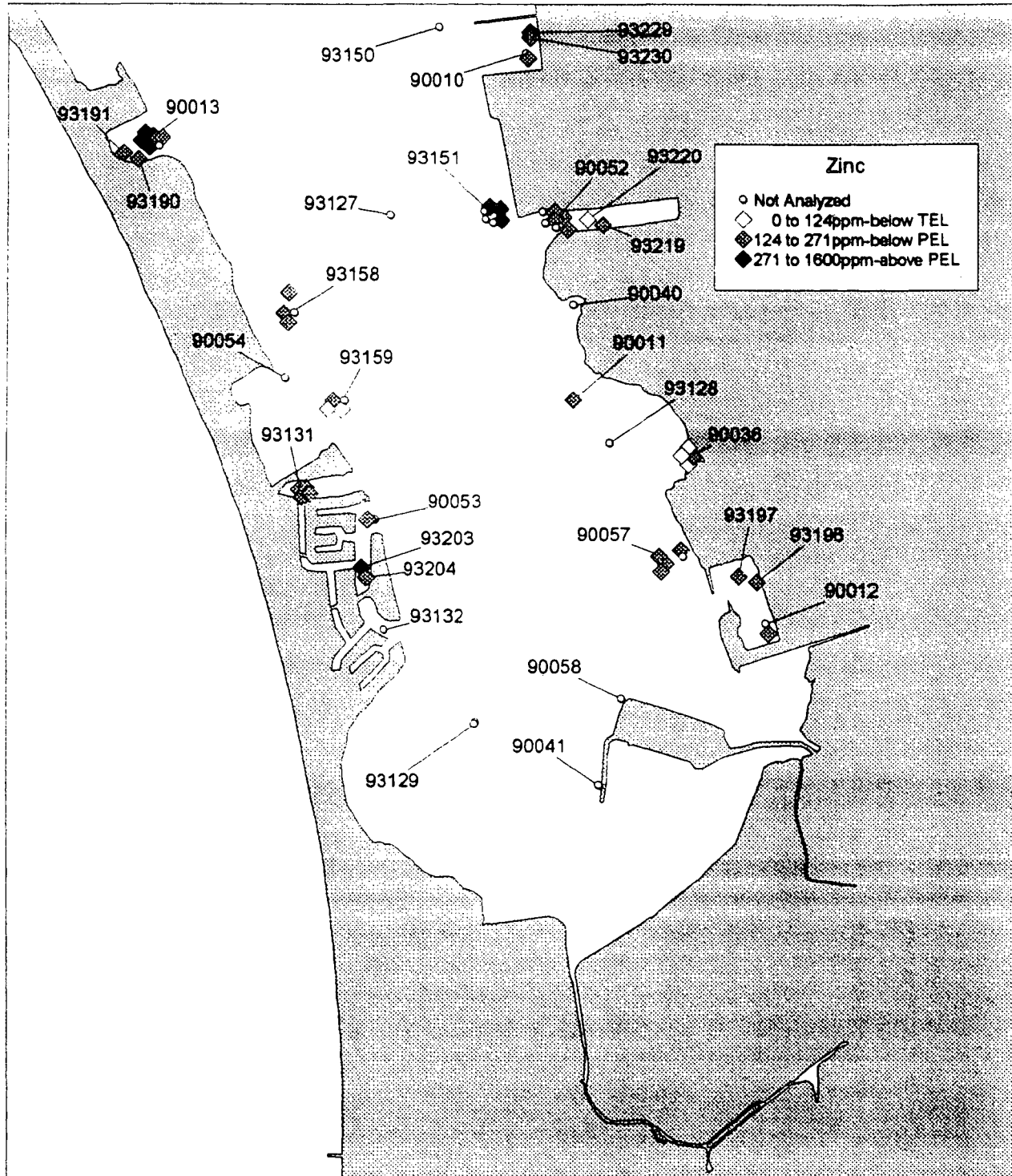
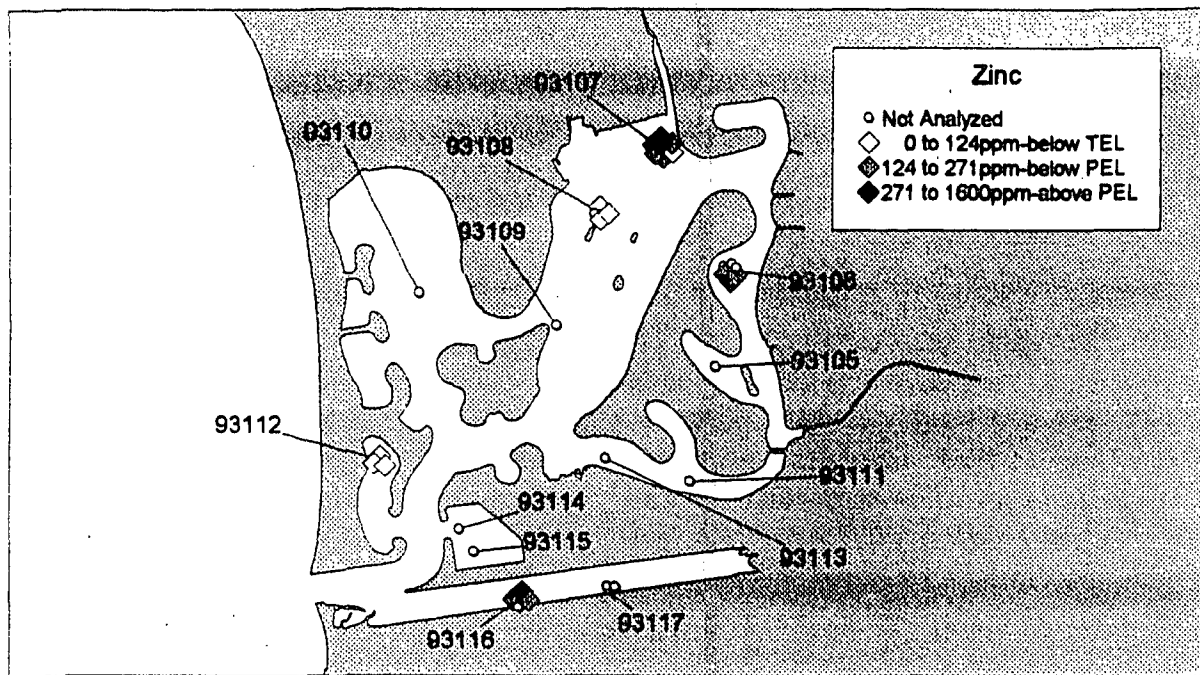


Figure 7d  
 Zinc Concentrations in Sediment  
 Mission Bay & San Diego River Estuary



Tijuana River Estuary

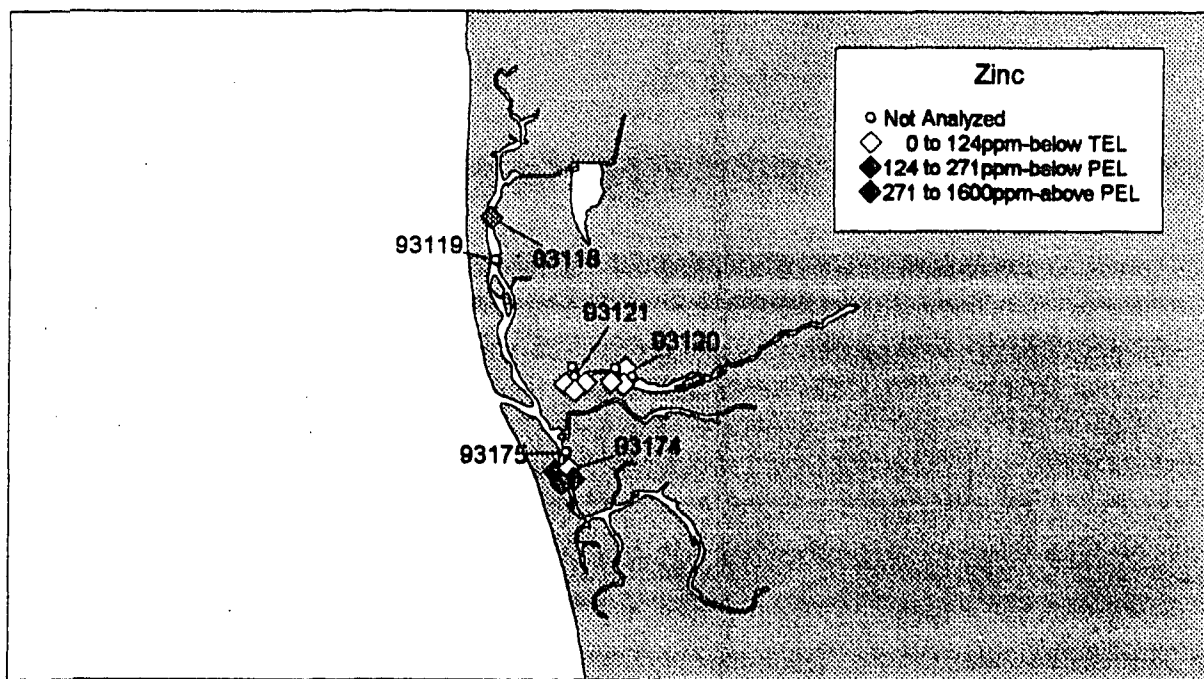


Figure 8a  
 Mercury Concentrations in Sediment  
 North San Diego Bay

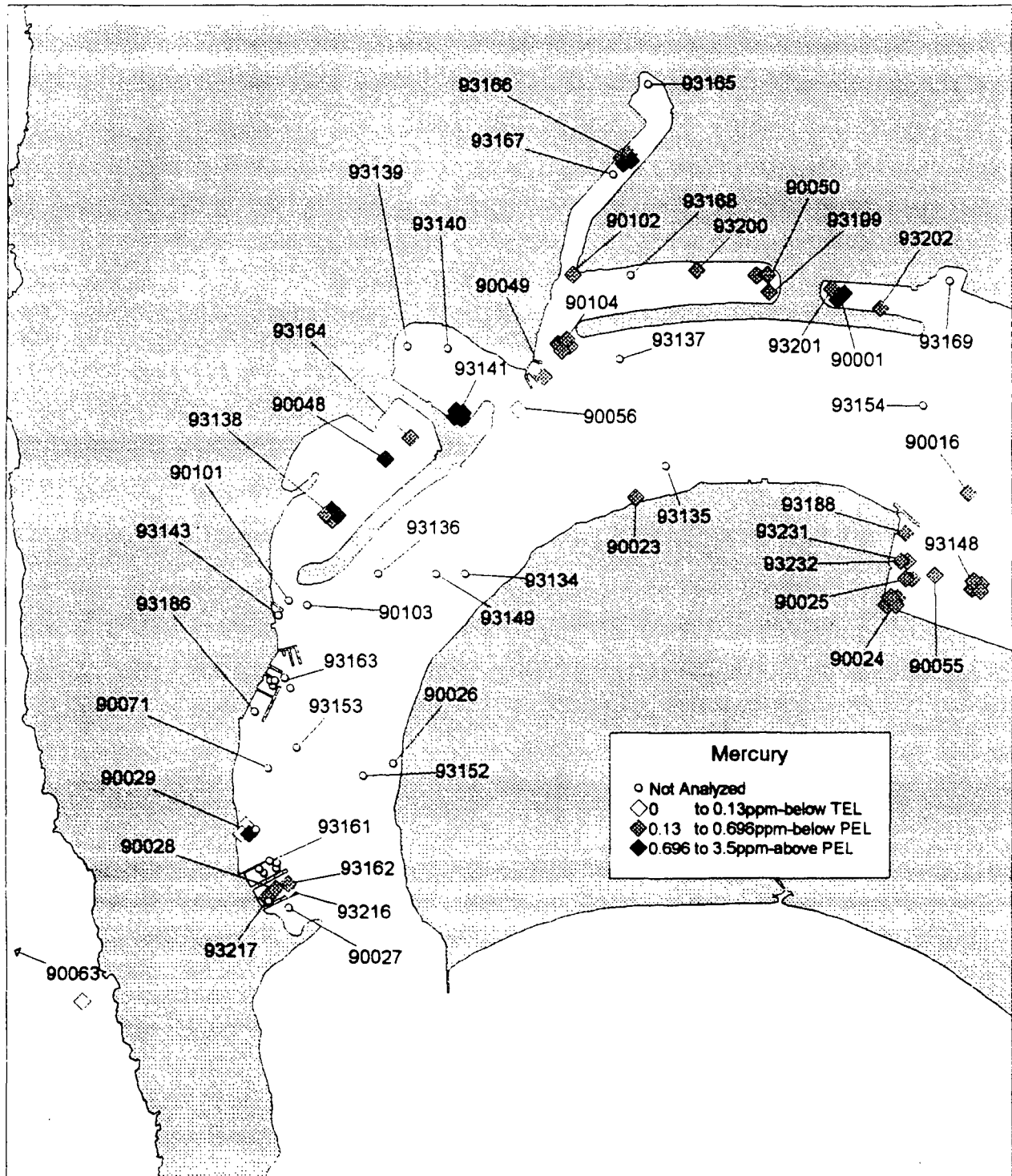




Figure 8b  
Mercury Concentrations in Sediment  
Mid San Diego Bay

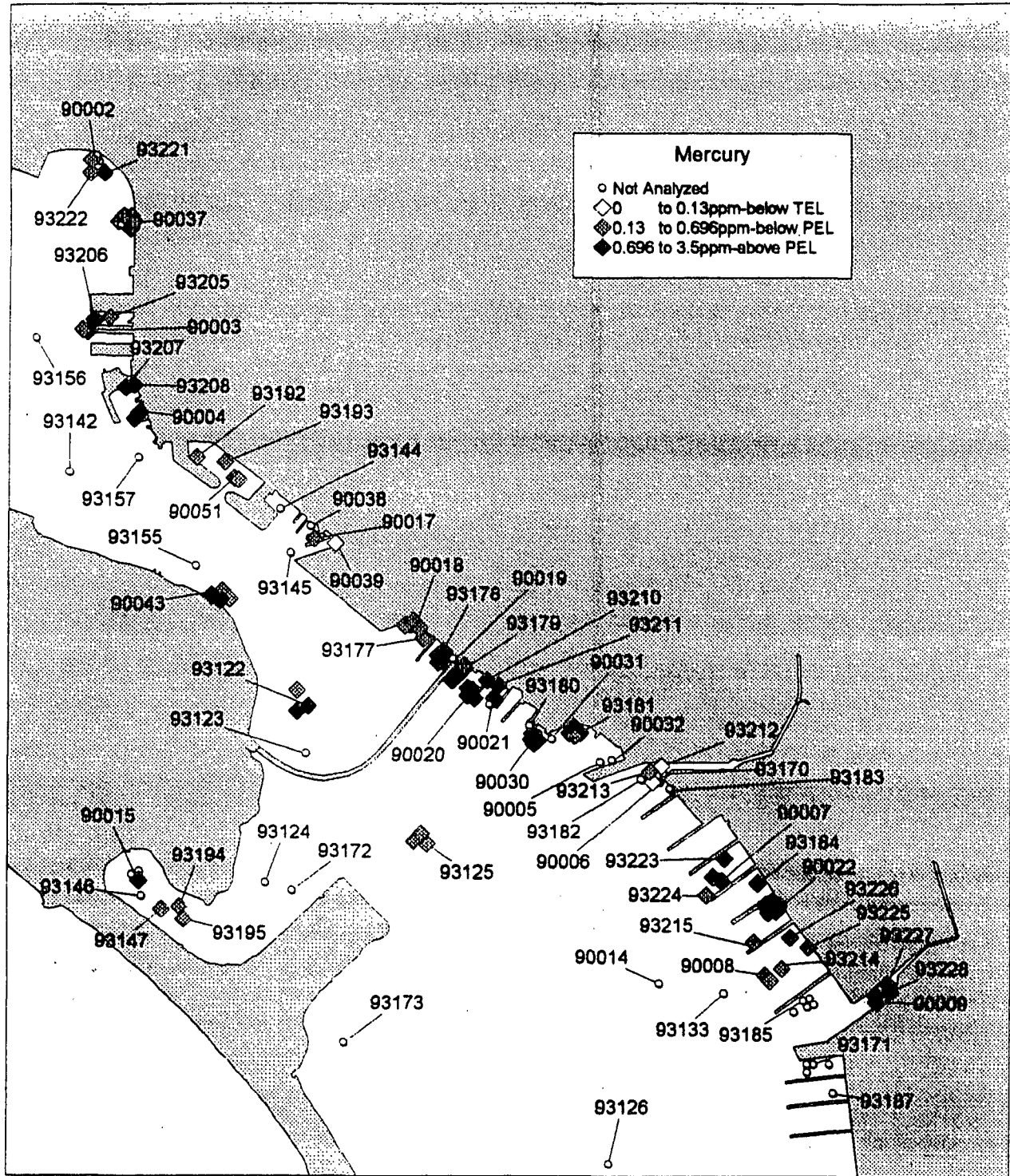


Figure 8c  
Mercury Concentrations in Sediment  
South San Diego Bay

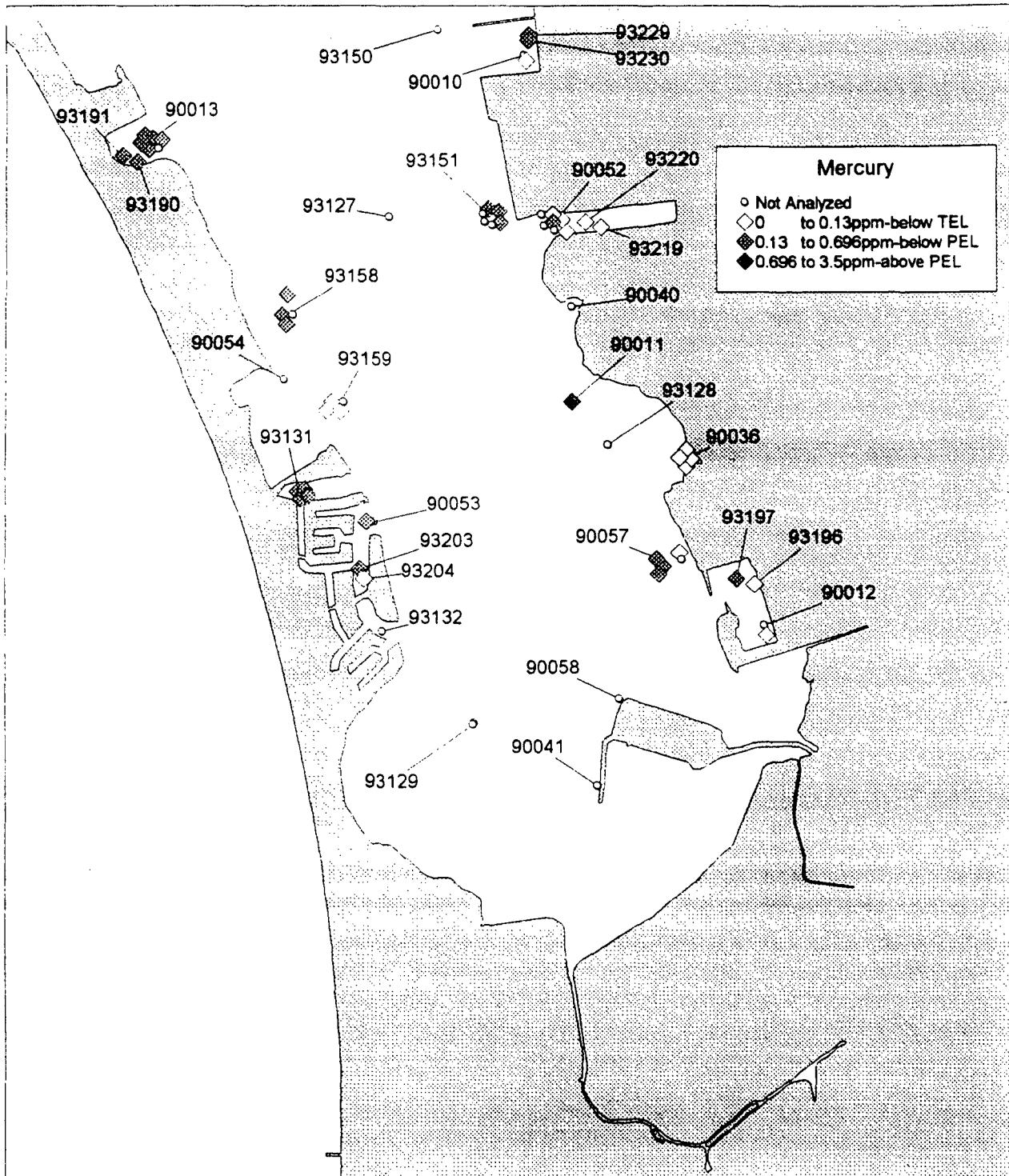
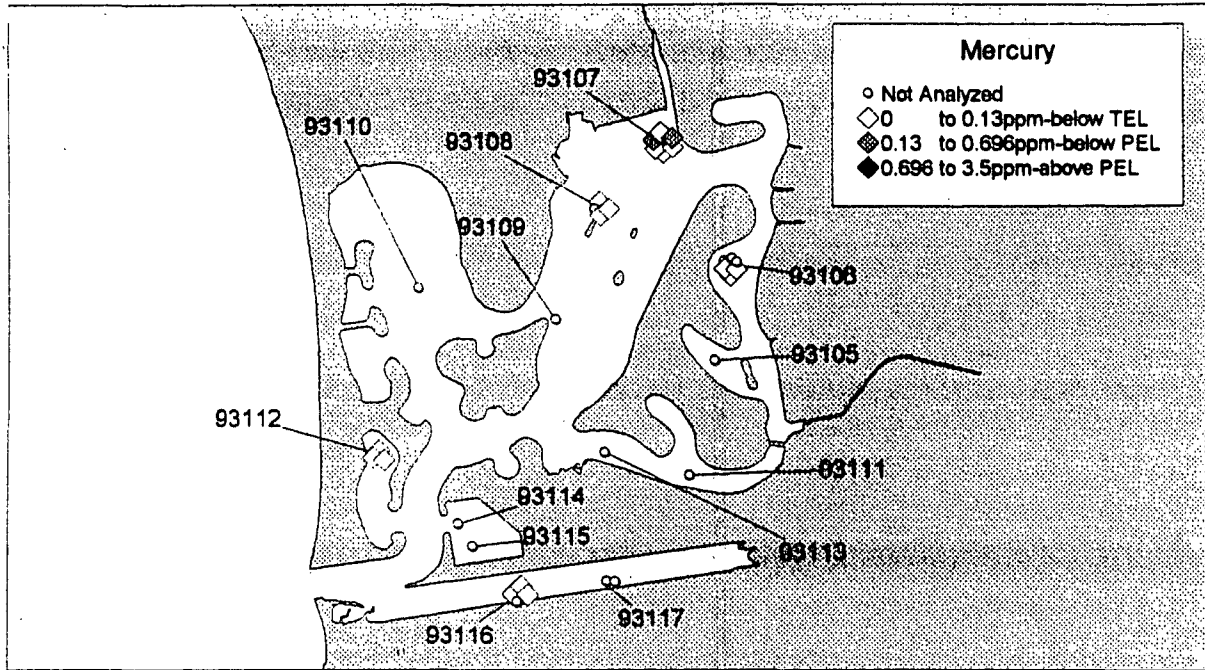


Figure 8d  
 Mercury Concentrations in Sediment  
 Mission Bay & San Diego River Estuary



Tijuana River Estuary

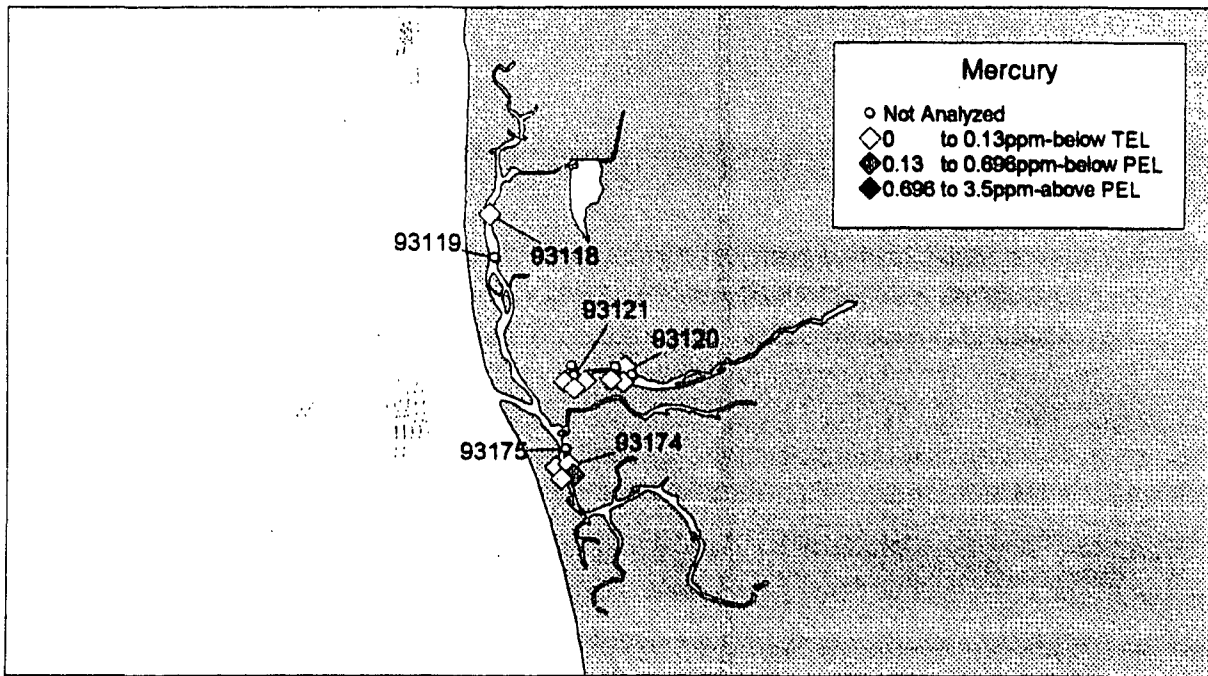




Figure 9b  
 High Molecular Weight PAH Concentrations in Sediment  
 Mid San Diego Bay

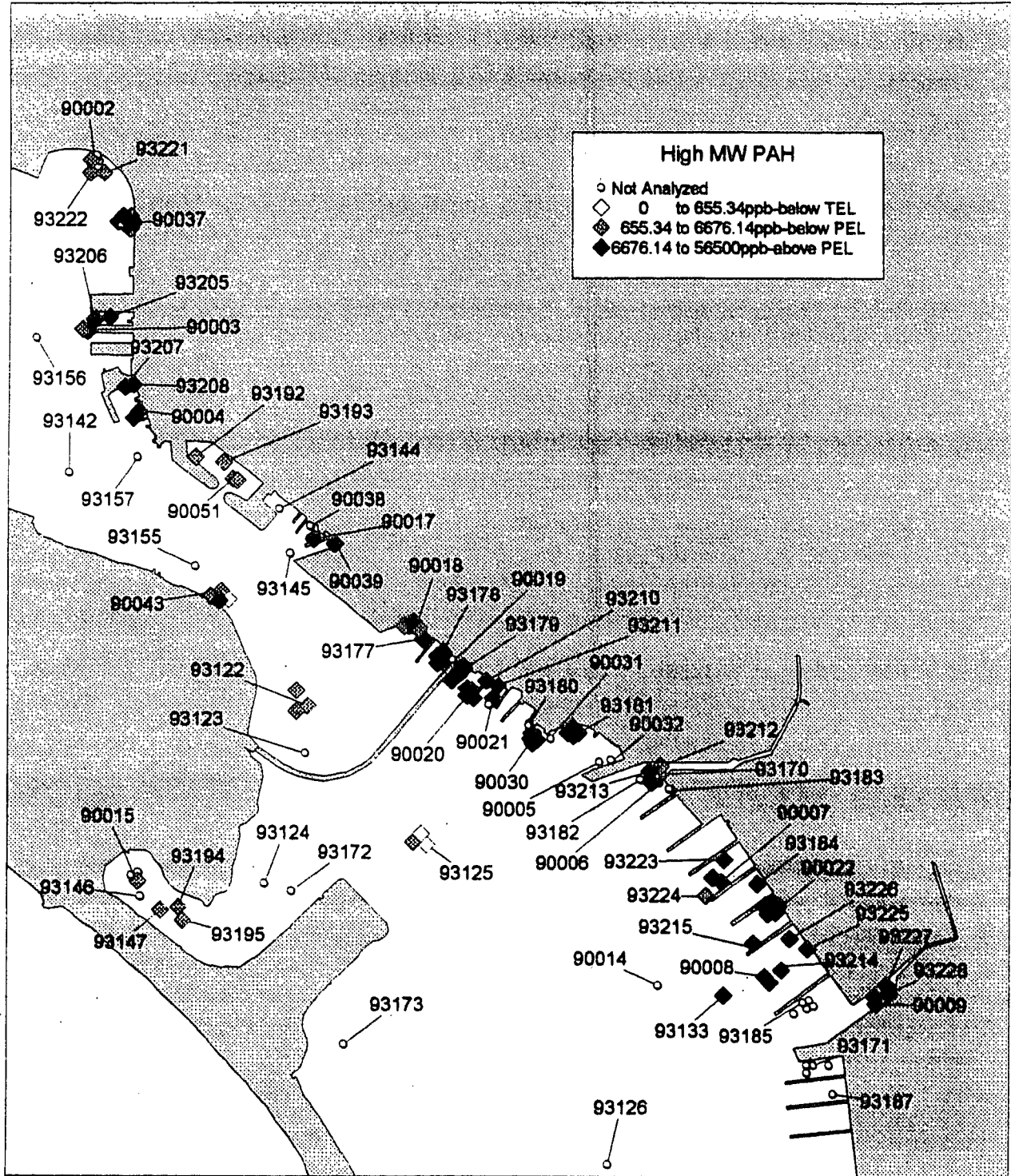


Figure 9c  
High Molecular Weight PAH Concentrations in Sediment  
South San Diego Bay

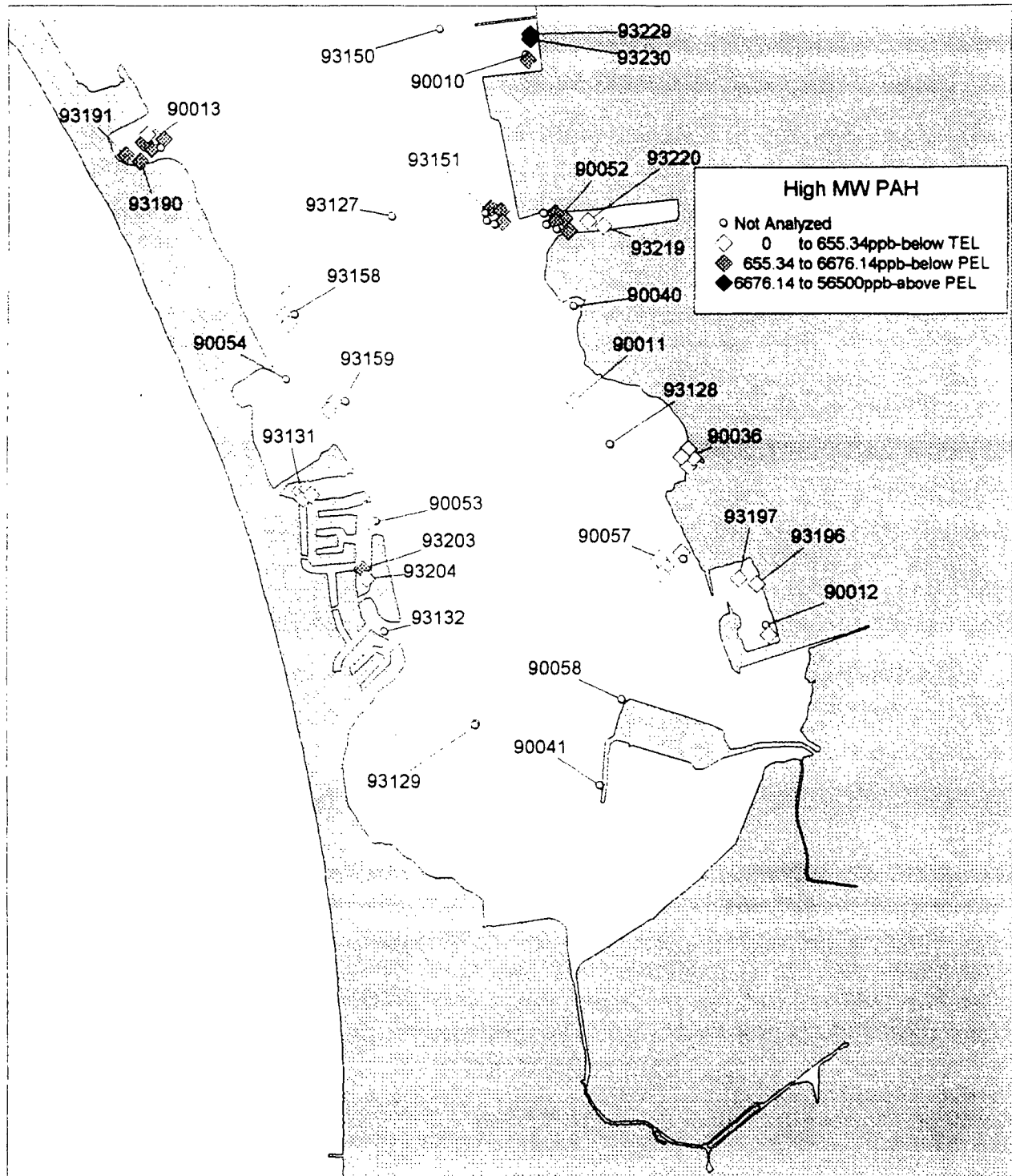
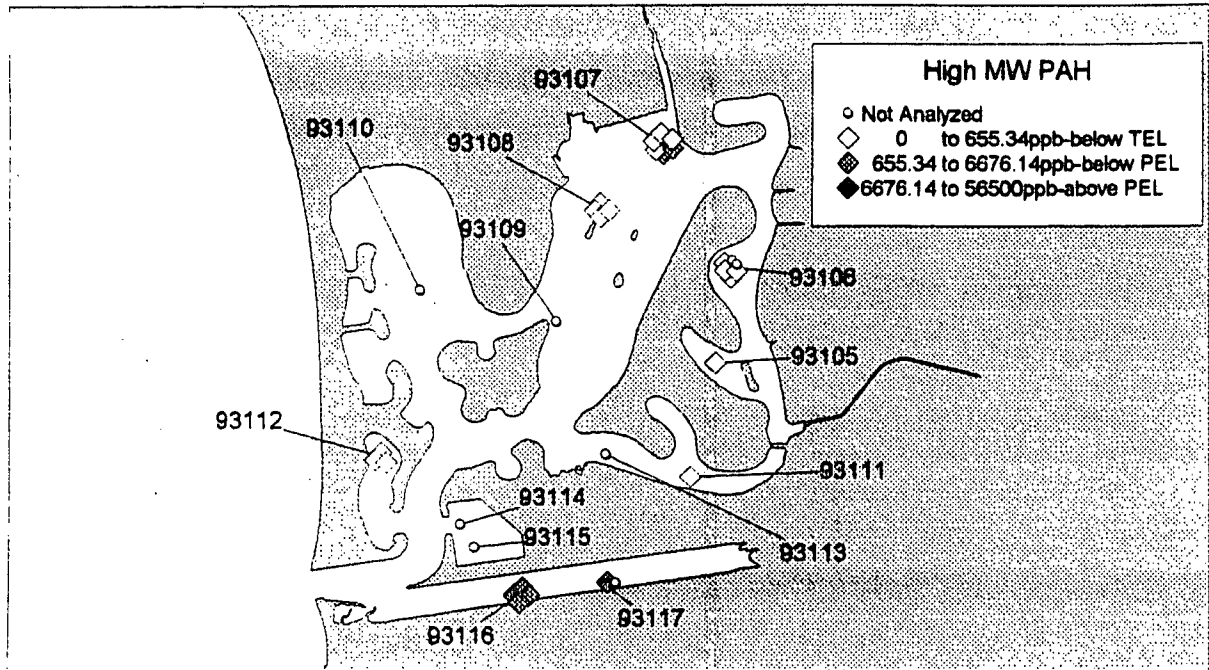




Figure 9d  
 High Molecular Weight PAH Concentrations in Sediment  
 Mission Bay and San Diego River Estuary



Tijuana River Estuary

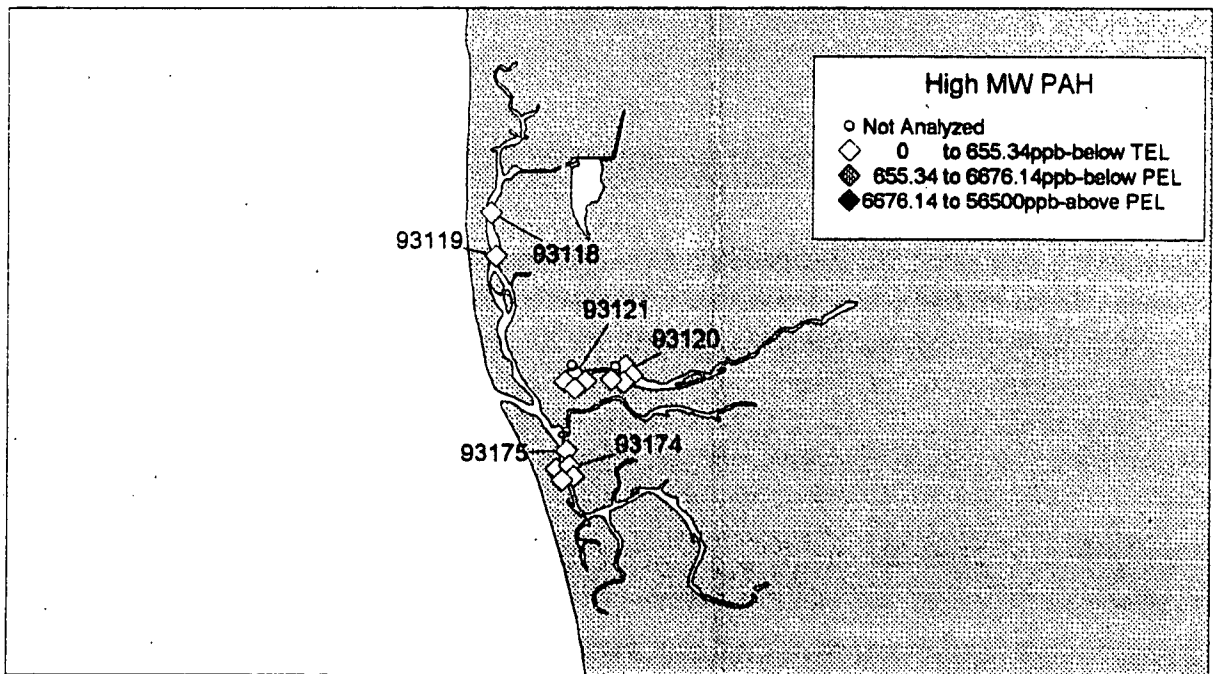






Figure 10b  
Low Molecular Weight PAH Concentrations in Sediment  
Mid San Diego Bay

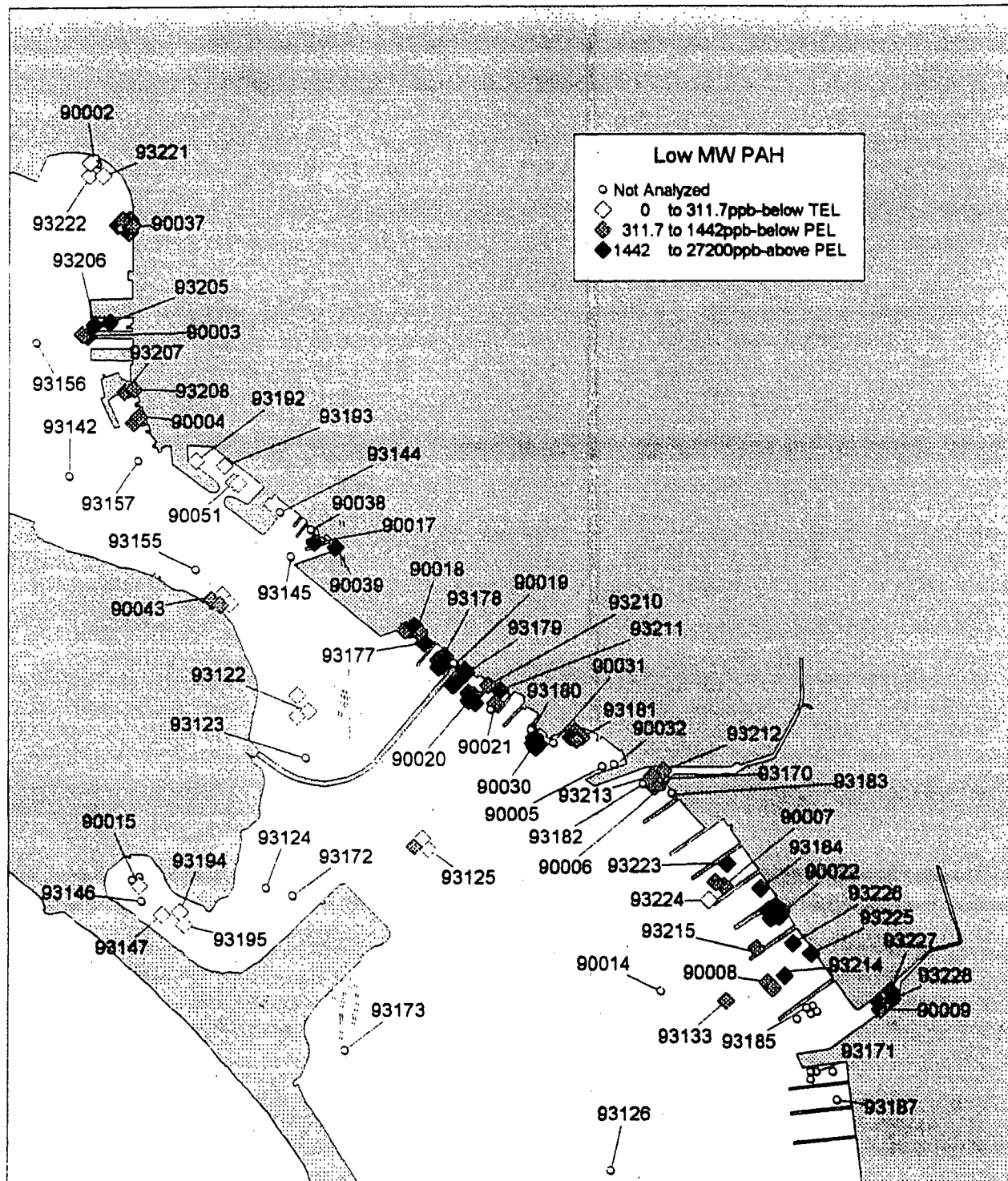


Figure 10c  
 Low Molecular Weight PAH Concentrations in Sediment  
 South San Diego Bay

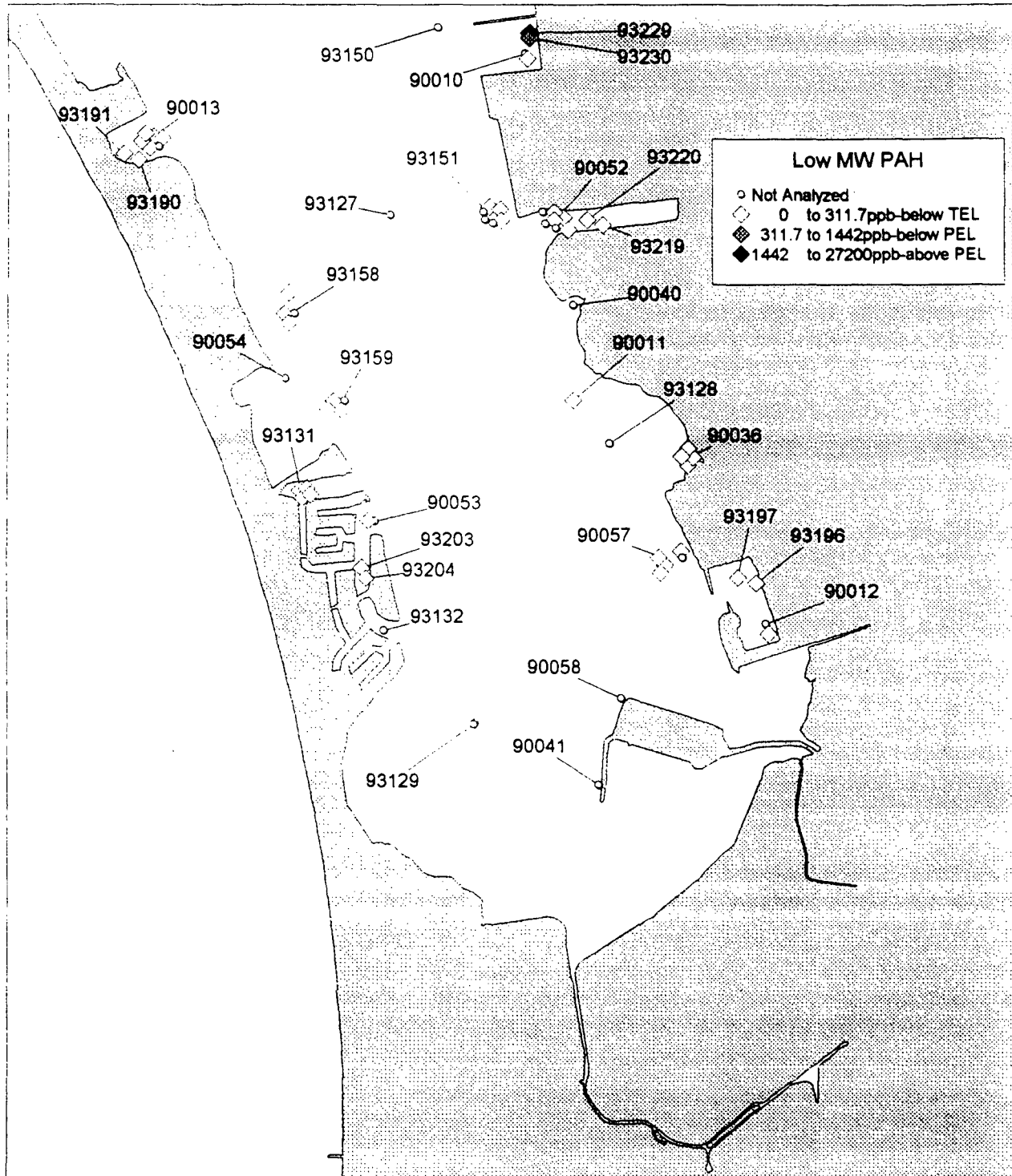
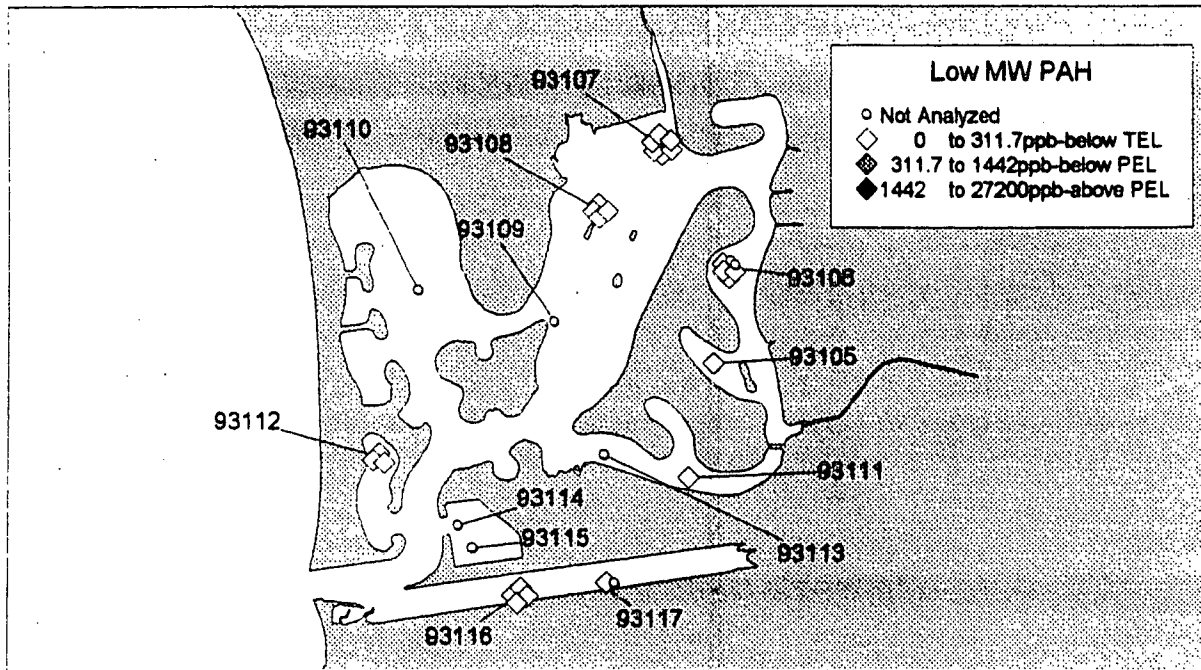
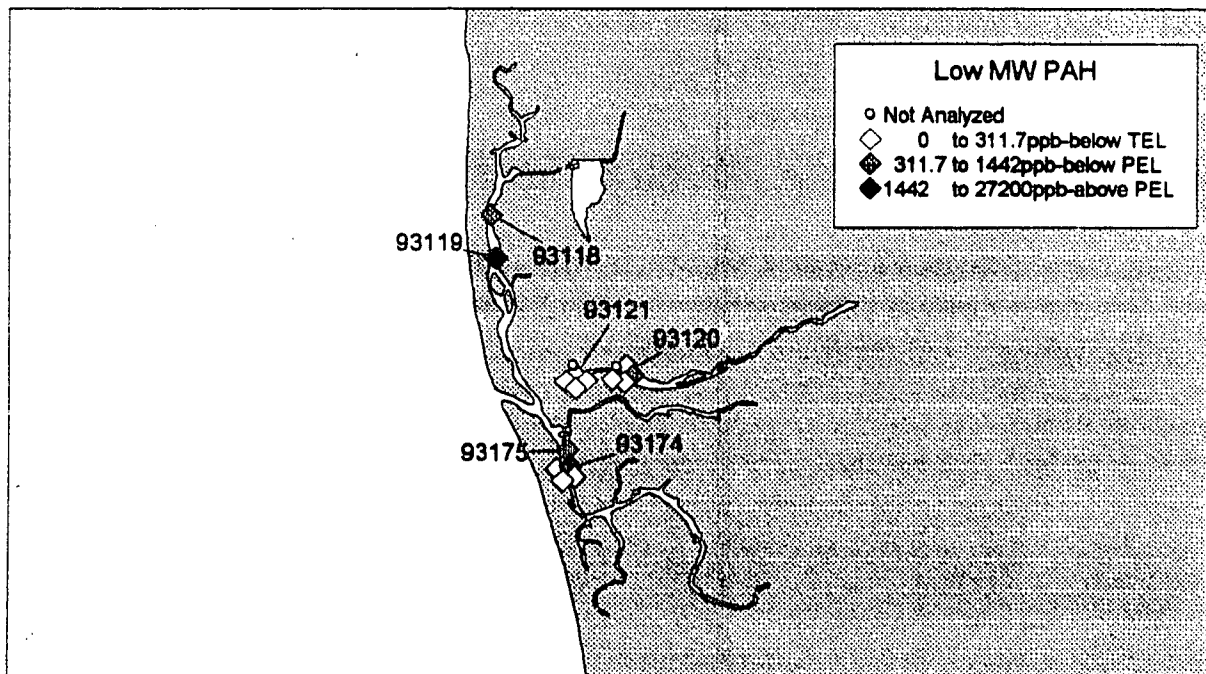


Figure 10d  
 Low Molecular Weight PAH Concentrations in Sediment  
 Mission Bay and San Diego River Estuary



Tijuana River Estuary



biphenyl. There are 209 numerically designated individual compounds, called congeners (i.e., PCB #101), based on the possible chlorine substitution patterns. Mixtures of various PCB congeners have been manufactured in the U.S. since 1929 (Phillips, 1987) and are used commercially under the trade name Aroclor. Each PCB mixture has a number designation (i.e., Aroclor 1254) with the last two numbers indicating the percentage of chlorine in the mixture. PCB mixtures were used extensively in the U.S. prior to 1979 for industrial applications which required fluids with thermal stability, fire and oxidation resistance and solubility in organic compounds (Hodges, 1977). PCBs have proven to be extremely persistent in the environment and have demonstrated a variety of adverse carcinogenic and non-carcinogenic effects (USEPA, 1993c). These substances have a high potential to accumulate in the tissues of aquatic organisms and can represent significant hazards to consumers of aquatic species (Moore and Walker, 1991). Total PCB (the sum of 18 congeners, Appendix B - Section VII) pollution is most prominent in sediments along the naval shipyard waterfront (Figure 11(a-d)), although several locations along the downtown waterfront and small boat harbors also show total PCB values in excess of the PEL ( $>188.79 \mu\text{g}/\text{kg}$ ) and ERM ( $>180 \mu\text{g}/\text{kg}$ ).

Chlordane is a multipurpose insecticide which has been used extensively in home and agricultural applications for the control of termites and other insects. Although use of this compound ended in the mid-70s, its persistence in sediments of the region is apparent. Total chlordane is the summation of major constituents of technical grade chlordane and its metabolite (Appendix B - Section VII). Chlordane pollution is extensive along the north shore of San Diego Bay, the San Diego River, and the most northerly station in Mission Bay (Figure 12(a-d)). Areas which receive storm runoff, such as Chollas Creek, Seventh St. Channel, and urban storm drains appear to be the most heavily contaminated (PEL ( $>4.79 \mu\text{g}/\text{kg}$ ) or ERM ( $>6 \mu\text{g}/\text{kg}$ )).

#### **ERM and PEL Summary Quotients**

In this report, comparisons of the data to effects-based numerical guidelines were made to assess how sediment pollution in the San Diego Bay Region compares to sediment pollution on a national scale. Additionally, these guidelines were used to identify chemicals of concern for sediment quality management within the San Diego Bay Region. Rankings and comparisons were made in this report using summary ERM-quotients (ERM<sub>Q</sub>) and PEL-quotients (PEL<sub>Q</sub>). Summary quotients are summations of chemical concentrations for chemicals listed in Table 5, divided by their respective ERM or PEL value, and then divided by total number of chemicals used. In samples where levels of measured chemicals were below the analytical method detection limit (MDL), a value of one-half the MDL was used for summations. Methods and analytes used for summations and averaging are given in Appendix B-Section VII. This was a simple approach for addressing overall chemical pollution where there were multiple pollutants at a station, and was in addition to the standard chemical by chemical



Figure 11b  
 Total PCB Concentrations in Sediment  
 Mid San Diego Bay

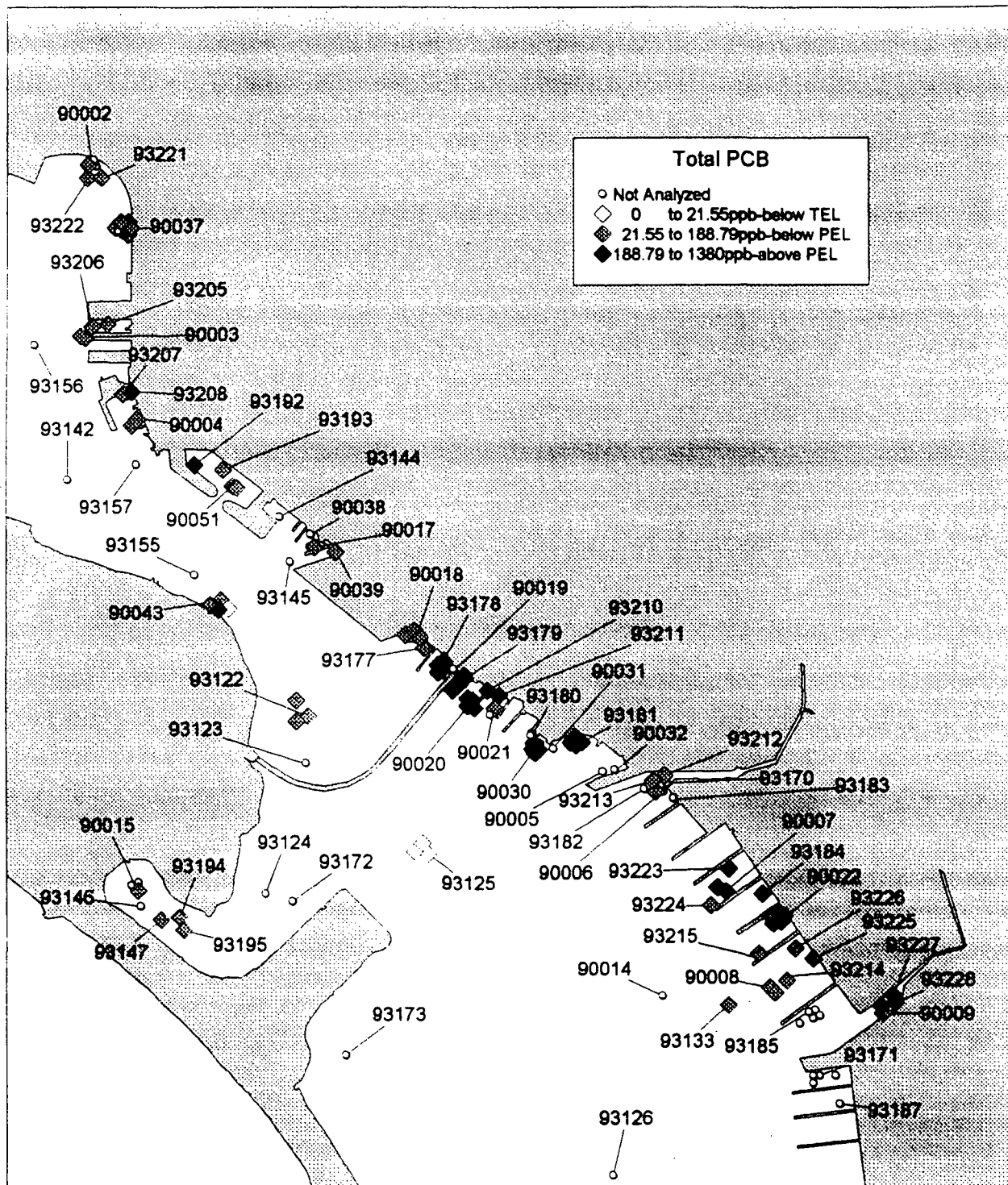




Figure 11c  
 Total PCB Concentrations in Sediment  
 South San Diego Bay

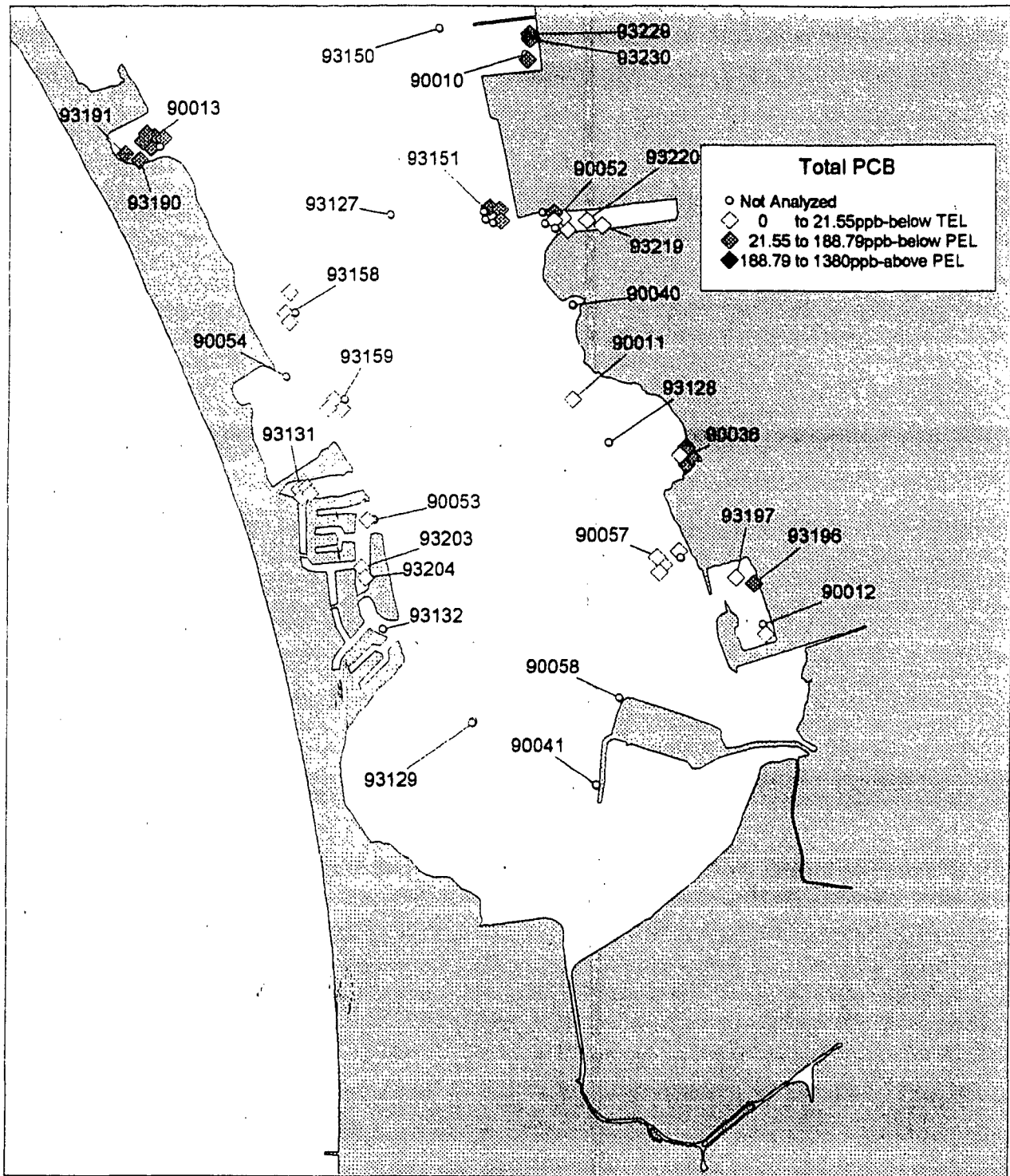
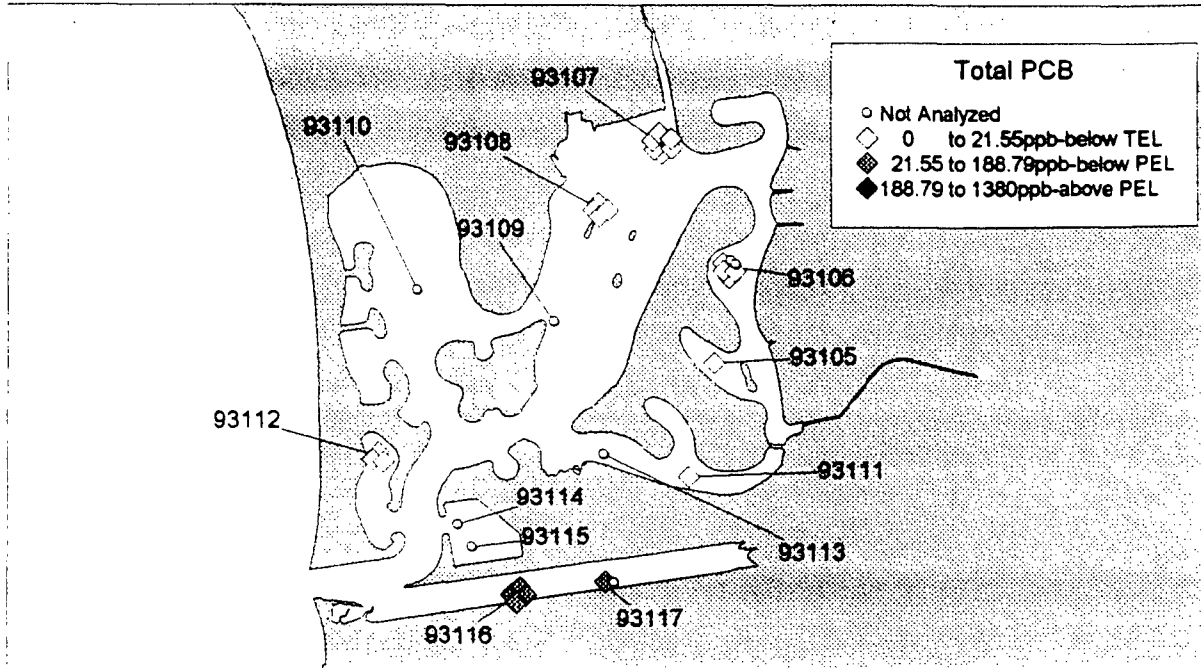


Figure 11d  
 Total PCB Concentrations in Sediment  
 Mission Bay and San Diego River Estuary



Tijuana River Estuary

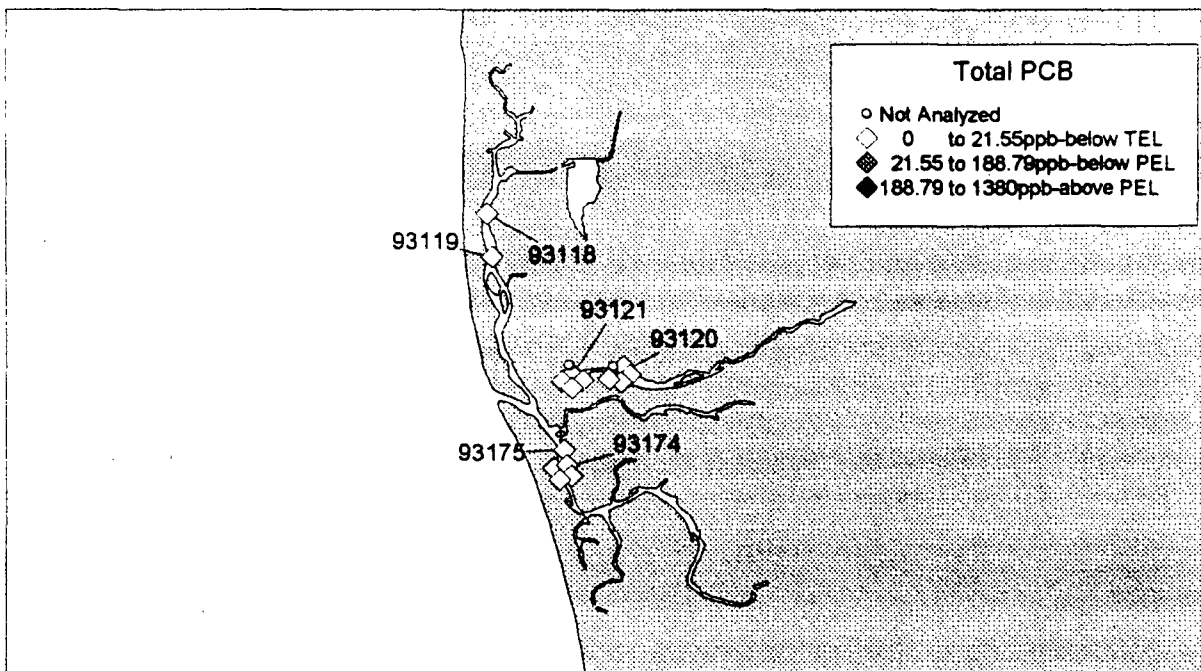




Figure 12a  
Total Chlordane Concentrations in Sediment  
North San Diego Bay

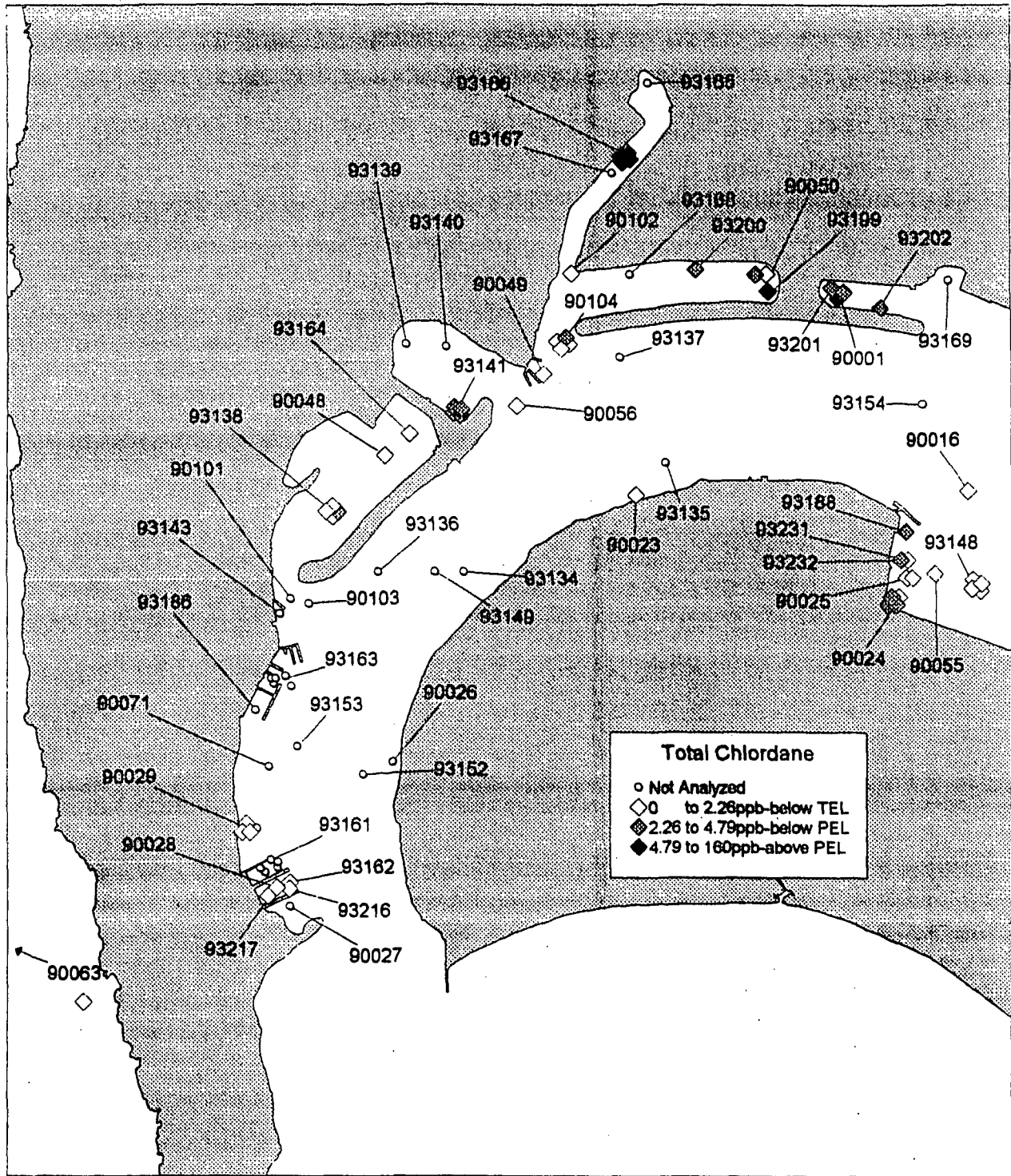


Figure 12b  
Total Chlordane Concentrations in Sediment  
Mid San Diego Bay

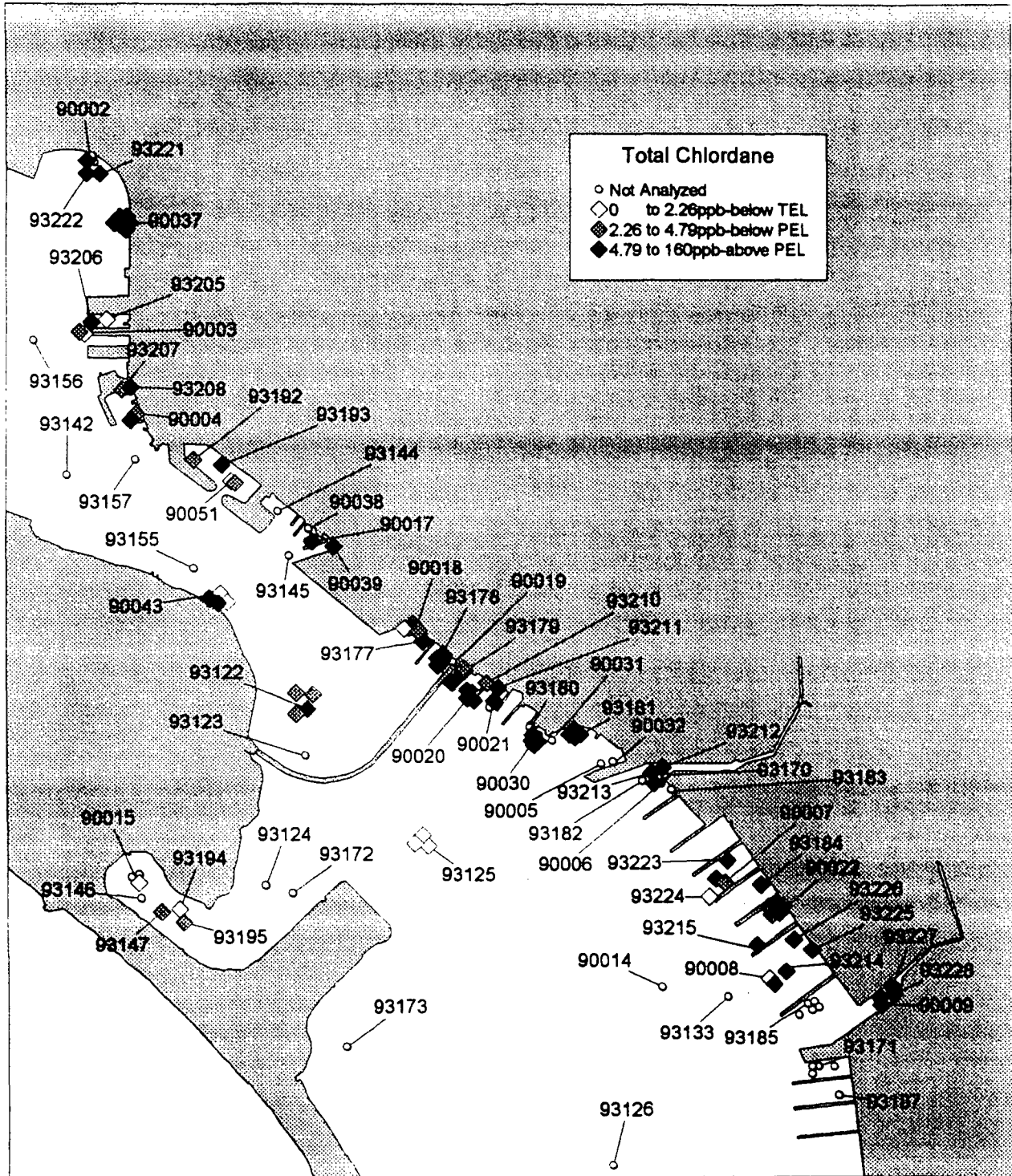


Figure 12c  
 Total Chlordane Concentrations in Sediment  
 South San Diego Bay

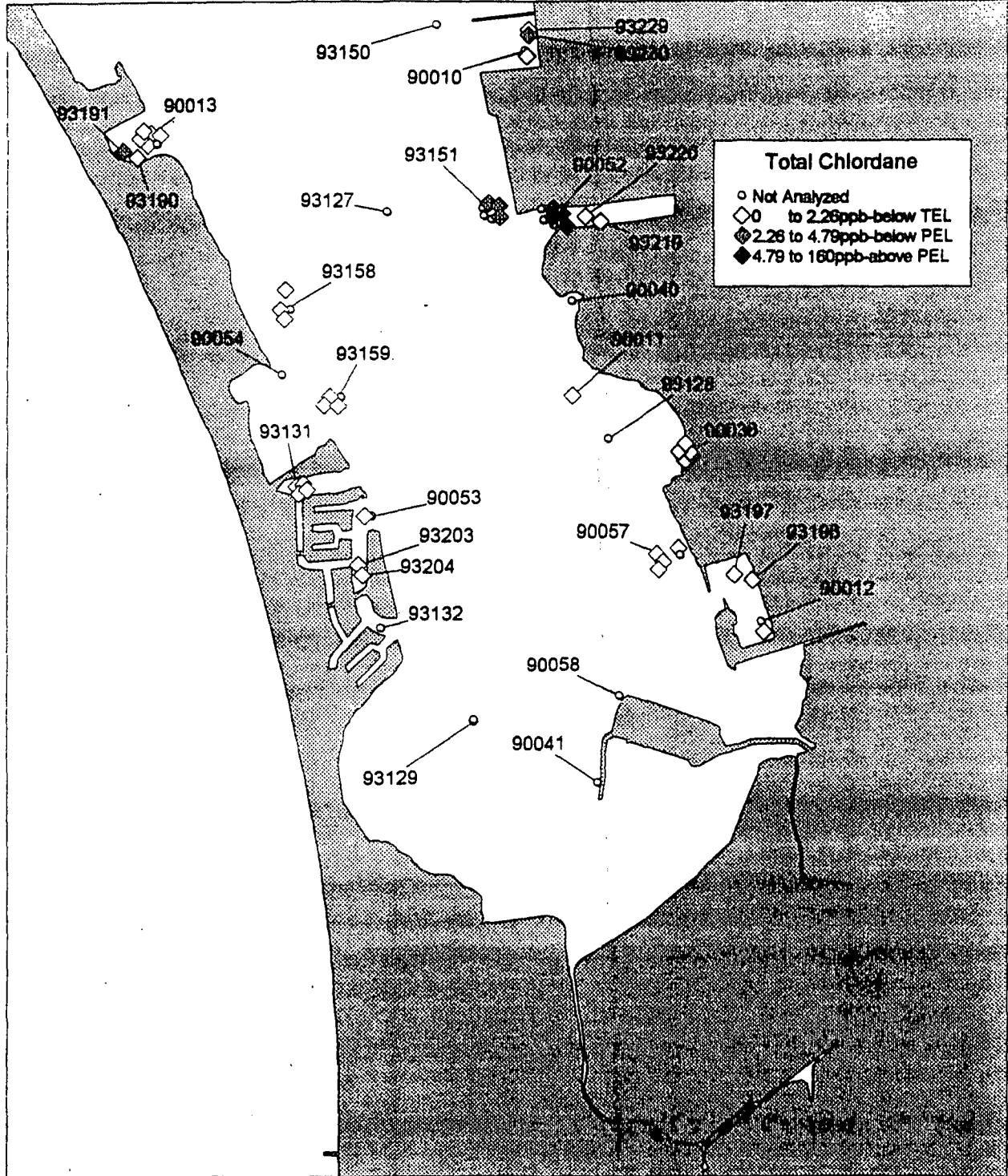
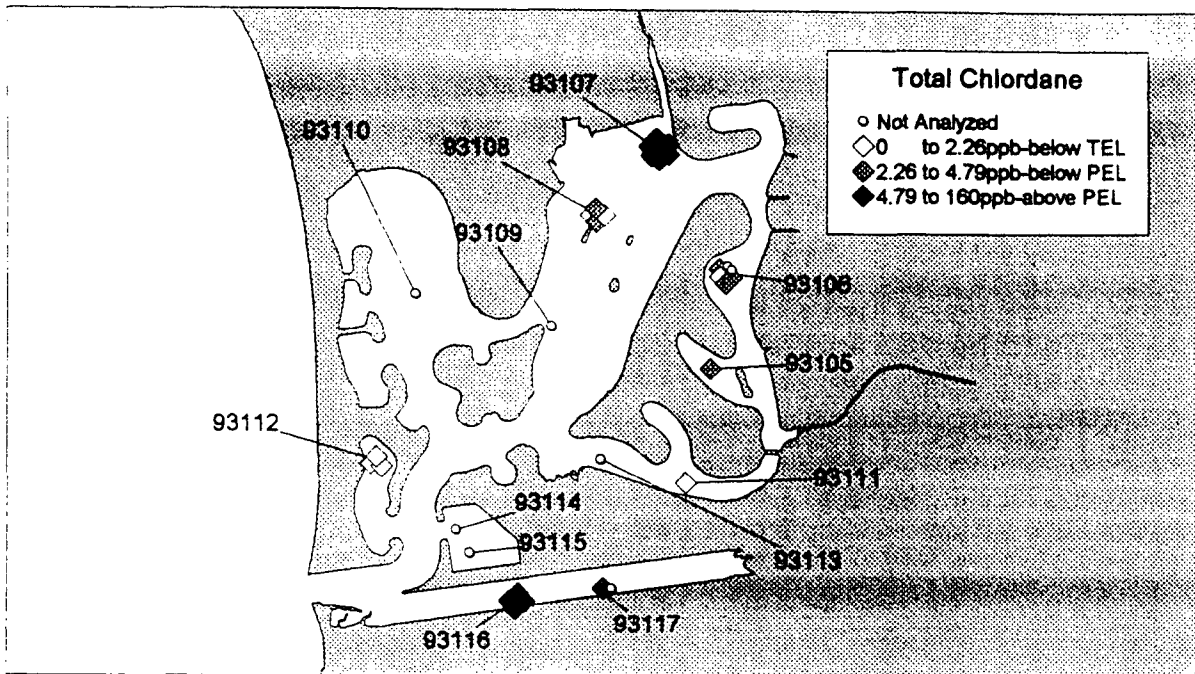
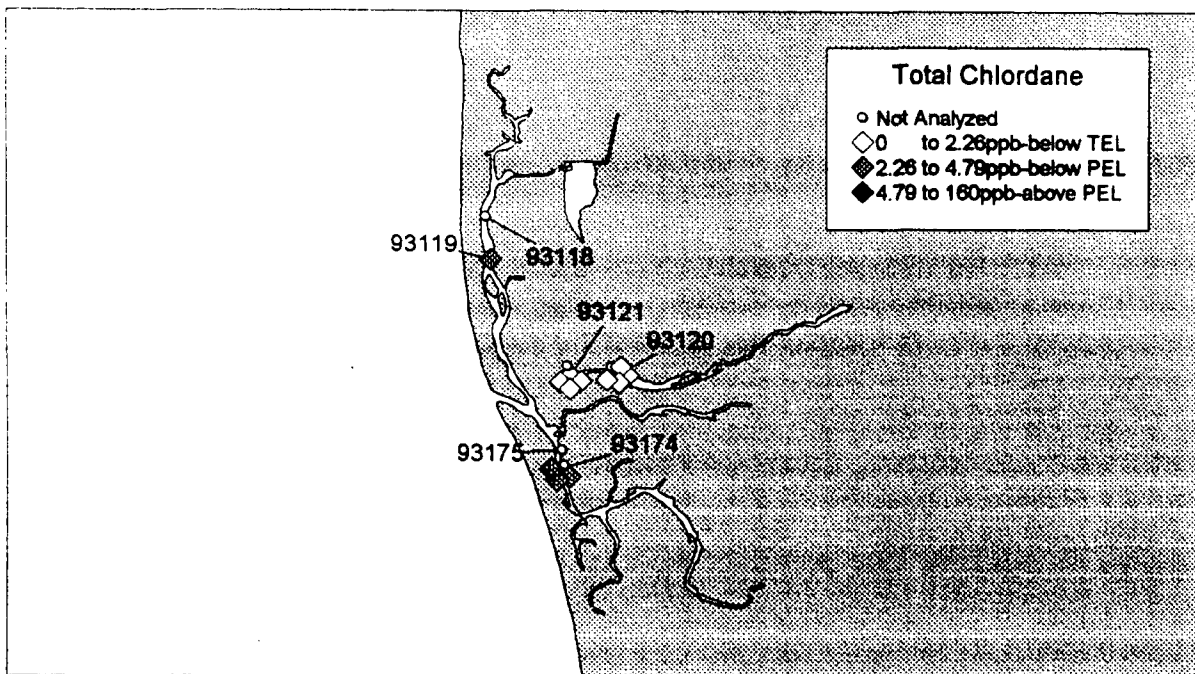


Figure 12d  
 Total Chlordane Concentrations in Sediment  
 Mission Bay and San Diego River Estuary



Tijuana River Estuary



approach discussed earlier. This approach considered not only the presence of guideline exceedances, but the number and degree of multiple exceedances.

Based upon analyses of the national NS&T and EMAP database, the incidence of toxicity has been shown to increase with increasing summary ERM and PEL quotients (Long, Field and MacDonald, in prep). Synergistic effects are possible, but not implied by the quotient summations, therefore, this method should be recognized only as a ranking scheme meant to better focus management efforts on interpretation of ambient sediment chemistry data.

Interpretations using ERM and PEL summary quotients were limited to statistical analysis within this dataset because the approach has not been formally presented in other reports, therefore, outside comparisons are unavailable at this time. The 90% confidence interval from a 1-tailed t-distribution was chosen as an arbitrary threshold level for evaluating the data set. For the 220 stations on which chemical analysis was performed, stations with an ERMQ $>0.85$  or a PELQ $>1.29$  were found to fall above this confidence interval (Figure 13). Although these values of 0.85 and 1.29 cannot be considered threshold levels with proven ecological significance, they can be used for within bay comparative purposes. Forty-one stations exhibited ERM or PEL quotient levels exceeding the confidence interval cutoffs. Of these forty-one stations, twelve received benthic community analysis, all which were determined to have degraded communities in the analysis discussed later (Figure 14). All 41 stations were tested for *Rhepoxynius* toxicity, of which 29% demonstrated significant toxicity, at the 48% limit established by the reference envelope method discussed later. This difference in biological response to pollutants, between benthic community structure and bioassays, may be explained by long term exposure to pollutants in the benthic community relative to short term (10 day) pollutant exposure in bioassay tests. Use of the ERM and PEL quotients appear to give a worthwhile representation of overall chemical pollution and are used later in this report for station rankings and characterizations.

### Distribution of Benthic Community Degradation

#### Data Analyses and Interpretation

The identification of benthic degraded and undegraded habitat (as determined by macrobenthic community structure) was conducted using a cumulative, weight-of-evidence approach. Tests were employed without prior knowledge or integration of results from laboratory exposures or chemical analyses. Analyses were performed to identify relationships between community structure within and between each station or site. This included diversity/evenness indices, analyses of habitat and species composition, construction of dissimilarity matrices for pattern testing, assessment of indicator species and development of a benthic index, cluster and ordination (multidimensional scaling) analyses. Initially, a triangular correlation matrix was produced

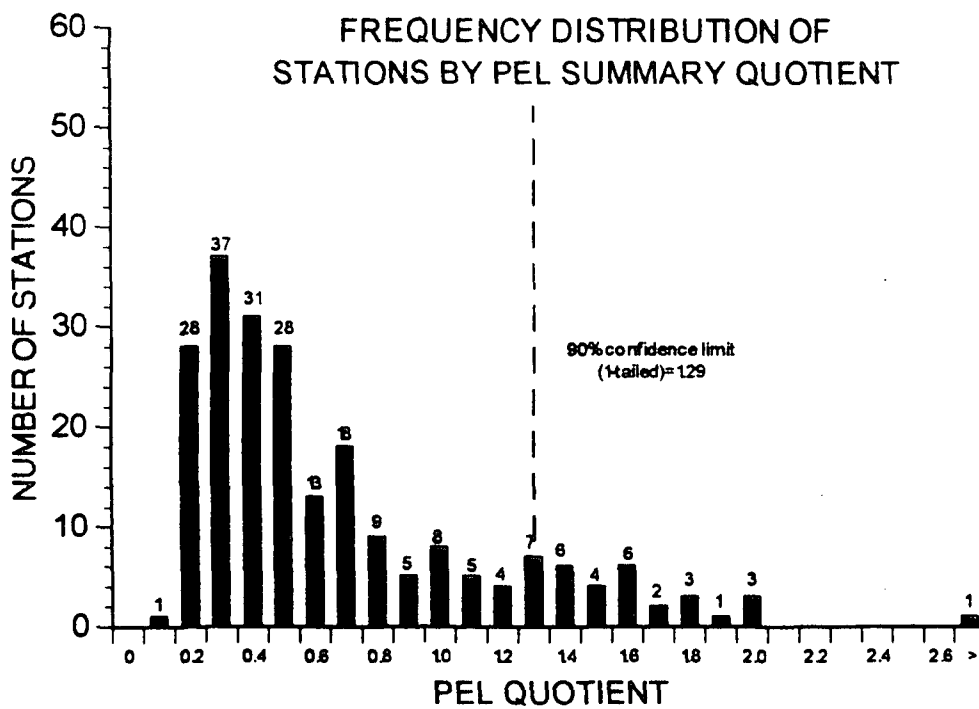
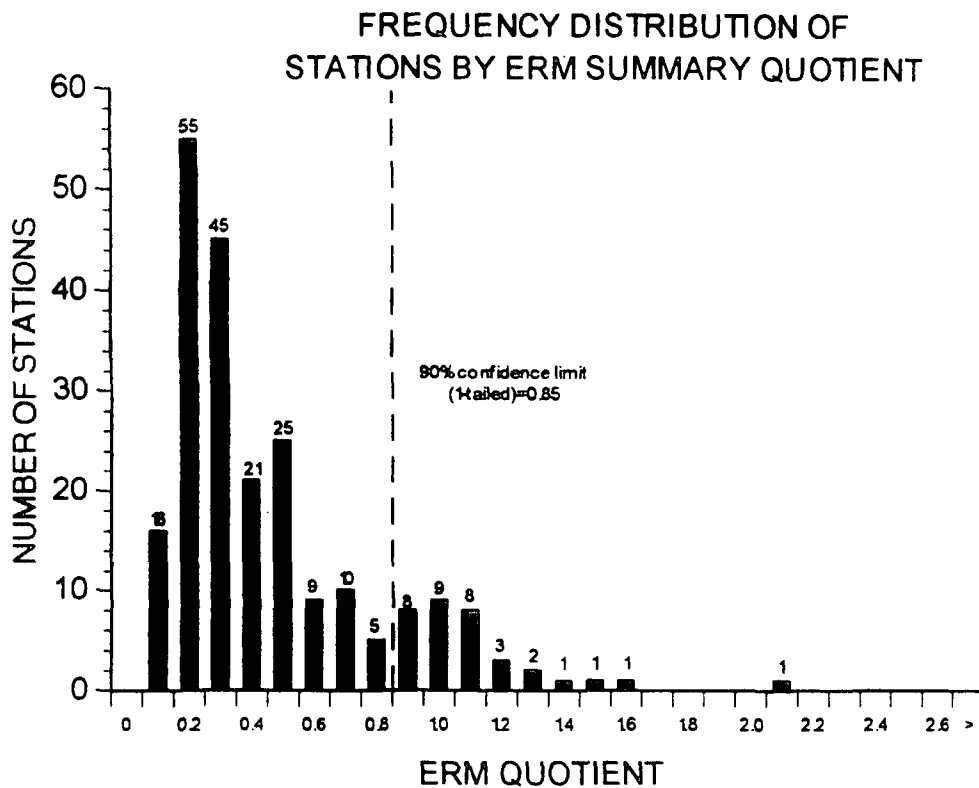
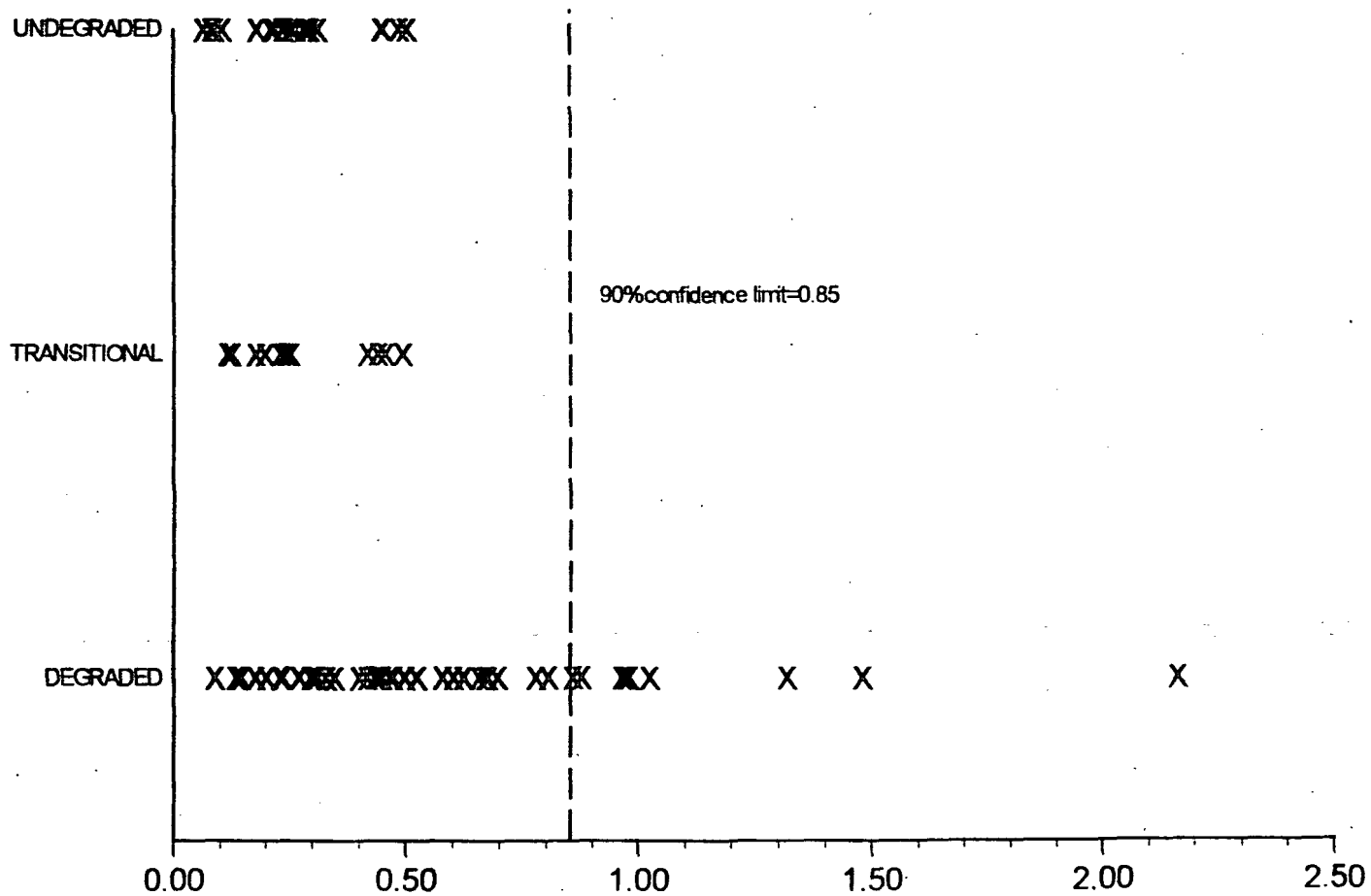


Figure 13. Histogram of the number of stations by ERM or PEL summary quotient group. Vertical dashed line indicates 90% confidence limit of the mean.

### Benthic Community Index Grouping vs. ERM Summary Quotient



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Figure 14. Benthic index grouping vs. ERM summary quotient value. Each data point represents one station (n=75).



from species density data from each site using the Systat® statistical program. From this matrix several tests for association of variables were performed. The tests employed are common in marine and estuarine benthic community analyses and are well-documented in the literature (Field et al., 1982; Pearson et al 1983; Swartz et al., 1985; Gray, 1989; Clark and Ainsworth, 1993). Classification analysis was employed to demonstrate site-related community patterns such as species dominance. Cluster analysis is a multivariate procedure for detecting natural groupings in data, and, for our purposes, data were grouped by average similarities in total composition and species abundance (Krebs, 1989). The average-linkage method calculates similarity between a pair of cluster groups as the average similarity among entities in the two groups. Species information is used to compute similarity index values. Grouped stations were clustered at a conservative distance limit of 50-60% similarity, however, this level was purely arbitrary. Because classification analyses have the tendency to force data into artificially distinct groups, another method (e.g., multi-dimensional scaling) was used to confirm the validity of group clusters and site similarity. Ordination analysis was useful because it enables one to see multidimensional gradients in data rather than just groupings (Smith, personal communication).

Multi-dimensional scaling (MDS) is used extensively in the analyses of benthic communities, particularly in estuarine and marine pollution studies. MDS is a procedure for fitting a set of points in space such that the distance between points correspond to a given set of dissimilarities. This technique is more flexible than principal co-ordinate analyses when handling the large number of zero counts generally characteristic of species-samples matrices. Nonmetric MDS analyses were performed using Systat®. For a detailed account of MDS statistical procedures, see Clarke and Ainsworth (1993) and Warwick and Clarke (1993). Inferences from the resultant ordination are also presented. It is important to note that, as with cluster analyses, MDS results are not definitive and must be used in conjunction with additional ecological information. MDS results are based on total species number and numbers of individuals. Inferences from the resultant ordination are also presented.

After classification and ordination patterns were determined, the raw data were reevaluated to assess which species may have influenced the observed patterns. Indicator species were then selected on the basis of a literature review (i.e., distribution, life history strategies and habitat preference), by recommendations from other experienced benthic taxonomists, and review of the raw data. Initially, community analyses were conducted as a per "site" comparison. Later, it was decided analyses also be expanded to a per "station" comparison to produce a more definitive data set for the reference pool. The extended analysis of station variability was performed using the benthic index.

Benthic assemblages have many attributes which make them reliable and sensitive indicators of the ecological condition in estuarine



environments. The following procedure summarizes the construction and application of the benthic index used to reliably discriminate between degraded and undegraded conditions at sites in the San Diego Bay Region. Although there are problems with trying to simplify complex biological communities, we attempted to develop a quantitative method which creates a partition between degraded and undegraded areas. Polluted sites can not be conclusively identified using results from benthic community analyses alone, but these analyses impartially describe "environmentally stressed" areas. This benthic index is based on species (indicators), and group (general taxa) information. The index also evaluates community parameters, such as species richness, and abundance or presence of pollution indicators, which identify the extremes of the community characteristics. Sites are ranked according to these extremes and are represented by a single value. In general, decreasing numbers of species, increasing numbers of individuals, and decreasing diversity values are common responses observed near polluted areas. These trends are incorporated into the index. One of the important restrictions with the existing method is it evaluates this limited San Diego Bay benthic data set when dividing groups for categorization. Construction and subsequent validation of this simplified benthic index are loosely based on criteria developed by several agencies, including USEPA-EMAP and SCCWRP. However, the benthic index developed by USEPA-EMAP (Weisberg et al., 1993) included several environmental variables in its construction (e.g. dissolved O<sub>2</sub>), while the index for San Diego Bay data used only biological parameters. Briefly, the following major steps were followed in constructing and validating this benthic index:

1. Degraded and undegraded (i.e., reference condition) stations were identified on the basis of measured environmental and biological variables.
2. A list of "candidate" parameters was developed using species abundance data. The list included metrics having ecological relevance (e.g., species diversity indices, etc.) which were used to discriminate between degraded and reference areas.
3. A value for each candidate parameter (i.e., diversity, abundance, taxonomic composition) was calculated for each station (e.g., total species per station, total individuals per station, total crustaceans species per station, total number of polychaete individuals, total amphipods per station, etc.).
4. Range of values per metric was determined (lowest to highest value).
5. Quartiles from that range were determined.
6. Ranking within quartiles were assigned: upper quartile=2, lower quartile=0, middle quartile=1. These calculations were applied to the metrics from step 3.

7. The index was defined by values of 0, 1, or 2. A value of 0 defines the degraded (detectable stress) stations(s), and 2 identifies environmentally undegraded stations(s). Stations with an index value of 1 are considered transitional communities, which are neither degraded nor reference stations. Transitional stations have species or other parameters which indicate both degraded and undegraded habitats. These stations are investigated further to determine the cause of ambiguity of the transitional status.
8. Relative abundance of indicator species (both degraded and undegraded habitat indicators) per station is assessed.

A primary concern regarding the benthic index is how well it fulfills the objective of discriminating among degraded and undegraded estuarine conditions. This simplified version forms the basis for ongoing iterative procedures involved in construction of an index. This index will include a variety of indicator values (Bascom et al., 1978; Kerans et al., 1994; EcoAnalysis et al., 1995) for future applications of the assessment of benthic community structure. The following sections report results of benthic community analyses based solely on composition and abundance of macrobenthic species from sediment cores throughout San Diego Bay and its vicinity. Environmental parameters (e.g., total organic carbon levels and sediment grain size range) and other factors capable of influencing benthic composition were examined, but not evaluated in conjunction with the data presented here. Those data are examined later in sections which address correlative analyses.

In this study, bioeffects are required to be demonstrated in relation to properly selected reference sites and to occur in association with significant pollutant levels. The following evidence for undegraded (possible reference) and degraded (possible contaminated) sites was based on benthic community "quality" at each site and station. Benthic community structure was evaluated as an indicator of environmentally degraded or undegraded areas and not as a pollution or contamination indicator. Benthic reference sites were determined predominantly by analyses of specific indicator species and groups (e.g., amphipods). These species are generally not found in polluted or disturbed areas.

The intention of this section is to clearly describe the condition of macrobenthic communities from sampling areas. Definitions of degraded, transitional, and undegraded used in this section are adopted from several papers (Bascom et al., 1978; Pearson and Rosenberg, 1978; Schindler, 1987; Swartz et al., 1985; Underwood and Peterson, 1988). Although the boundaries set in Bascom et al. (1978) were based on food supply and not on toxicants, the same general principles apply to this study. In

benthic analyses, the term "degraded" does not refer to a community response to significant levels of toxic chemicals. Degraded areas are those which contain significant numbers of opportunistic species, in the absence of non-opportunistic species, and have relatively low species diversity. Correlations are later used to determine if community profiles are influenced by chemistry or by natural environmental disturbances. Sites and stations which are categorized as "undegraded" have high species diversity, high proportional abundance of amphipods and other crustaceans, while noting there are a few exceptions to this rule (e.g., *Grandidierella japonica*, etc.). Undegraded areas generally contain species which are known to be sensitive to pollutants. Transitional sites and stations are those which are not confidently partitioned into the other two categories. These areas may solicit further study. Overall, an integration of data from laboratory exposures, chemical analyses, and benthic community assessments provide strong complementary evidence of the degree of pollution-induced degradation in aquatic communities. The following data analyses were conducted on a per site basis using sample replicates (n=5) at each sampling location (Table 6). An analysis also was performed using per station data (n=1) and is presented later in this section. Tests included classification and ordination analyses, diversity measurements, construction of a benthic index, and assessment of indicator species. One cautionary note is each of the benthic community and population condition tests are subject to effects of not only the pollutants measured in this study, but many other confounding natural factors, such as depth, salinity, sediment texture, and/or predation.

### Abundance and Diversity

There were 7,232 individuals, representing 198 macrobenthic species, collected from 375 benthic cores during sampling legs 20 through 23 of the San Diego Bay confirmation phase (Table 7). Mean number of species was calculated from 5 replicates per site (Table 8). Polychaetes comprised the majority of specimens in samples. Great numbers of mollusks in sites within West Basin, Downtown Piers, and Glorietta Bay were due to the bivalve *Musculista senhousiei* which was collected as large aggregates. Echinoderms were found at only 6 of the 25 sites, and were significantly ( $p > 0.01$ ) greater at the Mission Bay A3 site ( $640.0 \pm 216.6$ ) and the Mission Bay A8 site ( $213.3 \pm 53.3$ ) compared to all other sites. Holothurians comprised the majority of echinoderms found at these sites, although ophiuroids were also present. Colonial species were not present. Diversity ranged from 9 to 46 benthic species per site in collected samples. Significant differences in species diversity were not as distinct as with other indices and no trends were obvious. Results shown in Table 9 indicate most communities in this study were relatively diverse and even. Simpson's diversity index ( $D'$ ) which emphasizes more common species, and Shannon-Weaver ( $H'$ ) which puts statistical weight on rare species, showed differences in the range of diversity values. Chula Vista Yacht Basin was the only site which showed a moderately high level of dominance as

Table 6. Benthic samples from the San Diego Bay region.

Site-Station Name	Replicate Number	Station No.	IDORG No.	Site-Station Name	Replicate Number	Station No.	IDORG No.	Site-Station Name	Replicate Number	Station No.	IDORG No.
10 Swartz (West Basin)	1	90050.0	837	31 Swartz (Marine Terminal R3)	1	90010.0	896	NSB-M1 (Sub Base C2)	1	90028.0	871
10 Swartz (West Basin)	2	93199.0	838	31 Swartz (Marine Terminal R3)	2	93229.0	897	NSB-M1 (Sub Base C2)	2	93216.0	872
10 Swartz (West Basin)	3	93200.0	839	31 Swartz (Marine Terminal R3)	3	93230.0	898	NSB-M1 (Sub Base C2)	3	93217.0	873
10 Swartz (West Basin)	4	^	837.1	31 Swartz (Marine Terminal R3)	4	^	896.1	NSB-M1 (Sub Base C2)	4	^	871.1
10 Swartz (West Basin)	5	^	837.2	31 Swartz (Marine Terminal R3)	5	^	896.2	NSB-M1 (Sub Base C2)	5	^	871.2
11 Swartz (East Basin)	1	90001.0	840	32 Swartz (Sweetwater Ch)	1	90052.0	875	P Swartz (Naval Base 012)	1	90022.0	868
11 Swartz (East Basin)	2	93201.0	841	32 Swartz (Sweetwater Ch)	2	93219.0	876	P Swartz (Naval Base 012)	2	93214.0	869
11 Swartz (East Basin)	3	93202.0	842	32 Swartz (Sweetwater Ch)	3	93220.0	877	P Swartz (Naval Base 012)	3	93215.0	870
11 Swartz (East Basin)	4	^	840.1	32 Swartz (Sweetwater Ch)	4	^	875.1	P Swartz (Naval Base 012)	4	^	868.1
11 Swartz (East Basin)	5	^	840.2	32 Swartz (Sweetwater Ch)	5	^	875.2	P Swartz (Naval Base 012)	5	^	868.2
12 Swartz (Downtown Anch)	1	90002.0	878	34 Swartz (CV Yacht Basin)	1	90012.0	824	San Diego River B1	1	93116.0	881
12 Swartz (Downtown Anch)	2	93221.0	879	34 Swartz (CV Yacht Basin)	2	93196.0	825	San Diego River B1	2	93116.0	882
12 Swartz (Downtown Anch)	3	93222.0	880	34 Swartz (CV Yacht Basin)	3	93197.0	826	San Diego River B1	3	93116.0	883
12 Swartz (Downtown Anch)	4	^	878.1	34 Swartz (CV Yacht Basin)	4	^	824.1	San Diego River B1	4	93116.0	881.1
12 Swartz (Downtown Anch)	5	^	878.2	34 Swartz (CV Yacht Basin)	5	^	824.2	San Diego River B1	5	93116.0	881.2
14 Swartz (Downtown Piers)	1	90003.0	846	35 Swartz (Coronado Cays)	1	90053.0	843	SDNI- N5 (Carrier Base V2)	1	90025.0	899
14 Swartz (Downtown Piers)	2	93205.0	847	35 Swartz (Coronado Cays)	2	93203.0	844	SDNI- N5 (Carrier Base V2)	2	93231.0	1000
14 Swartz (Downtown Piers)	3	93206.0	848	35 Swartz (Coronado Cays)	3	93204.0	845	SDNI- N5 (Carrier Base V2)	3	93232.0	1001
14 Swartz (Downtown Piers)	4	^	846.1	35 Swartz (Coronado Cays)	4	^	843.1	SDNI- N5 (Carrier Base V2)	4	^	899.1
14 Swartz (Downtown Piers)	5	^	846.2	35 Swartz (Coronado Cays)	5	^	843.2	SDNI- N5 (Carrier Base V2)	5	^	899.2
15 Swartz (G St Pier Marina)	1	90004.0	849	37 Swartz (Marina)	1	90013.0	815	Stormdrain EM (Grape St.)	1	90037.0	827
15 Swartz (G St Pier Marina)	2	93207.0	850	37 Swartz (Marina)	2	93190.0	816	Stormdrain EM (Grape St.)	2	90037.0	828
15 Swartz (G St Pier Marina)	3	93208.0	851	37 Swartz (Marina)	3	93191.0	817	Stormdrain EM (Grape St.)	3	90037.0	829
15 Swartz (G St Pier Marina)	4	^	849.1	37 Swartz (Marina)	4	^	815.1	Stormdrain EM (Grape St.)	4	90037.0	827.1
15 Swartz (G St Pier Marina)	5	^	849.2	37 Swartz (Marina)	5	^	815.2	Stormdrain EM (Grape St.)	5	90037.0	827.2
16 Swartz (Intercont. Marina)	1	90051.0	818	41 Swartz (Glorietta Bay)	1	90015.0	821	Long Beach Outer Harbor	1	40018.3	884
16 Swartz (Intercont. Marina)	2	93192.0	819	41 Swartz (Glorietta Bay)	2	93194.0	822	Long Beach Outer Harbor	2	40018.3	885
16 Swartz (Intercont. Marina)	3	93193.0	820	41 Swartz (Glorietta Bay)	3	93195.0	823	Long Beach Outer Harbor	3	40018.3	886
16 Swartz (Intercont. Marina)	4	^	818.1	41 Swartz (Glorietta Bay)	4	^	821.1	Long Beach Outer Harbor	4	40018.3	884.1
16 Swartz (Intercont. Marina)	5	^	818.2	41 Swartz (Glorietta Bay)	5	^	821.2	Long Beach Outer Harbor	5	40018.3	884.2
23 Swartz (Naval Base 07)	1	90006.0	865	K Swartz (Naval Base 04)	1	90021.0	862	Lower Main Channel	1	40004.2	830
23 Swartz (Naval Base 07)	2	93212.0	866	K Swartz (Naval Base 04)	2	93210.0	863	Lower Main Channel	2	40004.2	831
23 Swartz (Naval Base 07)	3	93213.0	867	K Swartz (Naval Base 04)	3	93211.0	864	Lower Main Channel	3	40004.2	832
23 Swartz (Naval Base 07)	4	^	865.1	K Swartz (Naval Base 04)	4	^	862.1	Lower Main Channel	4	40004.2	830.1
23 Swartz (Naval Base 07)	5	^	865.2	K Swartz (Naval Base 04)	5	^	862.2	Lower Main Channel	5	40004.2	830.2
25 Swartz (Naval base/ SY 010)	1	90007.0	887	Mission Bay A4	1	93108.0	859	Off Cabrillo Beach	1	40010.0	1006
25 Swartz (Naval base/ SY 010)	2	93223.0	888	Mission Bay A4	2	93108.0	860	Off Cabrillo Beach	2	40010.0	1007
25 Swartz (Naval base/ SY 010)	3	93224.0	889	Mission Bay A4	3	93108.0	861	Off Cabrillo Beach	3	40010.0	1008
25 Swartz (Naval base/ SY 010)	4	^	887.1	Mission Bay A4	4	93108.0	859.1	Off Cabrillo Beach	4	40010.0	1006.1
25 Swartz (Naval base/ SY 010)	5	^	887.2	Mission Bay A4	5	93108.0	859.2	Off Cabrillo Beach	5	40010.0	1006.2
27 Swartz (Naval Base /SH 013)	1	90008.0	890	Mission Bay A8	1	93112.0	856	Palos Verdes (Swartz 6)	1	40031.2	1002
27 Swartz (Naval Base /SH 013)	2	93225.0	891	Mission Bay A8	2	93112.0	857	Palos Verdes (Swartz 6)	2	40031.2	1003
27 Swartz (Naval Base /SH 013)	3	93226.0	892	Mission Bay A8	3	93112.0	858	Palos Verdes (Swartz 6)	3	40031.2	1004
27 Swartz (Naval Base /SH 013)	4	^	890.1	Mission Bay A8	4	93112.0	856.1	Palos Verdes (Swartz 6)	4	40031.2	1002.1
27 Swartz (Naval Base /SH 013)	5	^	890.2	Mission Bay A8	5	93112.0	856.2	Palos Verdes (Swartz 6)	5	40031.2	1002.2
28 Swartz (7th St Channel Q1)	1	90009.0	893	Mission Bay A3	1	93107.0	853	West Basin Entrance	1	40009.1	834
28 Swartz (7th St Channel Q1)	2	93227.0	894	Mission Bay A3	2	93107.0	854	West Basin Entrance	2	40009.1	835
28 Swartz (7th St Channel Q1)	3	93228.0	895	Mission Bay A3	3	93107.0	855	West Basin Entrance	3	40009.1	836
28 Swartz (7th St Channel Q1)	4	^	893.1	Mission Bay A3	4	93107.0	853.1	West Basin Entrance	4	40009.1	834.1
28 Swartz (7th St Channel Q1)	5	^	893.2	Mission Bay A3	5	93107.0	853.2	West Basin Entrance	5	40009.1	834.2

Table 7. Species list of macroinvertebrates from the San Diego Bay region benthic samples

<i>Acmira catherinae</i>	Gastropoda	<i>Fabricinuda limicola</i>	Polychaeta	<i>Orchomene pacifica</i>	Gammaridea
<i>Acmira horikoshii</i>	Gastropoda	<i>Glycera americana</i>	Polychaeta	<i>Orchomene sp.</i>	Gammaridea
<i>Acuminodeutopus heteruropus</i>	Amphipoda	<i>Glycera nana</i>	Polychaeta	<i>Paracerceis sculpta</i>	Isopoda
<i>Aglaja sp.</i>	Gastropoda	<i>Gnathia crenulatifrons</i>	Isopoda	<i>Paradexamine sp.</i>	Amphipod
<i>Alpheus californiensis</i>	Decapoda	<i>Goniada brunnea</i>	Polychaeta	<i>Paramage scutata</i>	Polychaeta
<i>Amaeana occidentalis</i>	Polychaeta	<i>Goniada sp(p).</i>	Polychaeta	<i>Paranthura elegans</i>	Isopoda
<i>Ampelisca brevisimulata</i>	Gammaridea	<i>Grandidierella japonica</i>	Gammaridea	<i>Paraprionospio pinnata</i>	Polychaeta
<i>Ampelisca cristata</i>	Gammaridea	<i>Harmothoe hirsuta</i>	Polychaeta	<i>Parasterope barnesi</i>	Ostracoda
<i>Ampelisca hancocki</i>	Gammaridea	<i>Harmothoe imbricata</i>	Polychaeta	<i>Parougia caeca</i>	Polychaeta
<i>Ampharete labrops</i>	Polychaeta	<i>Heptacarpus cf taylori</i>	Decapoda	<i>Parvilucina tenuisculpta</i>	Bivalvia
<i>Amphiteis scaphobranchiata</i>	Polychaeta	<i>Heptacarpus sp. A</i>	Decapoda	<i>Pectinaria californiensis</i>	Polychaeta
<i>Amphideutopus oculatus</i>	Amphipoda	<i>Hesperonoe sp(p).</i>	Polychaeta	<i>Pennatulacea</i>	Anthozoa
<i>Amphilochidae</i>	Gammaridea	<i>Heterophoxus oculatus</i>	Gammaridea	<i>Pherusa capulata</i>	Polychaeta
<i>Ampithoe sp.</i>	Gammaridea	unidentified holothuroid	Holothuroidea	<i>Pherusa sp(p).</i>	Polychaeta
unid. anemone	Anthozoa	<i>Hyale frequens</i>	Gammaridea	<i>Pholoe glabra</i>	Polychaeta
<i>Aphelochaeta monilaris</i>	Polychaeta	<i>Hydroides pacificus</i>	Polychaeta	unidentified phoronida	Phoronida
<i>Aphelochaeta multifilis</i>	Polychaeta	insect larva	Arthropoda	<i>Photis sp.</i>	Gammaridea
<i>Aphelochaeta sp(p).</i>	Polychaeta	<i>Laevicardium substriatum</i>	Bivalvia	<i>Pista alata</i>	Polychaeta
<i>Apistobranchus sp(p).</i>	Polychaeta	<i>Laonice cirrata</i>	Polychaeta	<i>Pista sp(p).</i>	Polychaeta
<i>Apoprionospio pygmaea</i>	Polychaeta	<i>Leitoscoloplos pugettensis</i>	Polychaeta	<i>Pleustidae</i>	Gammaridea
<i>Armandia brevis</i>	Polychaeta	<i>Lembos sp.</i>	Gammaridea	<i>Podarkeopsis glabra</i>	Polychaeta
<i>Asteropella slatteryi</i>	Ostracoda	<i>Leptochelia dubia</i>	Tanaidacea	<i>Podarkeopsis perkinsi</i>	Polychaeta
<i>Autolytus sp(p).</i>	Polychaeta	<i>Leptognathia sp.</i>	Tanaidacea	<i>Podocerus cristatus</i>	Gammaridea
unidentified bivalve	Bivalvia	<i>Levinsenia gracilis</i>	Polychaeta	<i>Poecilochaetus johnsoni</i>	Polychaeta
<i>Brania brevipharyngea</i>	Polychaeta	<i>Listriella goleta</i>	Gammaridea	<i>Polydora cornuta</i>	Polychaeta
<i>Bulla sp.</i>	Gastropoda	<i>Lophopanopeus bellus diegensis</i>	Decapoda	<i>Polydora nuchalis</i>	Polychaeta
<i>Campylaspis rubromaculata</i>	Cumacea	Lumbrineridae, unident.	Polychaeta	<i>Polydora socialis</i>	Polychaeta
<i>Capitella capitata complex</i>	Polychaeta	<i>Lyonsia californica</i>	Bivalvia	<i>Polyphthalmus pictus</i>	Polychaeta
<i>Caprella californica</i>	Caprellida	<i>Lysippe labiata</i>	Polychaeta	<i>Pontogeneia rostrata</i>	Gammaridea
<i>Caulerielia sp(p).</i>	Polychaeta	<i>Macoma cf yoldiformis</i>	Bivalvia	<i>Praxillella pacifica</i>	Polychaeta
<i>Chaetozone corona</i>	Polychaeta	<i>Macoma nausta</i>	Bivalvia	<i>Prionospio heterobranchia</i>	Polychaeta
<i>Chone mollis</i>	Polychaeta	<i>Macoma sp.</i>	Bivalvia	<i>Prionospio lighti</i>	Polychaeta
Cirratulidae, unident.	Polychaeta	<i>Mactra californica</i>	Bivalvia	<i>Prionospio sp(p).</i>	Polychaeta
<i>Cirratulus sp(p).</i>	Polychaeta	<i>Malmgreniella macginitiei</i>	Polychaeta	<i>Prionospio steenstrupi</i>	Polychaeta
<i>Cirriformia luxuriosa</i>	Polychaeta	<i>Marphysa disjuncta</i>	Polychaeta	<i>Pseudopolydora paucibranchiata</i>	Polychaeta
<i>Collisela depicta</i>	Gastropoda	<i>Mayerella banksia</i>	Amphipoda	<i>Rhynchospio glutaea</i>	Polychaeta
<i>Compsomyx subdiaphana</i>	Bivalvia	<i>Mediomastus californiensis</i>	Polychaeta	<i>Rudilemboides stenopropodus</i>	Amphipoda
<i>Cooperella subdiaphana</i>	Bivalvia	<i>Megalomma pigmentum</i>	Polychaeta	<i>Scleroplax granulata</i>	Decapoda
<i>Corophium acherusicum</i>	Gammaridea	<i>Melinna oculata</i>	Polychaeta	<i>Scolelepis quinqueidentata</i>	Polychaeta
<i>Corophium heteroceratum</i>	Gammaridea	<i>Metasychis disparidentata</i>	Polychaeta	<i>Scoletoma erecta</i>	Polychaeta
<i>Cassura candida</i>	Polychaeta	<i>Microjassa litotes</i>	Gammaridea	<i>Scoletoma tetraura</i>	Polychaeta
<i>Crepidula fornicata</i>	Gastropoda	<i>Monoculodes hartmanae</i>	Gammaridea	<i>Scoloplos acmeceps</i>	Polychaeta
<i>Crucibulum spinosum</i>	Gastropoda	<i>Monticellina dorsobranchialis</i>	Polychaeta	<i>Scyphoproctus sp(p).</i>	Polychaeta
<i>Cryptomya californica</i>	Bivalvia	<i>Monticellina sp. C</i>	Polychaeta	<i>Serolis carinata</i>	Isopoda
<i>Cyllichnella inculta</i>	Gastropoda	<i>Monticellina tessellata</i>	Polychaeta	<i>Sigambra tentaculata</i>	Polychaeta
<i>Cyllichnella sp.</i>	Gastropoda	<i>Munnogonium californiensis</i>	Isopoda	<i>Siliqua lucida</i>	Bivalvia
<i>Diastylis sp.</i>	Cumacea	<i>Musculista senhousiei</i>	Bivalvia	unidentified spionid	Polychaeta
<i>Diopatra sp(p).</i>	Polychaeta	<i>Myriochele sp. M</i>	Polychaeta	<i>Spiophanes berkeleyorum</i>	Polychaeta
<i>Diopatra tridentata</i>	Polychaeta	<i>Mysella sp.</i>	Bivalvia	<i>Spiophanes missionensis</i>	Polychaeta
<i>Diplocirrus sp(p).</i>	Polychaeta	unidentified mysid	Mysidacea	<i>Sthenelais tertiglabra</i>	Polychaeta
<i>Dorvillea longicornis</i>	Polychaeta	<i>Nassarius perpinguis</i>	Gastropoda	<i>Sthenelanelia uniformis</i>	Polychaeta
<i>Drilonereis falcata minor</i>	Polychaeta	<i>Neanthes acuminata</i>	Polychaeta	<i>Streblosoma sp. B</i>	Polychaeta
<i>Elasmopus rapax</i>	Amphipoda	<i>Neastacilla californica</i>	Isopoda	<i>Streblospio benedicti</i>	Polychaeta
<i>Eranno lagunae</i>	Polychaeta	nemertean	Nemertea	<i>Sulcoretusa xystrum</i>	Gastropoda
<i>Eteone californica</i>	Polychaeta	<i>Neotrypaea californiensis</i>	Decapoda	<i>Synchelidium recipalum</i>	Gammaridea
<i>Eteone sp(p).</i>	Polychaeta	<i>Nephtys caecoides</i>	Polychaeta	<i>Synchelidium sp.</i>	Gammaridea
<i>Euchone limnicola</i>	Polychaeta	<i>Nephtys cornuta</i>	Polychaeta	<i>Tagelus subteres</i>	Bivalvia
<i>Euclymeninae spp. indet.</i>	Polychaeta	Nereididae, unident.	Polychaeta	<i>Tellina modesta</i>	Bivalvia
<i>Eudorella pacifica</i>	Cumacea	<i>Nereis procerca</i>	Polychaeta	<i>Tenonia priops</i>	Polychaeta
<i>Euphilomedes carcharodonia</i>	Ostracoda	<i>Notomastus tenuis</i>	Polychaeta	Terebellidae, unident.	Polychaeta
<i>Euphilomedes producta</i>	Ostracoda	<i>Nuculana taphria</i>	Bivalvia	<i>Terebellidae californica</i>	Polychaeta
<i>Eupolymnia sp(p).</i>	Polychaeta	<i>Odontosyllis phosphorea</i>	Polychaeta	<i>Theora fragilis</i>	Bivalvia
<i>Exogone lourei</i>	Polychaeta	<i>Odosstomia sp.</i>	Gastropoda	<i>Trachycardium quadragenarium</i>	Bivalvia
<i>Exogone molesta</i>	Polychaeta	oligochaeta	Oligochaeta	<i>Turbonilla sp.</i>	Gastropoda
<i>Exogone sp(p).</i>	Polychaeta	<i>Olivella baetica</i>	Gastropoda	<i>Urocaris infraspinis</i>	Decapoda
<i>Exogone uniformis</i>	Polychaeta	unidentified ophiuroid	Ophiuroidea	<i>Zeuxo normani</i>	Tanaidacea

Table 8. Mean densities and standard error of higher taxonomic groups at each site in San Diego Bay. Total area sampled (0.04m<sup>2</sup>) at each site was from 5 replicate cores.

SITES	ID ORG #	Polychaetes	Mollusks	Crustaceans	Echinoderms
		mean #/m <sup>2</sup> ± SE	mean #/m <sup>2</sup> ± SE	mean #/m <sup>2</sup> ± SE	mean #/m <sup>2</sup> ± SE
10 Swartz (West Basin)	837	4,986.5 ± 481.8	2,213.3 ± 1,211.5	5,199.9 ± 792.2	
11 Swartz (East Basin)	840	5,599.9 ± 1,654.0	640.0 ± 319.4	7,946.5 ± 2,605.1	26.7 ± 26.7
14 Swartz (Downtown Piers)	846	4,213.2 ± 822.5	2,453.3 ± 1,865.5	1,146.6 ± 449.4	
15 Swartz (G St Pier Marina)	849	4,106.6 ± 694.6	1,040.0 ± 508.4	1,120.0 ± 123.6	
16 Swartz (Intercont. Marina)	818	3,893.2 ± 824.5	1,146.6 ± 629.1	2,853.3 ± 905.9	
23 Swartz (Naval Base 07)	865	5,119.9 ± 1,427.1	106.7 ± 77.7	373.3 ± 154.3	
25 Swartz (Naval base/ SY 010)	887	2,639.9 ± 932.7	53.3 ± 53.3	53.3 ± 32.7	
27 Swartz (Naval Base /SH 013)	890	2,373.3 ± 268.0	133.3 ± 73.0	293.3 ± 165.5	
28 Swartz (7th St Channel Q1)	893	2,000.0 ± 944.7	80.0 ± 53.3	26.7 ± 26.7	
31 Swartz (Marine Terminal R3)	896	4,373.2 ± 1,827.4	746.6 ± 225.5	853.3 ± 466.8	
32 Swartz (Sweetwater Ch)	875	5,066.5 ± 1,224.2	213.3 ± 181.8	1,013.3 ± 459.2	
34 Swartz (CV Yacht Basin)	824	10,426.4 ± 2,264.4	373.3 ± 154.3	800.0 ± 332.0	
35 Swartz (Coronado Cays)	843	4,986.5 ± 1,506.5	320.0 ± 171.8	3,199.9 ± 370.0	26.7 ± 26.7
37 Swartz (Marina)	815	4,399.9 ± 1,141.5	426.7 ± 160.0	1,626.6 ± 351.2	
41 Swartz (Glorietta Bay)	821	10,106.4 ± 532.3	5,066.5 ± 2,724.3	1,493.3 ± 816.9	
K Swartz (Naval Base 04)	862	2,799.9 ± 480.7	906.6 ± 208.3	853.3 ± 293.9	
NSB-M1 (Sub Base C2)	871	4,266.6 ± 668.0	1,013.3 ± 149.7	1,146.6 ± 200.4	53.3 ± 53.3
P Swartz (Naval Base 012)	868	4,799.9 ± 808.8	533.3 ± 279.7	533.3 ± 245.8	
SDNI- N5 (Carrier Base V2)	899	7,733.1 ± 2,003.5	1,946.6 ± 512.2	2,000.0 ± 511.2	
12 Swartz (Downtown Anch)	878	3,893.2 ± 760.6	1,333.3 ± 865.1	2,159.9 ± 586.3	
Mission Bay A3	853	1,600.0 ± 152.0	1,440.0 ± 330.4	533.3 ± 242.2	640.0 ± 216.6
Mission Bay A4	859	2,186.6 ± 422.9	213.3 ± 149.7	933.3 ± 467.6	53.3 ± 32.7
Mission Bay A8	856	11,573.0 ± 761.7	320.0 ± 90.4	3,599.9 ± 1,096.2	213.3 ± 53.3
San Diego River B1	881	2,426.6 ± 1,062.0	26.7 ± 26.7	800.0 ± 173.8	
Stormdrain EM (Grape St.)	827	4,239.9 ± 534.0	53.3 ± 53.3	3,813.2 ± 1,345.6	

Table 9. Macrobenthic community variables at sites in San Diego bay. Biological parameters derived from 5 replicate samples per site. Physical measurements are from an average of the 3 stations.

SITES	depth (m)	silt:clay (%)	TOC	Total no. of species	Mean no. indiv./m <sup>2</sup>	Simpson's diversity D	inverse (1/D) diversity	V' evenness	Shannon-W diversity H'	J' evenness	habitat
32 Swartz (Sweetwater Ch)	6	64.49	0.97	31	6,426.5	0.161	6.211	0.005	3.514	0.709	E-sandy
11 Swartz (East Basin)	3	52.71	1.33	35	14,586.3	0.124	8.065	0.004	3.719	0.725	S,Sb
16 Swartz (Intercont. Marina)	4	59.68	1.04	32	8,106.5	0.086	11.628	0.003	4.037	0.807	S,Sb
37 Swartz (Marina)	3	92.77	1.45	29	6,586.5	0.101	9.901	0.003	3.833	0.789	S,Sb
Stormdrain EM (Grape St.)	8	82.47	1.97	33	8,239.8	0.071	14.085	0.002	4.152	0.823	E,Sb
10 Swartz (West Basin)	3	75.36	1.46	34	12,399.7	0.094	10.638	0.003	3.910	0.769	S,Sb
14 Swartz (Downtown Piers)	11	54.59	1.30	37	7,919.8	0.088	11.364	0.002	4.112	0.789	E
15 Swartz (G St Pier Marina)	5	77.25	4.08	33	6,586.5	0.074	13.514	0.002	4.194	0.831	E
41 Swartz (Glorietta Bay)	5	50.00	1.05	28	16,879.6	0.163	6.135	0.006	3.296	0.686	S,Sb
K Swartz (Naval Base 04)	5	62.79	2.23	21	4,586.6	0.129	7.752	0.006	3.481	0.793	E,N
SDNI- N5 (Carrier Base V2)	7	65.80	1.81	46	11,839.7	0.075	13.333	0.002	4.342	0.786	E,N
12 Swartz (Downtown Anch)	5	73.73	1.83	31	7,439.8	0.094	10.638	0.003	3.985	0.804	E
23 Swartz (Naval Base 07)	8	55.09	1.74	29	5,706.5	0.124	8.065	0.004	3.621	0.745	E,N
25 Swartz (Naval base/ SY 010)	9	71.89	1.92	20	2,799.9	0.141	7.092	0.007	3.324	0.769	E,N
27 Swartz (Naval Base /SH 013)	10	71.16	1.90	21	2,826.6	0.111	9.009	0.005	3.631	0.827	E,N
31 Swartz (Marine Terminal R3)	6	61.51	1.58	32	6,079.8	0.142	7.042	0.004	3.634	0.727	E
34 Swartz (CV Yacht Basin)	3	90.40	1.39	33	11,866.4	0.368	2.717	0.011	2.474	0.490	S
35 Swartz (Coronado Cays)	3	82.29	1.39	30	8,613.1	0.103	9.709	0.003	3.847	0.784	S,N
NSB-M1 (Sub Base C2)	10	62.67	1.64	43	6,746.5	0.101	9.901	0.002	4.087	0.753	E,N
P Swartz (Naval Base 012)	10	69.63	2.07	28	5,866.5	0.108	9.259	0.004	3.744	0.779	E,N
Mission Bay A4 REF	2	65.70	1.63	37	3,599.9	0.069	14.493	0.002	4.460	0.856	M
28 Swartz (7th St Channel Q1)	7	45.97	1.73	15	2,159.9	0.178	5.618	0.012	3.156	0.808	nd
Mission Bay A8 REF	5	36.99	0.89	44	15,866.3	0.085	11.765	0.002	4.109	0.753	M
Mission Bay A3 REF	3	93.21	2.98	27	5,653.2	0.130	7.692	0.005	3.516	0.739	M
San Diego River B1 REF	1	76.19	2.31	9	3,466.6	0.332	3.012	0.037	2.081	0.656	M

Value range= 0-1      1-s      0-1      <5, max=log S      0-1

*E=exposed, S=sheltered, Sb=small boats, N=navy, C=channel, M=Mission Bay*

shown by the evenness index ( $J'=0.490$ ). This was due to an abundance of *Mediomastus californiensis* and *Leitoscoloplos pugettensis* polychaetes. Compared to all other sites, Chula Vista had a significantly lower density of crustaceans. The Mission Bay A4 site had moderately high species diversity but comparatively low species abundance.

### Cluster and Ordination Analyses

Cluster analyses produced the dendrogram (Figure 15) of station affinities, based on mean root-root transformed abundance of the 198 macrobenthic species, using Pearson's correlation of similarity and group-average sorting. A root-root transformation, reduced the weighting of abundant species (Field et al., 1982). The similarity level, although arbitrary, was designated somewhat conservatively near 50%. The resulting classification of assemblages reflect general patterns of benthic species composition, domination, and evenness (e.g., sites along the 0.00 line would be identical in species composition and abundance). Six major groups were delineated from the hierarchical clusters, which were defined by an overall dominant species. Group I, which included only a single site (32 Swartz, Sweetwater Channel) was co-dominated by the tube-building tanaid *Zuexo normandi* and polychaete worm *Leitoscoloplos pugettensis*. Groups IV, V and VI were all dominated by the polychaete worm species *L. pugettensis*, *Prionospio heterobranchia*, and co-dominants *P. heterobranchia* and oligochaetes, respectively. Amphipods (*Acuminodeutopus heteruopus*) were the most abundant group in cluster II. The seemingly ubiquitous bivalve *Musculista senhousi* was the numerically important species in Group III. When plotted, these biologically-based clusters provide a qualitative assessment of the pattern of physical data and visually demonstrate the relationship of one site to another. To put the relationship of samples into a more general perspective, the level of similarity found between San Diego Bay site samples and those from Los Angeles Harbor was between 5-10% (Figure 16), revealing the benthos of these northerly areas should not be used comparatively, due to differences in habitats and biotic response. Although tidally influenced, the species composition of the San Diego River B1 site was also found to be highly dissimilar to other San Diego Bay samples, presumably due to habitat differences.

In addition to conventional methods, non-metric multi-dimensional scaling (MDS) using a weighted Spearman rank correlation coefficient dissimilarity matrix was used to determine similarity in species composition between stations. Non-metric MDS can handle large numbers of zeros, missing data, and unequal replication. MDS seeks a representation of individuals in a space of low dimensionality where the distances between individuals in ordination space optimally represent their dissimilarities in variable space (Kenkel and Orloci, 1986). Typically, transformed biotic and abiotic data are initially analyzed separately, then combined to assess common MDS spatial patterns. The resulting ordination for biotic variables is demonstrated here.



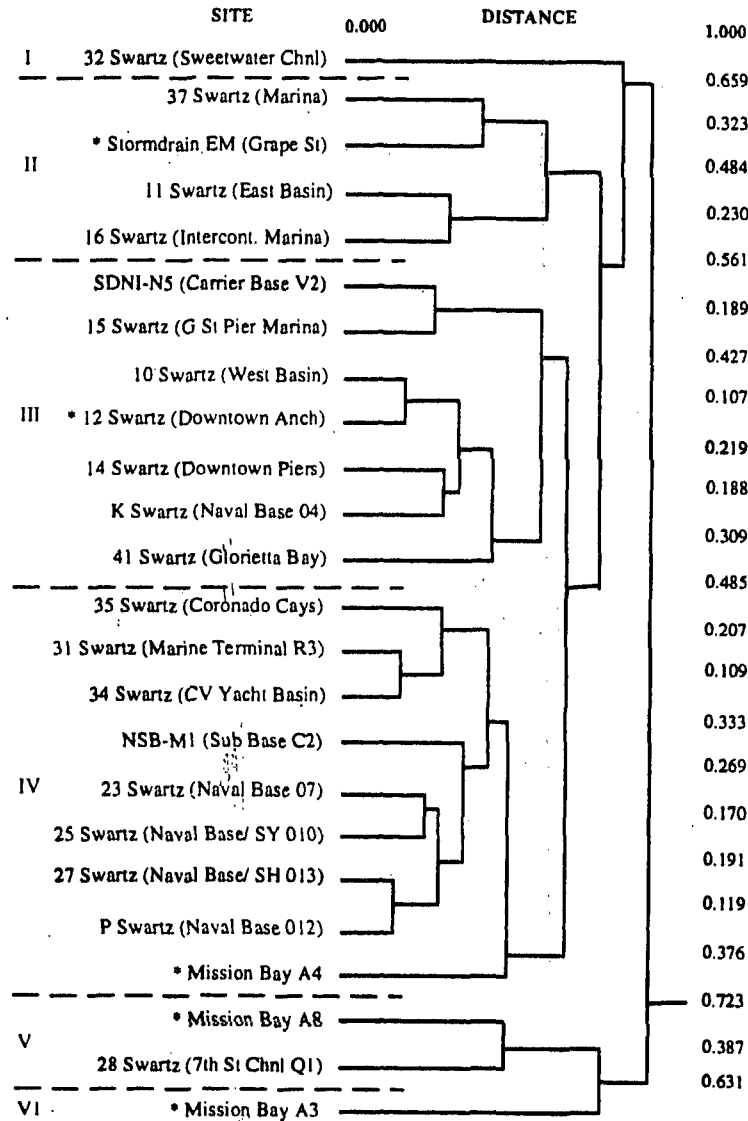


Figure 15. Numerical classification of mean abundance data of 198 macrobenthic species. Clusters are derived from Pearson correlation matrix data and group-average sorting. Six major clusters are shown, each dominated by 1-2 species.

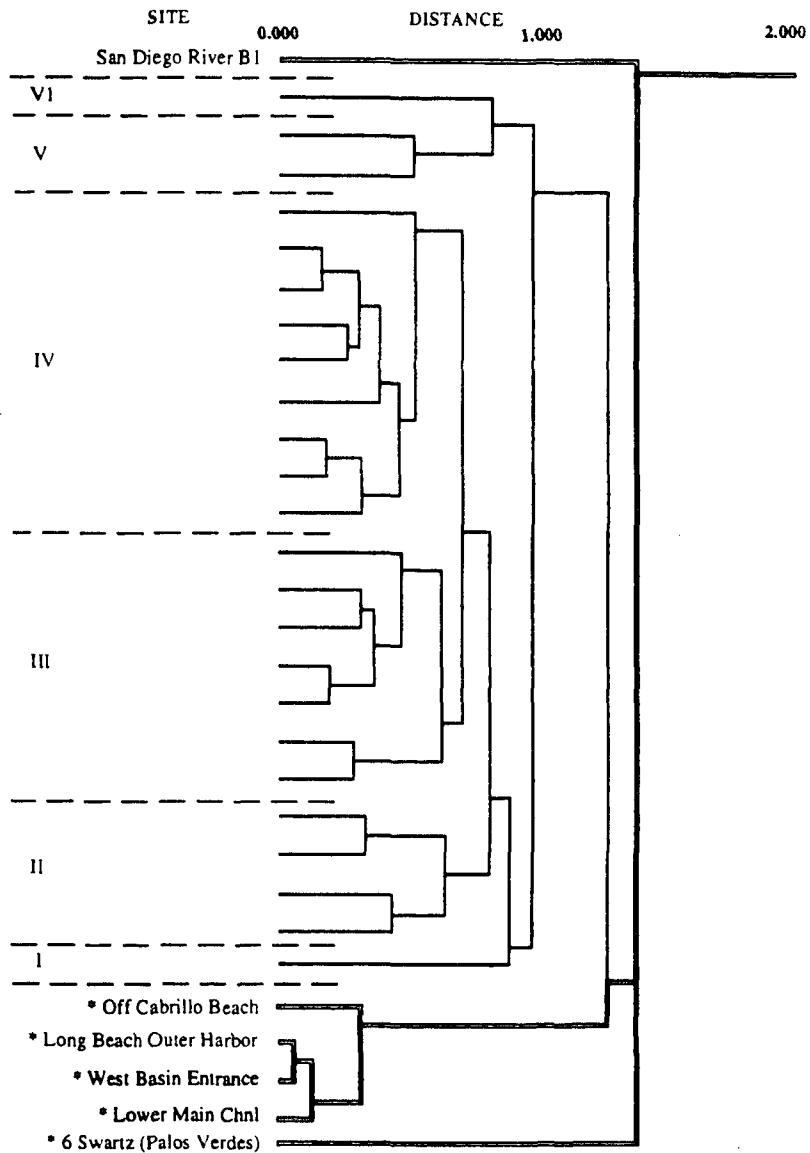


Figure 16. Numerical classification of mean abundance data from San Diego Bay and vicinity and Los Angeles Harbor.

PLOT	VARIABLE/SITE	CORRELATION		PLOT	VARIABLE/SITE	CORRELATION	
		CLUSTER NO.				CLUSTER NO.	
A	West Basin, Swartz 10	III		N	Marina, Swartz 37	II	
B	East Basin, Swartz 11	II		O	Glorietta Bay, Swartz 41	III	
C	Downtown Piers, Swartz 14	III		P	Naval Base 04, Swartz K	III	
D	G St Pier Marina, Swartz 15	III		Q	Sub Base C2, NSB-M1	IV	
E	Intercont. Marina, Swartz 16	II		R	Naval Base 012, Swartz P	IV	
F	Naval Base 07, Swartz 23	IV		S	Carrier Base V2, SDNI-NS	III	
G	Naval Base/SY 010, Swartz 25	IV		T	San Diego River B1	nd	
H	Naval Base/SH 013, Swartz 27	IV		U	Stormdrain EM, Grape St	II	
I	7th Channel Q1, Swartz 28	V		V	Downtown Anch, Swartz 12	III	
J	Marine Terminal R3, Swartz 31	IV		W	Mission Bay A3	VI	
K	Sweetwater Channel, Swartz 32	I		X	Mission Bay A4	IV	
L	CV Yacht Basin, Swartz 34	IV		Y	Mission Bay A8	V	
M	Coronado Cays, Swartz 35	IV					

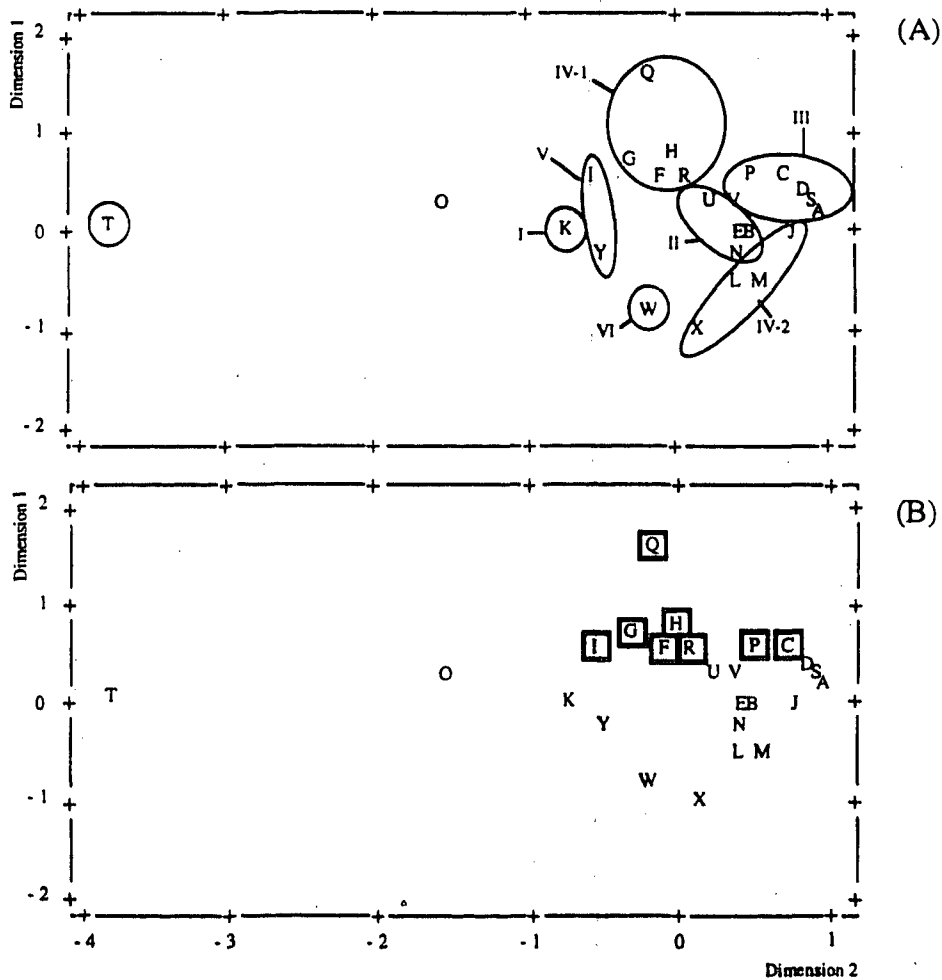


Figure 17. Multidimensional scaling (ms) ordination of site samples from San Diego Bay based on the abundance matrix of 198 macrobenthic species. (A) Clusters delineated and numbered in Figure 15 dendrogram are shown here as circled groups. (B) Qualitative assessment of the relation of chemistries >ERM levels (site codes surrounded by boxes) to ms biotic configuration.

displays the 2-dimensional representation resulting from multidimensional scaling, using the same matrix data applied to classification analysis. Letters surrounded by each circle represent the partitioned cluster groups delineated in the cluster hierarchy. The configuration was not altered when the outlier (T) was removed. The x- and y-axes represent scores for the first and second ordination axes. These scores are based on species diversity data and abundance and composition data.

When sites with chemistry values which exceeded ERM levels were assessed on the MDS plot in a qualitative, cursory manner as shown in Figure 17b (shown with squares), the sites clustered together. When interpreted along the axis gradient, these data suggested dimension 1 likely defined the pollution gradient, where the top quadrant within the plot identified the most contaminated sites (i.e., Q or H). This is assuming the plot configuration is affected by toxic pollution alone and not by any organic enrichment. The y-axis may represent responses to a salinity gradient or change in sediment grain size. These analyses are especially revealing when environmental variables (e.g, TOC, grain size, water depth, total PAHs, individual metals, etc.) and biota are scaled together to determine which variables influence the configuration. However, even in the absence of these parallel plots, patterns are apparent from the correlations illustrated in other sections of this report.

### Indicator Species

Despite the numerous studies performed in San Diego Bay, there have been no analyses of the fauna as bioindicators (SCCWRP-Diener, personal communication). Indicator species are assessed to determine which species are responsible for the separation of groups in classification and ordination analyses (Field et al., 1982). Indicator species used in this study were selected on the basis of overall abundance in the San Diego Bay data set, literature review which determined distribution, known life histories and habitat preference, and discussions with ecologists experienced with Southern California marine biota and marine habitats. Species indicative of control or reference sites were derived from frequency of occurrence data. The presence or absence of specific polychaetes in sediments provided one valuable indication of the condition or health (Pocklington and Wells, 1992) of the benthic communities in San Diego Bay. The presence of *Capitella capitata* or *Streblospio benedicti*, in the absence of other species, is widely accepted as pollution indicators. Sensitive species like *Harmothoe imbricata* are represented at sites Carrier Base V2 and Mission Bay A8, and are typically found in uncontaminated areas. Additionally, *Nereidae* are accepted as indicators of early successional phases of environmental recovery (Pearson and Rosenberg, 1978) and are evident at site Carrier Base V2. *Mediomastus* polychaetes are found throughout the bay and have been considered to be identifiers of environmentally stressed areas. However, this species was found at the majority of sites. Another common species found in 16 out of 25 station samples was *Diplocirrus* sp.

which had not been found in previous studies in San Diego Bay (SCCWRP, personal communication). *Dipolocirrus* sp. was significantly ( $p > 0.05$ ) abundant at the Mission Bay A8 site. This unusual species is thought to have been introduced from the arctic region (G. Ruff, personal communication).

The benthic index discussed later was used to rank and calculate site partitions using the following indicator species: *Capitella capitata* (polychaete), *Armandia brevis* (polychaete), *Dorvillea longicornis* (polychaete), *Heterophoxus oculatus* (gammarid amphipod), and *Diastylis* sp. (cumacean). The polychaete worm *C. capitata* is widely accepted as a pollution indicator. *Diastylis* sp. ("sand-licker") feeds on nutrients adhered to sand grains and its presence indicates a relatively clean sample. Although it can tolerate moderately contaminated sediments, *H. oculatus* is a burrower and is considered an indicator of clean sediment.

One of the limitations in benthic community assessment is that patterns are more apparent where there is a strong gradient of pollutants, or when samples are selected from areas with distinctively low and high pollutant signals. There are limitations to what can be surmised from analyses of abundance of specific species, and selection of indicator species are highly site specific (Swartz et al., 1985). However, these species, combined with information from ordination and other supplemental analyses, make it apparent that these are important as ecologically relevant data. Many species used to assess environmental quality are used because they respond quickly to changes in environmental conditions. (Pocklington and Wells, 1992). Therefore, a station designated in the initial phases of sample collection as a having reference conditions, based on toxicity test or chemical analysis results, could be removed from the reference station list based on subsequent benthic community analyses.

### Benthic Index

Benthic communities, and occasionally single benthic species, have been used to elucidate the severity of human disturbance to nearshore marine and estuarine environments. It is possible to develop a comparable disturbance classification for species and use a simple numerical infaunal index with these species. Distinct pollution gradients are rare in most embayments because of confounding environmental gradients and historical changes. Still, an index has the best potential to quantitatively assess benthic community responses to disturbance. Some benthic indices are based on a priori information and are developed using test sites representing the extremes within a range of environmental conditions which adversely affect benthos. In contrast, the index developed and used in this study was based solely on information which characterized the benthic community, such as specific indicator species and community parameters (species richness, abundance, presence of pollution indicator species, etc.). This elementary index approach may be best for this study because San Diego Bay encompasses a variety of habitats, each of which may

require a very specific set of index variables (SCCWRP-Diener, personal communication). Note that identification of degraded and undegraded sites here resulted from evaluation of a limited data set, without site comparison to an existing known reference. The index was used within this limited data set to designate the partition between degraded, undegraded and transitional areas.

#### Site and Station Application of Benthic Index

Table 10 shows the results of benthic index application to data from sampling sites in legs 20-23. Sites (25 sites with 5 replicates each) were ranked and partitioned into 9 degraded, 3 undegraded and 13 transitional sites using 8 biotic parameters. Due to spatial differences in sampling of the benthic replicates at the 25 sites, the benthic index was also applied to individual stations (n=75). When benthic community structure was evaluated "by site", 5 replicates were used. Replicates 1, 2 and 3 were sampled at numbered stations locations (Table 6) where associated toxicity and chemistry data could be directly compared. When later analyses were expanded to a "by station" evaluation, the 4th and 5th replicates were not included in the per station assessment. These replicates were randomly sampled within the "site" for benthic community analysis only and did not receive synoptic chemistry and toxicity analysis. While the results did not alter the degraded and undegraded determination of sites assessed "by site", it did separate stations within the initial "transitional" status into one of the three categories (e.g., degraded, transitional or undegraded). Station analyses heavily emphasized benthic index, amphipod abundance, species diversity and crustacean numbers.

As part of analytical procedure, the BPTCP Scientific Planning and Review Committee (SPARC) recommended additional emphasis on the use of amphipod abundance and overall species diversity as indicators of degraded and undegraded areas. These parameters were assessed and incorporated into the "station evaluation" versions of the benthic index. Species number and abundance of amphipods were calculated from the proportions of total species and total individuals, respectively. The resultant categorization of stations into one of the three partitions (e.g., degraded, transitional, undegraded) did not change, so the assessment of amphipods further supported the partition derived from previous analyses. The density of all amphipods was significantly more abundant at the following stations: West Basin (90050, 93199, 93200), East Basin (90001, 93201), Downtown Anchorage (93221, 93222), Coronado Cays (90053, 93203), Sweetwater Channel (93220), Mission Bay A8 (93112), Carrier Base V2 (90025) and Grape St. Stormdrain (90037). No amphipods were found at stations 14 Downtown Piers (90003), Naval Base O7 (93212), Naval Base/SY O10 (93223, 93224), Naval Base/SH O13 (93225, 93226), 7th St. Channel Q1 (90009, 93227, 93228), Marine Terminal R3 (93229), K Swartz Naval Base O4 (93210), Sub Base C2 (93216, 93217), and Naval Base O12 (93215). Stations with abundant amphipods but dominated by *Grandidierella japonica* were evaluated with caution, because *G. japonica* has been found to be tolerant of high

Table 10. Results of Benthic Index application on San Diego Bay data. Benthic community condition based on mean abundance of 5 replicate samples per site. Community status indicates allocation of a station to an Index partition: 2=undegraded sites, 1=transitional sites, 0=degraded sites.

SITES (5 replicates)	Community Status	SITES (5 replicates)	Community Status
10 Swartz (West Basin)	1	35 Swartz (Coronado Cays)	1
11 Swartz (East Basin)	2	37 Swartz (Marina)	2
12 Swartz (Downtown Anch)	1	41 Swartz (Glorietta Bay)	1
14 Swartz (Downtown Piers)	0	K Swartz (Naval Base 04)	1
15 Swartz (G St Pier Marina)	1	Mission Bay A3	1
16 Swartz (Intercont. Marina)	1	Mission Bay A4	1
23 Swartz (Naval Base 07)	0	Mission Bay A8	2
25 Swartz (Naval base/ SY 010)	0	NSB-M1 (Sub Base C2)	0
27 Swartz (Naval Base /SH 013)	0	P Swartz (Naval Base 012)	0
28 Swartz (7th St Channel Q1)	0	San Diego River B1	0
31 Swartz (Marine Terminal R3)	1	SDNI- N5 (Carrier Base V2)	1
32 Swartz (Sweetwater Ch)	1	Stormdrain EM (Grape St.)	1
34 Swartz (CV Yacht Basin)	0		

sediment toxicity (Slattery and Swartz, personal communication). Final benthic community evaluation of 75 stations (Table 11) resulted in the designation of 23 undegraded, 43 degraded and 9 transitional stations. A map of the distribution of degraded, transitional and undegraded stations is shown in Figure 18(a-d). Degraded stations were found at the submarine base in North San Diego Bay. Commercial shipping, storm drainages and the naval shipyard waterfronts all had degraded communities in the Mid San Diego Bay. In South San Diego Bay, industrial and small boat locations exhibited benthic community degradation. In Mission Bay the stations near Rose Inlet and in the San Diego River were found to be degraded.

Chemically clean sites, as determined by ERM and PEL summary quotients and lack of ERM and PEL guideline exceedances, were reexamined to expand the undegraded list from possible "borderline" transitional stations. Stations 93194 and 93231 appropriately fit this category (Table 4) and were used as undegraded stations in the construction of the reference envelope for toxicity determination, discussed earlier.

As shown earlier in Figure 14, the relationship between benthic community conditions and elevated chemical conditions (as determined by using ERM and PEL Summary Quotients) was quite dramatic. Benthic communities were always found to be degraded when chemical levels were elevated ( $ERMQ > 0.85$ ), where both analyses were performed at a station.

### Distribution Of Toxicity

The results of all toxicity tests conducted as part of this study are presented in tables in Appendix D. These tables show means and standard deviations for each toxicity test response (e.g. percent survival of amphipods; percent normal development of larval sea urchins) for three to five replicates of each sample tested. Associated ammonia and hydrogen sulfide concentrations are also presented in Appendix D.

### **Toxicity Testing Quality Assurance/Quality Control Evaluation**

All toxicity test data produced for this report were evaluated for acceptability using the Quality Assurance guidelines described in the BPTCP Quality Assurance Project Plan (QAPP; Stephenson et al., 1994). Toxicity data reported here met all test acceptability standards for each protocol, with the following exceptions. Of the solid phase tests with amphipods, two samples (Station 93120- IDORG# 702 and Station 93107- IDORG# 721) were tested with only one laboratory replicate, due to a lack of sufficient sample volume. Survival in those two samples was 90% and 85%, respectively, indicating a lack of toxicity. All amphipod samples tested in Leg 15 (Appendix D) have the following QA qualification. The test protocol requires five replicates of a control sample to be tested concurrently with test samples. In some early sampling legs of this study, 15 laboratory replicates of the control sediment were tested, to



Table 11. Benthic Index results showing the recalculation of San Diego Bay data based on individual stations. Replicates 4 and 5 in the site evaluation were not included (see text). Community status indicates allocation of a station to an Index partition: 2=undegraded stations, 1=transitional stations, 0=degraded stations.

IDORG	Station #	Station name	Community Status	IDORG	Station #	Station name	Community Status	IDORG	Station #	Station name	Community Status
837	90050	10 Sw (West Basin)	2	892	93226	27 Sw (Naval Base /SH 013)	0	854	93107	Mission Bay A3	0
838	93199	10 Sw (West Basin)	2	893	90009	28 Sw (7th St Channel Q1)	0	855	93107	Mission Bay A3	1
839	93200	10 Sw (West Basin)	2	894	93227	28 Sw (7th St Channel Q1)	0	859	93108	Mission Bay A4	1
840	90001	11 Sw (East Basin)	2	895	93228	28 Sw (7th St Channel Q1)	0	860	93108	Mission Bay A4	2
841	93201	11 Sw (East Basin)	2	896	90010	31 Sw (Marine Terminal R3)	0	861	93108	Mission Bay A4	1
842	93202	11 Sw (East Basin)	2	897	93229	31-Sw (Marine Terminal R3)	0	856	93112	Mission Bay A8	2
878	90002	12 Sw (Downtown Anch)	0	898	93230	31 Sw (Marine Terminal R3)	0	857	93112	Mission Bay A8	2
879	93221	12 Sw (Downtown Anch)	2	875	90052	32 Sw (Sweetwater Ch)	1	858	93112	Mission Bay A8	2
880	93222	12 Sw (Downtown Anch)	2	876	93219	32 Sw (Sweetwater Ch)	1	871	90028	NSB-M1 (Sub Base C2)	0
846	90003	14 Sw (Downtown Piers)	0	877	93220	32 Sw (Sweetwater Ch)	0	872	93216	NSB-M1 (Sub Base C2)	0
847	93205	14 Sw (Downtown Piers)	0	824	90012	34 Sw (CV Yacht Basin)	0	873	93217	NSB-M1 (Sub Base C2)	0
848	93206	14 Sw (Downtown Piers)	0	825	93196	34 Sw (CV Yacht Basin)	0	868	90022	P Sw (Naval Base 012)	0
849	90004	15 Sw (G St Pier Marina)	0	826	93197	34 Sw (CV Yacht Basin)	0	869	93214	P Sw (Naval Base 012)	0
850	93207	15 Sw (G St Pier Marina)	0	843	90053	35 Sw (Coronado Cays)	2	870	93215	P Sw (Naval Base 012)	0
851	93208	15 Sw (G St Pier Marina)	0	844	93203	35 Sw (Coronado Cays)	2	881	93116	San Diego River B1	0
818	90051	16 Sw (Intercont. Marina)	1	845	93204	35 Sw (Coronado Cays)	0	882	93116	San Diego River B1	0
819	93192	16 Sw (Intercont. Marina)	1	815	90013	37 Sw (Marina)	2	883	93116	San Diego River B1	0
820	93193	16 Sw (Intercont. Marina)	1	816	93190	37 Sw (Marina)	2	899	90025	SDNI- N5 (Carrier Base V2)	2
865	90006	23 Sw (Naval Base 07)	0	817	93191	37 Sw (Marina)	2	1000	93231	SDNI- N5 (Carrier Base V2)	2
866	93212	23 Sw (Naval Base 07)	0	821	90015	41 Sw (Glorietta Bay)	1	1001	93232	SDNI- N5 (Carrier Base V2)	2
867	93213	23 Sw (Naval Base 07)	0	822	93194	41 Sw (Glorietta Bay)	2	827	90037	Stormdrain EM (Grape St.)	0
887	90007	25 Sw (Naval base/ SY 010)	0	823	93195	41 Sw (Glorietta Bay)	2	828	90037	Stormdrain EM (Grape St.)	0
888	93223	25 Sw (Naval base/ SY 010)	0	862	90021	K Sw (Naval Base 04)	0	829	90037	Stormdrain EM (Grape St.)	2
889	93224	25 Sw (Naval base/ SY 010)	0	863	93210	K Sw (Naval Base 04)	0				
890	90008	27 Sw (Naval Base /SH 013)	0	864	93211	K Sw (Naval Base 04)	0				
891	93225	27 Sw (Naval Base /SH 013)	0	853	93107	Mission Bay A3	0				

Figure 18a  
Benthic Community Analyses  
North San Diego Bay

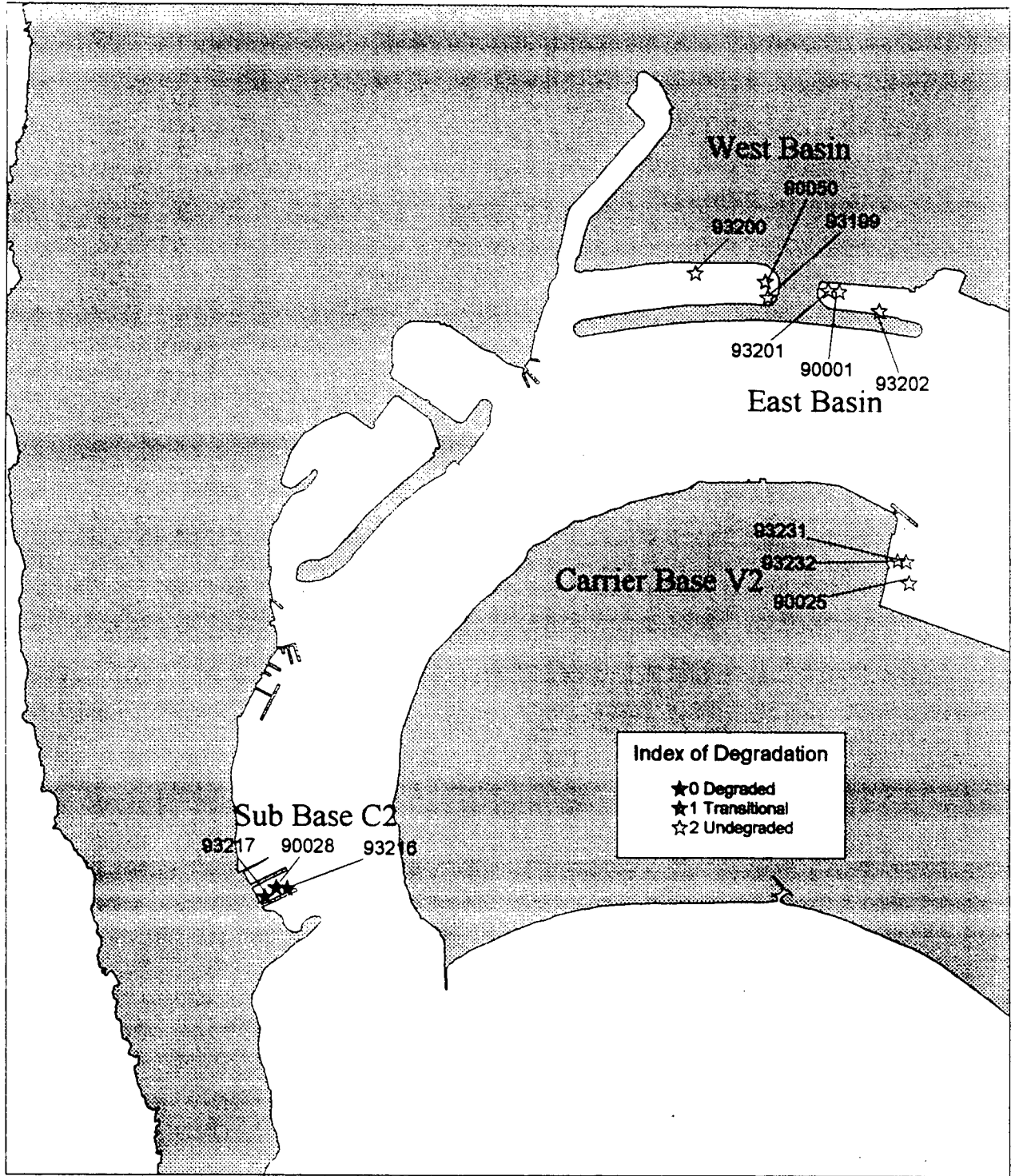


Figure 18b  
 Benthic Community Analyses  
 Mid San Diego Bay

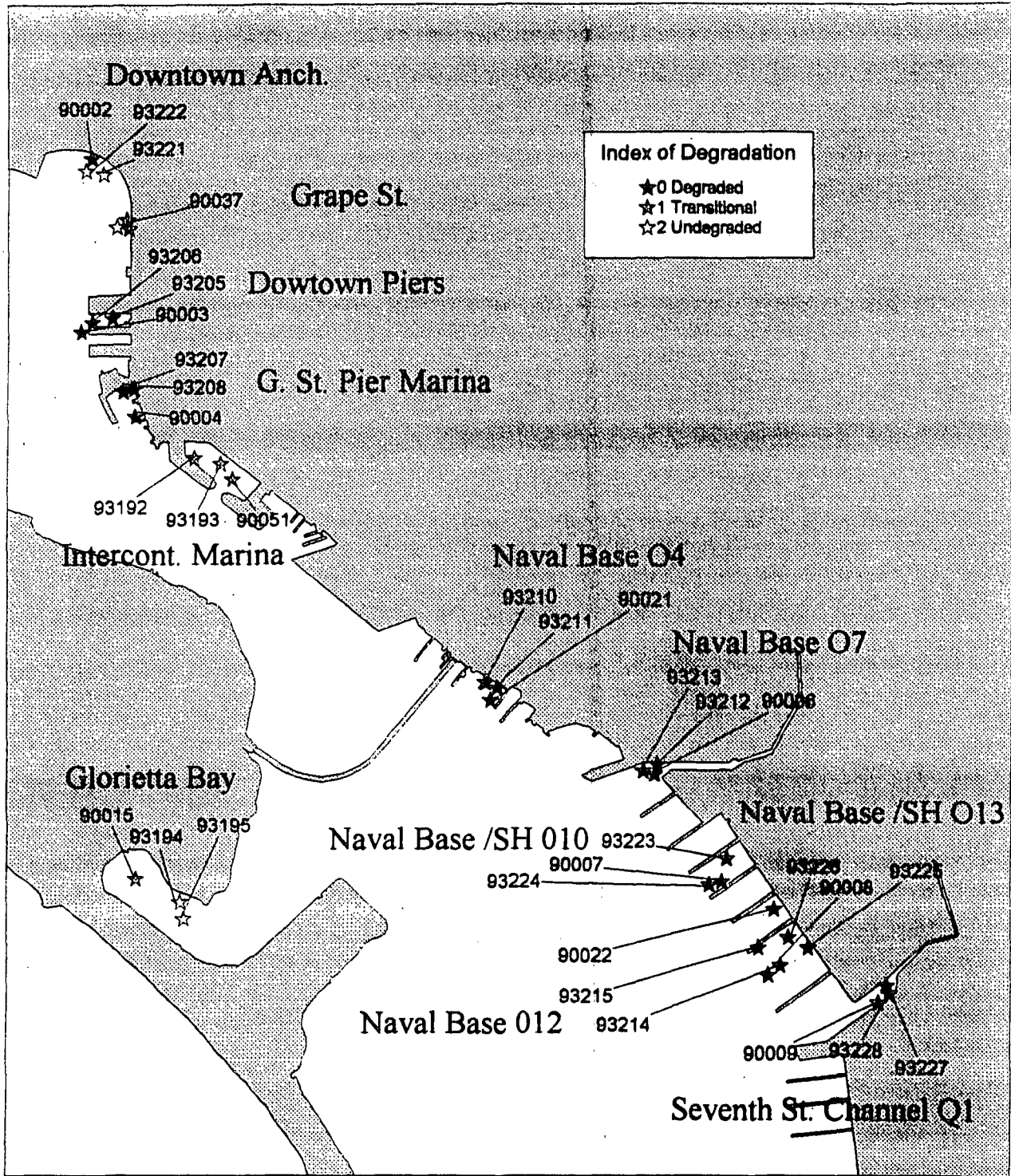


Figure 18c  
Benthic Community Analyses  
South San Diego Bay

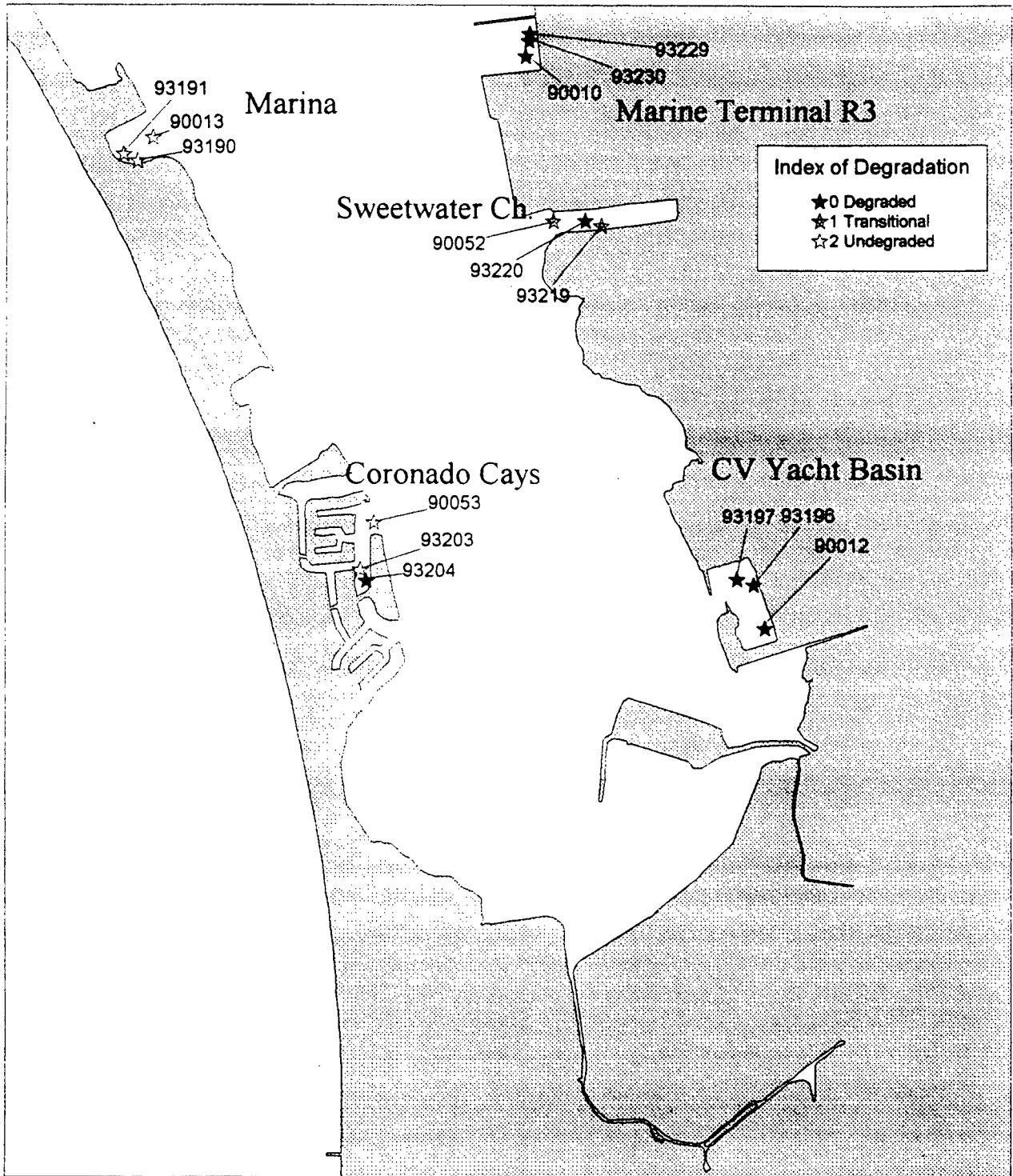
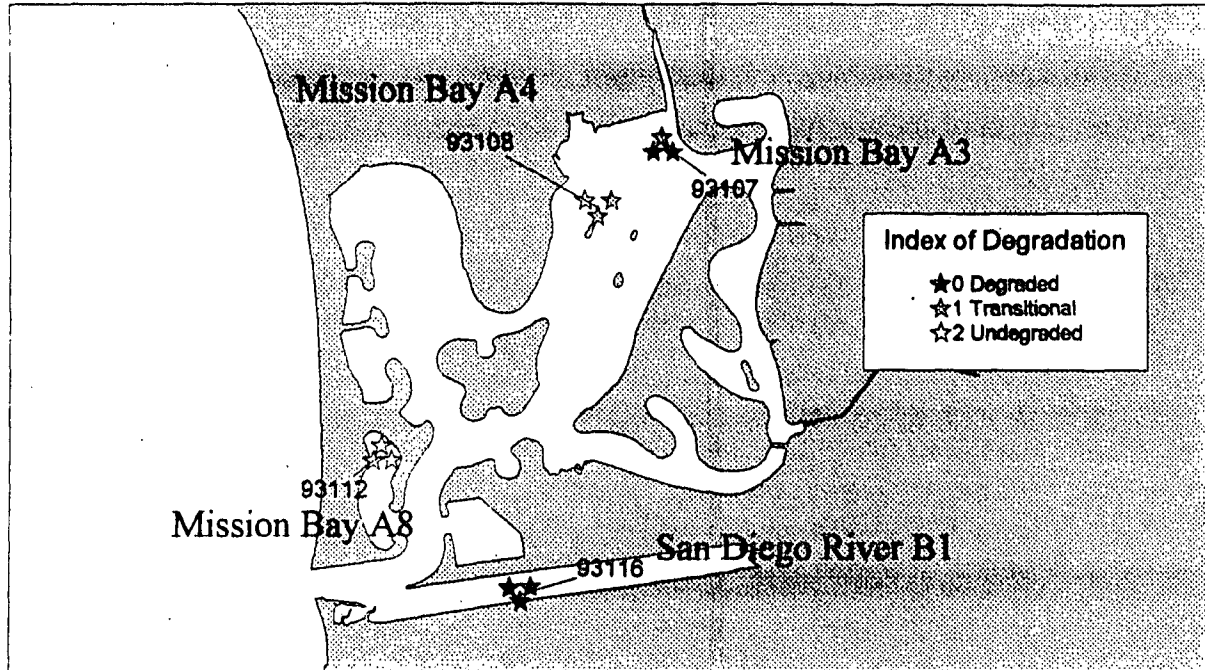


Figure 18d  
Benthic Community Analyses  
Mission Bay and San Diego River Estuary



allow use of alternative statistical procedures. Of the fifteen control replicates in Leg 15, two had 75% survival, which is below the 80% criterion given in the protocol. In tests using the *Neanthes arenaceodentata* (hereafter *Neanthes*) protocol on solid phase sediments, all samples tested in Leg 21 used sediment that was held in the laboratory three days beyond the fourteen-day specified holding time. These QA exceptions in solid phase tests have been judged by the toxicity project officers to not adversely affect interpretation of toxicity results. These and lesser departures from acceptable standards are recorded in the Quality Assurance Evaluative Reports accompanying each dataset for this study. Quality Assurance Evaluative Reports for toxicity testing are available for review from the SWRCB. Minor departures not mentioned above included elevated dissolved oxygen measurements in overlying water and other variations in water quality measurement that were considered to have little probability of affecting the outcome of the respective toxicity test.

There were no deviations from quality assurance criteria, other than minor deviations in measurement of water quality parameters as cited above, in any of the abalone, mussel, or sea urchin larval development tests in pore water or water column samples (subsurface water).

Sea urchin fertilization tests were conducted on over 300 pore water samples. Many of these were retested because of poor response in brine controls. Bay et al. (1993) discussed commonly observed problems using the *Strongylocentrotus purpuratus* (hereafter *Strongylocentrotus*) fertilization test in samples requiring salinity adjustment with hypersaline brine. Through numerous repeated tests, acceptable brine control results were produced for all but one sample. However, as described in BPTCP QA reports to the SWRCB, an additional control for the storage effects of frozen pore water samples in Teflon bottles was included in later tests. These additional controls, which were not required by the original QAPP, indicated that toxicity may be associated with frozen sample storage in Teflon bottles. Because all pore water samples for fertilization tests were stored frozen in Teflon bottles, we have no assurance the data from any of these fertilization tests is truly indicative of sample toxicity. Any toxicity observed in the fertilization tests may be wholly or partially due to storage effects. For this reason, we retested all samples from legs 15-23 with the sea urchin larval development test, unless those samples had already been tested with the development test. The urchin larval development test has been unaffected by storage artifacts, as indicated by response in frozen storage bottle controls. While sea urchin fertilization data are reported in Appendix D, they were not used in any further data analysis for this report. The use of fertilization data, for determination of toxicity, was therefore not considered prudent considering the possibility of false positive results related to sample storage.

## Areal Extent of Toxicity Based on the EMAP Approach

The Cumulative Distribution Frequency (CDF) analyses indicated that 56% of the total area sampled was toxic to *Rhepoxynius abronius* (hereafter *Rhepoxynius*) (Table 12, Figure 19). The sea urchin larval development test of undiluted (100%), 50%, and 25% pore water indicated 74%, 54%, and 29% percent of the total study area was toxic, respectively (Table 12, Figure 20). A number of samples were toxic to both sea urchins and amphipods. Samples representing 36%, 27%, or 14% of the study area were toxic to *Rhepoxynius* in solid phase sediment and to sea urchin larvae in 100%, 50%, or 25% pore water, respectively. The percentage of area toxic was based on comparisons with laboratory controls using the EMAP statistical approach described in the methods section. These analyses utilized data from random stations within the stratified sampling blocks, and did not include data from stations utilizing the non-random, directed sampling design (Figure 21a-d, Figure 22a-d).

The curves on the CDF plots indicate the magnitude of toxicity throughout the Region. Each point on the CDF plot represents a single sample. The distribution of the amphipod data (Figure 19) show there were few samples with survival less than 40%, a greater number of samples with survival between 40% and 80%, and about half of all samples with survival greater than 80%. NOAA surveys of Tampa Bay, Florida and EMAP surveys of the Mid-Atlantic coast region (Virginian Province) produced CDF curves for amphipod mortality data further right on the scale and much steeper than the San Diego Bay Region plot, and had more than 90% of samples with greater than 90% survival in both regions (Long et al., 1994; Schimmel et al., 1991).

The CDF plot of San Diego Bay Region sea urchin larval development test data (Figure 20) shows a cluster of samples with 0% normal larval development, a smaller number of samples with intermediate response, and a cluster of samples with percent normal development roughly equal to that observed in controls. The 25% pore water dilutions had a majority of samples resulting in percent normal larval development roughly equal to controls. As pore water concentration increased to 50% and 100% pore water, the distribution of samples shifted toward the more toxic end of the scale, and the 100% pore water tests had a majority of samples resulting in 0% normal larval development. A similar pattern was observed in sea urchin fertilization tests of pore water from Tampa Bay, Florida (NOAA, 1994). As with the amphipod data, the San Diego distribution is shifted further to the left, indicating higher overall toxicity observed from San Diego Bay Region samples.

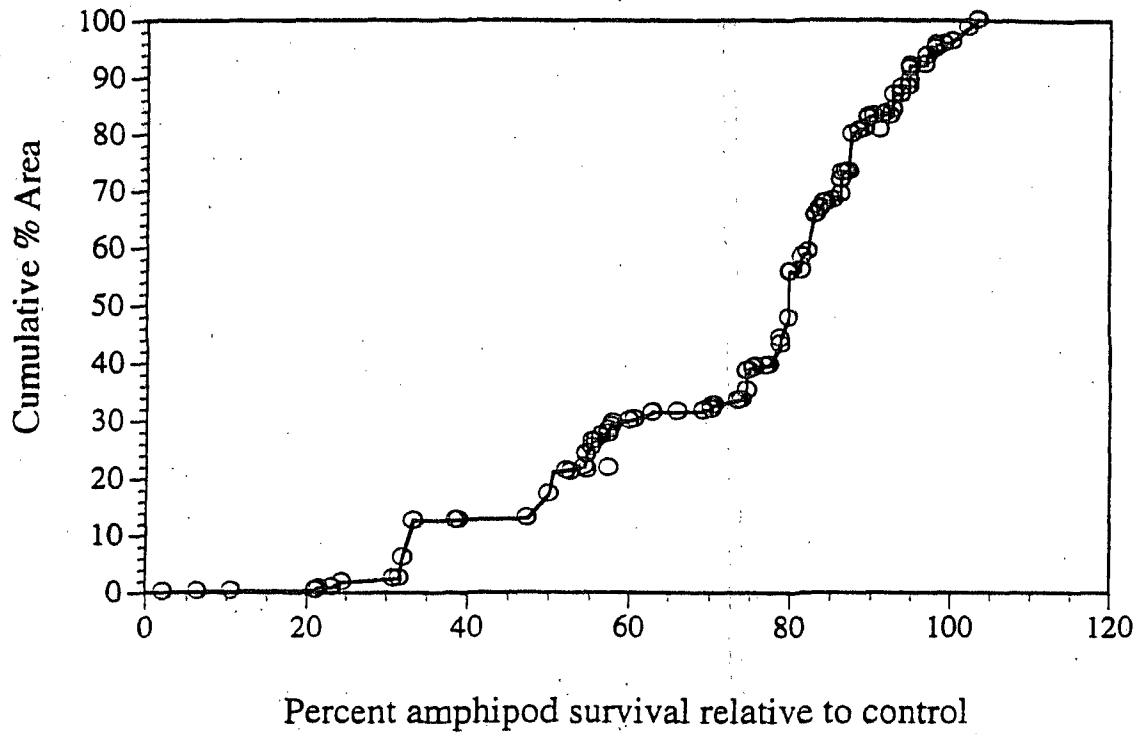
## Toxicity Based on Reference Envelope Approach

Using the *Rhepoxynius* data and a p-value of 1%, a lower reference envelope tolerance bound of 48% survival was calculated, indicating that samples with survival values below 48% are significantly more toxic than samples representative of less

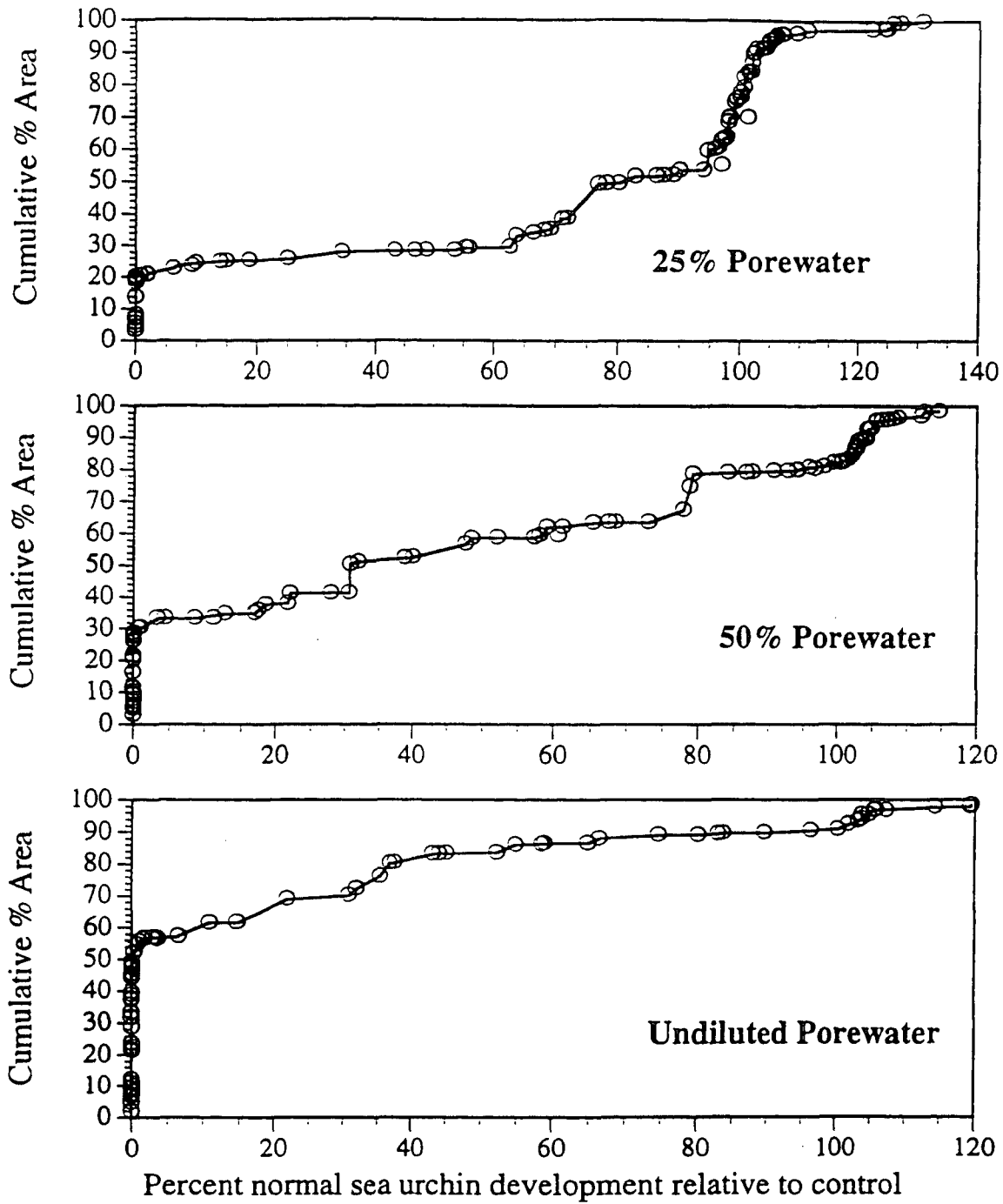
**Table 12.** Percent of total area sampled determined to be toxic with each toxicity test protocol. Sample toxicity is based on the EMAP statistical approach using two criteria for any given sample: significant difference from the control using a separate variance t-test and an alpha of 0.05 and a sample mean value less than 80% of the control value. Calculations for cumulative distribution frequency (CDFs) used to compute the percent of area toxic are explained in text and presented in Appendix F. Total study area was 47 square kilometers.

Toxicity Test and Pore Water Dilution	Percent of Total Area Determined to be Toxic
<i>Rhepoxynius abronius</i> Survival in Solid Phase	56%
<i>Strongylocentrotus purpuratus</i> Development in:	
100% (undiluted) Pore Water	74%
50% Pore Water	54%
25% Pore Water	29%





**Figure 19.** Cumulative distribution frequency of percent *Rhepoxynius* survival against percent of total area sampled. Data points correspond to individual samples.



**Figure 20.** Cumulative distribution frequency of percent normal sea urchin larval development in 25%, 50%, and undiluted porewater against percent of total area sampled. Data points correspond to individual samples.

Figure 21a  
 Amphipod Toxicity Using Lab Controls  
 for Randomly Sampled Stations  
 North San Diego Bay

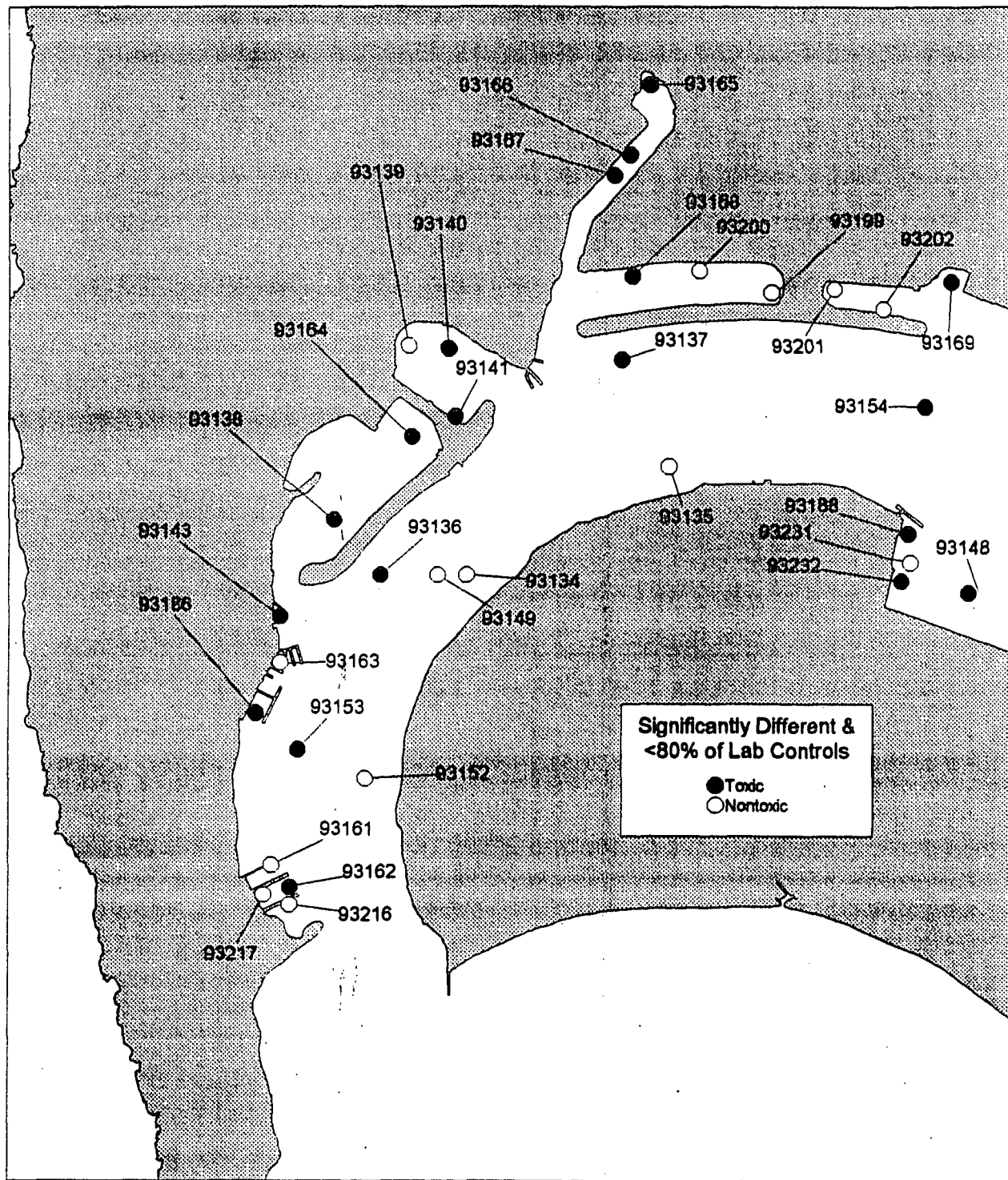


Figure 21b  
Amphipod Toxicity Using Lab Controls  
for Randomly Sampled Stations  
Mid San Diego Bay

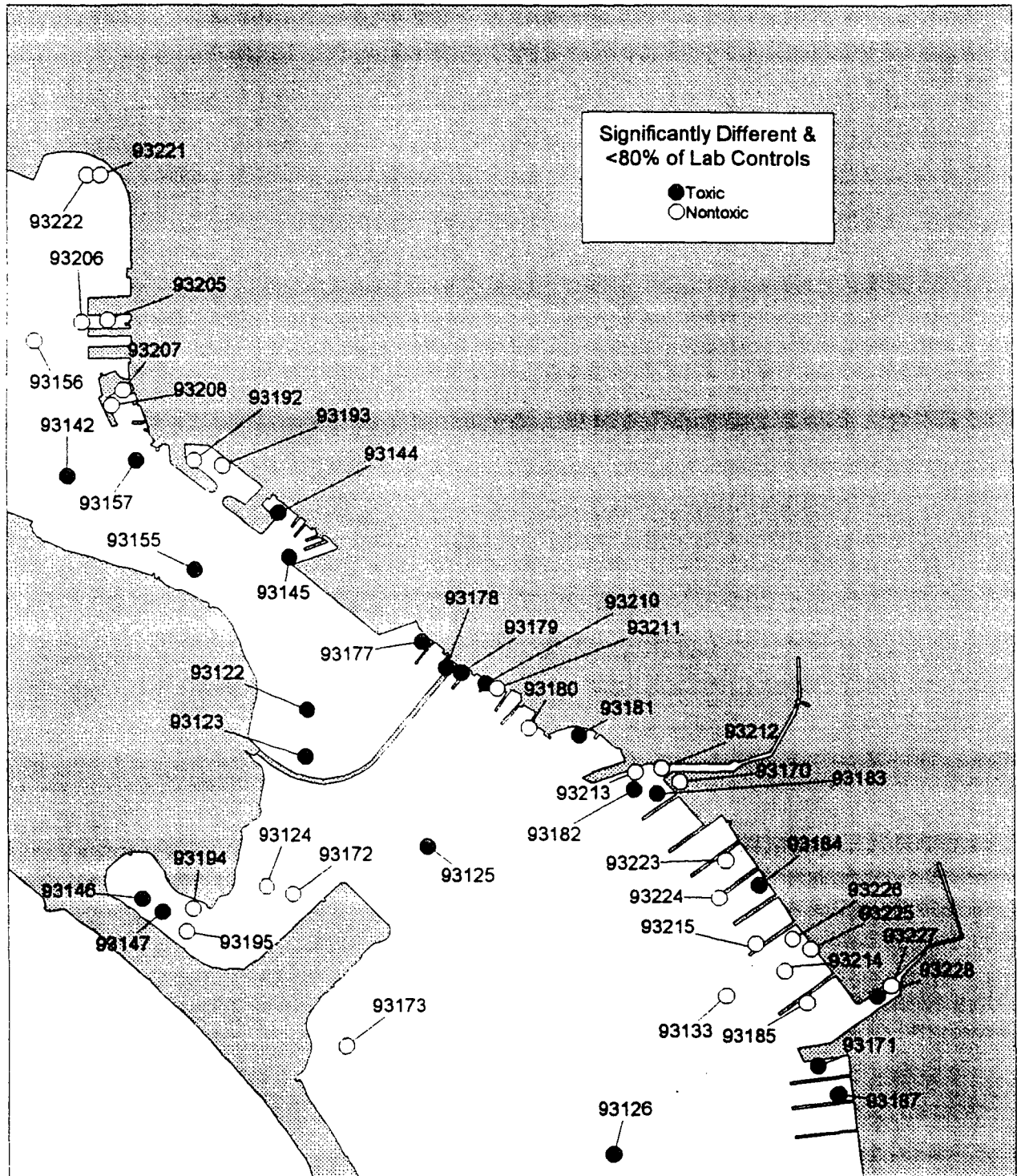


Figure 21c  
Amphipod Toxicity Using Lab Controls  
for Randomly Sampled Stations  
South San Diego Bay

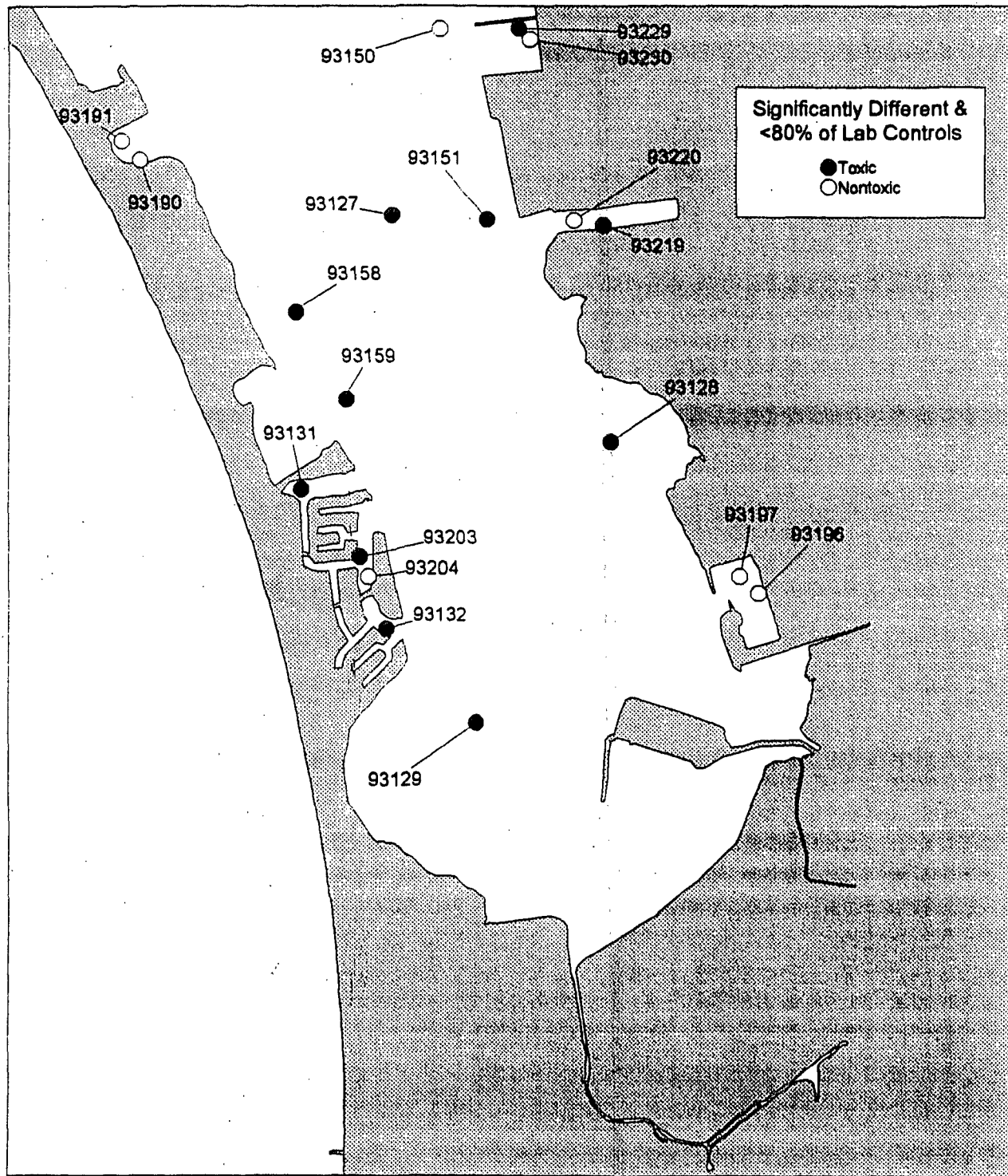
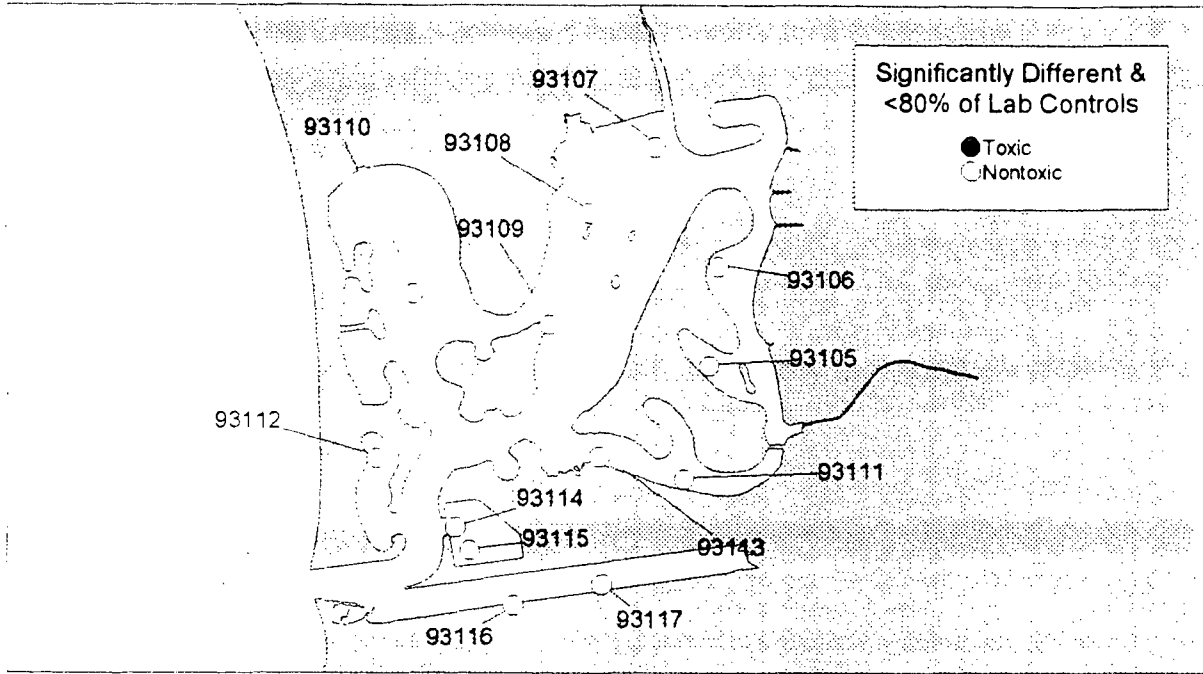


Figure 21d  
Amphipod Toxicity Using Lab Controls  
for Randomly Sampled Stations  
Mission Bay and San Diego River Estuary



Tijuana River Estuary

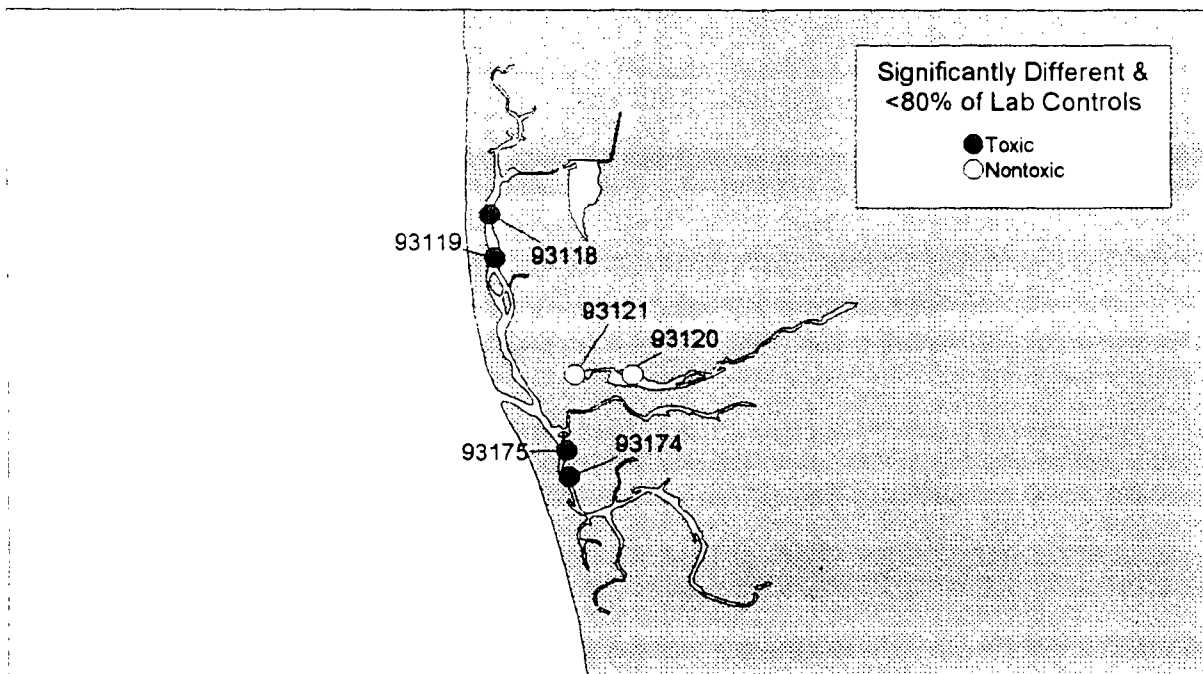


Figure 22a  
 Urchin Development Toxicity Using Lab Controls  
 for Randomly Sampled Stations  
 North San Diego Bay

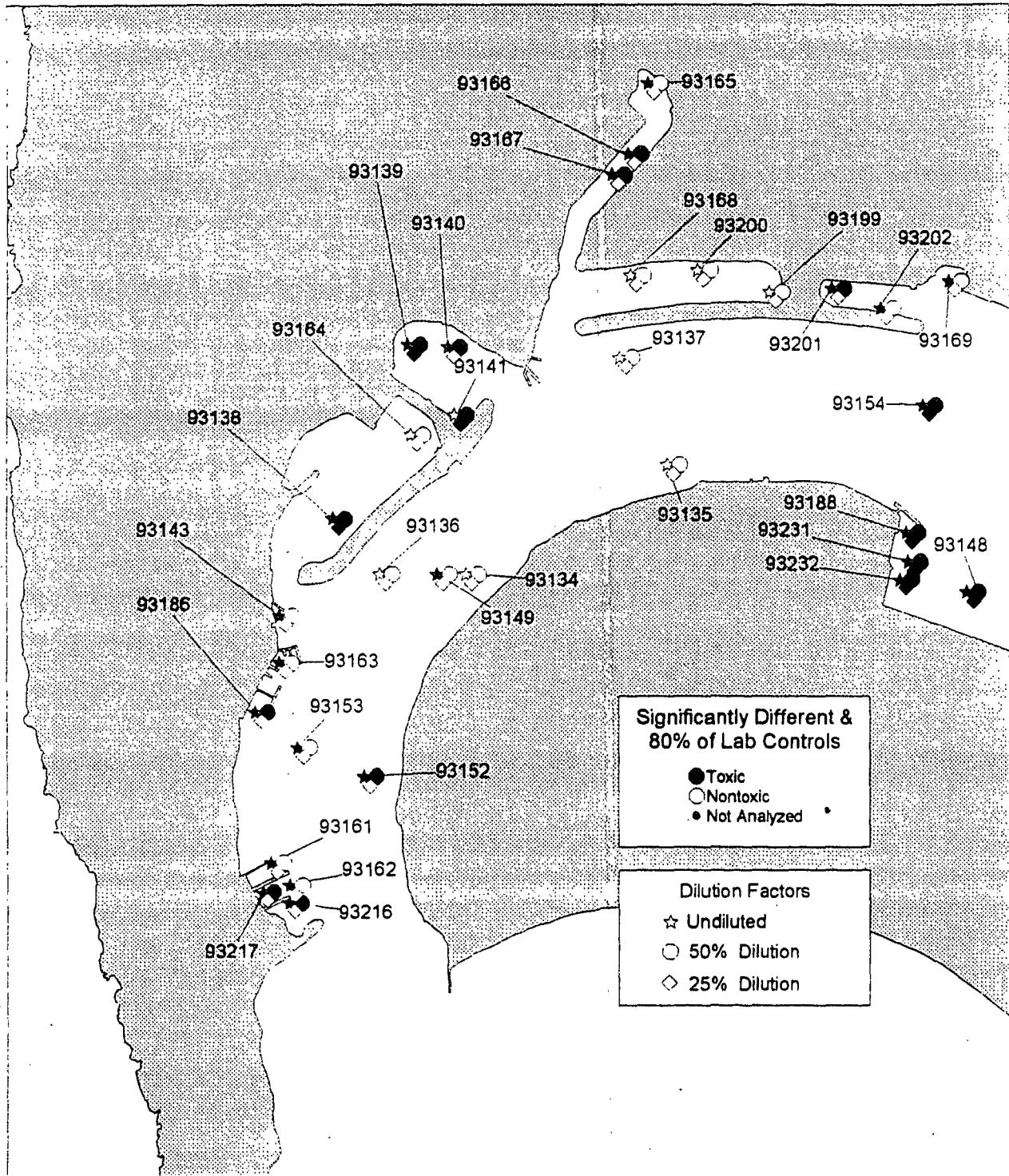








Figure 22c  
Urchin Development Toxicity Using Lab Controls  
for Randomly Sampled Stations  
South San Diego Bay

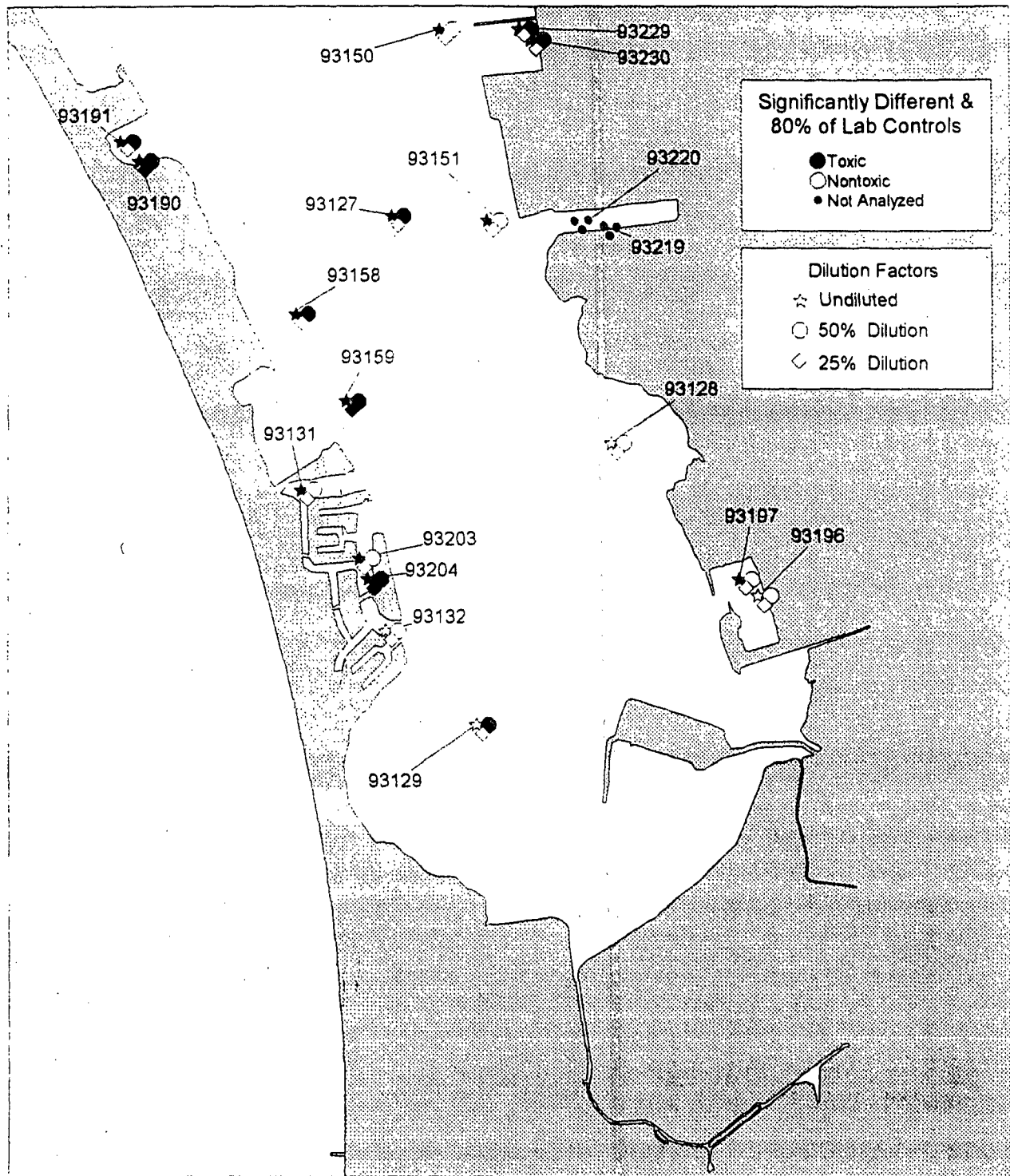
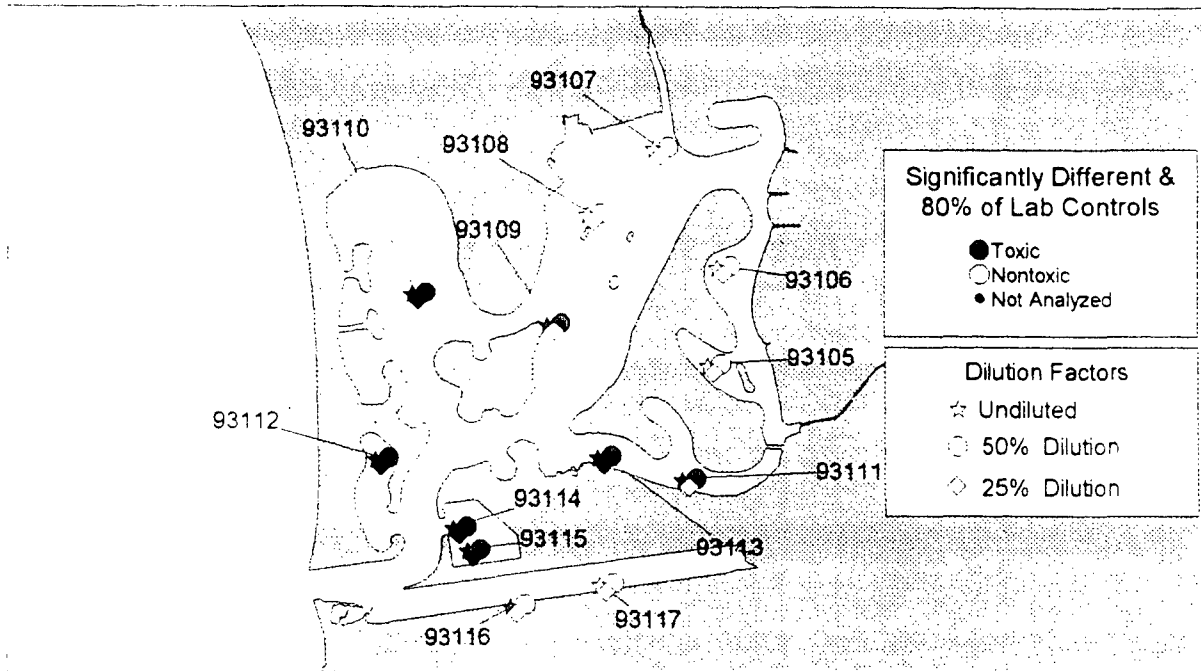
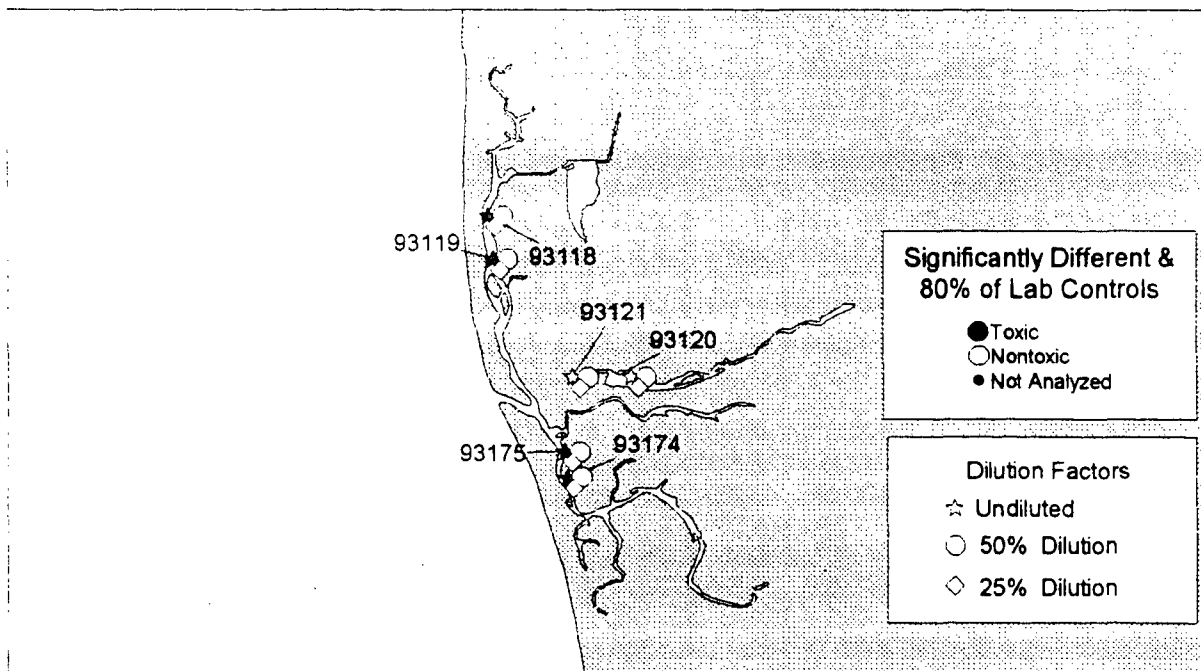


Figure 22d  
 Urchin Development Toxicity Using Lab Controls  
 for Randomly Sampled Stations  
 Mission Bay and San Diego River Estuary



Tijuana River Estuary



contaminated ambient conditions in the San Diego Bay Region. There is a 95% probability that samples with survival values less than 48% are more toxic than the most toxic 1% of samples from the reference site population. Of 350 samples tested with the *Rhepoxynius* test (from both random and non-randomly selected stations), 61 samples were found to be toxic using the reference envelope analysis (Figure 23a-d). Toxicity based on the reference envelope approach is used later in this report for prioritizing stations of concern.

*Strongylocentrotus* pore water data from reference stations produced a lower mean value and greater variability than was found for the amphipod solid phase data (Table 4). The variability in pore water data from sea urchin larval development tests produced a reference site distribution extending across the range from 0 to 100% normal development. A p-value of 1% (see Methods Section) produced a tolerance bound (reference envelope edge) which was below zero, indicating no distinctions could be made between reference and toxic stations. The high degree of variability in the pore water results from the reference sites may be related to the sensitivity of this test to measured or unmeasured toxicants, and/or may reflect artifacts related to pore water extraction and handling. Potential artifacts and sources of variability related to pore water testing are discussed below.

#### Comparison of Toxicity Test Protocols

Solid phase toxicity tests using the amphipod *Rhepoxynius* provided a wide range of response, from 0 to 98% survival. Amphipod survival ranged from 68-98 % for the eleven reference stations, suggesting that relatively high *Rhepoxynius* survival is a consistent feature of sites with relatively low chemical concentrations and undegraded benthic communities. The *Rhepoxynius* test identified multiple toxic samples, which indicated adequate sensitivity. Of the two solid phase protocols used in this study, the *Rhepoxynius* test provided the best test performance in terms of convenience, consistency, and sensitivity.

Solid phase toxicity tests which used the polychaete *Neanthes* were less sensitive than the *Rhepoxynius* test, and usually indicated no toxicity in samples that were toxic to test organisms using other protocols. In all instances where a sediment sample was toxic to *Neanthes* (survival or growth - relative to controls), it was also toxic to *Rhepoxynius*, whereas many samples that were toxic to *Rhepoxynius* were not toxic to *Neanthes* test. Because the *Neanthes* test demonstrated considerably less sensitivity than the *Rhepoxynius* test, the *Neanthes* test was not recommended for continued use in this program.

Two pore water tests, using *Strongylocentrotus* fertilization and larval development protocols, were performed on three concentrations of pore water samples to evaluate their usefulness



Figure 23b  
Amphipod Toxicity Using Reference Envelope  
for All Stations  
Mid San Diego Bay

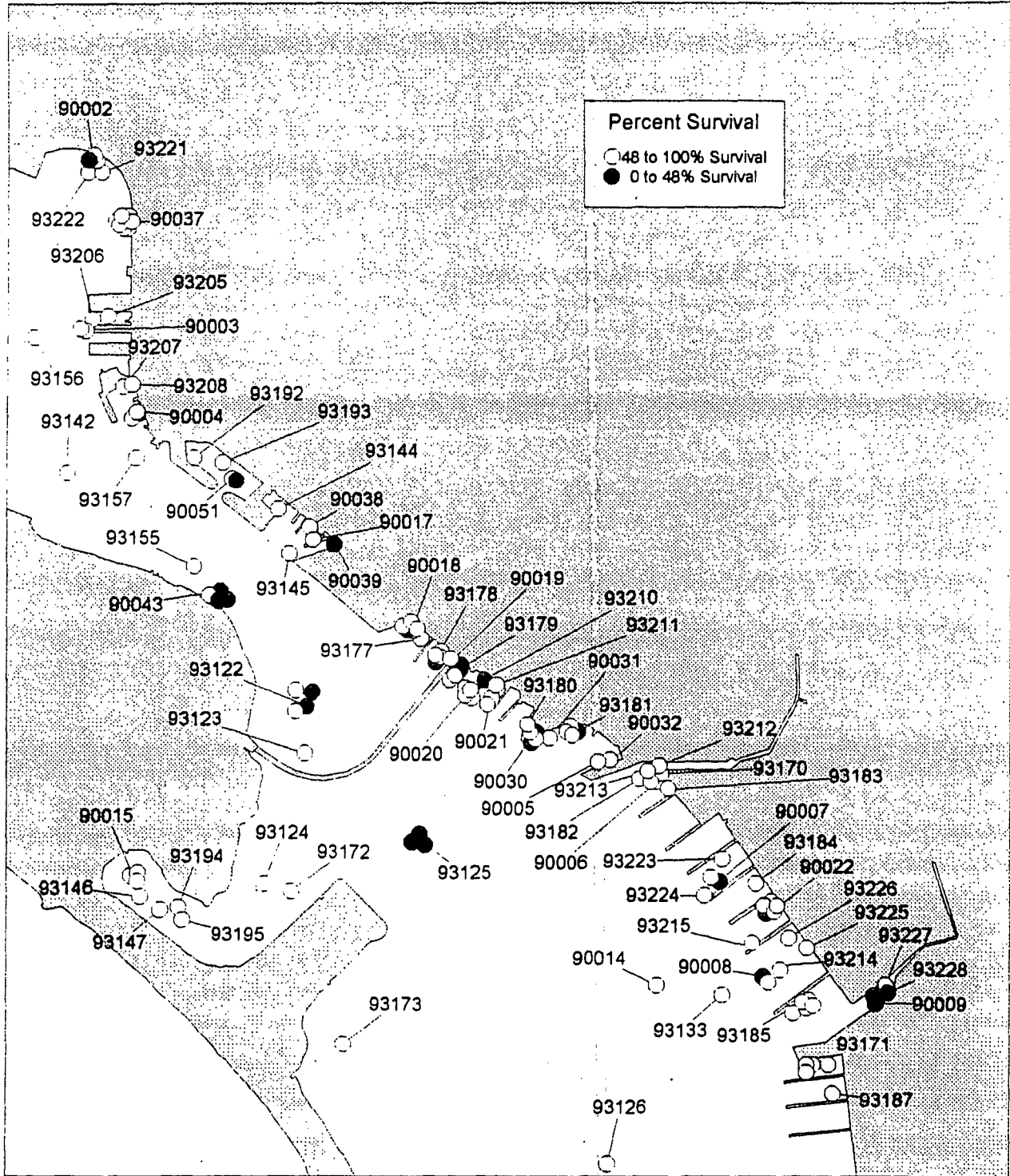


Figure 23c  
Amphipod Toxicity Using Reference Envelope  
for All Stations  
South San Diego Bay

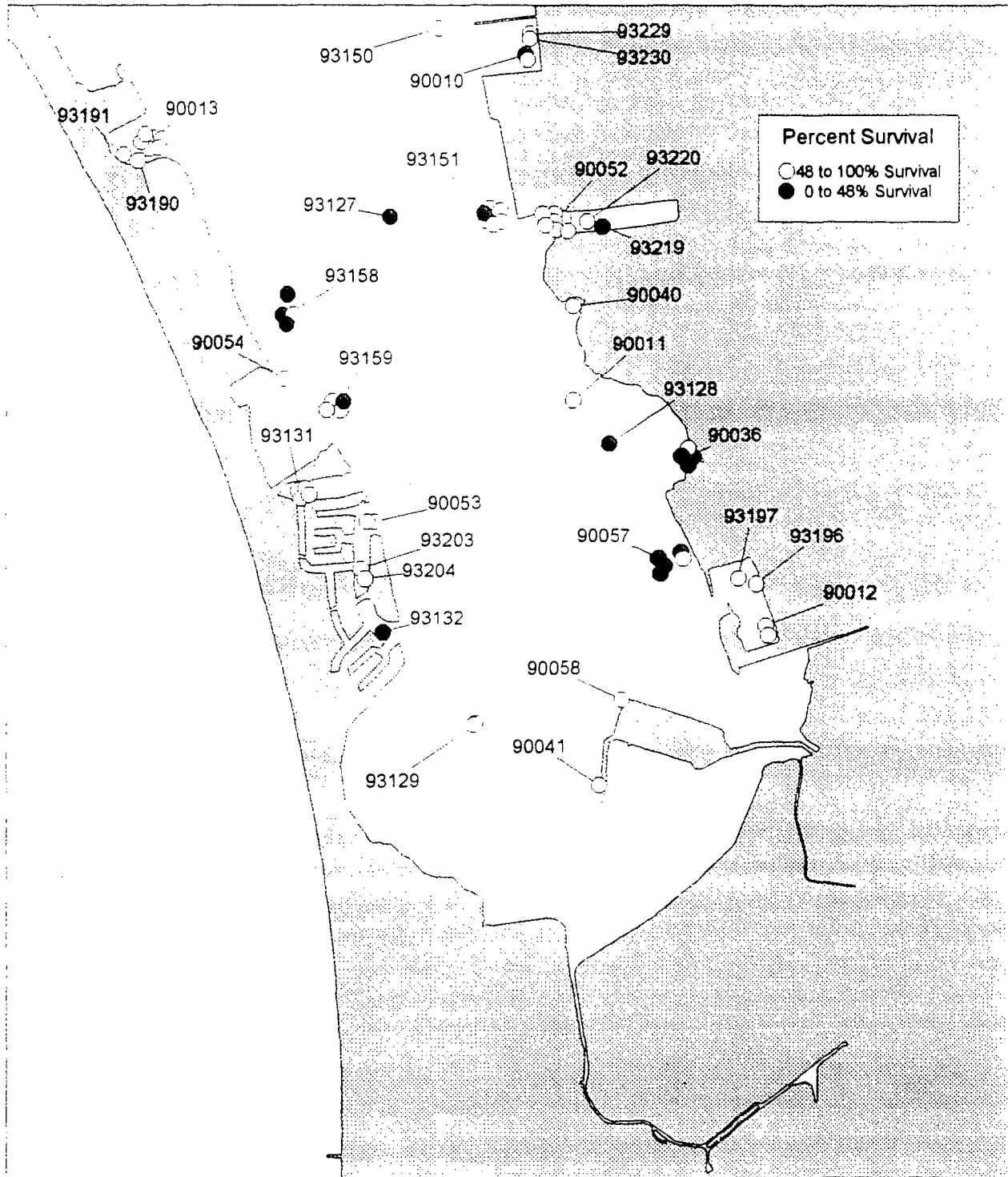
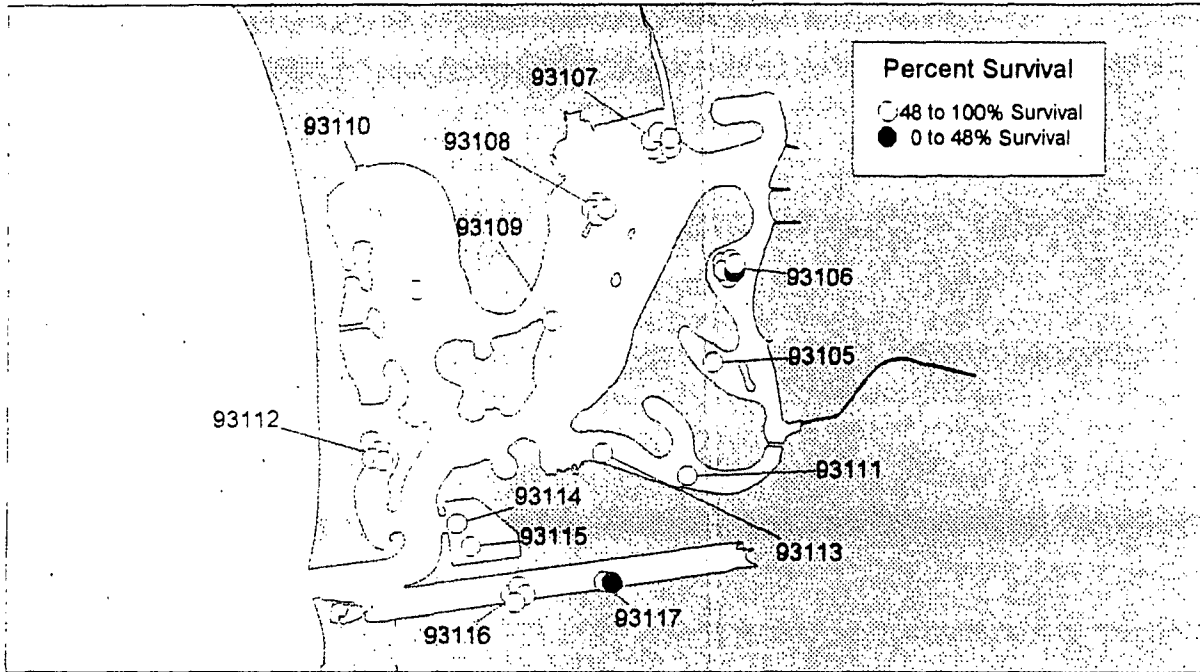
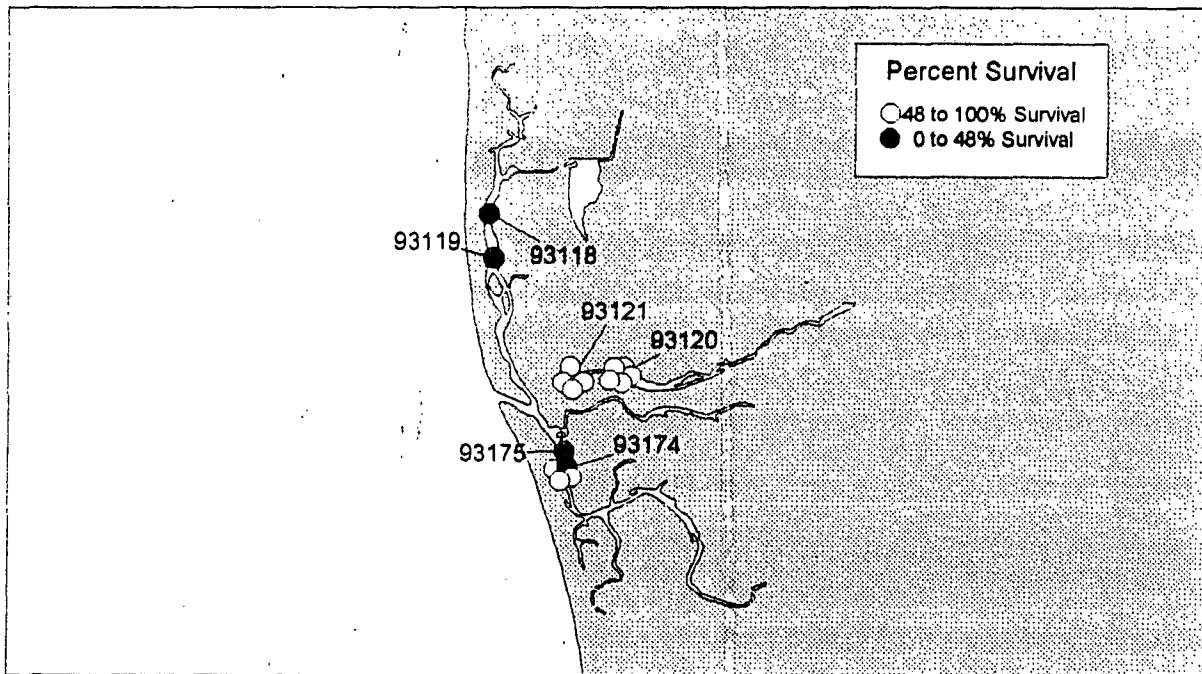


Figure 23d  
Amphipod Toxicity Using Reference Envelope  
for All Stations  
Mission Bay and San Diego River Estuary



Tijuana River Estuary



as components of the BPTCP. Results indicated these tests were extremely sensitive to pollutants and/or other pore water constituents in the study area, particularly at the 100% porewater concentration. It is reasonable to expect that pore water sea urchin tests, which measure sublethal effects on sensitive early life stages, would be more sensitive than the amphipod solid phase tests, which measure adult mortality. It is also likely that all three protocols respond differently to different contaminants. The high sensitivity of the sea urchin protocols has been observed in other studies assessing pore water toxicity (Burgess et al., 1993; Carr and Chapman, 1992; Long et al., 1990).

*Rhepoxynius* solid phase test results agreed with *Strongylocentrotus* development (100% and 50%) pore water results in 61 of 117 concurrently tested samples (52%). For the 25% pore water dilution, results agreed in 48% of samples. The three dilutions for the *Strongylocentrotus* tests agreed with each other 56% of the time. In all but two cases, *Strongylocentrotus* results differed from each other because samples were less toxic as pore water was increasingly diluted. In one case the 50% pore water was toxic when the 100% and 25% were not, and in another case, the 50% and 25% were toxic when the 100% was not.

Carr and Chapman (1992) noted that sensitive toxicity test protocols are necessary to adequately characterize the toxicity of potentially contaminated sediments. Pore water tests provide the following advantages: allow the use of a variety of sensitive sublethal toxicity test protocols which have not yet been developed for solid phase tests; eliminate interference from physical factors such as sediment grain size; and allow test organisms to be directly exposed to the aqueous sediment fraction, the probable primary route of pollutant exposure to organisms (Adams et al., 1985; DiToro, 1990). In addition, pore water is currently the only sediment matrix suitable for toxicity identification evaluations that may be useful in identifying toxicants responsible for observed sediment toxicity.

Despite the need to evaluate pore water toxicity, logistical issues of pore water extraction and handling are still a focus of current research (Carr et al., 1995). Among the samples associated with high toxicity in the sea urchin pore water tests were a number from the selected reference stations. These stations had non-degraded benthic communities, relatively low concentrations of pollutants, and ammonia concentrations below levels expected to have an observable effect. The wide range in pore water toxicity at the reference stations was unexpected, and prevented identification of toxic sites using the reference envelope approach. Pore water properties and sampling manipulations that may have affected pore water test results are discussed later.

Samples of water collected one meter above the sediment surface were tested for toxicity at a number of stations. These subsurface water samples were tested as one of the suite of



screening bioassays conducted on suspected areas of water quality impairment. Sixty-five subsurface water samples were tested with the red abalone (*Haliotis rufescens*) larval shell development protocol. Of these, eleven samples were significantly toxic, indicating degradation of the water column in 17% of the stations tested. Water column testing has not been a consistent component of the BPTCP, and will probably be reserved for special investigations. The abalone test appears appropriate for this application.

The bivalve (*Mytilus sp.*) larval shell development test was used to test eight subsurface water samples and three pore water samples. This test was used only in cases where salinity was less than 30 or 26 parts per thousand, the low end of salinity ranges for abalone and sea urchin larval development tests, respectively. Because seawater salinities in the San Diego Bay region were usually in the acceptable range for abalone and sea urchins, the bivalve test was used sparingly. None of the subsurface water samples tested with mussels were significantly toxic, and one of three pore water samples tested with mussels was significantly toxic. This protocol is well established as a sensitive test method, and has the advantage of a relatively wide salinity range. In situations where the salinity range precludes the use of abalone or sea urchins, the bivalve test is an acceptable alternative.

The presence of mitotic aberrations in anaphase cells (cytogenetic abnormalities) of *Strongylocentrotus* were determined in some samples. Cells undergoing mitosis were analyzed for chromosomal abnormalities. This porewater test is appropriate for identifying samples containing genotoxic compounds, which may affect reproductive capacity in a wide variety of organisms. Though the test is useful for specific applications, it proved time-consuming for assessing large numbers of samples. Most porewater samples that demonstrated increased aberration rates also were significantly toxic in larval development tests. Since the larval development test was considerably easier to quantify and was being used routinely as part of the study, the mitotic aberration endpoint was discontinued for logistical reasons. It would be useful in specific applications where the effects of genotoxic compounds must be assessed.

#### **Evaluation of Utilization of Pore Water as a Test Medium for the BPTCP**

The diffusive flux of dissolved chemicals through the sediment water interface into the overlying water column is a major component of sediment diagenesis and chemical cycles. Bioassay testing of the filtered pore water is an attempt to address exposure of animals living in the sediment matrix, or near the sediment/water interface, to chemicals not associated with the particulate phase. Equilibrium-partitioning theory predicts pore water is the controlling exposure medium in the toxicity of sediments to infaunal organisms (Adams et al., 1985; DiToro, 1990). To accurately interpret pore water test results, it is

important to determine how manipulations of pore water during extraction and handling may have affected observed toxicity. The BPTCP utilized a low pressure (<200psi) squeezing extraction technique with filtration to 0.45 um, and subsequent freezing of pore water samples, prior to testing. There has been some debate regarding appropriate pore water extraction methods and sample manipulations for the purposes of toxicity testing (Carr et al., 1995; Schults et al., 1992). Squeezing techniques allow pore water to be selectively filtered, thus eliminating particulates.

Suspected artifacts from the squeezing technique may include chemical disequilibria through physical disruption of weakly charged ion/particulate associations or lysing of cell walls with resultant changes in concentration of dissolved and particulate organic carbon or other organic components. There is also concern that filtration has a profound effect on observed toxicity. Pore size and filter material can cause variability in measured chemical concentrations (Schults, et al., 1992). Many scientists are now using centrifugation to obtain pore water from sediment for toxicity testing, because this method may be less subject to toxicity artifacts than squeezing (Lange et al., 1992; Giesy et al., 1990).

Toxicity has been observed to decrease in bedded sediments which are tested after freezing and thawing, with observed changes assumed to be related to the release of soluble organic carbon through disruption of natural lattices, clay aggregates and organic matter (Schuytema et al., 1989). Although solids are removed from pore water samples, there remain some soluble organic carbon concerns due to disruption of colloidal aggregations in the pore water, however centrifugation of pore water samples prior to freezing helps minimize this effect (Carr and Chapman, 1995). There are other unresolved concerns related to the toxicity testing of sediment pore waters which require additional study. These include sediment sample handling and storage conditions prior to testing, oxygen contamination, storage time of pore water samples prior to testing (Lange et al., 1992) and sorption kinetics in toxicity test containers and extraction devices (Pittinger, 1988).

Dose responses from the three pore water dilutions demonstrate decreasing toxicity with increasing pore water dilution, confirming that some factor associated with pore water was causing toxicity. However, considering the uncertainty of introduced artifacts during sample manipulations, the ability to discriminate more severely impacted sediments from less severely impacted sediments (a primary goal of the BPTCP) is clearly compromised. As a result of this uncertainty, toxicity testing using pore water as the test medium was suspended in August, 1993, pending further method evaluation. Pore water extraction methods and pore water sample handling have been under evaluation by the BPTCP since that time, with preliminary results indicating that centrifugation and refrigerated (not frozen) sample storage may be the preferable methods when testing this matrix. Recent method comparison research of Carr and Chapman (1995) supports

the use of squeezing technique yet concludes that in situations where hydrophobic organic compounds are a concern (as they are in this program), centrifugation is the method of choice for maximizing the sensitivity of the toxicity test. Sample storage and holding times were critical for all methods evaluated and require further investigation (Schults et al., 1992).

As pore water test methods, test organism selection, and the interpretation of results continue to evolve, they will be evaluated for use by the BPTCP. Because test sensitivity is necessary for accurate sediment characterization, the *Strongylocentrotus* pore water larval development toxicity test protocol should continue to be included in BPTCP. At present, pore water toxicity data by themselves are difficult to interpret. If pore water toxicity tests are used in conjunction with solid phase toxicity tests, chemical measurements and benthic community evaluations, they can provide useful additional information when using a weight of evidence approach toward site characterization.

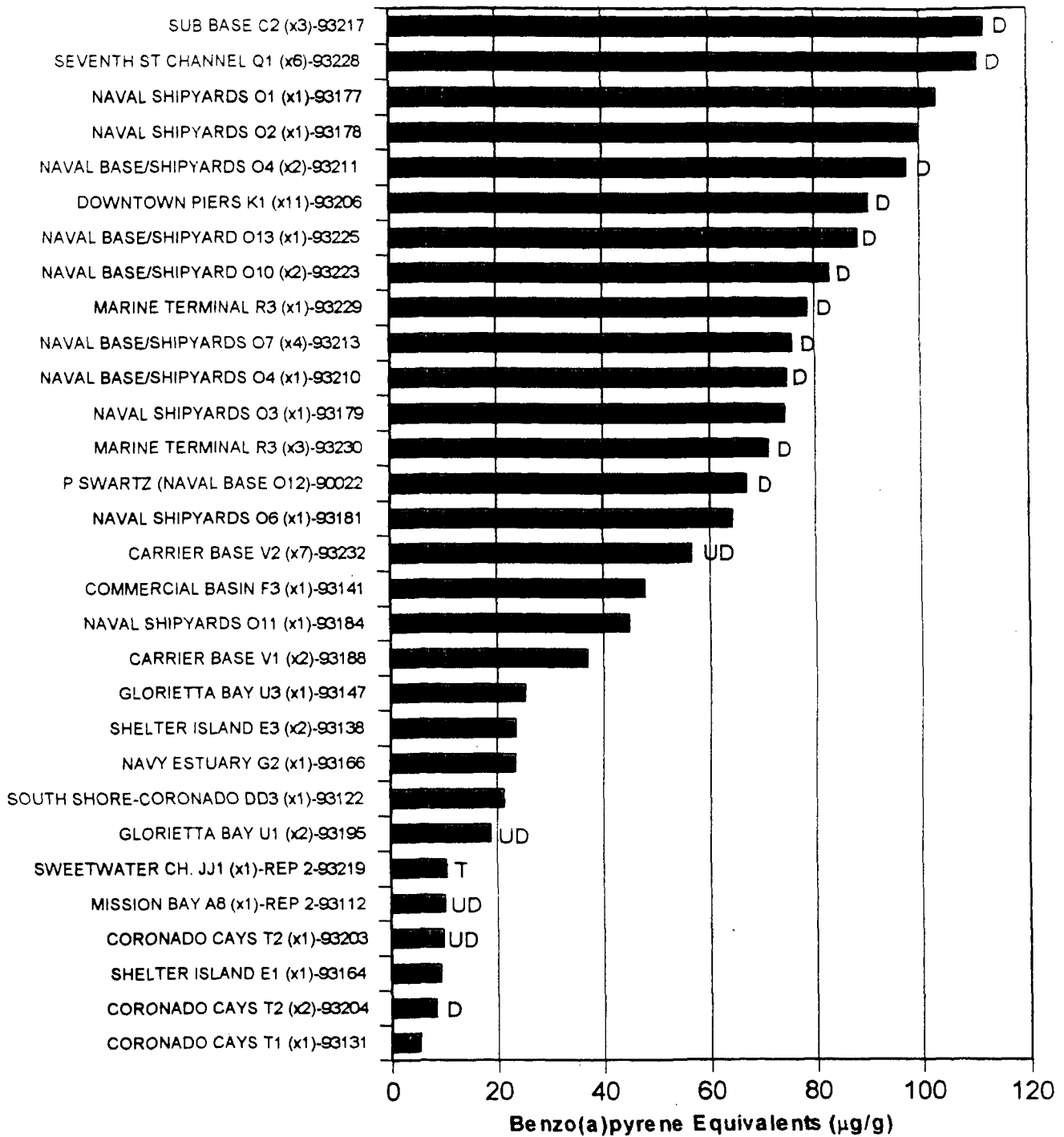
#### Distribution of P450 Reporter Gene System Response

Induction of the CYP1A1 gene on the human chromosome is produced by such compounds as dioxins, furans, dioxin-like PCB congeners (coplanar), and several high molecular weight polycyclic aromatic hydrocarbons. This induction and resulting production of the detoxifying enzyme, P450, infers that these xenobiotics are present at levels that are potentially toxic, carcinogenic, or mutagenic to organisms. The P450 Reporter Gene System (RGS) assay can measure the response of human (101L) cells to organic extracts when a firefly plasmid at the CYP1A1 site produces the enzyme luciferase. A luminometer is used to quantify the luciferase as a function of concentration and potency of the organics in the extract. Solvent extracts (using standard extraction methods EPA 3510, 3450 or 3550) of water, aquatic sediments, soils and tissues can be tested in the assay system, with a measured response in 16 hours (Anderson et al., 1996).

Findings of the P450 Reporter Gene System (RGS) assay of sediment extracts from 30 stations are summarized in Figure 24, where the RGS responses (in 101L cells) are expressed as  $\mu\text{g/g}$  (ppm) of benzo(a)pyrene equivalents (BaPEq). The Mission Bay A8 (93112) station, Coronado Cays T2 (93203, 93204) stations, Shelter Island E1 & E3 (93138, 63164) and the Sweetwater Channel stations produced baseline responses in the range of 5.3 to 10.4  $\mu\text{g/g}$  BaPEq. Figure 24 shows that all Naval Shipyard stations, the Commercial Basin station, the Marine Terminal and Downtown piers, as well as Seventh Street and the Sub Base stations all produced strong RGS responses. These responses suggest that benthic fish and invertebrates living in contact with these sediments have a high probability of P450 enzyme levels above background, which could result in chronic toxicity, and/or damage to tissues and reproductive potential.

Examination of the relationship between RGS response to sediment extracts and total PAHs concentration in sediments demonstrates

**Figure 24. P450 Responses to Extracts of Sediments From San Diego Bay**



P450-RGS response (expressed as benzo(a)pyrene equivalents) and benthic community index. Stations with degraded benthic communities are shown with a "D" label. Undegraded are shown with "UD," and transitional stations are shown with "T." Benthic community analysis was not performed on unlabeled stations.

a strong correlation ( $r^2 = 0.86$ ) between the two measures (Figure 25). This is expected, because samples significantly contaminated with PAHs and/or other compounds (coplanar PCBs) have been shown to produce induction of the CYP1A1 gene and the RGS response (Anderson et al., 1995).

Figures 9a-d show stations with high molecular weight PAHs at the PEL (6676 ng/g) and above in black. Examination of these data demonstrated that RGS responses above 60  $\mu\text{g/g}$  BaPEq were always associated with total PAHs at levels above the PEL. This comparison with the PEL suggested that sediment samples with RGS responses above 60  $\mu\text{g/g}$  BaPEq also had a high probability of demonstrating a toxic biological effect, based on sediment quality guidelines. Interestingly, stations identified by RGS to contain significant amounts of inducing organic compounds ( $> 60\mu\text{g/g}$  BaPEq) were also found to have degraded benthic communities, at all stations where both analyses were performed. Toxicity test results did not demonstrate a similar strong association with the RGS response.

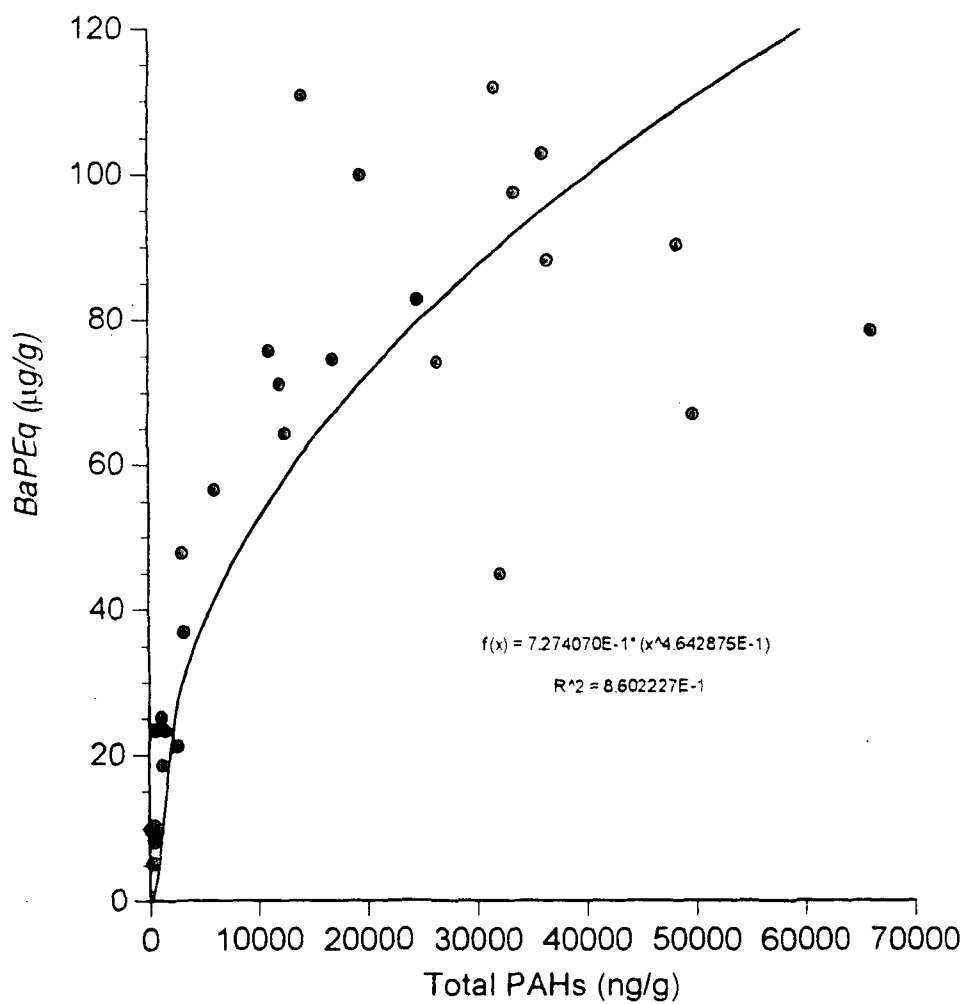
The P450 Reporter Gene System proved to be effective for rapidly (16 hr test) and inexpensively assessing the magnitude of PAHs at selected stations in the San Diego Bay Region. It further proved useful by demonstrating a RGS response threshold above which benthic community degradation was expected. This method may be appropriate as a screening test at additional locations when benthic community degradation and contamination from multiple PAHs, coplanar PCBs, dioxins and furans is suspected. The bioeffects branch of NOAA has utilized this assay in investigations of coastal studies in southern California, Charleston Harbor, S.C., Sabine Lake and Galveston Bay, Texas, and Biscayne Bay Florida. In concert with other chemical and biological measures, this method provides additional convincing evidence for the assessment of overall pollution at sites of chemical concern.

#### Determination of Relationships Between Toxicity and Chemistry

Linear regression was used to describe the relationship between toxicity and chemical concentrations. The dependent variable values are assumed to be normally distributed around the predicted values on the regression line. If this assumption has been met, then a significance test evaluating the null hypothesis (slope of the regression equation is equal to zero), is performed. In addition to a significant probability ( $p < 0.05$ ), the coefficient of determination ( $r^2$ ) is also an indication of regression strength. The coefficient of determination value represents the proportion of total variance of the dependent variable which can be explained by the independent variable, with a  $r^2$  value of greater than 0.60 being significant. Regression is preferable to non-parametric tests because there is greater power to detect significant relationships with this method (Zar, 1984).

Linear regressions were used to assess the relationship between *Rhepoxynius* (amphipod) mean survival and chemical concentration.

Figure 25. Total PAHs vs P450-RGS Response Expressed as Benzo(a)pyrene Equivalents



Systat® v.5.04 was used for all analyses. The arcsine (square root) transformation is utilized to equalize variance over the entire range of proportions. Chemistry data were checked for normality and transformed using  $\text{Log}(x+1)$ , when necessary (Zar, 1984). Examination of residuals reveal homogeneity of variances exists when these transformations are performed and therefore, the statistical assumptions of a regression can be met. The coefficient of determination ( $r^2$ ) was reported only when the linear regression was significant ( $p < 0.05$ ).

Regressions using amphipod data and chemical concentrations for all stations were analyzed. Testing the degree of dependence of amphipod survival on individual chemical concentrations yielded several regressions which are significant, however, there were no  $r^2$  values greater than 0.072 (Table 13).

To investigate dependence of amphipods on chemistry within specific areas of the Bay, all stations were grouped into one of six specific areas (Appendix B). Groupings were performed to combine stations with similar physical characteristics or uses. These six groups were military use areas (Navy), commercial basins for shipping and industrial activities, small boat harbors and marinas, Mission Bay, rivers (San Diego and Tijuana), and "other" stations, which generally were in open areas removed from San Diego Bay shorelines. The area into which each station was grouped is reported in Appendix B. These regressions were used to test the degree of relationship between amphipod survival and specific areas in the San Diego Bay Region.

Regressions using the navy station group were significant for some chemical groups although no regression had an  $r^2$  value greater than 0.272 (Table 14). In commercial basins, low and high molecular weight PAHs, several metals and one PCB compound were significant, but all had low  $r^2$  values (Table 15). In the small boat harbor group, several PAH and PCB compounds and one pesticide were significant, however, no  $r^2$  values were greater than 0.167 (Table 16). In river stations low molecular weight PAHs were strongly correlated with amphipod survival (Table 17), producing the most significant regressions of the statistical analysis. These regression results from the river stations were somewhat misleading, however, because PAH levels were low relative to most stations in San Diego Bay and to ERM guidelines. For regressions using the "other" station designations, several metals and PCB compounds and one PAH, were significant (Table 18) yet,  $r^2$  values were never better than 0.265. When testing the six station groups, there were no significant regressions for chemistry or amphipods within the Mission Bay group. This was expected because of the low chemical concentrations, therefore no table is shown.

Ammonia, hydrogen sulfide and grain size are suspected non-anthropogenic contributors to toxicity, and have been discussed previously by Ankley et al. (1990), Knesovich et al. (In Press), and DeWitt et al. (1988). To investigate whether these natural

Table 13. Linear regression of amphipod survival dependence on chemistry concentrations for all stations (chemistry with \* and all PCB and PAH compounds were Log (1+x) transformed. r<sup>2</sup> is presented when p<0.05. ns=not significant).

Metal	n	p	r <sup>2</sup>	Pesticide	n	p	r <sup>2</sup>	PCB	n	p	r <sup>2</sup>	PAH	n	p	r <sup>2</sup>
Aluminum	217	0.000	0.047	ALDRIN	229	ns		PCB8	229	0.008	0.031	ACY	198	ns	
Antimony	217	0.015	0.027	CCHLOR*	229	ns		PCB15	78	ns		ACL	229	ns	
Arsenic	217	ns		TCHLOR*	198	ns		PCB18	229	0.001	0.049	ANT	229	ns	
Cadmium*	217	0.000	0.06	ACDEN	217	ns		PCB27	78	ns		BAA	229	ns	
Chromium	217	ns		GCDEN	186	ns		PCB31	78	0.018	0.072	BAP	229	ns	
Copper	217	ns		CLPYK	165	0.011	0.039	PCB44	229	ns		BBF	198	ns	
Iron*	217	ns		Total CHLR	229	ns		PCB49	78	ns		BKF	198	ns	
Manganese	217	ns		DACTH	186	0.000	0.049	PCB52	229	ns		BGP	198	ns	
Nickel	217	ns		OPDDD	229	0.000	0.060	PCB66	229	ns		BEP	229	ns	
Silver	217	0.023	0.024	PPDDD	229	0.000	0.057	PCB70	78	ns		BPH	229	ns	
Selenium	217	ns		OPDDE	229	ns		PCB74	78	ns		CHR	229	ns	
Tin	217	0.000	0.049	PPDDE	229	ns		PCB87	109	ns		DBA	229	ns	
Zinc	217	ns		OPDDT	229	ns		PCB95	78	ns		DMN	229	0.012	0.029
				Total DDT	229	ns		PCB97	78	ns		FLA	229	ns	
				DICLB	186	ns		PCB99	78	ns		FLU	229	ns	
				DIELDRIN	229	ns		PCB101	229	ns		IND	198	ns	
				HCHG	229	ns		PCB105	229	ns		MNP1	229	ns	
				HEPTACHL	229	0.000	0.068	PCB110	78	ns		MNP2	229	ns	
				HCB	229	ns		PCB118	229	ns		MPH1	229	ns	
				METHOXY	217	0.04	0.020	PCB128	229	ns		NPH	198	ns	
				MIREX	229	ns		PCB132	78	ns		PHN	229	ns	
				CNONA	186	ns		PCB138	229	ns		PER	229	ns	
				TNONA	217	ns		PCB149	78	ns		PYR	229	ns	
				TBT	217	ns		PCB153	229	ns		LMW PAH	229	ns	
								PCB156	78	ns		HMW PAH	229	ns	
								PCB157	78	ns		Total PAH	229	ns	
								PCB158	78	ns					
								PCB170	229	ns					
								PCB174	78	ns					
								PCB177	78	ns					
								PCB180	229	ns					
								PCB183	78	ns					
								PCB187	78	ns					
								PCB194	78	ns					
								PCB195	229	ns					
								PCB201	78	ns					
								PCB203	78	ns					
								PCB206	229	ns					
								PCB209	229	ns					
								Total PCB	229	ns					



Navy Stations

Table 14 Linear regression of amphipod survival dependence on chemistry concentrations in navy stations ( all chemistry data were Log (1+x) transformed. r<sup>2</sup> is presented when p<0.05, ns=not significant). All PAH compound regressions were not significant and therefore not shown.

Metal	n	p	r <sup>2</sup>	Pesticide	n	p	r <sup>2</sup>	PCB	n	p	r <sup>2</sup>
Aluminum	65	0.024	0.078	ALDRIN	65	ns		PCB 15	25	ns	
Antimony	65	ns		CCHLOR	65	ns		PCB 18	65	0.024	0.078
Arsenic	65	ns		OPDDD	65	ns		PCB 27	25	ns	
Cadmium	65	0.021	0.082	PPDDD	65	ns		PCB 31	25	0.007	0.272
Chromium	65	ns		TCHLOR	57	ns		PCB 44	65	ns	
Copper	65	ns		OPDDE	65	ns		PCB 49	25	ns	
Iron	65	ns		PPDDE	65	ns		PCB 52	65	ns	
Lead	65	0.014	0.092	OPDDT	65	ns		PCB 66	65	0.026	0.077
Manganese	65	ns		PPDDT	65	0.011	0.098	PCB 70	25	0.017	0.222
Mercury	65	0.022	0.081	Total DDT	65	ns		PCB 74	25	0.013	0.240
Silver	65	ns		ACDEN	65	ns		PCB 87	33	ns	
Nickel	65	ns		Total CHLR	65	ns		PCB 97	25	ns	
Selenium	65	ns		DIELDIN	65	ns		PCB 95	25	ns	
Tin	65	0.000	0.215	HCHG	65	ns		PCB 99	25	ns	
Zinc	65	ns		HEPTACH	65	0.001	0.168	PCB 101	65	ns	
				HCB	65	ns		PCB 105	65	0.020	0.084
				METHOXY	65	ns		PCB 110	25	ns	
				CNONA	57	ns		PCB 118	65	ns	
				TNONA	65	ns		PCB 128	65	0.029	0.073
				TBT	65	ns		PCB 132	25	ns	
								PCB 138	65	ns	
								PCB 149	25	ns	
								PCB 153	65	ns	
								PCB 156	25	ns	
								PCB 158	25	ns	
								PCB 170	65	ns	
								PCB 174	25	ns	
								PCB 177	25	ns	
								PCB 180	65	ns	
								PCB 183	25	ns	
								PCB 187	25	ns	
								PCB 194	25	ns	
								PCB 195	65	ns	
								PCB 201	25	ns	
								PCB 203	25	ns	
								PCB 206	65	ns	
								PCB 209	65	ns	
								TTLPCB	65	ns	

Commercial Basin Stations

Table 15. Linear regression of amphipod survival dependence on chemistry concentrations in commercial basin stations ( all chemistry data were Log (1+x) transformed, r<sup>2</sup> is presented when p<0.05, ns=not significant) All pesticide compound regressions were not significant and therefore not shown.

Metal	n	p	r <sup>2</sup>	PAHs	n	p	r <sup>2</sup>	PCBs	n	p	r <sup>2</sup>
Aluminum	44	0.000	0.266	ACY	37	0.024	0.137	PCB 8	44	ns	
Antimony	44	ns		ACE	44	0.016	0.130	PCB 15	19	ns	
Arsenic	44	0.007	0.163	ANT	44	0.001	0.216	PCB 18	44	ns	
Cadmium	44	0.006	0.168	BAA	44	0.018	0.127	PCB 31	19	ns	
Chromium	44	0.026	0.112	BAP	44	0.010	0.146	PCB 44	44	ns	
Copper	44	ns		BBF	37	0.008	0.187	PCB 49	19	ns	
Iron	44	ns		BKF	37	0.009	0.180	PCB52	44	ns	
Lead	44	ns		BGP	37	0.009	0.180	PCB 66	44	ns	
Manganese	44	ns		BEP	44	0.020	0.123	PCB 70	19	ns	
Mercury	44	ns		BPH	44	ns		PCB 74	19	ns	
Nickel	44	ns		CHR	44	0.016	0.130	PCB 87	26	ns	
Silver	44	ns		DBA	44	0.014	0.135	PCB 95	19	ns	
Selenium	44	ns		DMN	44	ns		PCB 99	19	ns	
Tin	44	ns		FLA	44	0.025	0.114	PCB 101	44	ns	
Zinc	44	ns		FLU	44	0.008	0.158	PCB 105	44	ns	
				IND	37	0.005	0.207	PCB 110	19	ns	
				MNP1	44	ns		PCB118	44	ns	
				MNP2	44	0.013	0.137	PCB 128	44	ns	
				MPH1	44	0.039	0.097	PCB 132	19	ns	
				NPH	37	0.004	0.218	PCB 138	44	ns	
				PHN	44	0.023	0.116	PCB 149	19	ns	
				PER	44	0.019	0.124	PCB 153	44	ns	
				PYR	44	0.025	0.114	PCB 156	19	ns	
				TMN	37	ns		PCB 157	19	ns	
				HMW PAH	44	0.008	0.156	PCB 170	44	ns	
				LMW PAH	44	0.007	0.158	PCB 174	19	ns	
				Total PAH	44	0.006	0.168	PCB 177	19	ns	
								PCB 180	44	ns	
								PCB 183	19	ns	
								PCB 194	19	ns	
								PCB 195	44	ns	
								PCB 201	19	ns	
								PCB 203	19	ns	
								PCB 206	44	ns	
								PCB 209	44	0.000	0.091
								Total PCB	44	ns	

Small Boat Stations

Table 16. Linear regression of amphipod survival dependence on chemistry concentrations in small boat stations ( all chemistry data were Log (1+x) transformed, r<sup>2</sup> is presented when p<0.05, ns=not significant). All metal concentration regressions were not significant and therefore not shown.

PAHs	n	p	r <sup>2</sup>	PCBs	n	p	r <sup>2</sup>	Pesticide	n	p	r <sup>2</sup>
ACY	39	ns		PCB 5	22	ns		CCHLOR	44	ns	
ACE	44	ns		PCB 18	44	ns		TCHLOR	39	ns	
ANT	44	ns		PCB 31	22	ns		Total CHLR	44	ns	
BAA	44	ns		PCB 44	44	ns		OPDDD	44	ns	
BAP	44	ns		PCB 49	22	ns		PPDDD	44	ns	
BBF	39	ns		PCB 52	44	ns		OPDDE	44	ns	
BKF	39	ns		PCB 66	44	ns		PPDDE	44	ns	
BGP	39	0.015	0.150	PCB 70	22	ns		OPDDT	44	ns	
BEP	44	0.038	0.099	PCB 74	22	ns		PPDDT	44	ns	
CHR	44	ns		PCB 87	27	ns		Total DDT	44	ns	
DBA	44	0.043	0.094	PCB 95	22	ns		CNONA	39	ns	
FLA	44	0.009	0.153	PCB 97	22	ns		TNONA	44	0.047	0.091
FLU	44	0.034	0.102	PCB 101	44	ns		TBT	44	ns	
IND	39	0.035	0.114	PCB 105	44	ns					
MNP2	44	ns		PCB 110	22	ns					
MPH1	44	ns		PCB 118	44	ns					
NPH	39	ns		PCB 128	44	ns					
PHN	44	0.040	0.097	PCB 132	22	ns					
PER	44	ns		PCB 138	44	0.036	0.100				
PYR	44	0.006	0.167	PCB 149	22	ns					
LMW PAH	44	0.050	0.089	PCB 153	44	0.041	0.096				
HMW PAH	44	0.030	0.108	PCB 156	22	ns					
Total PAH	44	0.030	0.108	PCB 157	22	ns					
				PCB 170	44	ns					
				PCB 174	22	ns					
				PCB 177	22	ns					
				PCB 180	44	ns					
				PCB 183	22	ns					
				PCB 187	22	ns					
				PCB 194	22	ns					
				PCN 195	44	ns					
				PCB 201	22	ns					
				PCB 203	22	ns					
				PCB 206	44	ns					
				Total PCB	44	0.049	0.089				

River Stations

Table 17. Linear regression of amphipod survival dependence on chemistry concentrations in river stations ( all chemistry data were Log (1+x) transformed, r<sup>2</sup> is presented when p<0.05, ns=not significant) All metal, pesticide, and PCB compound regressions were not significant and therefore not shown.

PAHs	n	p	r <sup>2</sup>
ACY	18	ns	
ACE	20	0.028	0.240
ANT	20	ns	
BAA	20	ns	
BAP	20	ns	
BBF	18	ns	
BKF	18	ns	
BGP	18	ns	
BEP	20	ns	
BPH	20	0.000	0.646
CHR	20	ns	
DBA	20	ns	
DMN	20	0.000	0.672
FLA	20	ns	
FLU	20	0.000	0.692
IND	18	ns	
MNP1	20	0.000	0.669
MNP2	20	0.000	0.634
MPH1	20	0.000	0.714
NPH	18	ns	
PHN	20	0.005	0.358
PER	20	ns	
PYR	20	ns	
TMN	18	0.000	0.591
LMW PAH	20	0.000	0.607
HMW PAH	20	ns	
Total PAH	20	ns	

"Other" Stations

Table 18. Linear regression of amphipod survival dependence on chemistry concentrations in "other" stations ( all chemistry data were Log (1+x) transformed, r<sup>2</sup> is presented when p<0.05, ns=not significant). All pesticide compound regressions were not significant and therefore not shown.

Metal	n	p	r <sup>2</sup>	PAHs	n	p	r <sup>2</sup>	PCBs	n	p	r <sup>2</sup>
Aluminum	35	ns		ACY	28	ns		PCB 5	37	ns	
Antimony	35	0.002	0.255	ACE	37	ns		PCB 18	37	ns	
Arsenic	35	ns		ANT	37	ns		PCB 44	37	ns	
Cadmium	35	ns		BAA	37	ns		PCB 52	37	ns	
Chromium	35	0.017	0.161	BAP	37	ns		PCB 66	37	ns	
Copper	35	0.023	0.147	BBF	28	ns		PCB 87	9	ns	
Iron	35	0.009	0.188	BKF	28	ns		PCB 101	37	0.033	0.124
Lead	35	0.019	0.155	BGP	28	ns		PCB 105	37	ns	
Manganese	35	ns		BEP	37	ns		PCB 118	37	0.033	0.124
Mercury	35	ns		BPH	37	ns		PCB 128	37	ns	
Nickel	35	ns		CHR	37	ns		PCB 138	37	ns	
Silver	35	0.003	0.232	DBA	37	ns		PCB 153	37	0.017	0.151
Selenium	35	ns		DMN	37	ns		PCB 170	37	ns	
Tin	35	0.046	0.159	FLA	37	ns		PCB 180	37	ns	
Zinc	35	0.003	0.232	FLU	37	ns		PCB 195	37	ns	
				IND	28	ns		PCB 206	37	ns	
				MNP1	37	ns		PCB 209	37	ns	
				MNP2	37	ns		Total PCB	37	0.049	0.106
				MPH1	37	ns					
				NPH	28	0.005	0.265				
				LPHN	37	ns					
				PER	37	ns					
				PYR	37	ns					
				TMN	28	ns					
				LMW PAH	37	ns					
				HMW PAH	37	ns					
				Total PAH	37	ns					

factors influenced the effects of anthropogenic chemicals in test sediments from the San Diego Bay Region, data were adjusted to exclude tests where unionized ammonia was greater than 0.4 mg/L in overlying water and/or hydrogen sulfide was greater than 0.06 mg/L. The 0.4 mg/L ammonia threshold value is based on the NOEC value for the EPA test protocols for marine amphipods (USEPA, 1994) and the 0.06 mg/L hydrogen sulfide threshold value is based on data presented by Knesovich et al. (In Press). A general trend is seen by DeWitt et al. (1988), in which survival decreases with increasing fines. However, because this trend was not apparent in the San Diego Bay Region and no clear cutoff has been conclusively demonstrated, data were not adjusted to exclude samples with a high percentage of fines. NH<sub>3</sub> and H<sub>2</sub>S adjusted amphipod data were compared to the thirty two chemicals or chemical groups, for which PEL values have been derived, and to ERM and PEL summary quotients. Regressions were significant for cadmium, chromium, copper, nickel, silver, zinc, DDT, dieldrin, acenaphthene, and the ERM and PEL summary quotients (Table 19). By eliminating high ammonia concentrations (>0.4 mg/L) and high hydrogen sulfide concentrations (0.06 mg/L), regressions do improve slightly, however r<sup>2</sup> values are generally low. It is prudent though to recognize that these natural factors may confound interpretation of toxicity results and that caution should be exercised when elevated ammonia or hydrogen is noted.

In summary, simple linear regressions provide few clues to understanding the relationship between amphipod survival in the toxicity tests and measured single chemical concentrations. When viewing scatter plots, it remains difficult to convincingly argue that there is, or should be, a linear toxic response to increasing chemical concentrations in natural settings. In industrialized settings such as San Diego Bay, where multiple pollutants are common, co-variation and possible synergistic effects within a group of multiple pollutants further confound the separation of effects to single pollutants. A single multiple regression or a variable selection technique may statistically better describe the relationship between toxicity and multiple chemicals, but these were not performed in this analysis.

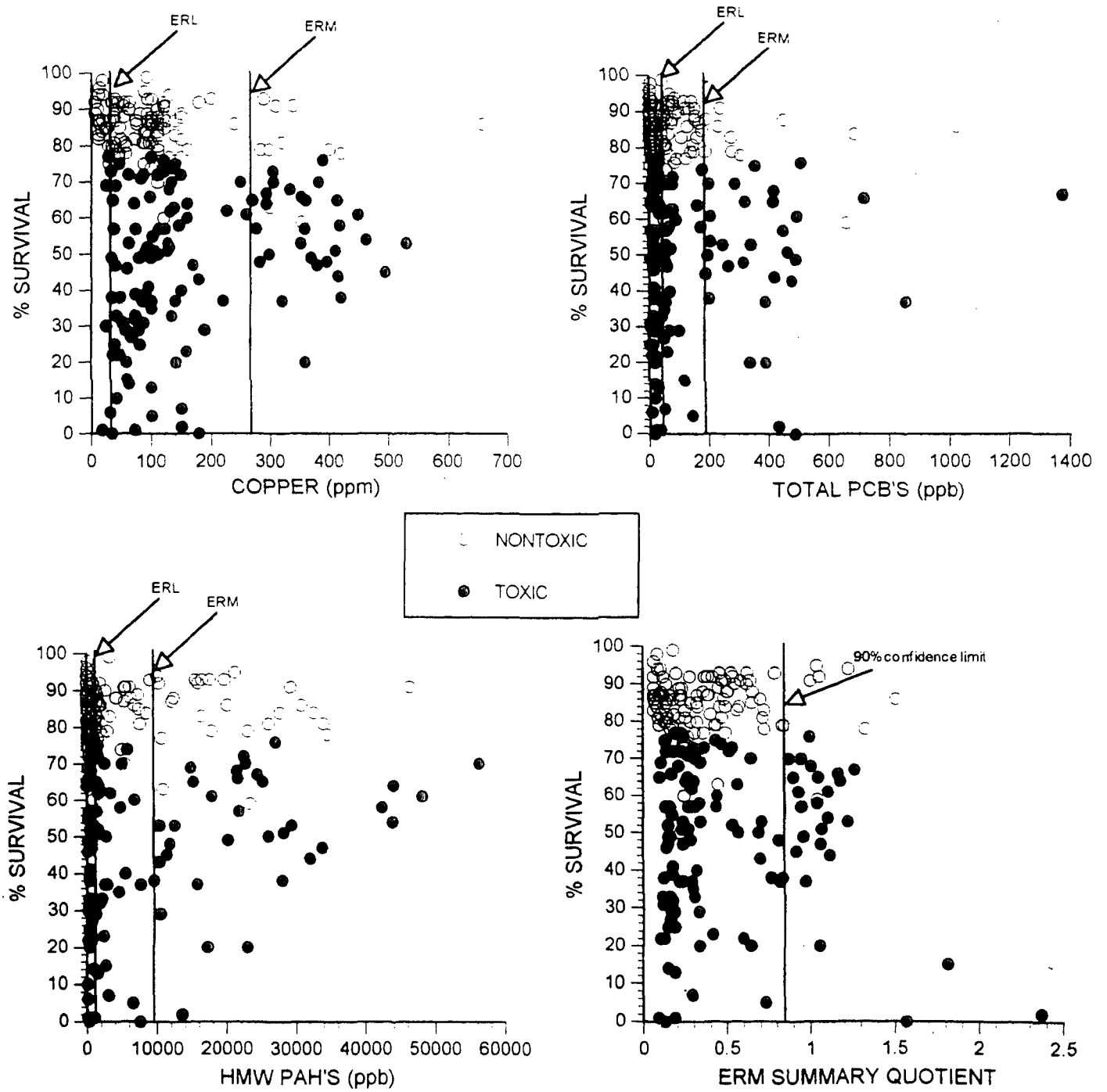
Figure 26 is typical of chemical vs. toxicity scatter plots seen throughout the region, with considerable scatter at low chemical concentrations and a gradual decrease in survival at elevated chemical concentrations. Because regressions did not generally support a linear toxic response to chemical pollutants, it is suspected that most organisms are tolerant of pollutants until a threshold is exceeded. This threshold effect appears well demonstrated in the San Diego Bay Region's benthic communities setting, as illustrated in Figure 14.

Although it was less evident for acute toxicity tests, where high amphipod survival was observed even at elevated chemical levels (Figure 26), a distinct response pattern still emerges. When the EMAP approach for determination of toxicity (significantly different from controls and less than 80% of controls) was used, 28 of 39 (72%) sediment samples were toxic when copper

Table 19. Linear regression of amphipod survival dependence on chemical analytes for which PEL levels have been developed. Amphipod data has overlying unionized ammonia values >0.4 ppm and hydrogen sulfide values >0.06 ppb removed (all chemical data are Log (x+1) transformed. r<sup>2</sup> is presented when p<0.05. ns= not significant).

<b>ANALYTE</b>	<b>n</b>	<b>p</b>	<b>r<sup>2</sup></b>
<b>Metal</b>			
Arsenic	193	ns	
Cadmium	193	0.000	0.074
Chromium	193	0.028	0.025
Copper	193	0.014	0.031
Lead	176	ns	
Nickel	193	0.003	0.044
Mercury	193	ns	
Silver	193	0.008	0.036
Zinc	193	0.001	0.057
<b>Pesticide</b>			
Total Chlordane	193	ns	
PPDDE	193	ns	
PPDDT	193	0.000	0.068
Total DDT	193	0.008	0.036
Dieldrin	193	0.023	0.027
Lindane	193	ns	
<b>PAH</b>			
ACY	170	ns	0.031
ACE	193	ns	
ANT	193	ns	
BAA	193	ns	
BAP	193	ns	
CHR	193	ns	
DBA	193	ns	
FLA	193	ns	
FLU	193	ns	
MNP2	193	ns	
NPH	170	ns	
PHN	193	ns	
PYR	193	ns	
LMW PAH	193	ns	
HMW PAH	193	ns	
Total PAH	193	ns	
<b>PCB</b>			
Total PCB	193	ns	
<b>Summary Quotients</b>			
PELQ	184	0.050	0.020
ERMQ	184	0.014	0.033

Figure 26. Amphipod Survival vs ERM Summary Quotient or Chemical Level





concentrations exceeded the ERM value whereas only about 7 of 28 samples (25%) were toxic when copper concentrations were below the ERL value. This was also seen with total PCBs with 73% of the samples being toxic when PCB concentrations exceeded the ERM value and only 53% toxic below the ERL. Because it is suspected that toxicity in urban bays is caused by exposure to complex mixtures of chemicals comparisons to ERM summary quotients (multiple chemical indicators) were made. The highest incidence of toxicity (>78%) is found in samples with elevated ERM summary quotients (>0.85), supporting the theory that the effects of elevated levels of multiple pollutants may elucidate the toxic response. This pattern of increased incidence of toxicity when chemical concentrations exceed established sediment quality guidelines or the summary quotient 90% confidence interval seems to support the threshold response theory for amphipod bioassays in the San Diego Bay Region.

Guideline thresholds are quantitatively estimated from large national or statewide data sets, as described earlier, but the applicability of calculated values may be limited in specific water bodies. Use of unique guidelines for the San Diego Bay Region, which account for local physical, chemical and biological conditions, would be optimal when evaluating data. However, without substantial additional data, chemical specific thresholds for the San Diego Bay region cannot be accurately determined. Currently the most useful tools for addressing the relationship between toxicity and chemical concentration appears to be threshold approaches, such as the ERM/ERL and TEL/PEL guidelines.

#### **Station Specific Sediment Quality Assessments**

One of the primary goals of the BPTCP is to establish state guidelines under which contaminated or toxic stations can be designated "toxic hot spots". These guidelines are currently being developed based on data collected throughout the state. Although final guidelines are contingent upon further data analysis, the "toxic hot spot" definition currently utilized by the BPTCP, requires that one or more of the following criteria must be met:

1. The water or sediment exhibits toxicity associated with toxic pollutants, based on toxicity tests acceptable to the SWRCB or the RWQCB. To determine whether toxicity exists, recurrent measurements (at least two separate sampling dates) should demonstrate an effect.
2. Significant degradation in biological populations and/or benthic communities associated with presence of elevated levels of toxic pollutants.
3. The site exceeds water or sediment quality objectives for toxic pollutants which are contained in appropriate water quality control plans, or exceeds water quality criteria promulgated by the U.S. Environmental Protection Agency.

4. The tissue toxic pollutant levels of organisms collected from the site exceed levels established by the United States Food and Drug Administration (FDA) for protection of human health, or the National Academy of Sciences (NAS) for the protection of human health or wildlife.

Because tissue residues were not analyzed in this study, criteria are limited to the first three. Satisfying any one of these criteria can designate a site a "toxic hot spot". Satisfying more than one criterion and the severity demonstrated within each criterion determines the weighting for which qualitative rankings can be made. In this report, stations were not designated as "toxic hot spots", because this designation is still under evaluation and development by the BPTCP. Instead, stations were prioritized for further evaluation for hot spot status. This priority was classified as high, moderate, low, or no action and may be used by State and Regional Water Board staff to direct further investigations at these stations. Each station receiving a high to low priority ranking meets one or more of the first three criteria established above. Those meeting all three criteria were designated as the highest priority for further action.

Stations were evaluated for repeat toxicity (criterion 1) using the reference envelope method, the most conservative measure developed. Only those stations which demonstrated amphipod survival less than 48% in repeated tests, without confounding ammonia, hydrogen sulfide or grain size effects, were considered to exhibit repeat toxicity hits. Because only one critical value could be determined for any of the dilutions of the pore water bioassays, pore water toxicity results were not evaluated for repeat toxicity when prioritizing stations.

Stations with repeat toxicity and elevated chemistry and/or degraded benthic communities, were assigned a moderate or high priority. Stations with repeat toxicity, but lacking elevated chemistry or degraded benthic communities, were assigned a low priority (Tables 20 and 21- REPEAT TOXICITY HITS).

Stations with only a single toxicity hit were also considered a moderate or high priority, when associated with elevated chemistry and/or degraded benthic communities. Stations with a single toxicity hit, but lacking elevated chemistry or degraded benthic communities, were assigned a low priority. (Tables 20 and 21- SINGLE TOXICITY HITS).

Nineteen stations demonstrated repeat or single toxicity hits but were given a "no action" recommendation at this time (Tables 20 and 21). These stations had measured hydrogen sulfide or ammonia concentrations which confounded interpretation of the bioassay test results. Chemistry levels were low, or not analyzed, and the benthic community was undegraded or transitional, where sampled. These results provided little or no evidence that these stations should be prioritized for hot spot status. A toxicity identification evaluation (TIE) should be considered for these

**TABLE 20**

**FUTURE INVESTIGATION PRIORITY LIST FOR THE SAN DIEGO BAY REGION**  
**Stations With Synoptic Chemical, Toxicological and Benthic Community Analyses**

STATION	STATION	IDORG	LEG	M2S	NH3	% AMPH. SURVIVAL	>4X ERM OR >5.9X PEL	ERMQ	PELQ	BENTHICS	COMMENTS	PRIORITY
	<b>REPEAT TOXICITY</b>											
90009.0	26 SWARTZ (7TH ST CHANNEL Q1)	893	23	nd	0.016	5.00	Chlordane	0.732	0.990	DEGRADED	TOXICITY, ELEVATED CHEM, BENTHIC HIT	HIGH
93228.0	SEVENTH ST CHANNEL Q1 (x6)	895	23	nd	0.010	2.00	Chlordane	2.373	3.082	DEGRADED	TOXICITY, ELEVATED CHEM, BENTHIC HIT	HIGH
90025.0	SDNH-N5 (CARRIER BASE V2)	899	23	nd	0.643	37.00		0.294	0.454	UNDEGRADED	NH3>0.4	NO ACTION
93232.0	CARRIER BASE V2 (x7)	1001	23	nd	0.773	35.00		0.300	0.481	UNDEGRADED	NH3>0.4	NO ACTION
	<b>SINGLE TOXICITY</b>											
90002.0	12 SWARTZ (DOWNTOWN ANCH)-REP 1	878	22	nd	1.838	15.00	Chlordane	1.818	2.444	DEGRADED	TOXICITY (NH3>0.4), ELEVATED CHEM, BENTHIC HIT	HIGH
93210.0	NAVAL BASE/SHIPYARDS O4 (x1)	863	22	0.0023	0.775	37.00		0.975	1.157	DEGRADED	TOXICITY (NH3>0.4), ELEVATED CHEM, BENTHIC HIT	HIGH
90051.0	16 SWARTZ (INTERCONT. MARINA)	818	20	0.0010	3.340	1.00		0.190	0.301	TRANSITIONAL	NH3>0.4	LOW
93219.0	SWEETWATER CH. J11 (x1)-REP 2	876	22	nd	0.319	31.00		0.115	0.188	TRANSITIONAL		LOW
	<b>DEGRADED BENTHICS</b>											
90007.0	25 SWARTZ (NAVAL BASE/SY O10)	887	23	nd	0.014	88.00		0.702	1.025	DEGRADED		LOW
93223.0	NAVAL BASE/SHIPYARD O10 (x2)	888	23	nd	0.016	79.00		0.847	1.308	DEGRADED	ELEVATED CHEM	MODERATE
93224.0	NAVAL BASE/SHIPYARD O10 (x5)	889	23	nd	0.010	90.00	Zinc	0.623	0.994	DEGRADED	ELEVATED CHEM	MODERATE
93211.0	NAVAL BASE/SHIPYARDS O4 (x2)	864	22	nd	0.158	86.00	Antimony, Copper, PCB	1.509	1.945	DEGRADED	ELEVATED CHEM	MODERATE
90021.0	K SWARTZ (NAVAL BASE O4)	862	22	nd	0.060	93.00		0.626	0.961	DEGRADED		LOW
90008.0	23 SWARTZ (NAVAL BASE O7)	865	22	nd	0.054	92.00	Chlordane	1.056	1.487	DEGRADED	ELEVATED CHEM	MODERATE
93212.0	NAVAL BASE/SHIPYARDS O7 (x1)	866	22	nd	0.026	91.00	Chlordane	0.589	0.847	DEGRADED	ELEVATED CHEM	MODERATE
93213.0	NAVAL BASE/SHIPYARDS O7 (x4)	867	22	nd	0.010	94.00	Chlordane	1.230	1.730	DEGRADED	ELEVATED CHEM	MODERATE
93227.0	SEVENTH ST CHANNEL Q1 (x5)	894	23	nd	0.078	79.00	Chlordane	0.837	1.175	DEGRADED	ELEVATED CHEM	MODERATE
93208.0	DOWNTOWN PIERS K1 (x11)	848	21	nd	0.048	95.00	PAHs	1.042	1.898	DEGRADED	ELEVATED CHEM	MODERATE
90004.0	15 SWARTZ (G ST. PIER MARINA)	849	21	nd	0.220	77.00		0.494	0.736	DEGRADED		LOW
93207.0	G ST. PIER MARINA L1 (x4)	850	21	nd	0.173	89.00		0.454	0.674	DEGRADED		LOW
90022.0	P SWARTZ (NAVAL BASE O12)	868	22	nd	0.061	91.00	PAHs	1.001	1.522	DEGRADED	ELEVATED CHEM	MODERATE
93214.0	NAVAL BASE/SHIPYARDS O12 (x3)	869	22	nd	0.031	93.00		0.465	0.710	DEGRADED		LOW
93215.0	NAVAL BASE/SHIPYARDS O12 (x4)	870	22	nd	0.017	88.00		0.361	0.578	DEGRADED		LOW
90008.0	27 SWARTZ (NAVAL BASE/SH O13)	890	23	nd	0.008	92.00		0.419	0.685	DEGRADED		LOW
93225.0	NAVAL BASE/SHIPYARD O13 (x1)	891	23	0.0213	0.013	81.00		0.719	1.130	DEGRADED		LOW
93226.0	NAVAL BASE/SHIPYARD O13 (x3)	892	23	nd	0.019	91.00		0.842	1.033	DEGRADED		LOW
90010.0	31 SWARTZ (MARINE TERMINAL R3)	896	23	nd	0.077	88.00		0.145	0.254	DEGRADED		LOW
93229.0	MARINE TERMINAL R3 (x1)	897	23	nd	0.109	70.00	PAHs	0.878	1.304	DEGRADED	ELEVATED CHEM	MODERATE
93230.0	MARINE TERMINAL R3 (x3)	898	23	nd	0.056	83.00		0.449	0.737	DEGRADED		LOW
93118.0	SAN DIEGO RIVER B1 (x4)-REP 1	881	22	nd	0.216	92.00		0.282	0.361	DEGRADED		LOW
93119.0	SAN DIEGO RIVER B1 (x4)-REP 2	882	22	nd	0.098	92.00	Chlordane	0.540	0.770	DEGRADED	ELEVATED CHEM	MODERATE
93116.0	SAN DIEGO RIVER B1 (x4)-REP 3	883	22	nd	0.162	78.00	Chlordane	0.728	1.026	DEGRADED	ELEVATED CHEM	MODERATE
90028.0	NSB-M1 (SUB BASE C2)	871	22	nd	0.078	84.00	PAHs	0.577	1.038	DEGRADED	ELEVATED CHEM	MODERATE
93216.0	SUB BASE C2 (x1)	872	22	nd	0.078	83.00		0.201	0.351	DEGRADED		LOW
93217.0	SUB BASE C2 (x3)	873	22	nd	0.074	81.00		0.472	0.818	DEGRADED		LOW
90012.0	34 SWARTZ (C.V. YACHT BASIN)	824	20	0.0002	0.334	57.00		0.135	0.243	DEGRADED		LOW
93198.0	CHULA V. YACHT BASIN B1 (x1)	825	20	0.0003	0.260	78.00		0.236	0.426	DEGRADED		LOW
93197.0	CHULA V. YACHT BASIN B1 (x3)	826	20	0.0003	0.185	79.00		0.177	0.308	DEGRADED		LOW
90003.0	14 SWARTZ (DOWNTOWN PIERS)	846	21	nd	0.084	70.00		0.314	0.483	DEGRADED		LOW
93205.0	DOWNTOWN PIERS K1 (x9)	847	21	nd	0.167	84.00	PAHs	0.329	0.552	DEGRADED	ELEVATED CHEM	MODERATE
93107.0	MISSION BAY A3 (x1)-REP 1	853	21	nd	0.075	57.00		0.311	0.429	DEGRADED		LOW
93107.0	MISSION BAY A3 (x1)-REP 2	854	21	nd	0.046	77.00		0.364	0.483	DEGRADED		LOW
93204.0	CORONADO CAYS T2 (x2)	845	21	nd	0.062	82.00		0.140	0.234	DEGRADED		LOW
93220.0	SWEETWATER CH. J11 (x8)-REP 3	877	22	nd	0.129	81.00		0.088	0.150	DEGRADED		LOW
93208.0	G ST. PIER MARINA L1 (x5)	851	21	nd	0.064	83.00		0.728	1.047	DEGRADED		LOW
	<b>CHEMISTRY-Individual Chemicals</b>											
93107.0	MISSION BAY A3 (x1)-REP 3	855	21	nd	0.145	73.00	Chlordane	0.535	0.724	TRANSITIONAL	ELEVATED CHEM	MODERATE
93221.0	DOWNTOWN ANCH. J1 (x1)-REP 2	879	22	nd	0.143	83.00	Chlordane	0.564	0.803	UNDEGRADED	ELEVATED CHEM	LOW

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TABLE 21

FUTURE INVESTIGATION PRIORITY LIST FOR THE SAN DIEGO BAY REGION  
Stations Without Synoptic Chemical, Toxicological and Benthic Community Analyses

STATION	STATION	IDORG	LEG	H2S	NH3	% AMPHL SURVIVAL	>4X ERM OR >5.9X PEL	ERMQ	PELQ	BENTHICS	COMMENTS	PRIORITY
	REPEAT TOXICITY											
90009.0	26 SWARTZ	158	7	not analyzed	0.002	0.00	Chlordane, DDT	1.570	1.839	not analyzed	ELEVATED CHEM, SITE DEGRADED IN LEG 23	HIGH
93179.0	NAVAL SHIPYARDS O3 (x1)	797	19	not analyzed	0.539	20.00		1.096	1.534	not analyzed	ELEVATED CHEM, ADJACENT SITE DEGRADED	HIGH
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 1	1122	27	0.0003	0.059	44.00		1.119	1.525	not analyzed	ELEVATED CHEM, ADJACENT SITE DEGRADED	HIGH
90043.0	CORONADO WHARF	192	12	not analyzed	0.684	29.00		0.189	0.249	not analyzed	NH3>0.4	NO ACTION
90043.0	CORONADO WHARF-REP 1	1156	26	0.0016	0.423	33.00		0.113	0.187	not analyzed	NH3>0.4	NO ACTION
90043.0	CORONADO WHARF-REP 2	1157	26	0.0030	0.224	43.00		0.703	0.696	not analyzed	NH3>0.4	LOW
90030.0	BF SCHROEDER SITE F	179	12	not analyzed	0.066	47.00	PAHs	1.067	1.789	not analyzed	ELEVATED CHEM	MODERATE
90030.0	BF SCHROEDER SITE F	749	16	not analyzed	0.204	43.00		not analyzed	not analyzed	not analyzed		LOW
93122.0	SOUTH SHORE-CORONADO DD3 (x1)	725	16	not analyzed	0.740	23.00		0.416	0.617	not analyzed	NH3>0.4	NO ACTION
93122.0	S.S. CORONADO DD3 (x1) REP 1	1013	24	nd	0.493	33.00		0.306	0.471	not analyzed	NH3>0.4	NO ACTION
90038.0	STORM DRAIN- ROHR CHANNEL	185	5	not analyzed	0.894	27.00		0.162	0.253	not analyzed	NH3>0.4	NO ACTION
90038.0	STORMDRAIN EA (ROHR CH.) REP 3	1024	24	nd	0.119	1.00		0.090	0.144	not analyzed		LOW
90038.0	STORMDRAIN EA (ROHR CH.) REP 1	1022	24	0.0679	0.136	0.00		0.131	0.174	not analyzed	H2S> 0.06	NO ACTION
93125.0	SILVER STRAND FF4 (x4) REP 1	1016	24	nd	0.514	38.00		0.121	0.199	not analyzed	NH3>0.4	NO ACTION
93125.0	SILVER STRAND FF4 (x4) REP 2	1017	24	nd	0.720	22.00		0.102	0.171	not analyzed	NH3>0.4	NO ACTION
93125.0	SILVER STRAND FF4 (x4) REP 3	1018	24	1.2744	0.494	22.00		0.125	0.210	not analyzed	NH3>0.4	NO ACTION
93158.0	SOUTH BAY GG1 (x1) REP 1	1035	24	nd	0.043	33.00		0.163	0.285	not analyzed		LOW
93158.0	SOUTH BAY GG1 (x1) REP 2	1036	24	nd	0.108	39.00		0.175	0.277	not analyzed		LOW
93158.0	SOUTH BAY GG1 (x1) REP 3	1037	24	nd	0.072	46.00		0.141	0.233	not analyzed		LOW
90024.0	SDN-N1	173	7	not analyzed	0.684	40.00		0.323	0.506	not analyzed	NH3>0.4, SITE UNDEGRADED IN LEG 23	NO ACTION
90025.0	SDN-N5	174	7	not analyzed	0.825	7.00		0.295	0.489	not analyzed	NH3>0.4, SITE UNDEGRADED IN LEG 23	NO ACTION
93188.0	CARRIER BASE V1 (x2)	806	19	not analyzed	2.583	37.00		0.220	0.349	not analyzed	NH3>0.4, SITE UNDEGRADED IN LEG 23	NO ACTION
90057.0	5 SDG&E	206	12	not analyzed	0.011	25.00		0.147	0.249	not analyzed		LOW
90057.0	5 SDG&E REP 1	1019	24	nd	0.046	41.00		0.176	0.290	not analyzed		LOW
90057.0	5 SDG&E REP 2	1020	24	0.0132	0.011	39.00		0.172	0.283	not analyzed		LOW
90057.0	5 SDG&E REP 3	1021	24	nd	0.032	31.00		0.169	0.281	not analyzed		LOW
	SINGLE TOXICITY											
90007.0	25 SWARTZ	156	7	not analyzed	0.004	37.00	Mercury	0.820	1.088	not analyzed	ELEVATED CHEM, SITE DEGRADED IN LEG 23	MODERATE
90008.0	27 SWARTZ	157	7	not analyzed	0.010	29.00		0.333	0.564	not analyzed	SITE DEGRADED IN LEG 23	MODERATE
90022.0	P SWARTZ	171	7	not analyzed	0.008	38.00		0.771	1.207	not analyzed	SITE DEGRADED IN LEG 27	MODERATE
93181.0	NAVAL SHIPYARDS O6 (x1)	799	19	not analyzed	0.042	45.00		0.920	1.382	not analyzed	ELEVATED CHEM	MODERATE
90010.0	31 SWARTZ	159	6	not analyzed	1.291	39.00		not analyzed	not analyzed	not analyzed	NH3>0.4, SITE DEGRADED IN LEG 23	LOW
90039.0	CL	188	12	not analyzed	0.090	38.00	Chlordane, DDT	0.835	1.156	not analyzed	ELEVATED CHEM	MODERATE
93178.0	NAVAL SHIPYARDS O2 (x1)	798	19	not analyzed	0.350	20.00		0.647	0.836	not analyzed		LOW
93166.0	NAVY ESTUARY G2 (x1)	779	18	not analyzed	1.129	20.00		0.336	0.501	not analyzed	NH3>0.4	NO ACTION
93118.0	TUJANA R. ESTUARY HH1 (x2)	713	15	0.0005	0.187	30.00	DDE	not analyzed	not analyzed	not analyzed	ELEVATED CHEM	MODERATE
90018.0	D DE LAPPE	748	16	not analyzed	0.039	19.00		not analyzed	not analyzed	not analyzed		LOW
90023.0	NM SANDBAG	172	7	not analyzed	0.378	32.00		0.173	0.302	not analyzed		LOW
90050.0	10 SWARTZ	199	7	not analyzed	0.004	47.00		0.240	0.416	not analyzed		LOW
90065.0	43 SWARTZ	204	7	not analyzed	0.075	37.00		0.238	0.372	not analyzed		LOW
90102.0	HARBOR BRIDGE 71A	256	7	not analyzed	0.113	14.00		0.149	0.243	not analyzed		LOW
90104.0	WEST BASIN ENTRANCE (71C) REF	275	12	not analyzed	1.048	13.00		0.192	0.314	not analyzed	NH3>0.4	NO ACTION
93106.0	MISSION BAY A2 (x1)-REP 2	1102	27	0.0007	0.106	25.00		0.190	0.275	not analyzed		LOW
93117.0	SAN DIEGO RIVER B2 (x2)	1029	24	0.0125	0.110	0.00		not analyzed	not analyzed	not analyzed		LOW
93119.0	TUJANA R. ESTUARY HH1 (x1)	714	15	0.0015	0.224	22.00	DDE, DDT	0.599	0.726	not analyzed	ELEVATED CHEM	MODERATE
93127.0	SOUTH BAY GG2 (x1)	1028	24	nd	0.096	47.00		not analyzed	not analyzed	not analyzed		LOW
93128.0	SOUTH BAY GG5 (x1)	1033	24	nd	0.031	27.00		not analyzed	not analyzed	not analyzed		LOW
93132.0	CORONADO CAYS T3 (x1)	1025	24	nd	0.004	47.00		not analyzed	not analyzed	not analyzed		LOW
93138.0	SHELTER ISLAND E3 (x2)	741	16	not analyzed	0.020	29.00		0.185	0.282	not analyzed		LOW
93148.0	CHANNEL-CORONADO Y1 (x2)	751	16	not analyzed	0.525	47.00		0.151	0.225	not analyzed	NH3>0.4	NO ACTION
93154.0	NORTH SHORE-MOUTH CC4 (x1)	763	17	not analyzed	0.836	31.00		not analyzed	not analyzed	not analyzed	NH3>0.4	NO ACTION
93159.0	SOUTH BAY GG3 (x1)	768	17	not analyzed	0.875	21.00		not analyzed	not analyzed	not analyzed	NH3>0.4	NO ACTION
93174.0	TUJANA R. ESTUARY HH3 (x2)	787	18	not analyzed	0.282	6.00		not analyzed	not analyzed	not analyzed		LOW
93175.0	TUJANA R. ESTUARY HH3 (x3)	788	18	not analyzed	0.141	10.00	DDE, DDT	not analyzed	not analyzed	not analyzed	ELEVATED CHEM	MODERATE

sites to confirm the source of toxicity as non-anthropogenic. Stations were evaluated for benthic community condition using the benthic index discussed earlier (Table 11). Stations determined to be degraded, with elevated chemistry and/or toxicity, were assigned a moderate or high priority. Stations determined to be degraded, but which did not demonstrate elevated chemistry or toxicity, were assigned a low priority. Transitional and undegraded stations were not considered a priority unless chemical or toxicity results initially prioritized the stations. (Table 20- DEGRADED BENTHICS)

Stations were evaluated for elevated chemistry (criterion 3) using an ERM Summary Quotient  $>0.85$  or a PEL Summary Quotient  $>1.29$ . In the earlier discussion of ERM and PEL summary quotients, it was determined these values are statistically above the 90% confidence interval of summary quotients from all stations analyzed. These quotients were used to identify stations where multiple pollutants were near or above established ERM and PEL guidelines (Table 22-CHEMISTRY-Summary Quotients). As shown in Figure 14, 100% of the stations analyzed for benthics were found to be degraded when chemical analysis demonstrated an ERMQ above 0.85. Although the eighteen stations in Table 22 (CHEMISTRY-Summary Quotients) did not have benthic community analysis performed, it is likely these stations will demonstrate degraded benthic communities, when analyzed. In consideration of this concern, all stations with elevated chemistry, based on ERM summary quotients above 0.85, were assigned a moderate priority ranking.

In situations where high summary quotient values were not found, but where any single chemical concentration exceeded four times (4x) its associated ERM or 5.9 times (5.9x) its associated PEL, the station was also considered to exhibit elevated chemistry. The 4x and 5.9x cutoffs were not statistically determined using the 90% confidence interval as they were with the summary quotients. Values for individual chemical quotients were not normally distributed and transformations did not improve distributions, so statistical determination of confidence limits was not appropriate. Instead, a qualitative examination of the data set indicated that only in the top 10th percentile of chemical measurements do values exceed four times their respective ERM or 5.9 times their respective PEL (Tables 20 and 22- CHEMISTRY-Individual Chemicals). These cutoffs were used to help identify stations where any single chemical was extremely elevated. Stations with elevated individual chemical quotients and evidence of benthic community degradation were assigned a moderate ranking. Stations which exhibited elevated chemistry, but showed no biological effects, were assigned a low priority.

Stations which satisfied all three of the criteria were considered a triad hit and are given the highest priority ranking. These stations demonstrated toxicity in the bioassay tests, benthic community degradation and elevated chemistry. Four stations (representing three sites) fell in this category: the Seventh Street Channel (90009-leg 23 and 93228), 12 Swartz

TABLE 22

FUTURE INVESTIGATION PRIORITY LIST FOR THE SAN DIEGO BAY REGION  
Stations Without Synoptic Chemical, Toxicological and Benthic Community Analyses

STATION#	STATION	DOOR	LEG	H2S	NH3	% AMPHL SURVIVAL	>4X ERM OR >5.9X PEL	ERMIC	PELQ	BENTHICS	COMMENTS	PRIORITY
	CHEMISTRY-Summary Quotients											
80020.0	G DE LAPPE	168	12	not analyzed	0.020	49.00		0.984	1.255	not analyzed	ELEVATED CHEM	MODERATE
90020.0	G DE LAPPE-REP 1	1104	27	0.0008	0.086	65.00		1.051	1.411	not analyzed	ELEVATED CHEM	MODERATE
90020.0	G DE LAPPE-REP 2	1105	27	0.0007	0.087	59.00		1.043	1.401	not analyzed	ELEVATED CHEM	MODERATE
90020.0	G DE LAPPE-REP 3	1108	27	0.0008	0.049	57.00		0.947	1.293	not analyzed	ELEVATED CHEM	MODERATE
90030.0	BF SCHROEDER SITE F-REP 1	1144	26	0.0012	0.192	70.00		0.948	1.419	not analyzed	ELEVATED CHEM	MODERATE
90030.0	BF SCHROEDER SITE F-REP 2	1145	26	0.0025	0.816	78.00	PAHs	1.000	1.537	not analyzed	ELEVATED CHEM	MODERATE
90030.0	BF SCHROEDER SITE F-REP 3	1148	26	0.0013	0.017	88.00		1.007	1.438	not analyzed	ELEVATED CHEM	MODERATE
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 1	1119	27	0.0022	0.185	61.00		0.934	1.294	not analyzed	ELEVATED CHEM	MODERATE
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 2	1120	27	nd	0.145	88.00	PCBs	1.170	1.618	not analyzed	ELEVATED CHEM	MODERATE
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 3	1121	27	0.0007	0.168	87.00	PCBs	1.269	1.651	not analyzed	ELEVATED CHEM	MODERATE
90022.0	P SWARTZ-REP 1	1107	27	0.0003	0.061	58.00	PAHs	1.042	1.549	not analyzed	ELEVATED CHEM	MODERATE
90022.0	P SWARTZ-REP 2	1108	27	0.0008	0.073	61.00	PAHs	1.109	1.770	not analyzed	ELEVATED CHEM	MODERATE
90022.0	P SWARTZ-REP 3	1109	27	0.0008	0.038	54.00	PAHs	1.107	1.724	not analyzed	ELEVATED CHEM	MODERATE
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 2	1123	27	nd	0.049	51.00		1.071	1.487	not analyzed	ELEVATED CHEM	MODERATE
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 3	1124	27	nd	0.115	78.00	Antimony	1.330	1.658	not analyzed	ELEVATED CHEM	MODERATE
93184.0	NAVAL SHIPYARDS O11 (x1)	802	19	not analyzed	0.070	53.00	DDT	1.226	1.774	not analyzed	ELEVATED CHEM	MODERATE
90017.0	C DELAPPE	166	6	not analyzed	0.840	64.00	PAHs	1.183	1.943	not analyzed	ELEVATED CHEM	MODERATE
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 3	1112	27	0.003	0.037	85.00		0.904	1.382	not analyzed	ELEVATED CHEM	MODERATE
	CHEMISTRY-Individual Chemicals											
93182.0	SUB BASE C3 (x1)	775	18	not analyzed	0.585	53.00	PAHs	0.347	0.596	not analyzed	ELEVATED CHEM	LOW
90037.0	STORMDRAIN EM(GRAPE ST.)-REP 3	1161	29	0.0012	0.290	85.00	Chlordane	0.656	0.934	not analyzed	ELEVATED CHEM	LOW
93141.0	COMMERCIAL BASIN F3 (x1)-REP 3	1170	29	0.0004	0.057	70.00	Mercury	0.650	0.905	not analyzed	ELEVATED CHEM	LOW
93118.0	SAN DIEGO RIVER B1 (x4)	711	15	0.0893	0.137	88.00	Chlordane	0.659	0.913	not analyzed	ELEVATED CHEM, SITE DEGRADED IN LFG 22	MODERATE
93120.0	TIJUANA R. ESTUARY HH2 (x1)	715	15	0.0002	0.067	85.00	DDE	0.321	0.358	not analyzed	ELEVATED CHEM	LOW
93121.0	TIJUANA R. ESTUARY HH2 (x2)	716	15	0.0018	0.010	85.00	DDE	0.287	0.314	not analyzed	ELEVATED CHEM	LOW
93124.0	TIJUANA R. EST. HH3 (x2)-REP 3	1152	28	0.0044	0.084	80.00	DDE	0.325	0.395	not analyzed	ELEVATED CHEM	LOW
93177.0	NAVAL SHIPYARDS O1 (x1)	795	19	not analyzed	0.023	50.00	PAHs	0.694	1.204	not analyzed	ELEVATED CHEM	LOW

Downtown Anchorage (90002) and Naval Base/Shipyards 04 (93210). Three stations were given a high priority ranking although not all conditions of the triad were met (Seventh Street Channel (90009-leg 7) and Naval Shipyards 03 (93179- legs 19 & 27)). These stations demonstrated repeated toxicity and elevated chemistry but no benthic analyses were performed. However, benthic data for stations analyzed in the same proximity, or later sampling of the station, led to the concern that these sites would have been found degraded, if analyzed. In addition, chemical summary quotients at these three stations were at levels which suggest probable benthic community degradation, as discussed earlier. These concerns warranted upgrading these three stations from a moderate priority to a high priority. Forty three stations were given moderate priorities and 57 were given low priorities, based on the methods of prioritization previously discussed. Prioritized stations are mapped in Figure 27(a-d).

Stations were prioritized to assist SWRCB and RWQCB staff in meeting sediment quality management objectives for San Diego Bay. These recommendations were based on scientific evaluation of data collected between 1992 and 1994. They are intended to focus future efforts toward scientifically and economically responsible characterization of locations which have a high probability of causing adverse effects to aquatic life. This report should be evaluated in conjunction with all available information and additional research when management and policy decisions are made by SWRCB and RWQCB staff.

#### Possible Sources of Pollutants at Prioritized Stations

A brief description is given, where additional information was available, of factors which may have contributed to elevated chemical levels, toxicity, or benthic community degradation at the prioritized stations. Descriptions are given in order of geographic distribution, proceeding from north (Mission Bay) to south (Tijuana River Estuary).

In Mission Bay only one location was given the moderate priority ranking (station 93116). This station was located in the San Diego River flood control channel and demonstrated high total chlordane concentrations (36.1 ppb). Chlordane is not expected to undergo significant hydrolysis, oxidation, or direct photolysis in water, thus it may persist in soils for extended periods of time (Howard, 1991). Cohen et al. (1990) conducted a study on chlordane in soil samples near golf courses and found unusually high concentrations of chlordane (4.75-4310 ppb). Station 93116 is located directly down river from a golf course, therefore, runoff from this facility could be a chlordane source. Station 93107, in the mouth of Rose Inlet (northern Mission Bay), received a moderate priority listing, based on high chlordane concentrations. Its location is also near a golf course.

One site in North San Diego Bay (Point Loma area) received a moderate priority recommendation; stations 90028 (Submarine Base). This station had degraded benthic communities, high

Figure 27a  
 Future Investigation Priority List  
 North San Diego Bay

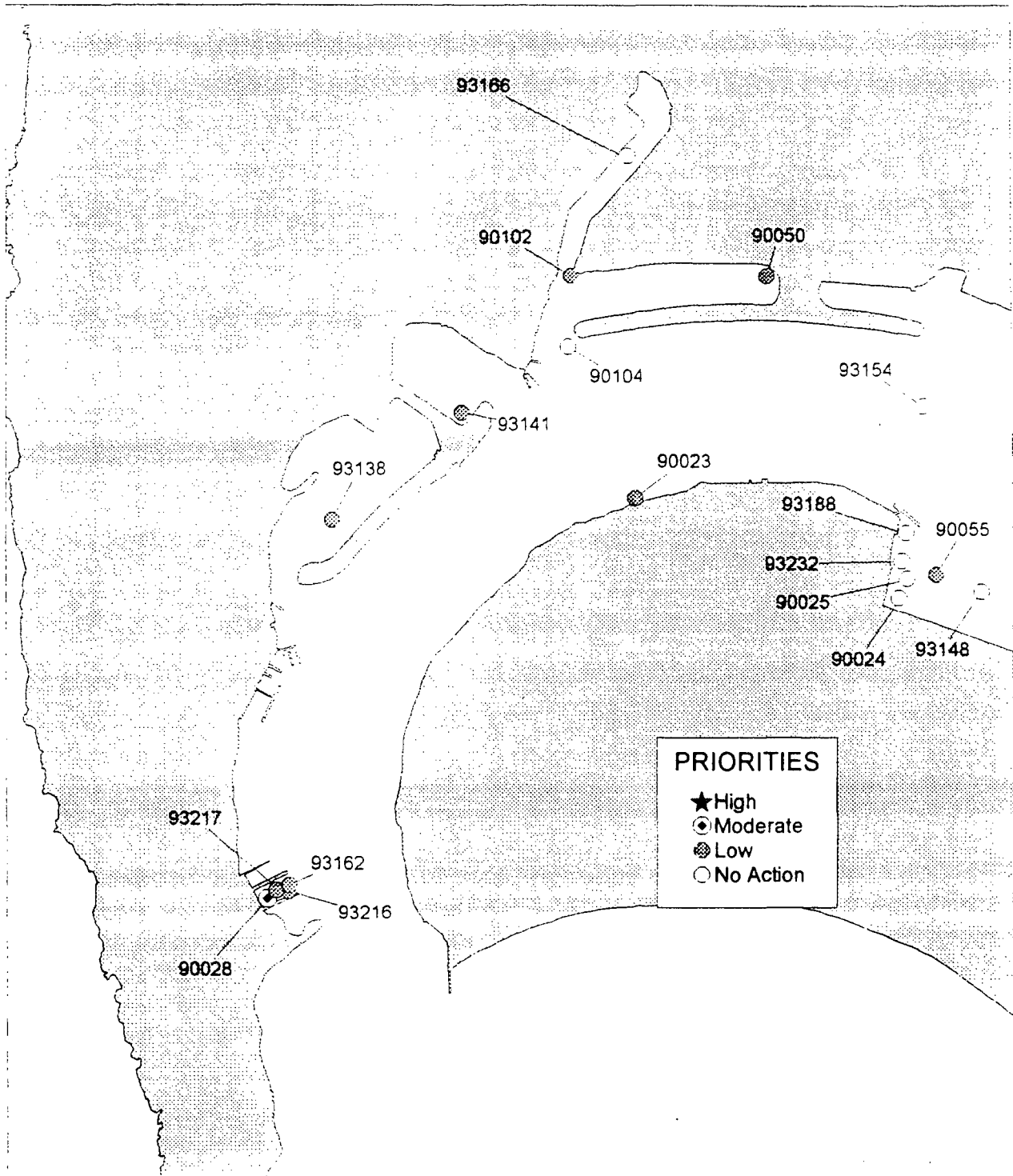




Figure 27b  
 Future Investigation Priority List  
 Mid San Diego Bay

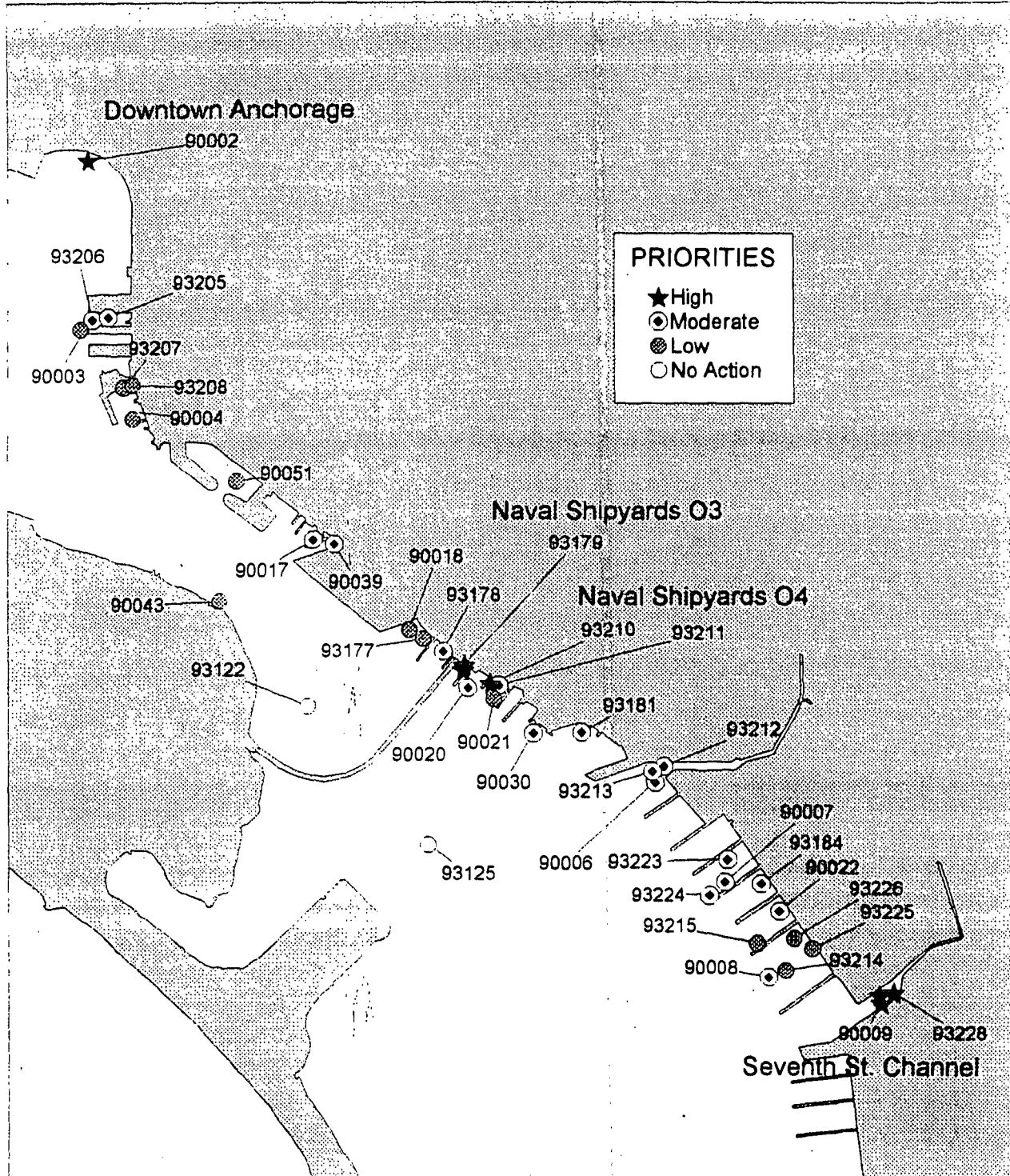


Figure 27c  
Future Investigation Priority List  
South San Diego Bay

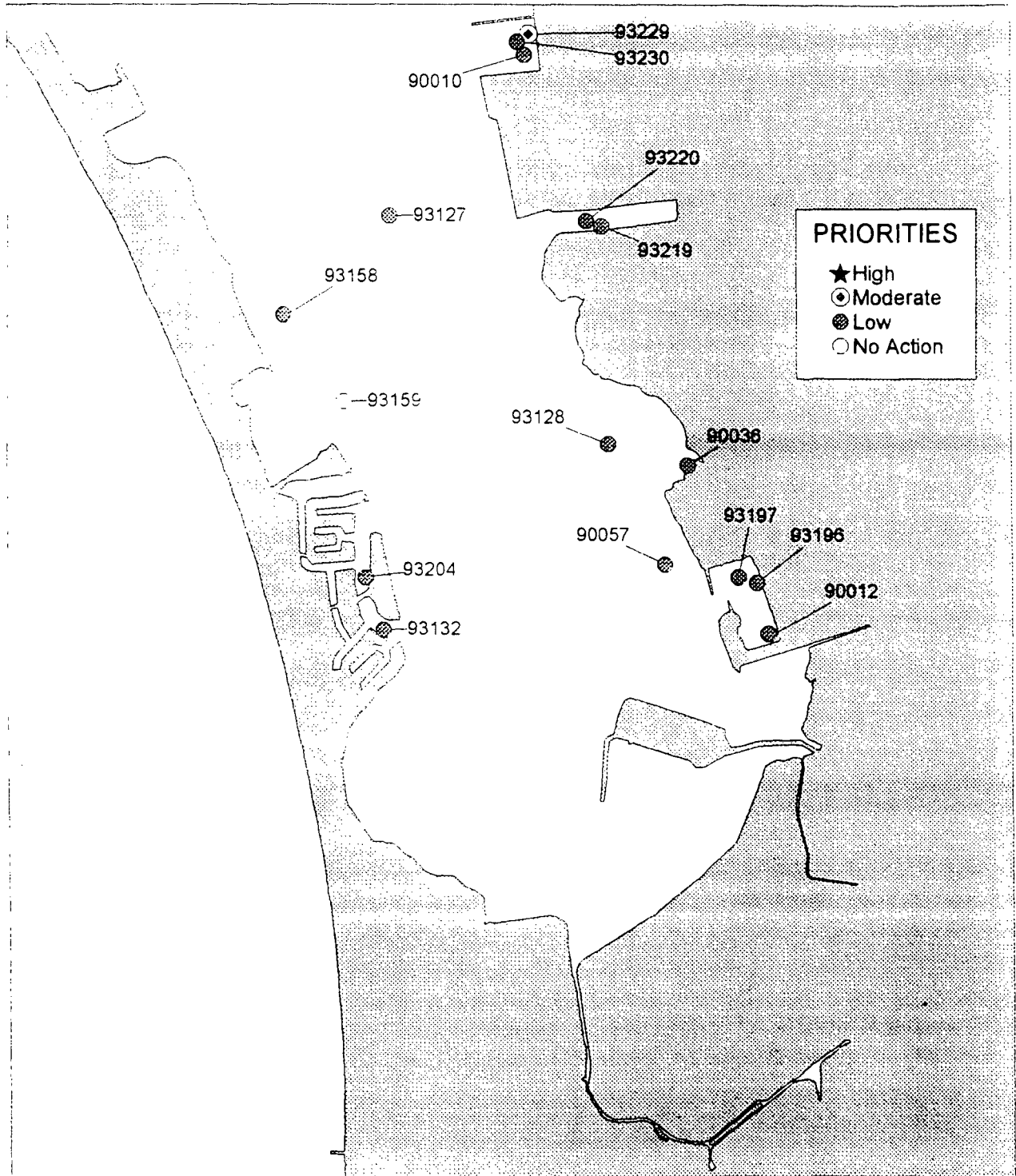
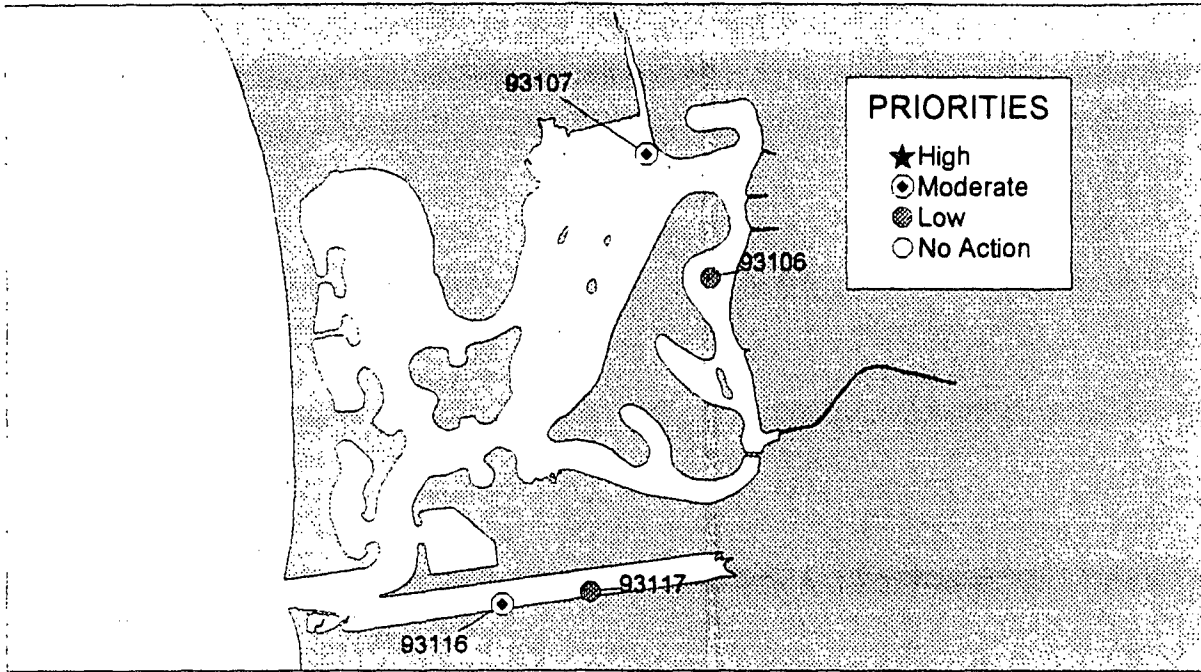
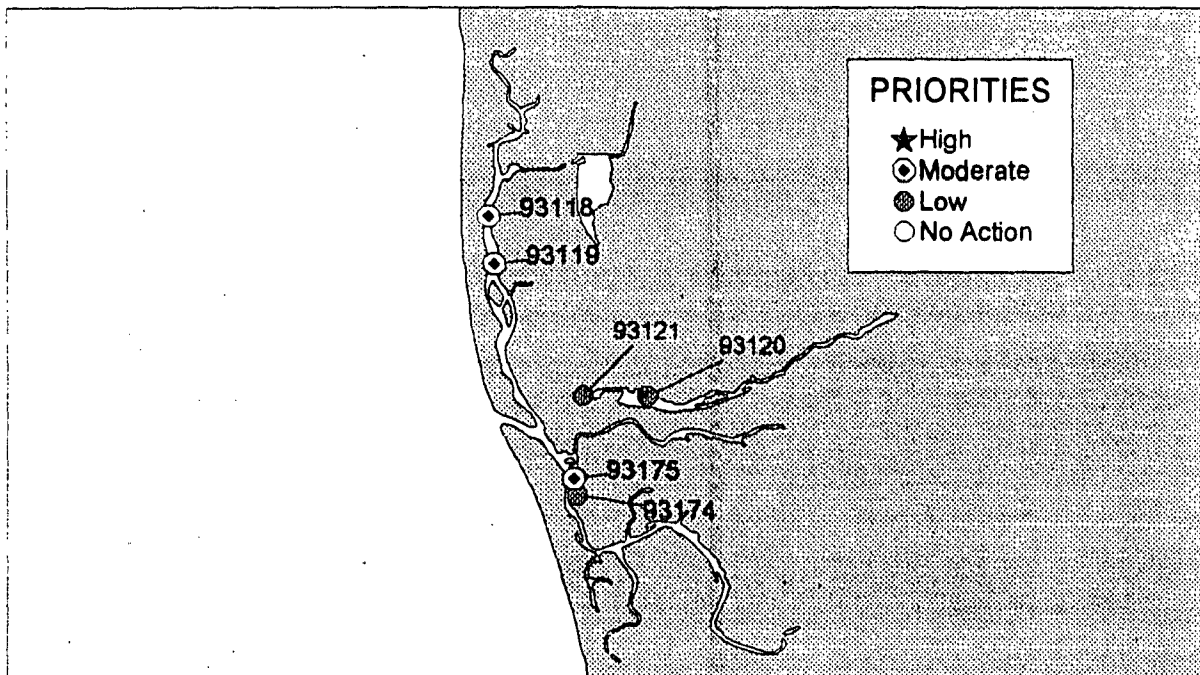


Figure 27d  
Future Investigation Priority List  
Mission Bay and San Diego River Estuary



Tijuana River Estuary



concentrations of low and high molecular weight PAHs, and moderate levels of metals. Historically the Naval Complex at Point Loma has received plating waste, sewage, and sludge containing high concentrations of metals and chlorinated hydrocarbons (Johnston et al., 1989). Although it is difficult to identify the source of high concentrations of PAHs at these stations, Lung (1983) suggests ground water gradients promote groundwater flow towards San Diego Bay, thus potentially allowing PAHs in the nearby soil to migrate to the Bay. A number of sites investigated by the Navy (Eakes and Smith, 1986), which were previously used for waste oil and drum disposal, are located onshore adjacent to and immediately north of stations 93216, 93217 and 90028. Migration of pollutants from these onshore sites is likely. Minor spills during fueling operations at the submarine base are also possible.

Station 90002 (Downtown Anchorage), located in the northern end of mid San Diego Bay, was one of the stations which received a high priority recommendation. High concentrations of metals and chlordane were present, as well as a degraded benthic community. This station also had a low survival for *Rhepoxynius* in solid phase toxicity tests. Perhaps the most obvious explanation for these data would be the presence of a large storm drain and numerous smaller storm drains, which empty into the Bay near this station. These storm drains drain parking lots, light industrial and commercial areas (Conway and Gilb, 1990). Another possible source for observed toxicity and chemistry is runoff from nearby San Diego International Airport. Results from the State Mussel Watch Program 1987-1993 indicate elevated levels of both metals and pesticides in mussel tissue and sediments in this area. Elevated levels of metals could have originated from anti-fouling paints on private boats anchored near the station (90002). The area around this station becomes a modified eddy during ebb tide and may serve to recirculate pollutants, creating a pollutant sink and preventing chemicals from being flushed out of the area (Peeling, 1974).

Located just south of station 90002, stations 93205 and 93206 (Downtown Piers) were given moderate priority ratings based on high chlordane and PAHs concentrations, and degraded benthic communities. Located between the B street pier and the Broadway pier, elevated levels of pollutants can most likely be attributed to sources similar to those described above. Commercial shipping is likely an additional contributor to the observed PAH signal in this area.

Two stations, 90017 and 90039 (located immediately north of the 10th avenue marine terminal), were assigned moderate priority rankings based on high concentrations of chlordane, metals, and PAHs at each of these stations. Campbell Industries operate five ship repair piers and four dry-docking facilities in this area. Sandblasting, painting, and other ship repair activities are probably the cause of the elevated levels of copper, zinc and mercury. High concentrations of metals have historically been detected at this site (Barry, 1972). The 10th avenue Marine

Terminal berths 1 and 2 are also located in this area (station 90039). Ships are loaded and unloaded at this site and supplied with fuel from four steel storage tanks located near the berths. Increased levels of PAHs and metals detected in this area may be related to the cargo transfer facility.

In addition to the ship repair facilities and cargo transfer areas, there is a large storm drain system which is directly south of the 10th and Imperial Trolley station. The system drains approximately eleven square kilometers of residential (including Balboa Park) and industrial areas before emptying into the Bay. The elevated levels of chlordane and PAHs at both of the sites could have additional sources from within this drainage system.

Immediately south of the Coronado Bridge was station 93179 (Naval Shipyards-03) which was designated as a high priority site for future investigations. To the north and south of this site are numerous stations assigned a moderate prioritization. The predominant activity in this area is ship building and repair (NASSCO, Continental Maritime, Southwest Marine), thus indicating the probable source of high levels of metals, PCBs and PAHs found at stations sampled in this area. A stormdrain, which drains an industrial area and empties into the Bay immediately adjacent to the bridge, is the likely chlordane source to the area. Runoff from the bridge itself could also be viewed as a potential source of PAHs and metals in the Bay. The California State Mussel Watch Program (1995) has sampled extensively in this area of San Diego Bay and found chemistry values for mussels and sediment to be comparable to the current study. This area has also been extensively sampled in other studies resulting in similar conclusions (de Lappe, 1989; Martin, 1985; Anderson, 1989). Toxicity, chemical pollution and benthic community degradation are extensive in this area and warrant further site characterizations.

Stations 93212, 93213, and 90006 (Naval Shipyards-07) were located near the 28th Street pier and were each given a moderate priority ranking. Chollas Creek empties into the Bay near this site, carrying with it runoff from a large urban area. This creek is believed to carry high concentrations of PAHs into the Bay (McCain et al., 1992) and is the likely source of high chlordane levels at the site.

Numerous low, moderate and high priority sites were located in the Naval Station between the 28th Street pier and 7th Street channel. This area demonstrated toxicity, high metal and chemistry concentrations and degraded benthic communities. The area is predominantly used for ship repair, outfitting, and conversion. Sand blasting, painting, and the changing of zinc electrolysis plates are some of the specific activities conducted in this area and are likely the main sources of metals found in the sediments.

Station 93227 was located in the 7th Street Channel at the southern end of the San Diego Naval Station. This site was given

the high priority ranking based on high metal, chlordane and PAH concentrations, as well as toxicity and degraded benthic communities. Repeated sampling of this site resulted in similar findings. Paleta Creek runs directly into 7th Street channel with numerous drains located in the immediate area emptying into the creek and bay. Also, a large stormdrain is present which drains a residential area east of Interstate 5 and the Naval station adjacent to the channel.

The Navy has used 7th Street channel and the surrounding area for a variety of activities. Excess materials (solid waste, ships stores, and waste hydraulic fluids) from decommissioned ships were disposed of in the ship repair basins. Overflow from salvage yards, lube and hydraulic oil wastes, and paint sludge from nearby Naval repair facilities were often taken to the area's wet docks for disposal. In the late 1970's trucks and heavy equipment returning from Vietnam were routinely decontaminated by spraying with diesel fuel and dunking (by crane) into Paleta Creek. It is estimated that approximately 75,000 to 360,000 gallons of petroleum based material were disposed of at this site during its period of operation (1945-1973).

The 7th Street channel is located near a Navy salvage yard which has stormdrains emptying directly into the channel. In 1976, soil samples retrieved from the area contained PCB concentrations high enough to result in the upper eight inches of soil being removed as contaminated waste and the entire area paved. Although the Navy has attempted to deal with this historic pollution in the area, further investigations were requested by a Naval initial assessment team in 1986 (Eakes and Smith, 1986). Furthermore, the California State Mussel Watch program has stations located in the area and concluded 7th Street channel had some of the highest chemical concentrations in San Diego Bay (State Mussel Watch Program, 1995).

The Marine terminal site (stations 90010, 93230 and 93229) demonstrated elevated copper and PAH levels and a degraded benthic community. Moderate and low priorities were assigned to these stations even though a portion of this area is currently undergoing cleanup activities. Due to the large amount ore spillage at the PACO copper loading facility, this area should continue to be monitored after cleanup activities are completed.

The southern portion of San Diego Bay, from 7th Street channel to the Otay River, did not receive any moderate or high priority rankings. Although this result could give the impression south San Diego Bay is in not polluted, it is important to note some stations still demonstrated high metals concentrations. The Sweetwater channel area (station 93220), and other sites in the South San Diego Bay had high concentrations of copper, most likely reflecting the input from the copper ore loading facility (Martin, 1985). Three stations in the Chula Vista area and one in Coronado Cays received low priority rankings due to elevated levels of metals and degraded benthic communities. Each of these stations were located within marinas where numerous private boats

are berthed. Increased levels of metals detected in this area are probably from anti-fouling paint scrapings or zinc electrolysis blocks used on virtually all boats. Few studies have concentrated sampling in the South San Diego Bay, presumably due to reduced shipping activity and population.

Stations from the Tijuana River Estuary demonstrated elevated concentrations of DDT and DDE, as well as toxicity to amphipods. This resulted in a number of stations receiving moderate and low prioritizations. The presumed sources of this pesticide were wastewater discharges from Mexico, into the Tijuana River (California State Coastal Conservancy, 1989).

### Comparison of Pollution with Other Water Bodies

Numerous studies comparing San Diego Bay with other bays and harbors have been conducted (NOAA, 1991; Grovenhough et al., 1987; Goldberg et al., 1978). In one such study, Robertson (1989) analyzed sediments for a number of organic pollutants at approximately 200 sites around the coasts of the United States. Results ranked San Diego Bay seventh highest in the country for total concentrations of PCBs. Interestingly, San Diego Bay did not rank high in comparison to the rest of the country for any other organic pollutant, although results from the current study clearly showed elevated concentrations (relative to ERMs and PELs) of total PAHs, chlordane, and certain trace metals throughout the Bay.

In a similar study, Johnston (1990) evaluated 367 waste disposal sites at 58 Navy and Marine Corps bases located throughout the country. Each of the bases, or areas of activity, were located in the coastal zone and were reviewed to characterize the pollutants, disposal methods, and potential impact to the surrounding aquatic environment. Four sites were chosen in San Diego Bay: Naval Station San Diego (located immediately south of the seventh street channel), Naval Amphibious Base (near Glorietta Bay), Naval Training Center, and Naval Complex Point Loma. Although these sites were not ranked or compared with sites in other parts of the country, the types of contamination listed were somewhat similar for each of the sites described. Paint, oil, and solvent contamination was reported at all of the sites in addition to some site specific forms of contamination (i.e. sandblasting grit disposal area at the Naval Amphibious Base and drum disposal area at the Naval Complex Point Loma).

San Diego Bay has also been compared to other bodies of water on a regional scale. In a SCCWRP project funded by the State Board, Anderson and Gossett (1987) analyzed PAHs in sediments collected at stations between Santa Monica Bay and San Diego Bay and found the Seventh Street (Paleta Creek) and Chollas Creek stations to contain the highest levels of these hydrocarbons. In a follow-up State Board/SCCWRP study Anderson et al. (1988) compared ten coastal sites in southern California for concentrations of trace metals, PAHs, chlorinated hydrocarbons and toxicity. Samples from San Diego Bay were shown to have the highest concentrations of



metals, PAHs, and hydrocarbons of all stations sampled, and were the most toxic in two out of three toxicity tests used. Anderson et al. (1988) identified the Seventh Street Channel station as the most polluted area in the San Diego Bay Region. This conclusion is corroborated by the current study which also found sampling stations in the Seventh Street Channel to be the most polluted and most toxic stations in the region.

Flegal and Sanudo-Wilhelmy (1993) showed total dissolved trace metal (Ag, Cd, Co, Cu, Ni, and Pb) concentrations in San Diego Bay are comparable to levels of trace element pollution in south San Francisco Bay. Specifically, copper was found in elevated concentrations in both bays. The current study found copper to be the predominant trace element pollutant in San Diego Bay. Flegal and Sanudo-Wilhelmy concluded that unlike south San Francisco Bay, elevated trace metal concentrations in San Diego Bay could not be directly linked to point-source inputs, because all wastewater discharges to San Diego Bay were terminated in 1964. Copper based anti-fouling paints and urban runoff are currently the most likely sources of copper. Elevated concentrations of copper in San Diego Bay have also been reported in other studies (Zirino et al., 1978).

It is also important to analyze available site specific data within San Diego Bay from previous studies. In the current study, commercial and naval shipyards located near the Coronado Bridge consistently demonstrated high concentrations of pollutants, a high incidence of toxicity, and benthic community degradation. Shipbuilding activity, in addition to storm drains and creeks, appear to be the primary sources of organic and trace metal pollutants in these areas (Conway and Gilb, 1990). Secondary sources of contamination may include runoff from the Coronado Bridge (San Diego Interagency Water Quality Panel, 1989) and polluted fill in the area (Peter Michael, San Diego Regional Water Quality Control Board, personal communication). This is supported by the conclusions of McCain (1992) who found several major sources of pollutants in the central portion of San Diego Bay.

Specific organic pollutants such as PCBs have been historically identified in certain parts of the bay. In one of the earliest studies of PCBs in San Diego Bay, Young and Heesen (1977) identified PCBs in mussel tissues. The highest measured concentrations occurred in Commercial Basin (Shelter Island). Subsequent studies have also shown elevated levels of PCBs in the Shelter Island area, as well as near Harbor Island and numerous other spots throughout the Bay (Stephenson et al., 1980; Martin, 1985). Similar results were obtained from sediment samples in the current study in which high concentrations of PCBs were reported from areas near the Coronado Bridge, west Commercial Basin and East Basin near Harbor Island. The Regional Water Quality Control Board has identified a 60 inch storm drain as the main source of PCBs into the East Basin site. Cleanup and Abatement Orders, regarding PCBs, have been issued to boatyards in and around Shelter Island and Harbor Island (San Diego Interagency Water Quality Panel, 1994).



Tributyltin (TBT), an organic based biocide, was widely used as an antifoulant on ships and small craft until 1988 (Richard and Lillebo, 1988). Although TBT is highly efficient at killing fouling organisms it is also acutely toxic to non-target organisms, making it a continuing concern in the San Diego Bay Region. Toxic effects have been observed in concentrations as low as 1 ng/L (Henderson, 1988). Long term monitoring of U.S. harbors indicates that among naval bases, San Diego has relatively low concentrations of TBT (Kram et al., 1989; Seligman et al., 1990). These studies focused on comparisons between U.S. Naval facilities (i.e. Pearl harbor, Norfolk harbor) where use of TBT anti-fouling paints is not restricted on vessels over 25 meters in length (Organotin Antifouling Paint Control Act, 1988). Because San Diego Bay is a multi-use port, where smaller non-naval vessels must conform to the 1988 legislation, TBT values are expectedly lower than harbors which solely contain large naval vessels. In the current study, TBT values were highest in naval and commercial basin areas, similar to the findings of Seligman et al. (1990). Although both studies found elevated levels of TBT in commercial and naval sites, data from the current study indicates an overall decline in TBT sediment concentrations at these locations. This is most likely a reflection of restrictive legislation on TBT use in antifouling paints. Given the historical use of antifouling paints in San Diego Bay, continued monitoring is recommended, although results from the current study were encouraging.

### Limitations

The two step sampling design of this study relied on an initial "screening phase" to give a broad assessment of toxicity in the San Diego Bay Region. Subsequent toxicity test, chemical analysis and benthic community analysis were performed only on selected stations ( $\approx 40\%$  of the screened stations) which demonstrated toxicity during the screening phase, or were considered candidates as reference stations. The remaining stations, from the screening phase, did not receive additional testing or analysis. Therefore, statistical analyses, comparisons to chemical specific screening values, identification of undegraded and degraded habitats, and prioritized rankings could not be performed on all stations sampled. Currently these stations fall under a no action recommendation, but it should be understood that for these stations a weight-of-evidence evaluation was not performed, due to the absence of chemical and/or benthic community data.

In determination of toxicity for the reference envelope approach, values must be chosen for alpha and the percentile (p) to calculate the edge of the reference envelope (L) using the following equation:

$$L = X_r - [ g_{\alpha,p,n} \cdot S_r ]$$

The values of alpha and p are chosen to express the degree of certainty desired when classifying a sample as toxic. In this study values of  $\alpha=.05$  and  $p=1$  were used to distinguish the most toxic samples which have a 95% certainty of being in the most toxic 1% (Figure 4). This calculation resulted in a determination of toxicity for the *Rhepoxynius* test when samples had a mean survival of less than 48%. If the value of p was chosen to equal 10% (i.e., a 95% certainty of being in the most toxic 10%) the determination of toxicity (edge of the reference envelope) would have been at 63% survival. Obviously, a choice of  $p=10\%$  would broaden the range of samples which would be classified as "toxic". It must be recognized the 48% level used in this study was chosen as a conservative guideline to identify only the most toxic stations for setting priorities for future work. The 48% survival cutoff used in this study should be recognized as a statistical determination which may or may not reflect the certainty desired by SWRCB and RWQCB staff for sediment quality management purposes.

There is a necessary caution to the ecological applicability of data collected from studies such as reported here. Although measures of toxicity and chemical concentration are used extensively in this study, they can only be used as indicators of possible adverse effects to indigenous communities. Benthic community assessment is the only tool used in this study which can demonstrate actual effects to resident biological communities. In combination, these three measures provide a strong weight of evidence for the conditions found at a particular sampling location. However, it is recommended these lines of evidence be supported with an ecological risk assessment during subsequent investigations of stations of concern.

#### CONCLUSIONS

The major conclusions of this study were:

1. Two sets of sediment quality guidelines were useful in demonstrating chemical pollution: The ERL/ERM thresholds developed by NOAA (Long and Morgan, 1990; Long et al., 1995) and the TEL/PEL thresholds used in Florida (MacDonald, 1993; MacDonald, 1994). Copper, mercury, zinc, total chlordanes, total PCBs, and PAHs were most often found to exceed critical ERM or PEL values. These were considered the major chemicals or chemical groups of concern in the San Diego Bay Region. ERM and PEL summary quotients were developed as chemical indices for evaluating pollution of sediments with multiple chemicals. An ERM summary quotient  $>0.85$  or a PEL summary quotient  $>1.29$  was indicative of sites where multiple chemicals were significantly elevated. Stations with any chemical concentration  $>4$  times its respective ERM or  $>5.9$  times its respective PEL were considered to exhibit elevated chemistry.
2. The identification of degraded and undegraded habitat was determined by macrobenthic community structure, using a cumulative, weight-of-evidence approach. Analyses of the 75

stations sampled for benthic community structure identified 23 undegraded stations, 43 degraded and 9 transitional stations. All sampled stations with an ERM quotient  $>0.85$  were found to have degraded communities. All sampled stations with P450 responses above  $60 \mu\text{g/g}$  BaPEq. were found to have degraded benthic communities.

3. Exceedances of toxicity thresholds were determined using two approaches: the reference envelope approach and laboratory control comparison approach. The reference envelope approach was the more conservative of the two, indicating toxicity for the *Rhepoxynius* (amphipod) sediment test was significant when survival was less than 48%, in samples tested. No reference envelope was determined for the *Strongylocentrotus* (urchin) fertilization or development tests. High variability in pore water data from reference stations produced a lower confidence boundary for the reference envelope below 0% survival. This indicates no significant distinction in toxicity could be made between reference stations and other stations for these pore water tests.

4. Using the EMAP definition of toxicity, 56% of the total area sampled in the San Diego Bay Region was toxic to *Rhepoxynius*. For *Strongylocentrotus* development test, percent of total area toxic was 29%, 54%, and 72% respectively for 25%, 50%, and undiluted pore water concentrations. Samples representing 36%, 27%, or 14% of the study area were toxic to both *Rhepoxynius* in solid phase sediment and to *Strongylocentrotus* larvae in 100%, 50%, or 25% pore water, respectively. Spatial extent of toxicity was not determined using the reference envelope definition of toxicity.

5. Linear regression analyses failed to reveal strong correlations between amphipod survival and chemical concentration. It is suspected instead of a linear response to chemical pollutants, most organisms are tolerant of pollutants until a threshold is exceeded. Comparisons to established sediment quality guideline thresholds demonstrate an increased incidence of toxicity for San Diego Bay Region samples with chemical concentrations exceeding the ERM or PEL values. It is further suspected toxicity in urban bays is caused by exposure to complex mixtures of chemicals. Comparisons to ERM summary quotients (multiple chemical indicators) demonstrate that the highest incidence of toxicity ( $>78\%$ ) is found in samples with elevated ERM summary quotients ( $>0.85$ ).

Statistical analyses of the P450 Reporter Gene System responses versus the PAHs in sediment extracts demonstrated that this biological response indicator was significantly correlated ( $r^2 = 0.86$ ) with sediment PAH (total and high molecular weight) concentrations.

6. Stations requiring further investigation were prioritized based on combined evidence from toxicity, chemical and benthic community data. Prioritizations were developed to help direct

future investigations by State and Regional Water Board staff at these stations. Each station receiving a high, moderate, or low priority ranking meets one or more of the criteria under evaluation for determining hot spot status in the Bay Protection and Toxic Cleanup Program. Those meeting all criteria were given the highest priority for further action.

Seven stations (representing four sites) were given a high priority ranking, 43 stations were given a moderate priority ranking, and 57 stations were given a low priority ranking. The seven stations receiving the high priority ranking were in the Seventh Street channel area, two naval shipyard areas near the Coronado Bridge, and the Downtown Anchorage area west of the airport. The majority of stations given moderate rankings were associated with commercial areas and naval shipyard areas in the vicinity of the Coronado Bridge. Low priority stations were interspersed throughout the San Diego Bay Region.

7. A review of historical data supports the conclusions of the current research. Possible sources for pollution at prioritized stations are given. Recommendations are made for complementary investigations which could provide additional evidence for further characterizing stations of concern.

#### RECOMMENDATIONS

Given the supporting evidence of previous studies, the patterns of chemical pollution and bioeffects observed during this assessment of the San Diego Bay Region are convincing. There are additional avenues of investigation though which would complement the results of this study. The results also should be confirmed with further studies before any adverse ecological impacts can be conclusively demonstrated.

Due to the large number of elevated chemicals at the majority of the prioritized sampling stations, toxic biological responses can only be associated with overall chemical pollution, rather than a particular chemical. However, stations on the priority list, where the number of ERM or PEL exceedances is low and the exceedance for a particular chemical is high, are excellent candidates for toxicity identification evaluations (TIE). The ability to distinguish between causative factors of toxicity is enhanced when multiple chemicals are not involved. Stations Naval Base O7(x1), 12 Swartz (Downtown Anchorage), and the San Diego River, where high chlordane concentrations are found, are well suited for TIE manipulations which would attempt to test this organic pesticide as the causative toxicity agent. The Naval Base/Shipyard O10(x6) station, which only demonstrates ERM or PEL exceedances for trace metals, is well suited for manipulations which could remove metal toxicity (e.g., EDTA additions).

Several chemicals of concern identified in the San Diego Bay region have been shown to bioconcentrate and biomagnify in the

tissues of marine species. A tissue contamination study for lipophilic compounds such as PCBs, chlordane, and possibly methylmercury is recommended to address human health concerns due to consumption of impacted resident species. This line of investigation seems necessary considering tissue contamination is the only BPTCP criterion not investigated during this study.

Although specific stations are identified as having a high probability of causing adverse effects, no attempt can be made to define the boundaries of the impacted area. Sampling specifically designed to quantify areal extent of an impacted area must be addressed during intensive site characterizations.

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**Appendix A**

**Data Base Description**

APPENDIX A

DATA BASE DESCRIPTION

for the

SWRCB/NOAA COOPERATIVE PROJECT  
SAN DIEGO BAY

A Report prepared for the

California State Water Resources Control Board  
Bays and Estuaries Unit  
Bay Protection and Toxic Cleanup Program

by the

California Department of Fish and Game  
Marine Pollution Studies Laboratories  
7711 Sandholdt Road  
Moss Landing, CA 95039

September, 1996

## 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 2 files. REG9CHEM.DBF file contains all the collection and chemical data. REG9TOX.DBF file contains all the collection and toxicity test data. A hardcopy printout of the dBase database structure is attached, showing precise characteristics of each field.

The REG9CHEM.DBF file is the chemistry 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 West Basin in San Diego Harbor where the STANUM is 90050.0. The 9 indicates Region 9. The 0050 indicates that it is Site 50 and the .0 is the replicate (if any) at the station within Site 50.
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 data bases.
4. DATE. This date field is 8 characters long 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. 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: XX,YY,ZZ, where XXX is in degrees, YY is in minutes, and ZZ is in seconds or hundreds.
8. 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.
9. GISLONG. This character 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.

10. HUND\_SECS. This character is 1 character wide and contains the designation "h" if the latitude and longitude are given in degrees, minutes and hundredths of a minute. The designation "s" is given when latitude and longitude are given in degrees, minutes and seconds.
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 an index directing the user to tables or files of ancillary data pertinent to associated test. 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. 6.3
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 character width 5 and 1 decimal places.
32. TMDATAQC. Data qualifier codes are notations used by data reviewers to briefly describe, or qualify data and the systems producing data, numeric character 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.

SYNTHETIC ORGANICS are presented in fields 33 through 147. 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 character 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:

33. SOWEIGHT. This numeric field is 6 characters wide with 2 decimal places and contains the weight of the sample extracted for analysis.
34. SOMOIST. This numeric field is 6 characters wide with 2 decimal places and contains the percent moisture of the sample extracted.
35. ALDRIN. 9.3
36. CCHLOR. cis-Chlordane. 9.3
37. TCHLOR. trans-Chlordane. 9.3
38. ACDEN. alpha-Chlordene. 9.3
39. GCDEN. gamma-Chlordene. 9.3
40. CLPYR. Chlorpyrifos. 8.2
41. DACTH. Dacthal. 9.3
42. OPDDD. o,p'-DDD. 8.2
43. PPDDD. p,p'-DDD. 9.3
44. OPDDE. o,p'-DDE. 8.2
45. PPDDE. p,p'-DDE. 8.2
46. PPDDMS. p,p'-DDMS. 8.2
47. PPDDMU. p,p'-DDMU. 8.2
48. OPDDT. o,p'-DDT. 8.2
49. PPDDT. p,p'-DDT. 8.2
50. DICLB. p,p'-Dichlorobenzophenone. 8.2
51. DIELDRIN. 9.3
52. ENDO\_I. Endosulfan I. 9.3



53. ENDO\_II. Endosulfan II. 8.2  
54. ESO4. Endosulfan sulfate. 8.2  
55. ENDRIN. 8.2  
56. ETHION. 8.2  
57. HCHA. alpha HCH 9.3  
58. HCHB. beta HCH 8.2  
59. HCHG. gamma HCH (Lindane) 9.3  
60. HCHD. delta HCH 9.3  
61. HEPTACHLOR. 9.3  
62. HE. Heptachlor Epoxide. 9.3  
63. HCB. Hexachlorobenzene. 9.3  
64. METHOXY. Methoxychlor. 8.2  
65. MIREX. 9.3  
66. CNONA. cis-Nonachlor. 9.3  
67. TNONA. trans-nonachlor. 9.3  
68. OXAD. Oxadiazon. 8.2  
69. OCDAN. Oxychlordane. 9.3  
70. TOXAPH. Toxaphene. 7.2  
71. PESBATCH. The batch number that the sample was extracted in,  
numeric character width 6 and 2 decimal places.  
72. TBT. tributyltin. 8.4  
73. TBTBATCH. The batch number that the sample was extracted in,  
numeric character width 5 and 1 decimal place.  
74. PCB5. 9.3  
75. PCB8. 9.3  
76. PCB15. 9.3  
77. PCB18. 9.3  
78. PCB27. 9.3  
79. PCB28. 9.3  
80. PCB29. 9.3  
81. PCB31. 9.3  
82. PCB44. 9.3  
83. PCB49. 9.3  
84. PCB52. 9.3  
85. PCB66. 9.3  
86. PCB70. 9.3  
87. PCB74. 9.3  
88. PCB87. 9.3  
89. PCB95. 9.3  
90. PCB97. 9.3  
91. PCB99. 9.3  
92. PCB101. 9.3  
93. PCB105. 9.3  
94. PCB110. 9.3  
95. PCB118. 9.3  
96. PCB128. 9.3  
97. PCB132. 9.3  
98. PCB137. 9.3  
99. PCB138. 9.3  
100. PCB149. 9.3  
101. PCB151. 9.3  
102. PCB153. 9.3  
103. PCB156. 9.3  
104. PCB157. 9.3  
105. PCB158. 9.3  
106. PCB170. 9.3  
107. PCB174. 9.3  
108. PCB177. 9.3

109. PCB180. 9.3  
110. PCB183. 9.3  
111. PCB187. 9.3  
112. PCB189. 9.3  
113. PCB194. 9.3  
114. PCB195. 9.3  
115. PCB201. 9.3  
116. PCB203. 9.3  
117. PCB206. 9.3  
118. PCB209. 9.3  
119. PCBATCH. The batch number that the sample was extracted in, numeric character width 6 and 2 decimal place.  
120. ARO5460. 9.3  
121. ACY. Acenaphthylene. 8.2  
122. ACE. Acenaphthene. 8.2  
123. ANT. Anthracene. 8.2  
124. BAA. Benz[a]anthracene. 8.2  
125. BAP. Benzo[a]pyrene. 8.2  
126. BBF. Benzo[b]fluoranthrene. 8.2  
127. BKF. Benzo[k]fluoranthrene. 8.2  
128. BGP. Benzo[ghi]perylene. 8.2  
129. BEP. Benzo[e]pyrene. 8.2  
130. BPH. Biphenyl. 8.2  
131. CHR. Chrysene. 8.2  
132. DBA. Dibenz[a,h]anthracene. 8.2  
133. DMN. 2,6-Dimethylnaphthalene. 8.2  
134. FLA. Fluoranthrene. 8.2  
135. FLU. Fluorene. 8.2  
136. IND. Indo[1,2,3-cd]pyrene. 8.2  
137. MNP1. 1-Methylnaphthalene. 8.2  
138. MNP2. 2-Methylnaphthalene. 8.2  
139. MPH1. 1-Methylphenanthrene. 8.2  
140. NPH. Naphthalene. 8.2  
141. PHN. Phenanthrene. 8.2  
142. PER. Perylene. 8.2  
143. PYR. Pyrene. 8.2  
144. TMN. 2,3,4-Trimethylnaphthalene. 8.2  
145. PAHBATCH. The batch number that the sample was extracted in, numeric character width 6 and 2 decimal places.  
146. SOBATCH. The batch number that the sample was extracted in, numeric character width 6 and 2 decimal places.  
147. SODATAQA. Data qualifier codes are notations used by data reviewers to briefly describe, or qualify data and the systems producing data, numeric character 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. Field 148, with a field name of "FINES", represents the sediment particulate size ("grain size") analyses data for each station. The grain size results are reported as percent fines.

- 148. FINES. Sediment grain size (percent fines) for each station. Numeric field, width 5 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.
- 149. FINEBATCH. The batch number that the sample was analyzed in, numeric field character width 4.
- 150. FINEDATAQC. Data qualifier codes are notations used by data reviewers to briefly describe, or qualify data and the systems producing data, numeric character 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 151 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.

- 151. 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.
- 152. TOCBATCH. The batch number that the sample was analyzed in, numeric field character width 4.
- 153. TOCDATAQC. Data qualifier codes are notations used by data reviewers to briefly describe, or qualify data and the systems producing data, numeric character

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.

The REG9TOX.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 West Basin in San Diego Harbor where the STANUM is 90050.0. The 9 indicates Region 9. The 0050 indicates that it is Site 50 and the .0 is the replicate (if any) at the station within Site 50.
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 with 1 decimal place 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 data bases.
4. DATE. This date field is 8 characters long 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 describes the type of control being used.
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: XX,YY,ZZ, where XXX is in degrees, YY is in minutes, and ZZ is in seconds or hundreds.
  11. 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.
  12. GISLONG. This character 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), presented in fields 13 through 24.

13. RA\_MN. Station mean percent survival. Numeric field, width 6 and 2 decimal places.
14. RA\_SD. Station standard deviation of percent survival. Numeric field, width 6 and 2 decimal places.
15. 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. Character field, width 5.
16. RASITE\_MN. Station mean percent survival for replicate of three, when appropriate. Numeric field, width 6 and 2 decimal places.
17. RASITE\_SD. Station standard deviation of percent survival for replicate of three, when appropriate. Numeric field, width 6 and 2 decimal places.
18. RASITE\_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.
19. RA\_OTNH3. Total ammonia concentration (mg/L in water) in overlying water (water above bedded sediment used for amphipod tests) 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\_OUNH3. Unionized ammonia concentration (mg/L in water) in overlying water (water above bedded sediment

used for amphipod tests) 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.

21. RA\_OH2S. Hydrogen sulfide concentration (mg/L in water) in overlying water (water above bedded sediment used for amphipod tests) 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.
22. RA\_ITNH3. Total ammonia concentration (mg/L in water) in interstitial water (water above bedded sediment used for amphipod tests) 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 10 and 3 decimal places.
23. RA\_IUNH3. Unionized ammonia concentration (mg/L in water) interstitial water (water within bedded sediment used for amphipod tests) 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 10 and 3 decimal places.
24. RA\_IH2S. Hydrogen sulfide concentration (mg/L in water) in interstitial water (water within bedded sediment used for amphipod tests) 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 10 and 4 decimal places.
25. RABATCH. The batch number that the sample were run in, numeric character width 10.
26. RADATAQC. Data qualifier codes are notations used by data reviewers to briefly describe, or qualify data and the systems producing data, numeric character 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 is 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 larval (Haliotis rufescens) shell development toxicity tests, presented in fields 27 through 30. Results are given for undiluted subsurface water (100%).

- 27. HRS100\_MN. Station mean percent normal development in 100% subsurface water. Numeric field, width 6 and 2 decimal places.
- 28. HRS100\_SD. Station standard deviation of percent normal development in 100% subsurface water. Numeric field, width 6 and 2 decimal places.
- 29. 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.
- 30. HRS100\_NH3. Unionized ammonia concentration (mg/L in water) in subsurface 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 6 and 3 decimal places.

The following are descriptions of the field headings for the sea urchin (Strongylocentrotus purpuratus) fertilization toxicity tests, presented in fields 31 through 41. Results are given for undiluted pore water (100% pore water), pore water that is diluted with Granite Canyon seawater to a 50% of original concentration (50% pore water), and pore water that is diluted with Granite Canyon seawater to a 25% of original concentration (25% pore water).

- 31. SPPF100\_MN. Station mean percent fertilization in 100% pore water. Numeric field, width 6 and 2 decimal places.
- 32. SPPF100\_SD. Station standard deviation of percent fertilization in 100% pore water. Numeric field, width 6 and 2 decimal places.
- 33. 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. Character field, width 5.
- 34. SPPF100NH3. Unionized ammonia concentration (mg/L in water) in pore water samples (100%). 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.
35. SPPF100H2S. Hydrogen sulfide concentration (mg/L in water) in pore water samples (100%). 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.
  36. SPPF50\_MN. Station mean percent fertilization in 50% pore water. Numeric field, width 6 and 2 decimal places.
  37. SPPF50\_SD. Station standard deviation of % fertilization in 50% pore water. Numeric field, width 6 and 2 decimal places.
  38. 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. Character field, width 5.
  39. SPPF25\_MN. Station mean percent fertilization in 25% pore water. Numeric field, width 6 and 2 decimal places.
  40. SPPF25\_SD. Station standard deviation of percent fertilization in 25% pore water. Numeric field, width 6 and 2 decimal places.
  41. 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. Character field, width 5.

The following are descriptions of the field headings for the sea urchin embryo (Strongylocentrotus purpuratus) development tests, presented in fields 42 through 54. Results are given for undiluted pore water (100% pore water), pore water that is diluted with Granite Canyon seawater to a 50% of original concentration (50% pore water), and porewater that is diluted with Granite Canyon seawater to a 25% of original concentration (25% pore water).

42. SPPD100\_MN. Station mean percent normal development in 100% pore water. Numeric field, width 6 and 2 decimal places.
43. SPPD100\_SD. Station standard deviation of percent normal development in 100% pore water. Numeric field, width 6 and 2 decimal places.
44. 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.



45. SPPD100NH3. Unionized ammonia concentration (mg/L in water) in pore water samples (100%). 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.
46. SPPD100H2S. Hydrogen sulfide concentration (mg/L in water) in pore water samples (100%). 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.
47. SPPD50\_MN. Station mean percent normal development in 50% pore water. Numeric field, width 6 and 2 decimal places.
48. SPPD50\_SD. Station standard deviation of percent normal development in 50% pore water. Numeric field, width 6 and 2 decimal places.
49. 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. Character field, width 5.
50. SPPD25\_MN. Station mean percent normal development in 25% pore water. Numeric field, width 6 and 2 decimal places.
51. SPPD25\_SD. Station standard deviation of percent normal development in 25% pore water. Numeric field, width 6 and 2 decimal places.
52. 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. Character field, width 5.
53. SPPDBATCH. The batch number that the samples were analyzed in, numeric character width 10.
54. SPPDQC. Data qualifier codes are notations used by data reviewers to briefly describe, or qualify data and the systems producing data, numeric character 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 sample has major exceedances of control criteria requirements and the data is 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 embryo (Strongylocentrotus purpuratus) cytogenetic tests, presented in fields 55 through 59. Results are given for undiluted pore water (100% pore water).

55. SPPC100\_MN. Station mean percent normal mitosis in 100% pore water. Numeric field, width 6 and 2 decimal places.
56. SPPC100\_SD. Station standard deviation of percent normal mitosis in 100% pore water. Numeric field, width 6 and 2 decimal places.
57. SPPC100\_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 6.
58. SPPC100NH3. Unionized ammonia concentration (mg/L in water) in pore water samples (100%). 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 6 and 3 decimal places.
59. SPPC100H2S. Hydrogen sulfide concentration (mg/L in water) in pore water samples (100%). 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.

MUSSEL LARVAL SHELL DEVELOPMENT TOXICITY TEST DATA. The following are descriptions of the field headings for the larval (Mytilus edulis) shell development toxicity tests, presented in fields 60 through 63. Results are given for undiluted subsurface water (100%).

60. MES100\_MN. Station mean percent normal development in 100% subsurface water. Numeric field, width 6 and 2 decimal places.
61. MES100\_SD. Station standard deviation of percent normal development in 100% subsurface water. Numeric field, width 6 and 2 decimal places.
62. MES100\_SG. Station statistical significance, representing the significance of the statistical test between the home sediment and the sample. A single \* represents significance at the .05 level, and double \*\* represents significance at the .01 level. ns = not statistically significant. Character field, width 5.
63. MES100\_NH3. Unionized ammonia concentration (mg/L in water) in subsurface water. 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 6 and 3 decimal places.

The following are descriptions of the field headings for the larval (Mytilus edulis) shell development toxicity tests, presented in fields 64 through 68. Results are given for undiluted pore water (100% pore water).

64. MEP100\_MN. Station mean percent normal development in 100% pore water. Numeric field, width 6 and 2 decimal places.
65. MEP100\_SD. Station standard deviation of percent normal development in 100% pore water. Numeric field, width 6 and 2 decimal places.
66. 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.
67. MEP100\_NH3. Unionized ammonia concentration (mg/L in water) in pore water samples (100%). 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 6 and 3 decimal places.
68. MEP100\_H2S. Hydrogen sulfide concentration (mg/L in water) in pore water samples (100%). 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.

POLYCHAETE SURVIVAL TOXICITY TEST DATA. The following are descriptions of the field headings for the polychaete worm (Neanthes arenaceodentata) survival toxicity tests, presented in fields 69 through 71.

69. NASURV\_MN. Station mean percent survival. Numeric field, width 6 and 2 decimal places.
70. NASURV\_SD. Station standard deviation of % survival. Numeric field, width 6 and 2 decimal places.
71. 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.

POLYCHAETE WEIGHT TOXICITY TEST DATA. The following are descriptions of the field headings for the polychaete worm (Neanthes arenaceodentata) weight toxicity tests, presented in fields 72 through 80.

72. NAWT\_MN. Station mean weight (gm). Numeric field, width 6 and 2 decimal places.

73. NAWT\_SD. Station standard deviation of weight (gm).  
Numeric field, width 6 and 2 decimal places.
74. 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.
75. NA\_OTNH3. Total ammonia concentration (mg/L in  
water) in overlying water (water above bedded  
sediment used for polychaete tests) 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.
76. NA\_OUNH3. Unionized ammonia concentration (mg/L in  
water) in overlying water (water above bedded sediment  
used for polychaete tests) 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.
77. NA\_OH2S. Hydrogen sulfide concentration (mg/L in  
water) in overlying water (water above bedded sediment  
used for polychaete tests) 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 9 and 4 decimal places.
78. NA\_ITNH3. Total ammonia concentration (mg/L in  
water) in interstitial water (water above bedded  
sediment used for polychaete tests) 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 9 and 3 decimal places.
79. NA\_IUNH3. Unionized ammonia concentration (mg/L in  
water) in interstitial water (water within bedded  
sediment used for polychaete tests) 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 9 and 3 decimal places.
80. NA\_IH2S. Hydrogen sulfide concentration (mg/L in  
water) in interstitial water (water within bedded  
sediment used for amphipod tests) 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 9 and 4 decimal places.

**Appendix B**

Analytical Chemistry Data

Section I

Sampling Data

BPTC Sampling Dates, Locations, Depth, Salinity, and Sediment Texture

STANUM	STATION	IDORG	DATE	LEG	LATITUDE	LONGITUDE	GISLAT	GISLONG	HUND	SECS	AREA*	DEPTH	SALINITY	SED. TEXTUR
90006.0	23 SWARTZ	155	10/13/92	5	32,41,12N	117,08,01W	32.68666700	117.13361100	s	N	9.5	36		FIRM
90019.0	E DE LAPPE	168	10/13/92	5	32,41,40N	117,08,57W	32.69444400	117.14916700	s	C	14.0	35		GRITTY MUD
90021.0	K SWARTZ	170	10/13/92	5	32,41,33N	117,08,40W	32.69250000	117.14444400	s	C	8.0	35		GOOEY, W/LARGE CLUMPS
90031.0	BG SCHROEDER SITE G	180	10/13/92	5	32,41,24N	117,08,31W	32.69000000	117.14194400	s	C	5.0	35		GOOEY MUD
90038.0	CC	187	10/13/92	5	32,42,11N	117,09,36W	32.70305600	117.16000000	s	C	8.0	35		SOUPY
90071.0	BAIT BARGE	220	10/13/92	5	32,41,44N	117,14,08W	32.69555600	117.23555600	s	N	14.0	35		SANDY MUD,CLAY UNDERLYING
90101.0	SCRIPPS PIER	250	10/13/92	5	32,42,25N	117,14,08W	32.70694400	117.23555600	s	C	4.5	35		GRITTY, A LITTLE SANDY
90036.0	STORM DRAIN(ROHR CHANNEL)	185	10/14/92	5	32,37,57N	117,06,25W	32.63250000	117.10694400	s	C	1.5	35		GRITTY MUD
90053.0	35 SWARTZ	202	10/14/92	5	32,37,42N	117,07,50W	32.62833300	117.13055600	s	B	5.0	35		BROWN RUNNY MUD
90054.0	36 SWARTZ	203	10/14/92	5	32,38,15N	117,08,14W	32.63750000	117.13722200	s	O	4.0	35		SILTY
90001.0	11 SWARTZ	150	10/27/92	6	32,43,37N	117,11,39W	32.72694400	117.19416700	s	B	4.0	35		FINE MUD
90002.0	12 SWARTZ	151	10/27/92	6	32,43,37N	117,10,34W	32.72694400	117.17611100	s	C	3.5	36		FINE MUD
90016.0	42 SWARTZ	165	10/27/92	6	32,42,50N	117,11,04W	32.71388900	117.18444400	s	O	13.5	34		GRITTY
90049.0	8B	198	10/27/92	6	32,43,17N	117,12,59W	32.72138900	117.21638900	s	O	9.5	33		GRITTY,ABYSSAL THREADS
90056.0	8A SWARTZ	205	10/27/92	6	32,43,09N	117,13,03W	32.71916700	117.21750000	s	O	7.5	33		SANDY
90063.0	THOMPSON SITE 205	212	10/27/92	6	32,41,17N	117,17,11W	32.68805600	117.28638900	s	O	88.0	35		STICKY, SANDY
90003.0	14 SWARTZ	152	10/28/92	6	32,42,53N	117,10,35W	32.71472200	117.17638900	s	C	14.0	35		MUD W/FLUFFY LAYER ON TOP
90004.0	15 SWARTZ	153	10/28/92	6	32,42,36N	117,10,20W	32.71000000	117.17222200	s	C	6.0	34		FINE
90010.0	31 SWARTZ	159	10/28/92	6	32,39,30N	117,07,09W	32.65833300	117.11916700	s	C	6.0	35		FINE
90011.0	33 SWARTZ	160	10/28/92	6	32,38,10N	117,06,56W	32.63611100	117.11555600	s	O	5.0	34		FINE
90013.0	37 SWARTZ	162	10/28/92	6	32,39,11N	117,08,50W	32.65305600	117.14722200	s	B	3.5	34		BROWN,FLUFFY,FINE
90017.0	C DELAPPE	166	10/28/92	6	32,42,08N	117,09,35W	32.70222200	117.15972200	s	C	5.5	35		FINE MUD W/GRIT
90048.0	6 SWARTZ	197	10/28/92	6	32,42,58N	117,13,42W	32.71611100	117.22833300	s	B	5.5	33		SLIMY
90051.0	16 SWARTZ	200	10/28/92	6	32,42,22N	117,09,57W	32.70611100	117.16583300	s	B	6.0	35		FINE
90052.0	32 SWARTZ	201	10/28/92	6	32,38,51N	117,07,00W	32.64750000	117.11666700	s	C	14.0	35		FINE
90007.0	25 SWARTZ	156	11/10/92	7	32,40,49N	117,07,44W	32.68027800	117.12888900	s	N	10.0	34		FINE MUD WITH SAND
90008.0	27 SWARTZ	157	11/10/92	7	32,40,27N	117,07,32W	32.67416700	117.12555600	s	N	12.0	35		SILTY FINE SEDIMENT
90009.0	28 SWARTZ	158	11/10/92	7	32,40,21N	117,07,01W	32.67250000	117.11694400	s	N	6.5	34		SANDY MUD, CLAY
90022.0	P SWARTZ	171	11/10/92	7	32,40,42N	117,07,26W	32.67833300	117.12388900	s	N	10.0	34		FINE MUD
90026.0	SDNI-N18	175	11/10/92	7	32,41,47N	117,13,36W	32.69638900	117.22666700	s	N	12.0	34		SANDY MUD
90027.0	NSB-S1	176	11/10/92	7	32,41,14N	117,14,08W	32.68722200	117.23555600	s	N	16.0	34		SOFT FINE MUD,MILD SHEEN
90028.0	NSB-M1	177	11/10/92	7	32,41,17N	117,14,12W	32.68805600	117.23666700	s	N	12.0	34		FINE
90029.0	NSB-R1	178	11/10/92	7	32,41,27N	117,14,17W	32.69083300	117.23805600	s	N	16.0	33		FINE,FLAKEY
90023.0	NM SANDBAG	172	11/11/92	7	32,42,49N	117,12,34W	32.71361100	117.20944400	s	O	6.0	35		CLUMPY, CLAY-LIKE
90024.0	SDNI-N1	173	11/11/92	7	32,42,25N	117,11,23W	32.70694400	117.18972200	s	N	12.0	33		FINE MUD
90025.0	SDNI-N5	174	11/11/92	7	32,42,30N	117,11,20W	32.70833300	117.18888900	s	N	10.0	35		FINE
90050.0	10 SWARTZ	199	11/11/92	7	32,43,39N	117,11,58W	32.72750000	117.19944400	s	B	4.0	34		FINE MUD
90055.0	43 SWARTZ	204	11/11/92	7	32,42,31N	117,11,13W	32.70861100	117.18694400	s	N	16.0	34		FINE
90102.0	HARBOR BRIDGE 71A	256	11/11/92	7	32,43,41N	117,12,48W	32.72805600	117.21333300	s	O	2.5	34		LITTLE SANDY
90103.0	SCRIPPS TRIANGLE	257	11/11/92	7	32,42,24N	117,14,03W	32.70666700	117.23416700	s	O	3.5	34		SANDY
90005.0	21 SWARTZ	154	1/26/93	12	32,41,15N	117,08,16W	32.68750000	117.13777800	s	N	10.0	30		SOFT MUD
90014.0	38 SWARTZ	163	1/26/93	12	32,40,25N	117,08,01W	32.67361100	117.13361100	s	O	10.0	33		SANDY MUD
90018.0	D DE LAPPE	167	1/26/93	12	32,41,47N	117,09,04W	32.69638900	117.15111100	s	C	8.0	30		LITTLE SANDY
90020.0	G DE LAPPE	169	1/26/93	12	32,41,34N	117,08,48W	32.69277800	117.14666700	s	C	8.0	28		SOFT

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BPTC Sampling Dates, Locations, Depth, Salinity, and Sediment Texture

STANUM	STATION	IDORG	DATE	LEG	LATITUDE	LONGITUDE	GISLAT	GISLONG	HUND_SECS	AREA*	DEPTH	SALINITY	SED_TEXTURE
90030.0	BF SCHROEDER SITE F	179	1/26/93	12	32,41,23N	117,08,31W	32.68972200	117.14194400	s	N	9.5	30	SOFT MUD
90032.0	BM SCHROEDER SITE M	181	1/26/93	12	32,41,16N	117,08,13W	32.68777800	117.13694400	s	N	10.0	32	SOFT MUD
90037.0	STORM DRAIN EM (GRAPE STREET)	186	1/26/93	12	32,43,21N	117,10,22W	32.72250000	117.17277800	s	C	8.0	30	SOFT MUD
90039.0	CL	188	1/26/93	12	32,42,07N	117,09,27W	32.70194400	117.15750000	s	C	8.0	30	SOFT MUD, LEAF LITTER
90043.0	CORONADO WHARF	192	1/26/93	12	32,41,56N	117,10,00W	32.69888900	117.16666700	s	C	9.5	30	A LITTLE SANDY, CLUMPY
90104.0	WEST BASIN ENTRANCE (71C) REF	275	1/26/93	12	32,43,24N	117,12,52W	32.72333300	117.21444400	s	O	6.0	31	SOFT ON TOP, SANDY BELOW
90012.0	34 SWARTZ	161	1/27/93	12	32,37,18N	117,06,04W	32.62166700	117.10111100	s	B	2.5	25	SOFT MUD
90015.0	41 SWARTZ	164	1/27/93	12	32,40,50N	117,10,23W	32.68055600	117.17305600	s	B	6.0	28	SOFT MUD
90040.0	SWEETWATER MARSH SD BAY	189	1/27/93	12	32,38,32N	117,06,56W	32.64222200	117.11555600	s	O	1.0	28	SANDY
90041.0	SOUTH SD BAY WETLANDS(OTAY F	190	1/27/93	12	32,36,41N	117,06,49W	32.61138900	117.11361100	s	O	1.5	24	SANDY, GRITTY
90057.0	5 SDG&E	206	1/27/93	12	32,37,35N	117,06,27W	32.62638900	117.10750000	s	O	3.5	25	SOFT MUD WITH CHUNKS
90058.0	7 SDG&E	207	1/27/93	12	32,37,01N	117,06,43W	32.61694400	117.11194400	s	O	1.5	24	SANDY, GRITTY
93105.0	MISSION BAY A1 (x1)	700	3/23/93	15	32,46,54N	117,12,97W	32.77566700	117.21616700	h	M	2	33	CREAMY W/ SOME GRIT
93106.0	MISSION BAY A2 (x1)	701	3/23/93	15	32,47,00N	117,12,88W	32.78333300	117.21466700	h	M	1.5	33	FINE W/ PLANT MATTER
93107.0	MISSION BAY A3 (x1)	702	3/23/93	15	32,47,59N	117,13,27W	32.79316700	117.22116700	h	M	1.5	33	FINE CREAMY MUD
93108.0	MISSION BAY A4 (x1)	703	3/23/93	15	32,47,28N	117,13,62W	32.78800000	117.22700000	h	M	3	33	CREAMY MUD
93109.0	MISSION BAY A5 (x1)	704	3/23/93	15	32,46,74N	117,13,87W	32.77900000	117.23116700	h	M	3	33	SLIGHTLY GRITTY MUD
93110.0	MISSION BAY A6 (x1)	705	3/23/93	15	32,46,89N	117,14,64W	32.78150000	117.24400000	h	M	3	32	SANDY
93112.0	MISSION BAY A8 (x1)	707	3/23/93	15	32,46,09N	117,14,85W	32.76816700	117.24750000	h	M	6	32	GRITTY MUD
93113.0	MISSION BAY A9 (x1)	708	3/23/93	15	32,46,10N	117,13,59W	32.76833300	117.22650000	h	M	2.5	33	SANDY
93114.0	MISSION BAY A10 (x1)	709	3/23/93	15	32,45,76N	117,14,41W	32.76266700	117.24016700	h	M	7	32	SLIGHTLY SANDY
93115.0	MISSION BAY A11 (x1)	710	3/23/93	15	32,45,65N	117,14,33W	32.76083300	117.23883300	h	M	7	31	SLIGHTLY SANDY
93116.0	SAN DIEGO RIVER B1 (x4)	711	3/23/93	15	32,45,42N	117,14,08W	32.75700000	117.23466700	h	R	0.25	5	FINE CREAMY MUD
93117.0	SAN DIEGO RIVER B2 (x2)	712	3/23/93	15	32,45,46N	117,13,58W	32.75766700	117.22633300	h	R	0.25	6	FINE CREAMY MUD
93111.0	MISSION BAY A7 (x3)	706	3/24/93	15	32,45,99N	117,13,11W	32.76650000	117.21850000	h	M	2.5	32	SLIGHTLY SANDY
90002.0	12 SWARTZ	719	3/24/93	15	32,43,37N	117,10,34W	32.72694400	117.17611100	s	C	4	32	GRITTY
90037.0	STORM DRAIN EM (GRAPE STREET)	720	3/24/93	15	32,43,21N	117,10,22W	32.72250000	117.17277800	s	C	6.5	32	SOFT CREAMY MUD
90015.0	41 SWARTZ	721	3/24/93	15	32,40,50N	117,10,23W	32.68055600	117.17305600	s	B	6	32	SLIGHTLY GRAINY
90012.0	34 SWARTZ	722	3/24/93	15	32,37,18N	117,06,04W	32.62166700	117.10111100	s	B	3	30	SOFT CREAMY MUD
90057.0	5 SDG&E	723	3/24/93	15	32,37,35N	117,06,27W	32.62638900	117.10750000	s	O	3.5	31	CREAMY MUD
90052.0	32 SWARTZ	724	3/24/93	15	32,38,51N	117,07,00W	32.64750000	117.11666700	s	C	10.5	31	SOFT LIGHT BROWN MUD
93118.0	TJUANA R. ESTUARY HH1 (x2)	713	3/25/93	15	32,34,04N	117,07,89W	32.56733300	117.13150000	h	R	0.25	21	SANDY, CLAYEY
93119.0	TJUANA R. ESTUARY HH1 (x1)	714	3/25/93	15	32,33,90N	117,07,87W	32.56500000	117.13116700	h	R	0.25		SANDY, CLAYEY
93120.0	TJUANA R. ESTUARY HH2 (x1)	715	3/25/93	15	32,33,52N	117,07,40W	32.55866700	117.12333300	h	R	0.25	21	GRITTY MUD, SLIGHT SAND
93121.0	TJUANA R. ESTUARY HH2 (x5)	716	3/25/93	15	32,33,52N	117,07,57W	32.55866700	117.12616700	h	R	0.25	21	SANDY MUD
93126.0	SILVER STRAND FF7 (x2)	729	4/6/93	16	32,39,73N	117,08,24W	32.66216700	117.13733300	h	O	3	33	SANDY
93127.0	SOUTH BAY GG2 (x1)	730	4/6/93	16	32,38,88N	117,07,76W	32.64800000	117.12933300	h	O	3	32	SANDY
93129.0	SOUTH BAY GG4 (x1)	732	4/6/93	16	32,37,95N	117,07,36W	32.63250000	117.12266700	h	O	3	31	SANDY
90014.0	38 SCHWARTZ	733	4/6/93	16	32,40,25N	117,08,01W	32.67361100	117.13361100	s	O	4	34	SANDY
93131.0	CORONADO CAYS T1 (x1)	734	4/6/93	16	32,37,82N	117,08,17W	32.63033300	117.13616700	h	B	4	32	FINE W/ LITTLE SAND
93132.0	CORONADO CAYS T3 (x1)	735	4/6/93	16	32,37,28N	117,07,79W	32.62133300	117.12983300	h	B	3	30	FINE MUD
93133.0	CHANNEL-NAVAL BASE Z1 (x1)	736	4/6/93	16	32,40,38N	117,07,72W	32.67300000	117.12866700	h	O	12	33	SANDY
93134.0	SOUTH SHORE-MOUTH BB2 (x1)	737	4/6/93	16	32,42,52N	117,13,34W	32.70866700	117.22233300	h	O	11	32	SANDY
93135.0	SOUTH SHORE-MOUTH BB3 (x1)	738	4/6/93	16	32,42,94N	117,12,43W	32.71566700	117.20716700	h	O	11	32	FINE MUD WITH SAND

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BPTC Sampling Dates, Locations, Depth, Salinity, and Sediment Texture

STANUM	STATION	IDORG	DATE	LEG	LATITUDE	LONGITUDE	GISLAT	GISLONG	HUND	SECS	AREA*	DEPTH	SALINITY	SED TEXTUR
93136.0	NORTH SHORE-MOUTH CC2 (x1)	739	4/6/93	16	32,42,52N	117,13,73W	32.70866700	117.22883300	h	O		12	33	SANDY
93138.0	SHELTER ISLAND E3 (x2)	741	4/6/93	16	32,42,75N	117,13,94W	32.71250000	117.23233300	h	B		4	32	SLIGHTLY SANDY
93128.0	SOUTHBAY GG5 (x1)	750	4/6/93	16	32,38,00N	117,06,77W	32.63333300	117.11283300	h	O		6	31	FINE MUD
93122.0	SOUTH SHORE-CORONADO DD3 (x	725	4/7/93	16	32,41,49N	117,09,61W	32.69150000	117.16016700	h	O		10	32	CLUMPY MUD W/SAND
93123.0	SILVER STRAND FF1 (x1)	726	4/7/93	16	32,41,16N	117,09,65W	32.68600000	117.16083300	h	O		4	32	SANDY
93124.0	SILVER STRAND FF2 (x1)	727	4/7/93	16	32,40,81N	117,09,80W	32.68016700	117.16333300	h	O		6	32	SOFT MUD, FINE
93125.0	SILVER STRAND FF4 (x4)	728	4/7/93	16	32,40,96N	117,09,07W	32.68266700	117.15116700	h	O		2	31	SANDY
90006.0	23 SCHWARTZ	731	4/7/93	16	32,41,12N	117,08,01W	32.68666700	117.13361100	s	N		9	31	SANDY
93137.0	NORTH SHORE-MOUTH CC3 (x1)	740	4/7/93	16	32,43,35N	117,12,64W	32.72250000	117.21066700	h	O		9	32	FINE MUD, SLIGHTLY SANDY
93139.0	COMMERCIAL BASIN F1 (x1)	742	4/7/93	16	32,43,40N	117,13,60W	32.72333300	117.22666700	h	B		3	33	FINE MUD DEEP OXIC
93140.0	COMMERCIAL BASIN F2 (x1)	743	4/7/93	16	32,43,39N	117,13,42W	32.72316700	117.22366700	h	B		6	33	FINE MUD
93141.0	COMMERCIAL BASIN F3 (x1)	744	4/7/93	16	32,43,13N	117,13,39W	32.71883300	117.22316700	h	B		3	32	FINE MUD
90018.0	D DE LAPPE	748	4/7/93	16	32,41,47N	117,09,04W	32.69638900	117.15111100	s	C		7	32	MUD W/SLIGHT SAND
90030.0	BF SCHROEDER SITE F	749	4/7/93	16	32,41,23N	117,08,31W	32.68972200	117.14194400	s	N		7	30	FINE
93148.0	CHANNEL-CORONADO Y1 (x2)	751	4/7/93	16	32,42,46N	117,11,03W	32.70766700	117.18383300	h	O		14	32	MUD MIXED WITH MUCH SAND
93142.0	SOUTH SHORE-CORONADO DD1(X	752	4/7/93	16	32,42,39N	117,10,69W	32.70650000	117.17816700	h	O		10	32	FIRM MUD
93144.0	CAMPBELL SHIPYARDS N1 (x1)	754	4/20/93	17	32,42,25N	117,09,74W	32.70416700	117.16233300	h	C		6	32	FINE MUD, SLIGHTLY SANDY
93145.0	CAMPBELL SHIPYARDS N2 (x1)	755	4/20/93	17	32,42,08N	117,09,69W	32.70133300	117.16150000	h	C		11	32	CLUMPY, SANDY
93146.0	GLORIETTA BAY U2 (x1)	756	4/20/93	17	32,40,76N	117,10,36W	32.67933300	117.17266700	h	B		5	32	FINE MUD
93147.0	GLORIETTA BAY U3 (x1)	757	4/20/93	17	32,40,71N	117,10,27W	32.67850000	117.17116700	h	B		5	34	SMOOTH CLUMPY MUD
93149.0	CHANNEL-MOUTH X1 (x1)	758	4/20/93	17	32,42,52N	117,13,47W	32.70866700	117.22450000	h	O		13	32	VERY SANDY MUD
93150.0	CHANNEL-NAVAL BASE Z1 (x2)	759	4/20/93	17	32,39,60N	117,07,54W	32.66000000	117.12566700	h	N		11	32	FINE, SLIGHTLY GRITTY
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	760	4/20/93	17	32,38,88N	117,07,30W	32.64800000	117.12166700	h	C		12	31	CREAMY FINE MUD
93152.0	SOUTH SHORE-MOUTH BB1 (x1)	761	4/20/93	17	32,41,74N	117,13,80W	32.69566700	117.23000000	h	O		13	32	SANDY MUD
93154.0	NORTH SHORE-MOUTH CC4 (x1)	763	4/20/93	17	32,43,17N	117,11,27W	32.71950000	117.18783300	h	O		11	32	SANDY MUD
93155.0	SOUTH SHORE-CORONADO DD2 (x	764	4/20/93	17	32,42,03N	117,10,12W	32.70050000	117.16866700	h	O		8	32	GRITTY MUD
93156.0	NORTH SHORE-CORONADO EE1 (x	765	4/20/93	17	32,42,91N	117,10,84W	32.71516700	117.18066700	h	O		10	32	SANDY MUD
93157.0	NORTH SHORE-CORONADO EE2 (x	766	4/20/93	17	32,42,45N	117,10,38W	32.70750000	117.17300000	h	O		10	32	GRITTY MUD
93158.0	SOUTH BAY GG1 (x1)	767	4/20/93	17	32,38,50N	117,08,22W	32.64166700	117.13700000	h	O		3	32	CREAMY MUD
93159.0	SOUTH BAY GG3 (x1)	768	4/20/93	17	32,38,15N	117,07,99W	32.63583300	117.13316700	h	O		4	32	CLUMPY
93160.0	CHANNEL-SOUTH BAY AA2(x1)BLINI	773	4/20/93	17	32,38,88N	117,07,30W	32.64800000	117.12166700	h	O		12	31	CREAMY, FINE MUD
93143.0	FUEL PIERS D1 (x1)	753	4/21/93	17	32,42,36N	117,14,18W	32.70600000	117.23633300	h	C		5	34	CREAMY, SOME SAND
93153.0	NORTH SHORE-MOUTH CC1 (x1)	762	4/21/93	17	32,41,85N	117,14,10W	32.69750000	117.23500000	h	O		16	32	CREAMY, SOME SAND
93161.0	SUB BASE C1 (x1)	774	5/4/93	18	32,41,41N	117,14,22W	32.69016700	117.23700000	h	N		11	32	VERY SANDY
93162.0	SUB BASE C3 (x1)	775	5/4/93	18	32,41,31N	117,14,13W	32.68850000	117.23550000	h	N		15	32	DARK FINE GRAIN
93163.0	FUEL PIERS D2 (x2)	776	5/4/93	18	32,42,18N	117,14,18W	32.70300000	117.23633300	h	C		2	32	SANDY
93164.0	SHELTER ISLAND E1 (x1)	777	5/4/93	18	32,43,04N	117,13,63W	32.71733300	117.22716700	h	B		4	32	CREAMY
93165.0	NAVY ESTUARY G1 (x1)	778	5/4/93	18	32,44,41N	117,12,51W	32.74016700	117.20850000	h	N		7	32	CREAMY
93166.0	NAVY ESTUARY G2 (x1)	779	5/4/93	18	32,44,13N	117,12,60W	32.73550000	117.21000000	h	N		3	32	SANDY, GRITTY
93167.0	NAVY ESTUARY G3 (x1)	780	5/4/93	18	32,44,06N	117,12,67W	32.73433300	117.21116700	h	N		4.5	32	CREAMY, THICK O2 LAYER
93169.0	EAST BASIN I2 (x1)	782	5/4/93	18	32,43,65N	117,11,15W	32.72750000	117.18583300	h	B		3	31	GRITTY
93171.0	MARINE TERMINAL R1 (x1)	784	5/4/93	18	32,40,11N	117,07,31W	32.66850000	117.12183300	h	N		13.5	31	CREAMY, SILTY
93172.0	SILVER STRAND FF3 (x1)	785	5/4/93	18	32,40,78N	117,09,68W	32.67966700	117.16133300	h	B		4	1	GRITTY MUD
93173.0	SILVER STRAND FF6 (x1)	786	5/4/93	18	32,40,19N	117,09,44W	32.66983300	117.15733300	h	O		3	32	CREAMY

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BPTC Sampling Dates, Locations, Depth, Salinity, and Sediment Texture

STANUM	STATION	IDORG	DATE	LEG	LATITUDE	LONGITUDE	GISLAT	GISLONG	HUND_SECS	AREA*	DEPTH	SALINITY	SED TEXTUR
93168.0	WEST BASIN H2 (x1)	781	5/5/93	18	32,43,67N	117,12,59W	32.72783300	117.20983300	h	B	3	32	FINE MUD, SOME GRIT
93170.0	CHOLLAS CREEK P1 (x2)	783	5/5/93	18	32,41,23N	117,08,00W	32.68716700	117.13333300	h	C	6.5	34	GRITTY MUD
93174.0	TIJUANA R. ESTUARY HH3 (x2)	787	5/5/93	18	32,33,24N	117,07,61W	32.55400000	117.12683300	h	R	.3	34	CLAYISH
93175.0	TIJUANA R. ESTUARY HH3 (x3)	788	5/5/93	18	32,33,28N	117,07,60W	32.55466700	117.12666700	h	R	.3	34	CLAYISH
93176.0	MARINE TERMINAL R6 (x1) BLIND	794	5/6/93	18	32,43,04N	117,13,63W	32.71733300	117.22716700	h	B	4	32	CREAMY
93177.0	NAVAL SHIPYARDS O1 (x1)	795	5/26/93	19	32,41,75N	117,09,09W	32.69583300	117.15150000	h	N	5	32	GRITTY, SHELL DEBRIS
93178.0	NAVAL SHIPYARDS O2 (x1)	796	5/26/93	19	32,41,65N	117,08,98W	32.69416700	117.14966700	h	N	2	34	CLUMPY
93179.0	NAVAL SHIPYARDS O3 (x1)	797	5/26/93	19	32,41,63N	117,08,91W	32.69383300	117.14850000	h	N	6	32	CLUMPY
93181.0	NAVAL SHIPYARDS O6 (x1)	799	5/26/93	19	32,41,39N	117,08,38W	32.68983300	117.13966700	h	N	10	34	SOFT MUD
93182.0	NAVAL SHIPYARDS O8 (x4)	800	5/26/93	19	32,41,21N	117,08,10W	32.68683300	117.13500000	h	N	7	32	SANDY MUD
93183.0	NAVAL SHIPYARDS O9 (x1)	801	5/26/93	19	32,41,16N	117,07,93W	32.68600000	117.13216700	h	N	9	34	SOFT MUD
93184.0	NAVAL SHIPYARDS O11 (x1)	802	5/26/93	19	32,40,81N	117,07,57W	32.68016700	117.12616700	h	N	10	34	SOFT MUD
93185.0	NAVAL SHIPYARDS O14 (x1)	803	5/26/93	19	32,40,40N	117,07,40W	32.67333300	117.12333300	h	N	11	32	ROCKS, SAND, GRITTY
93186.0	FUEL PIER D4 (x1)	804	5/26/93	19	32,41,99N	117,14,29W	32.69983300	117.23816700	h	C	6	32	GRITTY MUD
93187.0	MARINE TERMINAL R2 (x1)	805	5/26/93	19	32,40,00N	117,07,22W	32.66666700	117.12033300	h	N	7	32	CLUMPY
93188.0	CARRIER BASE V1 (x2)	806	5/26/93	19	32,42,68N	117,11,35W	32.71133300	117.18916700	h	N	3	30	GRITTY MUD
93189.0	NAVAL SHIPYARDS O15 (x1) BLIND	814	5/26/93	19	32,42,68N	117,11,35W	32.71133300	117.18916700	h	N	7	32	SOFT MUD
90061.0	16 SWARTZ (INTERCONT. MARINA)	818	6/15/93	20	32,42,37N	117,09,95W	32.70616700	117.16583300	h	B	4	34	LUMPY FINE MUD
93192.0	INTERCONT. MARINA M1 (x2)	819	6/15/93	20	32,42,45N	117,10,12W	32.70750000	117.16866700	h	B	4	34	FINE MUD
93193.0	INTERCONT. MARINA M1 (x1)	820	6/15/93	20	32,42,43N	117,09,99W	32.70716700	117.16650000	h	B	4	34	FINE SANDY MUD
90037.0	STORMDRAIN EM (GRAPE ST.)-REP	827	6/15/93	20	32,43,35N	117,10,37W	32.72250000	117.17283300	h	C	8	34	FINE MUD
90037.0	STORMDRAIN EM (GRAPE ST.)-REP	828	6/15/93	20	32,43,33N	117,10,37W	32.72216700	117.17283300	h	C	8	34	FINE MUD
90037.0	STORMDRAIN EM (GRAPE ST.)-REP	829	6/15/93	20	32,43,37N	117,10,37W	32.72283300	117.17283300	h	C	7	33	FINE MUD, SOME SAND
93198.0	INTERCONT. MARINA M2(x1) BLIND	833	6/15/93	20	32,42,37N	117,09,95W	32.70616700	117.16583300	h	B	4	33	SLIGHTLY SANDY
90013.0	37 SWARTZ (MARINA)	815	6/16/93	20	32,39,18N	117,08,83W	32.65300000	117.14716700	h	B	3	34	SMOOTH MUD
93190.0	MARINA II1 (x1)	816	6/16/93	20	32,39,13N	117,08,88W	32.65216700	117.14800000	h	B	3	32	FINE SANDY MUD
93191.0	MARINA II1 (x3)	817	6/16/93	20	32,39,06N	117,08,94W	32.65100000	117.14900000	h	B	3	33	SOFT CLUMPY MUD
90015.0	41 SWARTZ (GLORIETTA BAY)	821	6/16/93	20	32,40,83N	117,10,38W	32.68050000	117.17300000	h	B	5	33	FINE CLUMPY MUD
93194.0	GLORIETTA BAY U1 (x1)	822	6/16/93	20	32,40,72N	117,10,19W	32.67866700	117.16983300	h	B	5	33	SANDY
93195.0	GLORIETTA BAY U1 (x2)	823	6/16/93	20	32,40,67N	117,10,17W	32.67783300	117.16950000	h	B	5	33	SANDY MUD, CLUMPY
90012.0	34 SWARTZ (C.V. YACHT BASIN)	824	6/16/93	20	32,37,30N	117,06,05W	32.62166700	117.10100000	h	B	3	34	FINE MUD, SOME SAND
93196.0	CHULA V. YACHT BASIN S1 (x1)	825	6/16/93	20	32,37,46N	117,06,11W	32.62433300	117.10183300	h	B	3	34	FINE MUD SLIGHTLY SANDY
93197.0	CHULA V. YACHT BASIN S1 (x3)	826	6/16/93	20	32,37,48N	117,06,19W	32.62466700	117.10316700	h	B	3	33	FINE MUD, SLIGHTLY SANDY
90050.0	10 SWARTZ (WEST BASIN)	837	7/20/93	21	32,43,67N	117,12,02W	32.72783333	117.20033333	h	B	3	33	FINE MUD
93199.0	WEST BASIN H1 (x1)	838	7/20/93	21	32,43,65N	117,11,96W	32.72750000	117.19333333	h	B	3	33	FINE MUD, ORGANIC DEBRIS
93200.0	WEST BASIN H1 (x4)	839	7/20/93	21	32,43,69N	117,12,29W	32.72816667	117.20483333	h	B	4	33	FINE MUD
90053.0	35 SWARTZ (CORONADO CAYS)	843	7/20/93	21	32,37,70N	117,07,84W	32.62833300	117.13066700	h	B	3	32	FINE MUD
93203.0	CORONADO CAYS T2 (x1)	844	7/20/93	21	32,37,52N	117,07,89W	32.62533300	117.13150000	h	B	4	34	VERY FINE MUD
93204.0	CORONADO Cays T2 (x2)	845	7/20/93	21	32,37,48N	117,07,87W	32.62466700	117.13116700	h	B	3	34	FINE MUD
90003.0	14 SWARTZ (DOWNTOWN PIERS)	846	7/20/93	21	32,42,94N	117,10,63W	32.71566700	117.17716700	h	C	11	34	FINE MUD, SOME SAND
93205.0	DOWNTOWN PIERS K1 (x9)	847	7/20/93	21	32,42,99N	117,10,51W	32.71650000	117.17516700	h	C	11	33	FINE MUD
93206.0	DOWNTOWN PIERS K1 (x11)	848	7/20/93	21	32,42,98N	117,10,58W	32.71633300	117.17633300	h	C	12	33	FINE MUD
90004.0	15 SWARTZ (G ST PIER MARINA)	849	7/20/93	21	32,42,60N	117,10,40W	32.71000000	117.17333300	h	C	6	32	FINE MUD, GRITTY
93207.0	G ST PIER MARINA L1 (x4)	850	7/20/93	21	32,42,72N	117,10,44W	32.71200000	117.17400000	h	C	5	34	FINE MUD

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STANUM	STATION	IDORG	DATE	LEG	LATITUDE	LONGITUDE	GISLAT	GISLONG	HUND	SECS	AREA*	DEPTH	SALINITY	SED	TEXTUR
93208.0	G ST PIER MARINA L1 (x5)	851	7/20/93	21	32.42.73N	117.10.40W	32.71216700	117.17333300	h	C	3	33		FINE MUD	
93209.0	DOWNTOWN PIERS K4 BLIND (x4)	852	7/20/93	21	32.42.98N	117.10.58W	32.71633300	117.17633300	h	C	12	33		FINE MUD	
90001.0	11 SWARTZ (EAST BASIN)	840	7/21/93	21	32.43.62N	117.11.68W	32.72650000	117.19450000	h	B	2	33		FINE MUD	
93201.0	EAST BASIN I1 (x1)	841	7/21/93	21	32.43.59N	117.11.67W	32.72700000	117.19466667	h	B	3	33		FINE MUD	
93202.0	EAST BASIN I1 (x5)	842	7/21/93	21	32.43.60N	117.11.46W	32.72666667	117.19100000	h	B	3	33		SANDY, MUD	
93107.0	MISSION BAY A3 (x1) REF 1	853	7/21/93	21	32.47.59N	117.13.27W	32.79316700	117.22116700	h	M	3	34		SILTY FINE MUD	
93107.0	MISSION BAY A3 (x1) REF 2	854	7/21/93	21	32.47.59N	117.13.27W	32.79316700	117.22116700	h	M	3	34		FINE SILTY	
93107.0	MISSION BAY A3 (x1) REF 3	855	7/21/93	21	32.47.59N	117.13.27W	32.79316700	117.22116700	h	M	3	34		FINE, SILTY	
93112.0	MISSION BAY A8 (x1) REF 1	856	7/21/93	21	32.46.09N	117.14.87W	32.76816700	117.24783300	h	M	5	35		SANDY MUD	
93112.0	MISSION BAY A8 (x1) REF 2	857	7/21/93	21	32.46.09N	117.14.87W	32.76816700	117.24783300	h	M	5	35		SANDY MUD	
93112.0	MISSION BAY A8 (x1) REF 3	858	7/21/93	21	32.46.09N	117.14.87W	32.76816700	117.24783300	h	M	5	35		SANDY MUD	
93108.0	MISSION BAY A4 (x1) REF 1	859	7/21/93	21	32.47.28N	117.13.62W	32.78800000	117.22700000	h	M	2	34		FINE SILTY MUD	
93108.0	MISSION BAY A4 (x1) REF 2	860	7/21/93	21	32.47.28N	117.13.62W	32.78800000	117.22700000	h	M	2	34		FINE SILTY MUD	
93108.0	MISSION BAY A4 (x1) REF 3	861	7/21/93	21	32.47.28N	117.13.62W	32.78800000	117.22700000	h	M	2	34		FINE SILTY MUD	
90052.0	32 SWARTZ(SWEETWATER CH)-REF	875	8/3/93	22	32.38.85N	117.07.03W	32.64783333	117.11566667	h	C	10	34		FINE MUD	
93219.0	SWEETWATER CH. JJ1 (x1)-REF 2	876	8/3/93	22	32.38.84N	117.06.80W	32.64733333	117.11333333	h	C	2	34		SANDY	
93220.0	SWEETWATER CH. JJ1 (x8)-REF 3	877	8/3/93	22	32.38.83N	117.06.85W	32.64766667	117.11450000	h	C	2	34		SNADY MUD	
90002.0	12 SWARTZ(DOWNTOWN ANCH)-R	878	8/3/93	22	32.43.60N	117.10.65W	32.72666667	117.17750000	h	C	3	34		FINE MUD	
93221.0	DOWNTOWN ANCH. J1 (x1)-REF2	879	8/3/93	22	32.43.55N	117.10.60W	32.72583333	117.17666667	h	C	5	35		SOFT FINE MUD	
93222.0	DOWNTOWN ANCH. J1 (x2)-REF3	880	8/3/93	22	32.43.59N	117.10.57W	32.72583333	117.17566667	h	C	5	33		FINE MUD	
93180.0	NAVAL BASE/SHIPYARDS O5 (x1)	798	8/4/93	22	32.41.43N	117.08.58W	32.69050000	117.14300000	h	N	6	34		VERY FINE MUD	
90021.0	K SWARTZ(NAVAL BASE O4)	862	8/4/93	22	32.41.52N	117.08.77W	32.69200000	117.14616700	h	N	9	34		FINE MUD	
93210.0	NAVAL BASE/SHIPYARDS O4 (x1)	863	8/4/93	22	32.41.59N	117.08.80W	32.69316700	117.14666700	h	N	3	34		FINE SANDY MUD	
93211.0	NAVAL BASE/SHIPYARDS O4 (x2)	864	8/4/93	22	32.41.57N	117.08.75W	32.69283300	117.14583300	h	N	3	34		FINE MUD	
90006.0	23 SWARTZ (NAVAL BASE O7)	865	8/4/93	22	32.41.20N	117.08.05W	32.68666700	117.13416700	h	N	9	34		SILTY MUD	
93212.0	NAVAL BASE/SHIPYARDS O7 (x1)	866	8/4/93	22	32.41.26N	117.08.01W	32.68766700	117.13350000	h	N	7	33		FINE SANDY MUD	
93213.0	NAVAL BASE/SHIPYARDS O7 (x4)	867	8/4/93	22	32.41.24N	117.08.06W	32.68733300	117.13433300	h	N	9	33		FINE MUD	
90022.0	P SWARTZ (NAVAL BASE O12)	868	8/4/93	22	32.40.74N	117.07.50W	32.67900000	117.12500000	h	N	9	34		FINE, SOFT MUD	
93214.0	NAVAL BASE/SHIPYARDS O12 (x3)	869	8/4/93	22	32.40.47N	117.07.51W	32.67450000	117.12516700	h	N	11	33		FINE MUD	
93215.0	NAVAL BASE/SHIPYARDS O12 (x4)	870	8/4/93	22	32.40.56N	117.07.57W	32.67600000	117.12616700	h	N	9	34		FINE MUD	
90028.0	NSB-M1 (SUB BASE C2)	871	8/4/93	22	32.41.28N	117.14.20W	32.68800000	117.23666700	h	N	10	33		SILTY MUD	
93216.0	SUB BASE C2 (x1)	872	8/4/93	22	32.41.30N	117.14.14W	32.68833300	117.23566700	h	N	12	33		SILTY	
93217.0	SUB BASE C2 (x3)	873	8/4/93	22	32.41.27N	117.14.21W	32.68783300	117.23683300	h	N	10	33		FINE	
93218.0	SUB BASE C2 (x11) BLIND	874	8/4/93	22	32.41.27N	117.14.21W	32.68783300	117.23683300	h	N	10	33		FINE	
93116.0	SAN DIEGO RIVER B1 (x4)-REF1	881	8/5/93	22	32.45.42N	117.14.08W	32.75700000	117.23466700	h	R	1	33		FINE SLIGHTLY CLAYISH	
93116.0	SAN DIEGO RIVER B1 (x4)-REF2	882	8/5/93	22	32.45.42N	117.14.09W	32.75700000	117.23483300	h	R	1	33		FINE SLIGHTLY CLAYISH	
93116.0	SAN DIEGO RIVER B1 (x4)-REF3	883	8/5/93	22	32.45.42N	117.14.07W	32.75700000	117.23450000	h	R	1	33		FINE SLIGHTLY CLAYISH	
90007.0	25 SWARTZ (NAVAL BASE/SY O10)	887	8/17/93	23	32.40.87N	117.07.75W	32.68116700	117.12916700	h	N	9	34		FINE MUD	
93223.0	NAVAL BASE/SHIPYARD O10 (x2)	888	8/17/93	23	32.40.83N	117.07.80W	32.68050000	117.13000000	h	N	8	33		SMOOTH	
93224.0	NAVAL BASE/SHIPYARD O10(x6)	889	8/17/93	23	32.40.76N	117.07.75W	32.67933300	117.12916700	h	N	10	35		GRITTY	
90008.0	27 SWARTZ (NAVAL BASE/SH O13)	890	8/17/93	23	32.40.43N	117.07.51W	32.67383300	117.12516700	h	N	11	34		FINE MUD	
93225.0	NAVAL BASE/SHIPYARD O13 (x1)	891	8/17/93	23	32.40.56N	117.07.34W	32.67600000	117.12233300	h	N	10	33		SOFT MUD, SOME FINE SAND	
93226.0	NAVAL BASE/SHIPYARD O13 (x3)	892	8/17/93	23	32.40.60N	117.07.42W	32.67666700	117.12366700	h	N	9	34		CREAMY MUD, SLIGHT SAND	
90009.0	28 SWARTZ (7TH ST CHANNEL O1)	893	8/17/93	23	32.40.34N	117.07.02W	32.67233300	117.11700000	h	N	7	34		COARSE SAND,SOFT FINE MUD	

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93227.0	SEVENTH ST CHANNEL Q1 (x5)	894	8/17/93	23	32,40,42N	117,06,98W	32.67366700	117.11633300	h	N	7	33	SANDY MUD
93228.0	SEVENTH ST CHANNEL Q1 (x6)	895	8/17/93	23	32,40,39N	117,06,97W	32.67316700	117.11616700	h	N	7	35	GRITTY MUD
90010.0	31 SWARTZ (MARINE TERMINAL R3)	896	8/17/93	23	32,39,48N	117,07,14W	32.65800000	117.11900000	h	C	4	34	SANDY FINE MUD
93229.0	MARINE TERMINAL R3 (x1)	897	8/17/93	23	32,39,58N	117,07,13W	32.65966700	117.11883300	h	C	6	34	SOFT CLUMPY MUD
93230.0	MARINE TERMINAL R3 (x3)	898	8/17/93	23	32,39,56N	117,07,13W	32.65933300	117.11883300	h	C	6	33	SOFT MUD, FEW CLUMPS
90025.0	SDNI-N5 (CARRIER BASE V2)	899	8/18/93	23	32,42,50N	117,11,32W	32.70833300	117.18866700	h	N	12	32	CLUMPY CLAY W/FINE MUD
93231.0	CARRIER BASE V2 (x6)	1000	8/18/93	23	32,42,57N	117,11,34W	32.70950000	117.18900000	h	N	6	32	CLUMPY FINE MUD ON TOP
93232.0	CARRIER BASE V2 (x7)	1001	8/18/93	23	32,42,57N	117,11,37W	32.70950000	117.18950000	h	N	4	32	CLUMPY MUD
93132.0	CORONADO CAYS T3 (x1)	1025	1/18/94	24	32,37,28N	117,07,79W	32.62133300	117.12983300	h	B	4	35	SOFT MUD
93129.0	SOUTH BAY GG4 (x1)	1026	1/18/94	24	32,37,95N	117,07,36W	32.63250000	117.12266700	h	O	3	35	FINE WITH CLUMPS, SANDY
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	1027	1/18/94	24	32,38,86N	117,07,29W	32.64766700	117.12150000	h	O	11	35	CREAMY, SOFT,
93127.0	SOUTH BAY GG2 (x1)	1028	1/18/94	24	32,38,88N	117,07,76W	32.64800000	117.12933300	h	O	4	34	SANDY MUD
93139.0	COMMERCIAL BASIN F1 (x1)	1030	1/18/94	24	32,43,40N	117,13,60W	32.72333300	117.22666700	h	B	3	34	FINE GRITTY MUD
93106.0	MISSION BAY A2 (x1)	1031	1/18/94	24	32,46,98N	117,12,88W	32.78300000	117.21466700	h	M	2	34	FINE, THIN OXIC LAYER
93128.0	SOUTHBAY GG5 (x1)	1033	1/18/94	24	32,38,00N	117,06,77W	32.63333300	117.11283300	h	O	6	34	VERY CLUMPY
93158.0	SOUTH BAY GG1 (x1) REP 1	1035	1/18/94	24	32,38,58N	117,08,22W	32.64300000	117.13700000	h	O	3	35	FINE MUD WITH CLUMPS
93158.0	SOUTH BAY GG1 (x1) REP 2	1036	1/18/94	24	32,38,50N	117,08,24W	32.64166700	117.13733300	h	O	3	35	CLUMPY, SLIGHTLY GRITTY
93158.0	SOUTH BAY GG1 (x1) REP 3	1037	1/18/94	24	32,38,49N	117,08,22W	32.64150000	117.13700000	h	O	4	35	CLUMPY
93122.0	S.S.- CORONADO DD3 (x1) REP 1	1013	1/19/94	24	32,41,49N	117,09,61W	32.69150000	117.16016700	h	O	9	33	SMOOTH WITH LARGE CLUMPS
93122.0	S.S.- CORONADO DD3 (x1) REP 2	1014	1/19/94	24	32,41,55N	117,09,66W	32.69250000	117.16100000	h	O	10	34	SMOOTH BUT FIRM
93122.0	S.S.- CORONADO DD3 (x1) REP 3	1015	1/19/94	24	32,41,47N	117,09,66W	32.69116700	117.16100000	h	O	10	34	FINE MUD WITH SAND
93125.0	SILVER STRAND FF4 (x4) REP 1	1016	1/19/94	24	32,40,96N	117,09,07W	32.68266700	117.15116700	h	O	2	35	CLUMPY
93125.0	SILVER STRAND FF4 (x4) REP 2	1017	1/19/94	24	32,40,99N	117,09,12W	32.68316700	117.15200000	h	O	2	35	CLUMPY
93125.0	SILVER STRAND FF4 (x4) REP 3	1018	1/19/94	24	32,40,97N	117,09,13W	32.68283300	117.15216700	h	O	2	35	SANDY THIN OXIC
90057.0	5 SDG&E REP 1	1019	1/19/94	24	32,37,55N	117,06,54W	32.62583300	117.10900000	h	O	3	34	THICK GOOEY MUD
90057.0	5 SDG&E REP 2	1020	1/19/94	24	32,37,53N	117,06,52W	32.62550000	117.10866700	h	O	4	34	CLUMPY
90057.0	5 SDG&E REP 3	1021	1/19/94	24	32,37,50N	117,06,54W	32.62500000	117.10900000	h	O	4	34	CLUMPY WITH CREAMY MUD
93117.0	SAN DIEGO RIVER B2 (x2)	1029	1/19/94	24	32,45,46N	117,13,58W	32.75766700	117.22633300	h	R	0.2	28	SOFT CREAMY
93120.0	TIJUANA R. ESTUARY HM2 (x1)	1032	1/19/94	24	32,33,55N	117,07,40W	32.55916700	117.12333300	h	R	0.2	31	SANDY MUD
93121.0	TIJUANA R. ESTUARY HM2 (x5)	1034	1/19/94	24	32,33,57N	117,07,57W	32.55950000	117.12616700	h	R	0.2	34	SANDY MUD
90036.0	STORMDRAIN EA (ROHR CH.) REP 1	1022	1/20/94	24	32,37,57N	117,06,25W	32.63250000	117.10694400	s	C	0.3	32	SANDY
90036.0	STORMDRAIN EA (ROHR CH.) REP 2	1023	1/20/94	24	32,37,59N	117,06,25W	32.63305600	117.10694400	s	C	0.3	32	SANDY, GRITTY MUD
90036.0	STORMDRAIN EA (ROHR CH.) REP 3	1024	1/20/94	24	32,37,55N	117,06,25W	32.63194400	117.10694400	s	C	0.3	32	SANDY, GRITTY MUD
90020.0	G DE LAPPE-REP 1	1104	3/1/94	27	32,41,52N	117,08,86W	32.69200000	117.14766700	h	C	8	34	CREAMY MUD
90020.0	G DE LAPPE-REP 2	1105	3/1/94	27	32,41,56N	117,08,89W	32.69266700	117.14816700	h	C	8	34	SMOOTH MUD
90020.0	G DE LAPPE-REP 3	1106	3/1/94	27	32,41,53N	117,08,89W	32.69216700	117.14816700	h	C	4	33	FINE MUD
90022.0	P SWARTZ-REP 1	1107	3/1/94	27	32,40,44N	117,07,31W	32.67888900	117.12527800	s	N	9	32	SOFT, CREAMY MUD
90022.0	P SWARTZ-REP 2	1108	3/1/94	27	32,40,43N	117,07,29W	32.67861100	117.12472200	s	N	9	32	SOFT, CREAMY MUD
90022.0	P SWARTZ-REP 3	1109	3/1/94	27	32,40,44N	117,07,29W	32.67888900	117.12472200	s	N	9	32	SOFT, CREAMY MUD
90029.0	NSB-R1-REP 1	1113	3/1/94	27	32,41,33N	117,14,20W	32.69250000	117.23888900	s	N	2	32	SANDY
90029.0	NSB-R1-REP 2	1114	3/1/94	27	32,41,31N	117,14,21W	32.69194400	117.23916700	s	N	2.5	32	SANDY
90029.0	NSB-R1-REP 3	1115	3/1/94	27	32,41,31N	117,14,19W	32.69194400	117.23861100	s	N	9	32	SANDY MUD
90024.0	SDNI-N1-REP 1	1116	3/1/94	27	32,42,40N	117,11,43W	32.70666700	117.19050000	h	N	11	33	MUD WITH SOME SAND
90024.0	SDNI-N1-REP 2	1117	3/1/94	27	32,42,40N	117,11,40W	32.70666700	117.19000000	h	N	11	34	FINE MUD

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BPTC Sampling Dates, Locations, Depth, Salinity, and Sediment Texture

STANUM	STATION	IDORG	DATE	LEG	LATITUDE	LONGITUDE	GISLAT	GISLONG	HUND	SECS	AREA*	DEPTH	SALINITY	SED TEXTUR
90024.0	SDNI-N1-REP 3	1118	3/1/94	27	32.42.42N	117.11.40W	32.70700000	117.19000000	h	N	11	34	34	FINE MUD
93185.0	NAVAL SHIPYARDS O14 (x1)	1125	3/1/94	27	32.40.31N	117.07.40W	32.67183300	117.12333300	h	N	11	32	32	FINE MUD ON TOP OF SAND
93163.0	FUEL PIERS D2 (x2)	1126	3/1/94	27	32.42.08N	117.14.13W	32.70133333	117.23550000	h	C	1	33	33	SANDY WITH LITTLE MUD
93161.0	SUB BASE C1 (x1)	1127	3/1/94	27	32.41.38N	117.14.19W	32.68966700	117.23650000	h	N	12	34	34	SANDY MUD
93171.0	MARINE TERMINAL R1 (x1)	1128	3/1/94	27	32.40.11N	117.07.34W	32.66850000	117.12233300	h	N	17	32	32	FINE MUD
90013.0	37 SWARTZ-REP 1	1098	3/2/94	27	32.39.14N	117.08.85W	32.65233300	117.14750000	h	B	3	32	32	FINE MUD
90013.0	37 SWARTZ-REP 2	1099	3/2/94	27	32.39.16N	117.08.87W	32.65266700	117.14783300	h	B	3	32	32	FINE MUD
90013.0	37 SWARTZ-REP 3	1100	3/2/94	27	32.39.17N	117.08.86W	32.65283300	117.14766700	h	B	3	32	32	FINE MUD
93106.0	MISSION BAY A2 (x1)-REP 1	1101	3/2/94	27	32.46.97N	117.12.91W	32.78283300	117.21516700	h	M	3	32	32	FINE MUD WITH ZOSTERA
93106.0	MISSION BAY A2 (x1)-REP 2	1102	3/2/94	27	32.46.96N	117.12.87W	32.78266700	117.21450000	h	M	3	32	32	FINE MUD WITH ZOSTERA
93106.0	MISSION BAY A2 (x1)-REP 3	1103	3/2/94	27	32.46.95N	117.12.88W	32.78250000	117.21466700	h	M	2	32	32	FINE MUD WITH ZOSTERA
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 1	1110	3/2/94	27	32.41.39N	117.08.41W	32.68983300	117.14016700	h	N	10	32	32	FINE MUD
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 2	1111	3/2/94	27	32.41.41N	117.08.41W	32.69016700	117.14016700	h	N	10	32	32	FINE MUD
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 3	1112	3/2/94	27	32.41.39N	117.08.43W	32.68983300	117.14050000	h	N	10	32	32	FINE MUD
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 1	1119	3/2/94	27	32.41.69N	117.08.98W	32.69483300	117.14966700	h	N	3	33	33	SLIGHTLY SANDY
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 2	1120	3/2/94	27	32.41.69N	117.08.97W	32.69483300	117.14950000	h	N	3	33	33	FINE WITH MUSSEL CLUMPS
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 3	1121	3/2/94	27	32.41.70N	117.09.00W	32.69500000	117.15000000	h	N	3	33	33	SANDY WITH FINE MUD
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 1	1122	3/2/94	27	32.41.64N	117.08.94W	32.69400000	117.14900000	h	N	5	32	32	FINE WITH MUSSEL CLUMPS
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 2	1123	3/2/94	27	32.41.63N	117.08.96W	32.69383300	117.14933300	h	N	5	32	32	FINE WITH MUSSEL CLUMPS
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 3	1124	3/2/94	27	32.41.62N	117.08.93W	32.69366700	117.14883300	h	N	5	32	32	FINE WITH MUSSEL CLUMPS
90052.0	32 SWARTZ(SWEETWATER CH)-RE	1129	3/15/94	28	32.38.89N	117.07.02W	32.64816700	117.11700000	h	C	12	35	35	CREAMY
90052.0	32 SWARTZ(SWEETWATER CH)-RE	1130	3/15/94	28	32.38.86N	117.07.02W	32.64766700	117.11700000	h	C	12	34	34	CREAMY
90052.0	32 SWARTZ(SWEETWATER CH)-RE	1131	3/15/94	28	32.38.85N	117.06.93W	32.64750000	117.11550000	h	C	11	34	34	CREAMY
93131.0	CORONADO CAYS T1 (x1)-REP 1	1138	3/15/94	28	32.37.80N	117.08.17W	32.63000000	117.13616700	h	B	3	34	34	CREAMY WITH CLUMPS
93131.0	CORONADO CAYS T1 (x1)-REP 2	1139	3/15/94	28	32.37.79N	117.08.16W	32.62983300	117.13600000	h	B	3	34	34	CREAMY
93131.0	CORONADO CAYS T1 (x1)-REP 3	1140	3/15/94	28	32.37.80N	117.08.14W	32.63000000	117.13566700	h	B	3	35	35	CREAMY WITH CLUMPS
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP	1141	3/15/94	28	32.38.90N	117.07.29W	32.64833300	117.12150000	h	O	11	35	35	CREAMY
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP	1142	3/15/94	28	32.38.90N	117.07.27W	32.64833300	117.12116700	h	O	11	34	34	CREAMY
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP	1143	3/15/94	28	32.38.85N	117.07.25W	32.64750000	117.12083300	h	O	10	35	35	CREAMY
90030.0	BF SCHROEDER SITE F-REP 1	1144	3/15/94	28	32.41.22N	117.08.35W	32.68944400	117.14305600	s	N	8	35	35	CREAMY
90030.0	BF SCHROEDER SITE F-REP 2	1145	3/15/94	28	32.41.22N	117.08.36W	32.68944400	117.14333300	s	N	7	35	35	CREAMY
90030.0	BF SCHROEDER SITE F-REP 3	1146	3/15/94	28	32.41.23N	117.08.36W	32.68972200	117.14333300	s	N	7	35	35	CREAMY
93159.0	SOUTH BAY GG3 (x1)-REP 1	1147	3/15/94	28	32.38.15N	117.07.99W	32.63583300	117.13316700	h	O	5	34	34	CREAMY WITH GRIT
93159.0	SOUTH BAY GG3 (x1)-REP 2	1148	3/15/94	28	32.38.13N	117.08.02W	32.63550000	117.13366700	h	O	3	36	36	GRITTY WITH SHELL DEBRIS
93159.0	SOUTH BAY GG3 (x1)-REP 3	1149	3/15/94	28	32.38.13N	117.07.98W	32.63550000	117.13300000	h	O	2	35	35	SANDY FINE MUD
90043.0	CORONADO WHARF-REP 1	1156	3/15/94	28	32.41.54N	117.09.58W	32.69833300	117.16611100	s	C	9	35	35	SANDY
90043.0	CORONADO WHARF-REP 2	1157	3/15/94	28	32.41.55N	117.10.01W	32.69861100	117.16694400	s	C	6	36	36	SANDY
90043.0	CORONADO WHARF-REP 3	1158	3/15/94	28	32.41.55N	117.10.03W	32.69861100	117.16750000	s	C	5	34	34	CREAMY
93120.0	TIJUANA R EST. HH2 (x1)-REP 1	1132	3/16/94	28	32.33.55N	117.07.38W	32.55916700	117.12300000	h	R	0.3	34	34	SANDY MUD
93120.0	TIJUANA R EST. HH2 (x1)-REP 2	1133	3/16/94	28	32.33.53N	117.07.32W	32.55883300	117.12200000	h	R	0.5	34	34	SANDY MUD
93120.0	TIJUANA R EST. HH2 (x1)-REP 3	1134	3/16/94	28	32.33.48N	117.07.47W	32.55800000	117.12450000	h	R	0.5	34	34	GRITTY
93121.0	TIJUANA R EST. HH2 (x5)-REP 1	1135	3/16/94	28	32.33.57N	117.07.51W	32.55950000	117.12516700	h	R	0.5	34	34	SANDY
93121.0	TIJUANA R EST. HH2 (x5)-REP 2	1136	3/16/94	28	32.33.55N	117.07.52W	32.55916700	117.12533300	h	R	0.5	34	34	SANDY
93121.0	TIJUANA R EST. HH2 (x5)-REP 3	1137	3/16/94	28	32.33.59N	117.07.51W	32.55983300	117.12516700	h	R	0.5	34	34	SANDY

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BPTC Sampling Dates, Locations, Depth, Salinity, and Sediment Texture

STANUM	STATION	IDORG	DATE	LEG	LATITUDE	LONGITUDE	GISLAT	GISLONG	HUND	SECS	AREA*	DEPTH	SALINITY	SED. TEXTUR
93174.0	TIJUANA R. EST. HH3 (x2)-REP 1	1150	3/16/94	28	32,33,22N	117,07,58W	32.55366700	117.12633300	h	R	0.3	32	32	CREAMY
93174.0	TIJUANA R. EST. HH3 (x2)-REP 2	1151	3/16/94	28	32,33,27N	117,07,64W	32.55450000	117.12733300	h	R	0.3	32	32	CREAMY
93174.0	TIJUANA R. EST. HH3 (x2)-REP 3	1152	3/16/94	28	32,33,22N	117,07,64W	32.55366700	117.12733300	h	R	0.3	32	32	CREAMY
93166.0	NAVY ESTUARY G2 (x1)-REP 1	1153	3/16/94	28	32,44,11N	117,12,64W	32.73516700	117.21066700	h	N	4	34	34	CREAMY WITH CLUMPS
93166.0	NAVY ESTUARY G2 (x1)-REP 2	1154	3/16/94	28	32,44,13N	117,12,63W	32.73550000	117.21050000	h	N	4	34	34	CREAMY WITH CLUMPS
93166.0	NAVY ESTUARY G2 (x1)-REP 3	1155	3/16/94	28	32,44,12N	117,12,61W	32.73533300	117.21016700	h	N	5	34	34	CREAMY WITH CLUMPS
90037.0	STORMDRAIN EM(GRAPE ST.)-REP	1159	3/29/94	29	32,43,36N	117,10,42W	32.72266700	117.17366700	h	C	7	33	33	CREAMY MUD
90037.0	STORMDRAIN EM(GRAPE ST.)-REP	1160	3/29/94	29	32,43,36N	117,10,43W	32.72266700	117.17383300	h	C	7	33	33	CREAMY MUD WITH CLUMPS
90037.0	STORMDRAIN EM(GRAPE ST.)-REP	1161	3/29/94	29	32,43,38N	117,10,44W	32.72300000	117.17400000	h	C	6	31	31	SAND ON MUD
93148.0	CHANNEL-CORONADO Y1 (x2)-REP	1162	3/29/94	29	32,42,48N	117,11,04W	32.70800000	117.18400000	h	O	13	34	34	SANDY
93148.0	CHANNEL-CORONADO Y1 (x2)-REP	1163	3/29/94	29	32,42,46N	117,11,05W	32.70766700	117.18416700	h	O	13	34	34	SANDY
93148.0	CHANNEL-CORONADO Y1 (x2)-REP	1164	3/29/94	29	32,42,48N	117,11,01W	32.70800000	117.18350000	h	O	11	34	34	SANDY
93138.0	SHELTER ISLAND E3 (x2)-REP 1	1165	3/29/94	29	32,42,75N	117,13,93W	32.71250000	117.23216700	h	B	4	33	33	SLIGHTLY GRITTY
93138.0	SHELTER ISLAND E3 (x2)-REP 2	1166	3/29/94	29	32,42,76N	117,13,94W	32.71266700	117.23233300	h	B	4	33	33	SLIGHTLY GRITTY
93138.0	SHELTER ISLAND E3 (x2)-REP 3	1167	3/29/94	29	32,42,75N	117,13,96W	32.71250000	117.23266700	h	B	4	33	33	SLIGHTLY GRITTY
93141.0	COMMERCIAL BASIN F3 (x1)-REP 1	1168	3/29/94	29	32,43,12N	117,13,38W	32.71866700	117.22300000	h	B	2	32	32	CLUMPY, THIN OXIC
93141.0	COMMERCIAL BASIN F3 (x1)-REP 2	1169	3/29/94	29	32,43,15N	117,13,39W	32.71916700	117.22316700	h	B	3	32	32	SMOOTH MUD
93141.0	COMMERCIAL BASIN F3 (x1)-REP 3	1170	3/29/94	29	32,43,14N	117,13,37W	32.71900000	117.22283300	h	B	3	32	32	CREAMY MUD
90018.0	D DE LAPPE-REP 1	1183	3/29/94	29	32,41,82N	117,09,12W	32.69700000	117.15200000	h	C	8	32	32	SOFT,GRITTY W/ CLAY CLUMP
90018.0	D DE LAPPE-REP 2	1184	3/29/94	29	32,41,74N	117,09,13W	32.69566700	117.15216700	h	C	8	32	32	SANDY MUD W/ GRAVEL,CLAY
90018.0	D DE LAPPE-REP 3	1185	3/29/94	29	32,41,80N	117,09,13W	32.69666700	117.15216700	h	C	8	32	32	SANDY MUD
90104.0	WEST BASIN ENTRANCE(71C)-REP	1186	3/29/94	29	32,43,41N	117,12,92W	32.72350000	117.21533300	h	O	4	33	33	GRITTY,CLUMPY
90104.0	WEST BASIN ENTRANCE(71C)-REP	1187	3/29/94	29	32,43,42N	117,12,89W	32.72366700	117.21483300	h	O	4	33	33	GRITTY,CLUMPY
90104.0	WEST BASIN ENTRANCE(71C)-REP	1188	3/29/94	29	32,43,40N	117,12,91W	32.72333300	117.21516700	h	O	4	33	33	GRITTY, CLUMPY
93107.0	MISSION BAY A3 (x1)-REP 1	1180	3/30/94	29	32,47,57N	117,13,28W	32.79283300	117.22133300	h	M	2	33	33	VERY SOFT, RED,THIN OXIC
93107.0	MISSION BAY A3 (x1)-REP 2	1181	3/30/94	29	32,47,59N	117,13,27W	32.79316700	117.22116700	h	M	2	31	31	VERY SOFT
93107.0	MISSION BAY A3 (x1)-REP 3	1182	3/30/94	29	32,47,60N	117,13,30W	32.79333300	117.22166700	h	M	2	31	31	VERY SOFT
93163.0	FUEL PIERS D2 (x2)-REP 1	1303	5/18/94	32	32,42,09N	117,14,21W	32.70150000	117.23683300	h	C	5	34	34	FINE MUD WITH SAND
93163.0	FUEL PIERS D2 (x2)-REP 2	1304	5/18/94	32	32,42,11N	117,14,22W	32.70183300	117.23700000	h	C	4	34	34	MUD WITH SAND
93163.0	FUEL PIERS D2 (x2)-REP 3	1305	5/18/94	32	32,42,11N	117,14,20W	32.70183300	117.23666700	h	C	6	34	34	GRITTY
93171.0	MARINE TERMINAL R1 (x1)-REP 1	1306	5/18/94	32	32,40,11N	117,07,34W	32.66850000	117.12233300	h	N	11	37	37	GOOEY MUD
93171.0	MARINE TERMINAL R1 (x1)-REP 2	1307	5/18/94	32	32,40,08N	117,07,34W	32.66800000	117.12233300	h	N	12	35	35	CREAMY,GOOEY
93171.0	MARINE TERMINAL R1 (x1)-REP 3	1308	5/18/94	32	32,40,10N	117,07,13W	32.66833300	117.11883300	h	N	10	35	35	SMOOTH,GRITTY,SOME CLUMPS
93185.0	NAVAL SHIPYARDS O14 (x1)-REP 1	1309	5/18/94	32	32,40,36N	117,07,33W	32.67266700	117.12216700	h	N	12	35	35	FINE MUD ON SAND
93185.0	NAVAL SHIPYARDS O14 (x1)-REP 2	1310	5/18/94	32	32,40,34N	117,07,33W	32.67233300	117.12216700	h	N	12	35	35	FINE MUD ON SAND
93185.0	NAVAL SHIPYARDS O14 (x1)-REP 3	1311	5/18/94	32	32,40,33N	117,07,34W	32.67216700	117.12233300	h	N	12	34	34	SANDY
93161.0	SUB BASE C1 (x1)-REP 1	1312	5/18/94	32	32,41,39N	117,14,21W	32.68983300	117.23683300	h	N	11	34	34	FINE MUD WITH SAND
93161.0	SUB BASE C1 (x1)-REP 2	1313	5/18/94	32	32,41,38N	117,14,24W	32.68966700	117.23733300	h	N	11	34	34	FINE SANDY MUD
93161.0	SUB BASE C1 (x1)-REP 3	1314	5/18/94	32	32,41,39N	117,14,27W	32.68983300	117.23783300	h	N	11	34	34	FINE MUD WITH SAND
90013.0	37 SWARTZ	1318	5/18/94	32	32,39,13N	117,08,84W	32.65216700	117.14733300	h	B	3	35	35	SOFT
93106.0	MISSION BAY A2 (x1)	1319	5/18/94	32	32,47,00N	117,12,87W	32.78333300	117.21450000	h	M	2	35	35	FINE MUD
90052.0	32 SWARTZ	1320	5/18/94	32	32,38,89N	117,07,07W	32.64816700	117.11783300	h	C	16	35	35	CREAMY,CLUMPY

\* Area stations have been subdivided into. M=Mission Bay, N=Navy, C=Commercial Basin, R=Rivers, B=Small Boats, O=Other

Section II

Trace Metal Concentrations

3/1/14



## Trace Metal Analysis (ppm-ug/g)

STANUM	STATION	IDORG	DATE	LEG	METADATA	TMMOIST	ALUMINUM	ANTIMONY	ARSENIC	CADMIUM	CHROMIUM	COPPER	IRON
90008 0	23 SWARTZ	155	10/13/92	5	QA5_23.TXT	-9	-9	-9	-9	-9	-9	-9	-9
90019 0	E DE LAPPE	168	10/13/92	5	QA5_23.TXT	-9	-9	-9	-9	-9	-9	-9	-9
90021 0	K SWARTZ	170	10/13/92	5	QA5_23.TXT	-9	-9	-9	-9	-9	-9	-9	-9
90031 0	BG SCHROEDER SITE G	180	10/13/92	5	QA5_23.TXT	-9	-9	-9	-9	-9	-9	-9	-9
90038 0	CC	187	10/13/92	5	QA5_23.TXT	-9	-9	-9	-9	-9	-9	-9	-9
90071 0	BAIT BARGE	220	10/13/92	5	QA5_23.TXT	-9	-9	-9	-9	-9	-9	-9	-9
90101 0	SCRIPPS PIER	250	10/13/92	5	QA5_23.TXT	-9	-9	-9	-9	-9	-9	-9	-9
90036 0	STORM DRAIN- ROHR CHANNEL	185	10/14/92	5	QA5_23.TXT	-9	57000.00	1.100	4.800	1.3000	62.000	67.00	44000.0
90053 0	35 SWARTZ	202	10/14/92	5	QA5_23.TXT	-9	-9	-9	-9	-9	-9	-9	-9
90054 0	36 SWARTZ	203	10/14/92	5	QA5_23.TXT	-9	-9	-9	-9	-9	-9	-9	-9
90001 0	11 SWARTZ	150	10/27/92	6	QA5_23.TXT	-9	45000.00	1.410	11.000	0.6400	130.000	140.00	50000.0
90002 0	12 SWARTZ	151	10/27/92	6	QA5_23.TXT	-9	-9	-9	-9	-9	-9	-9	-9
90016 0	42 SWARTZ	165	10/27/92	6	QA5_23.TXT	-9	46000.00	0.790	8.000	0.1600	59.000	47.00	25000.0
90049 0	8B	198	10/27/92	6	QA5_23.TXT	-9	42000.00	0.850	6.200	0.2800	56.000	58.00	29000.0
90056 0	8A SWARTZ	205	10/27/92	6	QA5_23.TXT	-9	70000.00	0.190	3.200	0.1900	37.000	19.00	21000.0
90063 0	THOMPSON SITE 205	212	10/27/92	6	QA5_23.TXT	-9	65000.00	0.470	4.100	0.2600	69.000	11.00	29000.0
90003 0	14 SWARTZ	152	10/28/92	6	QA5_23.TXT	-9	41000.00	1.660	13.000	0.4000	83.000	150.00	42000.0
90004 0	15 SWARTZ	153	10/28/92	6	QA5_23.TXT	-9	45000.00	1.960	17.000	0.5700	95.000	160.00	48000.0
90010 0	31 SWARTZ	159	10/28/92	6	QA5_23.TXT	-9	-9	-9	-9	-9	-9	-9	-9
90011 0	33 SWARTZ	160	10/28/92	6	QA5_23.TXT	-9	55000.00	1.320	13.000	0.3400	78.000	120.00	54000.0
90013 0	37 SWARTZ	162	10/28/92	6	QA5_23.TXT	-9	43000.00	1.460	16.000	0.1700	85.000	110.00	54000.0
90017 0	C DELAPPE	166	10/28/92	6	QA5_23.TXT	-9	42000.00	3.360	16.000	0.3200	72.000	160.00	31000.0
90048 0	6 SWARTZ	197	10/28/92	6	QA5_23.TXT	-9	68000.00	1.280	16.000	0.1600	100.000	150.00	46000.0
90051 0	16 SWARTZ	200	10/28/92	6	QA5_23.TXT	-9	58000.00	1.220	11.000	0.1200	80.000	99.00	41000.0
90052 0	32 SWARTZ	201	10/28/92	6	QA5_23.TXT	-9	-9	-9	-9	-9	-9	-9	-9
90007 0	25 SWARTZ	156	11/10/92	7	QA5_23.TXT	-9	57000.00	2.900	9.800	1.1000	94.000	220.00	57000.0
90008 0	27 SWARTZ	157	11/10/92	7	QA5_23.TXT	-9	57000.00	1.400	8.900	0.2900	79.000	190.00	48000.0
90009 0	28 SWARTZ	158	11/10/92	7	QA5_23.TXT	-9	48000.00	8.800	7.300	3.1600	110.000	180.00	54000.0
90022 0	P SWARTZ	171	11/10/92	7	QA5_23.TXT	-9	57000.00	3.900	15.000	0.7300	110.000	420.00	57000.0
90026 0	SDNI-N18	175	11/10/92	7	QA5_23.TXT	-9	-9	-9	-9	-9	-9	-9	-9
90027 0	NSB-S1	176	11/10/92	7	QA5_23.TXT	-9	-9	-9	-9	-9	-9	-9	-9
90028 0	NSB-M1	177	11/10/92	7	QA5_23.TXT	-9	-9	-9	-9	-9	-9	-9	-9
90029 0	NSB-R1	178	11/10/92	7	QA5_23.TXT	-9	-9	-9	-9	-9	-9	-9	-9
90023 0	NM SANDBAG	172	11/11/92	7	QA5_23.TXT	-9	57000.00	0.660	7.200	0.9200	71.000	73.00	36000.0
90024 0	SDNI-N1	173	11/11/92	7	QA5_23.TXT	-9	63000.00	1.800	11.000	0.4600	92.000	150.00	53000.0
90025 0	SDNI-N5	174	11/11/92	7	QA5_23.TXT	-9	61000.00	1.400	10.000	2.0400	93.000	150.00	56000.0
90050 0	10 SWARTZ	199	11/11/92	7	QA5_23.TXT	-9	57000.00	0.770	12.000	0.2200	110.000	170.00	62000.0
90055 0	43 SWARTZ	204	11/11/92	7	QA5_23.TXT	-9	57000.00	1.100	10.000	0.2600	74.000	100.00	48000.0
90102 0	HARBOR BRIDGE 71A	256	11/11/92	7	QA5_23.TXT	-9	40000.00	0.640	5.200	0.2900	60.000	62.00	44000.0
90103 0	SCRIPPS TRIANGLE	257	11/11/92	7	QA5_23.TXT	-9	-9	-9	-9	-9	-9	-9	-9
90005 0	21 SWARTZ	154	1/26/93	12	QA5_23.TXT	-9	-9	-9	-9	-9	-9	-9	-9
90014 0	38 SWARTZ	163	1/26/93	12	QA5_23.TXT	-9	-9	-9	-9	-9	-9	-9	-9
90018 0	D DE LAPPE	167	1/26/93	12	QA5_23.TXT	-9	-9	-9	-9	-9	-9	-9	-9
90020 0	G DE LAPPE	169	1/26/93	12	QA5_23.TXT	-9	78000.00	7.900	16.000	0.7600	120.000	370.00	72000.0





## Trace Metal Analysis (ppm-ug/g)

STANUM	STATION	IDORG	DATE	LEG	METADATA	TMMOIST	ALUMINUM	ANTIMONY	ARSENIC	CADMIUM	CHROMIUM	COPPER	IRON
93168.0	WEST BASIN H2 (x1)	781	5/5/93	18	QA5_23.TXT	-9	-9	-9	-9	-9	-9	-9	-9
93170.0	CHOLLAS CREEK P1 (x2)	783	5/5/93	18	QA5_23.TXT	-9	-9	-9	-9	-9	-9	-9	-9
93174.0	TIJUANA R. ESTUARY HH3 (x2)	787	5/5/93	18	QA5_23.TXT	-9	38000.00	0.660	6.900	0.2900	56.000	31.00	40000.0
93175.0	TIJUANA R. ESTUARY HH3 (x3)	788	5/5/93	18	QA5_23.TXT	-9	-9	-9	-9	-9	-9	-9	-9
93176.0	MARINE TERMINAL R6 (x1) BLIND	794	5/6/93	18	QA5_23.TXT	-9	-9	-9	-9	-9	-9	-9	-9
93177.0	NAVAL SHIPYARDS O1 (x1)	795	5/26/93	19	QA5_23.TXT	43.60	66200.00	0.989	8.430	0.1800	38.900	111.00	28100.0
93178.0	NAVAL SHIPYARDS O2 (x1)	796	5/26/93	19	QA5_23.TXT	54.10	64000.00	1.320	14.870	0.2560	49.600	142.00	35800.0
93179.0	NAVAL SHIPYARDS O3 (x1)	797	5/26/93	19	QA5_23.TXT	63.90	81400.00	5.000	33.920	1.5800	95.200	360.00	49700.0
93181.0	NAVAL SHIPYARDS O6 (x1)	799	5/26/93	19	QA5_23.TXT	70.40	102000.00	3.350	18.820	0.3290	127.000	495.00	66300.0
93182.0	NAVAL SHIPYARDS O8 (x4)	800	5/26/93	19	QA5_23.TXT	-9	-9	-9	-9	-9	-9	-9	-9
93183.0	NAVAL SHIPYARDS O9 (x1)	801	5/26/93	19	QA5_23.TXT	-9	-9	-9	-9	-9	-9	-9	-9
93184.0	NAVAL SHIPYARDS O11 (x1)	802	5/26/93	19	QA5_23.TXT	71.90	85300.00	5.660	20.950	1.2600	135.000	531.00	59200.0
93185.0	NAVAL SHIPYARDS O14 (x1)	803	5/26/93	19	QA5_23.TXT	-9	-9	-9	-9	-9	-9	-9	-9
93186.0	FUEL PIER D4 (x1)	804	5/26/93	19	QA5_23.TXT	-9	-9	-9	-9	-9	-9	-9	-9
93187.0	MARINE TERMINAL R2 (x1)	805	5/26/93	19	QA5_23.TXT	-9	-9	-9	-9	-9	-9	-9	-9
93188.0	CARRIER BASE V1 (x2)	806	5/26/93	19	QA5_23.TXT	53.10	54700.00	0.842	7.470	0.2800	64.300	84.90	30100.0
93189.0	NAVAL SHIPYARDS O15 (x1) BLIND	814	5/26/93	19	QA5_23.TXT	-9	-9	-9	-9	-9	-9	-9	-9
90051.0	16 SWARTZ (INTERCONT. MARINA)	818	6/15/93	20	QA5_23.TXT	-9	34000.00	0.490	11.000	0.1300	62.000	72.00	36000.0
93192.0	INTERCONT. MARINA M1 (x2)	819	6/15/93	20	QA5_23.TXT	-9	33000.00	0.790	18.000	0.1400	81.000	110.00	46000.0
93193.0	INTERCONT. MARINA M1 (x1)	820	6/15/93	20	QA5_23.TXT	-9	42000.00	0.540	12.000	0.1600	66.000	81.00	36000.0
90037.0	STORMDRAIN EM (GRAPE ST.)-REP1	827	6/15/93	20	QA5_23.TXT	-9	23000.00	1.250	23.000	0.3500	81.000	100.00	38000.0
90037.0	STORMDRAIN EM (GRAPE ST.)-REP2	828	6/15/93	20	QA5_23.TXT	-9	24000.00	0.990	20.000	0.2300	92.000	120.00	39000.0
90037.0	STORMDRAIN EM (GRAPE ST.)-REP3	829	6/15/93	20	QA5_23.TXT	-9	27000.00	0.740	16.000	0.2400	77.000	100.00	34000.0
93198.0	INTERCONT. MARINA M2(x1) BLIND	833	6/15/93	20	QA5_23.TXT	-9	36000.00	0.480	7.700	0.1500	50.000	56.00	30000.0
90013.0	37 SWARTZ (MARINA)	815	6/16/93	20	QA5_23.TXT	-9	43000.00	0.820	19.000	0.1800	81.000	96.00	50000.0
93190.0	MARINA II1 (x1)	816	6/16/93	20	QA5_23.TXT	-9	39000.00	0.730	20.000	0.1500	85.000	100.00	49000.0
93191.0	MARINA II1 (x3)	817	6/16/93	20	QA5_23.TXT	-9	41000.00	0.770	25.000	0.1800	96.000	110.00	52000.0
90015.0	41 SWARTZ (GLORIETTA BAY)	821	6/16/93	20	QA5_23.TXT	-9	27000.00	0.590	12.000	0.2200	67.000	120.00	32000.0
93194.0	GLORIETTA BAY U1 (x1)	822	6/16/93	20	QA5_23.TXT	-9	28000.00	0.520	14.000	0.1900	74.000	93.00	35000.0
93195.0	GLORIETTA BAY U1 (x2)	823	6/16/93	20	QA5_23.TXT	-9	29000.00	0.600	13.000	0.1600	69.000	86.00	33000.0
90012.0	34 SWARTZ (C V. YACHT BASIN)	824	6/16/93	20	QA5_23.TXT	-9	37000.00	0.510	12.000	0.2500	67.000	74.00	46000.0
93196.0	CHULA V. YACHT BASIN S1 (x1)	825	6/16/93	20	QA5_23.TXT	-9	44000.00	0.790	14.000	0.5100	93.000	120.00	51000.0
93197.0	CHULA V. YACHT BASIN S1 (x3)	826	6/16/93	20	QA5_23.TXT	-9	47000.00	0.740	13.000	0.3900	78.000	110.00	45000.0
90050.0	10 SWARTZ (WEST BASIN)	837	7/20/93	21	QA5_23.TXT	-9	26000.00	0.570	17.000	0.2200	92.000	140.00	45000.0
93199.0	WEST BASIN H1 (x1)	838	7/20/93	21	QA5_23.TXT	-9	35000.00	0.780	16.000	0.3100	120.000	150.00	51000.0
93200.0	WEST BASIN H1 (x4)	839	7/20/93	21	QA5_23.TXT	-9	41000.00	0.620	14.000	0.2600	100.000	110.00	49000.0
90053.0	35 SWARTZ (CORONADO CAYS)	843	7/20/93	21	QA5_23.TXT	-9	37000.00	1.020	17.000	0.1800	82.000	87.00	50000.0
93203.0	CORONADO CAYS T2 (x1)	844	7/20/93	21	QA5_23.TXT	-9	42000.00	1.060	21.000	0.1800	92.000	130.00	54000.0
93204.0	CORONADO CAYS T2 (x2)	845	7/20/93	21	QA5_23.TXT	-9	28000.00	0.760	11.000	0.1900	66.000	72.00	38000.0
90003.0	14 SWARTZ (DOWNTOWN PIERS)	846	7/20/93	21	QA5_23.TXT	-9	39000.00	1.030	14.000	0.3000	89.000	110.00	36000.0
93205.0	DOWNTOWN PIERS K1 (x9)	847	7/20/93	21	QA5_23.TXT	-9	38000.00	0.750	11.000	0.2400	72.000	92.00	31000.0
93206.0	DOWNTOWN PIERS K1 (x11)	848	7/20/93	21	QA5_23.TXT	-9	31000.00	1.580	14.000	0.3100	81.000	88.00	34000.0
90004.0	15 SWARTZ (G ST. PIER MARINA)	849	7/20/93	21	QA5_23.TXT	-9	35000.00	1.000	13.000	0.4100	98.000	130.00	42000.0
93207.0	G ST. PIER MARINA L1 (x4)	850	7/20/93	21	QA5_23.TXT	-9	25000.00	1.020	15.000	0.3900	120.000	150.00	39000.0

## Trace Metal Analysis (ppm-ug/g)

STANUM	STATION	IDORG	DATE	LEG	METADATA	TMMOIST	ALUMINUM	ANTIMONY	ARSENIC	CADMIUM	CHROMIUM	COPPER	IRON
93208 0	G ST PIER MARINA L1 (x5)	851	7/20/93	21	QA5_23.TXT	-9	29000.00	1.400	14.000	0.7300	110.000	140.00	33000.0
93209 0	DOWNTOWN PIERS K4 BLIND (x4)	852	7/20/93	21	QA5_23.TXT	-9	25000.00	1.230	14.000	0.3300	78.000	93.00	34000.0
90001 0	11 SWARTZ (EAST BASIN)	840	7/21/93	21	QA5_23.TXT	-9	37000.00	0.810	15.000	0.5900	140.000	110.00	46000.0
93201.0	EAST BASIN 11 (x1)	841	7/21/93	21	QA5_23.TXT	-9	46000.00	0.780	11.000	0.3900	130.000	140.00	47000.0
93202 0	EAST BASIN 11 (x5)	842	7/21/93	21	QA5_23.TXT	-9	25000.00	0.880	11.000	0.2700	91.000	96.00	37000.0
93107.0	MISSION BAY A3 (x1)-REP 1	853	7/21/93	21	QA5_23.TXT	-9	43000.00	1.700	40.000	0.2600	55.000	37.00	38000.0
93107.0	MISSION BAY A3 (x1)-REP 2	854	7/21/93	21	QA5_23.TXT	-9	55000.00	2.100	30.000	0.4100	71.000	45.00	50000.0
93107 0	MISSION BAY A3 (x1)-REP 3	855	7/21/93	21	QA5_23.TXT	-9	51000.00	1.550	38.000	0.2200	51.000	32.00	43000.0
93112.0	MISSION BAY A8 (x1)-REP 1	856	7/21/93	21	QA5_23.TXT	-9	57000.00	0.250	6.200	0.1000	40.000	14.00	24000.0
93112.0	MISSION BAY A8 (x1)-REP 2	857	7/21/93	21	QA5_23.TXT	-9	38000.00	0.440	7.000	0.1500	48.000	18.00	30000.0
93112.0	MISSION BAY A8 (x1)-REP 3	858	7/21/93	21	QA5_23.TXT	-9	38000.00	0.540	13.000	0.1400	48.000	19.00	28000.0
93108 0	MISSION BAY A4 (x1)-REP 1	859	7/21/93	21	QA5_23.TXT	-9	51000.00	0.900	18.000	0.1200	60.000	28.00	43000.0
93108 0	MISSION BAY A4 (x1)-REP 2	860	7/21/93	21	QA5_23.TXT	-9	29000.00	0.720	22.000	0.1100	49.000	25.00	33000.0
93108.0	MISSION BAY A4 (x1)-REP 3	861	7/21/93	21	QA5_23.TXT	-9	31000.00	0.970	17.000	0.1400	63.000	29.00	39000.0
90052.0	32 SWARTZ(SWEETWATER CH)-REP 1	875	8/3/93	22	QA5_23.TXT	-9	45000.00	1.080	14.000	0.2700	58.000	82.00	55000.0
93219.0	SWEETWATER CH JJ1 (x1)-REP 2	876	8/3/93	22	QA5_23.TXT	-9	44000.00	0.700	6.600	0.2300	50.000	53.00	48000.0
93220.0	SWEETWATER CH JJ1 (x8)-REP 3	877	8/3/93	22	QA5_23.TXT	-9	60000.00	0.470	4.300	0.2000	49.000	38.00	45000.0
90002 0	12 SWARTZ(DOWNTOWN ANCH)-REP 1	878	8/3/93	22	QA5_23.TXT	-9	43000.00	1.440	9.400	0.4500	51.000	60.00	25000.0
93221.0	DOWNTOWN ANCH J1 (x1)-REP 2	879	8/3/93	22	QA5_23.TXT	-9	29000.00	1.100	15.000	0.2700	92.000	110.00	38000.0
93222.0	DOWNTOWN ANCH J1 (x2)-REP 3	880	8/3/93	22	QA5_23.TXT	-9	33000.00	0.930	15.000	0.3000	110.000	120.00	40000.0
93180.0	NAVAL BASE/SHIPYARDS O5 (x1)	798	8/4/93	22	QA5_23.TXT	-9	.9	.9	.9	.9	.9	.9	.9
90021 0	K SWARTZ (NAVAL BASE O4)	862	8/4/93	22	QA5_23.TXT	-9	46000.00	2.260	24.000	0.3800	100.000	290.00	50000.0
93210.0	NAVAL BASE/SHIPYARDS O4 (x1)	863	8/4/93	22	QA5_23.TXT	-9	41000.00	8.060	18.000	0.4900	86.000	320.00	37000.0
93211.0	NAVAL BASE/SHIPYARDS O4 (x2)	864	8/4/93	22	QA5_23.TXT	-9	47000.00	11.400	28.000	1.2000	120.000	660.00	49000.0
90006 0	23 SWARTZ (NAVAL BASE O7)	865	8/4/93	22	QA5_23.TXT	-9	55000.00	1.520	12.000	0.5000	58.000	120.00	41000.0
93212.0	NAVAL BASE/SHIPYARDS O7 (x1)	866	8/4/93	22	QA5_23.TXT	-9	58000.00	0.860	6.700	0.3800	42.000	53.00	31000.0
93213.0	NAVAL BASE/SHIPYARDS O7 (x4)	867	8/4/93	22	QA5_23.TXT	-9	46000.00	1.440	13.000	0.7700	56.000	130.00	37000.0
90022 0	P SWARTZ (NAVAL BASE O12)	868	8/4/93	22	QA5_23.TXT	-9	40000.00	3.900	24.000	0.9000	120.000	340.00	57000.0
93214.0	NAVAL BASE/SHIPYARDS O12 (x3)	869	8/4/93	22	QA5_23.TXT	-9	37000.00	2.300	12.000	0.3500	65.000	200.00	40000.0
93215.0	NAVAL BASE/SHIPYARDS O12 (x4)	870	8/4/93	22	QA5_23.TXT	-9	36000.00	0.970	10.000	0.2200	65.000	150.00	40000.0
90028 0	NSB-M1 (SUB BASE C2)	871	8/4/93	22	QA5_23.TXT	-9	66000.00	0.820	11.000	0.5500	59.000	110.00	38000.0
93216 0	SUB BASE C2 (x1)	872	8/4/93	22	QA5_23.TXT	-9	69000.00	0.500	6.000	0.2400	41.000	39.00	29000.0
93217.0	SUB BASE C2 (x3)	873	8/4/93	22	QA5_23.TXT	-9	58000.00	0.820	11.000	0.5700	61.000	89.00	38000.0
93218.0	SUB BASE C2 (x11) BLIND	874	8/4/93	22	QA5_23.TXT	-9	37000.00	1.010	10.000	0.5700	60.000	89.00	40000.0
93116 0	SAN DIEGO RIVER B1 (x4)-REP 1	881	8/5/93	22	QA5_23.TXT	-9	37000.00	1.750	8.400	0.4900	55.000	34.00	47000.0
93116.0	SAN DIEGO RIVER B1 (x4)-REP 2	882	8/5/93	22	QA5_23.TXT	-9	52000.00	1.530	18.000	1.0000	63.000	64.00	51000.0
93116 0	SAN DIEGO RIVER B1 (x4)-REP 3	883	8/5/93	22	QA5_23.TXT	-9	42000.00	0.710	16.000	0.9700	57.000	57.00	44000.0
90007 0	25 SWARTZ (NAVAL BASE/SY O10)	887	8/17/93	23	QA5_23.TXT	-9	39000.00	2.660	17.000	0.5200	85.000	240.00	43000.0
93223 0	NAVAL BASE/SHIPYARD O10 (x2)	888	8/17/93	23	QA5_23.TXT	-9	46000.00	2.520	22.000	0.9600	130.000	400.00	59000.0
93224 0	NAVAL BASE/SHIPYARD O10 (x6)	889	8/17/93	23	QA5_23.TXT	-9	57000.00	2.460	7.500	1.2000	340.000	110.00	45000.0
90008 0	27 SWARTZ (NAVAL BASE/SH O13)	890	8/17/93	23	QA5_23.TXT	-9	37000.00	0.980	11.000	0.2500	72.000	180.00	41000.0
93225 0	NAVAL BASE/SHIPYARD O13 (x1)	891	8/17/93	23	QA5_23.TXT	-9	37000.00	2.640	16.000	0.7000	90.000	320.00	45000.0
93226 0	NAVAL BASE/SHIPYARD O13 (x3)	892	8/17/93	23	QA5_23.TXT	-9	46000.00	1.590	16.000	0.6500	86.000	310.00	49000.0
90009 0	28 SWARTZ (7TH ST CHANNEL Q1)	893	8/17/93	23	QA5_23.TXT	-9	62000.00	3.120	4.300	1.5000	77.000	100.00	33000.0

## Trace Metal Analysis (ppm-ug/g)

STANUM	STATION	IDORG	DATE	LEG	METADATA	TMMOIST	ALUMINUM	ANTIMONY	ARSENIC	CADMIUM	CHROMIUM	COPPER	IRON
93227 0	SEVENTH ST CHANNEL Q1 (x5)	894	8/17/93	23	QA5_23.TXT	-9	45000.00	2.380	9.800	1.4000	77.000	160.00	40000.0
93228 0	SEVENTH ST CHANNEL Q1 (x6)	895	8/17/93	23	QA5_23.TXT	-9	48000.00	6.300	8.200	3.0700	92.000	150.00	48000.0
90010 0	31 SWARTZ (MARINE TERMINAL R3)	896	8/17/93	23	QA5_23.TXT	-9	53000.00	0.620	5.700	0.2000	56.000	110.00	48000.0
93229 0	MARINE TERMINAL R3 (x1)	897	8/17/93	23	QA5_23.TXT	-9	44000.00	1.980	12.000	0.4900	84.000	250.00	51000.0
93230 0	MARINE TERMINAL R3 (x3)	898	8/17/93	23	QA5_23.TXT	-9	46000.00	1.420	12.000	0.6400	89.000	300.00	48000.0
90025 0	SDNI-N5 (CARRIER BASE V2)	899	8/18/93	23	QA5_23.TXT	-9	45000.00	1.170	15.000	0.2800	86.000	140.00	41000.0
93231 0	CARRIER BASE V2 (x6)	1000	8/18/93	23	QA5_23.TXT	-9	25000.00	0.730	11.000	0.2200	61.000	99.00	29000.0
93232 0	CARRIER BASE V2 (x7)	1001	8/18/93	23	QA5_23.TXT	-9	35000.00	0.870	11.000	0.3000	69.000	100.00	33000.0
93132 0	CORONADO CAYS T3 (x1)	1025	1/18/94	24	chmmeta2.txt	-9	-9	-9	-9	-9	-9	-9	-9
93129 0	SOUTH BAY GG4 (x1)	1026	1/18/94	24	chmmeta2.txt	-9	-9	-9	-9	-9	-9	-9	-9
93151 0	CHANNEL-SOUTH BAY AA1 (x1)	1027	1/18/94	24	chmmeta2.txt	-9	-9	-9	-9	-9	-9	-9	-9
93127 0	SOUTH BAY GG2 (x1)	1028	1/18/94	24	chmmeta2.txt	-9	-9	-9	-9	-9	-9	-9	-9
93139 0	COMMERCIAL BASIN F1 (x1)	1030	1/18/94	24	chmmeta2.txt	-9	-9	-9	-9	-9	-9	-9	-9
93106 0	MISSION BAY A2 (x1)	1031	1/18/94	24	chmmeta2.txt	-9	-9	-9	-9	-9	-9	-9	-9
93128 0	SOUTHBAY GG5 (x1)	1033	1/18/94	24	chmmeta2.txt	-9	-9	-9	-9	-9	-9	-9	-9
93158 0	SOUTH BAY GG1 (x1) REP 1	1035	1/18/94	24	chmmeta2.txt	55.60	43600.00	0.700	11.000	0.1070	63.800	73.80	39800.0
93158 0	SOUTH BAY GG1 (x1) REP 2	1036	1/18/94	24	chmmeta2.txt	54.50	28600.00	0.790	12.300	0.1530	62.900	72.70	39200.0
93158 0	SOUTH BAY GG1 (x1) REP 3	1037	1/18/94	24	chmmeta2.txt	49.00	38000.00	0.606	11.000	0.2240	55.600	60.00	33200.0
93122 0	S.S.- CORONADO DD3 (x1) REP 1	1013	1/19/94	24	chmmeta2.txt	58.00	30500.00	0.954	15.100	0.3370	79.800	135.00	41700.0
93122 0	S.S.- CORONADO DD3 (x1) REP 2	1014	1/19/94	24	chmmeta2.txt	46.00	41800.00	0.949	11.000	0.2440	66.300	91.10	36400.0
93122 0	S.S.- CORONADO DD3 (x1) REP 3	1015	1/19/94	24	chmmeta2.txt	49.00	40100.00	0.876	11.500	0.3100	69.800	104.00	37100.0
93125 0	SILVER STRAND FF4 (x4) REP 1	1016	1/19/94	24	chmmeta2.txt	42.00	50300.00	0.505	4.660	0.2850	40.600	47.80	23500.0
93125 0	SILVER STRAND FF4 (x4) REP 2	1017	1/19/94	24	chmmeta2.txt	40.80	58500.00	0.399	3.630	0.2630	36.600	36.90	22200.0
93125 0	SILVER STRAND FF4 (x4) REP 3	1018	1/19/94	24	chmmeta2.txt	49.50	49600.00	0.528	4.250	0.3250	41.800	47.30	23800.0
90057 0	5 SDG&E REP 1	1019	1/19/94	24	chmmeta2.txt	59.20	38300.00	0.941	14.400	0.4450	80.900	95.30	52800.0
90057 0	5 SDG&E REP 2	1020	1/19/94	24	chmmeta2.txt	60.40	40000.00	0.920	12.400	0.5300	78.700	90.10	51200.0
90057 0	5 SDG&E REP 3	1021	1/19/94	24	chmmeta2.txt	58.60	46900.00	0.862	13.600	0.5110	79.100	88.00	49800.0
93117 0	SAN DIEGO RIVER B2 (x2)	1029	1/19/94	24	chmmeta2.txt	-9	-9	-9	-9	-9	-9	-9	-9
93120 0	TIJUANA R. ESTUARY HH2 (x1)	1032	1/19/94	24	chmmeta2.txt	-9	-9	-9	-9	-9	-9	-9	-9
93121 0	TIJUANA R. ESTUARY HH2 (x5)	1034	1/19/94	24	chmmeta2.txt	-9	-9	-9	-9	-9	-9	-9	-9
90036 0	STORMDRAIN EA (ROHR CH.) REP 1	1022	1/20/94	24	chmmeta2.txt	44.10	27800.00	1.450	3.230	0.8080	41.000	34.20	27700.0
90036 0	STORMDRAIN EA (ROHR CH.) REP 2	1023	1/20/94	24	chmmeta2.txt	36.40	50300.00	1.040	3.170	0.9320	47.500	30.80	28600.0
90036 0	STORMDRAIN EA (ROHR CH.) REP 3	1024	1/20/94	24	chmmeta2.txt	30.70	66400.00	0.524	2.240	0.8230	40.000	17.50	27000.0
90020 0	G DE LAPPE-REP 1	1104	3/1/94	27	chmmeta2.txt	67.70	31100.00	5.650	23.400	0.6470	104.000	361.00	49500.0
90020 0	G DE LAPPE-REP 2	1105	3/1/94	27	chmmeta2.txt	68.70	37900.00	5.560	21.500	0.7440	99.900	354.00	48800.0
90020 0	G DE LAPPE-REP 3	1106	3/1/94	27	chmmeta2.txt	65.30	31500.00	5.560	23.300	0.7630	97.000	359.00	44700.0
90022 0	P SWARTZ-REP 1	1107	3/1/94	27	chmmeta2.txt	67.00	48800.00	5.960	24.100	0.7410	112.000	418.00	50100.0
90022 0	P SWARTZ-REP 2	1108	3/1/94	27	chmmeta2.txt	69.60	54200.00	4.180	31.100	0.9030	111.000	450.00	53200.0
90022 0	P SWARTZ-REP 3	1109	3/1/94	27	chmmeta2.txt	69.40	61200.00	5.350	21.200	0.9280	114.000	463.00	55400.0
90029 0	NSB-R1-REP 1	1113	3/1/94	27	chmmeta2.txt	34.00	57700.00	0.387	4.660	0.1290	22.100	17.70	19400.0
90029 0	NSB-R1-REP 2	1114	3/1/94	27	chmmeta2.txt	28.00	59000.00	0.328	2.900	0.1140	22.300	12.80	16100.0
90029 0	NSB-R1-REP 3	1115	3/1/94	27	chmmeta2.txt	38.80	48400.00	0.495	6.080	0.3820	37.900	40.40	25700.0
90024 0	SDNI-N1-REP 1	1116	3/1/94	27	chmmeta2.txt	58.00	35100.00	1.770	13.000	0.5140	81.100	147.00	40700.0
90024 0	SDNI-N1-REP 2	1117	3/1/94	27	chmmeta2.txt	53.00	43300.00	1.280	11.200	0.5430	82.600	131.00	37600.0

## Trace Metal Analysis (ppm-ug/g)

STANUM	STATION	IDORG	DATE	LEG	METADATA	TMMOIST	ALUMINUM	ANTIMONY	ARSENIC	CADMIUM	CHROMIUM	COPPER	IRON
90024 0	SDNI-N1-REP 3	1118	3/1/94	27	chmmeta2.txt	55.40	52900.00	1.600	10.800	0.5580	75.900	134.00	35300.0
93185 0	NAVAL SHIPYARDS O14 (x1)	1125	3/1/94	27	chmmeta2.txt	-9	-9	-9	-9	-9	-9	-9	-9
93163 0	FUEL PIERS D2 (x2)	1126	3/1/94	27	chmmeta2.txt	-9	-9	-9	-9	-9	-9	-9	-9
93161 0	SUB BASE C1 (x1)	1127	3/1/94	27	chmmeta2.txt	-9	-9	-9	-9	-9	-9	-9	-9
93171 0	MARINE TERMINAL R1 (x1)	1128	3/1/94	27	chmmeta2.txt	-9	-9	-9	-9	-9	-9	-9	-9
90013 0	37 SWARTZ-REP 1	1098	3/2/94	27	chmmeta2.txt	63.50	46100.00	1.240	24.000	0.1180	95.100	120.00	58700.0
90013 0	37 SWARTZ-REP 2	1099	3/2/94	27	chmmeta2.txt	64.20	42400.00	1.230	26.000	0.1440	95.700	283.00	58400.0
90013 0	37 SWARTZ-REP 3	1100	3/2/94	27	chmmeta2.txt	68.40	39600.00	1.590	25.000	0.1550	92.800	123.00	60400.0
93106 0	MISSION BAY A2 (x1)-REP 1	1101	3/2/94	27	chmmeta2.txt	72.80	37300.00	2.050	27.000	0.1810	62.100	37.90	50800.0
93106 0	MISSION BAY A2 (x1)-REP 2	1102	3/2/94	27	chmmeta2.txt	75.50	103000.00	1.560	28.000	0.1870	71.300	39.00	59500.0
93106 0	MISSION BAY A2 (x1)-REP 3	1103	3/2/94	27	chmmeta2.txt	67.30	28800.00	1.450	27.000	0.1340	56.200	33.70	43300.0
93181 0	NAVAL SHIPYARDS O6 (x1)-REP 1	1110	3/2/94	27	chmmeta2.txt	67.70	68800.00	1.980	27.500	0.3370	104.000	352.00	58700.0
93181 0	NAVAL SHIPYARDS O6 (x1)-REP 2	1111	3/2/94	27	chmmeta2.txt	69.60	41300.00	2.030	20.600	0.5010	118.000	397.00	52600.0
93181 0	NAVAL SHIPYARDS O6 (x1)-REP 3	1112	3/2/94	27	chmmeta2.txt	70.60	56400.00	2.130	18.600	0.5170	116.000	414.00	56100.0
93178 0	NAVAL SHIPYARDS O2 (x1)-REP 1	1119	3/2/94	27	chmmeta2.txt	57.00	45800.00	4.600	20.300	1.6600	76.500	260.00	38200.0
93178 0	NAVAL SHIPYARDS O2 (x1)-REP 2	1120	3/2/94	27	chmmeta2.txt	62.40	51200.00	4.660	19.200	2.7000	105.000	353.00	48300.0
93178 0	NAVAL SHIPYARDS O2 (x1)-REP 3	1121	3/2/94	27	chmmeta2.txt	53.50	46200.00	4.750	21.800	1.8300	76.200	294.00	37200.0
93179 0	NAVAL SHIPYARDS O3 (x1)-REP 1	1122	3/2/94	27	chmmeta2.txt	73.70	58900.00	8.560	31.900	0.8220	121.000	416.00	52500.0
93179 0	NAVAL SHIPYARDS O3 (x1)-REP 2	1123	3/2/94	27	chmmeta2.txt	74.50	69800.00	7.130	27.700	0.5490	111.000	412.00	59400.0
93179 0	NAVAL SHIPYARDS O3 (x1)-REP 3	1124	3/2/94	27	chmmeta2.txt	71.30	70300.00	13.800	23.800	0.9520	115.000	420.00	60000.0
90052 0	32 SWARTZ(SWEETWATER CH)-REP 1	1129	3/15/94	28	chmmeta2.txt	64.50	35700.00	1.760	23.000	0.1930	72.600	306.00	55500.0
90052 0	32 SWARTZ(SWEETWATER CH)-REP 2	1130	3/15/94	28	chmmeta2.txt	61.80	42500.00	1.030	21.000	0.1630	73.200	277.00	56100.0
90052 0	32 SWARTZ(SWEETWATER CH)-REP 3	1131	3/15/94	28	chmmeta2.txt	62.10	58500.00	1.090	21.000	0.2210	78.100	127.00	65000.0
93131 0	CORONADO CAYS T1 (x1)-REP 1	1138	3/15/94	28	chmmeta2.txt	63.30	30200.00	0.572	15.700	0.1140	66.500	99.30	46700.0
93131 0	CORONADO CAYS T1 (x1)-REP 2	1139	3/15/94	28	chmmeta2.txt	60.60	40600.00	0.767	14.100	0.2230	64.900	102.00	47100.0
93131 0	CORONADO CAYS T1 (x1)-REP 3	1140	3/15/94	28	chmmeta2.txt	61.00	61000.00	0.624	18.100	0.2160	67.900	97.90	50100.0
93160 0	CHANNEL-SOUTH BAY AA2(x1)-REP1	1141	3/15/94	28	chmmeta2.txt	62.40	53200.00	0.566	16.000	0.2760	82.300	227.00	57900.0
93160 0	CHANNEL-SOUTH BAY AA2(x1)-REP2	1142	3/15/94	28	chmmeta2.txt	64.00	61500.00	0.818	17.800	0.1760	89.700	294.00	62200.0
93160 0	CHANNEL-SOUTH BAY AA2(x1)-REP3	1143	3/15/94	28	chmmeta2.txt	61.80	56500.00	0.752	16.600	0.2450	82.500	270.00	55300.0
90030 0	BF SCHROEDER SITE F-REP 1	1144	3/15/94	28	chmmeta2.txt	72.10	70400.00	2.850	23.900	0.4520	110.000	383.00	56000.0
90030 0	BF SCHROEDER SITE F-REP 2	1145	3/15/94	28	chmmeta2.txt	71.40	42500.00	1.810	22.000	0.3720	108.000	390.00	54900.0
90030 0	BF SCHROEDER SITE F-REP 3	1146	3/15/94	28	chmmeta2.txt	69.00	46300.00	3.460	21.100	0.6980	111.000	334.00	49100.0
93159 0	SOUTH BAY GG3 (x1)-REP 1	1147	3/15/94	28	chmmeta2.txt	38.80	55300.00	0.421	6.900	0.1310	37.800	35.80	27900.0
93159 0	SOUTH BAY GG3 (x1)-REP 2	1148	3/15/94	28	chmmeta2.txt	38.40	14700.00	0.366	6.060	0.1670	26.100	14.70	21300.0
93159 0	SOUTH BAY GG3 (x1)-REP 3	1149	3/15/94	28	chmmeta2.txt	42.00	54200.00	0.574	5.990	0.0370	35.100	34.80	24900.0
90043 0	CORONADO WHARF-REP 1	1156	3/15/94	28	chmmeta2.txt	34.00	64000.00	0.284	6.120	0.1070	30.400	42.20	18300.0
90043 0	CORONADO WHARF-REP 2	1157	3/15/94	28	chmmeta2.txt	68.60	65900.00	1.100	15.600	0.7000	87.600	180.00	42800.0
90043 0	CORONADO WHARF-REP 3	1158	3/15/94	28	chmmeta2.txt	55.90	38400.00	1.280	10.700	0.6580	70.000	136.00	34000.0
93120 0	TIJUANA R EST HH2 (x1)-REP 1	1132	3/16/94	28	chmmeta2.txt	27.70	56200.00	0.273	3.200	0.0846	34.700	5.99	36900.0
93120 0	TIJUANA R EST HH2 (x1)-REP 2	1133	3/16/94	28	chmmeta2.txt	27.60	61200.00	0.256	2.800	0.0896	33.300	6.04	34500.0
93120 0	TIJUANA R EST HH2 (x1)-REP 3	1134	3/16/94	28	chmmeta2.txt	39.20	71000.00	0.396	6.200	0.0795	51.100	13.80	45600.0
93121 0	TIJUANA R EST HH2 (x5)-REP 1	1135	3/16/94	28	chmmeta2.txt	35.40	58900.00	0.303	4.700	0.0985	39.500	10.20	36500.0
93121 0	TIJUANA R EST HH2 (x5)-REP 2	1136	3/16/94	28	chmmeta2.txt	36.00	64800.00	0.410	4.600	0.1080	43.600	11.60	41100.0
93121 0	TIJUANA R EST HH2 (x5)-REP 3	1137	3/16/94	28	chmmeta2.txt	35.40	46400.00	0.451	3.300	0.1090	45.800	12.20	42200.0





## Trace Metal Analysis (ppm-ug/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	LEAD	MANGANESE	MERCURY	NICKEL	SELENIUM	SILVER	TIN	ZINC
90006 0	23 SWARTZ	155	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9
90019 0	E DE LAPPE	168	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9
90021 0	K SWARTZ	170	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9
90031 0	BG SCHROEDER SITE G	180	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9
90038 0	CC	187	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9
90071 C	BAIT BARGE	220	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9
90101 0	SCRIPPS PIER	250	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9
90036 0	STORM DRAIN- ROHR CHANNEL	185	10/14/92	5	34 000	540 00	0 0840	18 000	-8	0 4500	3 3000	200 0000
90053 0	35 SWARTZ	202	10/14/92	5	-9	-9	-9	-9	-9	-9	-9	-9
90054 0	36 SWARTZ	203	10/14/92	5	-9	-9	-9	-9	-9	-9	-9	-9
90001 0	11 SWARTZ	150	10/27/92	6	43 500	380 00	0 7740	24 000	0 200	1 4800	6 4600	220 0000
90002 0	12 SWARTZ	151	10/27/92	6	-9	-9	-9	-9	-9	-9	-9	-9
90016 0	42 SWARTZ	165	10/27/92	6	28 200	380 00	0 2940	11 000	-8	0 4100	3 5600	110 0000
90049 0	8B	198	10/27/92	6	16 900	330 00	0 2790	13 000	-8	0 5500	2 1600	120 0000
90056 0	8A SWARTZ	205	10/27/92	6	21 700	410 00	0 0910	7 000	-8	0 1200	1 7500	65 0000
90063 0	THOMPSON SITE 205	212	10/27/92	6	12 100	480 00	0 0620	14 000	-8	0 2500	2 8900	66 0000
90003 0	14 SWARTZ	152	10/28/92	6	42 100	350 00	0 8280	21 000	0 340	1 3400	8 2200	240 0000
90004 0	15 SWARTZ	153	10/28/92	6	54 400	380 00	1 0500	23 000	0 470	1 4000	4 2500	280 0000
90010 0	31 SWARTZ	159	10/28/92	6	-9	-9	-9	-9	-9	-9	-9	-9
90011 0	33 SWARTZ	160	10/28/92	6	24 600	480 00	2 2100	26 000	0 260	1 0200	2 2100	230 0000
90013 0	37 SWARTZ	162	10/28/92	6	27 000	470 00	0 6120	69 000	-8	0 4400	3 2300	240 0000
90017 0	C DELAPPE	166	10/28/92	6	70 000	240 00	0 6560	15 000	0 480	0 7800	3 9200	270 0000
90048 0	6 SWARTZ	197	10/28/92	6	34 200	330 00	2 2100	24 000	0 270	0 7700	3 9700	210 0000
90051 0	16 SWARTZ	200	10/28/92	6	34 200	390 00	0 4560	18 000	-8	0 4000	6 2100	380 0000
90052 0	32 SWARTZ	201	10/28/92	6	-9	-9	-9	-9	-9	-9	-9	-9
90007 0	25 SWARTZ	156	11/10/92	7	83 600	470 00	3 3000	21 000	-8	2 9700	20 0000	340 0000
90008 0	27 SWARTZ	157	11/10/92	7	63 800	390 00	0 1700	19 000	-8	1 5800	10 0000	240 0000
90009 0	28 SWARTZ	158	11/10/92	7	220 000	460 00	0 8380	24 000	0 210	1 8400	17 2000	630 0000
90022 0	P SWARTZ	171	11/10/92	7	100 000	430 00	0 4870	26 000	0 210	2 9600	19 0000	420 0000
90026 0	SDNI-N18	175	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9
90027 0	NSB-S1	176	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9
90028 0	NSB-M1	177	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9
90029 0	NSB-R1	178	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9
90023 0	NM SANDBAG	172	11/11/92	7	36 100	350 00	0 2620	16 000	-8	0 8100	5 9000	160 0000
90024 0	SDNI-N1	173	11/11/92	7	72 000	430 00	0 3810	20 000	-8	1 3000	10 0000	280 0000
90025 0	SDNI-N5	174	11/11/92	7	72 800	460 00	0 4370	20 000	-8	1 3900	12 0000	280 0000
90050 0	10 SWARTZ	199	11/11/92	7	70 400	550 00	0 3330	16 000	-8	0 8900	9 0000	280 0000
90055 0	43 SWARTZ	204	11/11/92	7	55 200	430 00	0 3930	14 000	-8	1 0100	8 4000	210 0000
90102 0	HARBOR BRIDGE 71A	256	11/11/92	7	35 000	590 00	0 2940	14 000	-8	0 6200	4 6000	160 0000
90103 0	SCRIPPS TRIANGLE	257	11/11/92	7	-9	-9	-9	-9	-9	-9	-9	-9
90005 0	21 SWARTZ	154	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9
90014 0	38 SWARTZ	163	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9
90018 0	D DE LAPPE	167	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9
90020 0	G DE LAPPE	169	1/26/93	12	150 000	550 00	1 0700	34 000	-8	2 2700	22 0000	550 0000





## Trace Metal Analysis (ppm-ug/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	LEAD	MANGANESE	MERCURY	NICKEL	SELENIUM	SILVER	TIN	ZINC
93168.0	WEST BASIN H2 (x1)	781	5/5/93	18	-9	-9	-9	-9	-9	-9	-9	-9
93170.0	CHOLLAS CREEK P1 (x2)	783	5/5/93	18	-9	-9	-9	-9	-9	-9	-9	-9
93174.0	TIJUANA R. ESTUARY HH3 (x2)	787	5/5/93	18	16.800	390.00	0.0560	20.000	0.290	0.2000	2.6000	110.0000
93175.0	TIJUANA R. ESTUARY HH3 (x3)	788	5/5/93	18	-9	-9	-9	-9	-9	-9	-9	-9
93176.0	MARINE TERMINAL R6 (x1) BLIND	794	5/6/93	18	-9	-9	-9	-9	-9	-9	-9	-9
93177.0	NAVAL SHIPYARDS O1 (x1)	795	5/26/93	19	59.900	311.00	0.3810	12.800	0.200	0.6550	7.3300	182.0000
93178.0	NAVAL SHIPYARDS O2 (x1)	796	5/26/93	19	64.200	391.00	0.5070	21.600	0.650	0.8840	8.1500	207.0000
93179.0	NAVAL SHIPYARDS O3 (x1)	797	5/26/93	19	152.000	470.00	0.9150	26.000	0.780	1.9500	10.7000	811.0000
93181.0	NAVAL SHIPYARDS O6 (x1)	799	5/26/93	19	137.000	457.00	1.2800	31.000	0.580	2.3000	9.6300	483.0000
93182.0	NAVAL SHIPYARDS O8 (x1)	800	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9
93183.0	NAVAL SHIPYARDS O9 (x1)	801	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9
93184.0	NAVAL SHIPYARDS O11 (x1)	802	5/26/93	19	85.300	487.00	1.0600	30.400	0.740	4.7000	8.7900	569.0000
93185.0	NAVAL SHIPYARDS O14 (x1)	803	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9
93186.0	FUEL PIER D4 (x1)	804	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9
93187.0	MARINE TERMINAL R2 (x1)	805	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9
93188.0	CARRIER BASE V1 (x2)	806	5/26/93	19	33.100	331.00	0.3270	14.200	0.250	0.9470	7.4700	174.0000
93189.0	NAVAL SHIPYARDS O15 (x1) BLIND	814	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9
90051.0	16 SWARTZ (INTERCONT. MARINA)	818	6/15/93	20	31.300	560.00	0.2440	19.000	0.270	0.3400	4.4300	160.0000
93192.0	INTERCONT. MARINA M1 (x2)	819	6/15/93	20	35.000	290.00	0.4000	35.000	0.230	0.5500	6.2700	200.0000
93193.0	INTERCONT. MARINA M1 (x1)	820	6/15/93	20	31.300	410.00	0.2720	19.000	0.210	0.4100	4.6400	160.0000
90037.0	STORMDRAIN EM (GRAPE ST.)-REP1	827	6/15/93	20	35.300	330.00	0.4420	26.000	0.300	0.9400	7.8700	210.0000
90037.0	STORMDRAIN EM (GRAPE ST.)-REP2	828	6/15/93	20	44.900	370.00	0.5570	21.000	0.360	1.2000	9.5700	210.0000
90037.0	STORMDRAIN EM (GRAPE ST.)-REP3	829	6/15/93	20	39.800	350.00	0.4820	18.000	0.300	1.2000	8.6900	220.0000
93198.0	INTERCONT. MARINA M2(x1) BLIND	833	6/15/93	20	27.700	540.00	0.1530	11.000	-8	0.2400	3.5200	180.0000
90013.0	37 SWARTZ (MARINA)	815	6/16/93	20	29.600	460.00	0.4210	22.000	0.220	1.0000	5.1700	220.0000
93190.0	MARINA I11 (x1)	816	6/16/93	20	25.600	400.00	0.4320	22.000	0.290	1.1000	4.4500	220.0000
93191.0	MARINA I11 (x3)	817	6/16/93	20	29.400	420.00	0.5410	24.000	0.340	1.1000	5.0600	230.0000
90015.0	41 SWARTZ (GLORIETTA BAY)	821	6/16/93	20	36.300	330.00	0.7730	25.000	0.260	0.8900	4.5100	220.0000
93194.0	GLORIETTA BAY U1 (x1)	822	6/16/93	20	33.400	330.00	0.6690	26.000	0.230	0.9600	4.7900	220.0000
93195.0	GLORIETTA BAY U1 (x2)	823	6/16/93	20	34.000	320.00	0.6530	23.000	0.210	0.8700	6.7600	200.0000
90012.0	34 SWARTZ (C V YACHT BASIN)	824	6/16/93	20	15.300	440.00	0.0420	19.000	0.220	0.9300	3.0600	180.0000
93196.0	CHULA V YACHT BASIN S1 (x1)	825	6/16/93	20	26.200	450.00	0.1060	26.000	0.320	3.2000	4.1500	260.0000
93197.0	CHULA V YACHT BASIN S1 (x3)	826	6/16/93	20	17.100	400.00	0.1360	23.000	0.320	1.2000	3.9300	200.0000
90050.0	10 SWARTZ (WEST BASIN)	837	7/20/93	21	30.200	330.00	0.5450	22.000	-8	0.7900	6.8400	200.0000
93199.0	WEST BASIN H1 (x1)	838	7/20/93	21	39.000	430.00	0.4030	23.000	-8	0.9200	6.0600	240.0000
93200.0	WEST BASIN H1 (x4)	839	7/20/93	21	25.800	450.00	0.4130	20.000	-8	0.8700	5.8800	200.0000
90053.0	35 SWARTZ (CORONADO CAYS)	843	7/20/93	21	17.700	450.00	0.2110	23.000	-8	0.7800	4.9600	240.0000
93203.0	CORONADO CAYS T2 (x1)	844	7/20/93	21	19.900	410.00	0.2400	23.000	-8	0.9800	6.0400	280.0000
93204.0	CORONADO CAYS T2 (x2)	845	7/20/93	21	16.300	390.00	0.0990	16.000	-8	0.5400	4.1800	190.0000
90003.0	14 SWARTZ (DOWNTOWN PIERS)	846	7/20/93	21	22.700	410.00	0.4660	18.000	-8	1.0000	9.6700	200.0000
93205.0	DOWNTOWN PIERS K1 (x9)	847	7/20/93	21	32.900	430.00	0.4540	15.000	0.200	0.8000	5.7800	180.0000
93206.0	DOWNTOWN PIERS K1 (x11)	848	7/20/93	21	41.800	410.00	1.3600	17.000	0.240	0.8600	6.0800	210.0000
90004.0	15 SWARTZ (G ST PIER MARINA)	849	7/20/93	21	54.300	480.00	1.1300	20.000	0.260	1.2900	8.0200	260.0000
93207.0	G ST PIER MARINA L1 (x4)	850	7/20/93	21	54.000	270.00	0.9120	29.000	0.340	1.4400	5.1000	230.0000

## Trace Metal Analysis (ppm-ug/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	LEAD	MANGANESE	MERCURY	NICKEL	SELENIUM	SILVER	TIN	ZINC
93208 0	G ST. PIER MARINA LT (x5)	851	7/20/93	21	65.800	370.00	1.0100	18.000	0.300	1.6200	6.1600	260.0000
93709 0	DOWNTOWN PIERS K4 BLIND (x4)	852	7/20/93	21	39.200	390.00	0.5000	16.000	0.240	0.8700	3.9200	200.0000
90001 0	11 SWARTZ (EAST BASIN)	840	7/21/93	21	47.600	470.00	0.7480	22.000	0.250	1.3800	6.4400	250.0000
93201 0	EAST BASIN I1 (x1)	841	7/21/93	21	38.100	490.00	0.5020	19.000	-8	0.9900	6.8900	240.0000
93202 0	EAST BASIN I1 (x5)	842	7/21/93	21	31.400	400.00	0.3630	14.000	-8	0.6300	5.1400	190.0000
93107 0	MISSION BAY A3 (x1)-REP 1	853	7/21/93	21	31.400	250.00	0.0990	17.000	-8	0.2100	1.9600	150.0000
93107 0	MISSION BAY A3 (x1)-REP 2	854	7/21/93	21	34.000	290.00	0.1240	21.000	-8	0.2600	1.9000	170.0000
93107 0	MISSION BAY A3 (x1)-REP 3	855	7/21/93	21	26.700	240.00	0.0810	16.000	0.230	0.1800	1.2000	122.0000
93112 0	MISSION BAY A8 (x1)-REP 1	856	7/21/93	21	16.800	340.00	-8	8.000	-8	0.1000	1.0100	67.0000
93112 0	MISSION BAY A8 (x1)-REP 2	857	7/21/93	21	18.500	350.00	0.0480	11.000	-8	0.1400	1.1900	73.0000
93112 0	MISSION BAY A8 (x1)-REP 3	858	7/21/93	21	17.200	390.00	0.0430	11.000	-8	0.1400	1.1300	82.0000
93108 0	MISSION BAY A4 (x1)-REP 1	859	7/21/93	21	20.200	380.00	0.0520	15.000	0.380	0.1500	1.0500	94.0000
93108 0	MISSION BAY A4 (x1)-REP 2	860	7/21/93	21	18.700	320.00	0.0370	14.000	0.380	0.1300	1.1500	84.0000
93108 0	MISSION BAY A4 (x1)-REP 3	861	7/21/93	21	18.600	440.00	0.0600	15.000	0.310	0.1600	1.5200	98.0000
90052 0	32 SWARTZ(SWEETWATER CH)-RE	875	8/3/93	22	25.900	550.00	0.1110	21.000	0.280	0.4000	1.8700	190.0000
93219 0	SWEETWATER CH JJ1 (x1)-REP 2	876	8/3/93	22	20.200	690.00	0.0730	17.000	-8	0.2900	1.6300	150.0000
93220 0	SWEETWATER CH JJ1 (x8)-REP 3	877	8/3/93	22	15.500	840.00	0.0690	15.000	-8	0.1600	1.3300	110.0000
90002 0	12 SWARTZ(DOWNTOWN ANCH)-R	878	8/3/93	22	63.000	340.00	0.2060	16.000	-8	0.5100	2.4300	150.0000
93221 0	DOWNTOWN ANCH J1 (x1)-REP 2	879	8/3/93	22	49.400	370.00	0.4970	20.000	0.240	1.1100	4.3300	200.0000
93222 0	DOWNTOWN ANCH J1 (x2)-REP 3	880	8/3/93	22	49.900	400.00	0.8140	22.000	0.210	1.4700	4.6400	200.0000
93180 0	NAVAL BASE/SHIPYARDS O5 (x1)	798	8/4/93	22	-9	-9	-9	-9	-9	-9	-9	-9
90021 0	K SWARTZ (NAVAL BASE O4)	862	8/4/93	22	70.200	510.00	0.8930	23.000	0.320	1.4300	6.2400	340.0000
93210 0	NAVAL BASE/SHIPYARDS O4 (x1)	863	8/4/93	22	85.100	430.00	0.7210	24.000	0.370	1.3100	5.9900	460.0000
93211 0	NAVAL BASE/SHIPYARDS O4 (x2)	864	8/4/93	22	140.000	450.00	1.1000	34.000	0.390	2.0100	10.3000	740.0000
90006 0	23 SWARTZ (NAVAL BASE O7)	865	8/4/93	22	71.800	420.00	0.0820	17.000	-8	0.7300	3.2700	240.0000
93212 0	NAVAL BASE/SHIPYARDS O7 (x1)	866	8/4/93	22	55.400	400.00	0.0410	11.000	-8	0.3100	1.7900	180.0000
93213 0	NAVAL BASE/SHIPYARDS O7 (x4)	867	8/4/93	22	61.400	350.00	0.1470	17.000	-8	0.7700	3.2600	240.0000
90022 0	P SWARTZ (NAVAL BASE O12)	868	8/4/93	22	75.500	450.00	0.6150	28.000	0.520	2.8800	8.4700	450.0000
93214 0	NAVAL BASE/SHIPYARDS O12 (x3)	869	8/4/93	22	38.700	430.00	0.3750	18.000	0.470	1.1100	4.9000	260.0000
93215 0	NAVAL BASE/SHIPYARDS O12 (x4)	870	8/4/93	22	39.300	440.00	0.3240	17.000	0.260	1.0500	3.8200	200.0000
90028 0	NSB-M1 (SUB BASE C2)	871	8/4/93	22	29.600	350.00	0.2310	20.000	0.510	0.6200	3.2100	170.0000
93216 0	SUB BASE C2 (x1)	872	8/4/93	22	33.100	420.00	0.0910	12.000	-8	0.2800	1.5800	94.0000
93217 0	SUB BASE C2 (x3)	873	8/4/93	22	27.500	390.00	0.3370	20.000	0.470	0.6200	2.4800	190.0000
93218 0	SUB BASE C2 (x11) BLIND	874	8/4/93	22	30.200	430.00	0.2120	19.000	0.470	0.6000	2.6900	250.0000
93116 0	SAN DIEGO RIVER B1 (x4)-REP 1	881	8/5/93	22	62.600	810.00	0.0470	14.000	-8	0.2200	1.5600	200.0000
93116 0	SAN DIEGO RIVER B1 (x4)-REP 2	882	8/5/93	22	130.000	570.00	0.0930	20.000	0.480	0.4100	2.9900	280.0000
93116 0	SAN DIEGO RIVER B1 (x4)-REP 3	883	8/5/93	22	85.000	480.00	0.0900	18.000	0.450	0.4200	2.4200	230.0000
90007 0	25 SWARTZ (NAVAL BASE/SY O10)	887	8/17/93	23	79.100	410.00	0.5910	22.000	0.400	1.8400	5.7800	300.0000
93223 0	NAVAL BASE/SHIPYARD O10 (x2)	888	8/17/93	23	85.800	460.00	0.9690	33.000	0.500	2.9700	8.7300	420.0000
93224 0	NAVAL BASE/SHIPYARD O10(x6)	889	8/17/93	23	250.000	500.00	0.4530	26.000	-8	1.0900	4.8400	1600.0000
90008 0	27 SWARTZ (NAVAL BASE/SH O13)	890	8/17/93	23	39.700	440.00	0.4810	23.000	0.220	1.2700	5.1000	220.0000
93225 0	NAVAL BASE/SHIPYARD O13 (x1)	891	8/17/93	23	51.000	440.00	0.4450	23.000	0.440	1.8300	5.7600	330.0000
93226 0	NAVAL BASE/SHIPYARD O13 (x3)	892	8/17/93	23	59.200	430.00	0.4530	24.000	0.480	1.1600	6.2200	320.0000
90009 0	28 SWARTZ (7TH ST CHANNEL Q1)	893	8/17/93	23	91.200	380.00	0.3440	15.000	-8	0.7300	3.4400	520.0000

## Trace Metal Analysis (ppm-ug/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	LEAD	MANGANESE	MERCURY	NICKEL	SELENIUM	SILVER	TIN	ZINC
93227.0	SEVENTH ST CHANNEL Q1 (x5)	894	8/17/93	23	85.500	420.00	0.4610	21.000	0.230	0.9100	4.2300	420.0000
93228.0	SEVENTH ST CHANNEL Q1 (x6)	895	8/17/93	23	210.000	450.00	1.5400	27.000	0.310	1.4100	6.8500	700.0000
90010.0	31 SWARTZ (MARINE TERMINAL R3)	896	8/17/93	23	21.400	650.00	0.1010	19.000	-8	0.4200	2.1400	150.0000
93229.0	MARINE TERMINAL R3 (x1)	897	8/17/93	23	45.100	560.00	0.3310	23.000	0.420	1.3100	4.3400	290.0000
93230.0	MARINE TERMINAL R3 (x3)	898	8/17/93	23	37.600	450.00	0.6550	26.000	0.430	1.4500	4.7300	260.0000
90025.0	SDNI-N5 (CARRIER BASE V2)	899	8/18/93	23	38.600	370.00	0.6070	23.000	0.440	1.1100	5.1800	230.0000
93231.0	CARRIER BASE V2 (x6)	1000	8/18/93	23	29.700	290.00	0.4350	17.000	0.340	0.7800	3.9200	170.0000
93232.0	CARRIER BASE V2 (x7)	1001	8/18/93	23	30.200	310.00	0.4430	17.000	0.330	0.8500	4.2300	190.0000
93132.0	CORONADO CAYS T3 (x1)	1025	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9
93129.0	SOUTH BAY GG4 (x1)	1026	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	1027	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9
93127.0	SOUTH BAY GG2 (x1)	1028	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9
93139.0	COMMERCIAL BASIN F1 (x1)	1030	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)	1031	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9
93128.0	SOUTHBAY GG5 (x1)	1033	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1) REP 1	1035	1/18/94	24	22.300	462.00	0.3460	15.000	-8	0.8190	2.3000	179.0000
93158.0	SOUTH BAY GG1 (x1) REP 2	1036	1/18/94	24	19.300	442.00	0.3430	15.300	0.203	0.8380	1.9000	176.0000
93158.0	SOUTH BAY GG1 (x1) REP 3	1037	1/18/94	24	19.400	449.00	0.2670	13.500	0.221	0.7130	2.0500	150.0000
93122.0	S.S.- CORONADO DD3 (x1) REP 1	1013	1/19/94	24	32.400	485.00	0.8800	18.000	0.405	1.1100	3.8100	238.0000
93122.0	S.S.- CORONADO DD3 (x1) REP 2	1014	1/19/94	24	37.800	513.00	0.5550	16.300	0.330	0.7680	2.8900	180.0000
93122.0	S.S.- CORONADO DD3 (x1) REP 3	1015	1/19/94	24	43.200	501.00	0.7230	19.800	0.259	0.9640	3.1300	201.0000
93125.0	SILVER STRAND FF4 (x4) REP 1	1016	1/19/94	24	25.600	405.00	0.2240	9.260	-8	0.5010	1.5600	130.0000
93125.0	SILVER STRAND FF4 (x4) REP 2	1017	1/19/94	24	23.800	394.00	0.1790	14.800	-8	0.4190	1.5600	108.0000
93125.0	SILVER STRAND FF4 (x4) REP 3	1018	1/19/94	24	21.500	403.00	0.1940	9.120	-8	0.5140	1.3400	123.0000
90057.0	5 SDG&E REP 1	1019	1/19/94	24	14.500	523.00	0.2210	41.800	0.273	0.8290	2.4700	204.0000
90057.0	5 SDG&E REP 2	1020	1/19/94	24	15.100	545.00	0.2080	27.600	0.293	0.8150	2.1500	197.0000
90057.0	5 SDG&E REP 3	1021	1/19/94	24	17.100	511.00	0.2060	26.400	0.288	0.7880	2.2400	200.0000
93117.0	SAN DIEGO RIVER B2 (x2)	1029	1/19/94	24	-9	-9	-9	-9	-9	-9	-9	-9
93120.0	TIJUANA R. ESTUARY HH2 (x1)	1032	1/19/94	24	-9	-9	-9	-9	-9	-9	-9	-9
93121.0	TIJUANA R. ESTUARY HH2 (x5)	1034	1/19/94	24	-9	-9	-9	-9	-9	-9	-9	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 1	1022	1/20/94	24	17.800	463.00	0.1250	14.500	-8	0.2510	1.2800	120.0000
90036.0	STORMDRAIN EA (ROHR CH.) REP 2	1023	1/20/94	24	21.300	557.00	0.0576	14.100	-8	0.3000	1.3300	114.0000
90036.0	STORMDRAIN EA (ROHR CH.) REP 3	1024	1/20/94	24	14.900	517.00	0.0720	11.200	-8	0.1710	0.8030	94.2000
90020.0	G DE LAPPE-REP 1	1104	3/1/94	27	48.200	419.00	1.2300	28.600	0.486	1.7600	9.0300	434.0000
90020.0	G DE LAPPE-REP 2	1105	3/1/94	27	47.500	454.00	0.8380	28.600	0.368	1.7600	12.6000	470.0000
90020.0	G DE LAPPE-REP 3	1106	3/1/94	27	52.800	395.00	1.0300	25.200	0.518	1.6500	9.6000	428.0000
90022.0	P SWARTZ-REP 1	1107	3/1/94	27	46.600	424.00	0.8830	28.400	0.711	2.6400	8.3100	409.0000
90022.0	P SWARTZ-REP 2	1108	3/1/94	27	138.000	491.00	0.9160	26.800	0.909	2.7400	8.5100	488.0000
90022.0	P SWARTZ-REP 3	1109	3/1/94	27	133.000	507.00	0.8790	31.100	0.725	2.9500	9.0400	458.0000
90029.0	NSB-R1-REP 1	1113	3/1/94	27	16.100	338.00	0.0777	6.340	-8	0.1410	1.2000	64.4000
90029.0	NSB-R1-REP 2	1114	3/1/94	27	13.700	324.00	0.0443	3.940	-8	0.0890	0.8530	55.4000
90029.0	NSB-R1-REP 3	1115	3/1/94	27	23.500	356.00	0.8360	10.700	0.333	0.2900	1.9000	107.0000
90024.0	SDNI-N1-REP 1	1116	3/1/94	27	27.500	359.00	0.5830	21.000	0.452	1.1600	6.0800	241.0000
90024.0	SDNI-N1-REP 2	1117	3/1/94	27	54.700	410.00	0.4550	22.200	0.352	1.0300	4.8500	271.0000

## Trace Metal Analysis (ppm-ug/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	LEAD	MANGANESE	MERCURY	NICKEL	SELENIUM	SILVER	TIN	ZINC
90024 0	SDNI-N1-REP 3	1118	3/1/94	27	39.900	403.00	0.3880	19.000	0.385	1.1400	5.8500	253.0000
93185 0	NAVAL SHIPYARDS O14 (x1)	1125	3/1/94	27	-9	-9	-9	-9	-9	-9	-9	-9
93163 0	FUEL PIERS D2 (x2)	1126	3/1/94	27	-9	-9	-9	-9	-9	-9	-9	-9
93161 0	SUB BASE C1 (x1)	1127	3/1/94	27	-9	-9	-9	-9	-9	-9	-9	-9
93171 0	MARINE TERMINAL R1 (x1)	1128	3/1/94	27	-9	-9	-9	-9	-9	-9	-9	-9
90013 0	37 SWARTZ-REP 1	1098	3/2/94	27	34.500	492.00	0.2660	26.100	-8	1.2440	7.1500	289.0000
90013 0	37 SWARTZ-REP 2	1099	3/2/94	27	24.300	496.00	0.3110	26.500	-8	1.5080	7.6300	296.0000
90013 0	37 SWARTZ-REP 3	1100	3/2/94	27	32.100	503.00	0.5080	21.900	-8	1.3290	7.1700	286.0000
93106 0	MISSION BAY A2 (x1)-REP 1	1101	3/2/94	27	35.400	418.00	0.0513	21.400	0.210	0.2310	3.6700	141.0000
93106 0	MISSION BAY A2 (x1)-REP 2	1102	3/2/94	27	49.700	485.00	0.0343	19.300	0.230	0.2040	2.6300	169.0000
93106 0	MISSION BAY A2 (x1)-REP 3	1103	3/2/94	27	20.100	323.00	0.0471	14.500	0.210	0.1980	2.2400	125.0000
93181 0	NAVAL SHIPYARDS O6 (x1)-REP 1	1110	3/2/94	27	46.300	497.00	0.3820	25.300	0.742	1.6200	8.5500	443.0000
93181 0	NAVAL SHIPYARDS O6 (x1)-REP 2	1111	3/2/94	27	68.400	385.00	1.4500	26.500	0.604	1.7600	9.3600	417.0000
93181 0	NAVAL SHIPYARDS O6 (x1)-REP 3	1112	3/2/94	27	56.200	455.00	0.7310	26.700	0.587	1.8300	9.6000	568.0000
93178 0	NAVAL SHIPYARDS O2 (x1)-REP 1	1119	3/2/94	27	99.400	408.00	0.8290	22.700	0.877	1.5600	12.8000	730.0000
93178 0	NAVAL SHIPYARDS O2 (x1)-REP 2	1120	3/2/94	27	120.000	440.00	1.5700	29.600	0.928	2.4700	18.4000	936.0000
93178 0	NAVAL SHIPYARDS O2 (x1)-REP 3	1121	3/2/94	27	118.000	378.00	0.7080	19.900	0.635	1.5700	14.1000	744.0000
93179 0	NAVAL SHIPYARDS O3 (x1)-REP 1	1122	3/2/94	27	111.000	556.00	0.5900	30.800	0.723	2.1100	12.2000	746.0000
93179 0	NAVAL SHIPYARDS O3 (x1)-REP 2	1123	3/2/94	27	73.700	549.00	0.7730	30.800	0.705	2.2200	12.1000	693.0000
93179 0	NAVAL SHIPYARDS O3 (x1)-REP 3	1124	3/2/94	27	96.700	609.00	0.7860	33.600	0.992	2.0200	13.1000	869.0000
90052 0	32 SWARTZ(SWEETWATER CH)-REP 1	1129	3/15/94	28	24.300	601.00	0.0615	20.200	-8	0.8060	4.1000	253.0000
90052 0	32 SWARTZ(SWEETWATER CH)-REP 2	1130	3/15/94	28	30.100	619.00	0.2010	19.500	-8	0.7240	3.1000	249.0000
90052 0	32 SWARTZ(SWEETWATER CH)-REP 3	1131	3/15/94	28	25.200	639.00	0.1250	18.600	-8	0.6460	3.1400	252.0000
93131 0	CORONADO CAYS T1 (x1)-REP 1	1138	3/15/94	28	12.500	429.00	0.1830	24.100	0.248	0.8380	3.3700	241.0000
93131 0	CORONADO CAYS T1 (x1)-REP 2	1139	3/15/94	28	15.200	460.00	0.1700	22.400	0.221	0.8850	3.8900	257.0000
93131 0	CORONADO CAYS T1 (x1)-REP 3	1140	3/15/94	28	15.200	486.00	0.2160	22.100	0.263	0.6620	3.9400	263.0000
93160 0	CHANNEL-SOUTH BAY AA2(x1)-REP1	1141	3/15/94	28	32.500	572.00	0.4020	27.700	0.393	1.0100	4.0900	301.0000
93160 0	CHANNEL-SOUTH BAY AA2(x1)-REP2	1142	3/15/94	28	36.600	630.00	0.3220	30.700	0.438	0.9960	4.9100	321.0000
93160 0	CHANNEL-SOUTH BAY AA2(x1)-REP3	1143	3/15/94	28	28.700	949.00	0.3280	27.000	0.427	0.8900	4.2600	295.0000
90030 0	BF SCHROEDER SITE F-REP 1	1144	3/15/94	28	81.800	579.00	1.1300	26.800	0.714	1.6100	9.4600	487.0000
90030 0	BF SCHROEDER SITE F-REP 2	1145	3/15/94	28	78.300	523.00	0.8760	25.900	0.525	1.7200	9.3400	468.0000
90030 0	BF SCHROEDER SITE F-REP 3	1146	3/15/94	28	73.700	434.00	1.2100	32.300	0.590	2.0600	8.3200	448.0000
93159 0	SOUTH BAY GG3 (x1)-REP 1	1147	3/15/94	28	17.500	452.00	0.1280	10.300	-8	0.3370	1.8400	127.0000
93159 0	SOUTH BAY GG3 (x1)-REP 2	1148	3/15/94	28	6.300	196.00	0.0378	11.000	-8	0.1280	1.2800	67.6000
93159 0	SOUTH BAY GG3 (x1)-REP 3	1149	3/15/94	28	17.900	421.00	0.1010	10.700	-8	0.3400	1.7200	114.0000
90043 0	CORONADO WHARF-REP 1	1156	3/15/94	28	30.400	300.00	0.2100	6.740	-8	0.3160	2.0600	103.0000
90043 0	CORONADO WHARF-REP 2	1157	3/15/94	28	42.000	402.00	0.7970	18.800	0.675	1.1300	7.3600	390.0000
90043 0	CORONADO WHARF-REP 3	1158	3/15/94	28	46.700	396.00	0.8780	16.000	0.422	0.9580	5.3200	309.0000
93120 0	TIJUANA R EST HH2 (x1)-REP 1	1132	3/16/94	28	12.900	625.00	-8	6.820	-8	0.0580	1.0600	67.3000
93120 0	TIJUANA R EST HH2 (x1)-REP 2	1133	3/16/94	28	13.000	545.00	-8	8.320	-8	0.0640	0.8960	60.5000
93120 0	TIJUANA R EST HH2 (x1)-REP 3	1134	3/16/94	28	10.400	633.00	-8	11.600	-8	0.0726	1.1200	98.8000
93121 0	TIJUANA R EST HH2 (x5)-REP 1	1135	3/16/94	28	15.000	541.00	-8	11.000	-8	0.0910	1.1000	77.7000
93121 0	TIJUANA R EST HH2 (x5)-REP 2	1136	3/16/94	28	14.000	532.00	-8	13.100	-8	0.0895	1.1600	85.3000
93121 0	TIJUANA R EST HH2 (x5)-REP 3	1137	3/16/94	28	14.500	594.00	-8	13.200	-8	0.0902	1.5800	88.9000





## Trace Metal Analysis (ppm-ug/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	ASBATCH	SEBATCH	TMBATCH	TMDATAQC
90006 0	23 SWARTZ	155	10/13/92	5	-9	-9	-9	-9
90019 0	E DE LAPPE	168	10/13/92	5	-9	-9	-9	-9
90021 0	K SWARTZ	170	10/13/92	5	-9	-9	-9	-9
90031 0	BG SCHROEDER SITE G	180	10/13/92	5	-9	-9	-9	-9
90038 0	CC	187	10/13/92	5	-9	-9	-9	-9
90071 0	BAIT BARGE	220	10/13/92	5	-9	-9	-9	-9
90101 0	SCRIPPS PIER	250	10/13/92	5	-9	-9	-9	-9
90036 0	STORM DRAIN- ROHR CHANNEL	185	10/14/92	5	2.2	2.2	2.1	-4
90053 0	35 SWARTZ	202	10/14/92	5	-9	-9	-9	-9
90054 0	36 SWARTZ	203	10/14/92	5	-9	-9	-9	-9
90001 0	11 SWARTZ	150	10/27/92	6	3.2	3.2	3.1	-4
90002 0	12 SWARTZ	151	10/27/92	6	-9	-9	-9	-9
90016 0	42 SWARTZ	165	10/27/92	6	3.2	3.2	3.1	-4
90049 0	8B	198	10/27/92	6	3.2	3.2	3.1	-4
90056 0	8A SWARTZ	205	10/27/92	6	3.2	3.2	3.1	-4
90063 0	THOMPSON SITE 205	212	10/27/92	6	3.2	3.2	3.1	-4
90003 0	14 SWARTZ	152	10/28/92	6	3.2	3.2	3.1	-4
90004 0	15 SWARTZ	153	10/28/92	6	3.1	3.1	3.1	-4
90010 0	31 SWARTZ	159	10/28/92	6	-9	-9	-9	-9
90011 0	33 SWARTZ	160	10/28/92	6	3.2	3.2	3.1	-4
90013 0	37 SWARTZ	162	10/28/92	6	3.2	3.2	3.1	-4
90017 0	C DELAPPE	166	10/28/92	6	3.2	3.2	3.1	-4
90048 0	6 SWARTZ	197	10/28/92	6	3.2	3.2	3.1	-4
90051 0	16 SWARTZ	200	10/28/92	6	3.2	3.2	3.1	-4
90052 0	32 SWARTZ	201	10/28/92	6	-9	-9	-9	-9
90007 0	25 SWARTZ	156	11/10/92	7	2.2	2.2	2.1	-4
90008 0	27 SWARTZ	157	11/10/92	7	2.2	2.2	2.1	-4
90009 0	28 SWARTZ	158	11/10/92	7	2.2	2.2	2.1	-4
90022 0	P SWARTZ	171	11/10/92	7	2.2	2.2	2.1	-4
90026 0	SDNI-N18	175	11/10/92	7	-9	-9	-9	-9
90027 0	NSB-S1	176	11/10/92	7	-9	-9	-9	-9
90028 0	NSB-M1	177	11/10/92	7	-9	-9	-9	-9
90029 0	NSB-R1	178	11/10/92	7	-9	-9	-9	-9
90023 0	NM SANDBAG	172	11/11/92	7	2.2	2.2	2.1	-4
90024 0	SDNI-N1	173	11/11/92	7	2.2	2.2	2.1	-4
90025 0	SDNI-N5	174	11/11/92	7	2.2	2.2	2.1	-4
90050 0	10 SWARTZ	199	11/11/92	7	2.2	2.2	2.1	-4
90055 0	43 SWARTZ	204	11/11/92	7	2.2	2.2	2.1	-4
90102 0	HARBOR BRIDGE 71A	256	11/11/92	7	2.2	2.2	2.1	-4
90103 0	SCRIPPS TRIANGLE	257	11/11/92	7	-9	-9	-9	-9
90005 0	21 SWARTZ	154	1/26/93	12	-9	-9	-9	-9
90014 0	38 SWARTZ	163	1/26/93	12	-9	-9	-9	-9
90018 0	D DE LAPPE	167	1/26/93	12	-9	-9	-9	-9
90020 0	G DE LAPPE	169	1/26/93	12	2.1	2.1	2.1	-4

## Trace Metal Analysis (ppm-ug/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	ASBATCH	SEBATCH	TMBATCH	TMDATAQC
90030.0	BF SCHROEDER SITE F	179	1/26/93	12	2.1	2.1	2.1	-4
90032.0	BM SCHROEDER SITE M	181	1/26/93	12	-9	-9	-9	-9
90037.0	STORM DRAIN EM- GRAPE STREET	186	1/26/93	12	-9	-9	-9	-9
90039.0	CL	188	1/26/93	12	2.1	2.1	2.1	-4
90043.0	CORONADO WHARF	192	1/26/93	12	2.1	2.1	2.1	-4
90104.0	WEST BASIN ENTRANCE (71C) REF	275	1/26/93	12	2.1	2.1	2.1	-4
90012.0	34 SWARTZ	161	1/27/93	12	-9	-9	-9	-9
90015.0	41 SWARTZ	164	1/27/93	12	-9	-9	-9	-9
90040.0	SWEETWATER MARSH SD BAY	189	1/27/93	12	-9	-9	-9	-9
90041.0	SOUTH SD BAY WETLANDS- OTAY R.	190	1/27/93	12	-9	-9	-9	-9
90057.0	5 SDG&E	206	1/27/93	12	2.1	2.1	2.1	-4
90058.0	7 SDG&E	207	1/27/93	12	-9	-9	-9	-9
93105.0	MISSION BAY A1 (x1)	700	3/23/93	15	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)	701	3/23/93	15	-9	-9	-9	-9
93107.0	MISSION BAY A3 (x1)	702	3/23/93	15	-9	-9	-9	-9
93108.0	MISSION BAY A4 (x1)	703	3/23/93	15	-9	-9	-9	-9
93109.0	MISSION BAY A5 (x1)	704	3/23/93	15	-9	-9	-9	-9
93110.0	MISSION BAY A6 (x1)	705	3/23/93	15	-9	-9	-9	-9
93112.0	MISSION BAY A8 (x1)	707	3/23/93	15	-9	-9	-9	-9
93113.0	MISSION BAY A9 (x1)	708	3/23/93	15	-9	-9	-9	-9
93114.0	MISSION BAY A10 (x1)	709	3/23/93	15	-9	-9	-9	-9
93115.0	MISSION BAY A11 (x1)	710	3/23/93	15	-9	-9	-9	-9
93116.0	SAN DIEGO RIVER B1 (x4)	711	3/23/93	15	-9	-9	-9	-9
93117.0	SAN DIEGO RIVER B2 (x2)	712	3/23/93	15	-9	-9	-9	-9
93111.0	MISSION BAY A7 (x3)	706	3/24/93	15	-9	-9	-9	-9
90002.0	12 SWARTZ	719	3/24/93	15	-9	-9	-9	-9
90037.0	STORMDRAIN EM- GRAPE STREET	720	3/24/93	15	-9	-9	-9	-9
90015.0	41 SWARTZ	721	3/24/93	15	-9	-9	-9	-9
90012.0	34 SWARTZ	722	3/24/93	15	-9	-9	-9	-9
90057.0	5 SDG&E	723	3/24/93	15	-9	-9	-9	-9
90052.0	32 SWARTZ	724	3/24/93	15	-9	-9	-9	-9
93118.0	TIJUANA R. ESTUARY HH1 (x2)	713	3/25/93	15	5.5	5.5	5.1	-4
93119.0	TIJUANA R. ESTUARY HH1 (x1)	714	3/25/93	15	-9	-9	-9	-9
93120.0	TIJUANA R. ESTUARY HH2 (x1)	715	3/25/93	15	-9	-9	-9	-9
93121.0	TIJUANA R. ESTUARY HH2 (x5)	716	3/25/93	15	-9	-9	-9	-9
93126.0	SILVER STRAND FF7 (x2)	729	4/6/93	16	-9	-9	-9	-9
93127.0	SOUTH BAY GG2 (x1)	730	4/6/93	16	-9	-9	-9	-9
93129.0	SOUTH BAY GG4 (x1)	732	4/6/93	16	-9	-9	-9	-9
90014.0	38 SCHWARTZ	733	4/6/93	16	-9	-9	-9	-9
93131.0	CORONADO CAYS T1 (x1)	734	4/6/93	16	9.1	9.1	9.1	-4
93132.0	CORONADO CAYS T3 (x1)	735	4/6/93	16	-9	-9	-9	-9
93133.0	CHANNEL-NAVAL BASE Z1 (x1)	736	4/6/93	16	-9	-9	-9	-9
93134.0	SOUTH SHORE-MOUTH BB2 (x1)	737	4/6/93	16	-9	-9	-9	-9
93135.0	SOUTH SHORE-MOUTH BB3 (x1)	738	4/6/93	16	-9	-9	-9	-9

## Trace Metal Analysis (ppm-ug/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	ASBATCH	SEBATCH	TMBATCH	TMDATAQC
93136 0	NORTH SHORE-MOUTH CC2 (x1)	739	4/6/93	16	-9	-9	-9	-9
93138 0	SHELTER ISLAND E3 (x2)	741	4/6/93	16	9.1	9.1	9.1	-4
93128 0	SOUTHBAY GG5 (x1)	750	4/6/93	16	-9	-9	-9	-9
93122 0	SOUTH SHORE-CORONADO DD3 (x1)	725	4/7/93	16	9.1	9.1	9.1	-4
93123 0	SILVER STRAND FF1 (x1)	726	4/7/93	16	-9	-9	-9	-9
93124 0	SILVER STRAND FF2 (x1)	727	4/7/93	16	-9	-9	-9	-9
93125 0	SILVER STRAND FF4 (x4)	728	4/7/93	16	-9	-9	-9	-9
90006 0	23 SCHWARTZ	731	4/7/93	16	-9	-9	-9	-9
93137 0	NORTH SHORE-MOUTH CC3 (x1)	740	4/7/93	16	-9	-9	-9	-9
93139 0	COMMERCIAL BASIN F1 (x1)	742	4/7/93	16	-9	-9	-9	-9
93140 0	COMMERCIAL BASIN F2 (x1)	743	4/7/93	16	-9	-9	-9	-9
93141 0	COMMERCIAL BASIN F3 (x1)	744	4/7/93	16	9.1	9.1	9.1	-4
90018 0	D DE LAPPE	748	4/7/93	16	-9	-9	-9	-9
90030 0	BF SCHROEDER SITE F	749	4/7/93	16	-9	-9	-9	-9
93148 0	CHANNEL-CORONADO Y1 (x2)	751	4/7/93	16	9.1	9.1	9.1	-4
93142 0	SOUTH SHORE-CORONADO DD1(X1)	752	4/7/93	16	-9	-9	-9	-9
93144 0	CAMPBELL SHIPYARDS N1 (x1)	754	4/20/93	17	-9	-9	-9	-9
93145 0	CAMPBELL SHIPYARDS N2 (x1)	755	4/20/93	17	-9	-9	-9	-9
93146 0	GLORIETTA BAY U2 (x1)	756	4/20/93	17	-9	-9	-9	-9
93147 0	GLORIETTA BAY U3 (x1)	757	4/20/93	17	9.1	9.1	9.2	-4
93149 0	CHANNEL-MOUTH X1 (x1)	758	4/20/93	17	-9	-9	-9	-9
93150 0	CHANNEL-NAVAL BASE Z1 (x2)	759	4/20/93	17	-9	-9	-9	-9
93151 0	CHANNEL-SOUTH BAY AA1 (x1)	760	4/20/93	17	-9	-9	-9	-9
93152 0	SOUTH SHORE-MOUTH BB1 (x1)	761	4/20/93	17	-9	-9	-9	-9
93154 0	NORTH SHORE-MOUTH CC4 (x1)	763	4/20/93	17	-9	-9	-9	-9
93155 0	SOUTH SHORE-CORONADO DD2 (x1)	764	4/20/93	17	-9	-9	-9	-9
93156 0	NORTH SHORE-CORONADO EE1 (x1)	765	4/20/93	17	-9	-9	-9	-9
93157 0	NORTH SHORE-CORONADO EE2 (x1)	766	4/20/93	17	-9	-9	-9	-9
93158 0	SOUTH BAY GG1 (x1)	767	4/20/93	17	-9	-9	-9	-9
93159 0	SOUTH BAY GG3 (x1)	768	4/20/93	17	-9	-9	-9	-9
93160 0	CHANNEL-SOUTH BAY AA2(x1)BLIND	773	4/20/93	17	-9	-9	-9	-9
93143 0	FUEL PIERS D1 (x1)	753	4/21/93	17	-9	-9	-9	-9
93153 0	NORTH SHORE-MOUTH CC1 (x1)	762	4/21/93	17	-9	-9	-9	-9
93161 0	SUB BASE C1 (x1)	774	5/4/93	18	-9	-9	-9	-9
93162 0	SUB BASE C3 (x1)	775	5/4/93	18	9.1	9.1	9.1	-4
93163 0	FUEL PIERS D2 (x2)	776	5/4/93	18	-9	-9	-9	-9
93164 0	SHELTER ISLAND E1 (x1)	777	5/4/93	18	9.1	9.1	9.1	-4
93165 0	NAVY ESTUARY G1 (x1)	778	5/4/93	18	-9	-9	-9	-9
93166 0	NAVY ESTUARY G2 (x1)	779	5/4/93	18	9.1	9.1	9.1	-4
93167 0	NAVY ESTUARY G3 (x1)	780	5/4/93	18	-9	-9	-9	-9
93169 0	EAST BASIN I2 (x1)	782	5/4/93	18	-9	-9	-9	-9
93171 0	MARINE TERMINAL R1 (x1)	784	5/4/93	18	-9	-9	-9	-9
93172 0	SILVER STRAND FF3 (x1)	785	5/4/93	18	-9	-9	-9	-9
93173 0	SILVER STRAND FF6 (x1)	786	5/4/93	18	-9	-9	-9	-9

## Trace Metal Analysis (ppm-ug/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	ASBATCH	SEBATCH	TMBATCH	TMDATAQC
93168.0	WEST BASIN H2 (x1)	781	5/5/93	18	-9	-9	-9	-9
93170.0	CHOLLAS CREEK P1 (x2)	783	5/5/93	18	-9	-9	-9	-9
93174.0	TIJUANA R. ESTUARY HH3 (x2)	787	5/5/93	18	5.5	5.5	5.1	-4
93175.0	TIJUANA R. ESTUARY HH3 (x3)	788	5/5/93	18	-9	-9	-9	-9
93176.0	MARINE TERMINAL R6 (x1) BLIND	794	5/6/93	18	-9	-9	-9	-9
93177.0	NAVAL SHIPYARDS O1 (x1)	795	5/26/93	19	9.1	9.1	9.1	-4
93178.0	NAVAL SHIPYARDS O2 (x1)	796	5/26/93	19	9.1	9.1	9.1	-4
93179.0	NAVAL SHIPYARDS O3 (x1)	797	5/26/93	19	9.1	9.1	9.1	-4
93181.0	NAVAL SHIPYARDS O6 (x1)	799	5/26/93	19	9.1	9.1	9.1	-4
93182.0	NAVAL SHIPYARDS O8 (x4)	800	5/26/93	19	-9	-9	-9	-9
93183.0	NAVAL SHIPYARDS O9 (x1)	801	5/26/93	19	-9	-9	-9	-9
93184.0	NAVAL SHIPYARDS O11 (x1)	802	5/26/93	19	9.1	9.1	9.1	-4
93185.0	NAVAL SHIPYARDS O14 (x1)	803	5/26/93	19	-9	-9	-9	-9
93186.0	FUEL PIER D4 (x1)	804	5/26/93	19	-9	-9	-9	-9
93187.0	MARINE TERMINAL R2 (x1)	805	5/26/93	19	-9	-9	-9	-9
93188.0	CARRIER BASE V1 (x2)	806	5/26/93	19	9.1	9.1	9.1	-4
93189.0	NAVAL SHIPYARDS O15 (x1) BLIND	814	5/26/93	19	-9	-9	-9	-9
90051.0	16 SWARTZ (INTERCONT. MARINA)	818	6/15/93	20	5.1	5.1	5.1	-9
93192.0	INTERCONT. MARINA M1 (x2)	819	6/15/93	20	5.1	5.1	5.1	-9
93193.0	INTERCONT. MARINA M1 (x1)	820	6/15/93	20	5.1	5.1	5.1	-9
90037.0	STORMDRAIN EM (GRAPE ST.)-REP1	827	6/15/93	20	5.1	5.1	5.1	-9
90037.0	STORMDRAIN EM (GRAPE ST.)-REP2	828	6/15/93	20	5.1	5.1	5.1	-9
90037.0	STORMDRAIN EM (GRAPE ST.)-REP3	829	6/15/93	20	5.1	5.1	5.1	-9
93198.0	INTERCONT. MARINA M2(x1) BLIND	833	6/15/93	20	5.1	5.1	5.1	-9
90013.0	37 SWARTZ (MARINA)	815	6/16/93	20	5.1	5.1	5.1	-9
93190.0	MARINA III (x1)	816	6/16/93	20	5.1	5.1	5.1	-9
93191.0	MARINA III (x3)	817	6/16/93	20	5.1	5.1	5.1	-9
90015.0	41 SWARTZ (GLORIETTA BAY)	821	6/16/93	20	5.1	5.1	5.1	-9
93194.0	GLORIETTA BAY U1 (x1)	822	6/16/93	20	5.1	5.1	5.1	-9
93195.0	GLORIETTA BAY U1 (x2)	823	6/16/93	20	5.1	5.1	5.1	-9
90012.0	34 SWARTZ (C.V. YACHT BASIN)	824	6/16/93	20	5.1	5.1	5.1	-9
93196.0	CHULA V. YACHT BASIN S1 (x1)	825	6/16/93	20	5.1	5.1	5.1	-9
93197.0	CHULA V. YACHT BASIN S1 (x3)	826	6/16/93	20	5.1	5.1	5.1	-9
90050.0	10 SWARTZ (WEST BASIN)	837	7/20/93	21	5.2	5.5	5.1	-9
93199.0	WEST BASIN H1 (x1)	838	7/20/93	21	5.2	5.4	5.1	-9
93200.0	WEST BASIN H1 (x4)	839	7/20/93	21	5.2	5.4	5.1	-9
90053.0	35 SWARTZ (CORONADO CAYS)	843	7/20/93	21	5.2	5.4	5.1	-9
93203.0	CORONADO CAYS T2 (x1)	844	7/20/93	21	5.2	5.4	5.1	-9
93204.0	CORONADO CAYS T2 (x2)	845	7/20/93	21	5.2	5.4	5.1	-9
90003.0	14 SWARTZ (DOWNTOWN PIERS)	846	7/20/93	21	5.2	5.4	5.1	-9
93205.0	DOWNTOWN PIERS K1 (x9)	847	7/20/93	21	5.2	5.2	5.1	-9
93206.0	DOWNTOWN PIERS K1 (x11)	848	7/20/93	21	5.2	5.2	5.1	-9
90004.0	15 SWARTZ (G ST. PIER MARINA)	849	7/20/93	21	5.2	5.2	5.1	-9
93207.0	G ST. PIER MARINA L1 (x4)	850	7/20/93	21	5.2	5.2	5.1	-9

## Trace Metal Analysis (ppm-ug/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	ASBATCH	SEBATCH	TMBATCH	TMDATAQC
93208 0	G ST. PIER MARINA L1 (x5)	851	7/20/93	21	5.2	5.2	5.1	.9
93209 0	DOWNTOWN PIERS K4 BLIND (x4)	852	7/20/93	21	5.2	5.2	5.1	.9
90001 0	11 SWARTZ (EAST BASIN)	840	7/21/93	21	5.2	5.4	5.1	.9
93201 0	EAST BASIN I1 (x1)	841	7/21/93	21	5.2	5.4	5.1	.9
93202 0	EAST BASIN I1 (x5)	842	7/21/93	21	5.2	5.4	5.1	.9
93107 0	MISSION BAY A3 (x1)-REP 1	853	7/21/93	21	5.2	5.2	5.1	.9
93107 0	MISSION BAY A3 (x1)-REP 2	854	7/21/93	21	5.2	5.2	5.1	.9
93107 0	MISSION BAY A3 (x1)-REP 3	855	7/21/93	21	5.2	5.2	5.1	.9
93112 0	MISSION BAY A8 (x1)-REP 1	856	7/21/93	21	5.2	5.2	5.1	.9
93112 0	MISSION BAY A8 (x1)-REP 2	857	7/21/93	21	5.2	5.2	5.1	.9
93112 0	MISSION BAY A8 (x1)-REP 3	858	7/21/93	21	5.3	5.2	5.1	.9
93108 0	MISSION BAY A4 (x1)-REP 1	859	7/21/93	21	5.3	5.2	5.1	.9
93108 0	MISSION BAY A4 (x1)-REP 2	860	7/21/93	21	5.3	5.2	5.1	.9
93108 0	MISSION BAY A4 (x1)-REP 3	861	7/21/93	21	5.3	5.2	5.2	.9
90052 0	32 SWARTZ(SWEETWATER CH)-REP 1	875	8/3/93	22	5.3	5.2	5.2	.9
93219 0	SWEETWATER CH. JJ1 (x1)-REP 2	876	8/3/93	22	5.3	5.2	5.2	.9
93220 0	SWEETWATER CH. JJ1 (x8)-REP 3	877	8/3/93	22	5.3	5.2	5.2	.9
90002 0	12 SWARTZ(DOWNTOWN ANCH)-REP 1	878	8/3/93	22	5.3	5.3	5.2	.9
93221 0	DOWNTOWN ANCH. J1 (x1)-REP 2	879	8/3/93	22	5.3	5.3	5.2	.9
93222 0	DOWNTOWN ANCH. J1 (x2)-REP 3	880	8/3/93	22	5.4	5.3	5.2	.9
93180 0	NAVAL BASE/SHIPYARDS O5 (x1)	798	8/4/93	22	.9	.9	.9	.9
90021 0	K SWARTZ (NAVAL BASE O4)	862	8/4/93	22	5.3	5.2	5.2	.9
93210 0	NAVAL BASE/SHIPYARDS O4 (x1)	863	8/4/93	22	5.3	5.2	5.2	.9
93211 0	NAVAL BASE/SHIPYARDS O4 (x2)	864	8/4/93	22	5.3	5.4	5.2	.9
90006 0	23 SWARTZ (NAVAL BASE O7)	865	8/4/93	22	5.3	5.4	5.2	.9
93212 0	NAVAL BASE/SHIPYARDS O7 (x1)	866	8/4/93	22	5.3	5.4	5.2	.9
93213 0	NAVAL BASE/SHIPYARDS O7 (x4)	867	8/4/93	22	5.3	5.4	5.2	.9
90022 0	P SWARTZ (NAVAL BASE O12)	868	8/4/93	22	5.3	5.4	5.2	.9
93214 0	NAVAL BASE/SHIPYARDS O12 (x3)	869	8/4/93	22	5.3	5.4	5.2	.9
93215 0	NAVAL BASE/SHIPYARDS O12 (x4)	870	8/4/93	22	5.3	5.4	5.2	.9
90028 0	NSB-M1 (SUB BASE C2)	871	8/4/93	22	5.3	5.4	5.2	.9
93216 0	SUB BASE C2 (x1)	872	8/4/93	22	5.3	5.4	5.2	.9
93217 0	SUB BASE C2 (x3)	873	8/4/93	22	5.3	5.4	5.2	.9
93218 0	SUB BASE C2 (x11) BLIND	874	8/4/93	22	5.3	5.4	5.2	.9
93116 0	SAN DIEGO RIVER B1 (x4)-REP 1	881	8/5/93	22	5.4	5.3	5.2	.9
93116 0	SAN DIEGO RIVER B1 (x4)-REP 2	882	8/5/93	22	5.4	5.3	5.2	.9
93116 0	SAN DIEGO RIVER B1 (x4)-REP 3	883	8/5/93	22	5.4	5.3	5.2	.9
90007 0	25 SWARTZ (NAVAL BASE/SY O10)	887	8/17/93	23	5.4	5.3	5.2	.9
93223 0	NAVAL BASE/SHIPYARD O10 (x2)	888	8/17/93	23	5.4	5.3	5.2	.9
93224 0	NAVAL BASE/SHIPYARD O10(x6)	889	8/17/93	23	5.4	5.3	5.2	.9
90008 0	27 SWARTZ (NAVAL BASE/SH O13)	890	8/17/93	23	5.4	5.3	5.2	.9
93225 0	NAVAL BASE/SHIPYARD O13 (x1)	891	8/17/93	23	5.4	5.3	5.2	.9
93226 0	NAVAL BASE/SHIPYARD O13 (x3)	892	8/17/93	23	5.4	5.3	5.2	.9
90009 0	28 SWARTZ (7TH ST CHANNEL Q1)	893	8/17/93	23	5.4	5.3	5.2	.9

## Trace Metal Analysis (ppm-ug/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	ASBATCH	SEBATCH	TMBATCH	TMDATAQC
93227.0	SEVENTH ST CHANNEL Q1 (x5)	894	8/17/93	23	5.4	5.3	5.2	-9
93228.0	SEVENTH ST CHANNEL Q1 (x6)	895	8/17/93	23	5.4	5.3	5.2	-9
90010.0	31 SWARTZ (MARINE TERMINAL R3)	896	8/17/93	23	5.4	5.3	5.2	-9
93229.0	MARINE TERMINAL R3 (x1)	897	8/17/93	23	5.4	5.3	5.2	-9
93230.0	MARINE TERMINAL R3 (x3)	898	8/17/93	23	5.4	5.3	5.2	-9
90025.0	SDNI-N5 (CARRIER BASE V2)	899	8/18/93	23	5.4	5.3	5.2	-9
93231.0	CARRIER BASE V2 (x6)	1000	8/18/93	23	5.4	5.4	5.2	-9
93232.0	CARRIER BASE V2 (x7)	1001	8/18/93	23	5.4	5.4	5.2	-9
93132.0	CORONADO CAYS T3 (x1)	1025	1/18/94	24	-9	-9	-9	-9
93129.0	SOUTH BAY GG4 (x1)	1026	1/18/94	24	-9	-9	-9	-9
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	1027	1/18/94	24	-9	-9	-9	-9
93127.0	SOUTH BAY GG2 (x1)	1028	1/18/94	24	-9	-9	-9	-9
93139.0	COMMERCIAL BASIN F1 (x1)	1030	1/18/94	24	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)	1031	1/18/94	24	-9	-9	-9	-9
93128.0	SOUTHBAY GG5 (x1)	1033	1/18/94	24	-9	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1) REP 1	1035	1/18/94	24	8.1	8.1	8.1	-4
93158.0	SOUTH BAY GG1 (x1) REP 2	1036	1/18/94	24	8.1	8.1	8.1	-4
93158.0	SOUTH BAY GG1 (x1) REP 3	1037	1/18/94	24	8.1	8.1	8.1	-4
93122.0	S.S.- CORONADO DD3 (x1) REP 1	1013	1/19/94	24	8.1	8.1	8.1	-4
93122.0	S.S.- CORONADO DD3 (x1) REP 2	1014	1/19/94	24	8.1	8.1	8.1	-4
93122.0	S.S.- CORONADO DD3 (x1) REP 3	1015	1/19/94	24	8.1	8.1	8.1	-4
93125.0	SILVER STRAND FF4 (x4) REP 1	1016	1/19/94	24	8.1	8.1	8.1	-4
93125.0	SILVER STRAND FF4 (x4) REP 2	1017	1/19/94	24	8.1	8.1	8.1	-4
93125.0	SILVER STRAND FF4 (x4) REP 3	1018	1/19/94	24	8.1	8.1	8.1	-4
90057.0	5 SDG&E REP 1	1019	1/19/94	24	8.1	8.1	8.1	-4
90057.0	5 SDG&E REP 2	1020	1/19/94	24	8.1	8.1	8.1	-4
90057.0	5 SDG&E REP 3	1021	1/19/94	24	8.1	8.1	8.1	-4
93117.0	SAN DIEGO RIVER B2 (x2)	1029	1/19/94	24	-9	-9	-9	-9
93120.0	TIJUANA R. ESTUARY HH2 (x1)	1032	1/19/94	24	-9	-9	-9	-9
93121.0	TIJUANA R. ESTUARY HH2 (x5)	1034	1/19/94	24	-9	-9	-9	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 1	1022	1/20/94	24	8.1	8.1	8.1	-4
90036.0	STORMDRAIN EA (ROHR CH.) REP 2	1023	1/20/94	24	8.1	8.1	8.1	-4
90036.0	STORMDRAIN EA (ROHR CH.) REP 3	1024	1/20/94	24	8.1	8.1	8.1	-4
90020.0	G DE LAPPE-REP 1	1104	3/1/94	27	8.3	8.3	8.2	-4
90020.0	G DE LAPPE-REP 2	1105	3/1/94	27	8.3	8.3	8.2	-4
90020.0	G DE LAPPE-REP 3	1106	3/1/94	27	8.3	8.3	8.2	-4
90022.0	P SWARTZ-REP 1	1107	3/1/94	27	8.4	8.4	8.2	-4
90022.0	P SWARTZ-REP 2	1108	3/1/94	27	8.4	8.4	8.2	-4
90022.0	P SWARTZ-REP 3	1109	3/1/94	27	8.4	8.4	8.2	-4
90029.0	NSB-R1-REP 1	1113	3/1/94	27	8.4	8.4	8.2	-4
90029.0	NSB-R1-REP 2	1114	3/1/94	27	8.4	8.4	8.2	-4
90029.0	NSB-R1-REP 3	1115	3/1/94	27	8.4	8.4	8.2	-4
90024.0	SDNI-N1-REP 1	1116	3/1/94	27	8.4	8.4	8.2	-4
90024.0	SDNI-N1-REP 2	1117	3/1/94	27	8.4	8.4	8.2	-4

## Trace Metal Analysis (ppm-ug/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	ASBATCH	SEBATCH	TMBATCH	TMDATAQC
90024 0	SDNI-N1-REP 3	1118	3/1/94	27	8.4	8.4	8.2	-.4
93185 0	NAVAL SHIPYARDS O14 (x1)	1125	3/1/94	27	-9	-9	-9	-9
93163 0	FUEL PIERS D2 (x2)	1126	3/1/94	27	-9	-9	-9	-9
93161 0	SUB BASE C1 (x1)	1127	3/1/94	27	-9	-9	-9	-9
93171 0	MARINE TERMINAL R1 (x1)	1128	3/1/94	27	-9	-9	-9	-9
90013 0	37 SWARTZ-REP 1	1098	3/2/94	27	7.2	7.2	7.1	-.4
90013 0	37 SWARTZ-REP 2	1099	3/2/94	27	7.2	7.2	7.1	-.4
90013 0	37 SWARTZ-REP 3	1100	3/2/94	27	7.2	7.2	7.1	-.4
93106 0	MISSION BAY A2 (x1)-REP 1	1101	3/2/94	27	7.2	7.2	7.1	-.4
93106 0	MISSION BAY A2 (x1)-REP 2	1102	3/2/94	27	7.2	7.2	7.1	-.4
93106 0	MISSION BAY A2 (x1)-REP 3	1103	3/2/94	27	7.2	7.2	7.1	-.4
93181 0	NAVAL SHIPYARDS O6 (x1)-REP 1	1110	3/2/94	27	8.4	8.4	8.2	-.4
93181 0	NAVAL SHIPYARDS O6 (x1)-REP 2	1111	3/2/94	27	8.4	8.4	8.2	-.4
93181 0	NAVAL SHIPYARDS O6 (x1)-REP 3	1112	3/2/94	27	8.4	8.4	8.2	-.4
93178 0	NAVAL SHIPYARDS O2 (x1)-REP 1	1119	3/2/94	27	8.4	8.4	8.2	-.4
93178 0	NAVAL SHIPYARDS O2 (x1)-REP 2	1120	3/2/94	27	8.4	8.4	8.2	-.4
93178 0	NAVAL SHIPYARDS O2 (x1)-REP 3	1121	3/2/94	27	8.4	8.4	8.2	-.4
93179 0	NAVAL SHIPYARDS O3 (x1)-REP 1	1122	3/2/94	27	8.4	8.4	8.2	-.4
93179 0	NAVAL SHIPYARDS O3 (x1)-REP 2	1123	3/2/94	27	8.4	8.4	8.2	-.4
93179 0	NAVAL SHIPYARDS O3 (x1)-REP 3	1124	3/2/94	27	8.4	8.4	8.2	-.4
90052 0	32 SWARTZ(SWEETWATER CH)-REP 1	1129	3/15/94	28	7.2	7.2	7.1	-.4
90052 0	32 SWARTZ(SWEETWATER CH)-REP 2	1130	3/15/94	28	7.2	7.2	7.1	-.4
90052 0	32 SWARTZ(SWEETWATER CH)-REP 3	1131	3/15/94	28	7.2	7.2	7.1	-.4
93131 0	CORONADO CAYS T1 (x1)-REP 1	1138	3/15/94	28	8.4	8.4	8.2	-.4
93131 0	CORONADO CAYS T1 (x1)-REP 2	1139	3/15/94	28	8.4	8.4	8.2	-.4
93131 0	CORONADO CAYS T1 (x1)-REP 3	1140	3/15/94	28	8.4	8.4	8.3	-.4
93160 0	CHANNEL-SOUTH BAY AA2(x1)-REP1	1141	3/15/94	28	8.5	8.5	8.3	-.4
93160 0	CHANNEL-SOUTH BAY AA2(x1)-REP2	1142	3/15/94	28	8.5	8.5	8.3	-.4
93160 0	CHANNEL-SOUTH BAY AA2(x1)-REP3	1143	3/15/94	28	8.5	8.5	8.3	-.4
90030 0	BF SCHROEDER SITE F-REP 1	1144	3/15/94	28	8.5	8.5	8.3	-.4
90030 0	BF SCHROEDER SITE F-REP 2	1145	3/15/94	28	8.5	8.5	8.3	-.4
90030 0	BF SCHROEDER SITE F-REP 3	1146	3/15/94	28	8.5	8.5	8.3	-.4
93159 0	SOUTH BAY GG3 (x1)-REP 1	1147	3/15/94	28	8.5	8.5	8.3	-.4
93159 0	SOUTH BAY GG3 (x1)-REP 2	1148	3/15/94	28	8.5	8.5	8.3	-.4
93159 0	SOUTH BAY GG3 (x1)-REP 3	1149	3/15/94	28	8.5	8.5	8.3	-.4
90043 0	CORONADO WHARF-REP 1	1156	3/15/94	28	8.5	8.5	8.3	-.4
90043 0	CORONADO WHARF-REP 2	1157	3/15/94	28	8.5	8.5	8.3	-.4
90043 0	CORONADO WHARF-REP 3	1158	3/15/94	28	8.5	8.5	8.3	-.4
93120 0	TIJUANA R. EST. HH2 (x1)-REP 1	1132	3/16/94	28	7.3	7.2	7.1	-.4
93120 0	TIJUANA R. EST. HH2 (x1)-REP 2	1133	3/16/94	28	7.3	7.2	8.3	-.4
93120 0	TIJUANA R. EST. HH2 (x1)-REP 3	1134	3/16/94	28	7.3	7.2	7.1	-.4
93121 0	TIJUANA R. EST. HH2 (x5)-REP 1	1135	3/16/94	28	7.3	7.2	8.3	-.4
93121 0	TIJUANA R. EST. HH2 (x5)-REP 2	1136	3/16/94	28	7.3	7.2	8.3	-.4
93121 0	TIJUANA R. EST. HH2 (x5)-REP 3	1137	3/16/94	28	7.3	7.2	8.3	-.4

## Trace Metal Analysis (ppm-ug/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	ASBATCH	SEBATCH	TMBATCH	TMDATAQC
93174 0	TIJUANA R. EST. HH3 (x2)-REP 1	1150	3/16/94	28	8.5	8.5	8.3	-4
93174 0	TIJUANA R. EST. HH3 (x2)-REP 2	1151	3/16/94	28	8.5	8.5	8.3	-4
93174 0	TIJUANA R. EST. HH3 (x2)-REP 3	1152	3/16/94	28	8.5	8.5	8.3	-4
93166 0	NAVY ESTUARY G2 (x1)-REP 1	1153	3/16/94	28	8.5	8.5	8.3	-4
93166 0	NAVY ESTUARY G2 (x1)-REP 2	1154	3/16/94	28	8.5	8.5	8.3	-4
93166 0	NAVY ESTUARY G2 (x1)-REP 3	1155	3/16/94	28	8.5	8.5	8.3	-4
90037 0	STORMDRAIN EM(GRAPE ST.)-REP 1	1159	3/29/94	29	7.3	7.3	7.1	-4
90037 0	STORMDRAIN EM(GRAPE ST.)-REP 2	1160	3/29/94	29	7.3	7.3	7.1	-4
90037 0	STORMDRAIN EM(GRAPE ST.)-REP 3	1161	3/29/94	29	7.3	7.3	7.1	-4
93148 0	CHANNEL-CORONADO Y1 (x2)-REP 1	1162	3/29/94	29	8.6	8.6	8.3	-4
93148 0	CHANNEL-CORONADO Y1 (x2)-REP 2	1163	3/29/94	29	8.6	8.6	8.3	-4
93148 0	CHANNEL-CORONADO Y1 (x2)-REP 3	1164	3/29/94	29	8.6	8.6	8.3	-4
93138 0	SHELTER ISLAND E3 (x2)-REP 1	1165	3/29/94	29	8.6	8.6	8.3	-4
93138 0	SHELTER ISLAND E3 (x2)-REP 2	1166	3/29/94	29	8.6	8.6	8.3	-4
93138 0	SHELTER ISLAND E3 (x2)-REP 3	1167	3/29/94	29	8.6	8.6	8.3	-4
93141 0	COMMERCIAL BASIN F3 (x1)-REP 1	1168	3/29/94	29	8.6	8.6	8.3	-4
93141 0	COMMERCIAL BASIN F3 (x1)-REP 2	1169	3/29/94	29	8.6	8.6	8.3	-4
93141 0	COMMERCIAL BASIN F3 (x1)-REP 3	1170	3/29/94	29	8.6	8.6	8.3	-4
90018 0	D DE LAPPE-REP 1	1183	3/29/94	29	8.6	8.6	8.3	-4
90018 0	D DE LAPPE-REP 2	1184	3/29/94	29	8.6	8.6	8.3	-4
90018 0	D DE LAPPE-REP 3	1185	3/29/94	29	8.6	8.6	8.3	-4
90104 0	WEST BASIN ENTRANCE(71C)-REP 1	1186	3/29/94	29	8.6	8.6	8.3	-4
90104 0	WEST BASIN ENTRANCE(71C)-REP 2	1187	3/29/94	29	8.6	8.6	8.3	-4
90104 0	WEST BASIN ENTRANCE(71C)-REP 3	1188	3/29/94	29	8.6	8.6	8.3	-4
93107 0	MISSION BAY A3 (x1)-REP 1	1180	3/30/94	29	7.3	7.3	7.1	-4
93107 0	MISSION BAY A3 (x1)-REP 2	1181	3/30/94	29	7.3	7.3	7.1	-4
93107 0	MISSION BAY A3 (x1)-REP 3	1182	3/30/94	29	7.3	7.3	7.1	-4
93163 0	FUEL PIERS D2 (x2)-REP 1	1303	5/18/94	32	-9	-9	-9	-9
93163 0	FUEL PIERS D2 (x2)-REP 2	1304	5/18/94	32	-9	-9	-9	-9
93163 0	FUEL PIERS D2 (x2)-REP 3	1305	5/18/94	32	-9	-9	-9	-9
93171 0	MARINE TERMINAL R1 (x1)-REP 1	1306	5/18/94	32	-9	-9	-9	-9
93171 0	MARINE TERMINAL R1 (x1)-REP 2	1307	5/18/94	32	-9	-9	-9	-9
93171 0	MARINE TERMINAL R1 (x1)-REP 3	1308	5/18/94	32	-9	-9	-9	-9
93185 0	NAVAL SHIPYARDS O14 (x1)-REP 1	1309	5/18/94	32	-9	-9	-9	-9
93185 0	NAVAL SHIPYARDS O14 (x1)-REP 2	1310	5/18/94	32	-9	-9	-9	-9
93185 0	NAVAL SHIPYARDS O14 (x1)-REP 3	1311	5/18/94	32	-9	-9	-9	-9
93161 0	SUB BASE C1 (x1)-REP 1	1312	5/18/94	32	-9	-9	-9	-9
93161 0	SUB BASE C1 (x1)-REP 2	1313	5/18/94	32	-9	-9	-9	-9
93161 0	SUB BASE C1 (x1)-REP 3	1314	5/18/94	32	-9	-9	-9	-9
90013 0	37 SWARTZ	1318	5/18/94	32	-9	-9	-9	-9
93106 0	MISSION BAY A2 (x1)	1319	5/18/94	32	-9	-9	-9	-9
90052 0	32 SWARTZ	1320	5/18/94	32	-9	-9	-9	-9



Section III

PCB and Aroclor Concentrations

PCB Congener Analysis (ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	PCB5	PCB8	PCB15	PCB18	PCB27	PCB28	PCB29	PCB31	PCB44	PCB49	PCB52	PCB66
90006 0	23 SWARTZ	155	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90019 0	E DE LAPPE	168	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90021 0	K SWARTZ	170	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90031 0	BG SCHROEDER SITE G	180	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90038 0	CC	187	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90071 0	BAIT BARGE	220	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90101 0	SCRIPPS PIER	250	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90036 0	STORM DRAIN- ROHR CHANNEL	185	10/14/92	5	-9	-8	-9	-8	-9	0.700	-9	-9	1.100	-9	2.500	1.700
90053 0	35 SWARTZ	202	10/14/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90054 0	36 SWARTZ	203	10/14/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90001 0	11 SWARTZ	150	10/27/92	6	-9	-8	-9	0.600	-9	4.600	-9	-9	8.400	-9	12.700	22.900
90002 0	12 SWARTZ	151	10/27/92	6	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90016 0	42 SWARTZ	165	10/27/92	6	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	1.000	0.500
90049 0	8B	198	10/27/92	6	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	0.700	0.800
90056 0	8A SWARTZ	205	10/27/92	6	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	-8	-8
90063 0	THOMPSON SITE 205	212	10/27/92	6	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	-8	-8
90003 0	14 SWARTZ	152	10/28/92	6	-9	-8	-9	-8	-9	-8	-9	-9	1.600	-9	3.100	2.200
90004 0	15 SWARTZ	153	10/28/92	6	-9	-8	-9	-8	-9	0.700	-9	-9	1.600	-9	2.900	2.900
90010 0	31 SWARTZ	159	10/28/92	6	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90011 0	33 SWARTZ	160	10/28/92	6	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	-8	0.500
90013 0	37 SWARTZ	162	10/28/92	6	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	-8	0.500
90017 0	C DELAPPE	166	10/28/92	6	-9	-8	-9	1.000	-9	1.500	-9	-9	5.300	-9	10.400	6.900
90048 0	6 SWARTZ	197	10/28/92	6	-9	-8	-9	-8	-9	0.600	-9	-9	0.600	-9	1.000	2.500
90051 0	16 SWARTZ	200	10/28/92	6	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	-8	-8
90052 0	32 SWARTZ	201	10/28/92	6	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90007 0	25 SWARTZ	156	11/10/92	7	-9	-8	-9	2.300	-9	2.700	-9	-9	8.400	-9	24.300	9.700
90008 0	27 SWARTZ	157	11/10/92	7	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	1.000	0.900
90009 0	28 SWARTZ	158	11/10/92	7	-9	4.300	-9	7.700	-9	10.600	-9	-9	29.600	-9	54.500	43.000
90022 0	P SWARTZ	171	11/10/92	7	-9	-8	-9	0.700	-9	1.200	-9	-9	2.500	-9	5.500	4.400
90026 0	SDNI-N18	175	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90027 0	NSB-S1	176	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90028 0	NSB-M1	177	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90029 0	NSB-R1	178	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90023 0	NM SANDBAG	172	11/11/92	7	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	0.800	1.100
90024 0	SDNI-N1	173	11/11/92	7	-9	-8	-9	-8	-9	-8	-9	-9	0.700	-9	1.300	2.100
90025 0	SDNI-N5	174	11/11/92	7	-9	-8	-9	-8	-9	-8	-9	-9	0.500	-9	1.000	2.100
90050 0	10 SWARTZ	199	11/11/92	7	-9	-8	-9	-8	-9	0.800	-9	-9	0.700	-9	1.400	3.400
90055 0	43 SWARTZ	204	11/11/92	7	-9	-8	-9	-8	-9	-8	-9	-9	0.700	-9	1.300	1.900
90102 0	HARBOR BRIDGE 71A	256	11/11/92	7	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	0.500	0.900
90103 0	SCRIPPS TRIANGLE	257	11/11/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90005 0	21 SWARTZ	154	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90014 0	38 SWARTZ	163	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90018 0	D DE LAPPE	167	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90020 0	G DE LAPPE	169	1/26/93	12	-9	-8	-9	4.600	-9	4.400	-9	-9	17.000	-9	39.000	20.700





PCB Congener Analysis (ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	PCB5	PCB8	PCB15	PCB18	PCB27	PCB28	PCB29	PCB31	PCB44	PCB49	PCB52	PCB66
93168.0	WEST BASIN H2 (x1)	781	5/5/93	18	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93170.0	CHOLLAS CREEK P1 (x2)	783	5/5/93	18	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93174.0	TIJUANA R. ESTUARY HH3 (x2)	787	5/5/93	18	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	-8	-8
93175.0	TIJUANA R. ESTUARY HH3 (x3)	788	5/5/93	18	-9	1.210	-9	1.290	-9	2.530	-9	-9	0.330	-9	0.520	0.530
93176.0	MARINE TERMINAL R6 (x1) BLIND	794	5/6/93	18	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93177.0	NAVAL SHIPYARDS O1 (x1)	795	5/26/93	19	-9	-8	-9	-8	-9	-8	-9	-9	0.552	-9	1.290	1.080
93178.0	NAVAL SHIPYARDS O2 (x1)	796	5/26/93	19	-9	-8	-9	2.470	-9	1.400	-9	-9	8.790	-9	26.600	11.800
93179.0	NAVAL SHIPYARDS O3 (x1)	797	5/26/93	19	-9	-8	-9	3.570	-9	2.140	-9	-9	11.100	-9	28.800	13.100
93181.0	NAVAL SHIPYARDS O6 (x1)	799	5/26/93	19	-9	-8	-9	-8	-9	0.772	-9	-9	2.440	-9	4.720	5.090
93182.0	NAVAL SHIPYARDS O8 (x4)	800	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93183.0	NAVAL SHIPYARDS O9 (x1)	801	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93184.0	NAVAL SHIPYARDS O11 (x1)	802	5/26/93	19	-9	0.950	-9	2.650	-9	1.600	-9	-9	4.120	-9	11.200	7.310
93185.0	NAVAL SHIPYARDS O14 (x1)	803	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93186.0	FUEL PIER D4 (x1)	804	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93187.0	MARINE TERMINAL R2 (x1)	805	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93188.0	CARRIER BASE V1 (x2)	806	5/26/93	19	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	0.516	0.942
93189.0	NAVAL SHIPYARDS O15 (x1) BLIND	814	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90051.0	16 SWARTZ (INTERCONT. MARINA)	818	6/15/93	20	-8	-8	-8	-8	-8	-8	-8	-8	0.542	-8	0.826	0.856
93192.0	INTERCONT. MARINA M1 (x2)	819	6/15/93	20	-8	-8	-8	-8	-8	-8	-8	-8	8.630	5.880	26.700	10.800
93193.0	INTERCONT. MARINA M1 (x1)	820	6/15/93	20	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	1.330	1.000
90037.0	STORMDRAIN EM (GRAPE ST.)-REP1	827	6/15/93	20	-8	-8	-8	-8	-8	1.100	-8	1.010	2.520	2.130	6.710	5.210
90037.0	STORMDRAIN EM (GRAPE ST.)-REP2	828	6/15/93	20	-8	-8	-8	-8	-8	2.010	-8	1.100	2.070	1.830	5.500	5.830
90037.0	STORMDRAIN EM (GRAPE ST.)-REP3	829	6/15/93	20	-8	-8	-8	-8	-8	1.460	-8	0.915	4.910	3.170	11.100	6.590
93198.0	INTERCONT. MARINA M2(x1) BLIND	833	6/15/93	20	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8
90013.0	37 SWARTZ (MARINA)	815	6/16/93	20	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	1.050
93190.0	MARINA III (x1)	816	6/16/93	20	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	1.180
93191.0	MARINA III (x3)	817	6/16/93	20	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	0.832	1.280
90015.0	41 SWARTZ (GLORIETTA BAY)	821	6/16/93	20	-8	-8	-8	-8	-8	-8	-8	-8	0.718	0.789	3.040	1.990
93194.0	GLORIETTA BAY U1 (x1)	822	6/16/93	20	-8	-8	-8	-8	-8	-8	-8	-8	0.818	0.687	2.010	2.380
93195.0	GLORIETTA BAY U1 (x2)	823	6/16/93	20	-8	-8	-8	-8	-8	0.517	-8	-8	0.772	0.723	1.790	2.100
90012.0	34 SWARTZ (C.V. YACHT BASIN)	824	6/16/93	20	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	0.526
93196.0	CHULA V. YACHT BASIN S1 (x1)	825	6/16/93	20	-8	-8	-8	-8	-8	-8	-8	-8	0.685	0.848	0.837	1.610
93197.0	CHULA V. YACHT BASIN S1 (x3)	826	6/16/93	20	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	0.891	1.060
90050.0	10 SWARTZ (WEST BASIN)	837	7/20/93	21	-8	-8	-8	-8	-8	0.876	-8	-8	1.540	1.930	2.640	5.460
93199.0	WEST BASIN H1 (x1)	838	7/20/93	21	-8	-8	-8	-8	-8	1.030	-8	0.516	1.800	2.300	3.410	6.250
93200.0	WEST BASIN H1 (x4)	839	7/20/93	21	-8	-8	-8	-8	-8	0.648	-8	-8	0.774	0.716	1.620	3.140
90053.0	35 SWARTZ (CORONADO CAYS)	843	7/20/93	21	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	0.992	0.565
93203.0	CORONADO CAYS T2 (x1)	844	7/20/93	21	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	0.625
93204.0	CORONADO CAYS T2 (x2)	845	7/20/93	21	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	2.310	-8
90003.0	14 SWARTZ (DOWNTOWN PIERS)	846	7/20/93	21	-8	-8	-8	-8	-8	-8	-8	-8	1.330	0.768	2.740	2.160
93205.0	DOWNTOWN PIERS K1 (x9)	847	7/20/93	21	-8	-8	-8	-8	-8	0.551	-8	-8	1.280	0.954	3.790	2.790
93206.0	DOWNTOWN PIERS K1 (x11)	848	7/20/93	21	-8	-8	-8	-8	-8	0.519	-8	-8	1.300	1.100	2.930	2.550
90004.0	15 SWARTZ (G ST. PIER MARINA)	849	7/20/93	21	-8	-8	-8	-8	-8	0.881	-8	0.755	2.800	2.120	6.800	4.750
93207.0	G ST. PIER MARINA L1 (x4)	850	7/20/93	21	-8	-8	1.040	-8	-8	3.340	-8	1.950	5.010	5.480	4.850	13.900

PCB Congener Analysis (ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	PCB5	PCB8	PCB15	PCB18	PCB27	PCB28	PCB29	PCB31	PCB44	PCB49	PCB52	PCB66	
93208 0	G ST PIER MARINAL1 (x5)	851	7/20/93	21	-8	-8	-8	1.220	-8	2.990	-8	3.310	10.900	9.940	20.400	22.700	
93209 0	DOWNTOWN PIERS K4 BLIND (x4)	852	7/20/93	21	-8	-8	-8	-8	-8	0.659	-8	0.566	2.100	1.750	4.860	3.480	
90001 0	11 SWARTZ (EAST BASIN)	840	7/21/93	21	-8	0.709	2.170	0.736	-8	7.720	-8	4.240	11.300	12.200	22.300	38.100	
93201 0	EAST BASIN I1 (x1)	841	7/21/93	21	-8	-8	-8	-8	-8	3.230	-8	2.900	4.460	4.870	7.870	15.000	
93202 0	EAST BASIN I1 (x5)	842	7/21/93	21	-8	-8	-8	0.660	-8	1.780	-8	1.340	2.150	2.490	3.690	8.290	
93107 0	MISSION BAY A3 (x1)-REP 1	853	7/21/93	21	-8	-8	-8	-8	-8	1.070	-8	0.896	1.530	1.000	3.260	1.840	
93107 0	MISSION BAY A3 (x1)-REP 2	854	7/21/93	21	-8	-8	-8	-8	-8	2.060	-8	1.290	2.030	1.240	1.520	3.860	
93107 0	MISSION BAY A3 (x1)-REP 3	855	7/21/93	21	-8	-8	-8	0.957	-8	2.060	-8	1.350	2.150	1.290	2.240	3.320	
93112 0	MISSION BAY A8 (x1)-REP 1	856	7/21/93	21	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	
93112 0	MISSION BAY A8 (x1)-REP 2	857	7/21/93	21	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	
93112 0	MISSION BAY A8 (x1)-REP 3	858	7/21/93	21	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	
93108 0	MISSION BAY A4 (x1)-REP 1	859	7/21/93	21	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	
93108 0	MISSION BAY A4 (x1)-REP 2	860	7/21/93	21	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	
93108 0	MISSION BAY A4 (x1)-REP 3	861	7/21/93	21	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	
90052 0	32 SWARTZ(SWEETWATER CH)-REP 1	875	8/3/93	22	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	0.836	-8	
93219 0	SWEETWATER CH. JJ1 (x1)-REP 2	876	8/3/93	22	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	
93220 0	SWEETWATER CH. JJ1 (x8)-REP 3	877	8/3/93	22	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	
90002 0	12 SWARTZ(DOWNTOWN ANCH)-REP 1	878	8/3/93	22	-8	0.933	-8	1.490	-8	4.300	-8	2.920	7.690	5.520	9.500	14.200	
93221 0	DOWNTOWN ANCH. J1 (x1)-REP 2	879	8/3/93	22	-8	-8	-8	-8	-8	3.350	-8	1.620	4.310	3.680	4.310	13.100	
93222 0	DOWNTOWN ANCH. J1 (x2)-REP 3	880	8/3/93	22	-8	-8	-8	0.513	-8	1.160	-8	1.560	3.980	3.790	6.860	10.400	
93180 0	NAVAL BASE/SHIPYARDS O5 (x1)	798	8/4/93	22	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	
90021 0	K SWARTZ (NAVAL BASE O4)	862	8/4/93	22	-8	-8	-8	-8	-8	-8	-8	-8	1.580	1.320	5.750	2.560	
93210 0	NAVAL BASE/SHIPYARDS O4 (x1)	863	8/4/93	22	-8	7.190	5.530	4.880	-8	5.990	-8	6.350	33.300	18.700	93.200	26.900	
93211 0	NAVAL BASE/SHIPYARDS O4 (x2)	864	8/4/93	22	-8	2.930	-8	6.450	0.527	6.940	-8	10.800	43.800	29.200	111.000	35.800	
90006 0	23 SWARTZ (NAVAL BASE O7)	865	8/4/93	22	-8	-8	-8	-8	-8	1.380	-8	0.708	2.380	1.710	3.540	2.700	
93212 0	NAVAL BASE/SHIPYARDS O7 (x1)	866	8/4/93	22	-8	-8	-8	0.541	-8	1.060	-8	-8	1.600	0.842	2.240	1.820	
93213 0	NAVAL BASE/SHIPYARDS O7 (x4)	867	8/4/93	22	-8	-8	-8	0.564	-8	1.080	-8	0.822	2.810	2.090	4.220	3.240	
90022 0	P SWARTZ (NAVAL BASE O12)	868	8/4/93	22	-8	-8	-8	-8	-8	1.970	-8	0.750	2.870	3.680	10.700	4.980	
93214 0	NAVAL BASE/SHIPYARDS O12 (x3)	869	8/4/93	22	-8	-8	-8	-8	-8	-8	-8	-8	0.767	0.592	0.632	1.460	
93215 0	NAVAL BASE/SHIPYARDS O12 (x4)	870	8/4/93	22	-8	-8	-8	-8	-8	-8	-8	-8	0.777	0.788	1.400	1.700	
90028 0	NSB-M1 (SUB BASE C2)	871	8/4/93	22	-8	-8	-8	-8	-8	1.130	-8	0.756	1.240	1.910	4.900	2.920	
93216 0	SUB BASE C2 (x1)	872	8/4/93	22	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	1.420	0.683	
93217 0	SUB BASE C2 (x3)	873	8/4/93	22	-8	-8	-8	-8	0.714	-8	0.560	-8	0.716	0.990	0.930	2.190	2.070
93218 0	SUB BASE C2 (x11) BLIND	874	8/4/93	22	-8	-8	-8	0.730	-8	1.060	-8	0.760	1.370	1.420	3.080	2.990	
93116 0	SAN DIEGO RIVER B1 (x4)-REP 1	881	8/5/93	22	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	1.640	-8	
93116 0	SAN DIEGO RIVER B1 (x4)-REP 2	882	8/5/93	22	-8	-8	-8	-8	-8	0.694	-8	-8	1.330	0.948	2.420	1.800	
93116 0	SAN DIEGO RIVER B1 (x4)-REP 3	883	8/5/93	22	-8	-8	-8	-8	-8	0.862	-8	0.623	1.430	1.030	3.060	2.270	
90007 0	25 SWARTZ (NAVAL BASE/SY O10)	887	8/17/93	23	-8	1.510	-8	2.360	0.733	2.910	-8	3.130	4.100	6.250	10.800	6.470	
93223 0	NAVAL BASE/SHIPYARD O10 (x2)	888	8/17/93	23	-8	-8	-8	-8	-8	1.160	-8	0.727	-8	8.820	13.300	7.390	
93224 0	NAVAL BASE/SHIPYARD O10(x6)	889	8/17/93	23	-8	2.190	-8	1.440	-8	1.810	-8	1.590	2.320	2.770	5.980	3.470	
90008 0	27 SWARTZ (NAVAL BASE/SH O13)	890	8/17/93	23	-8	-8	-8	-8	-8	-8	-8	-8	0.735	-8	0.689	1.400	
93225 0	NAVAL BASE/SHIPYARD O13 (x1)	891	8/17/93	23	-8	-8	-8	-8	-8	0.961	-8	-8	1.920	2.770	5.690	4.020	
93226 0	NAVAL BASE/SHIPYARD O13 (x3)	892	8/17/93	23	-8	-8	-8	-8	-8	1.020	-8	-8	1.880	2.100	7.380	3.420	
90009 0	28 SWARTZ (7TH ST CHANNEL Q1)	893	8/17/93	23	-8	1.760	-8	1.930	-8	4.000	-8	4.740	8.200	6.850	13.600	14.400	

PCB Congener Analysis (ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	PCB5	PCB8	PCB15	PCB18	PCB27	PCB28	PCB29	PCB31	PCB44	PCB49	PCB52	PCB66
93227.0	SEVENTH ST CHANNEL Q1 (x5)	894	8/17/93	23	-8	0.911	-8	1.940	-8	3.530	-8	3.310	6.560	5.580	11.000	13.800
93228.0	SEVENTH ST CHANNEL Q1 (x6)	895	8/17/93	23	-8	3.580	-8	5.240	0.645	11.000	-8	13.900	25.600	20.100	40.500	42.000
90010.0	31 SWARTZ (MARINE TERMINAL R3)	896	8/17/93	23	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	0.659
93229.0	MARINE TERMINAL R3 (x1)	897	8/17/93	23	-8	-8	-8	-8	-8	-8	-8	-8	1.180	1.680	4.080	3.410
93230.0	MARINE TERMINAL R3 (x3)	898	8/17/93	23	-8	-8	-8	-8	-8	0.583	-8	-8	1.150	1.760	2.460	3.150
90025.0	SDNI-N5 (CARRIER BASE V2)	899	8/18/93	23	-8	-8	-8	-8	-8	0.528	-8	-8	0.649	0.603	2.650	2.100
93231.0	CARRIER BASE V2 (x6)	1000	8/18/93	23	-8	-8	-8	-8	-8	-8	-8	-8	0.632	0.663	2.670	2.540
93232.0	CARRIER BASE V2 (x7)	1001	8/18/93	23	-8	-8	-8	-8	-8	-8	-8	-8	0.556	-8	0.616	1.580
93132.0	CORONADO CAYS T3 (x1)	1025	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93129.0	SOUTH BAY GG4 (x1)	1026	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93151.0	CHANNEL-SOUTH BAY AA1. (x1)	1027	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93127.0	SOUTH BAY GG2 (x1)	1028	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93139.0	COMMERCIAL BASIN F1 (x1)	1030	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)	1031	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93128.0	SOUTHBAY GG5 (x1)	1033	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1) REP 1	1035	1/18/94	24	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	-8	-8
93158.0	SOUTH BAY GG1 (x1) REP 2	1036	1/18/94	24	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	-8	0.696
93158.0	SOUTH BAY GG1 (x1) REP 3	1037	1/18/94	24	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	-8	0.511
93122.0	S.S.- CORONADO DD3 (x1) REP 1	1013	1/19/94	24	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	0.575	0.969
93122.0	S.S.- CORONADO DD3 (x1) REP 2	1014	1/19/94	24	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	0.995	0.736
93122.0	S.S.- CORONADO DD3 (x1) REP 3	1015	1/19/94	24	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	0.924	1.060
93125.0	SILVER STRAND FF4 (x4) REP 1	1016	1/19/94	24	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	-8	-8
93125.0	SILVER STRAND FF4 (x4) REP 2	1017	1/19/94	24	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	-8	-8
93125.0	SILVER STRAND FF4 (x4) REP 3	1018	1/19/94	24	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	-8	-8
90057.0	5 SDG&E REP 1	1019	1/19/94	24	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	-8	0.567
90057.0	5 SDG&E REP 2	1020	1/19/94	24	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	1.200	0.770
90057.0	5 SDG&E REP 3	1021	1/19/94	24	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	1.300	0.610
93117.0	SAN DIEGO RIVER B2 (x2)	1029	1/19/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93120.0	TIJUANA R. ESTUARY HH2 (x1)	1032	1/19/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93121.0	TIJUANA R. ESTUARY HH2 (x5)	1034	1/19/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 1	1022	1/20/94	24	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	0.836	0.848
90036.0	STORMDRAIN EA (ROHR CH.) REP 2	1023	1/20/94	24	-9	-8	-9	-8	-9	-8	-9	-9	0.662	-9	1.930	1.070
90036.0	STORMDRAIN EA (ROHR CH.) REP 3	1024	1/20/94	24	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	1.280	0.574
90020.0	G DE LAPPE-REP 1	1104	3/1/94	27	-9	-8	-9	1.110	-9	0.703	-9	-9	10.000	-9	31.500	10.300
90020.0	G DE LAPPE-REP 2	1105	3/1/94	27	-9	1.610	-9	3.010	-9	2.900	-9	-9	19.700	-9	54.000	19.500
90020.0	G DE LAPPE-REP 3	1106	3/1/94	27	-9	-8	-9	1.580	-9	2.030	-9	-9	11.800	-9	29.200	13.500
90022.0	P SWARTZ-REP 1	1107	3/1/94	27	-9	-8	-9	-8	-9	0.594	-9	-9	1.670	-9	4.550	3.060
90022.0	P SWARTZ-REP 2	1108	3/1/94	27	-9	-8	-9	-8	-9	0.673	-9	-9	1.960	-9	5.550	3.840
90022.0	P SWARTZ-REP 3	1109	3/1/94	27	-9	-8	-9	-8	-9	0.965	-9	-9	2.330	-9	4.870	5.150
90029.0	NSB-R1-REP 1	1113	3/1/94	27	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	-8	-8
90029.0	NSB-R1-REP 2	1114	3/1/94	27	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	-8	-8
90029.0	NSB-R1-REP 3	1115	3/1/94	27	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	-8	-8
90024.0	SDNI-N1-REP 1	1116	3/1/94	27	-9	-8	-9	-8	-9	-8	-9	-9	0.649	-9	1.330	1.840
90024.0	SDNI-N1-REP 2	1117	3/1/94	27	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	3.920	1.470

PCB Congener Analysis (ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	PCB5	PCB8	PCB15	PCB18	PCB27	PCB28	PCB29	PCB31	PCB44	PCB49	PCB52	PCB66
90024.0	SDNI-N1-REP 3	1118	3/1/94	27	-9	-8	-9	-8	-9	-8	-9	-9	0.559	-9	-8	1.330
93185.0	NAVAL SHIPYARDS O14 (x1)	1125	3/1/94	27	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)	1126	3/1/94	27	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93161.0	SUB BASE C1 (x1)	1127	3/1/94	27	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)	1128	3/1/94	27	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90013.0	37 SWARTZ-REP 1	1098	3/2/94	27	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	-8	1.200
90013.0	37 SWARTZ-REP 2	1099	3/2/94	27	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	0.749	1.090
90013.0	37 SWARTZ-REP 3	1100	3/2/94	27	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	-8	0.686
93106.0	MISSION BAY A2 (x1)-REP 1	1101	3/2/94	27	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	0.602	0.511
93106.0	MISSION BAY A2 (x1)-REP 2	1102	3/2/94	27	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	-8	-8
93106.0	MISSION BAY A2 (x1)-REP 3	1103	3/2/94	27	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	-8	-8
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 1	1110	3/2/94	27	-9	-8	-9	-8	-9	0.768	-9	-9	4.870	-9	13.200	4.610
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 2	1111	3/2/94	27	-9	-8	-9	0.830	-9	1.250	-9	-9	6.040	-9	16.400	7.400
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 3	1112	3/2/94	27	-9	-8	-9	1.700	-9	1.220	-9	-9	6.050	-9	15.800	7.960
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 1	1119	3/2/94	27	-9	-8	-9	1.850	-9	2.310	-9	-9	15.600	-9	43.600	15.800
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 2	1120	3/2/94	27	-9	-8	-9	2.490	-9	4.090	-9	-9	18.500	-9	50.400	30.300
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 3	1121	3/2/94	27	-9	1.890	-9	6.670	-9	16.900	-9	-9	31.400	-9	116.000	83.900
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 1	1122	3/2/94	27	-9	0.893	-9	1.340	-9	1.730	-9	-9	10.300	-9	25.500	13.200
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 2	1123	3/2/94	27	-9	1.650	-9	2.000	-9	1.910	-9	-9	12.700	-9	32.500	13.200
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 3	1124	3/2/94	27	-9	-8	-9	1.820	-9	2.110	-9	-9	7.290	-9	20.200	8.890
90052.0	32 SWARTZ(SWEETWATER CH)-REP 1	1129	3/15/94	28	-9	-8	-9	-8	-9	-8	-9	-9	0.556	-9	1.190	0.914
90052.0	32 SWARTZ(SWEETWATER CH)-REP 2	1130	3/15/94	28	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	-8	-8
90052.0	32 SWARTZ(SWEETWATER CH)-REP 3	1131	3/15/94	28	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	-8	0.550
93131.0	CORONADO CAYS T1 (x1)-REP 1	1138	3/15/94	28	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	-8	-8
93131.0	CORONADO CAYS T1 (x1)-REP 2	1139	3/15/94	28	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	-8	-8
93131.0	CORONADO CAYS T1 (x1)-REP 3	1140	3/15/94	28	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	-8	-8
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP1	1141	3/15/94	28	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	-8	0.682
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP2	1142	3/15/94	28	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	-8	0.763
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP3	1143	3/15/94	28	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	-8	0.724
90030.0	BF SCHROEDER SITE F-REP 1	1144	3/15/94	28	-9	-8	-9	-8	-9	0.647	-9	-9	4.760	-9	12.100	4.820
90030.0	BF SCHROEDER SITE F-REP 2	1145	3/15/94	28	-9	-8	-9	1.220	-9	1.310	-9	-9	12.200	-9	32.900	10.700
90030.0	BF SCHROEDER SITE F-REP 3	1146	3/15/94	28	-9	-8	-9	1.040	-9	2.590	-9	-9	8.100	-9	17.000	12.100
93159.0	SOUTH BAY GG3 (x1)-REP 1	1147	3/15/94	28	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	-8	-8
93159.0	SOUTH BAY GG3 (x1)-REP 2	1148	3/15/94	28	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	-8	-8
93159.0	SOUTH BAY GG3 (x1)-REP 3	1149	3/15/94	28	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	-8	-8
90043.0	CORONADO WHARF-REP 1	1156	3/15/94	28	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	-8	-8
90043.0	CORONADO WHARF-REP 2	1157	3/15/94	28	-9	-8	-9	1.830	-9	0.672	-9	-9	9.560	-9	30.900	11.700
90043.0	CORONADO WHARF-REP 3	1158	3/15/94	28	-9	-8	-9	-8	-9	0.660	-9	-9	4.330	-9	10.700	5.200
93120.0	TIJUANA R. EST. HH2 (x1)-REP 1	1132	3/16/94	28	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	-8	-8
93120.0	TIJUANA R. EST. HH2 (x1)-REP 2	1133	3/16/94	28	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	-8	-8
93120.0	TIJUANA R. EST. HH2 (x1)-REP 3	1134	3/16/94	28	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	-8	-8
93121.0	TIJUANA R. EST. HH2 (x5)-REP 1	1135	3/16/94	28	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	-8	-8
93121.0	TIJUANA R. EST. HH2 (x5)-REP 2	1136	3/16/94	28	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	-8	-8
93121.0	TIJUANA R. EST. HH2 (x5)-REP 3	1137	3/16/94	28	-9	-8	-9	-8	-9	-8	-9	-9	-8	-9	-8	-8





PCB Congener Analysis (ppb-ng/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	PCB70	PCB74	PCB87	PCB95	PCB97	PCB99	PCB101	PCB105	PCB110	PCB118	PCB128
90006.0	23 SWARTZ	155	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90019.0	E DE LAPPE	168	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90021.0	K SWARTZ	170	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90031.0	BG SCHROEDER SITE G	180	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90038.0	CC	187	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90071.0	BAIT BARGE	220	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90101.0	SCRIPPS PIER	250	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90036.0	STORM DRAIN- ROHR CHANNEL	185	10/14/92	5	-9	-9	2.000	-9	-9	-9	6.900	1.900	-9	6.400	1.900
90053.0	35 SWARTZ	202	10/14/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90054.0	36 SWARTZ	203	10/14/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90001.0	11 SWARTZ	150	10/27/92	6	-9	-9	10.900	-9	-9	-9	32.200	16.700	-9	38.800	11.700
90002.0	12 SWARTZ	151	10/27/92	6	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90016.0	42 SWARTZ	165	10/27/92	6	-9	-9	0.700	-9	-9	-9	2.000	-8	-9	2.200	0.800
90049.0	8B	198	10/27/92	6	-9	-9	-8	-9	-9	-9	1.700	0.800	-9	2.200	0.800
90056.0	8A SWARTZ	205	10/27/92	6	-9	-9	-8	-9	-9	-9	-8	-8	-9	0.500	-8
90063.0	THOMPSON SITE 205	212	10/27/92	6	-9	-9	-8	-9	-9	-9	-8	-8	-9	-8	-8
90003.0	14 SWARTZ	152	10/28/92	6	-9	-9	2.900	-9	-9	-9	7.900	3.000	-9	8.700	2.700
90004.0	15 SWARTZ	153	10/28/92	6	-9	-9	3.000	-9	-9	-9	8.600	3.600	-9	9.700	2.900
90010.0	31 SWARTZ	159	10/28/92	6	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90011.0	33 SWARTZ	160	10/28/92	6	-9	-9	-8	-9	-9	-9	1.300	-8	-9	1.400	0.500
90013.0	37 SWARTZ	162	10/28/92	6	-9	-9	-8	-9	-9	-9	2.500	0.700	-9	2.600	1.000
90017.0	C DELAPPE	166	10/28/92	6	-9	-9	7.700	-9	-9	-9	19.900	7.200	-9	19.700	5.400
90048.0	6 SWARTZ	197	10/28/92	6	-9	-9	1.000	-9	-9	-9	4.000	1.500	-9	4.900	1.700
90051.0	16 SWARTZ	200	10/28/92	6	-9	-9	0.700	-9	-9	-9	2.000	0.800	-9	2.700	1.400
90052.0	32 SWARTZ	201	10/28/92	6	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90007.0	25 SWARTZ	156	11/10/92	7	-9	-9	12.900	-9	-9	-9	43.500	11.200	-9	39.600	10.100
90008.0	27 SWARTZ	157	11/10/92	7	-9	-9	1.600	-9	-9	-9	5.700	1.700	-9	5.500	2.500
90009.0	28 SWARTZ	158	11/10/92	7	-9	-9	23.200	-9	-9	-9	61.300	23.200	-9	55.200	10.700
90022.0	P SWARTZ	171	11/10/92	7	-9	-9	6.300	-9	-9	-9	21.000	5.800	-9	19.200	7.000
90026.0	SDNI-N18	175	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90027.0	NSB-S1	176	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90028.0	NSB-M1	177	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90029.0	NSB-R1	178	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90023.0	NM SANDBAG	172	11/11/92	7	-9	-9	1.100	-9	-9	-9	3.500	1.300	-9	3.800	1.300
90024.0	SDNI-N1	173	11/11/92	7	-9	-9	1.500	-9	-9	-9	4.800	1.800	-9	6.200	3.100
90025.0	SDNI-N5	174	11/11/92	7	-9	-9	1.300	-9	-9	-9	4.300	1.400	-9	4.700	2.200
90050.0	10 SWARTZ	199	11/11/92	7	-9	-9	1.500	-9	-9	-9	5.900	2.600	-9	7.400	2.300
90055.0	43 SWARTZ	204	11/11/92	7	-9	-9	1.400	-9	-9	-9	4.400	1.600	-9	4.900	2.000
90102.0	HARBOR BRIDGE 71A	256	11/11/92	7	-9	-9	0.500	-9	-9	-9	1.900	0.700	-9	2.300	0.800
90103.0	SCRIPPS TRIANGLE	257	11/11/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90005.0	21 SWARTZ	154	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90014.0	38 SWARTZ	163	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90018.0	D DE LAPPE	167	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90020.0	G DE LAPPE	169	1/26/93	12	-9	-9	32.800	-9	-9	-9	74.800	26.700	-9	68.700	18.900





## PCB Congener Analysis (ppb-ng/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	PCB70	PCB74	PCB87	PCB95	PCB97	PCB99	PCB101	PCB105	PCB110	PCB118	PCB128
93168.0	WEST BASIN H2 (x1)	781	5/5/93	18	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93170.0	CHOLLAS CREEK P1 (x2)	783	5/5/93	18	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93174.0	TIJUANA R. ESTUARY HH3 (x2)	787	5/5/93	18	-9	-9	-8	-9	-9	-9	-8	-8	-9	-8	-8
93175.0	TIJUANA R. ESTUARY HH3 (x3)	788	5/5/93	18	-9	-9	-9	-9	-9	-9	0.980	0.660	-9	0.260	0.350
93176.0	MARINE TERMINAL R6 (x1) BLIND	794	5/6/93	18	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93177.0	NAVAL SHIPYARDS O1 (x1)	795	5/26/93	19	-9	-9	-9	-9	-9	-9	4.290	1.580	-9	4.500	1.750
93178.0	NAVAL SHIPYARDS O2 (x1)	796	5/26/93	19	-9	-9	-9	-9	-9	-9	59.700	14.200	-9	42.500	11.500
93179.0	NAVAL SHIPYARDS O3 (x1)	797	5/26/93	19	-9	-9	-9	-9	-9	-9	61.300	17.800	-9	48.800	14.400
93181.0	NAVAL SHIPYARDS O6 (x1)	799	5/26/93	19	-9	-9	-9	-9	-9	-9	19.200	4.490	-9	15.100	5.590
93182.0	NAVAL SHIPYARDS O8 (x4)	800	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93183.0	NAVAL SHIPYARDS O9 (x1)	801	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93184.0	NAVAL SHIPYARDS O11 (x1)	802	5/26/93	19	-9	-9	-9	-9	-9	-9	41.800	10.400	-9	30.400	10.300
93185.0	NAVAL SHIPYARDS O14 (x1)	803	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93186.0	FUEL PIER D4 (x1)	804	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93187.0	MARINE TERMINAL R2 (x1)	805	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93188.0	CARRIER BASE V1 (x2)	806	5/26/93	19	-9	-9	-9	-9	-9	-9	3.070	1.390	-9	3.310	1.570
93189.0	NAVAL SHIPYARDS O15 (x1) BLIND	814	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90051.0	16 SWARTZ (INTERCONT. MARINA)	818	6/15/93	20	0.587	0.000	1.210	3.460	1.080	2.040	3.680	1.210	4.230	4.130	1.060
93192.0	INTERCONT. MARINA M1 (x2)	819	6/15/93	20	30.800	8.280	64.200	95.600	41.800	54.100	146.000	33.200	132.000	125.000	22.300
93193.0	INTERCONT. MARINA M1 (x1)	820	6/15/93	20	0.607	-8	0.953	2.780	0.810	1.870	3.230	0.996	3.280	3.580	1.330
90037.0	STORMDRAIN EM (GRAPE ST.)-REP1	827	6/15/93	20	3.650	1.810	5.110	12.300	3.890	5.860	14.200	5.550	15.200	13.500	4.700
90037.0	STORMDRAIN EM (GRAPE ST.)-REP2	828	6/15/93	20	2.620	2.450	3.950	9.840	3.560	6.010	11.300	3.230	11.800	12.500	1.810
90037.0	STORMDRAIN EM (GRAPE ST.)-REP3	829	6/15/93	20	6.280	3.080	9.360	21.500	7.520	10.800	24.800	5.730	23.600	22.000	5.220
93198.0	INTERCONT. MARINA M2(x1) BLIND	833	6/15/93	20	-8	-8	-8	1.510	-8	1.020	1.540	0.602	2.160	2.140	0.716
90013.0	37 SWARTZ (MARINA)	815	6/16/93	20	0.641	1.130	1.070	3.070	1.010	2.900	4.360	0.899	3.880	4.500	1.460
93190.0	MARINA II (x1)	816	6/16/93	20	-8	0.622	0.939	2.860	1.070	2.900	4.480	0.770	3.890	4.530	1.220
93191.0	MARINA II (x3)	817	6/16/93	20	-8	-8	0.995	3.140	1.220	3.090	4.870	1.300	4.680	5.350	1.560
90015.0	41 SWARTZ (GLORIETTA BAY)	821	6/16/93	20	1.190	0.855	1.190	4.410	1.580	3.430	5.350	1.390	4.580	6.220	1.230
93194.0	GLORIETTA BAY U1 (x1)	822	6/16/93	20	1.390	0.728	1.940	5.550	1.580	3.280	6.900	1.210	4.630	4.750	1.790
93195.0	GLORIETTA BAY U1 (x2)	823	6/16/93	20	0.671	0.634	1.570	4.800	1.700	3.780	6.340	1.690	5.790	6.630	1.730
90012.0	34 SWARTZ (C.V. YACHT BASIN)	824	6/16/93	20	-8	-8	-8	1.010	-8	1.270	1.590	0.000	1.490	1.560	-8
93196.0	CHULA V. YACHT BASIN S1 (x1)	825	6/16/93	20	1.260	0.583	0.949	2.900	1.120	3.130	4.740	0.649	3.860	4.150	0.817
93197.0	CHULA V. YACHT BASIN S1 (x3)	826	6/16/93	20	-8	-8	-8	1.880	0.680	2.020	2.810	0.549	2.690	2.630	0.607
90050.0	10 SWARTZ (WEST BASIN)	837	7/20/93	21	2.380	2.100	2.560	6.310	2.960	6.010	9.600	2.640	8.140	10.600	2.260
93199.0	WEST BASIN H1 (x1)	838	7/20/93	21	2.910	2.150	3.210	7.490	3.460	6.590	11.100	2.850	9.220	11.300	2.500
93200.0	WEST BASIN H1 (x4)	839	7/20/93	21	1.130	1.000	1.430	3.570	1.600	3.280	5.130	1.990	5.200	6.380	1.470
90053.0	35 SWARTZ (CORONADO CAYS)	843	7/20/93	21	-8	-8	-8	0.898	-8	1.630	1.410	-8	0.855	1.390	-8
93203.0	CORONADO CAYS T2 (x1)	844	7/20/93	21	-8	-8	-8	1.020	-8	1.800	1.670	0.000	1.250	1.530	-8
93204.0	CORONADO CAYS T2 (x2)	845	7/20/93	21	-8	-8	-8	0.620	-8	1.110	1.010	-8	0.799	1.160	-8
90003.0	14 SWARTZ (DOWNTOWN PIERS)	846	7/20/93	21	1.580	0.813	2.320	5.630	1.880	3.430	6.500	2.320	0.898	7.110	2.110
93205.0	DOWNTOWN PIERS K1 (x9)	847	7/20/93	21	1.350	1.020	2.420	6.160	2.130	3.510	6.810	2.640	7.530	7.300	2.350
93206.0	DOWNTOWN PIERS K1 (x11)	848	7/20/93	21	1.400	0.951	2.540	6.410	2.170	3.810	7.570	2.220	7.630	7.750	1.530
90004.0	15 SWARTZ (G ST. PIER MARINA)	849	7/20/93	21	4.540	2.040	5.380	12.700	4.470	7.110	14.500	5.730	16.600	14.800	3.870
93207.0	G ST. PIER MARINA L1 (x4)	850	7/20/93	21	6.730	4.490	5.900	17.800	6.250	9.290	16.700	8.070	19.000	18.000	4.350

## PCB Congener Analysis (ppb-ng/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	PCB70	PCB74	PCB87	PCB95	PCB97	PCB99	PCB101	PCB105	PCB110	PCB118	PCB128
93208.0	G ST. PIER MARINA L1 (x5)	851	7/20/93	21	15.200	9.400	14.000	34.600	12.800	18.500	36.200	10.500	33.800	35.400	4.120
93209.0	DOWNTOWN PIERS K4 BLIND (x4)	852	7/20/93	21	3.050	1.450	3.590	8.580	3.090	5.120	10.000	3.450	10.400	9.350	2.240
90001.0	11 SWARTZ (EAST BASIN)	840	7/21/93	21	21.400	13.600	18.200	45.600	15.500	26.600	56.500	14.100	50.200	48.100	8.430
93201.0	EAST BASIN I1 (x1)	841	7/21/93	21	7.430	5.560	5.500	11.400	6.120	11.300	17.900	6.080	15.000	21.600	4.140
93202.0	EAST BASIN I1 (x5)	842	7/21/93	21	3.540	2.760	3.080	6.880	3.330	6.870	9.860	3.980	10.800	14.700	2.460
93107.0	MISSION BAY A3 (x1)-REP 1	853	7/21/93	21	-8	-8	0.619	1.900	-8	0.708	1.610	-8	2.040	1.490	-8
93107.0	MISSION BAY A3 (x1)-REP 2	854	7/21/93	21	2.140	1.200	0.510	1.900	-8	0.919	1.700	-8	2.180	1.590	-8
93107.0	MISSION BAY A3 (x1)-REP 3	855	7/21/93	21	2.300	1.180	0.528	2.120	0.522	0.931	1.690	-8	2.310	1.520	-8
93112.0	MISSION BAY A8 (x1)-REP 1	856	7/21/93	21	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8
93112.0	MISSION BAY A8 (x1)-REP 2	857	7/21/93	21	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8
93112.0	MISSION BAY A8 (x1)-REP 3	858	7/21/93	21	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8
93108.0	MISSION BAY A4 (x1)-REP 1	859	7/21/93	21	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8
93108.0	MISSION BAY A4 (x1)-REP 2	860	7/21/93	21	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8
93108.0	MISSION BAY A4 (x1)-REP 3	861	7/21/93	21	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8
90052.0	32 SWARTZ(SWEETWATER CH)-REP 1	875	8/3/93	22	-8	-8	-8	1.220	-8	0.692	1.210	-8	1.240	1.110	-8
93219.0	SWEETWATER CH. JJ1 (x1)-REP 2	876	8/3/93	22	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8
93220.0	SWEETWATER CH. JJ1 (x8)-REP 3	877	8/3/93	22	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8
90002.0	12 SWARTZ(DOWNTOWN ANCH)-REP 1	878	8/3/93	22	9.060	5.150	5.170	11.500	4.570	6.710	12.500	5.940	13.400	13.000	6.470
93221.0	DOWNTOWN ANCH. J1 (x1)-REP 2	879	8/3/93	22	6.880	3.890	6.980	16.900	5.820	9.730	17.000	10.100	19.300	18.900	5.430
93222.0	DOWNTOWN ANCH. J1 (x2)-REP 3	880	8/3/93	22	6.820	4.180	7.390	15.800	6.730	10.300	19.500	2.850	17.900	19.300	1.370
93180.0	NAVAL BASE/SHIPYARDS O5 (x1)	798	8/4/93	22	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90021.0	K SWARTZ (NAVAL BASE O4)	862	8/4/93	22	2.310	1.090	4.400	10.000	3.440	5.280	12.400	3.900	13.800	12.300	3.210
93210.0	NAVAL BASE/SHIPYARDS O4 (x1)	863	8/4/93	22	47.100	13.100	58.100	143.000	43.200	48.800	137.000	43.200	159.000	107.000	28.800
93211.0	NAVAL BASE/SHIPYARDS O4 (x2)	864	8/4/93	22	63.700	18.700	71.300	145.000	51.600	63.300	171.000	22.700	153.000	145.000	13.100
90006.0	23 SWARTZ (NAVAL BASE O7)	865	8/4/93	22	2.530	1.050	2.560	7.810	2.300	3.990	7.730	1.050	7.890	6.850	0.915
93212.0	NAVAL BASE/SHIPYARDS O7 (x1)	866	8/4/93	22	1.340	0.691	1.460	4.270	1.050	1.630	4.060	1.300	4.800	3.530	0.973
93213.0	NAVAL BASE/SHIPYARDS O7 (x4)	867	8/4/93	22	2.920	1.250	3.130	9.650	2.790	4.690	9.690	1.300	9.690	8.020	1.010
90022.0	P SWARTZ (NAVAL BASE O12)	868	8/4/93	22	4.430	1.770	8.100	25.400	7.550	13.200	28.400	5.620	24.300	22.100	4.110
93214.0	NAVAL BASE/SHIPYARDS O12 (x3)	869	8/4/93	22	1.000	2.160	1.870	4.550	1.740	3.270	6.340	1.480	5.780	5.880	1.900
93215.0	NAVAL BASE/SHIPYARDS O12 (x4)	870	8/4/93	22	1.250	0.815	2.230	6.520	2.180	4.060	7.650	1.710	7.540	6.730	2.180
90028.0	NSB-M1 (SUB BASE C2)	871	8/4/93	22	2.360	1.020	1.450	3.560	1.470	3.200	5.970	0.978	4.440	5.280	0.506
93216.0	SUB BASE C2 (x1)	872	8/4/93	22	-8	-8	-8	-8	-8	0.642	1.150	-8	1.090	1.190	-8
93217.0	SUB BASE C2 (x3)	873	8/4/93	22	1.560	-8	1.320	3.050	1.310	2.620	4.600	0.712	4.010	5.160	-8
93218.0	SUB BASE C2 (x11) BLIND	874	8/4/93	22	2.300	0.838	1.980	4.900	1.670	3.360	6.650	1.640	5.900	5.690	1.190
93116.0	SAN DIEGO RIVER B1 (x4)-REP 1	881	8/5/93	22	-8	-8	0.784	2.440	0.536	1.070	2.580	0.656	-8	1.870	0.889
93116.0	SAN DIEGO RIVER B1 (x4)-REP 2	882	8/5/93	22	2.050	0.853	2.370	5.860	1.790	3.420	7.960	1.540	7.390	6.770	1.970
93116.0	SAN DIEGO RIVER B1 (x4)-REP 3	883	8/5/93	22	2.220	0.782	2.720	6.810	1.830	3.770	8.610	1.720	8.810	7.230	2.050
90007.0	25 SWARTZ (NAVAL BASE/SY O10)	887	8/17/93	23	5.260	2.650	7.620	24.500	7.190	13.700	26.400	4.820	26.800	20.500	5.910
93223.0	NAVAL BASE/SHIPYARD O10 (x2)	888	8/17/93	23	4.330	2.570	8.080	29.400	9.170	20.400	35.300	5.310	31.200	28.200	6.760
93224.0	NAVAL BASE/SHIPYARD O10(x6)	889	8/17/93	23	2.790	1.420	3.410	9.740	2.700	5.980	11.900	2.480	9.850	8.230	2.220
90008.0	27 SWARTZ (NAVAL BASE/SH O13)	890	8/17/93	23	0.773	0.653	1.830	5.020	1.900	3.440	6.320	1.690	6.300	5.820	2.330
93225.0	NAVAL BASE/SHIPYARD O13 (x1)	891	8/17/93	23	2.680	1.200	5.360	15.600	4.950	8.430	17.200	4.380	14.900	12.300	5.160
93226.0	NAVAL BASE/SHIPYARD O13 (x3)	892	8/17/93	23	2.900	1.230	5.190	15.400	4.580	8.730	18.300	3.850	15.600	14.400	3.330
90009.0	28 SWARTZ (7TH ST CHANNEL Q1)	893	8/17/93	23	15.200	6.400	6.760	13.000	4.920	7.730	16.700	7.010	18.700	15.400	2.350

PCB Congener Analysis (ppb-ng/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	PCB70	PCB74	PCB87	PCB95	PCB97	PCB99	PCB101	PCB105	PCB110	PCB118	PCB128
93227.0	SEVENTH ST CHANNEL Q1 (x5)	894	8/17/93	23	10.600	4.800	7.530	14.500	5.760	8.970	20.100	7.890	22.100	18.100	4.360
93228.0	SEVENTH ST CHANNEL Q1 (x6)	895	8/17/93	23	47.000	19.400	20.500	37.200	15.800	22.700	46.700	16.000	52.600	45.800	5.400
90010.0	31 SWARTZ (MARINE TERMINAL R3)	896	8/17/93	23	0.557	-8	0.668	1.730	0.620	1.310	2.420	0.519	2.400	2.280	0.643
93229.0	MARINE TERMINAL R3 (x1)	897	8/17/93	23	1.720	0.913	1.970	7.590	2.360	5.150	9.330	2.460	8.270	8.020	2.450
93230.0	MARINE TERMINAL R3 (x3)	898	8/17/93	23	1.880	1.080	2.430	7.070	2.770	5.780	10.500	1.830	9.160	8.730	1.520
90025.0	SDNI-N5 (CARRIER BASE V2)	899	8/18/93	23	0.832	0.675	1.280	3.240	1.470	2.780	4.830	1.150	4.670	5.570	0.824
93231.0	CARRIER BASE V2 (x6)	1000	8/18/93	23	1.200	-8	1.570	4.280	1.560	3.080	5.010	2.660	5.370	6.190	2.100
93232.0	CARRIER BASE V2 (x7)	1001	8/18/93	23	0.766	0.596	1.230	3.860	1.320	2.620	4.410	2.590	4.760	5.110	2.150
93132.0	CORONADO CAYS T3 (x1)	1025	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93129.0	SOUTH BAY GG4 (x1)	1026	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	1027	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93127.0	SOUTH BAY GG2 (x1)	1028	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93139.0	COMMERCIAL BASIN F1 (x1)	1030	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)	1031	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93128.0	SOUTHBAY GG5 (x1)	1033	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1) REP 1	1035	1/18/94	24	-9	-9	-9	-9	-9	-9	1.140	-8	-9	1.410	0.519
93158.0	SOUTH BAY GG1 (x1) REP 2	1036	1/18/94	24	-9	-9	-9	-9	-9	-9	1.540	-8	-9	1.630	0.662
93158.0	SOUTH BAY GG1 (x1) REP 3	1037	1/18/94	24	-9	-9	-9	-9	-9	-9	1.220	-8	-9	1.280	0.503
93122.0	S.S.- CORONADO DD3 (x1) REP 1	1013	1/19/94	24	-9	-9	-9	-9	-9	-9	3.100	1.410	-9	4.020	1.820
93122.0	S.S.- CORONADO DD3 (x1) REP 2	1014	1/19/94	24	-9	-9	-9	-9	-9	-9	2.540	1.110	-9	2.860	1.120
93122.0	S.S.- CORONADO DD3 (x1) REP 3	1015	1/19/94	24	-9	-9	-9	-9	-9	-9	2.850	1.130	-9	3.540	1.190
93125.0	SILVER STRAND FF4 (x4) REP 1	1016	1/19/94	24	-9	-9	-9	-9	-9	-9	0.957	-8	-9	1.290	0.568
93125.0	SILVER STRAND FF4 (x4) REP 2	1017	1/19/94	24	-9	-9	-9	-9	-9	-9	0.674	-8	-9	0.846	-8
93125.0	SILVER STRAND FF4 (x4) REP 3	1018	1/19/94	24	-9	-9	-9	-9	-9	-9	0.892	-8	-9	0.937	-8
90057.0	5 SDG&E REP 1	1019	1/19/94	24	-9	-9	-9	-9	-9	-9	1.740	-8	-9	1.810	0.548
90057.0	5 SDG&E REP 2	1020	1/19/94	24	-9	-9	-9	-9	-9	-9	2.390	-8	-9	2.290	0.553
90057.0	5 SDG&E REP 3	1021	1/19/94	24	-9	-9	-9	-9	-9	-9	1.890	-8	-9	1.880	-8
93117.0	SAN DIEGO RIVER B2 (x2)	1029	1/19/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93120.0	TIJUANA R. ESTUARY HH2 (x1)	1032	1/19/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93121.0	TIJUANA R. ESTUARY HH2 (x5)	1034	1/19/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 1	1022	1/20/94	24	-9	-9	-9	-9	-9	-9	2.550	0.870	-9	2.590	0.679
90036.0	STORMDRAIN EA (ROHR CH.) REP 2	1023	1/20/94	24	-9	-9	-9	-9	-9	-9	4.400	1.440	-9	3.820	1.010
90036.0	STORMDRAIN EA (ROHR CH.) REP 3	1024	1/20/94	24	-9	-9	-9	-9	-9	-9	2.690	0.736	-9	2.250	0.617
90020.0	G DE LAPPE-REP 1	1104	3/1/94	27	-9	-9	-9	-9	-9	-9	66.000	3.180	-9	49.800	12.900
90020.0	G DE LAPPE-REP 2	1105	3/1/94	27	-9	-9	-9	-9	-9	-9	98.300	32.200	-9	84.700	20.000
90020.0	G DE LAPPE-REP 3	1106	3/1/94	27	-9	-9	-9	-9	-9	-9	71.000	19.000	-9	48.200	12.000
90022.0	P SWARTZ-REP 1	1107	3/1/94	27	-9	-9	-9	-9	-9	-9	18.500	5.000	-9	15.200	4.150
90022.0	P SWARTZ-REP 2	1108	3/1/94	27	-9	-9	-9	-9	-9	-9	21.700	6.200	-9	17.900	5.390
90022.0	P SWARTZ-REP 3	1109	3/1/94	27	-9	-9	-9	-9	-9	-9	21.800	5.910	-9	17.800	6.780
90029.0	NSB-R1-REP 1	1113	3/1/94	27	-9	-9	-9	-9	-9	-9	-8	-8	-9	-8	-8
90029.0	NSB-R1-REP 2	1114	3/1/94	27	-9	-9	-9	-9	-9	-9	-8	-8	-9	-8	-8
90029.0	NSB-R1-REP 3	1115	3/1/94	27	-9	-9	-9	-9	-9	-9	0.720	-8	-9	0.864	-8
90024.0	SDNI-N1-REP 1	1116	3/1/94	27	-9	-9	-9	-9	-9	-9	5.030	2.260	-9	5.660	2.050
90024.0	SDNI-N1-REP 2	1117	3/1/94	27	-9	-9	-9	-9	-9	-9	3.910	1.630	-9	4.540	1.810

PCB Congener Analysis (ppb-ng/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	PCB70	PCB74	PCB87	PCB95	PCB97	PCB99	PCB101	PCB105	PCB110	PCB118	PCB128
90024.0	SDNINT-REP 3	1118	3/1/94	27	-9	-9	-9	-9	-9	-9	4.080	1.370	-9	4.300	1.240
93185.0	NAVAL SHIPYARDS O14 (x1)	1125	3/1/94	27	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)	1126	3/1/94	27	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93161.0	SUB BASE C1 (x1)	1127	3/1/94	27	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)	1128	3/1/94	27	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90013.0	37 SWARTZ-REP 1	1098	3/2/94	27	-9	-9	-9	-9	-9	-9	4.060	1.300	-9	4.580	2.120
90013.0	37 SWARTZ-REP 2	1099	3/2/94	27	-9	-9	-9	-9	-9	-9	4.140	0.787	-9	4.580	1.060
90013.0	37 SWARTZ-REP 3	1100	3/2/94	27	-9	-9	-9	-9	-9	-9	3.330	-8	-9	3.780	-8
93106.0	MISSION BAY A2 (x1)-REP 1	1101	3/2/94	27	-9	-9	-9	-9	-9	-9	0.558	-8	-9	-8	-8
93106.0	MISSION BAY A2 (x1)-REP 2	1102	3/2/94	27	-9	-9	-9	-9	-9	-9	-8	-8	-9	-8	-8
93106.0	MISSION BAY A2 (x1)-REP 3	1103	3/2/94	27	-9	-9	-9	-9	-9	-9	-8	-8	-9	-8	-8
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 1	1110	3/2/94	27	-9	-9	-9	-9	-9	-9	31.600	7.790	-9	24.200	6.060
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 2	1111	3/2/94	27	-9	-9	-9	-9	-9	-9	38.900	13.400	-9	34.400	10.900
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 3	1112	3/2/94	27	-9	-9	-9	-9	-9	-9	50.300	11.900	-9	32.200	11.100
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 1	1119	3/2/94	27	-9	-9	-9	-9	-9	-9	92.600	24.200	-9	67.300	14.100
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 2	1120	3/2/94	27	-9	-9	-9	-9	-9	-9	107.000	35.900	-9	95.000	19.900
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 3	1121	3/2/94	27	-9	-9	-9	-9	-9	-9	217.000	68.400	-9	190.000	46.600
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 1	1122	3/2/94	27	-9	-9	-9	-9	-9	-9	59.100	23.000	-9	51.700	12.700
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 2	1123	3/2/94	27	-9	-9	-9	-9	-9	-9	66.700	25.300	-9	58.000	14.400
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 3	1124	3/2/94	27	-9	-9	-9	-9	-9	-9	42.300	11.300	-9	32.800	7.600
90052.0	32 SWARTZ(SWEETWATER CH)-REP 1	1129	3/15/94	28	-9	-9	-9	-9	-9	-9	3.050	0.886	-9	3.160	1.060
90052.0	32 SWARTZ(SWEETWATER CH)-REP 2	1130	3/15/94	28	-9	-9	-9	-9	-9	-9	1.970	-8	-9	2.050	-8
90052.0	32 SWARTZ(SWEETWATER CH)-REP 3	1131	3/15/94	28	-9	-9	-9	-9	-9	-9	2.050	-8	-9	2.100	-8
93131.0	CORONADO CAYS T1 (x1)-REP 1	1138	3/15/94	28	-9	-9	-9	-9	-9	-9	0.844	-8	-9	0.998	-8
93131.0	CORONADO CAYS T1 (x1)-REP 2	1139	3/15/94	28	-9	-9	-9	-9	-9	-9	1.090	0.807	-9	1.130	-8
93131.0	CORONADO CAYS T1 (x1)-REP 3	1140	3/15/94	28	-9	-9	-9	-9	-9	-9	0.985	-8	-9	1.100	-8
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP1	1141	3/15/94	28	-9	-9	-9	-9	-9	-9	2.570	0.673	-9	2.950	0.897
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP2	1142	3/15/94	28	-9	-9	-9	-9	-9	-9	2.670	0.674	-9	3.000	1.010
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP3	1143	3/15/94	28	-9	-9	-9	-9	-9	-9	2.380	0.692	-9	2.260	0.655
90030.0	BF SCHROEDER SITE F-REP 1	1144	3/15/94	28	-9	-9	-9	-9	-9	-9	31.400	11.000	-9	29.500	9.010
90030.0	BF SCHROEDER SITE F-REP 2	1145	3/15/94	28	-9	-9	-9	-9	-9	-9	74.800	23.500	-9	59.100	16.400
90030.0	BF SCHROEDER SITE F-REP 3	1146	3/15/94	28	-9	-9	-9	-9	-9	-9	51.600	18.400	-9	41.600	10.000
93159.0	SOUTH BAY GG3 (x1)-REP 1	1147	3/15/94	28	-9	-9	-9	-9	-9	-9	-8	-8	-9	0.512	-8
93159.0	SOUTH BAY GG3 (x1)-REP 2	1148	3/15/94	28	-9	-9	-9	-9	-9	-9	-8	-8	-9	-8	-8
93159.0	SOUTH BAY GG3 (x1)-REP 3	1149	3/15/94	28	-9	-9	-9	-9	-9	-9	-8	-8	-9	-8	-8
90043.0	CORONADO WHARF-REP 1	1156	3/15/94	28	-9	-9	-9	-9	-9	-9	1.150	-8	-9	1.510	-8
90043.0	CORONADO WHARF-REP 2	1157	3/15/94	28	-9	-9	-9	-9	-9	-9	82.800	29.300	-9	82.900	15.800
90043.0	CORONADO WHARF-REP 3	1158	3/15/94	28	-9	-9	-9	-9	-9	-9	27.100	8.260	-9	24.900	4.940
93120.0	TIJUANA R. EST. HH2 (x1)-REP 1	1132	3/16/94	28	-9	-9	-9	-9	-9	-9	-8	-8	-9	-8	-8
93120.0	TIJUANA R. EST. HH2 (x1)-REP 2	1133	3/16/94	28	-9	-9	-9	-9	-9	-9	-8	-8	-9	-8	-8
93120.0	TIJUANA R. EST. HH2 (x1)-REP 3	1134	3/16/94	28	-9	-9	-9	-9	-9	-9	-8	-8	-9	-8	-8
93121.0	TIJUANA R. EST. HH2 (x5)-REP 1	1135	3/16/94	28	-9	-9	-9	-9	-9	-9	-8	-8	-9	-8	-8
93121.0	TIJUANA R. EST. HH2 (x5)-REP 2	1136	3/16/94	28	-9	-9	-9	-9	-9	-9	-8	-8	-9	-8	-8
93121.0	TIJUANA R. EST. HH2 (x5)-REP 3	1137	3/16/94	28	-9	-9	-9	-9	-9	-9	-8	-8	-9	-8	-8





PCB Congener Analysis (ppb-ng/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	PCB132	PCB137	PCB138	PCB149	PCB151	PCB153	PCB156	PCB157	PCB158	PCB170	PCB174	PCB177
90006.0	23 SWARTZ	155	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90019.0	E DE LAPPE	168	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90021.0	K SWARTZ	170	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90031.0	BG SCHROEDER SITE G	180	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90038.0	CC	187	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90071.0	BAIT BARGE	220	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90101.0	SCRIPPS PIER	250	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90036.0	STORM DRAIN- ROHR CHANNEL	185	10/14/92	5	-9	-9	8.900	-9	-9	8.700	-9	-9	-9	2.500	-9	-9
90053.0	35 SWARTZ	202	10/14/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90054.0	36 SWARTZ	203	10/14/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90001.0	11 SWARTZ	150	10/27/92	6	-9	-9	75.800	-9	-9	49.900	-9	-9	-9	17.200	-9	-9
90002.0	12 SWARTZ	151	10/27/92	6	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90016.0	42 SWARTZ	165	10/27/92	6	-9	-9	4.100	-9	-9	3.700	-9	-9	-9	1.000	-9	-9
90049.0	8B	198	10/27/92	6	-9	-9	3.800	-9	-9	3.400	-9	-9	-9	0.800	-9	-9
90056.0	8A SWARTZ	205	10/27/92	6	-9	-9	0.900	-9	-9	0.700	-9	-9	-9	-8	-9	-9
90063.0	THOMPSON SITE 205	212	10/27/92	6	-9	-9	-8	-9	-9	-8	-9	-9	-9	-8	-9	-9
90003.0	14 SWARTZ	152	10/28/92	6	-9	-9	20.000	-9	-9	12.600	-9	-9	-9	3.200	-9	-9
90004.0	15 SWARTZ	153	10/28/92	6	-9	-9	22.700	-9	-9	14.400	-9	-9	-9	3.300	-9	-9
90010.0	31 SWARTZ	159	10/28/92	6	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90011.0	33 SWARTZ	160	10/28/92	6	-9	-9	3.200	-9	-9	3.600	-9	-9	-9	0.700	-9	-9
90013.0	37 SWARTZ	162	10/28/92	6	-9	-9	8.000	-9	-9	6.500	-9	-9	-9	1.300	-9	-9
90017.0	C DELAPPE	166	10/28/92	6	-9	-9	32.200	-9	-9	23.300	-9	-9	-9	5.700	-9	-9
90048.0	6 SWARTZ	197	10/28/92	6	-9	-9	10.100	-9	-9	7.300	-9	-9	-9	1.700	-9	-9
90051.0	16 SWARTZ	200	10/28/92	6	-9	-9	8.400	-9	-9	5.900	-9	-9	-9	1.400	-9	-9
90052.0	32 SWARTZ	201	10/28/92	6	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90007.0	25 SWARTZ	156	11/10/92	7	-9	-9	52.600	-9	-9	67.000	-9	-9	-9	25.100	-9	-9
90008.0	27 SWARTZ	157	11/10/92	7	-9	-9	12.100	-9	-9	13.600	-9	-9	-9	4.400	-9	-9
90009.0	28 SWARTZ	158	11/10/92	7	-9	-9	36.500	-9	-9	54.400	-9	-9	-9	13.800	-9	-9
90022.0	P SWARTZ	171	11/10/92	7	-9	-9	32.400	-9	-9	37.000	-9	-9	-9	11.900	-9	-9
90026.0	SDNI-N18	175	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90027.0	NSB-S1	176	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90028.0	NSB-M1	177	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90029.0	NSB-R1	178	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90023.0	NM SANDBAG	172	11/11/92	7	-9	-9	5.900	-9	-9	6.000	-9	-9	-9	1.700	-9	-9
90024.0	SDNI-N1	173	11/11/92	7	-9	-9	13.100	-9	-9	14.000	-9	-9	-9	4.200	-9	-9
90025.0	SDNI-N5	174	11/11/92	7	-9	-9	8.800	-9	-9	9.800	-9	-9	-9	3.000	-9	-9
90050.0	10 SWARTZ	199	11/11/92	7	-9	-9	10.000	-9	-9	10.700	-9	-9	-9	2.700	-9	-9
90055.0	43 SWARTZ	204	11/11/92	7	-9	-9	11.600	-9	-9	10.100	-9	-9	-9	2.200	-9	-9
90102.0	HARBOR BRIDGE 71A	256	11/11/92	7	-9	-9	3.300	-9	-9	3.600	-9	-9	-9	1.000	-9	-9
90103.0	SCRIPPS TRIANGLE	257	11/11/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90005.0	21 SWARTZ	154	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90014.0	38 SWARTZ	163	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90018.0	D DE LAPPE	167	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90020.0	G DE LAPPE	169	1/26/93	12	-9	-9	66.100	-9	-9	67.200	-9	-9	-9	18.200	-9	-9





PCB Congener Analysis (ppb-ng/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	PCB132	PCB137	PCB138	PCB149	PCB151	PCB153	PCB156	PCB157	PCB158	PCB170	PCB174	PCB177
93168.0	WEST BASIN H2 (x1)	781	5/5/93	18	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93170.0	CHOLLAS CREEK P1 (x2)	783	5/5/93	18	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93174.0	TIJUANA R. ESTUARY HH3 (x2)	787	5/5/93	18	-9	-9	1.400	-9	-9	1.000	-9	-9	-9	-8	-9	-9
93175.0	TIJUANA R. ESTUARY HH3 (x3)	788	5/5/93	18	-9	-9	2.010	-9	-9	1.370	-9	-9	-9	0.770	-9	-9
93176.0	MARINE TERMINAL R6 (x1) BLIND	794	5/6/93	18	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93177.0	NAVAL SHIPYARDS O1 (x1)	795	5/26/93	19	-9	-9	9.970	-9	-9	8.190	-9	-9	-9	2.270	-9	-9
93178.0	NAVAL SHIPYARDS O2 (x1)	796	5/26/93	19	-9	-9	59.300	-9	-9	47.400	-9	-9	-9	11.000	-9	-9
93179.0	NAVAL SHIPYARDS O3 (x1)	797	5/26/93	19	-9	-9	71.100	-9	-9	55.500	-9	-9	-9	13.000	-9	-9
93181.0	NAVAL SHIPYARDS O6 (x1)	799	5/26/93	19	-9	-9	37.900	-9	-9	37.400	-9	-9	-9	12.000	-9	-9
93182.0	NAVAL SHIPYARDS O8 (x4)	800	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93183.0	NAVAL SHIPYARDS O9 (x1)	801	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93184.0	NAVAL SHIPYARDS O11 (x1)	802	5/26/93	19	-9	-9	63.700	-9	-9	60.700	-9	-9	-9	17.700	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)	803	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93186.0	FUEL PIER D4 (x1)	804	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93187.0	MARINE TERMINAL R2 (x1)	805	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93188.0	CARRIER BASE V1 (x2)	806	5/26/93	19	-9	-9	8.750	-9	-9	7.140	-9	-9	-9	2.300	-9	-9
93189.0	NAVAL SHIPYARDS O15 (x1) BLIND	814	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90051.0	16 SWARTZ (INTERCONT. MARINA)	818	6/15/93	20	1.540	-8	7.850	4.380	1.330	7.260	-8	-8	-8	1.410	0.906	1.030
93192.0	INTERCONT. MARINA M1 (x2)	819	6/15/93	20	45.600	9.890	158.000	87.200	21.600	105.000	20.500	5.110	20.300	15.100	10.500	6.750
93193.0	INTERCONT. MARINA M1 (x1)	820	6/15/93	20	1.410	-8	8.860	4.580	1.490	7.940	-8	-8	0.625	2.040	1.280	1.180
90037.0	STORMDRAIN EM (GRAPE ST.)-REP1	827	6/15/93	20	5.630	0.810	28.400	14.600	5.630	24.200	2.400	0.739	-8	7.890	5.670	3.490
90037.0	STORMDRAIN EM (GRAPE ST.)-REP2	828	6/15/93	20	3.630	0.558	24.300	14.800	5.660	21.500	1.740	-8	1.980	4.300	4.740	3.220
90037.0	STORMDRAIN EM (GRAPE ST.)-REP3	829	6/15/93	20	8.450	1.610	37.400	23.100	7.260	32.600	2.940	1.430	3.650	6.730	6.120	4.160
93198.0	INTERCONT. MARINA M2(x1) BLIND	833	6/15/93	20	0.802	-8	5.070	2.450	0.587	4.560	-8	-8	-8	0.897	0.638	0.725
90013.0	37 SWARTZ (MARINA)	815	6/16/93	20	1.520	-8	10.300	5.360	1.380	10.100	0.680	-8	0.808	2.350	1.300	1.490
93190.0	MARINA II (x1)	816	6/16/93	20	1.540	-8	9.830	5.420	1.520	10.300	-8	-8	0.617	2.390	1.460	1.650
93191.0	MARINA III (x3)	817	6/16/93	20	1.850	-8	11.300	5.980	1.860	11.800	0.669	-8	0.591	2.170	1.540	1.810
90015.0	41 SWARTZ (GLORIETTA BAY)	821	6/16/93	20	1.230	-8	9.900	4.870	1.700	10.000	0.627	-8	0.540	1.570	0.837	1.130
93194.0	GLORIETTA BAY U1 (x1)	822	6/16/93	20	1.610	-8	10.100	5.550	1.840	9.070	0.569	-8	0.563	1.650	1.080	1.290
93195.0	GLORIETTA BAY U1 (x2)	823	6/16/93	20	1.830	-8	11.400	6.000	1.740	11.300	0.851	-8	0.527	1.820	1.240	1.540
90012.0	34 SWARTZ (C.V. YACHT BASIN)	824	6/16/93	20	-8	-8	2.310	1.600	-8	2.770	-8	-8	-8	-8	-8	-8
93196.0	CHULA V. YACHT BASIN S1 (x1)	825	6/16/93	20	1.160	-8	6.250	3.940	0.799	6.290	-8	-8	0.601	0.954	0.601	-8
93197.0	CHULA V. YACHT BASIN S1 (x3)	826	6/16/93	20	0.762	-8	3.890	2.500	0.541	4.220	-8	-8	-8	0.561	-8	-8
90050.0	10 SWARTZ (WEST BASIN)	837	7/20/93	21	2.610	-8	16.200	8.380	2.140	14.700	1.330	-8	1.320	2.930	2.070	1.870
93199.0	WEST BASIN H1 (x1)	838	7/20/93	21	3.010	0.578	17.100	9.470	2.630	15.700	1.440	0.546	1.480	3.530	2.240	1.870
93200.0	WEST BASIN H1 (x4)	839	7/20/93	21	1.600	-8	9.760	4.670	1.560	8.860	0.802	-8	0.723	1.770	1.270	1.230
90053.0	35 SWARTZ (CORONADO CAYS)	843	7/20/93	21	-8	-8	3.620	1.770	-8	4.020	-8	-8	-8	-8	-8	-8
93203.0	CORONADO CAYS T2 (x1)	844	7/20/93	21	0.678	-8	3.550	2.030	-8	4.860	-8	-8	-8	0.533	-8	0.528
93204.0	CORONADO CAYS T2 (x2)	845	7/20/93	21	-8	-8	2.010	1.030	-8	2.830	-8	-8	-8	-8	-8	-8
90003.0	14 SWARTZ (DOWNTOWN PIERS)	846	7/20/93	21	2.620	-8	12.500	6.540	2.280	10.900	1.000	-8	1.000	2.540	1.780	1.630
93205.0	DOWNTOWN PIERS K1 (x9)	847	7/20/93	21	2.490	-8	11.800	6.400	2.850	10.000	1.070	0.671	0.964	2.080	1.720	1.440
93206.0	DOWNTOWN PIERS K1 (x11)	848	7/20/93	21	2.700	-8	13.500	7.130	1.570	11.800	1.080	-8	1.140	2.450	1.970	1.650
90004.0	15 SWARTZ (G ST. PIER MARINA)	849	7/20/93	21	5.500	0.664	22.800	12.700	3.640	18.500	2.240	0.809	1.840	4.420	3.140	2.740
93207.0	G ST. PIER MARINA L1 (x4)	850	7/20/93	21	5.120	0.610	23.900	14.800	6.450	20.800	2.140	1.470	1.610	4.490	4.040	3.040

PCB Congener Analysis (ppb-ng/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	PCB132	PCB137	PCB138	PCB149	PCB151	PCB153	PCB156	PCB157	PCB158	PCB170	PCB174	PCB177
93208.0	G ST. PIER MARINA L1 (x5)	851	7/20/93	21	8.610	1.550	44.300	23.600	6.520	35.400	4.800	2.290	4.510	7.900	6.420	4.900
93209.0	DOWNTOWN PIERS K4 BLIND (x4)	852	7/20/93	21	3.400	-8	13.800	8.590	2.480	11.900	1.360	-8	1.330	2.580	2.120	1.710
90001.0	11 SWARTZ (EAST BASIN)	840	7/21/93	21	13.500	1.940	83.100	50.000	15.900	67.900	5.370	0.836	4.980	17.400	14.900	10.400
93201.0	EAST BASIN I1 (x1)	841	7/21/93	21	4.560	0.989	29.400	15.700	5.160	26.900	2.530	0.970	2.470	6.900	4.520	3.710
93202.0	EAST BASIN I1 (x5)	842	7/21/93	21	3.200	0.637	20.600	9.820	1.960	18.800	1.730	-8	1.570	4.190	2.810	2.700
93107.0	MISSION BAY A3 (x1)-REP 1	853	7/21/93	21	-8	-8	2.050	1.050	-8	1.300	-8	-8	-8	-8	-8	-8
93107.0	MISSION BAY A3 (x1)-REP 2	854	7/21/93	21	-8	-8	2.310	1.190	-8	1.490	-8	-8	-8	-8	-8	-8
93107.0	MISSION BAY A3 (x1)-REP 3	855	7/21/93	21	-8	-8	1.980	1.070	-8	1.430	-8	-8	-8	-8	-8	-8
93112.0	MISSION BAY A8 (x1)-REP 1	856	7/21/93	21	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8
93112.0	MISSION BAY A8 (x1)-REP 2	857	7/21/93	21	-8	-8	0.904	-8	-8	0.764	-8	-8	-8	-8	-8	-8
93112.0	MISSION BAY A8 (x1)-REP 3	858	7/21/93	21	-8	-8	0.840	-8	-8	0.747	-8	-8	-8	-8	-8	-8
93108.0	MISSION BAY A4 (x1)-REP 1	859	7/21/93	21	-8	-8	0.627	-8	-8	0.510	-8	-8	-8	-8	-8	-8
93108.0	MISSION BAY A4 (x1)-REP 2	860	7/21/93	21	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8
93108.0	MISSION BAY A4 (x1)-REP 3	861	7/21/93	21	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8
90052.0	32 SWARTZ(SWEETWATER CH)-REP 1	875	8/3/93	22	-8	-8	2.600	1.590	-8	2.490	-8	-8	-8	-8	-8	-8
93219.0	SWEETWATER CH. JJ1 (x1)-REP 2	876	8/3/93	22	-8	-8	0.771	-8	-8	0.727	-8	-8	-8	-8	-8	-8
93220.0	SWEETWATER CH. JJ1 (x8)-REP 3	877	8/3/93	22	-8	-8	0.540	-8	-8	0.522	-8	-8	-8	-8	-8	-8
90002.0	12 SWARTZ(DOWNTOWN ANCH)-REP 1	878	8/3/93	22	3.310	0.532	15.200	8.230	1.840	12.500	1.380	-8	1.490	2.640	2.060	1.670
93221.0	DOWNTOWN ANCH. J1 (x1)-REP 2	879	8/3/93	22	5.870	0.783	26.200	16.600	7.400	24.700	2.630	-8	2.290	7.030	4.870	3.570
93222.0	DOWNTOWN ANCH. J1 (x2)-REP 3	880	8/3/93	22	4.780	1.070	30.000	16.600	4.590	24.400	2.710	0.739	2.890	6.110	4.960	3.560
93180.0	NAVAL BASE/SHIPYARDS O5 (x1)	798	8/4/93	22	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90021.0	K SWARTZ (NAVAL BASE O4)	862	8/4/93	22	4.150	-8	24.400	12.300	4.050	19.900	1.840	4.650	1.740	4.820	3.630	2.650
93210.0	NAVAL BASE/SHIPYARDS O4 (x1)	863	8/4/93	22	48.100	9.400	163.000	93.600	36.600	99.100	15.400	4.600	18.400	18.800	16.900	9.840
93211.0	NAVAL BASE/SHIPYARDS O4 (x2)	864	8/4/93	22	51.200	9.620	194.000	120.000	26.800	138.000	18.900	5.490	21.800	27.100	22.400	14.100
90006.0	23 SWARTZ (NAVAL BASE O7)	865	8/4/93	22	2.640	-8	14.400	8.980	2.550	12.300	1.060	-8	1.590	3.590	3.100	1.980
93212.0	NAVAL BASE/SHIPYARDS O7 (x1)	866	8/4/93	22	1.780	-8	6.610	3.910	1.440	5.670	0.582	-8	0.696	1.510	1.530	0.999
93213.0	NAVAL BASE/SHIPYARDS O7 (x4)	867	8/4/93	22	3.410	-8	16.100	10.700	3.180	14.600	1.280	-8	1.700	3.980	3.530	2.360
90022.0	P SWARTZ (NAVAL BASE O12)	868	8/4/93	22	8.510	1.190	44.200	28.800	9.640	47.000	3.660	0.805	3.760	10.200	9.520	6.120
93214.0	NAVAL BASE/SHIPYARDS O12 (x3)	869	8/4/93	22	2.640	-8	14.100	8.150	2.160	12.900	-8	-8	1.220	3.070	2.470	1.940
93215.0	NAVAL BASE/SHIPYARDS O12 (x4)	870	8/4/93	22	3.220	-8	15.600	9.980	2.860	14.800	1.230	0.546	1.240	4.170	2.900	2.300
90028.0	NSB-M1 (SUB BASE C2)	871	8/4/93	22	0.985	-8	6.650	4.030	1.380	6.070	-8	-8	0.598	0.858	0.812	0.605
93216.0	SUB BASE C2 (x1)	872	8/4/93	22	-8	-8	1.710	1.040	-8	1.600	-8	-8	-8	-8	-8	-8
93217.0	SUB BASE C2 (x3)	873	8/4/93	22	1.130	-8	7.110	3.670	0.746	6.100	0.645	-8	0.636	1.200	0.863	0.657
93218.0	SUB BASE C2 (x11) BLIND	874	8/4/93	22	1.900	-8	8.350	4.970	1.280	7.390	0.811	-8	0.716	1.540	1.030	0.781
93116.0	SAN DIEGO RIVER B1 (x4)-REP 1	881	8/5/93	22	0.750	-8	5.480	3.200	-8	4.730	-8	-8	-8	1.150	0.849	0.664
93116.0	SAN DIEGO RIVER B1 (x4)-REP 2	882	8/5/93	22	3.100	-8	14.200	9.080	2.130	12.800	0.911	-8	1.460	3.710	2.500	1.960
93116.0	SAN DIEGO RIVER B1 (x4)-REP 3	883	8/5/93	22	3.600	-8	14.300	9.340	1.880	12.700	1.110	-8	1.380	3.030	2.460	1.890
90007.0	25 SWARTZ (NAVAL BASE/SY O10)	887	8/17/93	23	10.200	1.550	42.000	29.600	9.080	42.100	3.890	2.070	4.130	9.480	8.630	5.860
93223.0	NAVAL BASE/SHIPYARD O10 (x2)	888	8/17/93	23	11.900	1.830	50.900	35.700	10.600	51.100	5.010	-8	5.180	13.200	9.680	6.450
93224.0	NAVAL BASE/SHIPYARD O10(x6)	889	8/17/93	23	4.050	-8	15.400	14.200	4.160	17.400	1.300	-8	1.520	4.080	3.570	2.220
90008.0	27 SWARTZ (NAVAL BASE/SH O13)	890	8/17/93	23	3.080	-8	15.200	9.200	2.540	14.300	1.330	-8	1.260	4.160	2.890	2.210
93225.0	NAVAL BASE/SHIPYARD O13 (x1)	891	8/17/93	23	5.850	0.849	27.500	15.700	5.840	23.800	2.880	1.260	2.590	6.090	5.120	5.640
93226.0	NAVAL BASE/SHIPYARD O13 (x3)	892	8/17/93	23	5.190	0.854	30.500	16.800	5.850	27.700	3.470	1.470	2.070	6.230	5.590	3.680
90009.0	28 SWARTZ (7TH ST CHANNEL Q1)	893	8/17/93	23	4.170	0.623	16.600	11.600	3.000	15.100	1.960	0.671	2.050	4.110	3.660	2.210

PCB Congener Analysis (ppb-ng/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	PCB132	PCB137	PCB138	PCB149	PCB151	PCB153	PCB156	PCB157	PCB158	PCB170	PCB174	PCB177
93227.0	SEVENTH ST CHANNEL Q1 (x5)	894	8/17/93	23	7.380	1.010	29.200	18.600	-8	25.700	3.020	1.110	3.570	7.930	7.100	4.410
93228.0	SEVENTH ST CHANNEL Q1 (x6)	895	8/17/93	23	11.700	2.070	50.700	33.100	9.280	44.500	5.820	2.880	5.990	12.700	11.900	7.010
90010.0	31 SWARTZ (MARINE TERMINAL R3)	896	8/17/93	23	0.889	-8	4.620	2.770	0.643	4.490	-8	-8	-8	1.080	0.645	0.559
93229.0	MARINE TERMINAL R3 (x1)	897	8/17/93	23	2.490	-8	14.500	9.840	2.780	14.600	0.765	-8	0.983	2.190	1.850	1.450
93230.0	MARINE TERMINAL R3 (x3)	898	8/17/93	23	4.190	-8	15.500	11.300	2.790	15.000	0.970	-8	1.300	3.240	2.320	1.690
90025.0	SDNI-N5 (CARRIER BASE V2)	899	8/18/93	23	1.460	-8	11.400	6.150	2.360	11.000	0.742	-8	0.732	1.890	1.660	1.570
93231.0	CARRIER BASE V2 (x6)	1000	8/18/93	23	1.840	-8	11.100	6.020	2.420	10.300	0.849	-8	0.750	1.590	1.630	1.570
93232.0	CARRIER BASE V2 (x7)	1001	8/18/93	23	1.430	-8	10.600	5.780	1.810	9.920	0.570	-8	0.522	2.180	1.540	1.540
93132.0	CORONADO CAYS T3 (x1)	1025	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93129.0	SOUTH BAY GG4 (x1)	1026	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	1027	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93127.0	SOUTH BAY GG2 (x1)	1028	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93139.0	COMMERCIAL BASIN F1 (x1)	1030	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)	1031	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93128.0	SOUTHBAY GG5 (x1)	1033	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1) REP 1	1035	1/18/94	24	-9	-9	3.070	-9	-9	3.360	-9	-9	-9	0.573	-9	-9
93158.0	SOUTH BAY GG1 (x1) REP 2	1036	1/18/94	24	-9	-9	3.960	-9	-9	4.860	-9	-9	-9	0.815	-9	-9
93158.0	SOUTH BAY GG1 (x1) REP 3	1037	1/18/94	24	-9	-9	2.880	-9	-9	3.360	-9	-9	-9	0.550	-9	-9
93122.0	S.S.- CORONADO DD3 (x1) REP 1	1013	1/19/94	24	-9	-9	9.940	-9	-9	8.430	-9	-9	-9	2.330	-9	-9
93122.0	S.S.- CORONADO DD3 (x1) REP 2	1014	1/19/94	24	-9	-9	6.700	-9	-9	6.230	-9	-9	-9	1.470	-9	-9
93122.0	S.S.- CORONADO DD3 (x1) REP 3	1015	1/19/94	24	-9	-9	7.970	-9	-9	7.600	-9	-9	-9	1.900	-9	-9
93125.0	SILVER STRAND FF4 (x4) REP 1	1016	1/19/94	24	-9	-9	3.060	-9	-9	2.860	-9	-9	-9	0.587	-9	-9
93125.0	SILVER STRAND FF4 (x4) REP 2	1017	1/19/94	24	-9	-9	2.050	-9	-9	1.890	-9	-9	-9	-8	-9	-9
93125.0	SILVER STRAND FF4 (x4) REP 3	1018	1/19/94	24	-9	-9	2.710	-9	-9	2.600	-9	-9	-9	-8	-9	-9
90057.0	5 SDG&E REP 1	1019	1/19/94	24	-9	-9	3.010	-9	-9	3.000	-9	-9	-9	-8	-9	-9
90057.0	5 SDG&E REP 2	1020	1/19/94	24	-9	-9	3.510	-9	-9	3.470	-9	-9	-9	-8	-9	-9
90057.0	5 SDG&E REP 3	1021	1/19/94	24	-9	-9	2.740	-9	-9	2.920	-9	-9	-9	-8	-9	-9
93117.0	SAN DIEGO RIVER B2 (x2)	1029	1/19/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93120.0	TIJUANA R. ESTUARY HH2 (x1)	1032	1/19/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93121.0	TIJUANA R. ESTUARY HH2 (x5)	1034	1/19/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 1	1022	1/20/94	24	-9	-9	3.630	-9	-9	2.760	-9	-9	-9	0.600	-9	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 2	1023	1/20/94	24	-9	-9	6.080	-9	-9	5.170	-9	-9	-9	0.730	-9	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 3	1024	1/20/94	24	-9	-9	3.760	-9	-9	3.330	-9	-9	-9	1.080	-9	-9
90020.0	G DE LAPPE-REP 1	1104	3/1/94	27	-9	-9	80.500	-9	-9	68.900	-9	-9	-9	14.300	-9	-9
90020.0	G DE LAPPE-REP 2	1105	3/1/94	27	-9	-9	137.000	-9	-9	91.600	-9	-9	-9	19.100	-9	-9
90020.0	G DE LAPPE-REP 3	1106	3/1/94	27	-9	-9	80.000	-9	-9	60.700	-9	-9	-9	12.900	-9	-9
90022.0	P SWARTZ-REP 1	1107	3/1/94	27	-9	-9	34.000	-9	-9	31.900	-9	-9	-9	8.290	-9	-9
90022.0	P SWARTZ-REP 2	1108	3/1/94	27	-9	-9	40.500	-9	-9	37.700	-9	-9	-9	10.300	-9	-9
90022.0	P SWARTZ-REP 3	1109	3/1/94	27	-9	-9	39.200	-9	-9	38.800	-9	-9	-9	11.500	-9	-9
90029.0	NSB-R1-REP 1	1113	3/1/94	27	-9	-9	0.632	-9	-9	-8	-9	-9	-9	-8	-9	-9
90029.0	NSB-R1-REP 2	1114	3/1/94	27	-9	-9	-8	-9	-9	-8	-9	-9	-9	-8	-9	-9
90029.0	NSB-R1-REP 3	1115	3/1/94	27	-9	-9	1.650	-9	-9	1.460	-9	-9	-9	-8	-9	-9
90024.0	SDNI-N1-REP 1	1116	3/1/94	27	-9	-9	14.100	-9	-9	12.900	-9	-9	-9	3.070	-9	-9
90024.0	SDNI-N1-REP 2	1117	3/1/94	27	-9	-9	10.600	-9	-9	8.970	-9	-9	-9	2.830	-9	-9

PCB Congener Analysis (ppb-ng/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	PCB132	PCB137	PCB138	PCB149	PCB151	PCB153	PCB156	PCB157	PCB158	PCB170	PCB174	PCB177
90024.0	SDNI-NT-REP 3	1118	3/1/94	27	-9	-9	10.600	-9	-9	9.690	-9	-9	-9	2.430	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)	1125	3/1/94	27	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)	1126	3/1/94	27	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93161.0	SUB BASE C1 (x1)	1127	3/1/94	27	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)	1128	3/1/94	27	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90013.0	37 SWARTZ-REP 1	1098	3/2/94	27	-9	-9	11.200	-9	-9	11.000	-9	-9	-9	2.110	-9	-9
90013.0	37 SWARTZ-REP 2	1099	3/2/94	27	-9	-9	11.000	-9	-9	11.500	-9	-9	-9	4.540	-9	-9
90013.0	37 SWARTZ-REP 3	1100	3/2/94	27	-9	-9	8.840	-9	-9	8.850	-9	-9	-9	1.480	-9	-9
93106.0	MISSION BAY A2 (x1)-REP 1	1101	3/2/94	27	-9	-9	0.947	-9	-9	0.809	-9	-9	-9	-8	-9	-9
93106.0	MISSION BAY A2 (x1)-REP 2	1102	3/2/94	27	-9	-9	0.868	-9	-9	0.828	-9	-9	-9	-8	-9	-9
93106.0	MISSION BAY A2 (x1)-REP 3	1103	3/2/94	27	-9	-9	0.875	-9	-9	0.813	-9	-9	-9	-8	-9	-9
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 1	1110	3/2/94	27	-9	-9	50.900	-9	-9	43.300	-9	-9	-9	11.600	-9	-9
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 2	1111	3/2/94	27	-9	-9	66.500	-9	-9	55.100	-9	-9	-9	12.700	-9	-9
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 3	1112	3/2/94	27	-9	-9	60.200	-9	-9	50.200	-9	-9	-9	16.400	-9	-9
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 1	1119	3/2/94	27	-9	-9	79.500	-9	-9	66.100	-9	-9	-9	12.800	-9	-9
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 2	1120	3/2/94	27	-9	-9	133.000	-9	-9	100.000	-9	-9	-9	17.600	-9	-9
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 3	1121	3/2/94	27	-9	-9	263.000	-9	-9	179.000	-9	-9	-9	31.600	-9	-9
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 1	1122	3/2/94	27	-9	-9	78.200	-9	-9	59.600	-9	-9	-9	11.800	-9	-9
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 2	1123	3/2/94	27	-9	-9	88.500	-9	-9	67.900	-9	-9	-9	14.100	-9	-9
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 3	1124	3/2/94	27	-9	-9	55.000	-9	-9	44.400	-9	-9	-9	9.620	-9	-9
90052.0	32 SWARTZ(SWEETWATER CH)-REP 1	1129	3/15/94	28	-9	-9	6.320	-9	-9	5.820	-9	-9	-9	1.080	-9	-9
90052.0	32 SWARTZ(SWEETWATER CH)-REP 2	1130	3/15/94	28	-9	-9	4.520	-9	-9	4.740	-9	-9	-9	0.661	-9	-9
90052.0	32 SWARTZ(SWEETWATER CH)-REP 3	1131	3/15/94	28	-9	-9	4.280	-9	-9	4.670	-9	-9	-9	0.722	-9	-9
93131.0	CORONADO CAYS T1 (x1)-REP 1	1138	3/15/94	28	-9	-9	2.110	-9	-9	2.820	-9	-9	-9	-8	-9	-9
93131.0	CORONADO CAYS T1 (x1)-REP 2	1139	3/15/94	28	-9	-9	2.810	-9	-9	3.200	-9	-9	-9	-8	-9	-9
93131.0	CORONADO CAYS T1 (x1)-REP 3	1140	3/15/94	28	-9	-9	2.450	-9	-9	3.040	-9	-9	-9	-8	-9	-9
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP1	1141	3/15/94	28	-9	-9	8.570	-9	-9	6.350	-9	-9	-9	1.720	-9	-9
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP2	1142	3/15/94	28	-9	-9	8.930	-9	-9	6.940	-9	-9	-9	2.060	-9	-9
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP3	1143	3/15/94	28	-9	-9	5.940	-9	-9	6.580	-9	-9	-9	1.190	-9	-9
90030.0	BF SCHROEDER SITE F-REP 1	1144	3/15/94	28	-9	-9	59.900	-9	-9	54.900	-9	-9	-9	13.600	-9	-9
90030.0	BF SCHROEDER SITE F-REP 2	1145	3/15/94	28	-9	-9	94.100	-9	-9	86.800	-9	-9	-9	18.700	-9	-9
90030.0	BF SCHROEDER SITE F-REP 3	1146	3/15/94	28	-9	-9	86.000	-9	-9	69.000	-9	-9	-9	19.400	-9	-9
93159.0	SOUTH BAY GG3 (x1)-REP 1	1147	3/15/94	28	-9	-9	1.390	-9	-9	1.460	-9	-9	-9	-8	-9	-9
93159.0	SOUTH BAY GG3 (x1)-REP 2	1148	3/15/94	28	-9	-9	1.030	-9	-9	1.320	-9	-9	-9	-8	-9	-9
93159.0	SOUTH BAY GG3 (x1)-REP 3	1149	3/15/94	28	-9	-9	0.810	-9	-9	1.030	-9	-9	-9	-8	-9	-9
90043.0	CORONADO WHARF-REP 1	1156	3/15/94	28	-9	-9	4.270	-9	-9	3.090	-9	-9	-9	0.866	-9	-9
90043.0	CORONADO WHARF-REP 2	1157	3/15/94	28	-9	-9	97.400	-9	-9	66.700	-9	-9	-9	11.400	-9	-9
90043.0	CORONADO WHARF-REP 3	1158	3/15/94	28	-9	-9	38.100	-9	-9	27.300	-9	-9	-9	4.750	-9	-9
93120.0	TIJUANA R. EST. HH2 (x1)-REP 1	1132	3/16/94	28	-9	-9	-8	-9	-9	-8	-9	-9	-9	-8	-9	-9
93120.0	TIJUANA R. EST. HH2 (x1)-REP 2	1133	3/16/94	28	-9	-9	-8	-9	-9	-8	-9	-9	-9	-8	-9	-9
93120.0	TIJUANA R. EST. HH2 (x1)-REP 3	1134	3/16/94	28	-9	-9	-8	-9	-9	-8	-9	-9	-9	-8	-9	-9
93121.0	TIJUANA R. EST. HH2 (x5)-REP 1	1135	3/16/94	28	-9	-9	-8	-9	-9	-8	-9	-9	-9	-8	-9	-9
93121.0	TIJUANA R. EST. HH2 (x5)-REP 2	1136	3/16/94	28	-9	-9	-8	-9	-9	-8	-9	-9	-9	-8	-9	-9
93121.0	TIJUANA R. EST. HH2 (x5)-REP 3	1137	3/16/94	28	-9	-9	-8	-9	-9	-8	-9	-9	-9	-8	-9	-9





## PCB Congener Analysis (ppb-ng/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	PCB180	PCB183	PCB187	PCB189	PCB194	PCB195	PCB201	PCB203	PCB206	PCB209	PCBBATCH	ARO5460
90006.0	23 SWARTZ	155	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90019.0	E DE LAPPE	168	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90021.0	K SWARTZ	170	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90031.0	BG SCHROEDER SITE G	180	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90038.0	CC	187	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90071.0	BAIT BARGE	220	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90101.0	SCRIPPS PIER	250	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90036.0	STORM DRAIN- ROHR CHANNEL	185	10/14/92	5	4.700	-9	2.300	-9	-9	-8	-9	-9	-8	-8	72.70	-9
90053.0	35 SWARTZ	202	10/14/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90054.0	36 SWARTZ	203	10/14/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90001.0	11 SWARTZ	150	10/27/92	6	41.500	-9	16.800	-9	-9	2.600	-9	-9	2.900	2.100	73.50	-9
90002.0	12 SWARTZ	151	10/27/92	6	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90016.0	42 SWARTZ	165	10/27/92	6	1.800	-9	1.300	-9	-9	-8	-9	-9	0.500	1.000	73.40	-9
90049.0	8B	198	10/27/92	6	1.700	-9	1.200	-9	-9	-8	-9	-9	-8	0.500	73.40	-9
90056.0	8A SWARTZ	205	10/27/92	6	-8	-9	-8	-9	-9	-8	-9	-9	-8	-8	73.40	-9
90063.0	THOMPSON SITE 205	212	10/27/92	6	-8	-9	-8	-9	-9	-8	-9	-9	-8	-8	73.40	-9
90003.0	14 SWARTZ	152	10/28/92	6	8.000	-9	4.300	-9	-9	0.500	-9	-9	1.600	2.100	73.50	-9
90004.0	15 SWARTZ	153	10/28/92	6	8.200	-9	4.900	-9	-9	0.600	-9	-9	1.600	1.800	73.50	-9
90010.0	31 SWARTZ	159	10/28/92	6	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90011.0	33 SWARTZ	160	10/28/92	6	1.200	-9	1.200	-9	-9	-8	-9	-9	-8	-8	73.40	-9
90013.0	37 SWARTZ	162	10/28/92	6	3.700	-9	2.900	-9	-9	-8	-9	-9	1.900	1.900	73.50	-9
90017.0	C DELAPPE	166	10/28/92	6	11.600	-9	6.600	-9	-9	0.800	-9	-9	2.500	2.200	73.40	-9
90048.0	6 SWARTZ	197	10/28/92	6	4.400	-9	2.700	-9	-9	-8	-9	-9	1.100	1.800	73.50	-9
90051.0	16 SWARTZ	200	10/28/92	6	3.700	-9	2.300	-9	-9	-8	-9	-9	0.700	0.800	73.50	-9
90052.0	32 SWARTZ	201	10/28/92	6	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90007.0	25 SWARTZ	156	11/10/92	7	51.700	-9	23.700	-9	-9	3.700	-9	-9	6.000	6.600	72.60	-9
90008.0	27 SWARTZ	157	11/10/92	7	9.300	-9	5.700	-9	-9	0.700	-9	-9	2.000	2.000	72.70	-9
90009.0	28 SWARTZ	158	11/10/92	7	38.100	-9	17.900	-9	-9	1.800	-9	-9	10.800	15.600	72.80	-9
90022.0	P SWARTZ	171	11/10/92	7	26.200	-9	14.200	-9	-9	2.100	-9	-9	5.300	4.700	72.70	-9
90026.0	SDNI-N18	175	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90027.0	NSB-S1	176	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90028.0	NSB-M1	177	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90029.0	NSB-R1	178	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90023.0	NM SANDBAG	172	11/11/92	7	3.500	-9	2.200	-9	-9	-8	-9	-9	0.800	0.900	72.70	-9
90024.0	SDNI-N1	173	11/11/92	7	8.400	-9	5.100	-9	-9	0.600	-9	-9	1.800	1.900	72.60	-9
90025.0	SDNI-N5	174	11/11/92	7	5.300	-9	3.800	-9	-9	-8	-9	-9	1.400	1.400	72.60	-9
90050.0	10 SWARTZ	199	11/11/92	7	5.800	-9	4.000	-9	-9	0.800	-9	-9	1.300	2.300	72.70	-9
90055.0	43 SWARTZ	204	11/11/92	7	5.400	-9	3.800	-9	-9	-8	-9	-9	1.300	1.400	72.90	-9
90102.0	HARBOR BRIDGE 71A	256	11/11/92	7	2.000	-9	1.400	-9	-9	-8	-9	-9	-8	0.500	72.70	-9
90103.0	SCRIPPS TRIANGLE	257	11/11/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90005.0	21 SWARTZ	154	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90014.0	38 SWARTZ	163	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90018.0	D DE LAPPE	167	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90020.0	G DE LAPPE	169	1/26/93	12	35.000	-9	17.600	-9	-9	2.600	-9	-9	8.100	4.100	72.60	-9





PCB Congener Analysis (ppb-ng/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	PCB180	PCB183	PCB187	PCB189	PCB194	PCB195	PCB201	PCB203	PCB206	PCB209	PCBBATCH	ARO5460
93168.0	WEST BASIN H2 (x1)	781	5/5/93	18	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93170.0	CHOLLAS CREEK P1 (x2)	783	5/5/93	18	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93174.0	TIJUANA R. ESTUARY HH3 (x2)	787	5/5/93	18	1.300	-9	0.600	-9	-9	-8	-9	-9	-8	-8	73.50	-9
93175.0	TIJUANA R. ESTUARY HH3 (x3)	788	5/5/93	18	2.220	-9	0.850	-9	-9	0.320	-9	-9	0.390	0.710	-9	-9
93176.0	MARINE TERMINAL R6 (x1) BLIND	794	5/6/93	18	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93177.0	NAVAL SHIPYARDS O1 (x1)	795	5/26/93	19	4.450	-9	2.580	-9	-9	-8	-9	-9	1.750	2.000	73.25	114.000
93178.0	NAVAL SHIPYARDS O2 (x1)	796	5/26/93	19	20.400	-9	11.400	-9	-9	1.490	-9	-9	5.990	3.900	73.25	1590.000
93179.0	NAVAL SHIPYARDS O3 (x1)	797	5/26/93	19	25.300	-9	13.900	-9	-9	1.800	-9	-9	5.550	4.230	73.25	1040.000
93181.0	NAVAL SHIPYARDS O6 (x1)	799	5/26/93	19	24.400	-9	13.100	-9	-9	1.970	-9	-9	3.770	3.360	73.25	350.000
93182.0	NAVAL SHIPYARDS O8 (x4)	800	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93183.0	NAVAL SHIPYARDS O9 (x1)	801	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93184.0	NAVAL SHIPYARDS O11 (x1)	802	5/26/93	19	38.500	-9	19.600	-9	-9	2.980	-9	-9	9.620	9.760	73.25	266.000
93185.0	NAVAL SHIPYARDS O14 (x1)	803	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93186.0	FUEL PIER D4 (x1)	804	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93187.0	MARINE TERMINAL R2 (x1)	805	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93188.0	CARRIER BASE V1 (x2)	806	5/26/93	19	5.310	-9	3.710	-9	-9	0.663	-9	-9	3.580	3.400	73.26	174.000
93189.0	NAVAL SHIPYARDS O15 (x1) BLIND	814	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90051.0	16 SWARTZ (INTERCONT. MARINA)	818	6/15/93	20	3.140	0.777	2.550	-8	0.940	-8	0.862	0.938	0.830	0.951	73.17	35.600
93192.0	INTERCONT. MARINA M1 (x2)	819	6/15/93	20	25.000	7.050	10.600	0.945	2.670	0.870	2.540	2.820	1.800	1.730	73.15	31.700
93193.0	INTERCONT. MARINA M1 (x1)	820	6/15/93	20	4.360	1.010	3.220	-8	1.440	-8	1.610	1.600	1.360	0.951	73.11	37.200
90037.0	STORMDRAIN EM (GRAPE ST.)-REP1	827	6/15/93	20	17.200	3.680	8.360	-8	3.530	1.030	3.540	3.750	1.990	1.730	73.60	165.000
90037.0	STORMDRAIN EM (GRAPE ST.)-REP2	828	6/15/93	20	13.400	3.190	7.690	-8	3.590	1.070	3.560	3.630	2.690	2.120	73.80	50.200
90037.0	STORMDRAIN EM (GRAPE ST.)-REP3	829	6/15/93	20	17.300	4.090	9.820	-8	3.830	1.170	3.730	3.990	2.620	2.900	73.15	59.200
93198.0	INTERCONT. MARINA M2(x1) BLIND	833	6/15/93	20	2.280	0.555	1.770	-8	0.634	-8	0.595	0.651	0.502	0.570	73.12	32.100
90013.0	37 SWARTZ (MARINA)	815	6/16/93	20	4.660	1.530	4.290	-8	1.600	0.508	1.530	2.020	1.820	2.930	73.15	32.300
93190.0	MARINA I11 (x1)	816	6/16/93	20	5.070	1.280	4.230	-8	1.790	0.545	1.890	1.790	2.050	3.060	73.14	36.900
93191.0	MARINA I11 (x3)	817	6/16/93	20	5.520	1.480	4.850	-8	1.770	0.529	1.750	1.950	2.030	2.970	73.11	61.000
90015.0	41 SWARTZ (GLORIETTA BAY)	821	6/16/93	20	3.360	0.791	2.980	-8	1.200	-8	1.010	1.460	0.984	1.200	73.80	13.600
93194.0	GLORIETTA BAY U1 (x1)	822	6/16/93	20	4.110	0.943	3.250	-8	1.180	-8	1.400	1.270	1.090	1.070	73.17	36.500
93195.0	GLORIETTA BAY U1 (x2)	823	6/16/93	20	4.810	1.140	3.920	-8	1.460	-8	1.330	1.400	1.210	1.380	73.11	67.700
90012.0	34 SWARTZ (C.V. YACHT BASIN)	824	6/16/93	20	0.611	-8	0.625	-8	-8	-8	-8	-8	-8	-8	73.14	-8
93196.0	CHULA V. YACHT BASIN S1 (x1)	825	6/16/93	20	1.720	-8	1.460	-8	-8	-8	-8	-8	-8	-8	73.15	19.500
93197.0	CHULA V. YACHT BASIN S1 (x3)	826	6/16/93	20	1.250	-8	1.060	-8	-8	-8	-8	-8	-8	-8	73.11	25.800
90050.0	10 SWARTZ (WEST BASIN)	837	7/20/93	21	7.420	1.820	4.730	-8	1.910	0.513	2.000	2.050	1.740	2.430	73.15	72.400
93199.0	WEST BASIN H1 (x1)	838	7/20/93	21	7.180	1.890	5.080	-8	1.890	-8	1.960	1.920	1.670	2.280	73.15	67.600
93200.0	WEST BASIN H1 (x4)	839	7/20/93	21	4.360	1.130	3.050	-8	1.210	-8	1.140	1.290	1.100	1.630	73.11	76.500
90053.0	35 SWARTZ (CORONADO CAYS)	843	7/20/93	21	0.956	-8	1.260	-8	-8	-8	-8	-8	-8	-8	73.16	-8
93203.0	CORONADO CAYS T2 (x1)	844	7/20/93	21	1.100	-8	1.620	-8	-8	-8	-8	-8	-8	-8	73.15	-8
93204.0	CORONADO CAYS T2 (x2)	845	7/20/93	21	0.589	-8	0.939	-8	-8	-8	-8	-8	-8	-8	73.10	18.200
90003.0	14 SWARTZ (DOWNTOWN PIERS)	846	7/20/93	21	5.670	1.550	3.940	-8	1.410	-8	1.360	1.650	1.190	1.330	73.12	62.600
93205.0	DOWNTOWN PIERS K1 (x9)	847	7/20/93	21	5.680	1.330	3.820	-8	1.570	-8	1.490	1.780	1.580	2.630	73.10	60.500
93206.0	DOWNTOWN PIERS K1 (x11)	848	7/20/93	21	6.200	1.640	4.110	-8	1.500	-8	1.610	1.830	2.260	1.780	73.12	47.500
90004.0	15 SWARTZ (G ST. PIER MARINA)	849	7/20/93	21	10.100	2.560	6.390	-8	2.590	0.809	2.840	3.030	3.120	3.060	73.16	128.000
93207.0	G ST. PIER MARINA L1 (x4)	850	7/20/93	21	13.100	2.910	8.720	-8	4.560	1.250	5.260	5.410	5.560	4.160	73.10	113.000

PCB Congener Analysis (ppb-ng/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	PCB180	PCB183	PCB187	PCB189	PCB194	PCB195	PCB201	PCB203	PCB206	PCB209	PCBBATCH	ARO5460
93208.0	G ST. PIER MARINA L1 (x5)	851	7/20/93	21	19.300	4.970	11.800	-8	4.800	1.400	5.240	5.970	6.880	6.150	73.12	123.000
93209.0	DOWNTOWN PIERS K4 BLIND (x4)	852	7/20/93	21	6.280	1.710	4.020	-8	1.690	0.522	1.700	1.930	1.860	1.990	73.16	73.900
90001.0	11 SWARTZ (EAST BASIN)	840	7/21/93	21	44.300	10.900	22.300	1.130	9.900	3.620	7.540	9.320	4.070	2.580	73.80	128.000
93201.0	EAST BASIN I1 (x1)	841	7/21/93	21	14.100	3.410	8.380	-8	3.600	1.160	3.070	3.180	1.920	2.090	73.15	99.100
93202.0	EAST BASIN I1 (x5)	842	7/21/93	21	9.440	2.350	5.930	-8	2.410	0.761	2.110	2.360	1.360	1.200	73.12	95.000
93107.0	MISSION BAY A3 (x1)-REP 1	853	7/21/93	21	0.604	-8	-8	-8	-8	-8	-8	-8	-8	-8	73.60	14.000
93107.0	MISSION BAY A3 (x1)-REP 2	854	7/21/93	21	0.785	-8	-8	-8	-8	-8	-8	-8	-8	-8	73.15	-8
93107.0	MISSION BAY A3 (x1)-REP 3	855	7/21/93	21	0.760	-8	-8	-8	-8	-8	-8	-8	-8	-8	73.11	28.500
93112.0	MISSION BAY A8 (x1)-REP 1	856	7/21/93	21	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	73.60	-8
93112.0	MISSION BAY A8 (x1)-REP 2	857	7/21/93	21	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	73.16	-8
93112.0	MISSION BAY A8 (x1)-REP 3	858	7/21/93	21	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	73.14	-8
93108.0	MISSION BAY A4 (x1)-REP 1	859	7/21/93	21	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	73.17	-8
93108.0	MISSION BAY A4 (x1)-REP 2	860	7/21/93	21	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	73.60	-8
93108.0	MISSION BAY A4 (x1)-REP 3	861	7/21/93	21	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	73.16	-8
90052.0	32 SWARTZ(SWEETWATER CH)-REP 1	875	8/3/93	22	1.080	-8	0.844	-8	-8	-8	-8	-8	-8	-8	73.18	-8
93219.0	SWEETWATER CH. JJ1 (x1)-REP 2	876	8/3/93	22	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	73.60	-8
93220.0	SWEETWATER CH. JJ1 (x8)-REP 3	877	8/3/93	22	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	73.10	-8
90002.0	12 SWARTZ(DOWNTOWN ANCH)-REP 1	878	8/3/93	22	5.920	1.570	3.780	-8	1.390	-8	1.390	1.650	1.290	1.020	73.11	59.600
93221.0	DOWNTOWN ANCH. J1 (x1)-REP 2	879	8/3/93	22	14.000	3.320	8.750	-8	3.390	0.998	3.390	4.450	2.500	2.100	73.10	87.700
93222.0	DOWNTOWN ANCH. J1 (x2)-REP 3	880	8/3/93	22	14.900	3.790	8.270	-8	3.720	1.100	3.600	4.300	2.820	2.470	73.12	55.200
93180.0	NAVAL BASE/SHIPYARDS O5 (x1)	798	8/4/93	22	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90021.0	K SWARTZ (NAVAL BASE O4)	862	8/4/93	22	12.100	2.750	6.810	-8	3.030	0.709	3.850	3.650	5.630	2.290	73.60	457.000
93210.0	NAVAL BASE/SHIPYARDS O4 (x1)	863	8/4/93	22	38.700	12.800	22.600	1.190	8.980	2.780	13.100	16.100	18.400	5.280	73.10	4350.000
93211.0	NAVAL BASE/SHIPYARDS O4 (x2)	864	8/4/93	22	62.700	16.200	31.000	1.500	13.000	4.040	13.400	16.900	9.240	3.640	73.12	811.000
90006.0	23 SWARTZ (NAVAL BASE O7)	865	8/4/93	22	8.770	2.250	4.850	-8	2.190	0.665	2.060	2.470	2.310	5.800	73.16	24.700
93212.0	NAVAL BASE/SHIPYARDS O7 (x1)	866	8/4/93	22	4.230	0.927	2.120	-8	0.971	-8	0.927	1.130	0.746	1.100	73.16	29.200
93213.0	NAVAL BASE/SHIPYARDS O7 (x4)	867	8/4/93	22	9.780	2.440	5.630	-8	2.510	0.768	2.450	2.880	1.890	1.480	73.16	29.700
90022.0	P SWARTZ (NAVAL BASE O12)	868	8/4/93	22	28.700	7.330	16.400	0.504	7.610	1.750	7.840	8.990	6.270	5.850	73.80	62.100
93214.0	NAVAL BASE/SHIPYARDS O12 (x3)	869	8/4/93	22	8.190	2.650	5.250	-8	2.570	0.844	2.490	2.810	2.650	2.330	73.14	36.800
93215.0	NAVAL BASE/SHIPYARDS O12 (x4)	870	8/4/93	22	9.400	2.270	5.900	-8	2.420	0.810	2.250	2.530	2.230	4.120	73.14	40.200
90028.0	NSB-M1 (SUB BASE C2)	871	8/4/93	22	2.520	0.632	1.860	-8	0.720	-8	0.722	0.737	0.640	-8	73.80	-8
93216.0	SUB BASE C2 (x1)	872	8/4/93	22	0.751	-8	0.540	-8	-8	-8	-8	-8	-8	-8	73.10	14.800
93217.0	SUB BASE C2 (x3)	873	8/4/93	22	2.840	0.765	1.780	-8	0.737	-8	0.684	0.863	0.719	0.519	73.12	22.200
93218.0	SUB BASE C2 (x11) BLIND	874	8/4/93	22	3.140	0.873	2.120	-8	0.871	-8	0.820	0.981	0.857	0.672	73.16	15.400
93116.0	SAN DIEGO RIVER B1 (x4)-REP 1	881	8/5/93	22	3.000	0.680	1.680	-8	0.582	-8	0.544	0.634	-8	-8	73.60	27.200
93116.0	SAN DIEGO RIVER B1 (x4)-REP 2	882	8/5/93	22	7.580	2.060	4.610	-8	1.880	0.590	1.370	1.950	0.728	-8	73.15	23.100
93116.0	SAN DIEGO RIVER B1 (x4)-REP 3	883	8/5/93	22	6.760	1.990	4.380	-8	1.730	0.617	1.360	1.790	0.820	-8	73.11	58.400
90007.0	25 SWARTZ (NAVAL BASE/SY O10)	887	8/17/93	23	24.800	6.080	14.700	0.569	6.180	2.160	5.940	6.790	5.610	8.110	73.14	63.400
93223.0	NAVAL BASE/SHIPYARD O10 (x2)	888	8/17/93	23	28.100	6.820	16.400	0.686	6.870	2.270	6.470	7.430	5.940	13.000	73.14	72.100
93224.0	NAVAL BASE/SHIPYARD O10(x6)	889	8/17/93	23	9.480	2.520	6.670	-8	2.270	0.705	2.400	2.640	2.310	2.420	73.14	33.000
90008.0	27 SWARTZ (NAVAL BASE/SH O13)	890	8/17/93	23	8.760	2.160	5.750	-8	2.390	0.771	2.280	2.490	2.430	9.630	73.14	41.600
93225.0	NAVAL BASE/SHIPYARD O13 (x1)	891	8/17/93	23	16.600	4.650	10.400	-8	4.290	1.320	4.500	5.550	4.600	5.910	73.14	71.100
93226.0	NAVAL BASE/SHIPYARD O13 (x3)	892	8/17/93	23	17.500	4.360	10.300	-8	4.590	1.290	4.560	5.010	4.280	3.430	73.80	65.100
90009.0	28 SWARTZ (7TH ST CHANNEL Q1)	893	8/17/93	23	10.400	2.560	5.530	-8	2.580	0.793	2.610	3.200	2.610	3.100	73.17	31.000

## PCB Congener Analysis (ppb-ng/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	PCB180	PCB183	PCB187	PCB189	PCB194	PCB195	PCB201	PCB203	PCB206	PCB209	PCBBATCH	ARO5460
93227.0	SEVENTH ST CHANNEL Q1 (x5)	894	8/17/93	23	19.300	4.810	9.820	-8	4.570	1.490	4.240	5.310	3.530	3.990	73.10	68.100
93228.0	SEVENTH ST CHANNEL Q1 (x6)	895	8/17/93	23	33.600	8.130	17.000	0.676	8.450	2.540	9.060	10.800	13.800	16.500	73.16	57.800
90010.0	31 SWARTZ (MARINE TERMINAL R3)	896	8/17/93	23	2.100	0.556	1.710	-8	0.601	-8	0.535	0.641	-8	-8	73.14	10.700
93229.0	MARINE TERMINAL R3 (x1)	897	8/17/93	23	7.160	1.770	5.110	-8	1.950	0.526	1.360	1.840	1.510	2.000	73.10	45.100
93230.0	MARINE TERMINAL R3 (x3)	898	8/17/93	23	8.140	2.240	5.800	-8	2.380	0.610	1.870	2.490	1.730	1.570	73.16	22.500
90025.0	SDNI-N5 (CARRIER BASE V2)	899	8/18/93	23	5.520	1.340	4.010	-8	1.800	-8	1.730	1.900	1.620	1.770	73.80	42.400
93231.0	CARRIER BASE V2 (x6)	1000	8/18/93	23	5.150	1.260	3.920	-8	1.680	0.535	1.380	1.820	1.360	1.620	73.10	65.100
93232.0	CARRIER BASE V2 (x7)	1001	8/18/93	23	5.060	1.280	3.950	-8	1.570	-8	1.450	1.580	1.470	1.640	73.16	36.900
93132.0	CORONADO CAYS T3 (x1)	1025	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	0.00	-9
93129.0	SOUTH BAY GG4 (x1)	1026	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	0.00	-9
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	1027	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	0.00	-9
93127.0	SOUTH BAY GG2 (x1)	1028	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	0.00	-9
93139.0	COMMERCIAL BASIN F1 (x1)	1030	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	0.00	-9
93106.0	MISSION BAY A2 (x1)	1031	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	0.00	-9
93128.0	SOUTHBAY GG5 (x1)	1033	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	0.00	-9
93158.0	SOUTH BAY GG1 (x1) REP 1	1035	1/18/94	24	1.470	-9	1.500	-9	-9	-8	-9	-9	-8	0.661	0.00	51.100
93158.0	SOUTH BAY GG1 (x1) REP 2	1036	1/18/94	24	1.750	-9	1.990	-9	-9	-8	-9	-9	0.578	0.747	0.00	60.800
93158.0	SOUTH BAY GG1 (x1) REP 3	1037	1/18/94	24	1.440	-9	1.460	-9	-9	-8	-9	-9	-8	0.594	0.00	51.300
93122.0	S.S.- CORONADO DD3 (x1) REP 1	1013	1/19/94	24	4.460	-9	3.420	-9	-9	-8	-9	-9	1.170	1.440	0.00	170.000
93122.0	S.S.- CORONADO DD3 (x1) REP 2	1014	1/19/94	24	3.710	-9	2.340	-9	-9	-8	-9	-9	0.906	0.958	0.00	118.000
93122.0	S.S.- CORONADO DD3 (x1) REP 3	1015	1/19/94	24	5.020	-9	3.290	-9	-9	-8	-9	-9	1.240	1.700	0.00	144.000
93125.0	SILVER STRAND FF4 (x4) REP 1	1016	1/19/94	24	1.370	-9	1.260	-9	-9	-8	-9	-9	-8	0.559	0.00	51.700
93125.0	SILVER STRAND FF4 (x4) REP 2	1017	1/19/94	24	0.944	-9	0.906	-9	-9	-8	-9	-9	-8	-8	0.00	33.500
93125.0	SILVER STRAND FF4 (x4) REP 3	1018	1/19/94	24	1.110	-9	1.030	-9	-9	-8	-9	-9	-8	-8	0.00	37.500
90057.0	5 SDG&E REP 1	1019	1/19/94	24	0.764	-9	0.832	-9	-9	-8	-9	-9	-8	-8	0.00	21.900
90057.0	5 SDG&E REP 2	1020	1/19/94	24	1.060	-9	0.883	-9	-9	-8	-9	-9	-8	-8	0.00	29.200
90057.0	5 SDG&E REP 3	1021	1/19/94	24	0.956	-9	0.790	-9	-9	-8	-9	-9	-8	-8	0.00	23.200
93117.0	SAN DIEGO RIVER B2 (x2)	1029	1/19/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	0.00	-9
93120.0	TIJUANA R. ESTUARY HH2 (x1)	1032	1/19/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	0.00	-9
93121.0	TIJUANA R. ESTUARY HH2 (x5)	1034	1/19/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	0.00	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 1	1022	1/20/94	24	1.150	-9	0.648	-9	-9	-8	-9	-9	-8	-8	0.00	14.000
90036.0	STORMDRAIN EA (ROHR CH.) REP 2	1023	1/20/94	24	2.440	-9	2.930	-9	-9	-8	-9	-9	0.804	-8	0.00	31.300
90036.0	STORMDRAIN EA (ROHR CH.) REP 3	1024	1/20/94	24	2.490	-9	1.170	-9	-9	-8	-9	-9	-8	-8	0.00	32.700
90020.0	G DE LAPPE-REP 1	1104	3/1/94	27	36.200	-9	20.600	-9	-9	1.890	-9	-9	5.650	3.300	0.00	341.000
90020.0	G DE LAPPE-REP 2	1105	3/1/94	27	43.600	-9	19.700	-9	-9	3.430	-9	-9	7.060	2.790	0.00	2900.000
90020.0	G DE LAPPE-REP 3	1106	3/1/94	27	30.100	-9	15.000	-9	-9	2.470	-9	-9	29.900	10.500	0.00	1780.000
90022.0	P SWARTZ-REP 1	1107	3/1/94	27	21.200	-9	10.900	-9	-9	1.730	-9	-9	5.700	7.330	0.00	206.000
90022.0	P SWARTZ-REP 2	1108	3/1/94	27	26.100	-9	12.800	-9	-9	2.830	-9	-9	6.310	6.030	0.00	233.000
90022.0	P SWARTZ-REP 3	1109	3/1/94	27	23.700	-9	13.000	-9	-9	1.850	-9	-9	5.910	5.950	0.00	273.000
90029.0	NSB-R1-REP 1	1113	3/1/94	27	-8	-9	-8	-9	-9	-8	-9	-9	-8	-8	0.00	10.500
90029.0	NSB-R1-REP 2	1114	3/1/94	27	-8	-9	-8	-9	-9	-8	-9	-9	-8	-8	0.00	6.900
90029.0	NSB-R1-REP 3	1115	3/1/94	27	0.869	-9	0.616	-9	-9	-8	-9	-9	-8	-8	0.00	24.700
90024.0	SDNI-N1-REP 1	1116	3/1/94	27	7.120	-9	4.510	-9	-9	0.845	-9	-9	3.400	2.280	0.00	224.000
90024.0	SDNI-N1-REP 2	1117	3/1/94	27	5.650	-9	3.720	-9	-9	-8	-9	-9	1.370	1.490	0.00	213.000

PCB Congener Analysis (ppb-ng/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	PCB180	PCB183	PCB187	PCB189	PCB194	PCB195	PCB201	PCB203	PCB206	PCB209	PCBBATCH	ARO5460
90024.0	SDNI-N1-REP 3	1118	3/1/94	27	5.970	-9	3.520	-9	-9	-9	-9	-9	1.530	1.520	0.00	200.000
93185.0	NAVAL SHIPYARDS O14 (x1)	1125	3/1/94	27	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	0.00	-9
93163.0	FUEL PIERS D2 (x2)	1126	3/1/94	27	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	0.00	-9
93161.0	SUB BASE C1 (x1)	1127	3/1/94	27	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	0.00	-9
93171.0	MARINE TERMINAL R1 (x1)	1128	3/1/94	27	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	0.00	-9
90013.0	37 SWARTZ-REP 1	1098	3/2/94	27	5.940	-9	5.020	-9	-9	-8	-9	-9	2.190	3.630	0.00	140.000
90013.0	37 SWARTZ-REP 2	1099	3/2/94	27	9.970	-9	-8	-9	-9	1.240	-9	-9	2.670	3.200	0.00	101.000
90013.0	37 SWARTZ-REP 3	1100	3/2/94	27	4.410	-9	3.860	-9	-9	-8	-9	-9	1.540	2.550	0.00	44.800
93106.0	MISSION BAY A2 (x1)-REP 1	1101	3/2/94	27	-8	-9	-8	-9	-9	-8	-9	-9	-8	-8	0.00	24.100
93106.0	MISSION BAY A2 (x1)-REP 2	1102	3/2/94	27	-8	-9	-8	-9	-9	-8	-9	-9	-8	-8	0.00	25.000
93106.0	MISSION BAY A2 (x1)-REP 3	1103	3/2/94	27	-8	-9	-8	-9	-9	-8	-9	-9	-8	-8	0.00	-8
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 1	1110	3/2/94	27	25.700	-9	12.500	-9	-9	1.950	-9	-9	4.150	4.980	0.00	420.000
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 2	1111	3/2/94	27	28.800	-9	13.600	-9	-9	2.510	-9	-9	5.640	3.710	0.00	555.000
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 3	1112	3/2/94	27	31.900	-9	15.100	-9	-9	2.260	-9	-9	4.110	4.080	0.00	666.000
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 1	1119	3/2/94	27	28.300	-9	14.700	-9	-9	2.150	-9	-9	11.900	4.400	0.00	1720.000
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 2	1120	3/2/94	27	40.100	-9	21.300	-9	-9	3.630	-9	-9	26.100	14.700	0.00	936.000
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 3	1121	3/2/94	27	68.100	-9	29.200	-9	-9	6.860	-9	-9	17.500	4.360	0.00	5220.000
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 1	1122	3/2/94	27	28.600	-9	15.300	-9	-9	2.500	-9	-9	18.400	7.010	0.00	860.000
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 2	1123	3/2/94	27	34.800	-9	18.100	-9	-9	3.170	-9	-9	6.640	3.030	0.00	1800.000
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 3	1124	3/2/94	27	24.100	-9	13.300	-9	-9	1.960	-9	-9	17.600	6.610	0.00	1050.000
90052.0	32 SWARTZ(SWEETWATER CH)-REP 1	1129	3/15/94	28	2.840	-9	2.050	-9	-9	-8	-9	-9	-8	-8	0.00	46.600
90052.0	32 SWARTZ(SWEETWATER CH)-REP 2	1130	3/15/94	28	2.240	-9	1.800	-9	-9	-8	-9	-9	-8	0.507	0.00	28.100
90052.0	32 SWARTZ(SWEETWATER CH)-REP 3	1131	3/15/94	28	2.110	-9	1.620	-9	-9	-8	-9	-9	-8	-8	0.00	26.000
93131.0	CORONADO CAYS T1 (x1)-REP 1	1138	3/15/94	28	0.663	-9	1.010	-9	-9	-8	-9	-9	-8	-8	0.00	15.800
93131.0	CORONADO CAYS T1 (x1)-REP 2	1139	3/15/94	28	0.901	-9	1.280	-9	-9	-8	-9	-9	-8	-8	0.00	32.000
93131.0	CORONADO CAYS T1 (x1)-REP 3	1140	3/15/94	28	0.805	-9	1.070	-9	-9	-8	-9	-9	-8	-8	0.00	33.600
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP1	1141	3/15/94	28	3.810	-9	2.530	-9	-9	-8	-9	-9	0.781	0.827	0.00	51.500
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP2	1142	3/15/94	28	4.550	-9	2.870	-9	-9	-8	-9	-9	0.709	0.663	0.00	71.400
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP3	1143	3/15/94	28	2.560	-9	2.160	-9	-9	-8	-9	-9	0.613	0.634	0.00	52.900
90030.0	BF SCHROEDER SITE F-REP 1	1144	3/15/94	28	32.300	-9	16.600	-9	-9	2.410	-9	-9	3.870	2.390	0.00	430.000
90030.0	BF SCHROEDER SITE F-REP 2	1145	3/15/94	28	43.200	-9	24.100	-9	-9	3.290	-9	-9	4.770	2.610	0.00	728.000
90030.0	BF SCHROEDER SITE F-REP 3	1146	3/15/94	28	46.000	-9	22.900	-9	-9	3.480	-9	-9	5.440	3.650	0.00	724.000
93159.0	SOUTH BAY GG3 (x1)-REP 1	1147	3/15/94	28	-8	-9	0.582	-9	-9	-8	-9	-9	-8	-8	0.00	17.200
93159.0	SOUTH BAY GG3 (x1)-REP 2	1148	3/15/94	28	-8	-9	0.519	-9	-9	-8	-9	-9	-8	-8	0.00	16.100
93159.0	SOUTH BAY GG3 (x1)-REP 3	1149	3/15/94	28	-8	-9	-8	-9	-9	-8	-9	-9	-8	-8	0.00	9.500
90043.0	CORONADO WHARF-REP 1	1156	3/15/94	28	1.950	-9	1.290	-9	-9	-8	-9	-9	-8	-8	0.00	42.300
90043.0	CORONADO WHARF-REP 2	1157	3/15/94	28	21.800	-9	9.230	-9	-9	1.340	-9	-9	2.220	2.060	0.00	115.000
90043.0	CORONADO WHARF-REP 3	1158	3/15/94	28	10.100	-9	5.680	-9	-9	0.722	-9	-9	3.180	3.070	0.00	152.000
93120.0	TIJUANA R. EST. HH2 (x1)-REP 1	1132	3/16/94	28	-8	-9	-8	-9	-9	-8	-9	-9	-8	-8	0.00	-8
93120.0	TIJUANA R. EST. HH2 (x1)-REP 2	1133	3/16/94	28	-8	-9	-8	-9	-9	-8	-9	-9	-8	-8	0.00	-8
93120.0	TIJUANA R. EST. HH2 (x1)-REP 3	1134	3/16/94	28	-8	-9	-8	-9	-9	-8	-9	-9	-8	-8	0.00	-8
93121.0	TIJUANA R. EST. HH2 (x5)-REP 1	1135	3/16/94	28	-8	-9	-8	-9	-9	-8	-9	-9	-8	-8	0.00	-8
93121.0	TIJUANA R. EST. HH2 (x5)-REP 2	1136	3/16/94	28	-8	-9	-8	-9	-9	-8	-9	-9	-8	-8	0.00	-8
93121.0	TIJUANA R. EST. HH2 (x5)-REP 3	1137	3/16/94	28	-8	-9	-8	-9	-9	-8	-9	-9	-8	-8	0.00	-8





Section IV  
Pesticide Concentrations

Pesticide Analysis (ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	SOWEIGHT	SOMOIST	ALDRIN	CCHLOR	TCHLOR	ACDEN	GC DEN	CLPYR	DACTH	OPDD	PPDD
90006.0	23 SWARTZ	155	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90019.0	E DE LAPPE	168	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90021.0	K SWARTZ	170	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90031.0	BG SCHROEDER SITE G	180	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90038.0	CC	187	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90071.0	BAIT BARGE	220	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90101.0	SCRIPPS PIER	250	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90036.0	STORM DRAIN- ROHR CHANNEL	185	10/14/92	5	-9	-9	-8	-8	-9	-8	-9	-9	-9	-8	0.900
90053.0	35 SWARTZ	202	10/14/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90054.0	36 SWARTZ	203	10/14/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90001.0	11 SWARTZ	150	10/27/92	6	-9	-9	-8	1.800	-9	-8	-9	-9	-9	1.60	3.100
90002.0	12 SWARTZ	151	10/27/92	6	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90016.0	42 SWARTZ	165	10/27/92	6	-9	-9	-8	-8	-9	-8	-9	-9	-9	-8	1.200
90049.0	8B	198	10/27/92	6	-9	-9	-8	-8	-9	-8	-9	-9	-9	-8	0.800
90056.0	8A SWARTZ	205	10/27/92	6	-9	-9	-8	-8	-9	-8	-9	-9	-9	-8	0.400
90063.0	THOMPSON SITE 205	212	10/27/92	6	-9	-9	-8	-8	-9	-8	-9	-9	-9	-8	0.500
90003.0	14 SWARTZ	152	10/28/92	6	-9	-9	-8	1.000	-9	-8	-9	-9	-9	2.80	3.300
90004.0	15 SWARTZ	153	10/28/92	6	-9	-9	-8	1.200	-9	-8	-9	-9	-9	3.60	8.900
90010.0	31 SWARTZ	159	10/28/92	6	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90011.0	33 SWARTZ	160	10/28/92	6	-9	-9	-8	-8	-9	-8	-9	-9	-9	-8	0.600
90013.0	37 SWARTZ	162	10/28/92	6	-9	-9	-8	-8	-9	-8	-9	-9	-9	-8	0.500
90017.0	C DELAPPE	166	10/28/92	6	-9	-9	-8	8.600	-9	2.300	-9	-9	-9	3.80	9.700
90048.0	6 SWARTZ	197	10/28/92	6	-9	-9	-8	0.700	-9	-8	-9	-9	-9	1.10	1.900
90051.0	16 SWARTZ	200	10/28/92	6	-9	-9	-8	-8	-9	-8	-9	-9	-9	-8	1.400
90052.0	32 SWARTZ	201	10/28/92	6	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90007.0	25 SWARTZ	156	11/10/92	7	-9	-9	-8	1.300	-9	-8	-9	-9	-9	-8	1.700
90008.0	27 SWARTZ	157	11/10/92	7	-9	-9	-8	0.900	-9	-8	-9	-9	-9	-8	1.000
90009.0	28 SWARTZ	158	11/10/92	7	-9	-9	-8	19.700	-9	7.100	-9	-9	-9	38.40	78.800
90022.0	P SWARTZ	171	11/10/92	7	-9	-9	-8	1.600	-9	-8	-9	-9	-9	-8	2.300
90026.0	SDNI-N18	175	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90027.0	NSB-S1	176	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90028.0	NSB-M1	177	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90029.0	NSB-R1	178	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90023.0	NM SANDBAG	172	11/11/92	7	-9	-9	-8	-8	-9	-8	-9	-9	-9	-8	0.700
90024.0	SDNI-N1	173	11/11/92	7	-9	-9	-8	0.700	-9	-8	-9	-9	-9	-8	0.800
90025.0	SDNI-N5	174	11/11/92	7	-9	-9	-8	-8	-9	-8	-9	-9	-9	-8	-8
90050.0	10 SWARTZ	199	11/11/92	7	-9	-9	-8	-8	-9	-8	-9	-9	-9	-8	0.700
90055.0	43 SWARTZ	204	11/11/92	7	-9	-9	-8	0.600	-9	-8	-9	-9	-9	-8	-8
90102.0	HARBOR BRIDGE 71A	256	11/11/92	7	-9	-9	-8	-8	-9	-8	-9	-9	-9	-8	1.000
90103.0	SCRIPPS TRIANGLE	257	11/11/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90005.0	21 SWARTZ	154	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90014.0	38 SWARTZ	163	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90018.0	D DE LAPPE	167	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90020.0	G DE LAPPE	169	1/26/93	12	-9	-9	-8	1.200	-9	-8	-9	-9	-9	-8	2.400





## Pesticide Analysis (ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	SOWEIGHT	SOMOIST	ALDRIN	CCHLOR	TCHLOR	ACDEN	GCDEN	CLPYR	DACTH	OPDDD	PPDDD
93168.0	WEST BASIN H2 (x1)	781	5/5/93	18	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93170.0	CHOLLAS CREEK P1 (x2)	783	5/5/93	18	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93174.0	TIJUANA R. ESTUARY HH3 (x2)	787	5/5/93	18	-9	-9	-8	0.900	-9	-8	-9	-9	-9	7.80	11.300
93175.0	TIJUANA R. ESTUARY HH3 (x3)	788	5/5/93	18	-9	-9	-8	1.770	0.670	-9	-9	-9	-9	10.33	15.440
93176.0	MARINE TERMINAL R6 (x1) BLIND	794	5/6/93	18	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93177.0	NAVAL SHIPYARDS O1 (x1)	795	5/26/93	19	10.40	42.57	-8	1.160	1.440	-8	-8	-8	-8	-8	1.290
93178.0	NAVAL SHIPYARDS O2 (x1)	796	5/26/93	19	10.19	56.53	-8	2.970	4.650	-8	-8	-8	0.453	1.31	2.760
93179.0	NAVAL SHIPYARDS O3 (x1)	797	5/26/93	19	10.02	67.63	-8	3.140	4.090	-8	-8	-8	0.733	1.24	1.960
93181.0	NAVAL SHIPYARDS O6 (x1)	799	5/26/93	19	10.01	67.23	-8	5.320	7.660	0.882	-8	-8	0.525	-8	3.170
93182.0	NAVAL SHIPYARDS O8 (x4)	800	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93183.0	NAVAL SHIPYARDS O9 (x1)	801	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93184.0	NAVAL SHIPYARDS O11 (x1)	802	5/26/93	19	10.24	66.83	-8	3.260	5.690	0.522	-8	-8	-8	2.18	3.300
93185.0	NAVAL SHIPYARDS O14 (x1)	803	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93186.0	FUEL PIER D4 (x1)	804	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93187.0	MARINE TERMINAL R2 (x1)	805	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93188.0	CARRIER BASE V1 (x2)	806	5/26/93	19	10.17	51.60	-8	0.676	0.921	-8	-8	-8	-8	-8	-8
93189.0	NAVAL SHIPYARDS O15 (x1) BLIND	814	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90051.0	16 SWARTZ (INTERCONT. MARINA)	818	6/15/93	20	10.19	52.78	-8	0.832	1.180	-8	-8	-8	-8	1.04	1.250
93192.0	INTERCONT. MARINA M1 (x2)	819	6/15/93	20	10.39	62.52	-8	0.626	0.883	-8	-8	-8	-8	-8	1.110
93193.0	INTERCONT. MARINA M1 (x1)	820	6/15/93	20	10.51	55.21	-8	1.100	1.650	-8	-8	-8	-8	-8	-8
90037.0	STORMDRAIN EM (GRAPE ST.)-REP1	827	6/15/93	20	10.51	59.12	-8	2.340	3.910	0.935	-8	3.34	-8	1.96	5.010
90037.0	STORMDRAIN EM (GRAPE ST.)-REP2	828	6/15/93	20	10.23	61.83	-8	3.060	4.890	1.020	-8	1.82	-8	1.24	5.380
90037.0	STORMDRAIN EM (GRAPE ST.)-REP3	829	6/15/93	20	10.41	59.66	-8	4.540	5.700	-8	-8	-8	-8	1.26	3.450
93198.0	INTERCONT. MARINA M2(x1) BLIND	833	6/15/93	20	10.39	47.04	-8	0.523	0.825	-8	-8	-8	-8	-8	-8
90013.0	37 SWARTZ (MARINA)	815	6/16/93	20	10.04	61.64	-8	-8	-8	-8	-8	-8	-8	-8	0.490
93190.0	MARINA II (x1)	816	6/16/93	20	10.64	62.21	-8	-8	-8	-8	-8	-8	-8	-8	0.477
93191.0	MARINA II (x3)	817	6/16/93	20	10.42	69.36	-8	0.780	1.040	-8	-8	-8	-8	-8	2.550
90015.0	41 SWARTZ (GLORIETTA BAY)	821	6/16/93	20	10.40	51.83	-8	-8	-8	-8	-8	-8	-8	-8	0.967
93194.0	GLORIETTA BAY U1 (x1)	822	6/16/93	20	10.73	47.28	-8	-8	0.563	-8	-8	-8	-8	-8	0.952
93195.0	GLORIETTA BAY U1 (x2)	823	6/16/93	20	10.99	49.36	-8	0.683	1.300	-8	-8	-8	-8	-8	-8
90012.0	34 SWARTZ (C.V. YACHT BASIN)	824	6/16/93	20	10.96	57.62	-8	-8	-8	-8	-8	-8	-8	-8	-8
93196.0	CHULA V. YACHT BASIN S1 (x1)	825	6/16/93	20	10.10	60.71	-8	-8	0.517	-8	-8	-8	-8	-8	0.630
93197.0	CHULA V. YACHT BASIN S1 (x3)	826	6/16/93	20	10.28	58.82	-8	-8	-8	-8	-8	-8	-8	-8	-8
90050.0	10 SWARTZ (WEST BASIN)	837	7/20/93	21	10.14	60.83	-8	0.713	0.919	-8	-8	-8	-8	-8	1.050
93199.0	WEST BASIN H1 (x1)	838	7/20/93	21	10.28	57.13	-8	1.400	1.780	-8	-8	-8	-8	-8	1.410
93200.0	WEST BASIN H1 (x4)	839	7/20/93	21	10.77	53.09	-8	-8	0.674	-8	-8	-8	-8	-8	-8
90053.0	35 SWARTZ (CORONADO CAYS)	843	7/20/93	21	10.87	60.37	-8	-8	-8	-8	-8	-8	-8	-8	0.871
93203.0	CORONADO CAYS T2 (x1)	844	7/20/93	21	10.38	62.70	-8	-8	-8	-8	-8	-8	-8	-8	0.421
93204.0	CORONADO CAYS T2 (x2)	845	7/20/93	21	10.83	51.41	-8	-8	-8	-8	-8	-8	-8	-8	-8
90003.0	14 SWARTZ (DOWNTOWN PIERS)	846	7/20/93	21	10.22	53.00	-8	0.917	1.380	-8	-8	-8	-8	-8	2.530
93205.0	DOWNTOWN PIERS K1 (x9)	847	7/20/93	21	12.26	52.30	-8	-8	0.604	-8	-8	-8	-8	1.59	2.050
93206.0	DOWNTOWN PIERS K1 (x11)	848	7/20/93	21	10.66	49.75	-8	0.911	1.520	-8	-8	-8	-8	-8	7.230
90004.0	15 SWARTZ (G ST. PIER MARINA)	849	7/20/93	21	10.22	57.10	-8	1.580	2.160	-8	-8	-8	-8	2.82	5.620
93207.0	G ST. PIER MARINA L1 (x4)	850	7/20/93	21	10.08	67.23	-8	0.699	1.180	-8	-8	-8	-8	-8	3.780

Pesticide Analysis (ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	SOWEIGHT	SOMOIST	ALDRIN	CCHLOR	TCHLOR	ACDEN	GCDEN	CLPYR	DACTH	OPDD	PPDD
93208.0	G ST PIER MARINA L1 (x5)	851	7/20/93	21	11.06	61.25	-8	4.140	6.370	0.864	-8	2.73	-8	2.50	8.050
93209.0	DOWNTOWN PIERS K4 BLIND (x4)	852	7/20/93	21	11.44	49.65	-8	1.200	1.710	-8	-8	-8	-8	-8	2.130
90001.0	11 SWARTZ (EAST BASIN)	840	7/21/93	21	10.52	58.00	-8	1.150	1.870	0.571	-8	-8	-8	-8	3.130
93201.0	EAST BASIN I1 (x1)	841	7/21/93	21	10.20	53.39	-8	1.010	1.160	-8	-8	-9	-8	-8	1.390
93202.0	EAST BASIN I1 (x5)	842	7/21/93	21	10.03	51.50	-8	0.652	0.948	-8	-8	-8	-8	-8	2.330
93107.0	MISSION BAY A3 (x1)-REP 1	853	7/21/93	21	10.42	66.40	-8	3.200	3.920	0.979	-8	-8	-8	-8	2.010
93107.0	MISSION BAY A3 (x1)-REP 2	854	7/21/93	21	10.53	68.02	-8	4.660	5.490	-8	0.883	-9	-8	1.05	2.060
93107.0	MISSION BAY A3 (x1)-REP 3	855	7/21/93	21	10.21	65.51	-8	9.320	11.200	1.570	0.710	1.34	-8	1.22	5.530
93112.0	MISSION BAY A8 (x1)-REP 1	856	7/21/93	21	10.19	42.92	-8	-8	-8	-8	-8	-8	-8	-8	-8
93112.0	MISSION BAY A8 (x1)-REP 2	857	7/21/93	21	10.43	46.36	-8	-8	-8	-8	-8	-8	-8	-8	0.626
93112.0	MISSION BAY A8 (x1)-REP 3	858	7/21/93	21	10.73	47.14	-8	-8	-8	-8	-8	-9	-8	-8	-8
93108.0	MISSION BAY A4 (x1)-REP 1	859	7/21/93	21	10.70	56.45	-8	0.755	0.804	-8	-8	-8	-8	-8	0.652
93108.0	MISSION BAY A4 (x1)-REP 2	860	7/21/93	21	10.14	63.91	-8	-8	0.510	-8	-8	-8	-8	-8	-8
93108.0	MISSION BAY A4 (x1)-REP 3	861	7/21/93	21	10.94	60.91	-8	0.775	0.831	-8	-8	-8	-8	-8	0.647
90052.0	32 SWARTZ(SWEETWATER CH)-REP 1	875	8/3/93	22	10.09	63.20	-8	2.550	3.040	-8	-8	-8	-8	1.12	1.780
93219.0	SWEETWATER CH. JJ1 (x1)-REP 2	876	8/3/93	22	10.36	47.71	-8	-8	-8	-8	-8	-8	-8	-8	0.625
93220.0	SWEETWATER CH. JJ1 (x8)-REP 3	877	8/3/93	22	10.25	34.13	-8	-8	-8	-8	-8	-8	-8	-8	-8
90002.0	12 SWARTZ(DOWNTOWN ANCH)-REP 1	878	8/3/93	22	10.75	44.03	-8	41.300	48.300	5.880	2.190	4.84	-8	4.13	16.600
93221.0	DOWNTOWN ANCH. J1 (x1)-REP 2	879	8/3/93	22	10.11	57.23	-8	5.630	8.890	2.810	0.926	-8	-8	-8	4.510
93222.0	DOWNTOWN ANCH. J1 (x2)-REP 3	880	8/3/93	22	10.47	54.41	-8	4.110	5.560	0.994	-8	-8	-8	-8	-8
93180.0	NAVAL BASE/SHIPYARDS O5 (x1)	798	8/4/93	22	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90021.0	K SWARTZ (NAVAL BASE O4)	862	8/4/93	22	10.19	61.49	-8	1.350	1.920	-8	-8	-8	-8	2.30	3.090
93210.0	NAVAL BASE/SHIPYARDS O4 (x1)	863	8/4/93	22	10.07	56.89	-8	-8	1.110	-8	-8	-8	-8	-8	2.790
93211.0	NAVAL BASE/SHIPYARDS O4 (x2)	864	8/4/93	22	12.29	59.81	-8	1.810	2.580	-8	-8	-8	-8	-8	-8
90006.0	23 SWARTZ (NAVAL BASE O7)	865	8/4/93	22	10.16	49.17	-8	19.600	23.200	4.260	1.280	6.55	-8	5.77	9.520
93212.0	NAVAL BASE/SHIPYARDS O7 (x1)	866	8/4/93	22	10.58	39.05	-8	10.500	12.500	2.780	1.130	3.54	-8	2.09	5.490
93213.0	NAVAL BASE/SHIPYARDS O7 (x4)	867	8/4/93	22	10.24	53.39	-8	24.100	29.300	4.650	1.350	4.01	-8	5.05	10.300
90022.0	P SWARTZ (NAVAL BASE O12)	868	8/4/93	22	10.10	68.68	-8	1.790	3.200	-8	-8	-8	-8	1.25	5.150
93214.0	NAVAL BASE/SHIPYARDS O12 (x3)	869	8/4/93	22	10.10	51.88	-8	1.220	1.510	-8	-8	-9	-8	-8	0.911
93215.0	NAVAL BASE/SHIPYARDS O12 (x4)	870	8/4/93	22	10.20	54.21	-8	1.250	1.480	-8	-8	-9	-8	1.46	0.811
90028.0	NSB-M1 (SUB BASE C2)	871	8/4/93	22	10.02	58.87	0.793	-8	-8	-8	-8	-8	-8	-8	-8
93216.0	SUB BASE C2 (x1)	872	8/4/93	22	10.50	36.62	-8	-8	-8	-8	-8	-8	-8	-8	0.798
93217.0	SUB BASE C2 (x3)	873	8/4/93	22	10.59	56.45	-8	-8	0.586	-8	-8	-8	-8	-8	2.750
93218.0	SUB BASE C2 (x11) BLIND	874	8/4/93	22	10.33	56.58	-8	-8	0.981	-8	-8	-8	-8	-8	1.870
93116.0	SAN DIEGO RIVER B1 (x4)-REP 1	881	8/5/93	22	10.35	50.15	-8	2.180	3.540	-8	-8	-8	-8	-8	2.150
93116.0	SAN DIEGO RIVER B1 (x4)-REP 2	882	8/5/93	22	10.42	67.30	-8	6.700	8.120	-8	-8	-9	-8	-8	4.330
93116.0	SAN DIEGO RIVER B1 (x4)-REP 3	883	8/5/93	22	11.22	66.60	-8	12.000	14.100	1.250	0.509	1.95	-8	2.32	9.570
90007.0	25 SWARTZ (NAVAL BASE/SY O10)	887	8/17/93	23	13.20	62.89	-8	3.110	4.480	-8	-8	-9	-8	-8	2.120
93223.0	NAVAL BASE/SHIPYARD O10 (x2)	888	8/17/93	23	10.28	63.41	-8	2.700	3.780	-8	-8	-9	-8	-8	2.440
93224.0	NAVAL BASE/SHIPYARD O10(x6)	889	8/17/93	23	11.04	37.30	-8	0.524	0.841	-8	-8	-9	-8	2.20	1.520
90008.0	27 SWARTZ (NAVAL BASE/SH O13)	890	8/17/93	23	10.25	49.95	-8	1.370	1.750	-8	-8	-9	-8	1.51	1.190
93225.0	NAVAL BASE/SHIPYARD O13 (x1)	891	8/17/93	23	11.19	61.59	-8	1.610	1.940	-8	-8	-9	-8	1.01	2.270
93226.0	NAVAL BASE/SHIPYARD O13 (x3)	892	8/17/93	23	10.11	62.04	-8	0.919	1.700	-8	-8	-8	-8	1.08	4.240
90009.0	28 SWARTZ (7TH ST CHANNEL Q1)	893	8/17/93	23	10.53	29.26	-8	7.800	12.100	2.590	0.732	-8	-8	5.66	10.600

## Pesticide Analysis (ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	SOWEIGHT	SOMOIST	ALDRIN	CCHLOR	TCHLOR	ACDEN	GC DEN	CLPYR	DACTH	OPDD	PPDD
93227.0	SEVENTH ST CHANNEL Q1 (x5)	894	8/17/93	23	10.92	47.54	-8	8.290	10.800	3.140	0.986	1.81	-8	5.29	14.400
93228.0	SEVENTH ST CHANNEL Q1 (x6)	895	8/17/93	23	10.23	48.64	-8	33.700	70.100	8.410	1.520	-8	-8	24.30	43.800
90010.0	31 SWARTZ (MARINE TERMINAL R3)	896	8/17/93	23	10.55	42.78	-8	-8	-8	-8	-8	-9	-8	-8	-8
93229.0	MARINE TERMINAL R3 (x1)	897	8/17/93	23	10.27	54.74	-8	-8	0.751	-8	-8	-8	-8	-8	5.360
93230.0	MARINE TERMINAL R3 (x3)	898	8/17/93	23	10.13	55.89	-8	0.648	1.200	-8	-8	-8	-8	1.32	2.380
90025.0	SDNI-N5 (CARRIER BASE V2)	899	8/18/93	23	10.41	61.19	-8	-8	0.613	-8	-8	-8	-8	-8	1.590
93231.0	CARRIER BASE V2 (x6)	1000	8/18/93	23	10.08	58.53	-8	-8	0.690	-8	-8	-8	-8	-8	1.320
93232.0	CARRIER BASE V2 (x7)	1001	8/18/93	23	10.28	58.08	-8	1.010	1.240	-8	-8	-8	-8	-8	1.480
93132.0	CORONADO CAYS T3 (x1)	1025	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93129.0	SOUTH BAY GG4 (x1)	1026	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	1027	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93127.0	SOUTH BAY GG2 (x1)	1028	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93139.0	COMMERCIAL BASIN F1 (x1)	1030	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)	1031	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93128.0	SOUTHBAY GG5 (x1)	1033	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1) REP 1	1035	1/18/94	24	10.36	54.31	-8	-8	-8	-8	-8	-8	-8	-8	0.534
93158.0	SOUTH BAY GG1 (x1) REP 2	1036	1/18/94	24	10.32	56.92	-8	-8	0.573	-8	-8	-8	-8	-8	0.675
93158.0	SOUTH BAY GG1 (x1) REP 3	1037	1/18/94	24	10.15	49.50	-8	-8	-8	-8	-8	-8	-8	-8	-8
93122.0	S.S.- CORONADO DD3 (x1) REP 1	1013	1/19/94	24	10.13	57.19	-8	0.647	0.941	-8	-8	-8	-8	-8	0.796
93122.0	S.S.- CORONADO DD3 (x1) REP 2	1014	1/19/94	24	9.99	45.91	-8	0.695	0.948	-8	-8	-8	-8	-8	1.040
93122.0	S.S.- CORONADO DD3 (x1) REP 3	1015	1/19/94	24	10.08	49.27	-8	0.777	1.190	-8	-8	-8	-8	-8	1.290
93125.0	SILVER STRAND FF4 (x4) REP 1	1016	1/19/94	24	10.31	43.97	-8	-8	-8	-8	-8	-8	-8	-8	-8
93125.0	SILVER STRAND FF4 (x4) REP 2	1017	1/19/94	24	10.41	38.32	-8	-8	-8	-8	-8	-8	-8	-8	-8
93125.0	SILVER STRAND FF4 (x4) REP 3	1018	1/19/94	24	10.21	40.04	-8	-8	-8	-8	-8	-8	-8	-8	-8
90057.0	5 SDG&E REP 1	1019	1/19/94	24	10.00	57.47	-8	-8	-8	-8	-8	-8	-8	-8	-8
90057.0	5 SDG&E REP 2	1020	1/19/94	24	10.00	59.34	-8	-8	-8	-8	-8	-8	-8	-8	0.964
90057.0	5 SDG&E REP 3	1021	1/19/94	24	10.25	59.51	-8	-8	-8	-8	-8	-8	-8	-8	0.674
93117.0	SAN DIEGO RIVER B2 (x2)	1029	1/19/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93120.0	TIJUANA R. ESTUARY HH2 (x1)	1032	1/19/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93121.0	TIJUANA R. ESTUARY HH2 (x5)	1034	1/19/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 1	1022	1/20/94	24	10.16	41.51	-8	-8	-8	-8	-8	-8	-8	-8	-8
90036.0	STORMDRAIN EA (ROHR CH.) REP 2	1023	1/20/94	24	10.64	37.28	-8	-8	-8	-8	-8	-8	-8	-8	1.140
90036.0	STORMDRAIN EA (ROHR CH.) REP 3	1024	1/20/94	24	10.28	29.64	-8	-8	-8	-8	-8	-8	-8	-8	-8
90020.0	G DE LAPPE-REP 1	1104	3/1/94	27	10.42	71.98	-8	3.350	6.160	-8	-8	-8	-8	2.98	14.300
90020.0	G DE LAPPE-REP 2	1105	3/1/94	27	10.44	61.75	-8	2.240	3.230	-8	-8	-8	0.392	1.33	8.320
90020.0	G DE LAPPE-REP 3	1106	3/1/94	27	10.45	67.58	-8	2.120	2.720	-8	-8	-8	-8	1.86	5.010
90022.0	P SWARTZ-REP 1	1107	3/1/94	27	10.45	68.53	-8	1.850	2.830	-8	-8	-8	-8	1.79	3.910
90022.0	P SWARTZ-REP 2	1108	3/1/94	27	10.48	69.38	-8	1.220	1.270	-8	-8	-8	-8	1.05	3.790
90022.0	P SWARTZ-REP 3	1109	3/1/94	27	10.11	66.33	-8	1.730	2.660	-8	-8	-8	-8	1.05	2.010
90029.0	NSB-R1-REP 1	1113	3/1/94	27	10.09	33.27	-8	-8	-8	-8	-8	-8	-8	-8	-8
90029.0	NSB-R1-REP 2	1114	3/1/94	27	10.42	28.40	-8	-8	-8	-8	-8	-8	-8	-8	-8
90029.0	NSB-R1-REP 3	1115	3/1/94	27	10.36	39.60	-8	-8	-8	-8	-8	-8	-8	-8	-8
90024.0	SDNI-N1-REP 1	1116	3/1/94	27	10.54	58.23	-8	0.651	0.702	-8	-8	-8	-8	1.43	1.390
90024.0	SDNI-N1-REP 2	1117	3/1/94	27	10.19	51.90	-8	0.526	0.759	-8	-8	-8	-8	-8	0.719



Pesticide Analysis (ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	SOWEIGHT	SOMOIST	ALDRIN	CCHLOR	TCHLOR	ACDEN	GC DEN	CLPYR	DACTH	OPDD	PPDD
90024.0	SONI-N1-REP 3	1118	3/1/94	27	10.19	54.41	-8	0.788	1.170	-8	-8	-8	-8	-8	1.670
93185.0	NAVAL SHIPYARDS O14 (x1)	1125	3/1/94	27	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)	1126	3/1/94	27	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93161.0	SUB BASE C1 (x1)	1127	3/1/94	27	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)	1128	3/1/94	27	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90013.0	37 SWARTZ-REP 1	1098	3/2/94	27	10.10	64.04	-8	-8	-8	-8	-8	-8	-8	-8	-8
90013.0	37 SWARTZ-REP 2	1099	3/2/94	27	10.28	62.75	-8	-8	-8	-8	-8	-8	-8	-8	0.413
90013.0	37 SWARTZ-REP 3	1100	3/2/94	27	10.09	65.03	-8	-8	-8	-8	-8	-8	-8	-8	0.446
93106.0	MISSION BAY A2 (x1)-REP 1	1101	3/2/94	27	10.05	70.45	-8	-8	-8	-8	-8	-8	-8	-8	-8
93106.0	MISSION BAY A2 (x1)-REP 2	1102	3/2/94	27	10.45	72.58	-8	0.919	1.070	-8	-8	-8	-8	-8	-8
93106.0	MISSION BAY A2 (x1)-REP 3	1103	3/2/94	27	10.29	68.13	-8	0.568	0.803	-8	-8	-8	-8	-8	-8
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 1	1110	3/2/94	27	10.24	71.23	-8	3.750	4.970	-8	-8	-8	-8	2.15	5.140
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 2	1111	3/2/94	27	10.41	69.88	-8	3.280	4.240	0.654	-8	-8	-8	1.63	4.130
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 3	1112	3/2/94	27	10.19	65.70	-8	4.300	6.240	0.723	-8	-8	-8	2.30	4.760
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 1	1119	3/2/94	27	10.09	62.40	-8	2.000	2.650	-8	-8	-8	-8	1.29	3.990
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 2	1120	3/2/94	27	10.27	62.08	-8	1.170	2.550	-8	-8	1.08	-8	1.86	6.400
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 3	1121	3/2/94	27	10.90	53.68	-8	1.820	2.570	-8	-8	-8	-8	1.16	3.240
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 1	1122	3/2/94	27	10.12	60.70	-8	0.824	1.360	-8	-8	-8	0.466	1.65	11.200
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 2	1123	3/2/94	27	10.18	73.63	-8	0.929	1.860	-8	-8	1.67	0.584	2.66	12.500
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 3	1124	3/2/94	27	10.15	68.55	-8	2.240	2.540	-8	-8	-8	-8	3.18	11.300
90052.0	32 SWARTZ(SWEETWATER CH)-REP 1	1129	3/15/94	28	10.12	64.01	-8	0.992	1.380	-8	-8	-8	-8	-8	1.330
90052.0	32 SWARTZ(SWEETWATER CH)-REP 2	1130	3/15/94	28	10.21	63.54	-8	0.985	1.310	-8	-8	-8	-8	-8	0.998
90052.0	32 SWARTZ(SWEETWATER CH)-REP 3	1131	3/15/94	28	10.16	62.03	-8	1.120	1.550	-8	-8	-8	-8	-8	1.400
93131.0	CORONADO CAYS T1 (x1)-REP 1	1138	3/15/94	28	11.30	59.11	-8	-8	-8	-8	-8	2.20	-8	-8	-8
93131.0	CORONADO CAYS T1 (x1)-REP 2	1139	3/15/94	28	10.03	59.71	-8	-8	-8	-8	-8	-8	-8	-8	0.983
93131.0	CORONADO CAYS T1 (x1)-REP 3	1140	3/15/94	28	10.02	62.74	-8	-8	-8	-8	-8	-8	-8	-8	0.692
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP1	1141	3/15/94	28	10.28	62.88	-8	0.900	1.020	-8	-8	1.07	-8	-8	2.080
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP2	1142	3/15/94	28	10.26	63.05	-8	0.977	1.050	-8	-8	-8	-8	-8	2.350
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP3	1143	3/15/94	28	10.67	62.16	-8	0.639	0.658	-8	-8	-8	-8	-8	1.390
90030.0	BF SCHROEDER SITE F-REP 1	1144	3/15/94	28	10.24	64.78	-8	4.320	3.990	-8	-8	-8	-8	1.51	4.970
90030.0	BF SCHROEDER SITE F-REP 2	1145	3/15/94	28	10.10	76.31	-8	4.450	4.790	-8	-8	-8	-8	1.96	-8
90030.0	BF SCHROEDER SITE F-REP 3	1146	3/15/94	28	10.76	71.19	-8	4.370	6.560	0.878	0.722	-8	-8	1.57	5.680
93159.0	SOUTH BAY GG3 (x1)-REP 1	1147	3/15/94	28	10.57	40.85	-8	-8	-8	-8	-8	-8	-8	-8	0.482
93159.0	SOUTH BAY GG3 (x1)-REP 2	1148	3/15/94	28	10.21	38.38	-8	-8	-8	-8	-8	-8	-8	-8	-8
93159.0	SOUTH BAY GG3 (x1)-REP 3	1149	3/15/94	28	10.03	43.31	-8	-8	-8	-8	-8	-8	-8	-8	-8
90043.0	CORONADO WHARF-REP 1	1156	3/15/94	28	10.78	36.45	-8	0.554	-8	-8	-8	-8	-8	-8	0.708
90043.0	CORONADO WHARF-REP 2	1157	3/15/94	28	10.38	69.95	-8	3.780	3.890	0.779	1.270	-8	-8	2.49	9.700
90043.0	CORONADO WHARF-REP 3	1158	3/15/94	28	10.06	56.65	-8	2.180	2.840	-8	-8	-8	-8	1.26	4.340
93120.0	TIJUANA R EST HH2 (x1)-REP 1	1132	3/16/94	28	10.23	26.12	-8	-8	-8	-8	-8	-8	-8	-8	0.671
93120.0	TIJUANA R EST HH2 (x1)-REP 2	1133	3/16/94	28	10.49	26.04	-8	-8	-8	-8	-8	-8	-8	-8	0.782
93120.0	TIJUANA R EST HH2 (x1)-REP 3	1134	3/16/94	28	10.16	36.59	-8	-8	-8	-8	-8	-8	-8	1.18	1.950
93121.0	TIJUANA R EST HH2 (x5)-REP 1	1135	3/16/94	28	10.00	35.45	-8	-8	-8	-8	-8	-8	-8	1.17	2.070
93121.0	TIJUANA R EST HH2 (x5)-REP 2	1136	3/16/94	28	10.20	35.60	-8	-8	-8	-8	-8	-8	-8	1.24	2.410
93121.0	TIJUANA R EST HH2 (x5)-REP 3	1137	3/16/94	28	10.81	36.26	-8	-8	-8	-8	-8	-8	-8	1.41	2.740



Pesticide Analysis (ppb-ng/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	OPDDE	PPDDE	PPDDMS	PPDDMU	OPDDT	PPDDT	DICLB	DIELDRIN	ENDO_I	ENDO_II	ES04
90006.0	23 SWARTZ	155	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90019.0	E DE LAPPE	168	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90021.0	K SWARTZ	170	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90031.0	BG SCHROEDER SITE G	180	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90038.0	CC	187	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90071.0	BAIT BARGE	220	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90101.0	SCRIPPS PIER	250	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90036.0	STORM DRAIN- ROHR CHANNEL	185	10/14/92	5	-8	3.40	-9	-9	-8	-8	-9	-8	-8	-8	-8
90053.0	35 SWARTZ	202	10/14/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90054.0	36 SWARTZ	203	10/14/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90001.0	11 SWARTZ	150	10/27/92	6	-8	4.10	-9	-9	-8	-8	-9	-8	-8	-8	-8
90002.0	12 SWARTZ	151	10/27/92	6	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90016.0	42 SWARTZ	165	10/27/92	6	-8	-8	-9	-9	-8	-8	-9	-8	-8	-8	-8
90049.0	8B	198	10/27/92	6	-8	1.50	-9	-9	-8	-8	-9	-8	-8	-8	-8
90056.0	8A SWARTZ	205	10/27/92	6	-8	-8	-9	-9	-8	-8	-9	-8	-8	-8	-8
90063.0	THOMPSON SITE 205	212	10/27/92	6	-8	1.30	-9	-9	-8	-8	-9	-8	-8	-8	-8
90003.0	14 SWARTZ	152	10/28/92	6	-8	3.80	-9	-9	-8	2.90	-9	-8	-8	-8	-8
90004.0	15 SWARTZ	153	10/28/92	6	-8	3.30	-9	-9	-8	7.90	-9	-8	-8	-8	-8
90010.0	31 SWARTZ	159	10/28/92	6	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90011.0	33 SWARTZ	160	10/28/92	6	-8	1.80	-9	-9	-8	-8	-9	-8	-8	-8	-8
90013.0	37 SWARTZ	162	10/28/92	6	-8	1.10	-9	-9	-8	-8	-9	-8	-8	-8	-8
90017.0	C DELAPPE	166	10/28/92	6	-8	11.10	-9	-9	1.20	4.80	-9	1.600	-8	-8	-8
90048.0	6 SWARTZ	197	10/28/92	6	-8	3.00	-9	-9	-8	-8	-9	-8	-8	-8	-8
90051.0	16 SWARTZ	200	10/28/92	6	-8	1.30	-9	-9	-8	-8	-9	-8	-8	-8	-8
90052.0	32 SWARTZ	201	10/28/92	6	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90007.0	25 SWARTZ	156	11/10/92	7	-8	12.90	-9	-9	-8	-8	-9	-8	-8	-8	-8
90008.0	27 SWARTZ	157	11/10/92	7	-8	2.50	-9	-9	-8	-8	-9	-8	-8	-8	-8
90009.0	28 SWARTZ	158	11/10/92	7	2.30	46.40	-9	-9	3.00	122.00	-9	4.700	-8	-8	-8
90022.0	P SWARTZ	171	11/10/92	7	-8	7.40	-9	-9	-8	-8	-9	-8	-8	-8	-8
90026.0	SDNI-N18	175	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90027.0	NSB-S1	176	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90028.0	NSB-M1	177	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90029.0	NSB-R1	178	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90023.0	NM SANDBAG	172	11/11/92	7	-8	2.30	-9	-9	-8	-8	-9	-8	-8	-8	-8
90024.0	SDNI-N1	173	11/11/92	7	-8	2.40	-9	-9	-8	-8	-9	-8	-8	-8	-8
90025.0	SDNI-N5	174	11/11/92	7	-8	2.40	-9	-9	-8	-8	-9	-8	-8	-8	-8
90050.0	10 SWARTZ	199	11/11/92	7	-8	2.70	-9	-9	-8	-8	-9	-8	-8	-8	-8
90055.0	43 SWARTZ	204	11/11/92	7	-8	2.40	-9	-9	-8	1.70	-9	-8	-8	-8	-8
90102.0	HARBOR BRIDGE 71A	256	11/11/92	7	-8	1.90	-9	-9	-8	-8	-9	-8	-8	-8	-8
90103.0	SCRIPPS TRIANGLE	257	11/11/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90005.0	21 SWARTZ	154	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90014.0	38 SWARTZ	163	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90018.0	D DE LAPPE	167	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90020.0	G DE LAPPE	169	1/26/93	12	-8	8.30	-9	-9	-8	-8	-9	-8	-8	-8	-8





Pesticide Analysis (ppb-ng/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	OPDE	PPDE	PPDMS	PPDMU	OPDDT	PPDDT	DICLB	DIELDIN	ENDO_I	ENDO_II	ESO4
93168.0	WEST BASIN H2 (x1)	781	5/5/93	18	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93170.0	CHOLLAS CREEK P1 (x2)	783	5/5/93	18	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93174.0	TIJUANA R. ESTUARY HH3 (x2)	787	5/5/93	18	1.00	73.10	-9	-9	-8	7.20	-9	0.600	-8	-8	-8
93175.0	TIJUANA R. ESTUARY HH3 (x3)	788	5/5/93	18	0.37	186.80	-9	-9	2.12	6.19	-9	1.450	-9	-9	-9
93176.0	MARINE TERMINAL R6 (x1) BLIND	794	5/6/93	18	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93177.0	NAVAL SHIPYARDS O1 (x1)	795	5/26/93	19	-8	4.45	-8	-8	-8	-8	-8	-8	-8	-8	-8
93178.0	NAVAL SHIPYARDS O2 (x1)	796	5/26/93	19	-8	11.30	-8	3.30	2.67	11.20	-8	-8	-8	-8	-8
93179.0	NAVAL SHIPYARDS O3 (x1)	797	5/26/93	19	-8	10.60	-8	3.65	2.01	3.05	-8	-8	-8	-8	-8
93181.0	NAVAL SHIPYARDS O6 (x1)	799	5/26/93	19	-8	9.94	-8	4.79	-8	4.22	-8	-8	-8	-8	-8
93182.0	NAVAL SHIPYARDS O8 (x4)	800	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93183.0	NAVAL SHIPYARDS O9 (x1)	801	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93184.0	NAVAL SHIPYARDS O11 (x1)	802	5/26/93	19	-8	16.20	12.90	4.05	1.36	58.80	-8	0.624	-8	-8	-8
93185.0	NAVAL SHIPYARDS O14 (x1)	803	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93186.0	FUEL PIER D4 (x1)	804	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93187.0	MARINE TERMINAL R2 (x1)	805	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93188.0	CARRIER BASE V1 (x2)	806	5/26/93	19	-8	2.78	-8	-8	-8	-8	-8	-8	-8	-8	-8
93189.0	NAVAL SHIPYARDS O15 (x1) BLIND	814	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90051.0	16 SWARTZ (INTERCONT. MARINA)	818	6/15/93	20	-8	4.15	-8	-8	-8	1.28	-8	-8	-8	-8	-8
93192.0	INTERCONT. MARINA M1 (x2)	819	6/15/93	20	-8	2.94	-8	-8	-8	-8	-8	-8	-8	-8	-8
93193.0	INTERCONT. MARINA M1 (x1)	820	6/15/93	20	-8	2.51	-8	-8	-8	3.76	-8	-8	-8	-8	-8
90037.0	STORMDRAIN EM (GRAPE ST.)-REP1	827	6/15/93	20	-8	10.40	-8	-8	1.51	3.86	-8	-8	-8	-8	-8
90037.0	STORMDRAIN EM (GRAPE ST.)-REP2	828	6/15/93	20	-8	12.50	-8	3.04	-8	6.29	-8	0.621	-8	-8	-8
90037.0	STORMDRAIN EM (GRAPE ST.)-REP3	829	6/15/93	20	-8	14.00	-8	4.70	-8	2.78	-8	-8	-8	-8	-8
93198.0	INTERCONT. MARINA M2(x1) BLIND	833	6/15/93	20	-8	2.38	-8	-8	-8	-8	-8	-8	-8	-8	-8
90013.0	37 SWARTZ (MARINA)	815	6/16/93	20	-8	2.42	-8	-8	-8	-8	-8	-8	-8	-8	-8
93190.0	MARINA II1 (x1)	816	6/16/93	20	-8	2.51	-8	-8	-8	-8	-8	-8	-8	-8	-8
93191.0	MARINA II1 (x3)	817	6/16/93	20	-8	3.04	-8	-8	-8	-8	-8	-8	-8	-8	-8
90015.0	41 SWARTZ (GLORIETTA BAY)	821	6/16/93	20	-8	3.28	-8	-8	-8	-8	-8	-8	-8	-8	-8
93194.0	GLORIETTA BAY U1 (x1)	822	6/16/93	20	-8	2.01	-8	-8	-8	-8	-8	0.529	-8	-8	-8
93195.0	GLORIETTA BAY U1 (x2)	823	6/16/93	20	-8	2.55	-8	-8	-8	-8	-8	-8	-8	-8	-8
90012.0	34 SWARTZ (C.V. YACHT BASIN)	824	6/16/93	20	-8	3.08	-8	-8	-8	-8	-8	-8	-8	-8	-8
93196.0	CHULA V. YACHT BASIN S1 (x1)	825	6/16/93	20	-8	6.50	-8	-8	-8	-8	-8	-8	-8	-8	-8
93197.0	CHULA V. YACHT BASIN S1 (x3)	826	6/16/93	20	-8	5.69	-8	-8	-8	-8	-8	-8	-8	-8	-8
90050.0	10 SWARTZ (WEST BASIN)	837	7/20/93	21	-8	4.41	-8	-8	-8	-8	-8	-8	-8	-8	-8
93199.0	WEST BASIN H1 (x1)	838	7/20/93	21	-8	4.16	-8	-8	-8	-8	-8	-8	-8	-8	-8
93200.0	WEST BASIN H1 (x4)	839	7/20/93	21	-8	3.61	-8	-8	-8	-8	-8	-8	-8	-8	-8
90053.0	35 SWARTZ (CORONADO CAYS)	843	7/20/93	21	-8	1.36	-8	-8	-8	-8	-8	-8	-8	-8	-8
93203.0	CORONADO CAYS T2 (x1)	844	7/20/93	21	-8	2.74	-8	-8	-8	-8	-8	-8	-8	-8	-8
93204.0	CORONADO CAYS T2 (x2)	845	7/20/93	21	-8	1.90	-8	-8	-8	-8	-8	-8	-8	-8	-8
90003.0	14 SWARTZ (DOWNTOWN PIERS)	846	7/20/93	21	-8	8.70	-8	-8	-8	-8	-8	-8	-8	-8	-8
93205.0	DOWNTOWN PIERS K1 (x9)	847	7/20/93	21	-8	6.88	-8	-8	-8	1.10	-8	-8	-8	-8	-8
93206.0	DOWNTOWN PIERS K1 (x11)	848	7/20/93	21	-8	7.07	-8	-8	-8	-8	-8	-8	-8	-8	-8
90004.0	15 SWARTZ (G ST. PIER MARINA)	849	7/20/93	21	-8	8.02	-8	2.11	-8	-8	-8	0.676	-8	-8	-8
93207.0	G ST. PIER MARINA L1 (x4)	850	7/20/93	21	-8	8.83	-8	-8	-8	20.40	-8	-8	-8	-8	-8

Pesticide Analysis (ppb-ng/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	OPDDE	PPDDE	PPDDMS	PPDDMU	OPDDT	PPDDT	DICLB	DIELDRIN	ENDO_I	ENDO_II	ESO4
93208.0	G ST. PIER MARINA L1 (x5)	851	7/20/93	21	-8	13.80	-8	-8	-8	-8	-8	0.823	-8	-8	-8
93209.0	DOWNTOWN PIERS K4 BLIND (x4)	852	7/20/93	21	-8	7.60	-8	-8	-8	1.19	-8	-8	-8	-8	-8
90001.0	11 SWARTZ (EAST BASIN)	840	7/21/93	21	-8	6.85	-8	-8	-8	-8	-8	0.517	-8	-8	-8
93201.0	EAST BASIN I1 (x1)	841	7/21/93	21	-8	3.23	-8	-8	-8	-8	-8	-8	-8	-8	-8
93202.0	EAST BASIN I1 (x5)	842	7/21/93	21	-8	2.76	-8	-8	-8	-8	-8	-8	-8	-8	-8
93107.0	MISSION BAY A3 (x1)-REP 1	853	7/21/93	21	-8	7.77	-8	-8	-8	-8	-8	1.240	-8	-8	-8
93107.0	MISSION BAY A3 (x1)-REP 2	854	7/21/93	21	-8	8.19	-8	3.31	-8	-8	-8	-8	-8	-8	-8
93107.0	MISSION BAY A3 (x1)-REP 3	855	7/21/93	21	-8	8.72	-8	-8	-8	1.85	-8	1.440	-8	-8	-8
93112.0	MISSION BAY A8 (x1)-REP 1	856	7/21/93	21	-8	1.87	-8	-8	-8	-8	-8	-8	-8	-8	-8
93112.0	MISSION BAY A8 (x1)-REP 2	857	7/21/93	21	-8	3.18	-8	-8	-8	-8	-8	-8	-8	-8	-8
93112.0	MISSION BAY A8 (x1)-REP 3	858	7/21/93	21	-8	2.73	-8	-8	-8	-8	-8	-8	-8	-8	-8
93108.0	MISSION BAY A4 (x1)-REP 1	859	7/21/93	21	-8	2.03	-8	-8	-8	-8	-8	-8	-8	-8	-8
93108.0	MISSION BAY A4 (x1)-REP 2	860	7/21/93	21	-8	1.28	-8	-8	-8	-8	-8	-8	-8	-8	-8
93108.0	MISSION BAY A4 (x1)-REP 3	861	7/21/93	21	-8	1.54	-8	-8	-8	-8	-8	-8	-8	-8	-8
90052.0	32 SWARTZ(SWEETWATER CH)-REP 1	875	8/3/93	22	-8	17.20	-8	3.26	-8	-8	-8	-8	-8	-8	-8
93219.0	SWEETWATER CH. JJ1 (x1)-REP 2	876	8/3/93	22	-8	2.27	-8	-8	-8	-8	-8	-8	-8	-8	-8
93220.0	SWEETWATER CH. JJ1 (x8)-REP 3	877	8/3/93	22	-8	1.05	-8	-8	-8	-8	-8	-8	-8	-8	-8
90002.0	12 SWARTZ(DOWNTOWN ANCH)-REP 1	878	8/3/93	22	-8	11.50	-8	-8	1.07	11.70	3.69	3.830	-8	-8	-8
93221.0	DOWNTOWN ANCH. J1 (x1)-REP 2	879	8/3/93	22	-8	11.10	-8	4.84	-8	-8	-8	1.060	-8	-8	-8
93222.0	DOWNTOWN ANCH. J1 (x2)-REP 3	880	8/3/93	22	-8	8.20	-8	-8	-8	1.11	5.54	0.676	-8	-8	-8
93180.0	NAVAL BASE/SHIPYARDS O5 (x1)	798	8/4/93	22	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90021.0	K SWARTZ (NAVAL BASE O4)	862	8/4/93	22	-8	7.28	-8	-8	-8	-8	-8	0.673	-8	-8	-8
93210.0	NAVAL BASE/SHIPYARDS O4 (x1)	863	8/4/93	22	-8	9.40	6.81	-8	5.11	-8	-8	-8	-8	-8	-8
93211.0	NAVAL BASE/SHIPYARDS O4 (x2)	864	8/4/93	22	-8	7.92	-8	-8	5.95	1.58	-8	2.110	-8	-8	-8
90006.0	23 SWARTZ (NAVAL BASE O7)	865	8/4/93	22	-8	16.70	-8	14.60	-8	-8	-8	3.310	-8	-8	-8
93212.0	NAVAL BASE/SHIPYARDS O7 (x1)	866	8/4/93	22	-8	9.24	4.30	8.63	-8	-8	-8	2.810	-8	-8	-8
93213.0	NAVAL BASE/SHIPYARDS O7 (x4)	867	8/4/93	22	-8	18.00	3.82	17.40	-8	-8	-8	2.530	-8	-8	-8
90022.0	P SWARTZ (NAVAL BASE O12)	868	8/4/93	22	-8	18.60	6.37	3.01	-8	-8	-8	1.180	-8	-8	-8
93214.0	NAVAL BASE/SHIPYARDS O12 (x3)	869	8/4/93	22	-8	5.68	-8	-8	-8	-8	-8	-8	-8	-8	-8
93215.0	NAVAL BASE/SHIPYARDS O12 (x4)	870	8/4/93	22	-8	4.05	-8	-8	-8	-8	-8	-8	-8	-8	-8
90028.0	NSB-M1 (SUB BASE C2)	871	8/4/93	22	-8	13.90	-8	-8	-8	-8	-8	-8	-8	-8	-8
93216.0	SUB BASE C2 (x1)	872	8/4/93	22	-8	5.45	-8	-8	-8	-8	-8	-8	-8	-8	-8
93217.0	SUB BASE C2 (x3)	873	8/4/93	22	-8	6.65	-8	-8	-8	-8	-8	-8	-8	-8	-8
93218.0	SUB BASE C2 (x11) BLIND	874	8/4/93	22	-8	11.80	-8	-8	-8	1.47	-8	-8	-8	-8	-8
93116.0	SAN DIEGO RIVER B1 (x4)-REP 1	881	8/5/93	22	-8	6.88	-8	-8	-8	-8	-8	-8	-8	-8	-8
93116.0	SAN DIEGO RIVER B1 (x4)-REP 2	882	8/5/93	22	-8	10.70	3.49	6.44	-8	-8	-8	1.160	-8	-8	-8
93116.0	SAN DIEGO RIVER B1 (x4)-REP 3	883	8/5/93	22	-8	14.90	-8	-8	-8	3.51	-8	1.080	-8	-8	-8
90007.0	25 SWARTZ (NAVAL BASE/SY O10)	887	8/17/93	23	-8	12.90	3.74	3.87	-8	1.12	-8	-8	-8	-8	-8
93223.0	NAVAL BASE/SHIPYARD O10 (x2)	888	8/17/93	23	-8	10.10	4.44	2.09	1.03	-8	-8	-8	-8	-8	-8
93224.0	NAVAL BASE/SHIPYARD O10(x6)	889	8/17/93	23	-8	2.49	-8	-8	-8	-8	-8	-8	-8	-8	-8
90008.0	27 SWARTZ (NAVAL BASE/SH O13)	890	8/17/93	23	-8	4.45	-8	-8	-8	-8	-8	-8	-8	-8	-8
93225.0	NAVAL BASE/SHIPYARD O13 (x1)	891	8/17/93	23	-8	6.77	-8	-8	-8	-8	-8	-8	-8	-8	-8
93226.0	NAVAL BASE/SHIPYARD O13 (x3)	892	8/17/93	23	-8	9.98	4.38	2.04	-8	1.14	-8	1.080	-8	-8	-8
90009.0	28 SWARTZ (7TH ST CHANNEL Q1)	893	8/17/93	23	-8	8.40	18.60	6.07	1.34	-8	-8	1.180	-8	-8	-8





Pesticide Analysis (ppb-ng/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	OPDDE	PPDDE	PPDDMS	PPDDMU	OPDDT	PPDDT	DICLB	DIELDRIN	ENDO_I	ENDO_II	ESO4
900240	SDNI-NT-REP 3	1118	3/1/94	27	-8	3.10	-8	-8	-8	-8	-8	-8	-8	-8	-8
931850	NAVAL SHIPYARDS O14 (x1)	1125	3/1/94	27	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
931630	FUEL PIERS D2 (x2)	1126	3/1/94	27	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
931610	SUB BASE C1 (x1)	1127	3/1/94	27	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
931710	MARINE TERMINAL R1 (x1)	1128	3/1/94	27	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
900130	37 SWARTZ-REP 1	1098	3/2/94	27	-8	2.43	-8	-8	-8	-8	-8	-8	-8	-8	-8
900130	37 SWARTZ-REP 2	1099	3/2/94	27	-8	2.41	-8	-8	-8	-8	-8	-8	-8	-8	-8
900130	37 SWARTZ-REP 3	1100	3/2/94	27	-8	2.05	-8	-8	-8	-8	-8	-8	-8	-8	-8
931060	MISSION BAY A2 (x1)-REP 1	1101	3/2/94	27	-8	1.74	-8	-8	-8	-8	-8	-8	-8	-8	-8
931060	MISSION BAY A2 (x1)-REP 2	1102	3/2/94	27	-8	1.90	-8	-8	-8	-8	-8	-8	-8	-8	-8
931060	MISSION BAY A2 (x1)-REP 3	1103	3/2/94	27	-8	1.25	-8	-8	-8	-8	-8	-8	-8	-8	-8
931810	NAVAL SHIPYARDS O6 (x1)-REP 1	1110	3/2/94	27	-8	12.50	-8	-8	3.21	9.35	-8	0.869	-8	-8	-8
931810	NAVAL SHIPYARDS O6 (x1)-REP 2	1111	3/2/94	27	-8	15.50	-8	-8	4.08	4.88	-8	-8	-8	-8	-8
931810	NAVAL SHIPYARDS O6 (x1)-REP 3	1112	3/2/94	27	1.63	15.80	-8	4.55	3.78	12.40	-8	0.612	-8	-8	-8
931780	NAVAL SHIPYARDS O2 (x1)-REP 1	1119	3/2/94	27	3.67	13.20	6.95	2.13	2.71	1.18	-8	0.585	-8	-8	-8
931780	NAVAL SHIPYARDS O2 (x1)-REP 2	1120	3/2/94	27	2.65	23.30	8.51	4.87	3.24	1.71	-8	1.530	-8	5.21	-8
931780	NAVAL SHIPYARDS O2 (x1)-REP 3	1121	3/2/94	27	3.03	16.30	-8	-8	-8	-8	-8	0.734	-8	-8	-8
931790	NAVAL SHIPYARDS O3 (x1)-REP 1	1122	3/2/94	27	-8	10.20	3.87	3.20	1.96	2.00	3.44	0.695	-8	3.37	-8
931790	NAVAL SHIPYARDS O3 (x1)-REP 2	1123	3/2/94	27	1.84	10.40	4.54	3.58	2.54	4.65	-8	0.861	-8	3.55	-8
931790	NAVAL SHIPYARDS O3 (x1)-REP 3	1124	3/2/94	27	-8	9.89	4.37	2.34	1.87	5.57	-8	0.655	-8	-8	-8
900520	32 SWARTZ(SWEETWATER CH)-REP 1	1129	3/15/94	28	-8	8.16	-8	-8	-8	2.13	-8	-8	-8	-8	-8
900520	32 SWARTZ(SWEETWATER CH)-REP 2	1130	3/15/94	28	-8	7.40	-8	-8	-8	-8	-8	-8	-8	-8	-8
900520	32 SWARTZ(SWEETWATER CH)-REP 3	1131	3/15/94	28	-8	7.99	-8	-8	-8	-8	-8	-8	-8	-8	-8
931310	CORONADO CAYS T1 (x1)-REP 1	1138	3/15/94	28	-8	1.46	-8	-8	-8	-8	-8	-8	-8	-8	-8
931310	CORONADO CAYS T1 (x1)-REP 2	1139	3/15/94	28	-8	2.09	-8	-8	-8	-8	-8	-8	-8	-8	-8
931310	CORONADO CAYS T1 (x1)-REP 3	1140	3/15/94	28	-8	1.51	-8	-8	-8	-8	-8	-8	-8	-8	-8
931600	CHANNEL-SOUTH BAY AA2(x1)-REP1	1141	3/15/94	28	-8	4.32	-8	-8	-8	-8	-8	-8	-8	-8	-8
931600	CHANNEL-SOUTH BAY AA2(x1)-REP2	1142	3/15/94	28	-8	5.67	-8	-8	-8	-8	-8	-8	-8	-8	-8
931600	CHANNEL-SOUTH BAY AA2(x1)-REP3	1143	3/15/94	28	-8	3.25	-8	-8	-8	-8	-8	-8	-8	-8	-8
900300	BF SCHROEDER SITE F-REP 1	1144	3/15/94	28	-8	12.50	4.34	-8	2.20	6.56	-8	0.733	-8	-8	-8
900300	BF SCHROEDER SITE F-REP 2	1145	3/15/94	28	1.51	15.00	-8	-8	3.15	3.84	-8	1.070	-8	-8	-8
900300	BF SCHROEDER SITE F-REP 3	1146	3/15/94	28	1.04	18.10	9.13	2.82	-8	1.70	-8	1.290	-8	-8	-8
931590	SOUTH BAY GG3 (x1)-REP 1	1147	3/15/94	28	-8	1.11	-8	-8	-8	-8	-8	-8	-8	-8	-8
931590	SOUTH BAY GG3 (x1)-REP 2	1148	3/15/94	28	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8
931590	SOUTH BAY GG3 (x1)-REP 3	1149	3/15/94	28	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8	-8
900430	CORONADO WHARF-REP 1	1156	3/15/94	28	-8	1.71	-8	-8	-8	-8	-8	-8	-8	-8	-8
900430	CORONADO WHARF-REP 2	1157	3/15/94	28	1.22	13.30	-8	-8	-8	4.03	-8	0.799	-8	-8	-8
900430	CORONADO WHARF-REP 3	1158	3/15/94	28	-8	8.78	-8	-8	-8	2.04	-8	0.750	-8	-8	-8
931200	TIJUANA R. EST. HH2 (x1)-REP 1	1132	3/16/94	28	-8	7.49	-8	-8	-8	-8	-8	-8	-8	-8	-8
931200	TIJUANA R. EST. HH2 (x1)-REP 2	1133	3/16/94	28	-8	8.11	-8	-8	-8	-8	-8	-8	-8	-8	-8
931200	TIJUANA R. EST. HH2 (x1)-REP 3	1134	3/16/94	28	-8	21.40	-8	-8	-8	1.36	-8	-8	-8	-8	-8
931210	TIJUANA R. EST. HH2 (x5)-REP 1	1135	3/16/94	28	-8	20.10	-8	-8	-8	-8	-8	-8	-8	-8	-8
931210	TIJUANA R. EST. HH2 (x5)-REP 2	1136	3/16/94	28	-8	25.00	-8	-8	-8	-8	-8	-8	-8	-8	-8
931210	TIJUANA R. EST. HH2 (x5)-REP 3	1137	3/16/94	28	-8	25.00	-8	-8	-8	1.69	-8	-8	-8	-8	-8



Pesticide Analysis (ppb-ng/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	ENDRIN	ETHION	HCHA	HCHB	HCHG	HCHD	HEPTACHLOR	HE	HCB	METHOXY
90006 0	23 SWARTZ	155	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90019 0	E DE LAPPE	168	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90021 0	K SWARTZ	170	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90031 0	BG SCHROEDER SITE G	180	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90038 0	CC	187	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90071 0	BAIT BARGE	220	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90101 0	SCRIPPS PIER	250	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90036 0	STORM DRAIN- ROHR CHANNEL	185	10/14/92	5	-8	-9	-9	-9	-8	-9	-8	-8	-8	-8
90053 0	35 SWARTZ	202	10/14/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90054 0	36 SWARTZ	203	10/14/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90001 0	11 SWARTZ	150	10/27/92	6	-8	-9	-9	-9	-8	-9	-8	-8	-8	-8
90002 0	12 SWARTZ	151	10/27/92	6	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90016 0	42 SWARTZ	165	10/27/92	6	-8	-9	-9	-9	-8	-9	-8	-8	-8	-8
90049 0	8B	198	10/27/92	6	-8	-9	-9	-9	-8	-9	-8	-8	-8	-8
90056 0	8A SWARTZ	205	10/27/92	6	-8	-9	-9	-9	-8	-9	-8	-8	-8	-8
90063 0	THOMPSON SITE 205	212	10/27/92	6	-8	-9	-9	-9	-8	-9	-8	-8	-8	-8
90003 0	14 SWARTZ	152	10/28/92	6	-8	-9	-9	-9	-8	-9	-8	-8	-8	3.90
90004 0	15 SWARTZ	153	10/28/92	6	-8	-9	-9	-9	-8	-9	-8	-8	-8	2.00
90010 0	31 SWARTZ	159	10/28/92	6	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90011 0	33 SWARTZ	160	10/28/92	6	-8	-9	-9	-9	-8	-9	-8	-8	-8	-8
90013 0	37 SWARTZ	162	10/28/92	6	-8	-9	-9	-9	-8	-9	-8	-8	-8	-8
90017 0	C DELAPPE	166	10/28/92	6	-8	-9	-9	-9	-8	-9	-8	-8	-8	3.50
90048 0	6 SWARTZ	197	10/28/92	6	-8	-9	-9	-9	-8	-9	-8	-8	-8	-8
90051 0	16 SWARTZ	200	10/28/92	6	-8	-9	-9	-9	-8	-9	-8	-8	-8	-8
90052 0	32 SWARTZ	201	10/28/92	6	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90007 0	25 SWARTZ	156	11/10/92	7	-8	-9	-9	-9	-8	-9	0.600	-8	-8	-8
90008 0	27 SWARTZ	157	11/10/92	7	-8	-9	-9	-9	0.400	-9	-8	-8	-8	-8
90009 0	28 SWARTZ	158	11/10/92	7	-8	-9	-9	-9	-8	-9	4.500	0.900	1.000	-8
90022 0	P SWARTZ	171	11/10/92	7	-8	-9	-9	-9	-8	-9	-8	-8	-8	-8
90026 0	SDNI-N18	175	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90027 0	NSB-S1	176	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90028 0	NSB-M1	177	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90029 0	NSB-R1	178	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90023 0	NM SANDBAG	172	11/11/92	7	-8	-9	-9	-9	0.400	-9	-8	-8	-8	-8
90024 0	SDNI-N1	173	11/11/92	7	-8	-9	-9	-9	-8	-9	-8	-8	-8	-8
90025 0	SDNI-N5	174	11/11/92	7	-8	-9	-9	-9	-8	-9	-8	-8	-8	-8
90050 0	10 SWARTZ	199	11/11/92	7	-8	-9	-9	-9	-8	-9	-8	-8	-8	-8
90055 0	43 SWARTZ	204	11/11/92	7	-8	-9	-9	-9	-8	-9	-8	-8	-8	-8
90102 0	HARBOR BRIDGE 71A	256	11/11/92	7	-8	-9	-9	-9	-8	-9	-8	-8	-8	-8
90103 0	SCRIPPS TRIANGLE	257	11/11/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90005 0	21 SWARTZ	154	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90014 0	38 SWARTZ	163	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90018 0	D DE LAPPE	167	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90020 0	G DE LAPPE	169	1/26/93	12	-8	-9	-9	-9	-8	-9	-8	-8	-8	-8







## Pesticide Analysis (ppb-ng/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	ENDRIN	ETHION	HCHA	HCHB	HCHG	HCHD	HEPTACHLOR	HE	HCB	METHOXY
93208 0	G ST PIER MARINA LT (x5)	851	7/20/93	21	-8	-9	-8	-8	-8	-8	-8	-8	0.276	-8
93209 0	DOWNTOWN PIERS K4 BLIND (x4)	852	7/20/93	21	-8	-9	-8	-8	0.213	-8	-8	-8	-8	-8
90001 0	11 SWARTZ (EAST BASIN)	840	7/21/93	21	-8	-9	-8	-8	-8	-8	-8	-8	-8	-8
93201 0	EAST BASIN I1 (x1)	841	7/21/93	21	-8	-9	-8	-8	-8	-8	-8	-8	-8	-8
93202 0	EAST BASIN I1 (x5)	842	7/21/93	21	-8	-9	-8	-8	-8	-8	-8	-8	-8	-8
93107 0	MISSION BAY A3 (x1)-REP 1	853	7/21/93	21	-8	-9	-8	-8	-8	-8	-8	-8	-8	-8
93107 0	MISSION BAY A3 (x1)-REP 2	854	7/21/93	21	-8	-9	-8	-8	-8	-8	-8	-8	-8	-8
93107 0	MISSION BAY A3 (x1)-REP 3	855	7/21/93	21	-8	-9	-8	-8	-8	-8	-8	-8	-8	-8
93112 0	MISSION BAY A8 (x1)-REP 1	856	7/21/93	21	-8	-9	-8	-8	-8	-8	-8	-8	-8	-8
93112 0	MISSION BAY A8 (x1)-REP 2	857	7/21/93	21	-8	-9	-8	-8	-8	-8	-8	-8	-8	-8
93112 0	MISSION BAY A8 (x1)-REP 3	858	7/21/93	21	-8	-9	-8	-8	-8	-8	-8	-8	-8	-8
93108 0	MISSION BAY A4 (x1)-REP 1	859	7/21/93	21	-8	-9	-8	-8	-8	-8	-8	-8	-8	-8
93108 0	MISSION BAY A4 (x1)-REP 2	860	7/21/93	21	-8	-9	-8	-8	-8	-8	-8	-8	-8	-8
93108 0	MISSION BAY A4 (x1)-REP 3	861	7/21/93	21	-8	-9	-8	-8	-8	-8	-8	-8	-8	-8
90052 0	32 SWARTZ(SWEETWATER CH)-REP 1	875	8/3/93	22	-8	-9	-8	-8	-8	-8	-8	-8	-8	-8
93219 0	SWEETWATER CH. JJ1 (x1)-REP 2	876	8/3/93	22	-8	-9	-8	-8	-8	-8	-8	-8	-8	-8
93220 0	SWEETWATER CH. JJ1 (x8)-REP 3	877	8/3/93	22	-8	-9	-8	-8	-8	-8	-8	-8	-8	-8
90002 0	12 SWARTZ(DOWNTOWN ANCH)-REP 1	878	8/3/93	22	-8	-9	-8	-8	-8	-8	-8	0.752	-8	-8
93221 0	DOWNTOWN ANCH. J1 (x1)-REP 2	879	8/3/93	22	-8	-9	-8	-8	-8	-8	0.603	-8	-8	-8
93222 0	DOWNTOWN ANCH. J1 (x2)-REP 3	880	8/3/93	22	-8	-9	-8	-8	-8	-8	-8	-8	-8	-8
93180 0	NAVAL BASE/SHIPYARDS O5 (x1)	798	8/4/93	22	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90021 0	K SWARTZ (NAVAL BASE O4)	862	8/4/93	22	-8	-9	-8	-8	-8	-8	-8	-8	0.527	-8
93210 0	NAVAL BASE/SHIPYARDS O4 (x1)	863	8/4/93	22	-8	-9	-8	-8	-8	-8	1 770	-8	-8	-8
93211 0	NAVAL BASE/SHIPYARDS O4 (x2)	864	8/4/93	22	-8	-9	-8	-8	-8	-8	1 170	-8	0.264	-8
90006 0	23 SWARTZ (NAVAL BASE O7)	865	8/4/93	22	-8	-9	-8	-8	0.234	-8	-8	-8	3.190	-8
93212 0	NAVAL BASE/SHIPYARDS O7 (x1)	866	8/4/93	22	-8	-9	-8	-8	-8	-8	-8	-8	0.264	-8
93213 0	NAVAL BASE/SHIPYARDS O7 (x4)	867	8/4/93	22	-8	-9	-8	-8	0.384	-8	-8	-8	0.266	-8
90022 0	P SWARTZ (NAVAL BASE O12)	868	8/4/93	22	-8	-9	-8	-8	-8	-8	-8	-8	0.405	-8
93214 0	NAVAL BASE/SHIPYARDS O12 (x3)	869	8/4/93	22	-8	-9	-8	-8	-8	-8	-8	-8	-8	-8
93215 0	NAVAL BASE/SHIPYARDS O12 (x4)	870	8/4/93	22	-8	-9	-8	-8	-8	-8	-8	-8	-8	-8
90028 0	NSB-M1 (SUB BASE C2)	871	8/4/93	22	-8	-9	-8	-8	-8	-8	-8	-8	-8	-8
93216 0	SUB BASE C2 (x1)	872	8/4/93	22	-8	-9	-8	-8	-8	-8	-8	-8	-8	-8
93217 0	SUB BASE C2 (x3)	873	8/4/93	22	-8	-9	-8	-8	-8	-8	-8	-8	-8	1.79
93218 0	SUB BASE C2 (x11) BLIND	874	8/4/93	22	-8	-9	-8	-8	0.313	-8	-8	-8	-8	-8
93116 0	SAN DIEGO RIVER B1 (x4)-REP 1	881	8/5/93	22	-8	-9	-8	-8	-8	-8	-8	-8	-8	-8
93116 0	SAN DIEGO RIVER B1 (x4)-REP 2	882	8/5/93	22	-8	-9	-8	-8	-8	-8	-8	-8	-8	-8
93116 0	SAN DIEGO RIVER B1 (x4)-REP 3	883	8/5/93	22	-8	-9	-8	-8	-8	-8	-8	-8	-8	-8
90007 0	25 SWARTZ (NAVAL BASE/SY O10)	887	8/17/93	23	-8	-9	-8	-8	-8	-8	-8	-8	-8	-8
93223 0	NAVAL BASE/SHIPYARD O10 (x2)	888	8/17/93	23	-8	-9	-8	-8	-8	-8	-8	-8	-8	-8
93224 0	NAVAL BASE/SHIPYARD O10(x6)	889	8/17/93	23	-8	-9	-8	-8	-8	-8	-8	-8	-8	-8
90008 0	27 SWARTZ (NAVAL BASE/SH O13)	890	8/17/93	23	-8	-9	-8	-8	-8	-8	-8	-8	-8	-8
93225 0	NAVAL BASE/SHIPYARD O13 (x1)	891	8/17/93	23	-8	-9	-8	-8	-8	-8	-8	-8	-8	-8
93226 0	NAVAL BASE/SHIPYARD O13 (x3)	892	8/17/93	23	-8	-9	-8	-8	-8	-8	-8	-8	0.205	-8
90009 0	28 SWARTZ (7TH ST CHANNEL Q1)	893	8/17/93	23	-8	-9	-8	-8	-8	-8	2.120	-8	0.240	-8









Pesticide Analysis (ppb-ng/g) (cont.)/ TBT Analysis (ppm-ug/g)

STANUM	STATION	IDORG	DATE	LEG	MIREX	CNONA	TNONA	OXAD	OCDAN	TOXAPH	PESBATCH	TBT	TBTBATCH
90006 0	23 SWARTZ	155	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9
90019 0	E DE LAPPE	168	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9
90021 0	K SWARTZ	170	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9
90031 0	BG SCHROEDER SITE G	180	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9
90038 0	CC	187	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9
90071 0	BAIT BARGE	220	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9
90101 0	SCRIPPS PIER	250	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9
90036 0	STORM DRAIN- ROHR CHANNEL	185	10/14/92	5	-8	-9	-8	-9	-9	-8	-9	0.0600	2.2
90053 0	35 SWARTZ	202	10/14/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9
90054 0	36 SWARTZ	203	10/14/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9
90001 0	11 SWARTZ	150	10/27/92	6	-8	-9	1.600	-9	-9	-8	-9	0.1100	3.1
90002 0	12 SWARTZ	151	10/27/92	6	-9	-9	-9	-9	-9	-9	-9	-9	-9
90016 0	42 SWARTZ	165	10/27/92	6	-8	-9	-8	-9	-9	-8	-9	0.0200	3.1
90049 0	8B	198	10/27/92	6	-8	-9	-8	-9	-9	-8	-9	-8	3.2
90056 0	8A SWARTZ	205	10/27/92	6	-8	-9	-8	-9	-9	-8	-9	-8	3.2
90063 0	THOMPSON SITE 205	212	10/27/92	6	-8	-9	-8	-9	-9	-8	-9	-8	3.2
90003 0	14 SWARTZ	152	10/28/92	6	-8	-9	0.900	-9	-9	-8	-9	0.1300	3.1
90004 0	15 SWARTZ	153	10/28/92	6	-8	-9	1.100	-9	-9	-8	-9	0.0600	3.1
90010 0	31 SWARTZ	159	10/28/92	6	-9	-9	-9	-9	-9	-9	-9	-9	-9
90011 0	33 SWARTZ	160	10/28/92	6	-8	-9	-8	-9	-9	-8	-9	-8	3.1
90013 0	37 SWARTZ	162	10/28/92	6	-8	-9	-8	-9	-9	-8	-9	0.0200	3.1
90017 0	C DELAPPE	166	10/28/92	6	-8	-9	7.700	-9	-9	-8	-9	0.5900	3.1
90048 0	6 SWARTZ	197	10/28/92	6	-8	-9	0.600	-9	-9	-8	-9	0.1500	3.2
90051 0	16 SWARTZ	200	10/28/92	6	-8	-9	-8	-9	-9	-8	-9	0.0900	3.2
90052 0	32 SWARTZ	201	10/28/92	6	-9	-9	-9	-9	-9	-9	-9	-9	-9
90007 0	25 SWARTZ	156	11/10/92	7	-8	-9	1.200	-9	-9	-8	-9	0.1500	2.2
90008 0	27 SWARTZ	157	11/10/92	7	-8	-9	0.900	-9	-9	-8	-9	0.1200	2.2
90009 0	28 SWARTZ	158	11/10/92	7	-8	-9	12.800	-9	-9	-8	-9	0.0900	2.2
90022 0	P SWARTZ	171	11/10/92	7	-8	-9	1.500	-9	-9	-8	-9	0.2400	2.2
90026 0	SDNI-N18	175	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9
90027 0	NSB-S1	176	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9
90028 0	NSB-M1	177	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9
90029 0	NSB-R1	178	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9
90023 0	NM SANDBAG	172	11/11/92	7	-8	-9	-8	-9	-9	-8	-9	0.1900	2.2
90024 0	SDNI-N1	173	11/11/92	7	-8	-9	0.600	-9	-9	-8	-9	0.0700	2.2
90025 0	SDNI-N5	174	11/11/92	7	-8	-9	-8	-9	-9	-8	-9	0.0500	3.1
90050 0	10 SWARTZ	199	11/11/92	7	-8	-9	-8	-9	-9	-8	-9	0.1400	2.2
90055 0	43 SWARTZ	204	11/11/92	7	-8	-9	0.800	-9	-9	-8	-9	0.0500	2.2
90102 0	HARBOR BRIDGE 71A	256	11/11/92	7	-8	-9	-8	-9	-9	-8	-9	0.0300	2.2
90103 0	SCRIPPS TRIANGLE	257	11/11/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9
90005 0	21 SWARTZ	154	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9	-9
90014 0	38 SWARTZ	163	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9	-9
90018 0	D DE LAPPE	167	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9	-9
90020 0	G DE LAPPE	169	1/26/93	12	-8	-9	1.100	-9	-9	-8	-9	1.3800	2.2





Pesticide Analysis (ppb-ng/g) (cont.) / TBT Analysis (ppm-ug/g)

STANUM	STATION	IDORG	DATE	LEG	MIREX	CNONA	TNONA	OXAD	OXDAN	TOXAPH	PESBATCH	TBT	TBTBATCH
93168 0	WEST BASIN H2 (x1)	781	5/5/93	18	-9	-9	-9	-9	-9	-9	-9	-9	-9
93170 0	CHOLLAS CREEK P1 (x2)	783	5/5/93	18	-9	-9	-9	-9	-9	-9	-9	-9	-9
93174 0	TIJUANA R. ESTUARY HH3 (x2)	787	5/5/93	18	-8	-9	0.600	-9	-9	47.90	-9	0.0200	5.1
93175 0	TIJUANA R. ESTUARY HH3 (x3)	788	5/5/93	18	-8	-9	-9	-9	-9	-9	-9	-9	-9
93176 0	MARINE TERMINAL R6 (x1) BLIND	794	5/6/93	18	-9	-9	-9	-9	-9	-9	-9	-9	-9
93177 0	NAVAL SHIPYARDS O1 (x1)	795	5/26/93	19	-8	0.660	0.991	-8	9.100	-8	73.25	0.1080	12.0
93178 0	NAVAL SHIPYARDS O2 (x1)	796	5/26/93	19	-8	1.940	2.470	-8	-8	-8	73.25	0.3400	12.0
93179 0	NAVAL SHIPYARDS O3 (x1)	797	5/26/93	19	-8	2.250	2.580	-8	-8	-8	73.25	0.2460	12.0
93181 0	NAVAL SHIPYARDS O6 (x1)	799	5/26/93	19	-8	3.810	4.460	-8	-8	-8	73.25	0.9580	12.0
93182 0	NAVAL SHIPYARDS O8 (x4)	800	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9
93183 0	NAVAL SHIPYARDS O9 (x1)	801	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9
93184 0	NAVAL SHIPYARDS O11 (x1)	802	5/26/93	19	-8	2.350	2.370	18.50	-8	-8	73.25	0.2060	12.0
93185 0	NAVAL SHIPYARDS O14 (x1)	803	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9
93186 0	FUEL PIER D4 (x1)	804	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9
93187 0	MARINE TERMINAL R2 (x1)	805	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9
93188 0	CARRIER BASE V1 (x2)	806	5/26/93	19	-8	-8	0.512	3.25	-8	-8	73.26	0.0494	12.0
93189 0	NAVAL SHIPYARDS O15 (x1) BLIND	814	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9
90051 0	16 SWARTZ (INTERCONT. MARINA)	818	6/15/93	20	-8	0.951	0.854	-8	-8	-8	73.17	0.0700	5.1
93192 0	INTERCONT. MARINA M1 (x2)	819	6/15/93	20	-8	0.619	0.692	-8	-8	-8	73.20	0.0400	5.1
93193 0	INTERCONT. MARINA M1 (x1)	820	6/15/93	20	-8	1.360	1.260	-8	-8	-8	73.11	0.0500	5.1
90037 0	STORMDRAIN EM (GRAPE ST.)-REP1	827	6/15/93	20	-8	1.530	3.360	-8	-8	-8	73.60	0.0900	5.1
90037 0	STORMDRAIN EM (GRAPE ST.)-REP2	828	6/15/93	20	-8	1.670	2.960	2.18	-8	-8	73.80	0.1100	5.1
90037 0	STORMDRAIN EM (GRAPE ST.)-REP3	829	6/15/93	20	-8	2.410	4.000	-8	-8	-8	73.18	0.0500	5.1
93198 0	INTERCONT. MARINA M2(x1) BLIND	833	6/15/93	20	-8	-8	0.582	-8	-8	-8	73.12	0.0400	5.1
90013 0	37 SWARTZ (MARINA)	815	6/16/93	20	-8	-8	-8	-8	-8	-8	73.20	-8	5.1
93190 0	MARINA I1 (x1)	816	6/16/93	20	-8	-8	-8	-8	-8	-8	73.20	0.0400	5.1
93191 0	MARINA I1 (x3)	817	6/16/93	20	-8	1.300	0.894	-8	-8	-8	73.11	0.1300	5.1
90015 0	41 SWARTZ (GLORIETTA BAY)	821	6/16/93	20	-8	-8	-8	-8	-8	-8	73.80	0.0400	5.1
93194 0	GLORIETTA BAY U1 (x1)	822	6/16/93	20	-8	0.550	-8	-8	-8	-8	73.17	0.0300	5.1
93195 0	GLORIETTA BAY U1 (x2)	823	6/16/93	20	-8	1.050	0.731	-8	-8	-8	73.11	0.0200	5.1
90012 0	34 SWARTZ (C.V. YACHT BASIN)	824	6/16/93	20	-8	-8	-8	-8	-8	-8	73.19	-8	5.1
93196 0	CHULA V. YACHT BASIN S1 (x1)	825	6/16/93	20	-8	-8	-8	-8	-8	-8	73.18	0.0800	5.1
93197 0	CHULA V. YACHT BASIN S1 (x3)	826	6/16/93	20	-8	-8	-8	-8	-8	-8	73.11	0.0300	5.1
90050 0	10 SWARTZ (WEST BASIN)	837	7/20/93	21	-8	0.750	0.766	-8	-8	-8	73.19	0.0300	5.1
93199 0	WEST BASIN H1 (x1)	838	7/20/93	21	-8	1.110	1.480	-8	-8	-8	73.20	0.2000	5.2
93200 0	WEST BASIN H1 (x4)	839	7/20/93	21	-8	0.599	0.550	-8	-8	-8	73.11	0.0500	5.2
90053 0	35 SWARTZ (CORONADO CAYS)	843	7/20/93	21	-8	-8	-8	-8	-8	-8	73.16	0.0200	5.2
93203 0	CORONADO CAYS T2 (x1)	844	7/20/93	21	-8	-8	-8	-8	-8	-8	73.20	0.0900	5.2
93204 0	CORONADO CAYS T2 (x2)	845	7/20/93	21	-8	-8	-8	-8	-8	-8	73.10	0.0600	5.2
90003 0	14 SWARTZ (DOWNTOWN PIERS)	846	7/20/93	21	-8	0.932	1.190	-8	-8	-8	73.12	0.0900	5.2
93205 0	DOWNTOWN PIERS K1 (x9)	847	7/20/93	21	-8	-8	-8	-8	-8	-8	73.10	0.1500	5.2
93206 0	DOWNTOWN PIERS K1 (x11)	848	7/20/93	21	-8	1.150	1.000	-8	-8	-8	73.12	1.1000	5.2
90004 0	15 SWARTZ (G ST. PIER MARINA)	849	7/20/93	21	-8	1.640	1.470	-8	-8	-8	73.16	0.1600	5.2
93207 0	G ST. PIER MARINA L1 (x4)	850	7/20/93	21	-8	0.790	0.830	-8	-8	-8	73.10	0.1700	5.2

Pesticide Analysis (ppb-ng/g) (cont.)/ TBT Analysis (ppm-ug/g)

STANUM	STATION	IDORG	DATE	LEG	MIREX	CNONA	TNONA	OXAD	OXDAN	TOXAPH	PESBATCH	TBT	TBTBATCH
93208 0	G ST. PIER MARINA L1 (x5)	851	7/20/93	21	-8	2.620	3.930	-8	-8	-8	73.12	0.2900	5.2
93209 0	DOWNTOWN PIERS K4 BLIND (x4)	852	7/20/93	21	-8	1.290	1.100	-8	-8	-8	73.16	0.2700	5.2
90001 0	11 SWARTZ (EAST BASIN)	840	7/21/93	21	-8	1.320	1.290	2.78	-8	-8	73.80	0.1200	5.2
93201 0	EAST BASIN I1 (x1)	841	7/21/93	21	-8	0.883	1.090	-8	-8	-8	73.18	0.1200	5.2
93202 0	EAST BASIN I1 (x5)	842	7/21/93	21	-8	0.757	0.775	-8	-8	-8	73.12	0.0300	5.2
93107 0	MISSION BAY A3 (x1)-REP 1	853	7/21/93	21	-8	1.440	3.480	-8	-8	-8	73.60	-8	5.2
93107 0	MISSION BAY A3 (x1)-REP 2	854	7/21/93	21	-8	1.970	4.460	-8	-8	-8	73.19	-8	5.2
93107 0	MISSION BAY A3 (x1)-REP 3	855	7/21/93	21	-8	4.590	9.000	-8	-8	-8	73.11	-8	5.2
93112 0	MISSION BAY A8 (x1)-REP 1	856	7/21/93	21	-8	-8	-8	-8	-8	-8	73.60	0.2600	5.2
93112 0	MISSION BAY A8 (x1)-REP 2	857	7/21/93	21	-8	-8	-8	-8	-8	-8	73.16	-8	5.2
93112 0	MISSION BAY A8 (x1)-REP 3	858	7/21/93	21	-8	-8	-8	-8	-8	-8	73.19	-8	5.2
93108 0	MISSION BAY A4 (x1)-REP 1	859	7/21/93	21	-8	0.563	0.659	-8	-8	-8	73.17	-8	5.2
93108 0	MISSION BAY A4 (x1)-REP 2	860	7/21/93	21	-8	-8	0.554	-8	-8	-8	73.60	0.0200	5.2
93108 0	MISSION BAY A4 (x1)-REP 3	861	7/21/93	21	-8	0.640	0.675	-8	-8	-8	73.16	0.0200	5.4
90052 0	32 SWARTZ(SWEETWATER CH)-REP 1	875	8/3/93	22	-8	1.390	2.870	-8	-8	-8	73.18	-8	5.3
93219 0	SWEETWATER CH. JJ1 (x1)-REP 2	876	8/3/93	22	-8	-8	-8	-8	-8	-8	73.60	-8	5.3
93220 0	SWEETWATER CH. JJ1 (x8)-REP 3	877	8/3/93	22	-8	-8	-8	-8	-8	-8	73.10	0.0400	5.3
90002 0	12 SWARTZ(DOWNTOWN ANCH)-REP 1	878	8/3/93	22	-8	19.200	36.800	3.19	0.702	-8	73.11	0.1100	5.3
93221 0	DOWNTOWN ANCH. J1 (x1)-REP 2	879	8/3/93	22	-8	3.510	6.270	-8	-8	-8	73.10	0.2600	5.3
93222 0	DOWNTOWN ANCH. J1 (x2)-REP 3	880	8/3/93	22	-8	2.860	3.990	-8	-8	-8	73.12	0.2600	5.3
93180 0	NAVAL BASE/SHIPYARDS O5 (x1)	798	8/4/93	22	-9	-9	-9	-9	-9	-9	-9	-9	-9
90021 0	K SWARTZ (NAVAL BASE O4)	862	8/4/93	22	-8	1.290	1.590	-8	-8	-8	73.60	0.4200	5.2
93210 0	NAVAL BASE/SHIPYARDS O4 (x1)	863	8/4/93	22	-8	0.710	0.728	-8	-8	-8	73.10	0.5500	5.3
93211 0	NAVAL BASE/SHIPYARDS O4 (x2)	864	8/4/93	22	-8	1.700	1.580	-8	-8	-8	73.12	3.7600	5.3
90006 0	23 SWARTZ (NAVAL BASE O7)	865	8/4/93	22	-8	8.470	16.100	2.10	-8	-8	73.16	0.1100	5.3
93212 0	NAVAL BASE/SHIPYARDS O7 (x1)	866	8/4/93	22	-8	4.140	8.590	-8	-8	-8	73.16	0.1100	5.3
93213 0	NAVAL BASE/SHIPYARDS O7 (x4)	867	8/4/93	22	-8	9.500	20.600	-8	-8	-8	73.16	0.0900	5.3
90022 0	P SWARTZ (NAVAL BASE O12)	868	8/4/93	22	-8	1.260	1.670	2.07	-8	-8	73.80	4.7300	5.3
93214 0	NAVAL BASE/SHIPYARDS O12 (x3)	869	8/4/93	22	-8	0.824	1.270	-8	-8	-8	73.19	0.0700	5.3
93215 0	NAVAL BASE/SHIPYARDS O12 (x4)	870	8/4/93	22	-8	0.714	1.230	-8	-8	-8	73.19	0.0300	5.3
90028 0	NSB-M1 (SUB BASE C2)	871	8/4/93	22	-8	-8	-8	-8	-8	-8	73.80	0.0700	5.3
93216 0	SUB BASE C2 (x1)	872	8/4/93	22	-8	-8	-8	-8	-8	-8	73.10	-8	5.3
93217 0	SUB BASE C2 (x3)	873	8/4/93	22	-8	-8	-8	-8	-8	-8	73.12	0.0800	5.3
93218 0	SUB BASE C2 (x11) BLIND	874	8/4/93	22	-8	0.617	-8	-8	-8	-8	73.16	0.0600	5.3
93116 0	SAN DIEGO RIVER B1 (x4)-REP 1	881	8/5/93	22	-8	2.020	3.380	-8	-8	-8	73.60	0.0300	5.3
93116 0	SAN DIEGO RIVER B1 (x4)-REP 2	882	8/5/93	22	-8	5.310	7.060	-8	-8	-8	73.19	0.0600	5.3
93116 0	SAN DIEGO RIVER B1 (x4)-REP 3	883	8/5/93	22	-8	8.500	12.900	2.69	-8	-8	73.11	0.0700	5.3
90007 0	25 SWARTZ (NAVAL BASE/SY O10)	887	8/17/93	23	-8	1.900	2.940	-8	-8	-8	73.18	0.2500	5.3
93223 0	NAVAL BASE/SHIPYARD O10 (x2)	888	8/17/93	23	-8	1.820	2.650	-8	-8	-8	73.19	0.4000	5.3
93224 0	NAVAL BASE/SHIPYARD O10(x6)	889	8/17/93	23	-8	-8	-8	-8	-8	-8	73.19	0.1100	5.3
90008 0	27 SWARTZ (NAVAL BASE/SH O13)	890	8/17/93	23	-8	0.970	1.370	-8	-8	-8	73.19	0.6400	5.4
93225 0	NAVAL BASE/SHIPYARD O13 (x1)	891	8/17/93	23	-8	1.170	1.510	-8	-8	-8	73.19	0.2200	5.4
93226 0	NAVAL BASE/SHIPYARD O13 (x3)	892	8/17/93	23	-8	1.100	1.140	2.82	-8	-8	73.80	0.1500	5.4
90009 0	28 SWARTZ (7TH ST CHANNEL Q1)	893	8/17/93	23	-8	2.790	5.960	-8	-8	-8	73.17	0.0600	5.4

Pesticide Analysis (ppb-ng/g) (cont.) TBT Analysis (ppm-ug/g)

STANUM	STATION	IDORG	DATE	LEG	MIREX	CNONA	TNONA	OXAD	OCDAN	TOXAPH	PESBATCH	TBT	TBTBATCH
93227.0	SEVENTH ST CHANNEL Q1 (x5)	894	8/17/93	23	-8	2.330	7.430	-8	-8	-8	73.10	0.1200	5.4
93228.0	SEVENTH ST CHANNEL Q1 (x6)	895	8/17/93	23	-8	9.830	20.300	-8	-8	-8	73.16	0.0800	5.4
90010.0	31 SWARTZ (MARINE TERMINAL R3)	896	8/17/93	23	-8	-8	-8	-8	-8	-8	73.18	0.0500	5.4
93229.0	MARINE TERMINAL R3 (x1)	897	8/17/93	23	-8	-8	-8	-8	-8	-8	73.10	0.0900	5.4
93230.0	MARINE TERMINAL R3 (x3)	898	8/17/93	23	-8	1.180	0.628	-8	-8	-8	73.16	0.0200	5.4
90025.0	SDNI-N5 (CARRIER BASE V2)	899	8/18/93	23	-8	-8	-8	-8	-8	-8	73.80	0.0700	5.4
93231.0	CARRIER BASE V2 (x6)	1000	8/18/93	23	-8	0.555	-8	-8	-8	-8	73.10	0.0700	5.4
93232.0	CARRIER BASE V2 (x7)	1001	8/18/93	23	-8	1.050	1.050	-8	-8	-8	73.16	0.1000	5.4
93132.0	CORONADO CAYS T3 (x1)	1025	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9
93129.0	SOUTH BAY GG4 (x1)	1026	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	1027	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9
93127.0	SOUTH BAY GG2 (x1)	1028	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9
93139.0	COMMERCIAL BASIN F1 (x1)	1030	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)	1031	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9
93128.0	SOUTHBAY GG5 (x1)	1033	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1) REP 1	1035	1/18/94	24	-8	-8	-8	-8	-8	-8	73.28	0.0230	-9
93158.0	SOUTH BAY GG1 (x1) REP 2	1036	1/18/94	24	-8	-8	0.545	-8	-8	-8	73.32	0.0224	-9
93158.0	SOUTH BAY GG1 (x1) REP 3	1037	1/18/94	24	-8	-8	-8	-8	-8	-8	73.27	-8	-9
93122.0	S.S.- CORONADO DD3 (x1) REP 1	1013	1/19/94	24	-8	0.694	0.684	-8	-8	-8	73.26	0.0894	-9
93122.0	S.S.- CORONADO DD3 (x1) REP 2	1014	1/19/94	24	-8	0.660	0.813	-8	-8	-8	73.27	0.0252	-9
93122.0	S.S.- CORONADO DD3 (x1) REP 3	1015	1/19/94	24	-8	0.794	0.891	-8	-8	-8	73.28	0.0535	-9
93125.0	SILVER STRAND FF4 (x4) REP 1	1016	1/19/94	24	-8	-8	-8	-8	-8	-8	73.26	-8	-9
93125.0	SILVER STRAND FF4 (x4) REP 2	1017	1/19/94	24	-8	-8	-8	-8	-8	-8	73.28	0.0230	-9
93125.0	SILVER STRAND FF4 (x4) REP 3	1018	1/19/94	24	-8	-8	-8	-8	-8	-8	73.31	-8	-9
90057.0	5 SDG&E REP 1	1019	1/19/94	24	-8	-8	-8	-8	-8	-8	73.26	0.0335	-9
90057.0	5 SDG&E REP 2	1020	1/19/94	24	-8	-8	-8	-8	-8	-8	73.27	0.0258	-9
90057.0	5 SDG&E REP 3	1021	1/19/94	24	-8	-8	-8	-8	-8	-8	73.28	-8	-9
93117.0	SAN DIEGO RIVER B2 (x2)	1029	1/19/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9
93120.0	TIJUANA R. ESTUARY HH2 (x1)	1032	1/19/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9
93121.0	TIJUANA R. ESTUARY HH2 (x5)	1034	1/19/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 1	1022	1/20/94	24	-8	-8	-8	-8	-8	-8	73.26	0.0426	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 2	1023	1/20/94	24	-8	-8	-8	-8	-8	-8	73.27	0.0268	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 3	1024	1/20/94	24	-8	-8	-8	-8	-8	-8	73.28	-8	-9
90020.0	G DE LAPPE-REP 1	1104	3/1/94	27	-8	1.940	3.090	-8	-8	-8	73.23	0.7950	-9
90020.0	G DE LAPPE-REP 2	1105	3/1/94	27	-8	2.400	2.570	-8	-8	-8	73.32	0.8750	-9
90020.0	G DE LAPPE-REP 3	1106	3/1/94	27	-8	2.640	2.170	-8	-8	-8	73.29	0.6480	-9
90022.0	P SWARTZ-REP 1	1107	3/1/94	27	-8	2.180	1.840	-8	-8	-8	73.29	0.0927	-9
90022.0	P SWARTZ-REP 2	1108	3/1/94	27	-8	2.570	1.080	-8	-8	-8	73.30	0.2240	-9
90022.0	P SWARTZ-REP 3	1109	3/1/94	27	-8	1.380	1.390	-8	-8	-8	73.26	0.1670	-9
90029.0	NSB-R1-REP 1	1113	3/1/94	27	-8	-8	-8	-8	-8	-8	73.26	0.0207	-9
90029.0	NSB-R1-REP 2	1114	3/1/94	27	-8	-8	-8	-8	-8	-8	73.29	-8	-9
90029.0	NSB-R1-REP 3	1115	3/1/94	27	-8	-8	-8	-8	-8	-8	73.27	0.0279	-9
90024.0	SDNI-N1-REP 1	1116	3/1/94	27	-8	0.721	0.670	-8	-8	-8	73.30	0.0724	-9
90024.0	SDNI-N1-REP 2	1117	3/1/94	27	-8	0.553	-8	-8	-8	-8	73.26	0.0360	-9



## Pesticide Analysis (ppb-ng/g) (cont.)/ TBT Analysis (ppm-ug/g)

STANUM	STATION	IDORG	DATE	LEG	MIREX	CNONA	TNONA	OXAD	OXDAN	TOXAPH	PESBATCH	TBT	TBTBATCH
900240	SDNINT-REP 3	1118	3/1/94	27	-8	0.983	0.956	-8	-8	-8	73.29	0.0845	-9
931850	NAVAL SHIPYARDS O14 (x1)	1125	3/1/94	27	-9	-9	-9	-9	-9	-9	-9	-9	-9
931630	FUEL PIERS D2 (x2)	1126	3/1/94	27	-9	-9	-9	-9	-9	-9	-9	-9	-9
931610	SUB BASE C1 (x1)	1127	3/1/94	27	-9	-9	-9	-9	-9	-9	-9	-9	-9
931710	MARINE TERMINAL R1 (x1)	1128	3/1/94	27	-9	-9	-9	-9	-9	-9	-9	-9	-9
900130	37 SWARTZ-REP 1	1098	3/2/94	27	-8	-8	-8	-8	-8	-8	73.24	0.0372	-9
900130	37 SWARTZ-REP 2	1099	3/2/94	27	-8	-8	-8	-8	-8	-8	73.24	0.0700	-9
900130	37 SWARTZ-REP 3	1100	3/2/94	27	-8	-8	-8	-8	-8	-8	73.24	-8	-9
931060	MISSION BAY A2 (x1)-REP 1	1101	3/2/94	27	-8	-8	-8	-8	-8	-8	73.24	-8	-9
931060	MISSION BAY A2 (x1)-REP 2	1102	3/2/94	27	-8	1.110	0.802	-8	-8	-8	73.23	0.0480	-9
931060	MISSION BAY A2 (x1)-REP 3	1103	3/2/94	27	-8	0.577	0.637	-8	-8	-8	73.24	0.0440	-9
931810	NAVAL SHIPYARDS O6 (x1)-REP 1	1110	3/2/94	27	-8	2.860	4.110	-8	-8	-8	73.29	0.7660	-9
931810	NAVAL SHIPYARDS O6 (x1)-REP 2	1111	3/2/94	27	-8	2.440	3.260	-8	-8	-8	73.30	1.4400	-9
931810	NAVAL SHIPYARDS O6 (x1)-REP 3	1112	3/2/94	27	-8	5.190	4.000	-8	-8	-8	73.26	1.5000	-9
931780	NAVAL SHIPYARDS O2 (x1)-REP 1	1119	3/2/94	27	-8	1.910	2.130	-8	-8	-8	73.29	0.3640	-9
931780	NAVAL SHIPYARDS O2 (x1)-REP 2	1120	3/2/94	27	-8	1.050	1.460	-8	-8	-8	73.33	0.5530	-9
931780	NAVAL SHIPYARDS O2 (x1)-REP 3	1121	3/2/94	27	-8	1.930	1.540	-8	-8	-8	73.30	0.5400	-9
931790	NAVAL SHIPYARDS O3 (x1)-REP 1	1122	3/2/94	27	-8	0.980	1.310	-8	-8	-8	73.33	0.5590	-9
931790	NAVAL SHIPYARDS O3 (x1)-REP 2	1123	3/2/94	27	-8	1.040	1.650	-8	-8	-8	73.33	0.6520	-9
931790	NAVAL SHIPYARDS O3 (x1)-REP 3	1124	3/2/94	27	-8	2.350	2.420	-8	-8	-8	73.29	0.5830	-9
900520	32 SWARTZ(SWEETWATER CH)-REP 1	1129	3/15/94	28	-8	0.686	1.110	-8	-8	-8	73.24	0.1800	-9
900520	32 SWARTZ(SWEETWATER CH)-REP 2	1130	3/15/94	28	-8	0.642	1.250	-8	-8	-8	73.24	0.0300	-9
900520	32 SWARTZ(SWEETWATER CH)-REP 3	1131	3/15/94	28	-8	0.782	1.440	-8	-8	-8	73.24	0.0630	-9
931310	CORONADO CAYS T1 (x1)-REP 1	1138	3/15/94	28	-8	-8	-8	-8	-8	-8	73.23	0.0553	-9
931310	CORONADO CAYS T1 (x1)-REP 2	1139	3/15/94	28	-8	0.504	-8	-8	-8	-8	73.34	0.0597	-9
931310	CORONADO CAYS T1 (x1)-REP 3	1140	3/15/94	28	-8	-8	-8	-8	-8	-8	73.35	0.0521	-9
931600	CHANNEL-SOUTH BAY AA2(x1)-REP1	1141	3/15/94	28	-8	1.120	0.973	-8	-8	-8	73.34	0.0816	-9
931600	CHANNEL-SOUTH BAY AA2(x1)-REP2	1142	3/15/94	28	-8	-8	0.953	-8	-8	-8	73.35	0.0104	-9
931600	CHANNEL-SOUTH BAY AA2(x1)-REP3	1143	3/15/94	28	-8	-8	0.708	-8	-8	-8	73.38	0.0714	-9
900300	BF SCHROEDER SITE F-REP 1	1144	3/15/94	28	-8	3.730	3.870	-8	-8	-8	73.34	6.2100	-9
900300	BF SCHROEDER SITE F-REP 2	1145	3/15/94	28	-8	0.663	3.720	-8	-8	-8	73.35	0.9280	-9
900300	BF SCHROEDER SITE F-REP 3	1146	3/15/94	28	-8	2.380	4.640	-8	-8	-8	73.38	0.8910	-9
931590	SOUTH BAY GG3 (x1)-REP 1	1147	3/15/94	28	-8	-8	-8	-8	-8	-8	73.34	0.0388	-9
931590	SOUTH BAY GG3 (x1)-REP 2	1148	3/15/94	28	-8	-8	-8	-8	-8	-8	73.33	0.0384	-9
931590	SOUTH BAY GG3 (x1)-REP 3	1149	3/15/94	28	-8	-8	-8	-8	-8	-8	73.35	-8	-9
900430	CORONADO WHARF-REP 1	1156	3/15/94	28	-8	-8	-8	-8	-8	-8	73.34	0.0258	-9
900430	CORONADO WHARF-REP 2	1157	3/15/94	28	-8	2.460	2.310	-8	-8	-8	73.35	0.1740	-9
900430	CORONADO WHARF-REP 3	1158	3/15/94	28	-8	0.948	1.750	-8	-8	-8	73.38	0.0917	-9
931200	TIJUANA R. EST. HH2 (x1)-REP 1	1132	3/16/94	28	-8	-8	-8	-8	-8	-8	73.21	0.0470	-9
931200	TIJUANA R. EST. HH2 (x1)-REP 2	1133	3/16/94	28	-8	-8	-8	-8	-8	-8	73.21	0.0480	-9
931200	TIJUANA R. EST. HH2 (x1)-REP 3	1134	3/16/94	28	-8	-8	-8	-8	-8	-8	73.22	-8	-9
931210	TIJUANA R. EST. HH2 (x5)-REP 1	1135	3/16/94	28	-8	-8	-8	-8	-8	-8	73.21	0.0312	-9
931210	TIJUANA R. EST. HH2 (x5)-REP 2	1136	3/16/94	28	-8	-8	-8	-8	-8	-8	73.22	-8	-9
931210	TIJUANA R. EST. HH2 (x5)-REP 3	1137	3/16/94	28	-8	-8	-8	-8	-8	-8	73.22	0.0424	-9



Section V  
PAH Concentrations

PAH Analysis (ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	ACE	ACY	ANT	BAA	BAP	BBF	BEP	BGP	BKF	BPH
90006.0	23 SWARTZ	155	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90019.0	E DE LAPPE	168	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90021.0	K SWARTZ	170	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90031.0	BG SCHROEDER SITE G	180	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90038.0	CC	187	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90071.0	BAIT BARGE	220	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90101.0	SCRIPPS PIER	250	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90036.0	STORM DRAIN- ROHR CHANNEL	185	10/14/92	5	-8	-9	10.00	57.90	80.50	-9	82.90	-9	-9	-8
90053.0	35 SWARTZ	202	10/14/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90054.0	36 SWARTZ	203	10/14/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90001.0	11 SWARTZ	150	10/27/92	6	6.70	-9	15.40	101.00	252.00	-9	233.00	-9	-9	-8
90002.0	12 SWARTZ	151	10/27/92	6	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90016.0	42 SWARTZ	165	10/27/92	6	-8	-9	24.00	96.20	140.00	-9	114.00	-9	-9	-8
90049.0	8B	198	10/27/92	6	-8	-9	43.20	143.00	201.00	-9	176.00	-9	-9	-8
90056.0	8A SWARTZ	205	10/27/92	6	-8	-9	12.10	39.60	48.80	-9	45.70	-9	-9	-8
90063.0	THOMPSON SITE 205	212	10/27/92	6	-8	-9	-8	7.60	10.60	-9	9.80	-9	-9	-8
90003.0	14 SWARTZ	152	10/28/92	6	71.50	-9	1040.00	2290.00	3140.00	-9	2050.00	-9	-9	11.70
90004.0	15 SWARTZ	153	10/28/92	6	18.20	-9	125.00	715.00	1280.00	-9	911.00	-9	-9	9.00
90010.0	31 SWARTZ	159	10/28/92	6	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90011.0	33 SWARTZ	160	10/28/92	6	-8	-9	5.60	16.40	46.60	-9	57.20	-9	-9	-8
90013.0	37 SWARTZ	162	10/28/92	6	-8	-9	7.30	22.40	58.30	-9	65.00	-9	-9	-8
90017.0	C DELAPPE	166	10/28/92	6	227.00	-9	3550.00	3160.00	5410.00	-9	3660.00	-9	-9	78.00
90048.0	6 SWARTZ	197	10/28/92	6	8.20	-9	37.90	122.00	192.00	-9	155.00	-9	-9	-8
90051.0	16 SWARTZ	200	10/28/92	6	-8	-9	14.30	79.30	198.00	-9	181.00	-9	-9	-8
90052.0	32 SWARTZ	201	10/28/92	6	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90007.0	25 SWARTZ	156	11/10/92	7	13.80	-9	233.00	722.00	1190.00	-9	1390.00	-9	-9	6.20
90008.0	27 SWARTZ	157	11/10/92	7	12.90	-9	248.00	915.00	1710.00	-9	1580.00	-9	-9	-8
90009.0	28 SWARTZ	158	11/10/92	7	23.60	-9	124.00	470.00	969.00	-9	929.00	-9	-9	-8
90022.0	P SWARTZ	171	11/10/92	7	50.50	-9	698.00	2380.00	4450.00	-9	3630.00	-9	-9	9.30
90026.0	SDNI-N18	175	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90027.0	NSB-S1	176	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90028.0	NSB-M1	177	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90029.0	NSB-R1	178	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90023.0	NM SANDBAG	172	11/11/92	7	-8	-9	63.90	194.00	282.00	-9	261.00	-9	-9	-8
90024.0	SDNI-N1	173	11/11/92	7	35.30	-9	169.00	643.00	558.00	-9	673.00	-9	-9	8.90
90025.0	SDNI-N5	174	11/11/92	7	20.20	-9	154.00	355.00	341.00	-9	340.00	-9	-9	5.60
90050.0	10 SWARTZ	199	11/11/92	7	-8	-9	5.70	58.90	109.00	-9	143.00	-9	-9	-8
90055.0	43 SWARTZ	204	11/11/92	7	-8	-9	34.30	333.00	220.00	-9	578.00	-9	-9	-8
90102.0	HARBOR BRIDGE 71A	256	11/11/92	7	-8	-9	27.10	104.00	164.00	-9	160.00	-9	-9	-8
90103.0	SCRIPPS TRIANGLE	257	11/11/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90005.0	21 SWARTZ	154	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90014.0	38 SWARTZ	163	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90018.0	D DE LAPPE	167	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90020.0	G DE LAPPE	169	1/26/93	12	68.90	-9	451.00	2370.00	1990.00	-9	3640.00	-9	-9	15.10





## PAH Analysis (ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	ACE	ACY	ANT	BAA	BAP	BBF	BEP	BGP	BKF	BPH
93168.0	WEST BASIN H2 (x1)	781	5/5/93	18	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93170.0	CHOLLAS CREEK P1 (x2)	783	5/5/93	18	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93174.0	TIJUANA R. ESTUARY HH3 (x2)	787	5/5/93	18	17.10	-9	32.50	6.40	7.50	-9	11.00	-9	-9	66.20
93175.0	TIJUANA R. ESTUARY HH3 (x3)	788	5/5/93	18	-8	-8	-8	9.63	7.90	14.10	11.53	15.61	4.89	6.71
93176.0	MARINE TERMINAL R6 (x1) BLIND	794	5/6/93	18	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93177.0	NAVAL SHIPYARDS O1 (x1)	795	5/26/93	19	125.00	111.00	4860.00	1570.00	2290.00	2580.00	1490.00	1700.00	925.00	51.40
93178.0	NAVAL SHIPYARDS O2 (x1)	796	5/26/93	19	94.30	136.00	744.00	973.00	1920.00	2720.00	1610.00	1260.00	1030.00	16.40
93179.0	NAVAL SHIPYARDS O3 (x1)	797	5/26/93	19	173.00	159.00	952.00	1490.00	2580.00	3420.00	1890.00	1270.00	1360.00	22.50
93181.0	NAVAL SHIPYARDS O6 (x1)	799	5/26/93	19	23.60	108.00	509.00	618.00	1550.00	1860.00	1100.00	788.00	845.00	8.74
93182.0	NAVAL SHIPYARDS O8 (x4)	800	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93183.0	NAVAL SHIPYARDS O9 (x1)	801	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93184.0	NAVAL SHIPYARDS O11 (x1)	802	5/26/93	19	51.10	299.00	1210.00	1490.00	3820.00	5550.00	2730.00	1520.00	2070.00	16.40
93185.0	NAVAL SHIPYARDS O14 (x1)	803	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93186.0	FUEL PIER D4 (x1)	804	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93187.0	MARINE TERMINAL R2 (x1)	805	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93188.0	CARRIER BASE V1 (x2)	806	5/26/93	19	5.66	17.60	115.00	185.00	349.00	504.00	238.00	177.00	213.00	-8
93189.0	NAVAL SHIPYARDS O15 (x1) BLIND	814	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90051.0	16 SWARTZ (INTERCONT. MARINA)	818	6/15/93	20	-8	-8	9.84	48.90	97.10	175.00	125.00	134.00	55.40	-8
93192.0	INTERCONT. MARINA M1 (x2)	819	6/15/93	20	-8	9.89	13.00	74.70	247.00	297.00	220.00	326.00	89.30	-8
93193.0	INTERCONT. MARINA M1 (x1)	820	6/15/93	20	-8	8.79	10.70	51.70	144.00	217.00	161.00	251.00	70.30	-8
90037.0	STORMDRAIN EM (GRAPE ST.)-REP1	827	6/15/93	20	183.00	34.40	489.00	1130.00	1030.00	1510.00	780.00	626.00	551.00	13.40
90037.0	STORMDRAIN EM (GRAPE ST.)-REP2	828	6/15/93	20	17.00	36.60	319.00	377.00	614.00	911.00	539.00	478.00	315.00	-8
90037.0	STORMDRAIN EM (GRAPE ST.)-REP3	829	6/15/93	20	17.00	15.40	222.00	385.00	647.00	1010.00	602.00	432.00	352.00	5.46
93198.0	INTERCONT. MARINA M2(x1) BLIND	833	6/15/93	20	-8	-8	7.76	32.30	78.10	141.00	102.00	123.00	45.50	-8
90013.0	37 SWARTZ (MARINA)	815	6/16/93	20	-8	-8	-8	20.30	59.00	101.00	70.10	91.70	27.40	-8
93190.0	MARINA III (x1)	816	6/16/93	20	-8	5.40	-8	22.60	68.10	116.00	79.40	123.00	36.00	-8
93191.0	MARINA III (x3)	817	6/16/93	20	-8	8.10	12.90	34.20	104.00	194.00	125.00	188.00	60.80	-8
90015.0	41 SWARTZ (GLORIETTA BAY)	821	6/16/93	20	-8	5.78	17.20	13.30	67.00	134.00	88.70	141.00	40.00	-8
93194.0	GLORIETTA BAY U1 (x1)	822	6/16/93	20	-8	5.23	6.96	26.80	76.40	152.00	95.40	110.00	44.50	-8
93195.0	GLORIETTA BAY U1 (x2)	823	6/16/93	20	-8	8.98	7.99	31.60	97.10	193.00	120.00	189.00	57.70	-8
90012.0	34 SWARTZ (C.V. YACHT-BASIN)	824	6/16/93	20	-8	-8	-8	8.26	29.60	48.80	37.90	62.60	14.40	-8
93196.0	CHULA V. YACHT BASIN S1 (x1)	825	6/16/93	20	-8	-8	-8	13.80	39.70	62.60	48.60	67.60	18.70	-8
93197.0	CHULA V. YACHT BASIN S1 (x3)	826	6/16/93	20	-8	-8	-8	10.50	39.90	62.10	46.60	88.90	20.00	-8
90050.0	10 SWARTZ (WEST BASIN)	837	7/20/93	21	-8	6.16	6.66	39.20	101.00	155.00	99.10	145.00	44.90	-8
93199.0	WEST BASIN H1 (x1)	838	7/20/93	21	6.44	-8	11.40	62.20	130.00	222.00	136.00	181.00	69.40	-8
93200.0	WEST BASIN H1 (x4)	839	7/20/93	21	-8	7.12	-8	39.80	108.00	154.00	101.00	172.00	47.30	-8
90053.0	35 SWARTZ (CORONADO CAYS)	843	7/20/93	21	-8	-8	-8	10.60	31.40	50.90	39.10	54.50	15.20	-8
93203.0	CORONADO CAYS T2 (x1)	844	7/20/93	21	-8	-8	-8	19.90	53.30	85.60	61.90	86.20	26.00	-8
93204.0	CORONADO CAYS T2 (x2)	845	7/20/93	21	-8	-8	-8	12.40	34.50	56.80	38.80	67.70	16.00	-8
90003.0	14 SWARTZ (DOWNTOWN PIERS)	846	7/20/93	21	22.90	19.90	157.00	434.00	515.00	716.00	419.00	364.00	246.00	-8
93205.0	DOWNTOWN PIERS K1 (x9)	847	7/20/93	21	97.40	58.60	1450.00	672.00	833.00	1150.00	590.00	464.00	412.00	18.20
93206.0	DOWNTOWN PIERS K1 (x11)	848	7/20/93	21	281.00	49.20	13600.00	1810.00	1410.00	2090.00	994.00	599.00	855.00	134.00
90004.0	15 SWARTZ (G ST. PIER MARINA)	849	7/20/93	21	16.00	55.90	126.00	736.00	1300.00	1400.00	975.00	993.00	469.00	7.65
93207.0	G ST. PIER MARINA L1 (x4)	850	7/20/93	21	13.80	63.40	128.00	371.00	859.00	1120.00	717.00	843.00	374.00	8.86

PAH Analysis (ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	ACE	ACY	ANT	BAA	BAP	BBF	BEP	BGP	BKF	BPH
93208 0	G ST PIER MARINA L1 (x5)	851	7/20/93	21	34.80	58.00	227.00	837.00	2040.00	2860.00	1770.00	1470.00	1000.00	10.10
93209 0	DOWNTOWN PIERS K4 BLIND (x4)	852	7/20/93	21	288.00	40.30	11500.00	1360.00	1260.00	1810.00	874.00	499.00	715.00	108.00
90001 0	11 SWARTZ (EAST BASIN)	840	7/21/93	21	8.23	8.73	41.90	154.00	326.00	541.00	299.00	361.00	175.00	-8
93201 0	EAST BASIN I1 (x1)	841	7/21/93	21	-8	-8	8.94	53.40	125.00	237.00	146.00	175.00	73.20	-8
93202 0	EAST BASIN I1 (x5)	842	7/21/93	21	-8	-8	6.87	46.00	116.00	251.00	164.00	165.00	70.10	-8
93107 0	MISSION BAY A3 (x1)-REP 1	853	7/21/93	21	-8	-8	22.70	24.80	47.40	92.80	62.30	91.50	27.50	-8
93107 0	MISSION BAY A3 (x1)-REP 2	854	7/21/93	21	-8	-8	-8	23.20	42.20	80.20	55.10	71.60	25.00	-8
93107 0	MISSION BAY A3 (x1)-REP 3	855	7/21/93	21	-8	-8	-8	25.80	48.40	89.60	65.50	102.00	30.10	-8
93112 0	MISSION BAY A8 (x1)-REP 1	856	7/21/93	21	-8	-8	-8	-8	6.17	18.10	12.10	11.60	-8	-8
93112 0	MISSION BAY A8 (x1)-REP 2	857	7/21/93	21	-8	-8	-8	5.20	10.90	19.10	15.10	18.50	6.35	-8
93112 0	MISSION BAY A8 (x1)-REP 3	858	7/21/93	21	-8	-8	-8	5.65	12.10	22.40	15.50	21.20	6.75	-8
93108 0	MISSION BAY A4 (x1)-REP 1	859	7/21/93	21	-8	-8	-8	7.08	16.10	27.60	20.50	25.30	8.66	-8
93108 0	MISSION BAY A4 (x1)-REP 2	860	7/21/93	21	-8	-8	19.20	-8	15.10	28.80	23.70	24.60	7.75	-8
93108 0	MISSION BAY A4 (x1)-REP 3	861	7/21/93	21	-8	-8	-8	-8	10.10	23.40	16.20	21.50	8.32	-8
90052 0	32 SWARTZ(SWEETWATER CH)-REP 1	875	8/3/93	22	-8	-8	7.09	23.20	40.60	89.70	54.50	54.40	29.90	-8
93219 0	SWEETWATER CH. JJ1 (x1)-REP 2	876	8/3/93	22	-8	-8	14.80	10.60	27.00	61.50	38.60	48.00	17.90	-8
93220 0	SWEETWATER CH. JJ1 (x8)-REP 3	877	8/3/93	22	-8	-8	-8	5.43	13.40	23.90	15.60	24.90	7.04	-8
90002 0	12 SWARTZ(DOWNTOWN ANCH)-REP 1	878	8/3/93	22	8.27	8.31	32.20	128.00	214.00	363.00	231.00	338.00	122.00	-8
93221 0	DOWNTOWN ANCH. J1 (x1)-REP 2	879	8/3/93	22	5.46	23.00	68.90	148.00	348.00	513.00	326.00	382.00	174.00	-8
93222 0	DOWNTOWN ANCH. J1 (x2)-REP 3	880	8/3/93	22	8.22	15.30	69.40	212.00	460.00	699.00	438.00	420.00	250.00	-8
93180 0	NAVAL BASE/SHIPYARDS O5 (x1)	798	8/4/93	22	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90021 0	K SWARTZ (NAVAL BASE O4)	862	8/4/93	22	20.60	98.20	535.00	1630.00	2150.00	3330.00	1730.00	1140.00	1180.00	5.79
93210 0	NAVAL BASE/SHIPYARDS O4 (x1)	863	8/4/93	22	38.30	129.00	484.00	757.00	1890.00	2850.00	1590.00	1220.00	961.00	10.80
93211 0	NAVAL BASE/SHIPYARDS O4 (x2)	864	8/4/93	22	117.00	87.10	718.00	1560.00	3590.00	5560.00	3010.00	1880.00	2060.00	19.70
90006 0	23 SWARTZ (NAVAL BASE O7)	865	8/4/93	22	45.00	27.60	289.00	742.00	867.00	1390.00	715.00	418.00	493.00	7.48
93212 0	NAVAL BASE/SHIPYARDS O7 (x1)	866	8/4/93	22	39.30	11.50	180.00	432.00	350.00	627.00	333.00	195.00	210.00	6.59
93213 0	NAVAL BASE/SHIPYARDS O7 (x4)	867	8/4/93	22	43.50	28.50	375.00	731.00	814.00	1350.00	735.00	452.00	470.00	6.89
90022 0	P SWARTZ (NAVAL BASE O12)	868	8/4/93	22	91.30	301.00	1290.00	2790.00	5250.00	7650.00	3790.00	2370.00	2690.00	8.84
93214 0	NAVAL BASE/SHIPYARDS O12 (x3)	869	8/4/93	22	59.90	42.90	520.00	1590.00	1700.00	2640.00	1310.00	704.00	966.00	8.63
93215 0	NAVAL BASE/SHIPYARDS O12 (x4)	870	8/4/93	22	35.80	33.50	314.00	964.00	1300.00	2000.00	1060.00	622.00	705.00	5.75
90028 0	NSB-M1 (SUB BASE C2)	871	8/4/93	22	774.00	101.00	2150.00	3010.00	2540.00	3850.00	1640.00	737.00	1500.00	81.90
93216 0	SUB BASE C2 (x1)	872	8/4/93	22	122.00	36.40	555.00	760.00	628.00	952.00	414.00	243.00	355.00	14.50
93217 0	SUB BASE C2 (x3)	873	8/4/93	22	455.00	38.60	1340.00	2230.00	1950.00	3020.00	1330.00	652.00	1180.00	52.10
93218 0	SUB BASE C2 (x11) BLIND	874	8/4/93	22	355.00	42.60	1430.00	2380.00	1990.00	3070.00	1330.00	593.00	1180.00	40.60
93116 0	SAN DIEGO RIVER B1 (x4)-REP 1	881	8/5/93	22	-8	-8	16.10	30.70	66.40	114.00	76.40	127.00	39.80	8
93116 0	SAN DIEGO RIVER B1 (x4)-REP 2	882	8/5/93	22	-8	-8	-8	72.20	139.00	244.00	163.00	210.00	78.30	-8
93116 0	SAN DIEGO RIVER B1 (x4)-REP 3	883	8/5/93	22	-8	-8	7.15	80.90	167.00	290.00	191.00	347.00	101.00	-8
90007 0	25 SWARTZ (NAVAL BASE/SY O10)	887	8/17/93	23	21.50	68.30	483.00	1290.00	2400.00	3660.00	1970.00	1150.00	1290.00	5.99
93223 0	NAVAL BASE/SHIPYARD O10 (x2)	888	8/17/93	23	61.20	85.30	580.00	1430.00	2720.00	4140.00	2220.00	1300.00	1460.00	9.49
93224 0	NAVAL BASE/SHIPYARD O10(x6)	889	8/17/93	23	-8	9.70	21.00	70.70	383.00	598.00	291.00	270.00	212.00	-8
90008 0	27 SWARTZ (NAVAL BASE/SH O13)	890	8/17/93	23	17.00	44.60	261.00	1050.00	1960.00	2970.00	1530.00	862.00	1060.00	-8
93225 0	NAVAL BASE/SHIPYARD O13 (x1)	891	8/17/93	23	106.00	93.10	1060.00	2210.00	3880.00	5830.00	2890.00	1590.00	2130.00	14.30
93226 0	NAVAL BASE/SHIPYARD O13 (x3)	892	8/17/93	23	39.50	225.00	933.00	1740.00	3330.00	4830.00	2410.00	1280.00	1710.00	-8
90009 0	28 SWARTZ (7TH ST CHANNEL Q1)	893	8/17/93	23	49.90	10.60	281.00	361.00	510.00	902.00	451.00	225.00	306.00	6.16



## PAH Analysis (ppb-ng/g)

STANUM	STATION	IDORG	DATE	LEG	ACE	ACY	ANT	BAA	BAP	BBF	BEP	BGP	BKF	BPH
93227.0	SEVENTH ST CHANNEL Q1 (x5)	894	8/17/93	23	56.80	73.20	381.00	1210.00	1700.00	2710.00	1320.00	864.00	976.00	7.31
93228.0	SEVENTH ST CHANNEL Q1 (x6)	895	8/17/93	23	19.70	18.00	223.00	790.00	1030.00	1770.00	897.00	487.00	599.00	-8
90010.0	31 SWARTZ (MARINE TERMINAL R3)	896	8/17/93	23	5.79	6.81	61.80	116.00	168.00	298.00	160.00	127.00	105.00	-8
93229.0	MARINE TERMINAL R3 (x1)	897	8/17/93	23	362.00	75.50	2900.00	4710.00	4790.00	5380.00	2500.00	2250.00	2160.00	9.87
93230.0	MARINE TERMINAL R3 (x3)	898	8/17/93	23	37.30	30.40	372.00	761.00	1080.00	1670.00	820.00	579.00	615.00	-8
90025.0	SDNI-N5 (CARRIER BASE V2)	899	8/18/93	23	5.82	24.60	88.70	184.00	272.00	433.00	257.00	248.00	141.00	-8
93231.0	CARRIER BASE V2 (x6)	1000	8/18/93	23	46.20	32.70	209.00	326.00	373.00	600.00	334.00	281.00	210.00	6.20
93232.0	CARRIER BASE V2 (x7)	1001	8/18/93	23	42.20	13.50	834.00	344.00	321.00	588.00	328.00	231.00	198.00	5.23
93132.0	CORONADO CAYS T3 (x1)	1025	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93129.0	SOUTH BAY GG4 (x1)	1026	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	1027	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93127.0	SOUTH BAY GG2 (x1)	1028	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93139.0	COMMERCIAL BASIN F1 (x1)	1030	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)	1031	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93128.0	SOUTHBAY GG5 (x1)	1033	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1) REP 1	1035	1/18/94	24	-8	-8	-8	7.57	20.50	35.80	27.30	45.90	12.80	-8
93158.0	SOUTH BAY GG1 (x1) REP 2	1036	1/18/94	24	-8	-8	-8	10.20	37.00	65.20	31.10	50.80	24.30	-8
93158.0	SOUTH BAY GG1 (x1) REP 3	1037	1/18/94	24	-8	-8	-8	7.84	19.40	31.00	23.20	37.60	14.00	-8
93122.0	S.S.- CORONADO DD3 (x1) REP 1	1013	1/19/94	24	-8	20.70	34.70	107.00	261.00	359.00	185.00	193.00	143.00	-8
93122.0	S.S.- CORONADO DD3 (x1) REP 2	1014	1/19/94	24	6.10	11.30	11.90	52.50	142.00	206.00	124.00	135.00	75.80	-8
93122.0	S.S.- CORONADO DD3 (x1) REP 3	1015	1/19/94	24	-8	12.10	18.60	63.50	148.00	221.00	143.00	159.00	87.00	-8
93125.0	SILVER STRAND FF4 (x4) REP 1	1016	1/19/94	24	-8	-8	-8	13.60	37.90	82.00	38.90	44.40	31.20	-8
93125.0	SILVER STRAND FF4 (x4) REP 2	1017	1/19/94	24	-8	-8	-8	5.95	18.40	37.70	25.90	29.30	15.90	-8
93125.0	SILVER STRAND FF4 (x4) REP 3	1018	1/19/94	24	-8	-8	268.00	49.10	40.20	70.70	40.50	38.90	24.30	-8
90057.0	5 SDG&E REP 1	1019	1/19/94	24	-8	-8	-8	14.60	47.90	71.40	35.80	50.20	28.70	-8
90057.0	5 SDG&E REP 2	1020	1/19/94	24	-8	-8	-8	13.90	32.90	45.20	33.40	49.20	16.90	-8
90057.0	5 SDG&E REP 3	1021	1/19/94	24	-8	-8	-8	13.20	25.30	35.70	27.40	42.40	15.80	-8
93117.0	SAN DIEGO RIVER B2 (x2)	1029	1/19/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93120.0	TIJUANA R. ESTUARY HH2 (x1)	1032	1/19/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93121.0	TIJUANA R. ESTUARY HH2 (x5)	1034	1/19/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 1	1022	1/20/94	24	-8	-8	6.27	19.70	30.90	54.70	24.20	20.10	22.70	-8
90036.0	STORMDRAIN EA (ROHR CH.) REP 2	1023	1/20/94	24	-8	-8	22.20	34.80	32.60	58.60	32.40	29.50	26.90	-8
90036.0	STORMDRAIN EA (ROHR CH.) REP 3	1024	1/20/94	24	-8	-8	-8	6.82	7.94	17.60	10.90	10.50	8.53	-8
90020.0	G DE LAPPE-REP 1	1104	3/1/94	27	51.50	166.00	760.00	1710.00	3070.00	4020.00	2310.00	1560.00	1560.00	16.30
90020.0	G DE LAPPE-REP 2	1105	3/1/94	27	59.30	172.00	1020.00	1430.00	2730.00	4870.00	1980.00	1340.00	1790.00	18.00
90020.0	G DE LAPPE-REP 3	1106	3/1/94	27	62.80	220.00	841.00	1190.00	2950.00	4110.00	2110.00	1450.00	1580.00	17.00
90022.0	P SWARTZ-REP 1	1107	3/1/94	27	140.00	342.00	1890.00	3040.00	4880.00	7110.00	3490.00	1840.00	2730.00	23.80
90022.0	P SWARTZ-REP 2	1108	3/1/94	27	200.00	153.00	2300.00	3650.00	5050.00	7840.00	3730.00	1910.00	2890.00	39.80
90022.0	P SWARTZ-REP 3	1109	3/1/94	27	155.00	416.00	2640.00	3130.00	5170.00	7570.00	3650.00	1980.00	2790.00	44.30
90029.0	NSB-R1-REP 1	1113	3/1/94	27	-8	5.70	75.60	123.00	115.00	181.00	91.00	49.80	73.00	-8
90029.0	NSB-R1-REP 2	1114	3/1/94	27	-8	5.00	27.20	37.50	38.90	73.30	34.00	21.40	29.20	-8
90029.0	NSB-R1-REP 3	1115	3/1/94	27	400.00	35.70	844.00	1330.00	1130.00	1660.00	704.00	312.00	655.00	17.80
90024.0	SDNI-N1-REP 1	1116	3/1/94	27	15.50	26.30	184.00	278.00	524.00	806.00	392.00	305.00	291.00	7.66
90024.0	SDNI-N1-REP 2	1117	3/1/94	27	31.30	23.00	219.00	236.00	301.00	463.00	253.00	198.00	173.00	9.21





## PAH Analysis (ppb-ng/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	CHR	DBA	DMN	FLA	FLU	IND	MNP1	MNP2	MPH1	NPH
90006.0	23 SWARTZ	155	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90019.0	E DE LAPPE	168	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90021.0	K SWARTZ	170	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90031.0	BG SCHROEDER SITE G	180	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90038.0	CC	187	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90071.0	BAIT BARGE	220	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90101.0	SCRIPPS PIER	250	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90036.0	STORM DRAIN- ROHR CHANNEL	185	10/14/92	5	104.00	17.70	-8	137.00	5.10	-9	-8	-8	6.60	-9
90053.0	35 SWARTZ	202	10/14/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90054.0	36 SWARTZ	203	10/14/92	5	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90001.0	11 SWARTZ	150	10/27/92	6	151.00	61.60	-8	352.00	5.50	-9	-8	6.60	13.40	-9
90002.0	12 SWARTZ	151	10/27/92	6	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90016.0	42 SWARTZ	165	10/27/92	6	132.00	19.00	-8	168.00	6.80	-9	7.30	15.40	13.40	-9
90049.0	8B	198	10/27/92	6	240.00	34.90	-8	287.00	-8	-9	-8	-8	8.20	-9
90056.0	8A SWARTZ	205	10/27/92	6	64.90	7.30	-8	54.90	-8	-9	-8	-8	-8	-9
90063.0	THOMPSON SITE 205	212	10/27/92	6	11.20	-8	-8	16.80	-8	-9	-8	-8	-8	-9
90003.0	14 SWARTZ	152	10/28/92	6	3870.00	407.00	13.30	5470.00	185.00	-9	12.60	23.60	145.00	-9
90004.0	15 SWARTZ	153	10/28/92	6	840.00	200.00	8.80	1040.00	31.40	-9	14.00	27.40	76.20	-9
90010.0	31 SWARTZ	159	10/28/92	6	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90011.0	33 SWARTZ	160	10/28/92	6	30.40	6.20	-8	88.50	-8	-9	-8	-8	-8	-9
90013.0	37 SWARTZ	162	10/28/92	6	36.30	19.10	-8	78.40	-8	-9	-8	-8	-8	-9
90017.0	C DELAPPE	166	10/28/92	6	4190.00	541.00	206.00	12100.00	903.00	-9	100.00	66.70	990.00	-9
90048.0	6 SWARTZ	197	10/28/92	6	147.00	41.50	-8	261.00	10.70	-9	-8	5.40	10.40	-9
90051.0	16 SWARTZ	200	10/28/92	6	102.00	38.00	-8	172.00	-8	-9	-8	5.70	6.60	-9
90052.0	32 SWARTZ	201	10/28/92	6	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90007.0	25 SWARTZ	156	11/10/92	7	1380.00	211.00	10.40	726.00	45.20	-9	5.00	14.30	33.30	-9
90008.0	27 SWARTZ	157	11/10/92	7	1760.00	277.00	-8	1680.00	46.40	-9	-8	11.80	37.60	-9
90009.0	28 SWARTZ	158	11/10/92	7	488.00	139.00	13.60	1320.00	38.00	-9	9.60	23.70	38.10	-9
90022.0	P SWARTZ	171	11/10/92	7	3910.00	672.00	21.10	5810.00	170.00	-9	12.20	27.40	187.00	-9
90026.0	SDNI-N18	175	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90027.0	NSB-S1	176	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90028.0	NSB-M1	177	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90029.0	NSB-R1	178	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90023.0	NM SANDBAG	172	11/11/92	7	314.00	53.20	-8	319.00	12.30	-9	-8	6.70	14.30	-9
90024.0	SDNI-N1	173	11/11/92	7	1020.00	104.00	16.80	1280.00	37.70	-9	9.30	19.80	46.20	-9
90025.0	SDNI-N5	174	11/11/92	7	599.00	53.90	6.00	730.00	35.00	-9	-8	10.90	22.90	-9
90050.0	10 SWARTZ	199	11/11/92	7	82.10	31.90	-8	108.00	-8	-9	-8	5.40	-8	-9
90055.0	43 SWARTZ	204	11/11/92	7	630.00	114.00	-8	354.00	8.60	-9	-8	8.00	13.90	-9
90102.0	HARBOR BRIDGE 71A	256	11/11/92	7	190.00	40.60	-8	170.00	5.30	-9	-8	-8	6.40	-9
90103.0	SCRIPPS TRIANGLE	257	11/11/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90005.0	21 SWARTZ	154	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90014.0	38 SWARTZ	163	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90018.0	D DE LAPPE	167	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90020.0	G DE LAPPE	169	1/26/93	12	4080.00	554.00	14.90	3640.00	144.00	-9	16.70	34.00	88.70	-9





## PAH Analysis (ppb-ng/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	CHR	DBA	DMN	FLA	FLU	IND	MNP1	MNP2	MPH1	NPH
93168.0	WEST BASIN H2 (x1)	781	5/5/93	18	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93170.0	CHOLLAS CREEK P1 (x2)	783	5/5/93	18	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93174.0	TIJUANA R. ESTUARY HH3 (x2)	787	5/5/93	18	14.40	-8	263.00	30.00	83.60	-9	93.60	125.00	407.00	-9
93175.0	TIJUANA R. ESTUARY HH3 (x3)	788	5/5/93	18	25.12	2.44	125.92	19.28	8.44	7.63	16.79	22.46	87.71	8.06
93176.0	MARINE TERMINAL R6 (x1) BLIND	794	5/6/93	18	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93177.0	NAVAL SHIPYARDS O1 (x1)	795	5/26/93	19	1910.00	289.00	16.40	5690.00	646.00	1680.00	14.30	128.00	343.00	124.00
93178.0	NAVAL SHIPYARDS O2 (x1)	796	5/26/93	19	1500.00	409.00	12.10	1860.00	123.00	1520.00	21.50	39.20	102.00	47.10
93179.0	NAVAL SHIPYARDS O3 (x1)	797	5/26/93	19	2290.00	444.00	12.30	3240.00	218.00	1540.00	28.80	42.60	133.00	53.60
93181.0	NAVAL SHIPYARDS O6 (x1)	799	5/26/93	19	1190.00	277.00	6.66	778.00	59.20	995.00	13.30	20.10	46.40	28.90
93182.0	NAVAL SHIPYARDS O8 (x4)	800	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93183.0	NAVAL SHIPYARDS O9 (x1)	801	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93184.0	NAVAL SHIPYARDS O11 (x1)	802	5/26/93	19	2530.00	635.00	14.70	2520.00	123.00	2040.00	19.00	38.90	109.00	30.80
93185.0	NAVAL SHIPYARDS O14 (x1)	803	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93186.0	FUEL PIER D4 (x1)	804	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93187.0	MARINE TERMINAL R2 (x1)	805	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93188.0	CARRIER BASE V1 (x2)	806	5/26/93	19	310.00	46.70	-8	273.00	15.40	210.00	-8	6.24	16.80	10.10
93189.0	NAVAL SHIPYARDS O15 (x1) BLIND	814	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90051.0	16 SWARTZ (INTERCONT. MARINA)	818	6/15/93	20	80.30	20.10	-8	110.00	-8	118.00	-8	-8	-8	9.34
93192.0	INTERCONT. MARINA M1 (x2)	819	6/15/93	20	94.00	37.40	-8	223.00	-8	272.00	-8	8.27	8.69	21.60
93193.0	INTERCONT. MARINA M1 (x1)	820	6/15/93	20	82.60	30.10	-8	145.00	-8	187.00	-8	-8	6.16	12.90
90037.0	STORMDRAIN EM (GRAPE ST.)-REP1	827	6/15/93	20	1360.00	174.00	9.14	3970.00	164.00	596.00	11.30	35.40	120.00	146.00
90037.0	STORMDRAIN EM (GRAPE ST.)-REP2	828	6/15/93	20	621.00	109.00	-8	809.00	38.30	445.00	6.42	16.50	44.70	28.00
90037.0	STORMDRAIN EM (GRAPE ST.)-REP3	829	6/15/93	20	663.00	101.00	-8	740.00	45.60	423.00	5.83	17.80	29.30	29.30
93198.0	INTERCONT. MARINA M2(x1) BLIND	833	6/15/93	20	65.90	23.30	-8	72.20	-8	100.00	-8	-8	-8	7.52
90013.0	37 SWARTZ (MARINA)	815	6/16/93	20	34.80	11.70	-8	75.70	-8	75.50	-8	-8	-8	8.88
93190.0	MARINA I11 (x1)	816	6/16/93	20	43.00	17.40	-8	73.40	-8	94.10	-8	-8	-8	9.14
93191.0	MARINA I11 (x3)	817	6/16/93	20	80.50	22.40	-8	127.00	-8	148.00	-8	-8	-8	10.30
90015.0	41 SWARTZ (GLORIETTA BAY)	821	6/16/93	20	23.60	16.30	-8	108.00	-8	108.00	-8	5.81	12.10	9.31
93194.0	GLORIETTA BAY U1 (x1)	822	6/16/93	20	51.40	17.10	-8	89.90	-8	98.90	-8	-8	-8	9.12
93195.0	GLORIETTA BAY U1 (x2)	823	6/16/93	20	57.50	24.80	-8	92.10	-8	152.00	-8	-8	-8	8.59
90012.0	34 SWARTZ (C.V. YACHT BASIN)	824	6/16/93	20	15.10	6.21	-8	39.70	-8	40.60	-8	-8	-8	-8
93196.0	CHULA V. YACHT BASIN S1 (x1)	825	6/16/93	20	23.90	7.41	-8	65.30	-8	52.80	-8	-8	-8	6.28
93197.0	CHULA V. YACHT BASIN S1 (x3)	826	6/16/93	20	23.40	6.44	-8	61.10	-8	58.90	-8	-8	-8	5.63
90050.0	10 SWARTZ (WEST BASIN)	837	7/20/93	21	51.40	20.20	-8	112.00	-8	120.00	-8	-8	-8	9.64
93199.0	WEST BASIN H1 (x1)	838	7/20/93	21	91.00	27.10	-8	216.00	-8	152.00	-8	5.62	8.32	10.40
93200.0	WEST BASIN H1 (x4)	839	7/20/93	21	50.50	24.20	-8	99.90	-8	129.00	-8	-8	-8	8.59
90053.0	35 SWARTZ (CORONADO CAYS)	843	7/20/93	21	17.40	5.48	-8	46.80	-8	44.40	-8	-8	-8	5.53
93203.0	CORONADO CAYS T2 (x1)	844	7/20/93	21	33.20	8.79	-8	99.80	-8	70.30	-8	-8	-8	6.66
93204.0	CORONADO CAYS T2 (x2)	845	7/20/93	21	22.40	6.47	-8	60.70	-8	45.70	-8	-8	-8	5.73
90003.0	14 SWARTZ (DOWNTOWN PIERS)	846	7/20/93	21	659.00	81.20	-8	775.00	40.30	325.00	-8	10.30	31.70	15.70
93205.0	DOWNTOWN PIERS K1 (x9)	847	7/20/93	21	1090.00	114.00	9.44	1460.00	251.00	440.00	12.10	52.40	57.70	53.50
93206.0	DOWNTOWN PIERS K1 (x11)	848	7/20/93	21	3550.00	188.00	35.50	5180.00	2760.00	610.00	41.00	644.00	427.00	617.00
90004.0	15 SWARTZ (G ST. PIER MARINA)	849	7/20/93	21	961.00	182.00	-8	1030.00	28.60	688.00	11.90	25.50	67.30	65.90
93207.0	G ST. PIER MARINA L1 (x4)	850	7/20/93	21	666.00	168.00	-8	563.00	27.30	700.00	9.62	20.10	38.80	53.60

## PAH Analysis (ppb-ng/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	CHR	DBA	DMN	FLA	FLU	IND	MNP1	MNP2	MPH1	NPH
93208 0	G ST PIER MARINA L1 (x5)	851	7/20/93	21	1370.00	404.00	12.90	1170.00	54.20	1340.00	32.40	48.90	116.00	75.90
93209 0	DOWNTOWN PIERS K4 BLIND (x4)	852	7/20/93	21	2300.00	142.00	59.10	3750.00	2010.00	535.00	63.80	642.00	246.00	632.00
90001 0	11 SWARTZ (EAST BASIN)	840	7/21/93	21	230.00	63.80	-8	804.00	5.45	312.00	-8	9.39	34.60	15.50
93201 0	EAST BASIN I1 (x1)	841	7/21/93	21	100.00	27.50	-8	256.00	-8	152.00	-8	5.78	7.54	11.20
93202 0	EAST BASIN I1 (x5)	842	7/21/93	21	113.00	33.90	-8	121.00	-8	139.00	-8	-8	-8	10.10
93107 0	MISSION BAY A3 (x1)-REP 1	853	7/21/93	21	36.20	10.80	-8	125.00	-8	61.70	5.39	12.80	20.20	8.99
93107 0	MISSION BAY A3 (x1)-REP 2	854	7/21/93	21	37.60	9.88	-8	105.00	-8	49.60	-8	-8	-8	5.52
93107 0	MISSION BAY A3 (x1)-REP 3	855	7/21/93	21	41.10	12.70	-8	117.00	-8	59.10	-8	-8	-8	6.22
93112 0	MISSION BAY A8 (x1)-REP 1	856	7/21/93	21	-8	-8	-8	23.60	-8	6.70	-8	-8	-8	-8
93112 0	MISSION BAY A8 (x1)-REP 2	857	7/21/93	21	8.32	-8	-8	17.40	-8	11.30	-8	-8	-8	-8
93112 0	MISSION BAY A8 (x1)-REP 3	858	7/21/93	21	10.90	-8	-8	17.70	-8	13.70	-8	-8	-8	-8
93108 0	MISSION BAY A4 (x1)-REP 1	859	7/21/93	21	12.40	-8	-8	21.40	-8	18.70	-8	-8	-8	-8
93108 0	MISSION BAY A4 (x1)-REP 2	860	7/21/93	21	-8	-8	-8	44.60	-8	14.80	-8	-8	-8	-8
93108 0	MISSION BAY A4 (x1)-REP 3	861	7/21/93	21	9.12	-8	-8	19.20	-8	13.80	-8	-8	-8	-8
90052 0	32 SWARTZ(SWEETWATER CH)-REP 1	875	8/3/93	22	44.10	8.48	-8	171.00	-8	39.10	-8	-8	-8	5.32
93219 0	SWEETWATER CH. JJ1 (x1)-REP 2	876	8/3/93	22	24.20	-8	-8	70.70	-8	28.10	-8	-8	11.50	-8
93220 0	SWEETWATER CH. JJ1 (x8)-REP 3	877	8/3/93	22	8.16	-8	-8	30.30	-8	17.90	-8	-8	-8	-8
90002 0	12 SWARTZ(DOWNTOWN ANCH)-REP 1	878	8/3/93	22	193.00	50.80	-8	417.00	9.09	235.00	-8	9.53	13.90	13.30
93221 0	DOWNTOWN ANCH. J1 (x1)-REP 2	879	8/3/93	22	240.00	69.50	-8	365.00	10.50	318.00	-8	9.12	14.30	18.50
93222 0	DOWNTOWN ANCH. J1 (x2)-REP 3	880	8/3/93	22	393.00	101.00	-8	366.00	12.00	378.00	-8	10.70	16.10	18.80
93180 0	NAVAL BASE/SHIPYARDS O5 (x1)	798	8/4/93	22	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90021 0	K SWARTZ (NAVAL BASE O4)	862	8/4/93	22	2180.00	311.00	-8	2280.00	63.20	1170.00	11.50	23.50	77.40	34.30
93210 0	NAVAL BASE/SHIPYARDS O4 (x1)	863	8/4/93	22	1400.00	331.00	5.57	1550.00	66.60	1200.00	11.10	23.00	52.80	35.90
93211 0	NAVAL BASE/SHIPYARDS O4 (x2)	864	8/4/93	22	3040.00	640.00	15.90	3000.00	176.00	1980.00	36.20	58.40	152.00	79.10
90006 0	23 SWARTZ (NAVAL BASE O7)	865	8/4/93	22	1030.00	109.00	5.23	2060.00	50.40	432.00	10.60	22.40	47.10	21.40
93212 0	NAVAL BASE/SHIPYARDS O7 (x1)	866	8/4/93	22	508.00	45.80	-8	1430.00	46.70	179.00	10.10	23.50	30.50	18.20
93213 0	NAVAL BASE/SHIPYARDS O7 (x4)	867	8/4/93	22	1050.00	114.00	6.53	1980.00	60.60	431.00	8.65	20.70	52.20	22.20
90022 0	P SWARTZ (NAVAL BASE O12)	868	8/4/93	22	4070.00	780.00	15.90	7230.00	157.00	2690.00	18.50	28.90	189.00	32.10
93214 0	NAVAL BASE/SHIPYARDS O12 (x3)	869	8/4/93	22	2420.00	235.00	7.07	2570.00	101.00	753.00	10.10	23.50	68.20	21.00
93215 0	NAVAL BASE/SHIPYARDS O12 (x4)	870	8/4/93	22	1590.00	196.00	-8	1760.00	69.90	655.00	5.11	13.90	42.90	11.10
90028 0	NSB-M1 (SUB BASE C2)	871	8/4/93	22	3680.00	276.00	62.00	7800.00	782.00	878.00	120.00	287.00	438.00	84.30
93216 0	SUB BASE C2 (x1)	872	8/4/93	22	897.00	79.10	9.84	2460.00	159.00	262.00	17.30	41.40	78.30	18.10
93217 0	SUB BASE C2 (x3)	873	8/4/93	22	2960.00	261.00	39.60	6670.00	519.00	735.00	74.00	168.00	202.00	47.20
93218 0	SUB BASE C2 (x11) BLIND	874	8/4/93	22	3010.00	216.00	29.40	7320.00	432.00	713.00	68.60	160.00	188.00	36.30
93116 0	SAN DIEGO RIVER B1 (x4)-REP 1	881	8/5/93	22	49.40	20.20	-8	152.00	-8	83.90	-8	9.83	16.70	10.10
93116 0	SAN DIEGO RIVER B1 (x4)-REP 2	882	8/5/93	22	128.00	31.10	-8	309.00	-8	152.00	-8	8.16	11.90	12.10
93116 0	SAN DIEGO RIVER B1 (x4)-REP 3	883	8/5/93	22	151.00	46.60	-8	309.00	5.12	226.00	-8	9.47	13.90	14.00
90007 0	25 SWARTZ (NAVAL BASE/SY O10)	887	8/17/93	23	2290.00	375.00	6.04	1890.00	70.80	1220.00	5.64	17.90	56.20	25.60
93223 0	NAVAL BASE/SHIPYARD O10 (x2)	888	8/17/93	23	2710.00	436.00	9.47	2290.00	105.00	1410.00	10.10	22.40	71.20	27.70
93224 0	NAVAL BASE/SHIPYARD O10(x6)	889	8/17/93	23	138.00	72.70	-8	107.00	-8	257.00	-8	-8	-8	9.45
90008 0	27 SWARTZ (NAVAL BASE/SH O13)	890	8/17/93	23	1860.00	291.00	-8	1380.00	44.00	924.00	-8	7.59	33.10	12.80
93225 0	NAVAL BASE/SHIPYARD O13 (x1)	891	8/17/93	23	3760.00	559.00	13.40	4310.00	156.00	1780.00	15.20	33.30	108.00	29.20
93226 0	NAVAL BASE/SHIPYARD O13 (x3)	892	8/17/93	23	2450.00	444.00	8.11	4520.00	75.00	1400.00	6.25	15.80	126.00	20.70
90009 0	28 SWARTZ (7TH ST CHANNEL Q1)	893	8/17/93	23	363.00	65.90	-8	1350.00	66.70	236.00	9.46	17.20	25.40	19.20



## PAH Analysis (ppb-ng/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	CHR	DBA	DMN	FLA	FLU	IND	MNP1	MNP2	MPH1	NPH
93227.0	SEVENTH ST CHANNEL Q1 (x5)	894	8/17/93	23	1670.00	245.00	7.79	2790.00	59.50	841.00	11.40	22.30	52.20	20.80
93228.0	SEVENTH ST CHANNEL Q1 (x6)	895	8/17/93	23	624.00	133.00	19.80	2860.00	32.50	489.00	9.88	23.10	52.90	27.80
90010.0	31 SWARTZ (MARINE TERMINAL R3)	896	8/17/93	23	228.00	37.70	-8	206.00	10.10	125.00	-8	-8	8.81	-8
93229.0	MARINE TERMINAL R3 (x1)	897	8/17/93	23	5360.00	709.00	13.20	12500.00	355.00	2280.00	11.10	21.90	736.00	29.00
93230.0	MARINE TERMINAL R3 (x3)	898	8/17/93	23	1160.00	176.00	-8	1670.00	57.10	626.00	-8	10.10	61.70	15.60
90025.0	SDNI-N5 (CARRIER BASE V2)	899	8/18/93	23	275.00	48.10	5.89	375.00	9.91	224.00	18.80	21.30	24.50	14.70
93231.0	CARRIER BASE V2 (x6)	1000	8/18/93	23	487.00	68.10	-8	1170.00	67.20	264.00	6.64	14.00	36.70	16.10
93232.0	CARRIER BASE V2 (x7)	1001	8/18/93	23	578.00	53.60	-8	917.00	91.40	232.00	6.24	16.70	33.00	18.50
93132.0	CORONADO CAYS T3 (x1)	1025	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93129.0	SOUTH BAY GG4 (x1)	1026	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	1027	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93127.0	SOUTH BAY GG2 (x1)	1028	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93139.0	COMMERCIAL BASIN F1 (x1)	1030	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)	1031	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93128.0	SOUTHBAY GG5 (x1)	1033	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1) REP 1	1035	1/18/94	24	14.80	-8	-8	34.50	-8	39.40	-8	-8	-8	8.47
93158.0	SOUTH BAY GG1 (x1) REP 2	1036	1/18/94	24	18.90	-8	-8	36.50	-8	42.20	-8	-8	-8	6.57
93158.0	SOUTH BAY GG1 (x1) REP 3	1037	1/18/94	24	14.30	-8	-8	28.50	-8	34.70	-8	-8	-8	7.02
93122.0	S.S.- CORONADO DD3 (x1) REP 1	1013	1/19/94	24	167.00	34.90	-8	182.00	6.28	202.00	-8	7.84	19.20	14.50
93122.0	S.S.- CORONADO DD3 (x1) REP 2	1014	1/19/94	24	91.50	25.70	-8	109.00	-8	148.00	-8	-8	7.23	11.20
93122.0	S.S.- CORONADO DD3 (x1) REP 3	1015	1/19/94	24	101.00	32.70	-8	131.00	-8	162.00	-8	5.60	15.90	13.90
93125.0	SILVER STRAND FF4 (x4) REP 1	1016	1/19/94	24	29.70	-8	-8	45.60	-8	46.80	-8	-8	-8	-8
93125.0	SILVER STRAND FF4 (x4) REP 2	1017	1/19/94	24	14.80	-8	-8	28.70	-8	30.50	-8	-8	-8	5.74
93125.0	SILVER STRAND FF4 (x4) REP 3	1018	1/19/94	24	57.30	-8	-8	196.00	10.20	47.80	-8	-8	10.40	6.30
90057.0	5 SDG&E REP 1	1019	1/19/94	24	29.10	-8	-8	52.30	-8	45.30	-8	-8	-8	5.05
90057.0	5 SDG&E REP 2	1020	1/19/94	24	23.90	-8	-8	57.40	-8	44.60	-8	-8	-8	7.07
90057.0	5 SDG&E REP 3	1021	1/19/94	24	23.10	-8	-8	47.50	-8	35.20	-8	-8	-8	7.87
93117.0	SAN DIEGO RIVER B2 (x2)	1029	1/19/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93120.0	TIJUANA R. ESTUARY HH2 (x1)	1032	1/19/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
93121.0	TIJUANA R. ESTUARY HH2 (x5)	1034	1/19/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 1	1022	1/20/94	24	49.20	-8	-8	59.80	-8	19.60	-8	-8	-8	-8
90036.0	STORMDRAIN EA (ROHR CH.) REP 2	1023	1/20/94	24	86.30	-8	-8	57.00	6.47	32.20	-8	-8	-8	-8
90036.0	STORMDRAIN EA (ROHR CH.) REP 3	1024	1/20/94	24	14.70	-8	-8	29.70	-8	-8	-8	-8	-8	-8
90020.0	G DE LAPPE-REP 1	1104	3/1/94	27	3220.00	550.00	11.30	2460.00	125.00	1840.00	16.20	37.10	85.10	54.90
90020.0	G DE LAPPE-REP 2	1105	3/1/94	27	2810.00	530.00	12.10	1730.00	162.00	1680.00	19.50	40.70	87.80	47.30
90020.0	G DE LAPPE-REP 3	1106	3/1/94	27	2230.00	469.00	10.80	1370.00	128.00	1780.00	24.50	34.50	132.00	62.30
90022.0	P SWARTZ-REP 1	1107	3/1/94	27	5040.00	703.00	19.00	5780.00	301.00	2440.00	31.70	58.20	257.00	35.60
90022.0	P SWARTZ-REP 2	1108	3/1/94	27	5410.00	724.00	21.30	8000.00	433.00	2670.00	33.30	63.60	333.00	50.80
90022.0	P SWARTZ-REP 3	1109	3/1/94	27	5190.00	810.00	17.80	5760.00	387.00	2640.00	33.70	68.90	243.00	35.40
90029.0	NSB-R1-REP 1	1113	3/1/94	27	254.00	15.00	-8	195.00	15.50	57.00	-8	-8	11.00	-8
90029.0	NSB-R1-REP 2	1114	3/1/94	27	67.60	-8	-8	82.60	-8	26.20	-8	-8	5.70	-8
90029.0	NSB-R1-REP 3	1115	3/1/94	27	1610.00	126.00	17.00	3910.00	403.00	426.00	33.30	26.30	251.00	25.10
90024.0	SDNI-N1-REP 1	1116	3/1/94	27	451.00	98.00	-8	594.00	27.70	405.00	8.83	14.30	40.30	24.10
90024.0	SDNI-N1-REP 2	1117	3/1/94	27	444.00	43.40	5.17	512.00	46.40	200.00	14.40	24.70	30.00	19.20





## PAH Analysis (ppb-ng/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	PER	PHN	PYR	TMN	PAHBATCH	SOBATCH	SODATAQA
90006.0	23 SWARTZ	155	10/13/92	5	-9	-9	-9	-9	-9	-9	-9
90019.0	E DE LAPPE	168	10/13/92	5	-9	-9	-9	-9	-9	-9	-9
90021.0	K SWARTZ	170	10/13/92	5	-9	-9	-9	-9	-9	-9	-9
90031.0	BG SCHROEDER SITE G	180	10/13/92	5	-9	-9	-9	-9	-9	-9	-9
90038.0	CC	187	10/13/92	5	-9	-9	-9	-9	-9	-9	-9
90071.0	BAIT BARGE	220	10/13/92	5	-9	-9	-9	-9	-9	-9	-9
90101.0	SCRIPPS PIER	250	10/13/92	5	-9	-9	-9	-9	-9	-9	-9
90036.0	STORM DRAIN- ROHR CHANNEL	185	10/14/92	5	23.30	35.60	127.00	-9	72.70	72.70	-4
90053.0	35 SWARTZ	202	10/14/92	5	-9	-9	-9	-9	-9	-9	-9
90054.0	36 SWARTZ	203	10/14/92	5	-9	-9	-9	-9	-9	-9	-9
90001.0	11 SWARTZ	150	10/27/92	6	47.50	140.00	389.00	-9	73.50	73.50	-4
90002.0	12 SWARTZ	151	10/27/92	6	-9	-9	-9	-9	-9	-9	-9
90016.0	42 SWARTZ	165	10/27/92	6	27.60	67.90	226.00	-9	73.40	73.40	-4
90049.0	8B	198	10/27/92	6	50.50	82.00	270.00	-9	73.40	73.40	-4
90056.0	8A SWARTZ	205	10/27/92	6	11.50	22.50	44.40	-9	73.40	73.40	-4
90063.0	THOMPSON SITE 205	212	10/27/92	6	-8	8.60	18.70	-9	73.40	73.40	-4
90003.0	14 SWARTZ	152	10/28/92	6	800.00	1250.00	4470.00	-9	73.50	73.50	-4
90004.0	15 SWARTZ	153	10/28/92	6	259.00	319.00	1550.00	-9	73.50	73.50	-4
90010.0	31 SWARTZ	159	10/28/92	6	-9	-9	-9	-9	-9	-9	-9
90011.0	33 SWARTZ	160	10/28/92	6	11.00	17.90	90.20	-9	73.40	73.40	-4
90013.0	37 SWARTZ	162	10/28/92	6	13.70	22.20	100.00	-9	73.50	73.50	-4
90017.0	C DELAPPE	166	10/28/92	6	1200.00	10700.00	13800.00	-9	73.40	73.40	-4
90048.0	6 SWARTZ	197	10/28/92	6	43.10	92.30	265.00	-9	73.50	73.50	-4
90051.0	16 SWARTZ	200	10/28/92	6	45.10	60.90	241.00	-9	73.50	73.50	-4
90052.0	32 SWARTZ	201	10/28/92	6	-9	-9	-9	-9	-9	-9	-9
90007.0	25 SWARTZ	156	11/10/92	7	365.00	270.00	1660.00	-9	72.60	72.60	-4
90008.0	27 SWARTZ	157	11/10/92	7	465.00	308.00	1990.00	-9	72.70	72.70	-4
90009.0	28 SWARTZ	158	11/10/92	7	300.00	155.00	2940.00	-9	72.80	72.80	-4
90022.0	P SWARTZ	171	11/10/92	7	1150.00	1340.00	6020.00	-9	72.70	72.70	-4
90026.0	SDNI-N18	175	11/10/92	7	-9	-9	-9	-9	-9	-9	-9
90027.0	NSB-S1	176	11/10/92	7	-9	-9	-9	-9	-9	-9	-9
90028.0	NSB-M1	177	11/10/92	7	-9	-9	-9	-9	-9	-9	-9
90029.0	NSB-R1	178	11/10/92	7	-9	-9	-9	-9	-9	-9	-9
90023.0	NM SANDBAG	172	11/11/92	7	67.60	108.00	358.00	-9	72.70	72.70	-4
90024.0	SDNI-N1	173	11/11/92	7	162.00	265.00	1080.00	-9	72.60	72.60	-4
90025.0	SDNI-N5	174	11/11/92	7	94.90	186.00	589.00	-9	72.60	72.60	-4
90050.0	10 SWARTZ	199	11/11/92	7	23.70	39.80	132.00	-9	72.70	72.70	-4
90055.0	43 SWARTZ	204	11/11/92	7	53.40	84.30	339.00	-9	72.90	72.90	-4
90102.0	HARBOR BRIDGE 71A	256	11/11/92	7	36.60	44.20	149.00	-9	72.70	72.70	-4
90103.0	SCRIPPS TRIANGLE	257	11/11/92	7	-9	-9	-9	-9	-9	-9	-9
90005.0	21 SWARTZ	154	1/26/93	12	-9	-9	-9	-9	-9	-9	-9
90014.0	38 SWARTZ	163	1/26/93	12	-9	-9	-9	-9	-9	-9	-9
90018.0	D DE LAPPE	167	1/26/93	12	-9	-9	-9	-9	-9	-9	-9
90020.0	G DE LAPPE	169	1/26/93	12	646.00	917.00	3290.00	-9	72.60	72.60	-4

## PAH Analysis (ppb-ng/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	PER	PHN	PYR	TMN	PAHBATCH	SOBATCH	SODATAQA
90030.0	BF SCHROEDER SITE F	179	1/26/93	12	1030.00	7430.00	5160.00	-9	72.60	72.60	-4
90032.0	BM SCHROEDER SITE M	181	1/26/93	12	-9	-9	-9	-9	-9	-9	-9
90037.0	STORM DRAIN EM- GRAPE STREET	186	1/26/93	12	-9	-9	-9	-9	-9	-9	-9
90039.0	CL	188	1/26/93	12	249.00	1570.00	3240.00	-9	72.60	72.60	-4
90043.0	CORONADO WHARF	192	1/26/93	12	41.70	88.90	261.00	-9	72.60	72.60	-4
90104.0	WEST BASIN ENTRANCE (71C) REF	275	1/26/93	12	57.40	76.40	310.00	-9	72.70	72.70	-4
90012.0	34 SWARTZ	161	1/27/93	12	-9	-9	-9	-9	-9	-9	-9
90015.0	41 SWARTZ	164	1/27/93	12	-9	-9	-9	-9	-9	-9	-9
90040.0	SWEETWATER MARSH SD BAY	189	1/27/93	12	-9	-9	-9	-9	-9	-9	-9
90041.0	SOUTH SD BAY WETLANDS- OTAY R.	190	1/27/93	12	-9	-9	-9	-9	-9	-9	-9
90057.0	5 SDG&E	206	1/27/93	12	13.60	15.40	81.00	-9	72.70	72.70	-4
90058.0	7 SDG&E	207	1/27/93	12	-9	-9	-9	-9	-9	-9	-9
93105.0	MISSION BAY A1 (x1)	700	3/23/93	15	9.15	12.08	35.56	-8	-9	-9	-9
93106.0	MISSION BAY A2 (x1)	701	3/23/93	15	8.26	16.28	51.87	-8	-9	-9	-9
93107.0	MISSION BAY A3 (x1)	702	3/23/93	15	-9	-9	-9	-9	-9	-9	-9
93108.0	MISSION BAY A4 (x1)	703	3/23/93	15	5.70	10.57	32.79	-8	-9	-9	-9
93109.0	MISSION BAY A5 (x1)	704	3/23/93	15	-9	-9	-9	-9	-9	-9	-9
93110.0	MISSION BAY A6 (x1)	705	3/23/93	15	-9	-9	-9	-9	-9	-9	-9
93112.0	MISSION BAY A8 (x1)	707	3/23/93	15	-9	-9	-9	-9	-9	-9	-9
93113.0	MISSION BAY A9 (x1)	708	3/23/93	15	-9	-9	-9	-9	-9	-9	-9
93114.0	MISSION BAY A10 (x1)	709	3/23/93	15	-9	-9	-9	-9	-9	-9	-9
93115.0	MISSION BAY A11 (x1)	710	3/23/93	15	-9	-9	-9	-9	-9	-9	-9
93116.0	SAN DIEGO RIVER B1 (x4)	711	3/23/93	15	35.39	94.06	209.56	4.73	-9	-9	-9
93117.0	SAN DIEGO RIVER B2 (x2)	712	3/23/93	15	73.69	64.99	291.33	-8	-9	-9	-9
93111.0	MISSION BAY A7 (x3)	706	3/24/93	15	4.79	10.69	27.86	-8	-9	-9	-9
90002.0	12 SWARTZ	719	3/24/93	15	-9	-9	-9	-9	-9	-9	-9
90037.0	STORMDRAIN EM- GRAPE STREET	720	3/24/93	15	-9	-9	-9	-9	-9	-9	-9
90015.0	41 SWARTZ	721	3/24/93	15	-9	-9	-9	-9	-9	-9	-9
90012.0	34 SWARTZ	722	3/24/93	15	-9	-9	-9	-9	-9	-9	-9
90057.0	5 SDG&E	723	3/24/93	15	-9	-9	-9	-9	-9	-9	-9
90052.0	32 SWARTZ	724	3/24/93	15	-9	-9	-9	-9	-9	-9	-9
93118.0	TIJUANA R. ESTUARY HH1 (x2)	713	3/25/93	15	-8	265.00	73.70	-9	73.50	73.50	-4
93119.0	TIJUANA R. ESTUARY HH1 (x1)	714	3/25/93	15	5.04	211.48	77.06	983.48	-9	-9	-9
93120.0	TIJUANA R. ESTUARY HH2 (x1)	715	3/25/93	15	2.43	35.27	15.08	123.83	-9	-9	-9
93121.0	TIJUANA R. ESTUARY HH2 (x5)	716	3/25/93	15	3.02	9.26	11.48	13.88	-9	-9	-9
93126.0	SILVER STRAND FF7 (x2)	729	4/6/93	16	-9	-9	-9	-9	-9	-9	-9
93127.0	SOUTH BAY GG2 (x1)	730	4/6/93	16	-9	-9	-9	-9	-9	-9	-9
93129.0	SOUTH BAY GG4 (x1)	732	4/6/93	16	-9	-9	-9	-9	-9	-9	-9
90014.0	38 SCHWARTZ	733	4/6/93	16	-9	-9	-9	-9	-9	-9	-9
93131.0	CORONADO CAYS T1 (x1)	734	4/6/93	16	5.93	8.48	28.30	-8	73.26	-9	-5
93132.0	CORONADO CAYS T3 (x1)	735	4/6/93	16	-9	-9	-9	-9	-9	-9	-9
93133.0	CHANNEL-NAVAL BASE Z1 (x1)	736	4/6/93	16	84.90	133.85	1460.66	4.04	-9	-9	-9
93134.0	SOUTH SHORE-MOUTH BB2 (x1)	737	4/6/93	16	-9	-9	-9	-9	-9	-9	-9
93135.0	SOUTH SHORE-MOUTH BB3 (x1)	738	4/6/93	16	-9	-9	-9	-9	-9	-9	-9

## PAH Analysis (ppb-ng/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	PER	PHN	PYR	TMN	PAHBATCH	SOBATCH	SODATAQA
93136.0	NORTH SHORE-MOUTH CC2 (x1)	739	4/6/93	16	-9	-9	-9	-9	-9	-9	-9
93138.0	SHELTER ISLAND E3 (x2)	741	4/6/93	16	36.80	47.00	111.00	-8	73.25	-9	-5
93128.0	SOUTHBAY GG5 (x1)	750	4/6/93	16	-9	-9	-9	-9	-9	-9	-9
93122.0	SOUTH SHORE-CORONADO DD3 (x1)	725	4/7/93	16	62.10	108.00	239.00	-8	73.25	-9	-5
93123.0	SILVER STRAND FF1 (x1)	726	4/7/93	16	-9	-9	-9	-9	-9	-9	-9
93124.0	SILVER STRAND FF2 (x1)	727	4/7/93	16	-9	-9	-9	-9	-9	-9	-9
93125.0	SILVER STRAND FF4 (x4)	728	4/7/93	16	-9	-9	-9	-9	-9	-9	-9
90006.0	23 SCHWARTZ	731	4/7/93	16	-9	-9	-9	-9	-9	-9	-9
93137.0	NORTH SHORE-MOUTH CC3 (x1)	740	4/7/93	16	-9	-9	-9	-9	-9	-9	-9
93139.0	COMMERCIAL BASIN F1 (x1)	742	4/7/93	16	-9	-9	-9	-9	-9	-9	-9
93140.0	COMMERCIAL BASIN F2 (x1)	743	4/7/93	16	-9	-9	-9	-9	-9	-9	-9
93141.0	COMMERCIAL BASIN F3 (x1)	744	4/7/93	16	73.90	85.70	225.00	-8	73.26	-9	-5
90018.0	D DE LAPPE	748	4/7/93	16	-9	-9	-9	-9	-9	-9	-9
90030.0	BF SCHROEDER SITE F	749	4/7/93	16	-9	-9	-9	-9	-9	-9	-9
93148.0	CHANNEL-CORONADO Y1 (x2)	751	4/7/93	16	19.40	28.70	66.00	-8	73.25	-9	-5
93142.0	SOUTH SHORE-CORONADO DD1(X1)	752	4/7/93	16	-9	-9	-9	-9	-9	-9	-9
93144.0	CAMPBELL SHIPYARDS N1 (x1)	754	4/20/93	17	-9	-9	-9	-9	-9	-9	-9
93145.0	CAMPBELL SHIPYARDS N2 (x1)	755	4/20/93	17	-9	-9	-9	-9	-9	-9	-9
93146.0	GLORIETTA BAY U2 (x1)	756	4/20/93	17	-9	-9	-9	-9	-9	-9	-9
93147.0	GLORIETTA BAY U3 (x1)	757	4/20/93	17	24.60	30.10	83.00	-8	73.25	-9	-5
93149.0	CHANNEL-MOUTH X1 (x1)	758	4/20/93	17	2.87	6.70	13.64	-8	-9	-9	-9
93150.0	CHANNEL-NAVAL BASE Z1 (x2)	759	4/20/93	17	-9	-9	-9	-9	-9	-9	-9
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	760	4/20/93	17	-9	-9	-9	-9	-9	-9	-9
93152.0	SOUTH SHORE-MOUTH BB1 (x1)	761	4/20/93	17	-9	-9	-9	-9	-9	-9	-9
93154.0	NORTH SHORE-MOUTH CC4 (x1)	763	4/20/93	17	-9	-9	-9	-9	-9	-9	-9
93155.0	SOUTH SHORE-CORONADO DD2 (x1)	764	4/20/93	17	-9	-9	-9	-9	-9	-9	-9
93156.0	NORTH SHORE-CORONADO EE1 (x1)	765	4/20/93	17	-9	-9	-9	-9	-9	-9	-9
93157.0	NORTH SHORE-CORONADO EE2 (x1)	766	4/20/93	17	-9	-9	-9	-9	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1)	767	4/20/93	17	-9	-9	-9	-9	-9	-9	-9
93159.0	SOUTH BAY GG3 (x1)	768	4/20/93	17	-9	-9	-9	-9	-9	-9	-9
93160.0	CHANNEL-SOUTH BAY AA2(x1)BLIND	773	4/20/93	17	-9	-9	-9	-9	-9	-9	-9
93143.0	FUEL PIERS D1 (x1)	753	4/21/93	17	-9	-9	-9	-9	-9	-9	-9
93153.0	NORTH SHORE-MOUTH CC1 (x1)	762	4/21/93	17	-9	-9	-9	-9	-9	-9	-9
93161.0	SUB BASE C1 (x1)	774	5/4/93	18	-9	-9	-9	-9	-9	-9	-9
93162.0	SUB BASE C3 (x1)	775	5/4/93	18	233.00	1890.00	2280.00	7.95	73.25	-9	-5
93163.0	FUEL PIERS D2 (x2)	776	5/4/93	18	-9	-9	-9	-9	-9	-9	-9
93164.0	SHELTER ISLAND E1 (x1)	777	5/4/93	18	12.10	16.20	46.40	-8	73.25	-9	-5
93165.0	NAVY ESTUARY G1 (x1)	778	5/4/93	18	-9	-9	-9	-9	-9	-9	-9
93166.0	NAVY ESTUARY G2 (x1)	779	5/4/93	18	12.20	13.10	43.60	-8	73.25	-9	-5
93167.0	NAVY ESTUARY G3 (x1)	780	5/4/93	18	-9	-9	-9	-9	-9	-9	-9
93169.0	EAST BASIN I2 (x1)	782	5/4/93	18	-9	-9	-9	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)	784	5/4/93	18	-9	-9	-9	-9	-9	-9	-9
93172.0	SILVER STRAND FF3 (x1)	785	5/4/93	18	-9	-9	-9	-9	-9	-9	-9
93173.0	SILVER STRAND FF6 (x1)	786	5/4/93	18	-9	-9	-9	-9	-9	-9	-9

## PAH Analysis (ppb-ng/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	PER	PHN	PYR	TMN	PAHBATCH	SOBATCH	SODATAQA
93168.0	WEST BASIN H2 (x1)	781	5/5/93	18	-9	-9	-9	-9	-9	-9	-9
93170.0	CHOLLAS CREEK P1 (x2)	783	5/5/93	18	-9	-9	-9	-9	-9	-9	-9
93174.0	TIJUANA R. ESTUARY HH3 (x2)	787	5/5/93	18	-8	347.00	97.60	-9	73.50	73.50	-4
93175.0	TIJUANA R. ESTUARY HH3 (x3)	788	5/5/93	18	4.86	64.27	38.01	207.71	-9	-9	-9
93176.0	MARINE TERMINAL R6 (x1) BLIND	794	5/6/93	18	-9	-9	-9	-9	-9	-9	-9
93177.0	NAVAL SHIPYARDS O1 (x1)	795	5/26/93	19	555.00	3690.00	5390.00	8.34	73.25	-9	-5
93178.0	NAVAL SHIPYARDS O2 (x1)	796	5/26/93	19	490.00	974.00	1940.00	7.02	73.25	-9	-5
93179.0	NAVAL SHIPYARDS O3 (x1)	797	5/26/93	19	660.00	1590.00	2860.00	8.28	73.25	-9	-5
93181.0	NAVAL SHIPYARDS O6 (x1)	799	5/26/93	19	409.00	350.00	1010.00	-8	73.25	-9	-5
93182.0	NAVAL SHIPYARDS O8 (x4)	800	5/26/93	19	-9	-9	-9	-9	-9	-9	-9
93183.0	NAVAL SHIPYARDS O9 (x1)	801	5/26/93	19	-9	-9	-9	-9	-9	-9	-9
93184.0	NAVAL SHIPYARDS O11 (x1)	802	5/26/93	19	930.00	829.00	3530.00	6.80	73.25	-9	-5
93185.0	NAVAL SHIPYARDS O14 (x1)	803	5/26/93	19	-9	-9	-9	-9	-9	-9	-9
93186.0	FUEL PIER D4 (x1)	804	5/26/93	19	-9	-9	-9	-9	-9	-9	-9
93187.0	MARINE TERMINAL R2 (x1)	805	5/26/93	19	-9	-9	-9	-9	-9	-9	-9
93188.0	CARRIER BASE V1 (x2)	806	5/26/93	19	79.10	148.00	255.00	-8	73.26	-9	-5
93189.0	NAVAL SHIPYARDS O15 (x1) BLIND	814	5/26/93	19	-9	-9	-9	-9	-9	-9	-9
90051.0	16 SWARTZ (INTERCONT. MARINA)	818	6/15/93	20	25.20	25.40	113.00	-8	73.17	-9	-4
93192.0	INTERCONT. MARINA M1 (x2)	819	6/15/93	20	53.30	65.00	354.00	-8	73.15	-9	-4
93193.0	INTERCONT. MARINA M1 (x1)	820	6/15/93	20	31.30	41.50	188.00	-8	73.11	-9	-4
90037.0	STORMDRAIN EM (GRAPE ST.)-REP1	827	6/15/93	20	261.00	702.00	3530.00	10.20	73.60	-9	-4
90037.0	STORMDRAIN EM (GRAPE ST.)-REP2	828	6/15/93	20	152.00	265.00	775.00	-8	73.80	-9	-4
90037.0	STORMDRAIN EM (GRAPE ST.)-REP3	829	6/15/93	20	168.00	305.00	751.00	-8	73.15	-9	-4
93198.0	INTERCONT. MARINA M2(x1) BLIND	833	6/15/93	20	20.60	22.40	86.60	-8	73.12	-9	-4
90013.0	37 SWARTZ (MARINA)	815	6/16/93	20	13.40	16.30	95.30	-8	73.15	-9	-4
93190.0	MARINA I11 (x1)	816	6/16/93	20	14.60	16.50	92.50	-8	73.14	-9	-4
93191.0	MARINA I11 (x3)	817	6/16/93	20	21.40	24.60	141.00	-8	73.11	-9	-4
90015.0	41 SWARTZ (GLORIETTA BAY)	821	6/16/93	20	17.00	26.70	125.00	-8	73.80	-9	-4
93194.0	GLORIETTA BAY U1 (x1)	822	6/16/93	20	17.00	21.60	104.00	-8	73.17	-9	-4
93195.0	GLORIETTA BAY U1 (x2)	823	6/16/93	20	21.00	19.10	102.00	-8	73.11	-9	-4
90012.0	34 SWARTZ (C.V. YACHT BASIN)	824	6/16/93	20	8.29	7.53	47.10	-8	73.14	-9	-4
93196.0	CHULA V. YACHT BASIN S1 (x1)	825	6/16/93	20	10.40	14.50	85.90	-8	73.15	-9	-4
93197.0	CHULA V. YACHT BASIN S1 (x3)	826	6/16/93	20	9.78	10.70	74.60	-8	73.11	-9	-4
90050.0	10 SWARTZ (WEST BASIN)	837	7/20/93	21	22.00	30.10	141.00	-8	73.15	-9	-4
93199.0	WEST BASIN H1 (x1)	838	7/20/93	21	28.40	74.60	256.00	-8	73.15	-9	-4
93200.0	WEST BASIN H1 (x4)	839	7/20/93	21	21.50	23.50	129.00	-8	73.11	-9	-4
90053.0	35 SWARTZ (CORONADO CAYS)	843	7/20/93	21	6.88	11.60	57.10	-8	73.16	-9	-4
93203.0	CORONADO CAYS T2 (x1)	844	7/20/93	21	12.70	23.30	109.00	-8	73.15	-9	-4
93204.0	CORONADO CAYS T2 (x2)	845	7/20/93	21	7.63	14.00	63.30	-8	73.10	-9	-4
90003.0	14 SWARTZ (DOWNTOWN PIERS)	846	7/20/93	21	118.00	255.00	760.00	-8	73.12	-9	-4
93205.0	DOWNTOWN PIERS K1 (x9)	847	7/20/93	21	198.00	948.00	1120.00	-8	73.10	-9	-4
93206.0	DOWNTOWN PIERS K1 (x11)	848	7/20/93	21	327.00	8560.00	3640.00	9.47	73.12	-9	-4
90004.0	15 SWARTZ (G ST. PIER MARINA)	849	7/20/93	21	259.00	288.00	1520.00	-8	73.16	-9	-4
93207.0	G ST. PIER MARINA L1 (x4)	850	7/20/93	21	185.00	188.00	714.00	-8	73.10	-9	-4

## PAH Analysis (ppb-ng/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	PER	PHN	PYR	TMN	PAHBATCH	SOBATCH	SODATAQA
93208.0	G ST. PIER MARINA L1 (x5)	851	7/20/93	21	446.00	510.00	1670.00	11.40	73.12	-9	-4
93209.0	DOWNTOWN PIERS K4 BLIND (x4)	852	7/20/93	21	288.00	4600.00	2890.00	8.17	73.16	-9	-4
90001.0	11 SWARTZ (EAST BASIN)	840	7/21/93	21	65.40	306.00	858.00	-8	73.80	-9	-4
93201.0	EAST BASIN I1 (x1)	841	7/21/93	21	26.40	78.40	294.00	-8	73.15	-9	-4
93202.0	EAST BASIN I1 (x5)	842	7/21/93	21	24.30	39.90	138.00	-8	73.12	-9	-4
93107.0	MISSION BAY A3 (x1)-REP 1	853	7/21/93	21	31.90	44.90	133.00	-8	73.60	-9	-4
93107.0	MISSION BAY A3 (x1)-REP 2	854	7/21/93	21	13.80	31.20	113.00	-8	73.15	-9	-4
93107.0	MISSION BAY A3 (x1)-REP 3	855	7/21/93	21	15.30	29.80	124.00	-8	73.11	-9	-4
93112.0	MISSION BAY A8 (x1)-REP 1	856	7/21/93	21	-8	-8	23.90	-8	73.60	-9	-4
93112.0	MISSION BAY A8 (x1)-REP 2	857	7/21/93	21	-8	-8	19.80	-8	73.16	-9	-4
93112.0	MISSION BAY A8 (x1)-REP 3	858	7/21/93	21	-8	6.21	20.10	-8	73.14	-9	-4
93108.0	MISSION BAY A4 (x1)-REP 1	859	7/21/93	21	5.13	5.85	26.50	-8	73.17	-9	-4
93108.0	MISSION BAY A4 (x1)-REP 2	860	7/21/93	21	-8	19.90	49.30	-8	73.60	-9	-4
93108.0	MISSION BAY A4 (x1)-REP 3	861	7/21/93	21	-8	-8	23.40	-8	73.16	-9	-4
90052.0	32 SWARTZ(SWEETWATER CH)-REP 1	875	8/3/93	22	12.90	16.30	154.00	-8	73.18	-9	-4
93219.0	SWEETWATER CH. JJ1 (x1)-REP 2	876	8/3/93	22	15.30	18.00	57.00	-8	73.60	-9	-4
93220.0	SWEETWATER CH. JJ1 (x8)-REP 3	877	8/3/93	22	5.01	-8	25.90	-8	73.10	-9	-4
90002.0	12 SWARTZ(DOWNTOWN ANCH)-REP 1	878	8/3/93	22	59.80	118.00	375.00	-8	73.11	-9	-4
93221.0	DOWNTOWN ANCH. J1 (x1)-REP 2	879	8/3/93	22	87.00	96.00	373.00	-8	73.10	-9	-4
93222.0	DOWNTOWN ANCH. J1 (x2)-REP 3	880	8/3/93	22	111.00	107.00	419.00	-8	73.12	-9	-4
93180.0	NAVAL BASE/SHIPYARDS O5 (x1)	798	8/4/93	22	-9	-9	-9	-9	-9	-9	-9
90021.0	K SWARTZ (NAVAL BASE O4)	862	8/4/93	22	667.00	402.00	1910.00	-8	73.60	-9	-4
93210.0	NAVAL BASE/SHIPYARDS O4 (x1)	863	8/4/93	22	448.00	398.00	1530.00	-8	73.10	-9	-4
93211.0	NAVAL BASE/SHIPYARDS O4 (x2)	864	8/4/93	22	850.00	1260.00	3670.00	11.80	73.12	-9	-4
90006.0	23 SWARTZ (NAVAL BASE O7)	865	8/4/93	22	217.00	386.00	1800.00	-8	73.16	-9	-4
93212.0	NAVAL BASE/SHIPYARDS O7 (x1)	866	8/4/93	22	91.80	347.00	1150.00	-8	73.16	-9	-4
93213.0	NAVAL BASE/SHIPYARDS O7 (x4)	867	8/4/93	22	207.00	439.00	1670.00	6.16	73.16	-9	-4
90022.0	P SWARTZ (NAVAL BASE O12)	868	8/4/93	22	1240.00	1220.00	5840.00	12.00	73.80	-9	-4
93214.0	NAVAL BASE/SHIPYARDS O12 (x3)	869	8/4/93	22	417.00	608.00	2230.00	-8	73.14	-9	-4
93215.0	NAVAL BASE/SHIPYARDS O12 (x4)	870	8/4/93	22	350.00	426.00	1210.00	-8	73.14	-9	-4
90028.0	NSB-M1 (SUB BASE C2)	871	8/4/93	22	597.00	4060.00	6110.00	22.70	73.80	-9	-4
93216.0	SUB BASE C2 (x1)	872	8/4/93	22	151.00	917.00	1820.00	-8	73.10	-9	-4
93217.0	SUB BASE C2 (x3)	873	8/4/93	22	476.00	2710.00	4580.00	14.80	73.12	-9	-4
93218.0	SUB BASE C2 (x11) BLIND	874	8/4/93	22	476.00	2360.00	5400.00	12.60	73.16	-9	-4
93116.0	SAN DIEGO RIVER B1 (x4)-REP 1	881	8/5/93	22	17.30	53.00	166.00	-8	73.60	-9	-4
93116.0	SAN DIEGO RIVER B1 (x4)-REP 2	882	8/5/93	22	33.80	93.50	343.00	-8	73.15	-9	-4
93116.0	SAN DIEGO RIVER B1 (x4)-REP 3	883	8/5/93	22	40.00	99.10	321.00	-8	73.11	-9	-4
90007.0	25 SWARTZ (NAVAL BASE/SY O10)	887	8/17/93	23	638.00	440.00	1930.00	-8	73.14	-9	-4
93223.0	NAVAL BASE/SHIPYARD O10 (x2)	888	8/17/93	23	714.00	596.00	2250.00	5.58	73.14	-9	-4
93224.0	NAVAL BASE/SHIPYARD O10(x6)	889	8/17/93	23	70.70	28.70	230.00	-8	73.14	-9	-4
90008.0	27 SWARTZ (NAVAL BASE/SH O13)	890	8/17/93	23	500.00	268.00	1530.00	-8	73.14	-9	-4
93225.0	NAVAL BASE/SHIPYARD O13 (x1)	891	8/17/93	23	1010.00	907.00	4030.00	9.74	73.14	-9	-4
93226.0	NAVAL BASE/SHIPYARD O13 (x3)	892	8/17/93	23	820.00	590.00	4320.00	6.96	73.80	-9	-4
90009.0	28 SWARTZ (7TH ST CHANNEL Q1)	893	8/17/93	23	123.00	277.00	1660.00	-8	73.17	-9	-4



PAH Analysis (ppb-ng/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	PER	PHN	PYR	TMN	PAHBATCH	SOBATCH	SODATAQA
93227.0	SEVENTH ST CHANNEL Q1 (x5)	894	8/17/93	23	387.00	415.00	3110.00	6.55	73.10	-9	-4
93228.0	SEVENTH ST CHANNEL Q1 (x6)	895	8/17/93	23	267.00	163.00	3630.00	58.10	73.16	-9	-4
90010.0	31 SWARTZ (MARINE TERMINAL R3)	896	8/17/93	23	42.00	54.60	169.00	-8	73.14	-9	-4
93229.0	MARINE TERMINAL R3 (x1)	897	8/17/93	23	1040.00	5210.00	12700.00	20.30	73.10	-9	-4
93230.0	MARINE TERMINAL R3 (x3)	898	8/17/93	23	230.00	629.00	1450.00	-8	73.16	-9	-4
90025.0	SDNI-N5 (CARRIER BASE V2)	899	8/18/93	23	64.20	94.40	382.00	-8	73.80	-9	-4
93231.0	CARRIER BASE V2 (x6)	1000	8/18/93	23	88.70	409.00	818.00	-8	73.10	-9	-4
93232.0	CARRIER BASE V2 (x7)	1001	8/18/93	23	77.10	414.00	676.00	-8	73.16	-9	-4
93132.0	CORONADO CAYS T3 (x1)	1025	1/18/94	24	-9	-9	-9	-9	-9	-9	-9
93129.0	SOUTH BAY GG4 (x1)	1026	1/18/94	24	-9	-9	-9	-9	-9	-9	-9
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	1027	1/18/94	24	-9	-9	-9	-9	-9	-9	-9
93127.0	SOUTH BAY GG2 (x1)	1028	1/18/94	24	-9	-9	-9	-9	-9	-9	-9
93139.0	COMMERCIAL BASIN F1 (x1)	1030	1/18/94	24	-9	-9	-9	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)	1031	1/18/94	24	-9	-9	-9	-9	-9	-9	-9
93128.0	SOUTHBAY GG5 (x1)	1033	1/18/94	24	-9	-9	-9	-9	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1) REP 1	1035	1/18/94	24	5.72	5.10	31.10	-8	73.28	-9	-5
93158.0	SOUTH BAY GG1 (x1) REP 2	1036	1/18/94	24	8.14	6.98	34.80	-8	73.32	-9	-5
93158.0	SOUTH BAY GG1 (x1) REP 3	1037	1/18/94	24	5.16	5.32	27.90	-8	73.27	-9	-5
93122.0	S.S. - CORONADO DD3 (x1) REP 1	1013	1/19/94	24	53.00	95.80	215.00	-8	73.26	-9	-5
93122.0	S.S. - CORONADO DD3 (x1) REP 2	1014	1/19/94	24	33.20	42.50	119.00	-8	73.27	-9	-5
93122.0	S.S. - CORONADO DD3 (x1) REP 3	1015	1/19/94	24	34.50	51.20	140.00	-8	73.28	-9	-5
93125.0	SILVER STRAND FF4 (x4) REP 1	1016	1/19/94	24	7.77	13.90	30.90	-8	73.26	-9	-5
93125.0	SILVER STRAND FF4 (x4) REP 2	1017	1/19/94	24	5.09	5.25	18.80	-8	73.28	-9	-5
93125.0	SILVER STRAND FF4 (x4) REP 3	1018	1/19/94	24	10.80	77.00	96.20	-8	73.31	-9	-5
90057.0	5 SDG&E REP 1	1019	1/19/94	24	14.90	14.10	51.60	-8	73.26	-9	-5
90057.0	5 SDG&E REP 2	1020	1/19/94	24	14.50	12.00	57.60	-8	73.27	-9	-5
90057.0	5 SDG&E REP 3	1021	1/19/94	24	11.50	9.54	48.40	-8	73.28	-9	-5
93117.0	SAN DIEGO RIVER B2 (x2)	1029	1/19/94	24	-9	-9	-9	-9	-9	-9	-9
93120.0	TIJUANA R. ESTUARY HH2 (x1)	1032	1/19/94	24	-9	-9	-9	-9	-9	-9	-9
93121.0	TIJUANA R. ESTUARY HH2 (x5)	1034	1/19/94	24	-9	-9	-9	-9	-9	-9	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 1	1022	1/20/94	24	7.71	25.50	48.30	-8	73.26	-9	-5
90036.0	STORMDRAIN EA (ROHR CH.) REP 2	1023	1/20/94	24	9.77	36.40	48.90	-8	73.27	-9	-5
90036.0	STORMDRAIN EA (ROHR CH.) REP 3	1024	1/20/94	24	-8	12.40	25.50	-8	73.28	-9	-5
90020.0	G DE LAPPE-REP 1	1104	3/1/94	27	763.00	804.00	2190.00	-8	73.23	-9	-5
90020.0	G DE LAPPE-REP 2	1105	3/1/94	27	694.00	941.00	1730.00	5.28	73.32	-9	-5
90020.0	G DE LAPPE-REP 3	1106	3/1/94	27	698.00	1070.00	1800.00	5.07	73.29	-9	-5
90022.0	P SWARTZ-REP 1	1107	3/1/94	27	1200.00	1960.00	4080.00	14.60	73.29	-9	-5
90022.0	P SWARTZ-REP 2	1108	3/1/94	27	1260.00	2780.00	5000.00	18.00	73.30	-9	-5
90022.0	P SWARTZ-REP 3	1109	3/1/94	27	1240.00	2430.00	4040.00	13.70	73.26	-9	-5
90029.0	NSB-R1-REP 1	1113	3/1/94	27	28.60	96.40	133.00	-8	73.26	-9	-5
90029.0	NSB-R1-REP 2	1114	3/1/94	27	11.40	35.10	64.00	-8	73.29	-9	-5
90029.0	NSB-R1-REP 3	1115	3/1/94	27	265.00	2190.00	2730.00	10.60	73.27	-9	-5
90024.0	SDNI-N1-REP 1	1116	3/1/94	27	111.00	282.00	500.00	-8	73.30	-9	-5
90024.0	SDNI-N1-REP 2	1117	3/1/94	27	70.00	346.00	506.00	-8	73.26	-9	-5

## PAH Analysis (ppb-ng/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	PER	PHN	PYR	TMN	PAHBATCH	SOBATCH	SODATAQA
90024.0	SDNI-N1-REP 3	1118	3/1/94	27	127.00	201.00	554.00	-8	73.29	-9	-5
93185.0	NAVAL SHIPYARDS O14 (x1)	1125	3/1/94	27	-9	-9	-9	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)	1126	3/1/94	27	-9	-9	-9	-9	-9	-9	-9
93161.0	SUB BASE C1 (x1)	1127	3/1/94	27	-9	-9	-9	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)	1128	3/1/94	27	-9	-9	-9	-9	-9	-9	-9
90013.0	37 SWARTZ-REP 1	1098	3/2/94	27	14.90	29.90	82.20	-8	73.24	-9	-5
90013.0	37 SWARTZ-REP 2	1099	3/2/94	27	16.40	16.50	75.70	-8	73.24	-9	-5
90013.0	37 SWARTZ-REP 3	1100	3/2/94	27	13.50	18.70	72.30	-8	73.24	-9	-5
93106.0	MISSION BAY A2 (x1)-REP 1	1101	3/2/94	27	8.56	10.10	45.20	-8	73.24	-9	-5
93106.0	MISSION BAY A2 (x1)-REP 2	1102	3/2/94	27	8.07	10.80	40.90	-8	73.23	-9	-5
93106.0	MISSION BAY A2 (x1)-REP 3	1103	3/2/94	27	8.41	9.27	43.60	-8	73.24	-9	-5
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 1	1110	3/2/94	27	309.00	392.00	827.00	7.03	73.29	-9	-5
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 2	1111	3/2/94	27	356.00	341.00	985.00	5.81	73.30	-9	-5
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 3	1112	3/2/94	27	448.00	706.00	1410.00	16.10	73.26	-9	-5
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 1	1119	3/2/94	27	398.00	1470.00	1770.00	8.19	73.29	-9	-5
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 2	1120	3/2/94	27	602.00	693.00	2290.00	6.83	73.33	-9	-5
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 3	1121	3/2/94	27	583.00	823.00	2710.00	8.59	73.30	-9	-5
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 1	1122	3/2/94	27	890.00	1650.00	3000.00	7.52	73.33	-9	-5
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 2	1123	3/2/94	27	831.00	1230.00	2330.00	6.41	73.33	-9	-5
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 3	1124	3/2/94	27	1040.00	2130.00	3660.00	9.75	73.29	-9	-5
90052.0	32 SWARTZ(SWEETWATER CH)-REP 1	1129	3/15/94	28	35.80	44.00	166.00	-8	73.24	-9	-5
90052.0	32 SWARTZ(SWEETWATER CH)-REP 2	1130	3/15/94	28	24.90	32.30	121.00	-8	73.24	-9	-5
90052.0	32 SWARTZ(SWEETWATER CH)-REP 3	1131	3/15/94	28	27.00	32.90	140.00	-8	73.24	-9	-5
93131.0	CORONADO CAYS T1 (x1)-REP 1	1138	3/15/94	28	5.96	7.17	33.60	-8	73.23	-9	-5
93131.0	CORONADO CAYS T1 (x1)-REP 2	1139	3/15/94	28	7.87	7.89	35.40	-8	73.34	-9	-5
93131.0	CORONADO CAYS T1 (x1)-REP 3	1140	3/15/94	28	7.12	8.09	35.00	-8	73.35	-9	-5
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP1	1141	3/15/94	28	41.70	58.60	150.00	-8	73.34	-9	-5
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP2	1142	3/15/94	28	46.40	52.00	169.00	-8	73.35	-9	-5
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP3	1143	3/15/94	28	31.00	47.20	124.00	-8	73.38	-9	-5
90030.0	BF SCHROEDER SITE F-REP 1	1144	3/15/94	28	722.00	992.00	1850.00	6.16	73.34	-9	-5
90030.0	BF SCHROEDER SITE F-REP 2	1145	3/15/94	28	912.00	1490.00	2410.00	8.98	73.35	-9	-5
90030.0	BF SCHROEDER SITE F-REP 3	1146	3/15/94	28	681.00	686.00	1910.00	5.70	73.38	-9	-5
93159.0	SOUTH BAY GG3 (x1)-REP 1	1147	3/15/94	28	-8	-8	14.40	-8	73.34	-9	-5
93159.0	SOUTH BAY GG3 (x1)-REP 2	1148	3/15/94	28	-8	-8	14.80	-8	73.33	-9	-5
93159.0	SOUTH BAY GG3 (x1)-REP 3	1149	3/15/94	28	-8	-8	15.30	-8	73.35	-9	-5
90043.0	CORONADO WHARF-REP 1	1156	3/15/94	28	12.10	14.10	42.60	-8	73.34	-9	-5
90043.0	CORONADO WHARF-REP 2	1157	3/15/94	28	242.00	379.00	1590.00	7.42	73.35	-9	-5
90043.0	CORONADO WHARF-REP 3	1158	3/15/94	28	141.00	250.00	686.00	5.21	73.38	-9	-5
93120.0	TIJUANA R. EST. HH2 (x1)-REP 1	1132	3/16/94	28	-8	-8	-8	-8	73.21	-9	-5
93120.0	TIJUANA R. EST. HH2 (x1)-REP 2	1133	3/16/94	28	-8	-8	-8	-8	73.21	-9	-5
93120.0	TIJUANA R. EST. HH2 (x1)-REP 3	1134	3/16/94	28	-8	-8	-8	-8	73.22	-9	-5
93121.0	TIJUANA R. EST. HH2 (x5)-REP 1	1135	3/16/94	28	-8	-8	5.57	-8	73.21	-9	-5
93121.0	TIJUANA R. EST. HH2 (x5)-REP 2	1136	3/16/94	28	-8	-8	5.83	-8	73.22	-9	-5
93121.0	TIJUANA R. EST. HH2 (x5)-REP 3	1137	3/16/94	28	-8	-8	5.68	-8	73.22	-9	-5

## PAH Analysis (ppb-ng/g) (cont.)

STANUM	STATION	IDORG	DATE	LEG	PER	PHN	PYR	TMN	PAHBATCH	SOBATCH	SODATAQA
93174.0	TIJUANA R. EST. HH3 (x2)-REP 1	1150	3/16/94	28	-8	9.47	24.80	-8	73.23	-9	-5
93174.0	TIJUANA R. EST. HH3 (x2)-REP 2	1151	3/16/94	28	-8	7.86	20.60	-8	73.34	-9	-5
93174.0	TIJUANA R. EST. HH3 (x2)-REP 3	1152	3/16/94	28	5.07	12.70	29.90	6.60	73.35	-9	-5
93166.0	NAVY ESTUARY G2 (x1)-REP 1	1153	3/16/94	28	41.90	36.70	129.00	-8	73.35	-9	-5
93166.0	NAVY ESTUARY G2 (x1)-REP 2	1154	3/16/94	28	36.80	59.10	135.00	-8	73.38	-9	-5
93166.0	NAVY ESTUARY G2 (x1)-REP 3	1155	3/16/94	28	26.80	28.50	106.00	-8	73.38	-9	-5
90037.0	STORMDRAIN EM(GRAPE ST.)-REP 1	1159	3/29/94	29	200.00	215.00	1160.00	-8	73.22	-9	-5
90037.0	STORMDRAIN EM(GRAPE ST.)-REP 2	1160	3/29/94	29	161.00	209.00	531.00	-8	73.21	-9	-5
90037.0	STORMDRAIN EM(GRAPE ST.)-REP 3	1161	3/29/94	29	203.00	546.00	970.00	-8	73.23	-9	-5
93148.0	CHANNEL-CORONADO Y1 (x2)-REP 1	1162	3/29/94	29	23.10	62.10	100.00	-8	73.34	-9	-5
93148.0	CHANNEL-CORONADO Y1 (x2)-REP 2	1163	3/29/94	29	16.40	21.60	58.60	-8	73.35	-9	-5
93148.0	CHANNEL-CORONADO Y1 (x2)-REP 3	1164	3/29/94	29	16.30	29.20	62.00	-8	73.38	-9	-5
93138.0	SHELTER ISLAND E3 (x2)-REP 1	1165	3/29/94	29	45.80	53.40	141.00	-8	73.34	-9	-5
93138.0	SHELTER ISLAND E3 (x2)-REP 2	1166	3/29/94	29	46.90	64.30	143.00	-8	73.35	-9	-5
93138.0	SHELTER ISLAND E3 (x2)-REP 3	1167	3/29/94	29	38.70	47.40	116.00	-8	73.38	-9	-5
93141.0	COMMERCIAL BASIN F3 (x1)-REP 1	1168	3/29/94	29	71.80	77.70	314.00	-8	73.34	-9	-5
93141.0	COMMERCIAL BASIN F3 (x1)-REP 2	1169	3/29/94	29	40.80	32.90	152.00	-8	73.38	-9	-5
93141.0	COMMERCIAL BASIN F3 (x1)-REP 3	1170	3/29/94	29	56.20	45.70	208.00	-8	73.39	-9	-5
90018.0	D DE LAPPE-REP 1	1183	3/29/94	29	291.00	1730.00	1690.00	10.00	73.34	-9	-5
90018.0	D DE LAPPE-REP 2	1184	3/29/94	29	70.70	195.00	493.00	-8	73.39	-9	-5
90018.0	D DE LAPPE-REP 3	1185	3/29/94	29	131.00	405.00	603.00	-8	73.38	-9	-5
90104.0	WEST BASIN ENTRANCE(71C)-REP 1	1186	3/29/94	29	26.80	42.00	121.00	-8	73.39	-9	-5
90104.0	WEST BASIN ENTRANCE(71C)-REP 2	1187	3/29/94	29	35.40	107.00	278.00	-8	73.38	-9	-5
90104.0	WEST BASIN ENTRANCE(71C)-REP 3	1188	3/29/94	29	30.00	44.00	119.00	-8	73.39	-9	-5
93107.0	MISSION BAY A3 (x1)-REP 1	1180	3/30/94	29	10.50	20.90	71.70	-8	73.24	-9	-5
93107.0	MISSION BAY A3 (x1)-REP 2	1181	3/30/94	29	12.20	27.40	87.60	-8	73.24	-9	-5
93107.0	MISSION BAY A3 (x1)-REP 3	1182	3/30/94	29	11.60	26.50	81.90	-8	73.24	-9	-5
93163.0	FUEL PIERS D2 (x2)-REP 1	1303	5/18/94	32	-9	-9	-9	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)-REP 2	1304	5/18/94	32	-9	-9	-9	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)-REP 3	1305	5/18/94	32	-9	-9	-9	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)-REP 1	1306	5/18/94	32	-9	-9	-9	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)-REP 2	1307	5/18/94	32	-9	-9	-9	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)-REP 3	1308	5/18/94	32	-9	-9	-9	-9	-9	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)-REP 1	1309	5/18/94	32	-9	-9	-9	-9	-9	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)-REP 2	1310	5/18/94	32	-9	-9	-9	-9	-9	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)-REP 3	1311	5/18/94	32	-9	-9	-9	-9	-9	-9	-9
93161.0	SUB BASE C1 (x1)-REP 1	1312	5/18/94	32	-9	-9	-9	-9	-9	-9	-9
93161.0	SUB BASE C1 (x1)-REP 2	1313	5/18/94	32	-9	-9	-9	-9	-9	-9	-9
93161.0	SUB BASE C1 (x1)-REP 3	1314	5/18/94	32	-9	-9	-9	-9	-9	-9	-9
90013.0	37 SWARTZ	1318	5/18/94	32	-9	-9	-9	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)	1319	5/18/94	32	-9	-9	-9	-9	-9	-9	-9
90052.0	32 SWARTZ	1320	5/18/94	32	-9	-9	-9	-9	-9	-9	-9

Section VI  
Grain Size and TOC Data

Grain Size and Total Organic Carbon

STANUM	STATION	IDORG	DATE	LEG	FINES	FINEBATCH	FINEDATAQC	TOC	TOCBATCH	TOCDATAQC
90006 0	23 SWARTZ	155	10/13/92	5	61.00	5	-4	1.69	5	-4
90019 0	E DE LAPPE	168	10/13/92	5	56.00	5	-4	1.91	5	-4
90021 0	K SWARTZ	170	10/13/92	5	76.00	5	-4	2.66	5	-4
90031 0	BG SCHROEDER SITE G	180	10/13/92	5	88.00	5	-4	2.79	5	-4
90038 0	CC	187	10/13/92	5	75.00	5	-3	2.20	5	-4
90071 0	BAIT BARGE	220	10/13/92	5	52.00	5	-3	0.65	5	-4
90101 0	SCRIPPS PIER	250	10/13/92	5	58.00	5	-3	0.87	5	-3
90036 0	STORM DRAIN- ROHR CHANNEL	185	10/14/92	5	64.00	5	-3	1.10	5	-3
90053 0	35 SWARTZ	202	10/14/92	5	96.00	5	-4	2.02	5	-4
90054 0	36 SWARTZ	203	10/14/92	5	67.00	5	-3	0.54	5	-3
90001 0	11 SWARTZ	150	10/27/92	6	65.00	6	-4	1.75	6	-4
90002 0	12 SWARTZ	151	10/27/92	6	66.00	6	-4	1.77	6	-4
90016 0	42 SWARTZ	165	10/27/92	6	32.00	6	-3	0.58	6	-3
90049 0	8B	198	10/27/92	6	44.00	6	-4	1.66	6	-4
90056 0	8A SWARTZ	205	10/27/92	6	18.00	6	-4	0.52	6	-4
90063 0	THOMPSON SITE 205	212	10/27/92	6	60.00	6	-4	0.66	6	-4
90003 0	14 SWARTZ	152	10/28/92	6	62.00	6	-4	2.21	6	-4
90004 0	15 SWARTZ	153	10/28/92	6	78.00	6	-4	2.56	6	-4
90010 0	31 SWARTZ	159	10/28/92	6	85.00	6	-4	1.72	6	-4
90011 0	33 SWARTZ	160	10/28/92	6	92.00	6	-3	0.59	6	-3
90013 0	37 SWARTZ	162	10/28/92	6	93.00	6	-3	0.80	6	-3
90017 0	C DELAPPE	166	10/28/92	6	71.00	6	-3	1.10	6	-3
90048 0	6 SWARTZ	197	10/28/92	6	95.00	6	-4	1.85	6	-4
90051 0	16 SWARTZ	200	10/28/92	6	66.00	6	-4	1.35	6	-4
90052 0	32 SWARTZ	201	10/28/92	6	70.00	6	-4	1.35	6	-4
90007 0	25 SWARTZ	156	11/10/92	7	67.00	7	-4	2.23	7	-4
90008 0	27 SWARTZ	157	11/10/92	7	66.00	7	-4	1.78	7	-4
90009 0	28 SWARTZ	158	11/10/92	7	64.00	7	-4	2.04	7	-4
90022 0	P SWARTZ	171	11/10/92	7	87.00	7	-4	3.10	7	-4
90026 0	SDNI-N18	175	11/10/92	7	31.00	7	-4	1.04	7	-4
90027 0	NSB-S1	176	11/10/92	7	56.00	7	-4	1.64	7	-4
90028 0	NSB-M1	177	11/10/92	7	65.00	7	-4	2.17	7	-4
90029 0	NSB-R1	178	11/10/92	7	63.00	7	-3	1.00	7	-3
90023 0	NM SANDBAG	172	11/11/92	7	27.00	7	-3	1.60	7	-3
90024 0	SDNI-N1	173	11/11/92	7	69.00	7	-4	2.04	7	-4
90025 0	SDNI-N5	174	11/11/92	7	73.00	7	-4	2.33	7	-4
90050 0	10 SWARTZ	199	11/11/92	7	81.00	7	-4	1.89	7	-4
90055 0	43 SWARTZ	204	11/11/92	7	64.00	7	-4	1.68	7	-4
90102 0	HARBOR BRIDGE 71A	256	11/11/92	7	75.00	7	-3	0.43	7	-3
90103 0	SCRIPPS TRIANGLE	257	11/11/92	7	27.00	7	-3	0.46	7	-3
90005 0	21 SWARTZ	154	1/26/93	12	96.00	12	-3	1.30	12	-3
90014 0	36 SWARTZ	163	1/26/93	12	38.00	12	-3	0.46	12	-3
90018 0	D DE LAPPE	167	1/26/93	12	41.00	12	-3	0.59	12	-3
90020 0	G DE LAPPE	169	1/26/93	12	82.00	12	-3	0.84	12	-3

Grain Size and Total Organic Carbon

STANUM	STATION	IDORG	DATE	LEG	FINES	FINEBATCH	FINEDATAQC	TOC	TOCBATCH	TOCDATAQC
90030.0	BF SCHROEDER SITE F	179	1/26/93	12	94.00	12	-3	1.40	12	-3
90032.0	BM SCHROEDER SITE M	181	1/26/93	12	84.00	12	-3	0.84	12	-3
90037.0	STORM DRAIN EM- GRAPE STREET	186	1/26/93	12	70.00	12	-3	1.50	12	-3
90039.0	CL	188	1/26/93	12	24.00	12	-3	0.24	12	-3
90043.0	CORONADO WHARF	192	1/26/93	12	36.00	12	-3	0.46	12	-3
90104.0	WEST BASIN ENTRANCE (71C) REF	275	1/26/93	12	74.00	12	-3	0.99	12	-3
90012.0	34 SWARTZ	161	1/27/93	12	86.00	12	-3	0.61	12	-3
90015.0	41 SWARTZ	164	1/27/93	12	83.00	12	-3	0.98	12	-3
90040.0	SWEETWATER MARSH SD BAY	189	1/27/93	12	51.00	12	-3	0.42	12	-3
90041.0	SOUTH SD BAY WETLANDS- OTAY R.	190	1/27/93	12	29.00	12	-3	0.25	12	-3
90057.0	5 SDG&E	206	1/27/93	12	98.00	12	-3	0.62	12	-3
90058.0	7 SDG&E	207	1/27/93	12	30.00	12	-3	0.15	12	-3
93105.0	MISSION BAY A1 (x1)	700	3/23/93	15	78.00	15	-4	2.50	15	-4
93106.0	MISSION BAY A2 (x1)	701	3/23/93	15	93.00	15	-4	2.63	15	-4
93107.0	MISSION BAY A3 (x1)	702	3/23/93	15	98.00	15	-4	2.32	15	-4
93108.0	MISSION BAY A4 (x1)	703	3/23/93	15	87.00	15	-4	1.54	15	-4
93109.0	MISSION BAY A5 (x1)	704	3/23/93	15	57.00	15	-4	1.21	15	-4
93110.0	MISSION BAY A6 (x1)	705	3/23/93	15	18.00	15	-4	0.54	15	-4
93112.0	MISSION BAY A8 (x1)	707	3/23/93	15	62.00	15	-4	1.67	15	-4
93113.0	MISSION BAY A9 (x1)	708	3/23/93	15	33.00	15	-4	0.61	15	-4
93114.0	MISSION BAY A10 (x1)	709	3/23/93	15	45.00	15	-4	1.38	15	-4
93115.0	MISSION BAY A11 (x1)	710	3/23/93	15	46.00	15	-4	1.15	15	-4
93116.0	SAN DIEGO RIVER B1 (x4)	711	3/23/93	15	77.00	15	-4	2.95	15	-4
93117.0	SAN DIEGO RIVER B2 (x2)	712	3/23/93	15	89.00	15	-4	2.35	15	-4
93111.0	MISSION BAY A7 (x3)	706	3/24/93	15	40.00	15	-4	0.92	15	-4
90002.0	12 SWARTZ	719	3/24/93	15	36.00	15	-3	0.90	15	-3
90037.0	STORMDRAIN EM- GRAPE STREET	720	3/24/93	15	74.00	15	-3	1.10	15	-3
90015.0	41 SWARTZ	721	3/24/93	15	71.00	15	-3	1.00	15	-3
90012.0	34 SWARTZ	722	3/24/93	15	87.00	15	-3	0.80	15	-3
90057.0	5 SDG&E	723	3/24/93	15	99.00	15	-3	0.94	15	-3
90052.0	32 SWARTZ	724	3/24/93	15	99.00	15	-3	0.78	15	-3
93118.0	TIJUANA R. ESTUARY HH1 (x2)	713	3/25/93	15	60.00	15	-4	1.77	15	-4
93119.0	TIJUANA R. ESTUARY HH1 (x1)	714	3/25/93	15	84.00	15	-4	1.77	15	-4
93120.0	TIJUANA R. ESTUARY HH2 (x1)	715	3/25/93	15	55.00	15	-4	1.15	15	-4
93121.0	TIJUANA R. ESTUARY HH2 (x5)	716	3/25/93	15	59.00	15	-4	0.89	15	-4
93126.0	SILVER STRAND FF7 (x2)	729	4/6/93	16	43.00	16	-4	0.80	16	-4
93127.0	SOUTH BAY GG2 (x1)	730	4/6/93	16	40.00	16	-4	0.49	16	-4
93129.0	SOUTH BAY GG4 (x1)	732	4/6/93	16	37.00	16	-4	0.51	16	-4
90014.0	38 SCHWARTZ	733	4/6/93	16	62.00	16	-3	0.19	16	-3
93131.0	CORONADO CAYS T1 (x1)	734	4/6/93	16	84.00	16	-4	1.12	16	-4
93132.0	CORONADO CAYS T3 (x1)	735	4/6/93	16	96.00	16	-4	0.20	16	-4
93133.0	CHANNEL-NAVAL BASE Z1 (x1)	736	4/6/93	16	69.00	16	-4	0.75	16	-4
93134.0	SOUTH SHORE-MOUTH BB2 (x1)	737	4/6/93	16	23.00	16	-4	0.42	16	-4
93135.0	SOUTH SHORE-MOUTH BB3 (x1)	738	4/6/93	16	52.00	16	-4	1.46	16	-4

Grain Size and Total Organic Carbon

STANUM	STATION	IDORG	DATE	LEG	FINES	FINEBATCH	FINEDATAQC	TOC	TOCBATCH	TOCDATAQC
93136 0	NORTH SHORE-MOUTH CC2 (x1)	739	4/6/93	16	61.00	16	-4	1.33	16	-4
93138 0	SHELTER ISLAND E3 (x2)	741	4/6/93	16	60.00	16	-4	0.92	16	-4
93128 0	SOUTHBAY GG5 (x1)	750	4/6/93	16	95.00	16	-4	2.28	16	-4
93122 0	SOUTH SHORE-CORONADO DD3 (x1)	725	4/7/93	16	89.00	16	-4	4.10	16	-4
93123 0	SILVER STRAND FF1 (x1)	726	4/7/93	16	24.00	16	-4	0.56	16	-4
93124 0	SILVER STRAND FF2 (x1)	727	4/7/93	16	69.00	16	-4	1.35	16	-4
93125 0	SILVER STRAND FF4 (x4)	728	4/7/93	16	17.00	16	-4	0.62	16	-4
90006 0	23 SCHWARTZ	731	4/7/93	16	51.00	16	-3	1.70	16	-3
93137 0	NORTH SHORE-MOUTH CC3 (x1)	740	4/7/93	16	45.00	16	-4	0.69	16	-4
93139 0	COMMERCIAL BASIN F1 (x1)	742	4/7/93	16	61.00	16	-4	1.23	16	-4
93140 0	COMMERCIAL BASIN F2 (x1)	743	4/7/93	16	69.00	16	-4	1.46	16	-4
93141 0	COMMERCIAL BASIN F3 (x1)	744	4/7/93	16	56.00	16	-4	0.94	16	-4
90018 0	D DE LAPPE	748	4/7/93	16	42.00	16	-3	0.28	16	-3
90030 0	BF SCHROEDER SITE F	749	4/7/93	16	92.00	16	-3	1.70	16	-3
93148 0	CHANNEL-CORONADO Y1 (x2)	751	4/7/93	16	23.00	16	-4	0.70	16	-4
93142 0	SOUTH SHORE-CORONADO DD1(X1)	752	4/7/93	16	59.00	16	-4	1.98	16	-4
93144 0	CAMPBELL SHIPYARDS N1 (x1)	754	4/20/93	17	72.06	17	-4	1.25	17	-4
93145 0	CAMPBELL SHIPYARDS N2 (x1)	755	4/20/93	17	47.94	17	-4	1.12	17	-4
93146 0	GLORIETTA BAY U2 (x1)	756	4/20/93	17	71.08	17	-4	1.78	17	-4
93147 0	GLORIETTA BAY U3 (x1)	757	4/20/93	17	56.29	17	-4	1.54	17	-4
93149 0	CHANNEL-MOUTH X1 (x1)	758	4/20/93	17	5.52	17	-4	0.17	17	-4
93150 0	CHANNEL-NAVAL BASE Z1 (x2)	759	4/20/93	17	80.94	17	-4	1.39	17	-4
93151 0	CHANNEL-SOUTH BAY AA1 (x1)	760	4/20/93	17	94.89	17	-4	1.88	17	-4
93152 0	SOUTH SHORE-MOUTH BB1 (x1)	761	4/20/93	17	7.19	17	-4	0.12	17	-4
93154 0	NORTH SHORE-MOUTH CC4 (x1)	763	4/20/93	17	32.94	17	-4	0.67	17	-4
93155 0	SOUTH SHORE-CORONADO DD2 (x1)	764	4/20/93	17	27.48	17	-4	0.84	17	-4
93156 0	NORTH SHORE-CORONADO EE1 (x1)	765	4/20/93	17	31.10	17	-4	0.63	17	-4
93157 0	NORTH SHORE-CORONADO EE2 (x1)	766	4/20/93	17	59.61	17	-4	1.67	17	-4
93158 0	SOUTH BAY GG1 (x1)	767	4/20/93	17	69.08	17	-4	1.11	17	-4
93159 0	SOUTH BAY GG3 (x1)	768	4/20/93	17	58.87	17	-4	1.19	17	-4
93160 0	CHANNEL-SOUTH BAY AA2(x1)BLIND	773	4/20/93	17	94.90	17	-4	1.84	17	-4
93143 0	FUEL PIERS D1 (x1)	753	4/21/93	17	66.79	17	-4	1.69	17	-4
93153 0	NORTH SHORE-MOUTH CC1 (x1 )	762	4/21/93	17	54.03	17	-4	1.44	17	-4
93161 0	SUB BASE C1 (x1)	774	5/4/93	18	18.10	18	-4	0.60	18	-4
93162 0	SUB BASE C3 (x1)	775	5/4/93	18	83.09	18	-4	2.04	18	-4
93163 0	FUEL PIERS D2 (x2)	776	5/4/93	18	22.81	18	-4	0.64	18	-4
93164 0	SHELTER ISLAND E1 (x1)	777	5/4/93	18	53.46	18	-4	0.78	18	-4
93165 0	NAVY ESTUARY G1 (x1)	778	5/4/93	18	91.12	18	-4	4.50	18	-4
93166 0	NAVY ESTUARY G2 (x1)	779	5/4/93	18	23.62	18	-4	1.14	18	-4
93167 0	NAVY ESTUARY G3 (x1)	780	5/4/93	18	88.50	18	-4	2.11	18	-4
93169 0	EAST BASIN I2 (x1)	782	5/4/93	18	17.46	18	-4	0.29	18	-4
93171 0	MARINE TERMINAL R1 (x1)	784	5/4/93	18	91.16	18	-4	2.98	18	-4
93172 0	SILVER STRAND FF3 (x1)	785	5/4/93	18	31.30	18	-4	0.68	18	-4
93173 0	SILVER STRAND FF6 (x1)	786	5/4/93	18	64.95	18	-4	0.89	18	-4

Grain Size and Total Organic Carbon

STANUM	STATION	IDORG	DATE	LEG	FINES	FINEBATCH	FINEDATAQC	TOC	TOCBATCH	TOCDATAQC
93168.0	WEST BASIN H2 (x1)	781	5/5/93	18	58.70	18	-4	0.99	18	-4
93170.0	CHOLLAS CREEK P1 (x2)	783	5/5/93	18	36.98	18	-4	1.24	18	-4
93174.0	TIJUANA R. ESTUARY HH3 (x2)	787	5/5/93	18	70.63	18	-4	1.83	18	-4
93175.0	TIJUANA R. ESTUARY HH3 (x3)	788	5/5/93	18	92.67	18	-4	2.03	18	-4
93176.0	MARINE TERMINAL R6 (x1) BLIND	794	5/6/93	18	51.04	18	-4	0.99	18	-4
93177.0	NAVAL SHIPYARDS O1 (x1)	795	5/26/93	19	28.88	19	-4	1.02	19	-4
93178.0	NAVAL SHIPYARDS O2 (x1)	796	5/26/93	19	55.32	19	-4	2.18	19	-4
93179.0	NAVAL SHIPYARDS O3 (x1)	797	5/26/93	19	79.01	19	-4	2.57	19	-4
93181.0	NAVAL SHIPYARDS O6 (x1)	799	5/26/93	19	89.12	19	-4	2.54	19	-4
93182.0	NAVAL SHIPYARDS O8 (x4)	800	5/26/93	19	33.32	19	-4	0.99	19	-4
93183.0	NAVAL SHIPYARDS O9 (x1)	801	5/26/93	19	83.51	19	-4	2.64	19	-4
93184.0	NAVAL SHIPYARDS O11 (x1)	802	5/26/93	19	81.41	19	-4	2.84	19	-4
93185.0	NAVAL SHIPYARDS O14 (x1)	803	5/26/93	19	21.06	19	-4	0.75	19	-4
93186.0	FUEL PIER D4 (x1)	804	5/26/93	19	35.54	19	-4	0.75	19	-4
93187.0	MARINE TERMINAL R2 (x1)	805	5/26/93	19	75.74	19	-4	1.98	19	-4
93188.0	CARRIER BASE V1 (x2)	808	5/26/93	19	40.85	19	-4	1.11	19	-4
93189.0	NAVAL SHIPYARDS O15 (x1) BLIND	814	5/26/93	19	43.17	19	-4	1.15	19	-4
90051.0	16 SWARTZ (INTERCONT. MARINA)	818	6/15/93	20	41.33	20	-4	0.99	20	-4
93192.0	INTERCONT. MARINA M1 (x2)	819	6/15/93	20	85.23	20	-4	1.35	20	-4
93193.0	INTERCONT. MARINA M1 (x1)	820	6/15/93	20	52.49	20	-4	0.77	20	-4
90037.0	STORMDRAIN EM (GRAPE ST.)-REP1	827	6/15/93	20	86.25	20	-4	1.83	20	-4
90037.0	STORMDRAIN EM (GRAPE ST.)-REP2	828	6/15/93	20	82.79	20	-4	2.19	20	-4
90037.0	STORMDRAIN EM (GRAPE ST.)-REP3	829	6/15/93	20	78.38	20	-4	1.88	20	-4
93198.0	INTERCONT. MARINA M2(x1) BLIND	833	6/15/93	20	30.12	20	-4	0.72	20	-4
90013.0	37 SWARTZ (MARINA)	815	6/16/93	20	88.21	20	-4	1.37	20	-4
93190.0	MARINA III (x1)	816	6/16/93	20	93.97	20	-4	1.22	20	-4
93191.0	MARINA III (x3)	817	6/16/93	20	96.14	20	-4	1.77	20	-4
90015.0	41 SWARTZ (GLORIETTA BAY)	821	6/16/93	20	45.97	20	-4	1.07	20	-4
93194.0	GLORIETTA BAY U1 (x1)	822	6/16/93	20	55.80	20	-4	1.14	20	-4
93195.0	GLORIETTA BAY U1 (x2)	823	6/16/93	20	48.24	20	-4	0.95	20	-4
90012.0	34 SWARTZ (C.V. YACHT BASIN)	824	6/16/93	20	80.17	20	-4	1.13	20	-4
93196.0	CHULA V. YACHT BASIN S1 (x1)	825	6/16/93	20	96.81	20	-4	1.67	20	-4
93197.0	CHULA V. YACHT BASIN S1 (x3)	826	6/16/93	20	94.23	20	-4	1.36	20	-4
90050.0	10 SWARTZ (WEST BASIN)	837	7/20/93	21	77.78	21	-4	1.70	21	-4
93199.0	WEST BASIN H1 (x1)	838	7/20/93	21	72.85	21	-4	1.60	21	-4
93200.0	WEST BASIN H1 (x4)	839	7/20/93	21	75.45	21	-4	1.07	21	-4
90053.0	35 SWARTZ (CORONADO CAYS)	843	7/20/93	21	91.85	21	-4	1.47	21	-4
93203.0	CORONADO CAYS T2 (x1)	844	7/20/93	21	95.18	21	-4	1.90	21	-4
93204.0	CORONADO CAYS T2 (x2)	845	7/20/93	21	59.85	21	-4	0.81	21	-4
90003.0	14 SWARTZ (DOWNTOWN PIERS)	846	7/20/93	21	59.57	21	-4	1.22	21	-4
93205.0	DOWNTOWN PIERS K1 (x9)	847	7/20/93	21	48.18	21	-4	1.17	21	-4
93206.0	DOWNTOWN PIERS K1 (x11)	848	7/20/93	21	56.03	21	-4	1.50	21	-4
90004.0	15 SWARTZ (G ST. PIER MARINA)	849	7/20/93	21	67.23	21	-4	1.99	21	-4
93207.0	G ST. PIER MARINA L1 (x4)	850	7/20/93	21	79.29	21	-4	7.13	21	-4



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STANUM	STATION	IDORG	DATE	LEG	FINES	FINEBATCH	FINEDATAQC	TOC	TOCBATCH	TOCDATAQC
93208 0	G ST PIER MARINA L1 (x5)	851	7/20/93	21	85.24	21	-4	3.12	21	-4
93209 0	DOWNTOWN PIERS K4 BLIND (x4)	852	7/20/93	21	54.26	21	-4	1.58	21	-4
90001 0	11 SWARTZ (EAST BASIN)	840	7/21/93	21	65.46	21	-4	1.77	21	-4
93201 0	EAST BASIN I1 (x1)	841	7/21/93	21	46.38	21	-4	1.10	21	-4
93202 0	EAST BASIN I1 (x5)	842	7/21/93	21	46.28	21	-4	1.11	21	-4
93107 0	MISSION BAY A3 (x1)-REP 1	853	7/21/93	21	93.03	21	-4	3.92	21	-4
93107 0	MISSION BAY A3 (x1)-REP 2	854	7/21/93	21	92.25	21	-4	2.98	21	-4
93107 0	MISSION BAY A3 (x1)-REP 3	855	7/21/93	21	94.34	21	-4	2.05	21	-4
93112 0	MISSION BAY A8 (x1)-REP 1	856	7/21/93	21	30.12	21	-4	0.81	21	-4
93112 0	MISSION BAY A8 (x1)-REP 2	857	7/21/93	21	37.28	21	-4	0.94	21	-4
93112 0	MISSION BAY A8 (x1)-REP 3	858	7/21/93	21	43.56	21	-4	0.91	21	-4
93108 0	MISSION BAY A4 (x1)-REP 1	859	7/21/93	21	67.04	21	-4	1.53	21	-4
93108 0	MISSION BAY A4 (x1)-REP 2	860	7/21/93	21	64.60	21	-4	1.87	21	-4
93108 0	MISSION BAY A4 (x1)-REP 3	861	7/21/93	21	65.47	21	-4	1.48	21	-4
90052 0	32 SWARTZ(SWEETWATER CH)-REP 1	875	8/3/93	22	95.75	22	-4	1.63	22	-4
93219 0	SWEETWATER CH. JJ1 (x1)-REP 2	876	8/3/93	22	60.74	22	-4	0.91	22	-4
93220 0	SWEETWATER CH. JJ1 (x8)-REP 3	877	8/3/93	22	36.99	22	-4	0.37	22	-4
90002 0	12 SWARTZ(DOWNTOWN ANCH)-REP 1	878	8/3/93	22	48.25	22	-4	1.65	22	-4
93221 0	DOWNTOWN ANCH. J1 (x1)-REP 2	879	8/3/93	22	83.50	22	-4	1.93	22	-4
93222 0	DOWNTOWN ANCH. J1 (x2)-REP 3	880	8/3/93	22	89.45	22	-4	1.92	22	-4
93180 0	NAVAL BASE/SHIPYARDS O5 (x1)	798	8/4/93	22	87.42	22	-4	3.51	22	-4
90021 0	K SWARTZ (NAVAL BASE O4)	862	8/4/93	22	69.03	22	-4	2.15	22	-4
93210 0	NAVAL BASE/SHIPYARDS O4 (x1)	863	8/4/93	22	48.75	22	-4	1.72	22	-4
93211 0	NAVAL BASE/SHIPYARDS O4 (x2)	864	8/4/93	22	70.59	22	-4	2.83	22	-4
90006 0	23 SWARTZ (NAVAL BASE O7)	865	8/4/93	22	63.34	22	-4	2.02	22	-4
93212 0	NAVAL BASE/SHIPYARDS O7 (x1)	866	8/4/93	22	32.88	22	-4	1.16	22	-4
93213 0	NAVAL BASE/SHIPYARDS O7 (x4)	867	8/4/93	22	69.06	22	-4	2.05	22	-4
90022 0	P SWARTZ (NAVAL BASE O12)	868	8/4/93	22	88.09	22	-4	3.14	22	-4
93214 0	NAVAL BASE/SHIPYARDS O12 (x3)	869	8/4/93	22	56.64	22	-4	1.52	22	-4
93215 0	NAVAL BASE/SHIPYARDS O12 (x4)	870	8/4/93	22	64.17	22	-4	1.55	22	-4
90028 0	NSB-M1 (SUB BASE C2)	871	8/4/93	22	79.41	22	-4	2.12	22	-4
93216 0	SUB BASE C2 (x1)	872	8/4/93	22	36.48	22	-4	0.90	22	-4
93217 0	SUB BASE C2 (x3)	873	8/4/93	22	72.12	22	-4	1.89	22	-4
93218 0	SUB BASE C2 (x11) BLIND	874	8/4/93	22	76.91	22	-4	1.94	22	-4
93116 0	SAN DIEGO RIVER B1 (x4)-REP 1	881	8/5/93	22	44.01	22	-4	0.99	22	-4
93116 0	SAN DIEGO RIVER B1 (x4)-REP 2	882	8/5/93	22	92.30	22	-4	2.86	22	-4
93116 0	SAN DIEGO RIVER B1 (x4)-REP 3	883	8/5/93	22	92.25	22	-4	3.07	22	-4
90007 0	25 SWARTZ (NAVAL BASE/SY O10)	887	8/17/93	23	81.62	23	-4	2.31	23	-4
93223 0	NAVAL BASE/SHIPYARD O10 (x2)	888	8/17/93	23	85.99	23	-4	2.62	23	-4
93224 0	NAVAL BASE/SHIPYARD O10(x6)	889	8/17/93	23	48.07	23	-4	0.83	23	-4
90008 0	27 SWARTZ (NAVAL BASE/SH O13)	890	8/17/93	23	59.15	23	-4	1.37	23	-4
93225 0	NAVAL BASE/SHIPYARD O13 (x1)	891	8/17/93	23	74.94	23	-4	2.08	23	-4
93226 0	NAVAL BASE/SHIPYARD O13 (x3)	892	8/17/93	23	79.38	23	-4	2.24	23	-4
90009 0	28 SWARTZ (7TH ST CHANNEL Q1)	893	8/17/93	23	23.84	23	-4	1.05	23	-4

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STANUM	STATION	IDORG	DATE	LEG	FINES	FINEBATCH	FINEDATAQC	TOC	TOCBATCH	TOCDATAQC
93227.0	SEVENTH ST CHANNEL Q1 (x5)	894	8/17/93	23	53.40	23	-4	1.83	23	-4
93228.0	SEVENTH ST CHANNEL Q1 (x6)	895	8/17/93	23	60.67	23	-4	2.31	23	-4
90010.0	31 SWARTZ (MARINE TERMINAL R3)	896	8/17/93	23	38.75	23	-4	0.88	23	-4
93229.0	MARINE TERMINAL R3 (x1)	897	8/17/93	23	69.13	23	-4	1.62	23	-4
93230.0	MARINE TERMINAL R3 (x3)	898	8/17/93	23	76.64	23	-4	2.24	23	-4
90025.0	SDNI-N5 (CARRIER BASE V2)	899	8/18/93	23	75.96	23	-4	2.19	23	-4
93231.0	CARRIER BASE V2 (x6)	1000	8/18/93	23	57.66	23	-4	1.57	23	-4
93232.0	CARRIER BASE V2 (x7)	1001	8/18/93	23	63.79	23	-4	1.68	23	-4
93132.0	CORONADO CAYS T3 (x1)	1025	1/18/94	24	90.97	24	-4	1.47	24	-4
93129.0	SOUTH BAY GG4 (x1)	1026	1/18/94	24	31.44	24	-4	0.31	24	-4
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	1027	1/18/94	24	96.05	24	-4	1.51	24	-4
93127.0	SOUTH BAY GG2 (x1)	1028	1/18/94	24	43.93	24	-4	0.67	24	-4
93139.0	COMMERCIAL BASIN F1 (x1)	1030	1/18/94	24	70.00	24	-4	1.49	24	-4
93106.0	MISSION BAY A2 (x1)	1031	1/18/94	24	96.61	24	-4	2.67	24	-4
93128.0	SOUTHBAY GG5 (x1)	1033	1/18/94	24	96.80	24	-4	1.57	24	-4
93158.0	SOUTH BAY GG1 (x1) REP 1	1035	1/18/94	24	53.67	24	-4	1.02	24	-4
93158.0	SOUTH BAY GG1 (x1) REP 2	1036	1/18/94	24	62.76	24	-4	1.07	24	-4
93158.0	SOUTH BAY GG1 (x1) REP 3	1037	1/18/94	24	51.74	24	-4	0.77	24	-4
93122.0	S.S.- CORONADO DD3 (x1) REP 1	1013	1/19/94	24	65.52	24	-4	1.79	24	-4
93122.0	S.S.- CORONADO DD3 (x1) REP 2	1014	1/19/94	24	44.87	24	-4	0.73	24	-4
93122.0	S.S.- CORONADO DD3 (x1) REP 3	1015	1/19/94	24	51.40	24	-4	1.00	24	-4
93125.0	SILVER STRAND FF4 (x4) REP 1	1016	1/19/94	24	22.68	24	-4	0.53	24	-4
93125.0	SILVER STRAND FF4 (x4) REP 2	1017	1/19/94	24	15.44	24	-4	0.25	24	-4
93125.0	SILVER STRAND FF4 (x4) REP 3	1018	1/19/94	24	19.05	24	-4	0.43	24	-4
90057.0	5 SDG&E REP 1	1019	1/19/94	24	98.45	24	-4	1.47	24	-4
90057.0	5 SDG&E REP 2	1020	1/19/94	24	97.80	24	-4	1.48	24	-4
90057.0	5 SDG&E REP 3	1021	1/19/94	24	97.22	24	-4	1.53	24	-4
93117.0	SAN DIEGO RIVER B2 (x2)	1029	1/19/94	24	92.05	24	-4	2.90	24	-4
93120.0	TIJUANA R. ESTUARY HH2 (x1)	1032	1/19/94	24	21.82	24	-4	0.76	24	-4
93121.0	TIJUANA R. ESTUARY HH2 (x5)	1034	1/19/94	24	69.31	24	-4	1.45	24	-4
90036.0	STORMDRAIN EA (ROHR CH.) REP 1	1022	1/20/94	24	24.00	24	-4	1.48	24	-4
90036.0	STORMDRAIN EA (ROHR CH.) REP 2	1023	1/20/94	24	26.84	24	-4	0.65	24	-4
90036.0	STORMDRAIN EA (ROHR CH.) REP 3	1024	1/20/94	24	25.65	24	-4	0.26	24	-4
90020.0	G DE LAPPE-REP 1	1104	3/1/94	27	82.53	27	-4	2.75	27	-4
90020.0	G DE LAPPE-REP 2	1105	3/1/94	27	84.43	27	-4	2.61	27	-4
90020.0	G DE LAPPE-REP 3	1106	3/1/94	27	82.37	27	-4	2.53	27	-4
90022.0	P SWARTZ-REP 1	1107	3/1/94	27	84.62	27	-4	2.77	27	-4
90022.0	P SWARTZ-REP 2	1108	3/1/94	27	80.73	27	-4	2.71	27	-4
90022.0	P SWARTZ-REP 3	1109	3/1/94	27	87.48	27	-4	2.86	27	-4
90029.0	NSB-R1-REP 1	1113	3/1/94	27	22.01	27	-4	0.50	27	-4
90029.0	NSB-R1-REP 2	1114	3/1/94	27	13.52	27	-4	0.38	27	-4
90029.0	NSB-R1-REP 3	1115	3/1/94	27	38.22	27	-4	1.19	27	-4
90024.0	SDNI-N1-REP 1	1116	3/1/94	27	69.70	27	-4	1.86	27	-4
90024.0	SDNI-N1-REP 2	1117	3/1/94	27	58.28	27	-4	1.59	27	-4

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STANUM	STATION	IDORG	DATE	LEG	FINES	FINEBATCH	FINEDATAQC	TOC	TOCBATCH	TOCDATAQC
90024.0	SDNINT-REP 3	1118	3/1/94	27	58.32	27	-4	1.66	27	-4
93185.0	NAVAL SHIPYARDS O14 (x1)	1125	3/1/94	27	47.53	27	-4	0.88	27	-4
93163.0	FUEL PIERS D2 (x2)	1126	3/1/94	27	11.37	27	-4	0.51	27	-4
93161.0	SUB BASE C1 (x1)	1127	3/1/94	27	43.63	27	-4	1.30	27	-4
93171.0	MARINE TERMINAL R1 (x1)	1128	3/1/94	27	94.30	27	-4	2.54	27	-4
90013.0	37 SWARTZ-REP 1	1098	3/2/94	27	94.67	27	-4	1.60	27	-4
90013.0	37 SWARTZ-REP 2	1099	3/2/94	27	93.61	27	-4	1.60	27	-4
90013.0	37 SWARTZ-REP 3	1100	3/2/94	27	92.65	27	-4	1.72	27	-4
93106.0	MISSION BAY A2 (x1)-REP 1	1101	3/2/94	27	95.15	27	-4	2.61	27	-4
93106.0	MISSION BAY A2 (x1)-REP 2	1102	3/2/94	27	94.52	27	-4	2.52	27	-4
93106.0	MISSION BAY A2 (x1)-REP 3	1103	3/2/94	27	92.68	27	-4	2.29	27	-4
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 1	1110	3/2/94	27	93.71	27	-4	2.61	27	-4
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 2	1111	3/2/94	27	92.52	27	-4	3.04	27	-4
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 3	1112	3/2/94	27	94.34	27	-4	2.87	27	-4
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 1	1119	3/2/94	27	51.95	27	-4	2.58	27	-4
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 2	1120	3/2/94	27	61.76	27	-4	3.04	27	-4
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 3	1121	3/2/94	27	46.68	27	-4	2.13	27	-4
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 1	1122	3/2/94	27	79.81	27	-4	2.94	27	-4
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 2	1123	3/2/94	27	88.89	27	-4	2.81	27	-4
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 3	1124	3/2/94	27	88.24	27	-4	2.71	27	-4
90052.0	32 SWARTZ(SWEETWATER CH)-REP 1	1129	3/15/94	28	89.89	28	-4	2.13	28	-4
90052.0	32 SWARTZ(SWEETWATER CH)-REP 2	1130	3/15/94	28	91.85	28	-4	2.26	28	-4
90052.0	32 SWARTZ(SWEETWATER CH)-REP 3	1131	3/15/94	28	93.34	28	-4	1.88	28	-4
93131.0	CORONADO CAYS T1 (x1)-REP 1	1138	3/15/94	28	73.81	28	-4	0.18	28	-4
93131.0	CORONADO CAYS T1 (x1)-REP 2	1139	3/15/94	28	74.16	28	-4	1.21	28	-4
93131.0	CORONADO CAYS T1 (x1)-REP 3	1140	3/15/94	28	80.19	28	-4	1.30	28	-4
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP1	1141	3/15/94	28	95.35	28	-4	1.96	28	-4
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP2	1142	3/15/94	28	95.37	28	-4	1.75	28	-4
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP3	1143	3/15/94	28	90.37	28	-4	2.09	28	-4
90030.0	BF SCHROEDER SITE F-REP 1	1144	3/15/94	28	93.76	28	-4	3.93	28	-4
90030.0	BF SCHROEDER SITE F-REP 2	1145	3/15/94	28	96.04	28	-4	3.28	28	-4
90030.0	BF SCHROEDER SITE F-REP 3	1146	3/15/94	28	91.74	28	-4	2.63	28	-4
93159.0	SOUTH BAY GG3 (x1)-REP 1	1147	3/15/94	28	30.97	28	-4	0.64	28	-4
93159.0	SOUTH BAY GG3 (x1)-REP 2	1148	3/15/94	28	29.10	28	-4	0.42	28	-4
93159.0	SOUTH BAY GG3 (x1)-REP 3	1149	3/15/94	28	32.48	28	-4	0.57	28	-4
90043.0	CORONADO WHARF-REP 1	1156	3/15/94	28	20.77	28	-4	0.47	28	-4
90043.0	CORONADO WHARF-REP 2	1157	3/15/94	28	77.38	28	-4	2.91	28	-4
90043.0	CORONADO WHARF-REP 3	1158	3/15/94	28	52.11	28	-4	1.96	28	-4
93120.0	TIJUANA R. EST. HH2 (x1)-REP 1	1132	3/16/94	28	9.60	28	-4	0.33	28	-4
93120.0	TIJUANA R. EST. HH2 (x1)-REP 2	1133	3/16/94	28	10.05	28	-4	0.28	28	-4
93120.0	TIJUANA R. EST. HH2 (x1)-REP 3	1134	3/16/94	28	30.92	28	-4	0.90	28	-4
93121.0	TIJUANA R. EST. HH2 (x5)-REP 1	1135	3/16/94	28	28.28	28	-4	0.44	28	-4
93121.0	TIJUANA R. EST. HH2 (x5)-REP 2	1136	3/16/94	28	24.77	28	-4	0.48	28	-4
93121.0	TIJUANA R. EST. HH2 (x5)-REP 3	1137	3/16/94	28	30.70	28	-4	0.42	28	-4

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STANUM	STATION	IDORG	DATE	LEG	FINES	FINEBATCH	FINEDATAQC	TOC	TOCBATCH	TOCDATAQC
93174.0	TIJUANA R. EST. HH3 (x2)-REP 1	1150	3/16/94	28	83.35	28	-4	1.91	28	-4
93174.0	TIJUANA R. EST. HH3 (x2)-REP 2	1151	3/16/94	28	78.96	28	-4	1.52	28	-4
93174.0	TIJUANA R. EST. HH3 (x2)-REP 3	1152	3/16/94	28	91.38	28	-4	1.77	28	-4
93166.0	NAVY ESTUARY G2 (x1)-REP 1	1153	3/16/94	28	94.49	28	-4	2.89	28	-4
93166.0	NAVY ESTUARY G2 (x1)-REP 2	1154	3/16/94	28	91.23	28	-4	2.44	28	-4
93166.0	NAVY ESTUARY G2 (x1)-REP 3	1155	3/16/94	28	91.72	28	-4	1.86	28	-4
90037.0	STORMDRAIN EM(GRAPE ST.)-REP 1	1159	3/29/94	29	82.36	29	-4	1.86	29	-4
90037.0	STORMDRAIN EM(GRAPE ST.)-REP 2	1160	3/29/94	29	82.44	29	-4	1.86	29	-4
90037.0	STORMDRAIN EM(GRAPE ST.)-REP 3	1161	3/29/94	29	64.02	29	-4	2.22	29	-4
93148.0	CHANNEL-CORONADO Y1 (x2)-REP 1	1162	3/29/94	29	29.63	29	-4	0.62	29	-4
93148.0	CHANNEL-CORONADO Y1 (x2)-REP 2	1163	3/29/94	29	22.19	29	-4	0.38	29	-4
93148.0	CHANNEL-CORONADO Y1 (x2)-REP 3	1164	3/29/94	29	26.85	29	-4	0.55	29	-4
93138.0	SHELTER ISLAND E3 (x2)-REP 1	1165	3/29/94	29	70.66	29	-4	1.03	29	-4
93138.0	SHELTER ISLAND E3 (x2)-REP 2	1166	3/29/94	29	68.20	29	-4	1.09	29	-4
93138.0	SHELTER ISLAND E3 (x2)-REP 3	1167	3/29/94	29	61.27	29	-4	0.91	29	-4
93141.0	COMMERCIAL BASIN F3 (x1)-REP 1	1168	3/29/94	29	57.70	29	-4	1.26	29	-4
93141.0	COMMERCIAL BASIN F3 (x1)-REP 2	1169	3/29/94	29	47.83	29	-4	1.00	29	-4
93141.0	COMMERCIAL BASIN F3 (x1)-REP 3	1170	3/29/94	29	70.09	29	-4	1.20	29	-4
90018.0	D DE LAPPE-REP 1	1183	3/29/94	29	46.21	29	-4	1.18	29	-4
90018.0	D DE LAPPE-REP 2	1184	3/29/94	29	27.39	29	-4	0.51	29	-4
90018.0	D DE LAPPE-REP 3	1185	3/29/94	29	41.11	29	-4	0.67	29	-4
90104.0	WEST BASIN ENTRANCE(71C)-REP 1	1186	3/29/94	29	44.08	29	-4	0.87	29	-4
90104.0	WEST BASIN ENTRANCE(71C)-REP 2	1187	3/29/94	29	53.00	29	-4	1.02	29	-4
90104.0	WEST BASIN ENTRANCE(71C)-REP 3	1188	3/29/94	29	49.72	29	-4	1.16	29	-4
93107.0	MISSION BAY A3 (x1)-REP 1	1180	3/30/94	29	99.29	29	-4	2.65	29	-4
93107.0	MISSION BAY A3 (x1)-REP 2	1181	3/30/94	29	99.58	29	-4	2.46	29	-4
93107.0	MISSION BAY A3 (x1)-REP 3	1182	3/30/94	29	99.49	29	-4	2.27	29	-4
93163.0	FUEL PIERS D2 (x2)-REP 1	1303	5/18/94	32	37.35	32	-4	1.04	32	-4
93163.0	FUEL PIERS D2 (x2)-REP 2	1304	5/18/94	32	36.95	32	-4	0.88	32	-4
93163.0	FUEL PIERS D2 (x2)-REP 3	1305	5/18/94	32	43.25	32	-4	0.80	32	-4
93171.0	MARINE TERMINAL R1 (x1)-REP 1	1306	5/18/94	32	78.49	32	-4	1.81	32	-4
93171.0	MARINE TERMINAL R1 (x1)-REP 2	1307	5/18/94	32	72.37	32	-4	1.62	32	-4
93171.0	MARINE TERMINAL R1 (x1)-REP 3	1308	5/18/94	32	86.29	32	-4	2.07	32	-4
93185.0	NAVAL SHIPYARDS O14 (x1)-REP 1	1309	5/18/94	32	44.11	32	-4	0.74	32	-4
93185.0	NAVAL SHIPYARDS O14 (x1)-REP 2	1310	5/18/94	32	74.66	32	-4	1.24	32	-4
93185.0	NAVAL SHIPYARDS O14 (x1)-REP 3	1311	5/18/94	32	58.66	32	-4	1.00	32	-4
93161.0	SUB BASE C1 (x1)-REP 1	1312	5/18/94	32	35.30	32	-4	1.04	32	-4
93161.0	SUB BASE C1 (x1)-REP 2	1313	5/18/94	32	74.17	32	-4	1.73	32	-4
93161.0	SUB BASE C1 (x1)-REP 3	1314	5/18/94	32	73.04	32	-4	1.75	32	-4
90013.0	37 SWARTZ	1318	5/18/94	32	92.90	32	-4	1.45	32	-4
93106.0	MISSION BAY A2 (x1)	1319	5/18/94	32	95.26	32	-4	2.58	32	-4
90052.0	32 SWARTZ	1320	5/18/94	32	95.36	32	-4	1.93	32	-4

**Section VIII**

**Chemistry, Summations, and Quotients**

## CHEMICAL SUMMATIONS AND QUOTIENTS

In the following section, chemical summations (total chlordane, total DDT, total PCBs, LMW PAHs, HMW PAHs, total PAHs) and quotients (ERM and PEL) are presented. Beginning with samples collected during Leg 20 (June, 1993), additional analytes were added to the standard BPTCP synthetic organic analyte list. These additions were made to enable the data set to be more comparable with other monitoring programs. This included addition of analytes used for some of the chemical summations of the PAHs and total chlordane. Resulting summations may be conservative for the PAH and chlordane data for samples taken before Leg 20, because some of the constituents could not be included.

For purposes of these summations, samples which were found to have chemical concentrations less than the method detection limit (-8 in Appendix A) were adjusted to a value of one-half of the method detection limits given in the methods description. The summations were calculated as follows:

### Total chlordane

Leg<15 (TTL\_CHLR) =  $\Sigma$  ([cis-Chlordane] [trans-Nonachlor])  
Leg=15 (TTL\_CHLR) =  $\Sigma$  ([cis-Chlordane] [trans-Chlordane])  
Leg>15 (TTL\_CHLR) =  $\Sigma$  ([cis-Chlordane] [trans-Chlordane]  
[cis-Nonachlor] [trans-Nonachlor] [Oxychlordane])

### Total DDT

All Legs (TTL\_DDT) =  $\Sigma$  ([o',p' DDD] [p',p' DDD] [o',p' DDE]  
[p',p' DDE] [o',p' DDT] [p',p' DDT])

### Total PCB

All Legs (TTL\_PCB) =  $\Sigma$  ([PCB8] [PCB18] [PCB28] [PCB44] [PCB52]  
[PCB66] [PCB101] [PCB105] [PCB118] [PCB128] [PCB138]  
[PCB153] [PCB170] [PCB180] [PCB187] [PCB195] [PCB206]  
[PCB209])

### Low Molecular Weight PAHs

Leg<16 (LMW\_PAH) =  $\Sigma$  ([ACE] [ANT] [BPH] [DMN] [FLU]  
[MNP1] [MPH1] [PHN])

Leg $\geq$ 16 (LMW\_PAH) =  $\Sigma$  ([ACE] [ACY] [ANT] [BPH] [DMN] [FLU]  
[MNP1] [MNP2] [MPH1] [NPH] [PHN] [TMN])

### High Molecular Weight PAHs

Leg<16 (HMW\_PAH) =  $\Sigma$  ([BAA] [BAP] [BEP] [CHR] [DBA]  
[FLA] [PER] [PYR])

Leg $\geq$ 16 (HMW\_PAH) =  $\Sigma$  ([BAA] [BAP] [BBF] [BKF] [BGP] [BEP]  
[CHR] [DBA] [FLA] [IND] [PER] [PYR])

### Total PAHs

All legs (TTL\_PAH) =  $\Sigma$  ([LMW\_PAH] [HMW\_PAH])

ERM Quotients and PEL Quotients were calculated using summations of the individual chemicals for which ERMs and PELs have been derived (Table 5). Chemical concentrations are divided by their respective ERM or PEL values to obtain a specific individual

chemical quotient (example 1). A value greater than one indicates the chemical concentration in that sample exceeded its respective ERM or PEL. A value of five would indicate the chemical was five times higher than the ERM or PEL in that sample.

example - sample IDORG #199 Copper concentration= 170 mg/g  
PEL for copper= 108.2

$$\text{CopperQ} = (170 \text{ mg/g}) / (108.2 \text{ mg/g}) = 1.57$$

Summations and averaging of the individual chemical quotients were calculated to give summary ERM Quotients (ERMQ) and PEL Quotients (PELQ). Each quotient summation is divided by the number of analytes used in the summation (Table 5) to yield an average summary quotient.

#### Summary ERM Quotient

$$\begin{aligned} \text{ERMQ} = & ((\text{ANTIMONYQ} + \text{ARSENICQ} + \text{CADMIUMQ} + \text{CHROMIUMQ} \\ & + \text{COPPERQ} + \text{LEADQ} + \text{MERCURYQ} + \text{SILVERQ} + \text{ZINCQ} + \\ & \text{TTL\_DDTQ} + \text{TTL\_CHLRQ} + \text{DIELDRINQ} + \text{ENDRINQ} + \text{TTL\_PCBQ} \\ & + \text{LMW\_PAHQ} + \text{HMW\_PAHQ}) / 16) \end{aligned}$$

#### Summary PEL Quotient

$$\begin{aligned} \text{PELQ} = & ((\text{ARSENICQ} + \text{CADMIUMQ} + \text{CHROMIUMQ} + \text{COPPERQ} \\ & + \text{LEADQ} + \text{MERCURYQ} + \text{SILVERQ} + \text{ZINCQ} + \text{TTL\_DDTQ} + \\ & \text{TTL\_CHLRQ} + \text{DIELDRINQ} + \text{LINDANEQ} + \text{TTL\_PCBQ} + \text{LMW\_PAHQ} \\ & + \text{HMW\_PAHQ}) / 15) \end{aligned}$$

Chemistry Summations and Quotients

STANUM	STATION	IDORG	DATE	LEG	TTL_CHLR	TTL_DDT	TTL_PCB	LMW_PAH	HMW_PAH	TTL_PAH	ERMQ	PELQ
90006 0	23 SWARTZ	155	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9
90019 0	E DE LAPPE	168	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9
90021 0	K SWARTZ	170	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9
90031 0	BG SCHROEDER SITE G	180	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9
90038 0	CC	187	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9
90071 0	BAIT BARGE	220	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9
90101 0	SCRIPPS PIER	250	10/13/92	5	-9	-9	-9	-9	-9	-9	-9	-9
90036 0	STORM DRAIN- ROHR CHANNEL	185	10/14/92	5	0.500	6.30	51.450	69.80	630.30	700.10	0.162	0.253
90053 0	35 SWARTZ	202	10/14/92	5	-9	-9	-9	-9	-9	-9	-9	-9
90054 0	36 SWARTZ	203	10/14/92	5	-9	-9	-9	-9	-9	-9	-9	-9
90001 0	11 SWARTZ	150	10/27/92	6	3.400	10.30	357.650	195.10	1587.10	1782.20	0.434	0.610
90002 0	12 SWARTZ	151	10/27/92	6	-9	-9	-9	-9	-9	-9	-9	-9
90016 0	42 SWARTZ	165	10/27/92	6	0.500	3.70	21.400	142.30	922.80	1065.10	0.136	0.212
90049 0	8B	198	10/27/92	6	0.500	4.30	19.900	148.40	1402.40	1550.80	0.141	0.222
90056 0	8A SWARTZ	205	10/27/92	6	0.500	2.90	5.850	52.10	317.10	369.20	0.063	0.117
90063 0	THOMPSON SITE 205	212	10/27/92	6	0.500	3.80	4.500	28.60	79.70	108.30	0.071	0.121
90003 0	14 SWARTZ	152	10/28/92	6	1.900	13.80	82.250	2752.70	22497.00	25249.70	0.520	0.814
90004 0	15 SWARTZ	153	10/28/92	6	2.300	24.70	90.900	629.00	6795.00	7424.00	0.444	0.643
90010 0	31 SWARTZ	159	10/28/92	6	-9	-9	-9	-9	-9	-9	-9	-9
90011 0	33 SWARTZ	160	10/28/92	6	0.500	4.40	15.850	41.00	346.50	387.50	0.365	0.499
90013 0	37 SWARTZ	162	10/28/92	6	0.500	3.60	35.000	47.00	393.20	440.20	0.227	0.333
90017 0	C DELAPPE	166	10/28/92	6	16.300	31.10	162.450	16820.70	44061.00	60881.70	1.183	1.943
90048 0	6 SWARTZ	197	10/28/92	6	1.300	7.50	46.650	172.40	1226.60	1399.00	0.403	0.561
90051 0	16 SWARTZ	200	10/28/92	6	0.500	4.70	31.850	100.00	1056.40	1156.40	0.227	0.346
90052 0	32 SWARTZ	201	10/28/92	6	-9	-9	-9	-9	-9	-9	-9	-9
90007 0	25 SWARTZ	156	11/10/92	7	2.500	16.60	388.450	631.20	7644.00	8275.20	0.820	1.088
90008 0	27 SWARTZ	157	11/10/92	7	1.800	5.50	68.100	672.20	10377.00	11049.20	0.333	0.564
90009 0	28 SWARTZ	158	11/10/92	7	32.500	290.90	489.000	428.10	7555.00	7983.10	1.570	1.839
90022 0	P SWARTZ	171	11/10/92	7	3.100	11.70	201.350	2515.50	28022.00	30537.50	0.771	1.207
90026 0	SDNI-N18	175	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9
90027 0	NSB-S1	176	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9
90028 0	NSB-M1	177	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9
90029 0	NSB-R1	178	11/10/92	7	-9	-9	-9	-9	-9	-9	-9	-9
90023 0	NM SANDBAG	172	11/11/92	7	0.500	5.00	34.050	215.20	1848.80	2064.00	0.173	0.302
90024 0	SDNI-N1	173	11/11/92	7	1.300	5.20	69.850	608.00	5520.00	6128.00	0.323	0.506
90025 0	SDNI-N5	174	11/11/92	7	0.500	4.60	50.700	443.10	3102.80	3545.90	0.295	0.489
90050 0	10 SWARTZ	199	11/11/92	7	0.500	5.40	62.600	65.90	688.60	754.50	0.240	0.416
90055 0	43 SWARTZ	204	11/11/92	7	1.400	5.80	53.600	159.10	2621.40	2780.50	0.238	0.372
90102 0	HARBOR BRIDGE 71A	256	11/11/92	7	0.500	4.90	20.400	95.50	1014.20	1109.70	0.149	0.243
90103 0	SCRIPPS TRIANGLE	257	11/11/92	7	-9	-9	-9	-9	-9	-9	-9	-9
90005 0	21 SWARTZ	154	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9
90014 0	38 SWARTZ	163	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9
90018 0	D DE LAPPE	167	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9
90020 0	G DE LAPPE	169	1/26/93	12	2.300	12.70	493.950	1750.30	20210.00	21960.30	0.964	1.255







Chemistry Summations and Quotients

STANUM	STATION	IDORG	DATE	LEG	TTL_CHLR	TTL_DDT	TTL_PCB	LMW_PAH	HMW_PAH	TTL_PAH	ERMQ	PELQ
93168.0	WEST BASIN H2 (x1)	781	5/5/93	18	-9	-9	-9	-9	-9	-9	-9	-9
93170.0	CHOLLAS CREEK P1 (x2)	783	5/5/93	18	-9	-9	-9	-9	-9	-9	-9	-9
93174.0	TIJUANA R. ESTUARY HH3 (x2)	787	5/5/93	18	-9	100.90	7.800	1408.00	135.90	1543.90	-9	-9
93175.0	TIJUANA R. ESTUARY HH3 (x3)	788	5/5/93	18	-9	221.25	17.300	548.35	161.00	709.35	-9	-9
93176.0	MARINE TERMINAL R6 (x1) BLIND	794	5/6/93	18	-9	-9	-9	-9	-9	-9	-9	-9
93177.0	NAVAL SHIPYARDS O1 (x1)	795	5/26/93	19	13.351	7.74	47.252	10117.44	26069.00	36186.44	0.694	1.204
93178.0	NAVAL SHIPYARDS O2 (x1)	796	5/26/93	19	12.280	29.74	340.090	2316.62	17232.00	19548.62	0.647	0.936
93179.0	NAVAL SHIPYARDS O3 (x1)	797	5/26/93	19	12.310	19.36	391.640	3393.08	23044.00	26437.08	1.056	1.534
93181.0	NAVAL SHIPYARDS O6 (x1)	799	5/26/93	19	21.500	18.83	191.802	1176.40	11420.00	12596.40	0.920	1.382
93182.0	NAVAL SHIPYARDS O8 (x4)	800	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9
93183.0	NAVAL SHIPYARDS O9 (x1)	801	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9
93184.0	NAVAL SHIPYARDS O11 (x1)	802	5/26/93	19	13.920	82.34	343.290	2747.70	29365.00	32112.70	1.226	1.774
93185.0	NAVAL SHIPYARDS O14 (x1)	803	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9
93186.0	FUEL PIER D4 (x1)	804	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9
93187.0	MARINE TERMINAL R2 (x1)	805	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9
93188.0	CARRIER BASE V1 (x2)	806	5/26/93	19	2.609	4.98	46.651	344.80	2839.80	3184.60	0.220	0.349
93189.0	NAVAL SHIPYARDS O15 (x1) BLIND	814	5/26/93	19	-9	-9	-9	-9	-9	-9	-9	-9
90051.0	16 SWARTZ (INTERCONT. MARINA)	818	6/15/93	20	4.067	8.72	37.295	67.08	1102.00	1169.08	0.190	0.301
93192.0	INTERCONT. MARINA M1 (x2)	819	6/15/93	20	3.070	6.05	691.480	141.45	2287.70	2429.15	0.462	0.607
93193.0	INTERCONT. MARINA M1 (x1)	820	6/15/93	20	5.620	7.97	41.447	97.55	1559.00	1656.55	0.218	0.342
90037.0	STORMDRAIN EM (GRAPE ST.)-REP1	827	6/15/93	20	11.390	23.24	144.790	1917.84	15518.00	17435.84	0.530	0.792
90037.0	STORMDRAIN EM (GRAPE ST.)-REP2	828	6/15/93	20	12.830	26.41	121.820	779.02	6145.00	6924.02	0.475	0.704
90037.0	STORMDRAIN EM (GRAPE ST.)-REP3	829	6/15/93	20	16.900	22.49	192.850	697.69	6274.00	6971.69	0.510	0.740
93198.0	INTERCONT. MARINA M2(x1) BLIND	833	6/15/93	20	2.430	4.58	22.397	60.18	890.50	950.68	0.144	0.235
90013.0	37 SWARTZ (MARINA)	815	6/16/93	20	1.250	4.91	50.477	50.18	675.90	726.08	0.217	0.347
93190.0	MARINA II1 (x1)	816	6/16/93	20	1.250	4.99	50.905	53.54	780.10	833.64	0.219	0.356
93191.0	MARINA II1 (x3)	817	6/16/93	20	4.264	7.59	57.361	75.90	1246.30	1322.20	0.282	0.444
90015.0	41 SWARTZ (GLORIETTA BAY)	821	6/16/93	20	1.250	6.25	50.932	91.90	881.90	973.80	0.243	0.385
93194.0	GLORIETTA BAY U1 (x1)	822	6/16/93	20	1.863	4.96	51.198	62.91	883.40	946.31	0.235	0.375
93195.0	GLORIETTA BAY U1 (x2)	823	6/16/93	20	4.014	4.75	58.159	64.66	1137.80	1202.46	0.252	0.387
90012.0	34 SWARTZ (C.V. YACHT BASIN)	824	6/16/93	20	1.250	5.28	12.492	35.03	358.56	393.59	0.135	0.243
93196.0	CHULA V. YACHT BASIN S1 (x1)	825	6/16/93	20	1.517	9.13	31.662	45.78	496.71	542.49	0.236	0.426
93197.0	CHULA V. YACHT BASIN S1 (x3)	826	6/16/93	20	1.250	7.89	21.278	41.33	502.22	543.55	0.177	0.308
90050.0	10 SWARTZ (WEST BASIN)	837	7/20/93	21	3.398	7.46	86.779	72.56	1050.80	1123.36	0.267	0.426
93199.0	WEST BASIN H1 (x1)	838	7/20/93	21	6.020	7.57	93.530	131.78	1571.10	1702.88	0.311	0.498
93200.0	WEST BASIN H1 (x4)	839	7/20/93	21	2.323	5.81	52.432	61.71	1076.20	1137.91	0.223	0.366
90053.0	35 SWARTZ (CORONADO CAYS)	843	7/20/93	21	1.250	4.23	16.713	42.13	379.76	421.89	0.180	0.292
93203.0	CORONADO CAYS T2 (x1)	844	7/20/93	21	1.250	5.16	17.738	54.96	666.69	721.65	0.213	0.356
93204.0	CORONADO CAYS T2 (x2)	845	7/20/93	21	1.250	4.10	13.598	44.73	432.40	477.13	0.140	0.234
90003.0	14 SWARTZ (DOWNTOWN PIERS)	846	7/20/93	21	4.669	13.23	63.340	562.80	5412.20	5975.00	0.314	0.483
93205.0	DOWNTOWN PIERS K1 (x9)	847	7/20/93	21	1.604	12.62	65.851	3010.84	8543.00	11553.84	0.329	0.552
93206.0	DOWNTOWN PIERS K1 (x11)	848	7/20/93	21	4.831	16.30	69.219	27158.17	21253.00	48411.17	1.042	1.956
90004.0	15 SWARTZ (G ST. PIER MARINA)	849	7/20/93	21	7.100	17.96	123.830	697.75	10713.00	11410.75	0.494	0.736
93207.0	G ST. PIER MARINA L1 (x4)	850	7/20/93	21	3.749	34.51	156.700	556.48	7280.00	7836.48	0.454	0.674

Chemistry Summations and Quotients

STANUM	STATION	IDORG	DATE	LEG	TTL_CHLR	TTL_DDT	TTL_PCB	LMW_PAH	HMW_PAH	TTL_PAH	ERMQ	PELQ
93208 0	G ST. PIER MARINA L1 (x5)	851	7/20/93	21	17.310	25.85	277.810	1191.60	16377.00	17568.60	0.728	1.047
93209 0	DOWNTOWN PIERS K4 BLIND (x4)	852	7/20/93	21	5.550	12.42	79.591	20197.37	16423.00	36620.37	0.792	1.508
90001 0	11 SWARTZ (EAST BASIN)	840	7/21/93	21	5.880	11.98	453.265	439.80	4189.20	4629.00	0.504	0.717
93201 0	EAST BASIN I1 (x1)	841	7/21/93	21	4.393	6.62	171.630	129.36	1665.50	1794.86	0.326	0.505
93202 0	EAST BASIN I1 (x5)	842	7/21/93	21	3.382	7.09	110.101	79.37	1381.30	1460.67	0.249	0.376
93107 0	MISSION BAY A3 (x1)-REP 1	853	7/21/93	21	12.290	11.78	17.004	129.98	744.90	874.88	0.311	0.429
93107 0	MISSION BAY A3 (x1)-REP 2	854	7/21/93	21	16.830	12.80	19.595	61.72	626.18	687.90	0.364	0.483
93107 0	MISSION BAY A3 (x1)-REP 3	855	7/21/93	21	34.360	18.32	20.107	61.02	730.60	791.62	0.535	0.724
93112 0	MISSION BAY A8 (x1)-REP 1	856	7/21/93	21	1.250	4.07	4.500	30.00	114.67	144.67	0.065	0.116
93112 0	MISSION BAY A8 (x1)-REP 2	857	7/21/93	21	1.250	5.81	5.668	30.00	136.97	166.97	0.082	0.134
93112 0	MISSION BAY A8 (x1)-REP 3	858	7/21/93	21	1.250	4.93	5.587	33.71	151.00	184.71	0.089	0.145
93108 0	MISSION BAY A4 (x1)-REP 1	859	7/21/93	21	3.031	4.68	5.137	33.35	191.87	225.22	0.128	0.193
93108 0	MISSION BAY A4 (x1)-REP 2	860	7/21/93	21	1.814	3.48	4.500	64.10	218.65	282.75	0.107	0.170
93108 0	MISSION BAY A4 (x1)-REP 3	861	7/21/93	21	3.171	4.19	4.500	30.00	152.54	182.54	0.131	0.195
90052 0	32 SWARTZ(SWEETWATER CH)-REP 1	875	8/3/93	22	10.100	21.60	12.920	51.21	721.88	773.09	0.271	0.393
93219 0	SWEETWATER CH. JJ1 (x1)-REP 2	876	8/3/93	22	1.250	4.90	5.498	66.80	401.40	468.20	0.115	0.188
93220 0	SWEETWATER CH. JJ1 (x8)-REP 3	877	8/3/93	22	1.250	3.25	5.062	30.00	180.04	210.04	0.088	0.150
90002 0	12 SWARTZ(DOWNTOWN ANCH)-REP 1	878	8/3/93	22	146.302	45.50	118.623	222.60	2726.60	2949.20	1.818	2.444
93221 0	DOWNTOWN ANCH. J1 (x1)-REP 2	879	8/3/93	22	24.550	17.61	163.278	255.78	3343.50	3599.28	0.564	0.803
93222 0	DOWNTOWN ANCH. J1 (x2)-REP 3	880	8/3/93	22	16.770	11.01	156.253	267.52	4247.00	4514.52	0.510	0.745
93180 0	NAVAL BASE/SHIPYARDS O5 (x1)	798	8/4/93	22	-9	-9	-9	-9	-9	-9	-9	-9
90021 0	K SWARTZ (NAVAL BASE O4)	862	8/4/93	22	6.400	14.17	119.109	1276.49	19678.00	20954.49	0.626	0.961
93210 0	NAVAL BASE/SHIPYARDS O4 (x1)	863	8/4/93	22	3.048	18.80	856.120	1257.57	15727.00	16984.57	0.975	1.157
93211 0	NAVAL BASE/SHIPYARDS O4 (x2)	864	8/4/93	22	7.920	16.65	1028.440	2731.20	30840.00	33571.20	1.509	1.945
90006 0	23 SWARTZ (NAVAL BASE O7)	865	8/4/93	22	67.620	33.49	79.730	914.71	10273.00	11187.71	1.056	1.487
93212 0	NAVAL BASE/SHIPYARDS O7 (x1)	866	8/4/93	22	35.980	18.32	39.610	718.39	5551.60	6269.99	0.589	0.847
93213 0	NAVAL BASE/SHIPYARDS O7 (x4)	867	8/4/93	22	83.750	34.85	86.412	1069.93	10004.00	11073.93	1.230	1.730
90022 0	P SWARTZ (NAVAL BASE O12)	868	8/4/93	22	8.170	26.50	241.620	3364.54	46390.00	49754.54	1.001	1.522
93214 0	NAVAL BASE/SHIPYARDS O12 (x3)	869	8/4/93	22	5.074	8.59	68.543	1472.80	17535.00	19007.80	0.465	0.710
93215 0	NAVAL BASE/SHIPYARDS O12 (x4)	870	8/4/93	22	4.924	7.82	79.927	962.96	12412.00	13374.96	0.361	0.578
90028 0	NSB-M1 (SUB BASE C2)	871	8/4/93	22	1.250	16.10	42.522	8962.90	32618.00	41580.90	0.577	1.038
93216 0	SUB BASE C2 (x1)	872	8/4/93	22	1.250	8.25	11.544	1971.34	9021.10	10992.44	0.201	0.351
93217 0	SUB BASE C2 (x3)	873	8/4/93	22	1.586	11.40	38.014	5660.30	26044.00	31704.30	0.472	0.818
93218 0	SUB BASE C2 (x11) BLIND	874	8/4/93	22	2.348	16.64	48.969	5155.10	27678.00	32833.10	0.494	0.838
93116 0	SAN DIEGO RIVER B1 (x4)-REP 1	881	8/5/93	22	11.370	11.03	25.675	123.23	943.10	1066.33	0.282	0.381
93116 0	SAN DIEGO RIVER B1 (x4)-REP 2	882	8/5/93	22	27.440	17.03	69.452	145.66	1903.40	2049.06	0.540	0.770
93116 0	SAN DIEGO RIVER B1 (x4)-REP 3	883	8/5/93	22	47.750	31.30	70.589	163.74	2270.50	2434.24	0.728	1.026
90007 0	25 SWARTZ (NAVAL BASE/SY O10)	887	8/17/93	23	12.680	17.64	234.760	1203.47	20103.00	21306.47	0.702	1.025
93223 0	NAVAL BASE/SHIPYARD O10 (x2)	888	8/17/93	23	11.200	15.07	279.080	1583.44	23080.00	24663.44	0.847	1.308
93224 0	NAVAL BASE/SHIPYARD O10(x6)	889	8/17/93	23	2.115	7.71	100.505	88.85	2700.10	2788.95	0.623	0.994
90008 0	27 SWARTZ (NAVAL BASE/SH O13)	890	8/17/93	23	5.710	8.65	80.735	698.09	15917.00	16615.09	0.419	0.665
93225 0	NAVAL BASE/SHIPYARD O13 (x1)	891	8/17/93	23	6.480	11.55	148.351	2545.24	33979.00	36524.24	0.719	1.130
93226 0	NAVAL BASE/SHIPYARD O13 (x3)	892	8/17/93	23	5.109	17.44	155.310	2048.82	29254.00	31302.82	0.642	1.033
90009 0	28 SWARTZ (7TH ST CHANNEL Q1)	893	8/17/93	23	28.900	27.00	143.593	767.62	6552.90	7320.52	0.732	0.990

Chemistry Summations and Quotients

STANUM	STATION	IDORG	DATE	LEG	TTL_CHLR	TTL_DDT	TTL_PCB	LMW_PAH	HMW_PAH	TTL_PAH	ERMQ	PELQ
93227.0	SEVENTH ST CHANNEL Q1 (x5)	894	8/17/93	23	29.100	40.44	189.151	1113.85	17823.00	18936.85	0.837	1.175
93228.0	SEVENTH ST CHANNEL Q1 (x6)	895	8/17/93	23	134.180	100.10	433.160	650.28	13576.00	14226.28	2.373	3.082
90010.0	31 SWARTZ (MARINE TERMINAL R3)	896	8/17/93	23	1.250	3.22	22.521	162.91	1781.70	1944.61	0.145	0.254
93229.0	MARINE TERMINAL R3 (x1)	897	8/17/93	23	1.751	17.22	79.276	9743.87	56379.00	66122.87	0.876	1.504
93230.0	MARINE TERMINAL R3 (x3)	898	8/17/93	23	3.906	10.40	82.013	1223.20	10837.00	12060.20	0.449	0.737
90025.0	SDNI-N5 (CARRIER BASE V2)	899	8/18/93	23	1.613	14.14	56.261	313.62	2903.30	3216.92	0.294	0.454
93231.0	CARRIER BASE V2 (x6)	1000	8/18/93	23	1.995	9.13	58.127	848.74	5019.80	5868.54	0.255	0.408
93232.0	CARRIER BASE V2 (x7)	1001	8/18/93	23	4.600	9.05	52.832	1479.77	4543.70	6023.47	0.300	0.481
93132.0	CORONADO CAYS T3 (x1)	1025	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9
93129.0	SOUTH BAY GG4 (x1)	1026	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	1027	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9
93127.0	SOUTH BAY GG2 (x1)	1028	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9
93139.0	COMMERCIAL BASIN F1 (x1)	1030	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)	1031	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9
93128.0	SOUTHBAY GG5 (x1)	1033	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1) REP 1	1035	1/18/94	24	1.250	3.55	15.953	38.57	277.89	316.46	0.163	0.265
93158.0	SOUTH BAY GG1 (x1) REP 2	1036	1/18/94	24	1.868	4.15	20.978	38.55	361.64	400.19	0.175	0.277
93158.0	SOUTH BAY GG1 (x1) REP 3	1037	1/18/94	24	1.250	2.70	15.798	37.34	246.10	283.44	0.141	0.233
93122.0	S.S.- CORONADO DD3 (x1) REP 1	1013	1/19/94	24	3.216	7.46	44.334	211.52	2101.90	2313.42	0.306	0.471
93122.0	S.S.- CORONADO DD3 (x1) REP 2	1014	1/19/94	24	3.366	5.15	32.925	105.23	1261.70	1366.93	0.235	0.357
93122.0	S.S.- CORONADO DD3 (x1) REP 3	1015	1/19/94	24	3.902	7.65	40.664	132.30	1422.70	1555.00	0.274	0.417
93125.0	SILVER STRAND FF4 (x4) REP 1	1016	1/19/94	24	1.250	3.25	14.761	41.40	411.27	452.67	0.121	0.199
93125.0	SILVER STRAND FF4 (x4) REP 2	1017	1/19/94	24	1.250	2.70	10.310	35.99	233.54	269.53	0.102	0.171
93125.0	SILVER STRAND FF4 (x4) REP 3	1018	1/19/94	24	1.250	2.70	12.279	389.40	674.30	1063.70	0.125	0.210
90057.0	5 SDG&E REP 1	1019	1/19/94	24	1.250	5.16	14.771	44.15	444.30	488.45	0.176	0.290
90057.0	5 SDG&E REP 2	1020	1/19/94	24	1.250	6.04	18.376	44.07	392.00	436.07	0.172	0.283
90057.0	5 SDG&E REP 3	1021	1/19/94	24	1.250	5.29	15.586	42.41	328.00	370.41	0.169	0.281
93117.0	SAN DIEGO RIVER B2 (x2)	1029	1/19/94	24	-9	-9	-9	-9	-9	-9	-9	-9
93120.0	TIJUANA R. ESTUARY HM2 (x1)	1032	1/19/94	24	-9	-9	-9	-9	-9	-9	-9	-9
93121.0	TIJUANA R. ESTUARY HM2 (x5)	1034	1/19/94	24	-9	-9	-9	-9	-9	-9	-9	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 1	1022	1/20/94	24	1.250	4.39	18.911	56.77	359.41	416.18	0.131	0.174
90036.0	STORMDRAIN EA (ROHR CH.) REP 2	1023	1/20/94	24	1.250	5.03	33.736	87.57	451.47	539.04	0.123	0.181
90036.0	STORMDRAIN EA (ROHR CH.) REP 3	1024	1/20/94	24	1.250	4.11	21.727	39.90	139.69	179.59	0.090	0.144
90020.0	G DE LAPPE-REP 1	1104	3/1/94	27	14.790	41.26	417.083	2129.90	25253.00	27382.90	1.051	1.411
90020.0	G DE LAPPE-REP 2	1105	3/1/94	27	10.690	29.31	660.200	2584.98	23314.00	25898.98	1.043	1.401
90020.0	G DE LAPPE-REP 3	1106	3/1/94	27	9.900	18.66	450.130	2607.97	21737.00	24344.97	0.947	1.293
90022.0	P SWARTZ-REP 1	1107	3/1/94	27	8.950	14.27	174.274	5072.90	42333.00	47405.90	1.042	1.549
90022.0	P SWARTZ-REP 2	1108	3/1/94	27	6.390	15.79	206.283	6445.80	48134.00	54579.80	1.109	1.770
90022.0	P SWARTZ-REP 3	1109	3/1/94	27	7.410	14.96	206.015	6504.80	43970.00	50474.80	1.107	1.724
90029.0	NSB-R1-REP 1	1113	3/1/94	27	1.250	3.52	4.882	221.70	1315.40	1537.10	0.082	0.135
90029.0	NSB-R1-REP 2	1114	3/1/94	27	1.250	2.70	4.500	93.00	488.60	581.60	0.063	0.105
90029.0	NSB-R1-REP 3	1115	3/1/94	27	1.250	5.67	9.179	4253.80	14858.00	19111.80	0.345	0.581
90024.0	SDNI-N1-REP 1	1116	3/1/94	27	2.994	9.86	67.794	635.69	4755.00	5390.69	0.337	0.504
90024.0	SDNI-N1-REP 2	1117	3/1/94	27	2.338	6.13	53.160	770.88	3399.40	4170.28	0.296	0.473

Chemistry Summations and Quotients

STANUM	STATION	IDORG	DATE	LEG	TTL_CHLR	TTL_DDT	TTL_PCB	LMW_PAH	HMW_PAH	TTL_PAH	ERMQ	PELQ
90024	0 SDNI-N1-REP 3	1118	3/1/94	27	4.147	6.77	49.389	597.98	5090.70	5688.68	0.319	0.490
93185	0 NAVAL SHIPYARDS O14 (x1)	1125	3/1/94	27	-9	-9	-9	-9	-9	-9	-9	-9
93163	0 FUEL PIERS D2 (x2)	1126	3/1/94	27	-9	-9	-9	-9	-9	-9	-9	-9
93161	0 SUB BASE C1 (x1)	1127	3/1/94	27	-9	-9	-9	-9	-9	-9	-9	-9
93171	0 MARINE TERMINAL R1 (x1)	1128	3/1/94	27	-9	-9	-9	-9	-9	-9	-9	-9
90013	0 37 SWARTZ-REP 1	1098	3/2/94	27	1.250	4.63	55.850	68.64	682.30	750.94	0.243	0.392
90013	0 37 SWARTZ-REP 2	1099	3/2/94	27	1.250	4.82	57.776	53.40	700.60	754.00	0.290	0.506
90013	0 37 SWARTZ-REP 3	1100	3/2/94	27	1.250	4.50	41.326	54.10	621.50	675.60	0.270	0.413
93106	0 MISSION BAY A2 (x1)-REP 1	1101	3/2/94	27	1.250	3.94	6.677	40.18	305.66	345.84	0.163	0.215
93106	0 MISSION BAY A2 (x1)-REP 2	1102	3/2/94	27	4.151	4.10	5.696	58.22	273.87	332.09	0.190	0.275
93106	0 MISSION BAY A2 (x1)-REP 3	1103	3/2/94	27	2.835	3.45	5.688	36.77	285.91	322.68	0.152	0.215
93181	0 NAVAL SHIPYARDS O6 (x1)-REP 1	1110	3/2/94	27	15.940	32.85	248.678	1210.27	10316.00	11526.27	0.713	1.085
93181	0 NAVAL SHIPYARDS O6 (x1)-REP 2	1111	3/2/94	27	13.470	30.72	318.330	916.82	11866.00	12782.82	0.816	1.204
93181	0 NAVAL SHIPYARDS O6 (x1)-REP 3	1112	3/2/94	27	19.980	40.67	322.730	1848.61	15259.00	17107.61	0.904	1.362
93178	0 NAVAL SHIPYARDS O2 (x1)-REP 1	1119	3/2/94	27	8.940	26.04	497.460	2799.59	17829.00	20628.59	0.934	1.294
93178	0 NAVAL SHIPYARDS O2 (x1)-REP 2	1120	3/2/94	27	6.480	39.16	720.260	1886.93	21617.00	23503.93	1.170	1.618
93178	0 NAVAL SHIPYARDS O2 (x1)-REP 3	1121	3/2/94	27	8.110	24.73	1378.380	1930.59	24473.00	26403.59	1.269	1.651
93179	0 NAVAL SHIPYARDS O3 (x1)-REP 1	1122	3/2/94	27	4.724	27.51	420.873	3719.92	32015.00	35734.92	1.119	1.525
93179	0 NAVAL SHIPYARDS O3 (x1)-REP 2	1123	3/2/94	27	5.729	34.59	464.600	2952.71	28222.00	31174.71	1.071	1.462
93179	0 NAVAL SHIPYARDS O3 (x1)-REP 3	1124	3/2/94	27	9.800	32.31	307.150	4714.05	34547.00	39261.05	1.330	1.658
90052	0 32 SWARTZ(SWEETWATER CH)-REP 1	1129	3/15/94	28	4.418	13.12	30.426	113.34	1435.60	1548.94	0.302	0.501
90052	0 32 SWARTZ(SWEETWATER CH)-REP 2	1130	3/15/94	28	4.437	10.40	20.988	77.66	994.30	1071.96	0.278	0.480
90052	0 32 SWARTZ(SWEETWATER CH)-REP 3	1131	3/15/94	28	5.142	11.39	20.602	75.09	1044.30	1119.39	0.246	0.389
93131	0 CORONADO CAYS T1 (x1)-REP 1	1138	3/15/94	28	1.250	3.66	11.445	39.33	237.59	276.92	0.162	0.283
93131	0 CORONADO CAYS T1 (x1)-REP 2	1139	3/15/94	28	1.504	5.07	13.968	45.19	283.51	328.70	0.175	0.296
93131	0 CORONADO CAYS T1 (x1)-REP 3	1140	3/15/94	28	1.250	4.20	12.450	41.98	286.87	328.85	0.171	0.293
93160	0 CHANNEL-SOUTH BAY AA2(x1)-REP1	1141	3/15/94	28	4.263	8.40	33.860	169.04	1643.60	1812.64	0.289	0.501
93160	0 CHANNEL-SOUTH BAY AA2(x1)-REP2	1142	3/15/94	28	3.480	10.02	36.339	152.52	1745.10	1897.62	0.306	0.538
93160	0 CHANNEL-SOUTH BAY AA2(x1)-REP3	1143	3/15/94	28	2.505	6.64	27.888	133.16	1453.10	1586.26	0.269	0.481
90030	0 BF SCHROEDER SITE F-REP 1	1144	3/15/94	28	16.160	28.24	289.707	2927.76	22782.00	25709.76	0.948	1.419
90030	0 BF SCHROEDER SITE F-REP 2	1145	3/15/94	28	13.873	25.66	509.950	4127.58	27058.00	31185.58	1.000	1.537
90030	0 BF SCHROEDER SITE F-REP 3	1146	3/15/94	28	18.200	28.59	418.550	2255.92	21520.00	23775.92	1.007	1.438
93159	0 SOUTH BAY GG3 (x1)-REP 1	1147	3/15/94	28	1.250	3.59	7.444	30.00	136.96	166.96	0.099	0.166
93159	0 SOUTH BAY GG3 (x1)-REP 2	1148	3/15/94	28	1.250	2.70	6.619	30.00	120.85	150.85	0.065	0.108
93159	0 SOUTH BAY GG3 (x1)-REP 3	1149	3/15/94	28	1.250	2.70	5.840	30.00	130.66	160.66	0.095	0.154
90043	0 CORONADO WHARF-REP 1	1156	3/15/94	28	1.554	4.42	16.876	52.94	502.70	555.64	0.113	0.187
90043	0 CORONADO WHARF-REP 2	1157	3/15/94	28	12.690	31.24	477.862	1213.26	10262.00	11475.26	0.703	0.996
90043	0 CORONADO WHARF-REP 3	1158	3/15/94	28	7.968	17.42	179.492	613.27	5827.00	6440.27	0.469	0.676
93120	0 TIJUANA R. EST. HH2 (x1)-REP 1	1132	3/16/94	28	1.250	10.16	4.500	30.00	30.00	60.00	0.066	0.107
93120	0 TIJUANA R. EST. HH2 (x1)-REP 2	1133	3/16/94	28	1.250	10.89	4.500	30.00	30.00	60.00	0.065	0.106
93120	0 TIJUANA R. EST. HH2 (x1)-REP 3	1134	3/16/94	28	1.250	26.89	4.500	30.00	30.00	60.00	0.103	0.152
93121	0 TIJUANA R. EST. HH2 (x5)-REP 1	1135	3/16/94	28	1.250	24.84	4.500	30.00	33.07	63.07	0.093	0.138
93121	0 TIJUANA R. EST. HH2 (x5)-REP 2	1136	3/16/94	28	1.250	30.15	4.500	30.00	33.33	63.33	0.104	0.149
93121	0 TIJUANA R. EST. HH2 (x5)-REP 3	1137	3/16/94	28	1.250	31.84	4.500	30.00	33.18	63.18	0.108	0.151



**Appendix C**

**Benthic Community Analysis Data**



BPTCP SAN DIEGO BAY Legs 20-23. Benthic Community Analyses: Statistical Summaries

		Number per core					Summary Statistics								
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CI	sum	
<b>10 Swartz (West Basin)</b>		<b>837</b>	<b>838</b>	<b>839</b>	<b>837.1</b>	<b>837.2</b>									
Aphelochaeta multifilis	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1	
Brania brevipharyngea	Polychaeta	0	1	0	1	0	0.4	0.5	0	1	0.5	0.2	0.7	2	
Cirratulus sp(p).	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1	
Cossura candida	Polychaeta	0	4	3	0	2	1.8	2.0	0	4	1.8	0.8	2.3	9	
Diplocirrus sp(p).	Polychaeta	0	1	0	0	2	0.6	1.0	0	2	0.9	0.4	1.1	3	
Eranno lagunae	Polychaeta	9	7	12	5	4	7.4	8.0	4	12	3.2	1.4	4.1	37	
Euchone lunicola	Polychaeta	0	1	1	1	0	0.6	0.5	0	1	0.5	0.2	0.7	3	
Exogone lourei	Polychaeta	1	1	2	14	1	3.8	7.5	1	14	5.7	2.6	7.4	19	
Leitoscoloplos pugettensis	Polychaeta	18	22	12	5	10	13.4	13.5	5	22	6.7	3.0	8.6	67	
Mediomastus californiensis	Polychaeta	5	5	0	1	0	2.2	2.5	0	5	2.6	1.2	3.3	11	
Neanthes acuminata	Polychaeta	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Prionospio heterobranchia	Polychaeta	0	1	4	4	5	2.8	2.5	0	5	2.2	1.0	2.8	14	
Pseudopolydora paucibranchiata	Polychaeta	0	0	4	0	1	1.0	2.0	0	4	1.7	0.8	2.2	5	
Scoletoma tetraura	Polychaeta	1	2	8	0	0	2.2	4.0	0	8	3.3	1.5	4.3	11	
Spiophanes missionensis	Polychaeta	0	0	0	1	1	0.4	0.5	0	1	0.5	0.2	0.7	2	
nemertea	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1	
Musculista senhousi	Bivalvia	0	20	0	48	6	14.8	24.0	0	48	20.3	9.1	26.1	74	
Theora fragilis	Bivalvia	0	1	0	0	4	1.0	2.0	0	4	1.7	0.8	2.2	5	
Lyonsia californica	Bivalvia	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Cylichnella inculta	Gastropoda	0	3	0	0	0	0.6	1.5	0	3	1.3	0.6	1.7	3	
Parasterope barnesi	Ostracoda	0	1	0	0	2	0.6	1.0	0	2	0.9	0.4	1.1	3	
Euphilomedes carcharodonta	Ostracoda	2	13	1	15	20	10.2	10.5	1	20	8.3	3.7	10.7	51	
Amphideutopus oculatus	Amphipoda	3	1	1	0	0	1.0	1.5	0	3	1.2	0.5	1.6	5	
Rudilemboides stenopropodus	Amphipoda	11	7	0	0	0	3.6	5.5	0	11	5.1	2.3	6.6	18	
Acuminodeutopus heteruropus	Amphipoda	15	19	24	3	0	12.2	12.0	0	24	10.3	4.6	13.3	61	
Grandidierella japonica	Amphipoda	3	10	12	3	5	6.6	7.5	3	12	4.2	1.9	5.3	33	
Synchelidium rectipalnum	Gammaridea	2	1	0	0	0	0.6	1.0	0	2	0.9	0.4	1.1	3	
Mayerella banksia	Amphipoda	2	1	0	0	0	0.6	1.0	0	2	0.9	0.4	1.1	3	
Zeuxo normani	Tanaidacea	0	5	1	5	1	2.4	2.5	0	5	2.4	1.1	3.1	12	
Paranthura elegans	Isopoda	0	2	0	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2	
Paracerceis sculpta	Isopoda	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Scrolis carinata	Isopoda	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1	
Heptacarpus sp. A	Decapoda	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Neotrypaea californiensis	Decapoda	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
<b>Total Fauna</b>		<b>34</b>	<b>72</b>	<b>131</b>	<b>86</b>	<b>108</b>	<b>68</b>	<b>93.0</b>	<b>99.5</b>	<b>68</b>	<b>131</b>	<b>26.4</b>	<b>11.8</b>	<b>33.9</b>	<b>465</b>
<b>Total Polychaetes</b>		<b>16</b>	<b>34</b>	<b>45</b>	<b>47</b>	<b>32</b>	<b>29</b>	<b>37.4</b>	<b>38.0</b>	<b>29</b>	<b>47</b>	<b>8.1</b>	<b>3.6</b>	<b>10.4</b>	<b>187</b>

BPTCP SAN DIEGO BAY Legs 20-23. Benthic Community Analyses: Statistical Summaries

	Number 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	
Total Molluscs	4	0	25	0	48	10	16.6	24.0	0	48	20.3	9.1	26.1	83
Total Crustaceans	14	38	61	39	28	29	39.0	44.5	28	61	13.3	5.9	17.1	195
Total Species	34	12	25	14	15	18	16.8	18.0	12	25	5.1	2.3	6.5	84

11 Swartz (East Basin)		840	841	842	840.1	840.2								
Caulleriella sp(p).	Polychaeta	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Cossura candida	Polychaeta	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Dorvillea longicornis	Polychaeta	0	0	3	0	0	0.6	1.5	0	3	1.3	0.6	1.7	3
Errano lagunae	Polychaeta	8	1	7	8	3	5.4	4.5	1	8	3.2	1.4	4.1	27
Euchone limnicola	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Exogone lourei	Polychaeta	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Hydroides pacificus	Polychaeta	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Leitoscoloplos pugettensis	Polychaeta	13	5	32	16	10	15.2	18.5	5	32	10.2	4.6	13.2	76
Lumbrineridae, unident.	Polychaeta	0	0	0	1	1	0.4	0.5	0	1	0.5	0.2	0.7	2
Mediomastus californiensis	Polychaeta	0	2	2	27	4	7.0	13.5	0	27	11.3	5.0	14.5	35
Neanthes acuminata	Polychaeta	0	1	2	0	0	0.6	1.0	0	2	0.9	0.4	1.1	3
Pherusa capulata	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Pista alata	Polychaeta	5	0	1	0	0	1.2	2.5	0	5	2.2	1.0	2.8	6
Prionospio heterobranchia	Polychaeta	9	1	3	3	2	3.6	5.0	1	9	3.1	1.4	4.0	18
Prionospio stenstrupi	Polychaeta	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Pseudopolydora paucibranchiata	Polychaeta	0	1	0	16	2	3.8	8.0	0	16	6.9	3.1	8.8	19
Scoletoma tetraura	Polychaeta	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Scoloplos acmeceps	Polychaeta	0	0	2	7	3	2.4	3.5	0	7	2.9	1.3	3.7	12
Spiophanes berkeleyorum	Polychaeta	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
nemertea	Nemertea	0	0	0	1	13	2.8	6.5	0	13	5.7	2.6	7.4	14
Musculista senhousi	Bivalvia	0	3	0	10	11	4.8	5.5	0	11	5.4	2.4	6.9	24
Parasterope barnesi	Ostracoda	0	0	4	5	1	2.0	2.5	0	5	2.3	1.0	3.0	10
Euphilomedes carcharodonta	Ostracoda	0	0	2	3	2	1.4	1.5	0	3	1.3	0.6	1.7	7
Zeuxo normani	Tanaidacea	1	1	1	67	81	30.2	41.0	1	81	40.3	18.0	51.8	151
Paranthurus elegans	Isopoda	0	2	1	1	5	1.6	2.0	0	4	1.5	0.7	1.9	8
Acuminodeutopus heteruopus	Amphipoda	5	30	0	9	11	11.0	15.0	0	30	11.4	5.1	14.7	55
Rudilemboides stenopropodus	Amphipoda	3	0	0	2	15	4.0	7.5	0	15	6.3	2.8	8.1	20
Grandidiereella japonica	Amphipoda	25	5	0	0	2	6.4	12.5	0	25	10.6	4.7	13.6	32
Synchelidium rectipalmmum	Gammaridea	1	3	0	1	2	1.4	1.5	0	3	1.1	0.5	1.5	7
Monoculodes hartmanae	Amphipoda	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Paradexamine sp.	Amphipod	0	0	4	0	0	0.8	2.0	0	4	1.8	0.8	2.3	4
Heptacarpus cf taylori	Decapoda	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1

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		Number per core					Summary Statistics							
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CI	sum
Urocaris infracrispis	Decapoda	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Holothuroid	Holothuroidea	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
<b>Total Fauna</b>		<b>35</b>	<b>71</b>	<b>55</b>	<b>67</b>	<b>184</b>	<b>109.4</b>	<b>119.5</b>	<b>55</b>	<b>184</b>	<b>62.2</b>	<b>27.8</b>	<b>79.9</b>	<b>547</b>
<b>Total Polychaetes</b>		<b>19</b>	<b>36</b>	<b>11</b>	<b>54</b>	<b>83</b>	<b>42.0</b>	<b>47.0</b>	<b>11</b>	<b>83</b>	<b>27.7</b>	<b>12.4</b>	<b>35.7</b>	<b>210</b>
<b>Total Molluscs</b>		<b>1</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>10</b>	<b>4.8</b>	<b>5.5</b>	<b>0</b>	<b>11</b>	<b>5.4</b>	<b>2.4</b>	<b>6.9</b>	<b>24</b>
<b>Total Crustaceans</b>		<b>13</b>	<b>35</b>	<b>41</b>	<b>13</b>	<b>89</b>	<b>59.6</b>	<b>66.5</b>	<b>13</b>	<b>120</b>	<b>43.7</b>	<b>19.5</b>	<b>56.2</b>	<b>298</b>
<b>Total Echinoderms</b>		<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0.2</b>	<b>0.5</b>	<b>0</b>	<b>1</b>	<b>0.4</b>	<b>0.2</b>	<b>0.6</b>	<b>1</b>
<b>Total Species</b>		<b>34</b>	<b>10</b>	<b>12</b>	<b>16</b>	<b>23</b>	<b>16.2</b>	<b>16.5</b>	<b>10</b>	<b>23</b>	<b>5.4</b>	<b>2.4</b>	<b>6.9</b>	<b>81</b>

<b>14 Swartz (Downtown Piers)</b>		<b>846</b>	<b>847</b>	<b>848</b>	<b>846.1</b>	<b>846.2</b>								
Aphelochaeta multifilis	Polychaeta	0	0	2	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2
Aphelochaeta sp(p).	Polychaeta	4	0	0	0	0	0.8	2.0	0	4	1.8	0.8	2.3	4
Chaetozone corona	Polychaeta	0	0	2	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2
Diplocirrus sp(p).	Polychaeta	0	0	8	2	2	2.4	4.0	0	8	3.3	1.5	4.2	12
Dorvillea longicornis	Polychaeta	0	0	2	1	0	0.6	1.0	0	2	0.9	0.4	1.1	3
Eranno lagunae	Polychaeta	7	5	9	5	11	7.4	8.0	5	11	2.6	1.2	3.4	37
Eteone sp(p).	Polychaeta	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Euchone lunnicola	Polychaeta	0	0	1	3	0	0.8	1.5	0	3	1.3	0.6	1.7	4
Leitoscoloplos pugettensis	Polychaeta	0	8	3	20	6	7.4	10.0	0	20	7.7	3.4	9.9	37
Lumbrineridae, unident.	Polychaeta	0	0	0	0	2	0.4	1.0	0	2	0.9	0.4	1.1	2
Mediomastus californiensis	Polychaeta	0	2	6	2	2	2.4	3.0	0	6	2.2	1.0	2.8	12
Nephtys caecoides	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Nephtys comuta	Polychaeta	0	0	0	3	0	0.6	1.5	0	3	1.3	0.6	1.7	3
Paraprionospio pinnata	Polychaeta	0	0	0	1	1	0.4	0.5	0	1	0.5	0.2	0.7	2
Pista alata	Polychaeta	0	0	2	1	1	0.8	1.0	0	2	0.8	0.4	1.1	4
Prionospio heterobranchia	Polychaeta	1	6	8	3	4	4.4	4.5	1	8	2.7	1.2	3.5	22
Prionospio lighti	Polychaeta	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Pseudopolydora paucibranchiata	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Scoletoma tetraura	Polychaeta	0	4	0	2	0	1.2	2.0	0	4	1.8	0.8	2.3	6
Sthenelanelia uniformis	Polychaeta	0	0	1	0	1	0.4	0.5	0	1	0.5	0.2	0.7	2
oligochaeta	Oligochaeta	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
nemertea	Nemertea	0	1	0	0	2	0.6	1.0	0	2	0.9	0.4	1.1	3
Musculista senhousi	Bivalvia	51	1	0	0	3	11.0	25.5	0	51	22.4	10.0	28.8	55
Crepidula fornicata	Gastropoda	23	0	0	0	0	4.6	11.5	0	23	10.3	4.6	13.2	23
Theora fragilis	Bivalvia	0	3	1	0	6	2.0	3.0	0	6	2.5	1.1	3.3	10
Tellina modesta	Bivalvia	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Siliqua lucida	Bivalvia	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1

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		Number per core					Summary Statistics							
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CI.	sum
Mysella sp.	Bivalvia	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Iyonsia californica	Bivalvia	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Euphilomedes carcharodonta	Ostracoda	0	3	6	0	3	2.4	3.0	0	6	2.5	1.1	3.2	12
Parasterope barnesi	Ostracoda	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Asteropella slatteryi	Ostracoda	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Rudilemboides stenopropodus	Amphipoda	0	7	2	0	0	1.8	3.5	0	7	3.0	1.4	3.9	9
Acuminodeutopus heteruropus	Amphipoda	0	0	1	0	3	0.8	1.5	0	3	1.3	0.6	1.7	4
Amphideutopus oculatus	Amphipoda	0	3	2	1	7	2.6	3.5	0	7	2.7	1.2	3.5	13
Synchelidium rectipalium	Gammaridea	0	1	0	0	1	0.4	0.5	0	1	0.5	0.2	0.7	2
Monoculodes hartmanae	Amphipoda	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
<b>Total Fauna</b>		<b>37</b>	<b>86</b>	<b>46</b>	<b>60</b>	<b>47</b>	<b>59.4</b>	<b>66.0</b>	<b>46</b>	<b>86</b>	<b>16.1</b>	<b>7.2</b>	<b>20.8</b>	<b>297</b>
<b>Total Polychaetes</b>		<b>20</b>	<b>12</b>	<b>25</b>	<b>44</b>	<b>45</b>	<b>31.6</b>	<b>28.5</b>	<b>12</b>	<b>45</b>	<b>13.8</b>	<b>6.2</b>	<b>17.7</b>	<b>158</b>
<b>Total Molluscs</b>		<b>7</b>	<b>74</b>	<b>4</b>	<b>4</b>	<b>0</b>	<b>18.4</b>	<b>37.0</b>	<b>0</b>	<b>74</b>	<b>31.3</b>	<b>14.0</b>	<b>40.2</b>	<b>92</b>
<b>Total Crustaceans</b>		<b>8</b>	<b>0</b>	<b>16</b>	<b>12</b>	<b>1</b>	<b>8.6</b>	<b>8.0</b>	<b>0</b>	<b>16</b>	<b>7.5</b>	<b>3.4</b>	<b>9.7</b>	<b>43</b>
<b>Total Species</b>		<b>37</b>	<b>5</b>	<b>14</b>	<b>20</b>	<b>15</b>	<b>14.6</b>	<b>12.5</b>	<b>5</b>	<b>20</b>	<b>5.9</b>	<b>2.7</b>	<b>7.6</b>	<b>73</b>

15 Swartz (G St Pier Marina)		849	850	851	849.1	849.2								
Brania brevipharyngea	Polychaeta	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Cirratulidae, unident.	Polychaeta	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Cossura candida	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Diplocirrus sp(p).	Polychaeta	1	0	2	1	1	1.0	1.0	0	2	0.7	0.3	0.9	5
Dorvillea longicornis	Polychaeta	1	2	2	0	0	1.0	1.0	0	2	1.0	0.4	1.3	5
Eranno lagunae	Polychaeta	5	3	8	2	9	5.4	5.5	2	9	3.0	1.4	3.9	27
Exogone lourei	Polychaeta	2	2	1	2	1	1.6	1.5	1	2	0.5	0.2	0.7	8
Leitoscoloplos pugettensis	Polychaeta	0	3	5	10	1	3.8	5.0	0	10	4.0	1.8	5.1	19
Mediomastus californiensis	Polychaeta	0	0	1	3	10	2.8	5.0	0	10	4.2	1.9	5.4	14
Neanthes acuminata	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Paraprionospio pinnata	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Pista alata	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Prionospio heterobranchia	Polychaeta	5	0	0	4	7	3.2	3.5	0	7	3.1	1.4	4.0	16
Pseudopolydora paucibranchiata	Polychaeta	6	2	4	14	7	6.6	8.0	2	14	4.6	2.0	5.9	33
Scoletoma erecta	Polychaeta	0	0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0
Scoletoma tetraura	Polychaeta	0	0	3	1	0	0.8	1.5	0	3	1.3	0.6	1.7	4
Scyphoproctus sp(p).	Polychaeta	15	0	0	2	0	3.4	7.5	0	15	6.5	2.9	8.4	17
nemertea	Nemertea	3	0	4	0	0	1.4	2.0	0	4	1.9	0.9	2.5	7
Musculista senhousi	Bivalvia	0	4	1	16	12	6.6	8.0	0	16	7.1	3.2	9.1	33
Crepidula fornicata	Gastropoda	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1

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		Number 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	
Cylichnella inculta	Gastropoda	0	0	0	0	4	0.8	2.0	0	4	1.8	0.8	2.3	4	
Tagelus subteres	Bivalvia	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1	
Euphilomedes carcharodonta	Ostracoda	2	1	0	0	2	1.0	1.0	0	2	1.0	0.4	1.3	5	
Rudilemboides stenopropodus	Amphipoda	2	2	0	1	4	1.8	2.0	0	4	1.5	0.7	1.9	9	
Synchelidium rectipalmum	Gammaridea	2	0	0	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2	
Acuminodeutopus heteruropus	Amphipoda	0	1	5	2	1	1.8	2.5	0	5	1.9	0.9	2.5	9	
Lembos sp.	Gammaridea	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Grandidierella japonica	Amphipoda	0	1	2	0	0	0.6	1.0	0	2	0.9	0.4	1.1	3	
Amphideutopus oculus	Amphipoda	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1	
Paranthura elegans	Isopoda	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Neotrypaea californiensis	Decapoda	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Zeuxo normani	Tanaidacea	0	0	3	3	3	1.8	1.5	0	3	1.6	0.7	2.1	9	
Anemone	Anthozoa	0	1	4	0	0	1.0	2.0	0	4	1.7	0.8	2.2	5	
Monoculodes hartmanae	Amphipoda	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
<b>Total Fauna</b>		<b>34</b>	<b>47</b>	<b>24</b>	<b>46</b>	<b>65</b>	<b>65</b>	<b>49.4</b>	<b>44.5</b>	<b>24</b>	<b>65</b>	<b>16.9</b>	<b>7.6</b>	<b>21.8</b>	<b>247</b>
<b>Total Polychaetes</b>		<b>17</b>	<b>38</b>	<b>12</b>	<b>27</b>	<b>40</b>	<b>37</b>	<b>30.8</b>	<b>26.0</b>	<b>12</b>	<b>40</b>	<b>11.6</b>	<b>5.2</b>	<b>15.0</b>	<b>154</b>
<b>Total Molluscs</b>		<b>4</b>	<b>0</b>	<b>4</b>	<b>1</b>	<b>17</b>	<b>17</b>	<b>7.8</b>	<b>8.5</b>	<b>0</b>	<b>17</b>	<b>8.5</b>	<b>3.8</b>	<b>11.0</b>	<b>39</b>
<b>Total Crustaceans</b>		<b>11</b>	<b>6</b>	<b>7</b>	<b>10</b>	<b>8</b>	<b>11</b>	<b>8.4</b>	<b>8.5</b>	<b>6</b>	<b>11</b>	<b>2.1</b>	<b>0.9</b>	<b>2.7</b>	<b>42</b>
<b>Total Species</b>		<b>34</b>	<b>14</b>	<b>13</b>	<b>15</b>	<b>17</b>	<b>16</b>	<b>15.0</b>	<b>15.0</b>	<b>13</b>	<b>17</b>	<b>1.6</b>	<b>0.7</b>	<b>2.0</b>	<b>75</b>

<b>16 Swartz (Intercont. Marina)</b>		<b>818</b>	<b>819</b>	<b>820</b>	<b>818.1</b>	<b>818.2</b>								
Brania brevipharyngea	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Iranno lagunae	Polychaeta	1	1	1	4	1	1.6	2.5	1	4	1.3	0.6	1.7	8
Euchone limnicola	Polychaeta	0	0	0	1	1	0.4	0.5	0	1	0.5	0.2	0.7	2
Exogone lourei	Polychaeta	0	2	0	2	4	1.6	2.0	0	4	1.7	0.7	2.2	8
Exogone uniformis	Polychaeta	0	0	0	0	2	0.4	1.0	0	2	0.9	0.4	1.1	2
Fabricinuda limicola	Polychaeta	0	1	0	0	3	0.8	1.5	0	3	1.3	0.6	1.7	4
Leitoscoloplos pugettensis	Polychaeta	1	3	1	9	4	3.6	5.0	1	9	3.3	1.5	4.2	18
Mediomastus californiensis	Polychaeta	0	1	1	2	2	1.2	1.0	0	2	0.8	0.4	1.1	6
Neanthes acuminata	Polychaeta	1	0	0	1	4	1.2	2.0	0	4	1.6	0.7	2.1	6
Odontosyllis phosphorea	Polychaeta	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Paraprionospio pinnata	Polychaeta	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Pherusa capulata	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Pista alata	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Prionospio heterobranchia	Polychaeta	1	3	1	3	2	2.0	2.0	1	3	1.0	0.4	1.3	10
Pseudopolydora paucibranchiata	Polychaeta	3	12	0	7	7	5.8	6.0	0	12	4.5	2.0	5.8	29
Scoelepis quinquentata	Polychaeta	0	0	0	2	0	0.4	1.0	0	2	0.9	0.4	1.1	2

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		Number 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
Scoletoma tetraura	Polychaeta	2	0	1	0	1	0.8	1.0	0	2	0.8	0.4	1.1	4
Scoloplos acmeceps	Polychaeta	2	1	0	6	3	2.4	3.0	0	6	2.3	1.0	3.0	12
Scyphoproctus sp(p).	Polychaeta	22	7	0	0	1	6.0	11.0	0	22	9.4	4.2	12.1	30
nemertea	Nemertea	2	3	0	0	2	1.4	1.5	0	3	1.3	0.6	1.7	7
oligochaeta	Oligochaeta	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Musculista senhousi	Bivalvia	26	8	3	3	2	8.4	14.0	2	26	10.1	4.5	13.0	42
Crepidula fornicata	Gastropoda	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Parasterope barnesi	Ostracoda	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Campylaspis rubromaculata	Cumacea	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Monoculodes hartmanae	Amphipoda	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Euphilomedes carcharodonta	Ostracoda	0	0	0	3	2	1.0	1.5	0	3	1.4	0.6	1.8	5
Acuminodeutopus heteruropus	Amphipoda	0	15	2	6	9	6.4	7.5	0	15	5.9	2.7	7.6	32
Rudilemboides stenopropodus	Amphipoda	1	1	1	0	3	1.2	1.5	0	3	1.1	0.5	1.4	6
Grandidierella japonica	Amphipoda	0	0	2	3	0	1.0	1.5	0	3	1.4	0.6	1.8	5
Zeuxo normani	Tanaidacea	14	22	0	0	13	9.8	11.0	0	22	9.6	4.3	12.3	49
Paranthura elegans	Isopoda	1	3	0	0	3	1.4	1.5	0	3	1.5	0.7	1.9	7
<b>Total Fauna</b>		<b>32</b>	<b>80</b>	<b>84</b>	<b>14</b>	<b>54</b>	<b>60.8</b>	<b>49.0</b>	<b>14</b>	<b>84</b>	<b>28.6</b>	<b>12.8</b>	<b>36.7</b>	<b>304</b>
<b>Total Polychaetes</b>		<b>19</b>	<b>35</b>	<b>31</b>	<b>5</b>	<b>39</b>	<b>29.2</b>	<b>22.0</b>	<b>5</b>	<b>39</b>	<b>13.8</b>	<b>6.2</b>	<b>17.8</b>	<b>146</b>
<b>Total Molluscs</b>		<b>2</b>	<b>27</b>	<b>8</b>	<b>3</b>	<b>2</b>	<b>8.6</b>	<b>14.5</b>	<b>2</b>	<b>27</b>	<b>10.5</b>	<b>4.7</b>	<b>13.6</b>	<b>43</b>
<b>Total Crustaceans</b>		<b>9</b>	<b>16</b>	<b>42</b>	<b>5</b>	<b>12</b>	<b>21.4</b>	<b>23.5</b>	<b>5</b>	<b>42</b>	<b>15.2</b>	<b>6.8</b>	<b>19.5</b>	<b>107</b>
<b>Total Species</b>		<b>32</b>	<b>16</b>	<b>16</b>	<b>10</b>	<b>16</b>	<b>16.2</b>	<b>16.5</b>	<b>10</b>	<b>23</b>	<b>4.6</b>	<b>2.1</b>	<b>5.9</b>	<b>81</b>

23 Swartz (Naval Base 07)		865	866	867	865.1	865.2								
Capitella capitata complex	Polychaeta	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Cossura candida	Polychaeta	5	0	27	2	4	7.6	13.5	0	27	11.0	4.9	14.2	38
Diplocirrus sp(p).	Polychaeta	1	0	0	1	0	0.4	0.5	0	1	0.5	0.2	0.7	2
Dorvillea longicomis	Polychaeta	1	0	2	0	1	0.8	1.0	0	2	0.8	0.4	1.1	4
Drilonereis falcata minor	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Eteone sp(p).	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Eranno lagunae	Polychaeta	7	2	5	3	4	4.2	4.5	2	7	1.9	0.9	2.5	21
Exogone lourei	Polychaeta	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Harmothoe hirsuta	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Leitoscoloplos pugettensis	Polychaeta	17	4	13	7	4	9.0	10.5	4	17	5.8	2.6	7.4	45
Lumbrineridae, unident.	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Mediomastus californiensis	Polychaeta	9	0	3	5	2	3.8	4.5	0	9	3.4	1.5	4.4	19
Neanthes acuminata	Polychaeta	1	0	0	1	1	0.6	0.5	0	1	0.5	0.2	0.7	3
Nephtys cornuta	Polychaeta	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1

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		Number per core					Summary Statistics							
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CI	sum
Odontosyllis phosphorea	Polychaeta	2	1	0	1	0	0.8	1.0	0	2	0.8	0.4	1.1	4
Paraprionospio pinnata	Polychaeta	0	0	1	0	1	0.4	0.5	0	1	0.5	0.2	0.7	2
Prionospio heterobranchia	Polychaeta	12	0	5	18	0	7.0	9.0	0	18	7.9	3.5	10.1	35
Pseudopolydora paucibranchiata	Polychaeta	2	0	1	0	1	0.8	1.0	0	2	0.8	0.4	1.1	4
Scolelepis quinquentata	Polychaeta	0	0	0	1	1	0.4	0.5	0	1	0.5	0.2	0.7	2
Scoletoma erecta	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Scoletoma tetraura	Polychaeta	1	0	1	2	1	1.0	1.0	0	2	0.7	0.3	0.9	5
nemertea	Nemertea	2	0	0	1	0	0.6	1.0	0	2	0.9	0.4	1.1	3
oligochaeta	Oligochaeta	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Theora fragilis	Bivalvia	3	0	1	0	0	0.8	1.5	0	3	1.3	0.6	1.7	4
Monoculodes hartmanae	Amphipoda	1	0	4	0	0	1.0	2.0	0	4	1.7	0.8	2.2	5
Synchelidium rectipalmum	Gammaridea	1	0	1	0	0	0.4	0.5	0	1	0.5	0.2	0.7	2
Amphideutopus oculatus	Amphipoda	1	0	0	1	0	0.4	0.5	0	1	0.5	0.2	0.7	2
Grandidierella japonica	Amphipoda	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Heptacarpus sp A	Decapoda	2	0	0	0	2	0.8	1.0	0	2	1.1	0.5	1.4	4
<b>Total Fauna</b>		<b>29</b>	<b>73</b>	<b>7</b>	<b>65</b>	<b>46</b>	<b>42.8</b>	<b>40.0</b>	<b>7</b>	<b>73</b>	<b>27.8</b>	<b>12.4</b>	<b>35.7</b>	<b>214</b>
<b>Total Polychaetes</b>		<b>21</b>	<b>62</b>	<b>7</b>	<b>59</b>	<b>43</b>	<b>38.4</b>	<b>34.5</b>	<b>7</b>	<b>62</b>	<b>23.9</b>	<b>10.7</b>	<b>30.8</b>	<b>192</b>
<b>Total Molluscs</b>		<b>1</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0.8</b>	<b>1.5</b>	<b>0</b>	<b>3</b>	<b>1.3</b>	<b>0.6</b>	<b>1.7</b>	<b>4</b>
<b>Total Crustaceans</b>		<b>5</b>	<b>6</b>	<b>0</b>	<b>5</b>	<b>1</b>	<b>2.8</b>	<b>3.0</b>	<b>0</b>	<b>6</b>	<b>2.6</b>	<b>1.2</b>	<b>3.3</b>	<b>14</b>
<b>Total Species</b>		<b>29</b>	<b>22</b>	<b>3</b>	<b>13</b>	<b>15</b>	<b>13.0</b>	<b>12.5</b>	<b>3</b>	<b>22</b>	<b>6.8</b>	<b>3.0</b>	<b>8.8</b>	<b>65</b>

25 Swartz (Naval base/ SY 010)

		<u>887</u>	<u>888</u>	<u>889</u>	<u>887.1</u>	<u>887.2</u>								
Aphelochaeta multifilis	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Cossura candida	Polychaeta	1	1	0	0	4	1.2	2.0	0	4	1.6	0.7	2.1	6
Eranno lagunae	Polychaeta	4	4	3	3	6	4.0	4.5	3	6	1.2	0.5	1.6	20
Eteone sp(p).	Polychaeta	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Euchone lunnicola	Polychaeta	1	1	0	0	1	0.6	0.5	0	1	0.5	0.2	0.7	3
Exogone lourei	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Leitoscoloplos pugettensis	Polychaeta	2	1	1	4	18	5.2	9.5	1	18	7.3	3.2	9.3	26
Mediomastus californiensis	Polychaeta	1	2	3	1	0	1.4	1.5	0	3	1.1	0.5	1.5	7
Nephtys cornuta	Polychaeta	0	0	0	0	2	0.4	1.0	0	2	0.9	0.4	1.1	2
Prionospio heterobranchia	Polychaeta	0	4	0	1	8	2.6	4.0	0	8	3.4	1.5	4.4	13
Pseudopolydora paucibranchiata	Polychaeta	6	0	0	2	6	2.8	3.0	0	6	3.0	1.4	3.9	14
Scolelepis quinquentata	Polychaeta	0	2	0	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2
Scoletoma erecta	Polychaeta	0	0	1	0	1	0.4	0.5	0	1	0.5	0.2	0.7	2
Scoletoma tetraura	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
oligochaeta	Oligochaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1

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		Number 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
nemertea	Nemertea	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Aglaja sp.	Gastropoda	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Cylichnella inculta	Gastropoda	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Grandidierella japonica	Amphipoda	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Heptacarpus sp A	Decapoda	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
<b>Total Fauna</b>		<b>20</b>	<b>20</b>	<b>16</b>	<b>9</b>	<b>11</b>	<b>21.0</b>	<b>29.0</b>	<b>9</b>	<b>49</b>	<b>16.2</b>	<b>7.3</b>	<b>20.9</b>	<b>105</b>
<b>Total Polychaetes</b>		<b>14</b>	<b>17</b>	<b>16</b>	<b>8</b>	<b>11</b>	<b>19.8</b>	<b>27.5</b>	<b>8</b>	<b>47</b>	<b>15.6</b>	<b>7.0</b>	<b>20.1</b>	<b>99</b>
<b>Total Molluscs</b>		<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0.4</b>	<b>1.0</b>	<b>0</b>	<b>2</b>	<b>0.9</b>	<b>0.4</b>	<b>1.1</b>	<b>2</b>
<b>Total Crustaceans</b>		<b>2</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0.4</b>	<b>0.5</b>	<b>0</b>	<b>1</b>	<b>0.5</b>	<b>0.2</b>	<b>0.7</b>	<b>2</b>
<b>Total Species</b>		<b>20</b>	<b>11</b>	<b>8</b>	<b>5</b>	<b>5</b>	<b>8.0</b>	<b>8.0</b>	<b>5</b>	<b>11</b>	<b>3.0</b>	<b>1.3</b>	<b>3.9</b>	<b>40</b>

27 Swartz (Naval Base /SH 013)		890	891	892	890.1	890.2								
Aphelochaeta multifilis	Polychaeta	0	1	0	1	0	0.4	0.5	0	1	0.5	0.2	0.7	2
Caulerriella sp(p).	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Cossura candida	Polychaeta	2	1	0	2	0	1.0	1.0	0	2	1.0	0.4	1.3	5
Diplocirrus sp(p).	Polychaeta	0	0	0	1	2	0.6	1.0	0	2	0.9	0.4	1.1	3
Eranno lagunae	Polychaeta	5	4	4	2	4	3.8	3.5	2	5	1.1	0.5	1.4	19
Euchone limnicola	Polychaeta	2	0	0	1	0	0.6	1.0	0	2	0.9	0.4	1.1	3
Exogone lourei	Polychaeta	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Leitoscoloplos pugettensis	Polychaeta	4	2	2	4	7	3.8	4.5	2	7	2.0	0.9	2.6	19
Lumbrineridae, unident.	Polychaeta	1	0	1	0	0	0.4	0.5	0	1	0.5	0.2	0.7	2
Mediomastus californiensis	Polychaeta	2	6	3	1	4	3.2	3.5	1	6	1.9	0.9	2.5	16
Paraprionospio pinnata	Polychaeta	0	1	0	2	1	0.8	1.0	0	2	0.8	0.4	1.1	4
Prionospio heterobranchia	Polychaeta	4	2	0	3	2	2.2	2.0	0	4	1.5	0.7	1.9	11
Scoletoma erecta	Polychaeta	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Scoletoma tetraura	Polychaeta	0	2	0	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2
nemertea	Nemertea	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Theora fragilis	Bivalvia	0	1	0	1	2	0.8	1.0	0	2	0.8	0.4	1.1	4
Musculista senhousi	Bivalvia	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Euphilomedes carcharodonta	Ostracoda	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Leptognathia sp.	Tanaidacea	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Grandidierella japonica	Amphipoda	2	0	0	5	0	1.4	2.5	0	5	2.2	1.0	2.8	7
Heptacarpus sp A	Decapoda	0	0	0	2	0	0.4	1.0	0	2	0.9	0.4	1.1	2
<b>Total Fauna</b>		<b>21</b>	<b>23</b>	<b>23</b>	<b>10</b>	<b>26</b>	<b>21.2</b>	<b>18.0</b>	<b>10</b>	<b>26</b>	<b>6.4</b>	<b>2.9</b>	<b>8.2</b>	<b>106</b>
<b>Total Polychaetes</b>		<b>14</b>	<b>21</b>	<b>20</b>	<b>10</b>	<b>18</b>	<b>17.8</b>	<b>15.5</b>	<b>10</b>	<b>21</b>	<b>4.5</b>	<b>2.0</b>	<b>5.8</b>	<b>89</b>
<b>Total Molluscs</b>		<b>2</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>1.0</b>	<b>1.5</b>	<b>0</b>	<b>3</b>	<b>1.2</b>	<b>0.5</b>	<b>1.6</b>	<b>5</b>
<b>Total Crustaceans</b>		<b>4</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>7</b>	<b>2.2</b>	<b>3.5</b>	<b>0</b>	<b>7</b>	<b>2.8</b>	<b>1.2</b>	<b>3.6</b>	<b>11</b>



BPTCP SAN DIEGO BAY Legs 20-23. Benthic Community Analyses: Statistical Summaries

	Number per core					Summary Statistics									
	rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CI.	sum		
<b>Total Species</b>	<b>21</b>	9	12	4	13	9	9.4	8.5	4	13	3.5	1.6	4.5	47	
<hr/>															
<b>28 Swartz (7th St Channel Q1)</b>	<b>893</b>	<b>894</b>	<b>895</b>	<b>893.1</b>	<b>893.2</b>										
Caulleriella sp(p).	Polychaeta	1	3	1	4	1	2.0	2.5	1	4	1.4	0.6	1.8	10	
Dorvillea longicornis	Polychaeta	0	2	0	1	0	0.6	1.0	0	2	0.9	0.4	1.1	3	
Eranno lagunae	Polychaeta	0	1	0	3	0	0.8	1.5	0	3	1.3	0.6	1.7	4	
Leitoscoloplos pugettensis	Polychaeta	0	2	0	1	0	0.6	1.0	0	2	0.9	0.4	1.1	3	
Lumbrineridae, unident.	Polychaeta	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Mediomastus californiensis	Polychaeta	0	1	0	3	0	0.8	1.5	0	3	1.3	0.6	1.7	4	
Neanthes acuminata	Polychaeta	1	1	1	1	2	1.2	1.5	1	2	0.4	0.2	0.6	6	
Odontosyllis phosphorea	Polychaeta	0	3	0	1	0	0.8	1.5	0	3	1.3	0.6	1.7	4	
Prionospio heterobranchia	Polychaeta	2	9	0	19	0	6.0	9.5	0	19	8.2	3.6	10.5	30	
Pseudopolydora paucibranchiata	Polychaeta	0	6	0	1	0	1.4	3.0	0	6	2.6	1.2	3.4	7	
Scoletoma tetraura	Polychaeta	2	0	0	1	0	0.6	1.0	0	2	0.9	0.4	1.1	3	
oligochaeta	Oligochaeta	0	1	0	1	0	0.4	0.5	0	1	0.5	0.2	0.7	2	
Lyonsia californica	Bivalvia	0	1	0	1	0	0.4	0.5	0	1	0.5	0.2	0.7	2	
Theora fragilis	Bivalvia	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Grandidierella japonica	Amphipoda	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
<b>Total Fauna</b>		<b>15</b>	6	30	2	40	3	16.2	21.0	2	40	17.6	7.9	22.6	81
<b>Total Polychaetes</b>		<b>11</b>	6	28	2	36	3	15.0	19.0	2	36	15.8	7.1	20.4	75
<b>Total Molluscs</b>		<b>2</b>	0	1	0	2	0	0.6	1.0	0	2	0.9	0.4	1.1	3
<b>Total Crustaceans</b>		<b>1</b>	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
<b>Total Species</b>		<b>15</b>	4	11	2	15	2	6.8	8.5	2	15	5.9	2.6	7.6	34
<hr/>															
<b>31 Swartz (Marine Terminal R3)</b>	<b>896</b>	<b>897</b>	<b>898</b>	<b>896.1</b>	<b>896.2</b>										
Armandia brevis	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Diplocirrus sp(p).	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1	
Dorvillea longicornis	Polychaeta	0	0	0	0	2	0.4	1.0	0	2	0.9	0.4	1.1	2	
Eteone sp(p).	Polychaeta	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Eranno lagunae	Polychaeta	2	0	3	1	3	1.8	1.5	0	3	1.3	0.6	1.7	9	
Euchone limnicola	Polychaeta	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Exogone lourei	Polychaeta	0	0	6	0	2	1.6	3.0	0	6	2.6	1.2	3.4	8	
Fabricinuda limicola	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Leitoscoloplos pugettensis	Polychaeta	2	2	45	6	11	13.2	23.5	2	45	18.2	8.1	23.3	66	
Mediomastus californiensis	Polychaeta	4	5	15	7	14	9.0	9.5	4	15	5.1	2.3	6.6	45	
Neanthes acuminata	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1	
Odontosyllis phosphorea	Polychaeta	1	0	2	0	0	0.6	1.0	0	2	0.9	0.4	1.1	3	

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		Number per core					Summary Statistics							
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CI	sum
Prionospio heterobranchia	Polychaeta	0	0	7	1	4	2.4	3.5	0	7	3.0	1.4	3.9	12
Pseudopolydora paucibranchiata	Polychaeta	1	0	2	1	3	1.4	1.5	0	3	1.1	0.5	1.5	7
Scolecopsis quinquentata	Polychaeta	0	0	2	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2
Scoloplos acmeceps	Polychaeta	2	2	0	0	0	0.8	1.0	0	2	1.1	0.5	1.4	4
nemertea	Nemertea	1	0	1	0	1	0.6	0.5	0	1	0.5	0.2	0.7	3
Musculista senhousi	Bivalvia	0	3	3	1	12	3.8	6.0	0	12	4.8	2.1	6.1	19
Theora fragilis	Bivalvia	0	0	2	1	0	0.6	1.0	0	2	0.9	0.4	1.1	3
Bulla sp.	Gastropoda	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Crucibulum spinosum	Gastropoda	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Siliqua lucida	Bivalvia	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Cylichnella sp.	Gastropoda	3	0	0	0	0	0.6	1.5	0	3	1.3	0.6	1.7	3
Parasterope barnesi	Ostracoda	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Euphilomedes carcharodonta	Ostracoda	1	1	5	0	0	1.4	2.5	0	5	2.1	0.9	2.7	7
Rudilemboides stenopropodus	Amphipoda	1	0	8	3	0	2.4	4.0	0	8	3.4	1.5	4.3	12
Acuminodeutopus heteruropus	Amphipoda	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Amphideutopus oculatus	Amphipoda	1	0	5	1	0	1.4	2.5	0	5	2.1	0.9	2.7	7
Heterophoxus oculatus	Gammaridea	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Synchelidium rectipalrum	Gammaridea	0	0	1	1	0	0.4	0.5	0	1	0.5	0.2	0.7	2
Zeuxo normani	Tanaidacea	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Anemone	Anthozoa	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
<b>Total Fauna</b>		<b>32</b>	<b>22</b>	<b>13</b>	<b>111</b>	<b>26</b>	<b>45.6</b>	<b>62.0</b>	<b>13</b>	<b>111</b>	<b>40.0</b>	<b>17.9</b>	<b>51.4</b>	<b>228</b>
<b>Total Polychaetes</b>		<b>16</b>	<b>14</b>	<b>9</b>	<b>83</b>	<b>17</b>	<b>32.8</b>	<b>46.0</b>	<b>9</b>	<b>83</b>	<b>30.6</b>	<b>13.7</b>	<b>39.4</b>	<b>164</b>
<b>Total Molluscs</b>		<b>6</b>	<b>4</b>	<b>3</b>	<b>6</b>	<b>3</b>	<b>5.6</b>	<b>7.5</b>	<b>3</b>	<b>12</b>	<b>3.8</b>	<b>1.7</b>	<b>4.9</b>	<b>28</b>
<b>Total Crustaceans</b>		<b>8</b>	<b>3</b>	<b>1</b>	<b>20</b>	<b>6</b>	<b>6.4</b>	<b>10.5</b>	<b>1</b>	<b>20</b>	<b>7.8</b>	<b>3.5</b>	<b>10.1</b>	<b>32</b>
<b>Total Species</b>		<b>32</b>	<b>14</b>	<b>5</b>	<b>19</b>	<b>13</b>	<b>12.8</b>	<b>12.0</b>	<b>5</b>	<b>19</b>	<b>5.0</b>	<b>2.2</b>	<b>6.5</b>	<b>64</b>

32 Swartz (Sweetwater Ch)		<u>875</u>	<u>876</u>	<u>877</u>	<u>875.1</u>	<u>875.2</u>								
Armandia brevis	Polychaeta	0	1	0	0	4	1.0	2.0	0	4	1.7	0.8	2.2	5
Capitella capitata complex	Polychaeta	0	0	3	1	0	0.8	1.5	0	3	1.3	0.6	1.7	4
Diplocirrus sp.(p).	Polychaeta	5	0	0	0	0	1.0	2.5	0	5	2.2	1.0	2.9	5
Dorvillea longicomis	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Eranno lagunae	Polychaeta	1	1	0	0	0	0.4	0.5	0	1	0.5	0.2	0.7	2
Eteone californica	Polychaeta	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Exogone uniformis	Polychaeta	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Fabricioida limicola	Polychaeta	0	1	3	0	0	0.8	1.5	0	3	1.3	0.6	1.7	4
Leitoscoloplos pugettensis	Polychaeta	8	1	0	0	1	2.0	4.0	0	8	3.4	1.5	4.4	10
Lumbrineridae, unident.	Polychaeta	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1

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		Number per core					Summary Statistics							
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CI.	sum
Mediomastus californiensis	Polychaeta	14	11	30	18	4	15.4	17.0	4	30	9.6	4.3	12.4	77
Neanthes acuminata	Polychaeta	0	1	4	0	1	1.2	2.0	0	4	1.6	0.7	2.1	6
Paraprionospio pinnata	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Polydora nuchalis	Polychaeta	0	0	0	5	0	1.0	2.5	0	5	2.2	1.0	2.9	5
Prionospio heterobranchia	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Pseudopolydora paucibranchiata	Polychaeta	2	3	19	16	7	9.4	10.5	2	19	7.7	3.4	9.9	47
Rhynchospio glutaea	Polychaeta	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Scolecopsis quinqueidentata	Polychaeta	0	0	1	3	0	0.8	1.5	0	3	1.3	0.6	1.7	4
Scoloplos acmeceps	Polychaeta	0	3	7	0	1	2.2	3.5	0	7	2.9	1.3	3.8	11
Streblospio benedicti	Polychaeta	0	0	1	2	0	0.6	1.0	0	2	0.9	0.4	1.1	3
nemertea	Nemertea	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
oligochaeta	Oligochaeta	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
phoronida	Phoronida	0	2	1	0	0	0.6	1.0	0	2	0.9	0.4	1.1	3
Musculista senhousi	Bivalvia	0	6	0	0	0	1.2	3.0	0	6	2.7	1.2	3.4	6
Macoma nasuta	Bivalvia	0	1	1	0	0	0.4	0.5	0	1	0.5	0.2	0.7	2
Acuminodeutopus heteruropus	Amphipoda	1	1	0	0	0	0.4	0.5	0	1	0.5	0.2	0.7	2
Rudilemboides stenopropodus	Amphipoda	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Corophium acherusicum	Gammaridea	0	0	2	1	0	0.6	1.0	0	2	0.9	0.4	1.1	3
Leptognathia sp.	Tanaidacea	0	1	0	0	1	0.4	0.5	0	1	0.5	0.2	0.7	2
Pontogeneia rostrata	Gammaridea	0	0	2	1	0	0.6	1.0	0	2	0.9	0.4	1.1	3
Grandidierella japonica	Amphipoda	0	0	16	8	3	5.4	8.0	0	16	6.8	3.0	8.7	27
<b>Total Fauna</b>		<b>31</b>	<b>32</b>	<b>35</b>	<b>93</b>	<b>57</b>	<b>48.2</b>	<b>58.5</b>	<b>24</b>	<b>93</b>	<b>27.9</b>	<b>12.5</b>	<b>35.8</b>	<b>241</b>
<b>Total Polychaetes</b>		<b>20</b>	<b>31</b>	<b>23</b>	<b>70</b>	<b>46</b>	<b>38.0</b>	<b>45.0</b>	<b>20</b>	<b>70</b>	<b>20.5</b>	<b>9.2</b>	<b>26.4</b>	<b>190</b>
<b>Total Molluscs</b>		<b>2</b>	<b>0</b>	<b>7</b>	<b>1</b>	<b>0</b>	<b>1.6</b>	<b>3.5</b>	<b>0</b>	<b>7</b>	<b>3.0</b>	<b>1.4</b>	<b>3.9</b>	<b>8</b>
<b>Total Crustaceans</b>		<b>6</b>	<b>1</b>	<b>3</b>	<b>20</b>	<b>10</b>	<b>7.6</b>	<b>10.5</b>	<b>1</b>	<b>20</b>	<b>7.7</b>	<b>3.4</b>	<b>9.9</b>	<b>38</b>
<b>Total Species</b>		<b>31</b>	<b>7</b>	<b>15</b>	<b>16</b>	<b>11</b>	<b>11.8</b>	<b>11.5</b>	<b>7</b>	<b>16</b>	<b>3.7</b>	<b>1.7</b>	<b>4.8</b>	<b>59</b>

34 Swartz (CV Yacht Basin)		824	825	826	824.1	824.2								
Brania brevipharyngea	Polychaeta	2	0	0	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2
Caulericiella sp(p).	Polychaeta	1	1	0	0	0	0.4	0.5	0	1	0.5	0.2	0.7	2
Cossura candida	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Diplocirrus sp(p).	Polychaeta	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Eranno lagunae	Polychaeta	1	1	2	2	0	1.2	1.0	0	2	0.8	0.4	1.1	6
Exogone molesta	Polychaeta	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Leitoscoloplos pugettensis	Polychaeta	86	32	26	45	70	51.8	56.0	26	86	25.5	11.4	32.8	259
Mediomastus californiensis	Polychaeta	28	11	3	14	11	13.4	15.5	3	28	9.1	4.1	11.7	67
Neanthes acuminata	Polychaeta	10	6	2	7	3	5.6	6.0	2	10	3.2	1.4	4.1	28

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		Number per core					Summary Statistics							
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CI	sum
Odontosyllis phosphorea	Polychaeta	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Pherusa capulata	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Pherusa sp(p).	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Pista alata	Polychaeta	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Prionospio heterobranchia	Polychaeta	3	0	2	1	4	2.0	2.0	0	4	1.6	0.7	2.0	10
Prionospio sp(p).	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Pseudopolydora paucibranchiata	Polychaeta	0	0	2	1	0	0.6	1.0	0	2	0.9	0.4	1.1	3
Scolecopsis quinquentata	Polychaeta	2	2	0	0	0	0.8	1.0	0	2	1.1	0.5	1.4	4
Scoloplos acmeceps	Polychaeta	1	0	1	0	0	0.4	0.5	0	1	0.5	0.2	0.7	2
nemertea	Nemertea	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
oligochaeta	Oligochaeta	3	0	0	1	1	1.0	1.5	0	3	1.2	0.5	1.6	5
phoronida	Phoronida	0	0	0	3	0	0.6	1.5	0	3	1.3	0.6	1.7	3
Musculista senhousi	Bivalvia	1	6	2	4	0	2.6	3.0	0	6	2.4	1.1	3.1	13
Parasterope barnesi	Ostracoda	2	0	0	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2
Euphilomedes carcharodonta	Ostracoda	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Synchelidium rectipalnum	Gammaridea	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Acuminodeutopus heteropus	Amphipoda	5	1	1	0	0	1.4	2.5	0	5	2.1	0.9	2.7	7
Rudilemboides stenopropodus	Amphipoda	2	1	1	2	0	1.2	1.0	0	2	0.8	0.4	1.1	6
Elasmopus rapax	Amphipoda	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Leptognathia sp.	Tanaidacea	1	0	1	2	0	0.8	1.0	0	2	0.8	0.4	1.1	4
Mayerella banksia	Amphipoda	0	0	0	7	0	1.4	3.5	0	7	3.1	1.4	4.0	7
Macoma nasuta	Bivalvia	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Leptochelia dubia	Tanaidacea	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Anemone	Anthozoa	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
<b>Total Fauna</b>		<b>33</b>	<b>154</b>	<b>63</b>	<b>45</b>	<b>93</b>	<b>89.0</b>	<b>99.5</b>	<b>45</b>	<b>154</b>	<b>41.4</b>	<b>18.5</b>	<b>53.2</b>	<b>445</b>
<b>Total Polychaetes</b>		<b>18</b>	<b>138</b>	<b>54</b>	<b>40</b>	<b>71</b>	<b>78.2</b>	<b>89.0</b>	<b>40</b>	<b>138</b>	<b>38.0</b>	<b>17.0</b>	<b>48.8</b>	<b>391</b>
<b>Total Molluscs</b>		<b>2</b>	<b>1</b>	<b>6</b>	<b>2</b>	<b>5</b>	<b>2.8</b>	<b>3.0</b>	<b>0</b>	<b>6</b>	<b>2.6</b>	<b>1.2</b>	<b>3.3</b>	<b>14</b>
<b>Total Crustaceans</b>		<b>9</b>	<b>11</b>	<b>2</b>	<b>3</b>	<b>13</b>	<b>6.0</b>	<b>7.0</b>	<b>1</b>	<b>13</b>	<b>5.6</b>	<b>2.5</b>	<b>7.2</b>	<b>30</b>
<b>Total Species</b>		<b>33</b>	<b>21</b>	<b>11</b>	<b>13</b>	<b>16</b>	<b>13.4</b>	<b>13.5</b>	<b>6</b>	<b>21</b>	<b>5.6</b>	<b>2.5</b>	<b>7.2</b>	<b>67</b>

35 Swartz (Coronado Cays)

		843	844	845	843.1	843.2								
Diplocirrus sp(p).	Polychaeta	2	1	2	0	0	1.0	1.0	0	2	1.0	0.4	1.3	5
Eranno lagunae	Polychaeta	5	0	1	2	6	2.8	3.0	0	6	2.6	1.2	3.3	14
Eteone sp(p).	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Exogone lourei	Polychaeta	8	5	1	2	16	6.4	8.5	1	16	6.0	2.7	7.7	32
Exogone molesta	Polychaeta	0	0	0	0	4	0.8	2.0	0	4	1.8	0.8	2.3	4
Leitoscoloplos pugettensis	Polychaeta	22	7	3	14	26	14.4	14.5	3	26	9.7	4.3	12.5	72

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		Number per core					Summary Statistics								
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CI	sum	
Mediomastus californiensis	Polychaeta	10	0	1	14	6	6.2	7.0	0	14	5.9	2.7	7.6	31	
Neanthes acuminata	Polychaeta	3	0	0	2	3	1.6	1.5	0	3	1.5	0.7	1.9	8	
Pista alata	Polychaeta	1	0	1	1	3	1.2	1.5	0	3	1.1	0.5	1.4	6	
Prionospio heterobranchia	Polychaeta	2	1	1	1	0	1.0	1.0	0	2	0.7	0.3	0.9	5	
Prionospio steenstrupi	Polychaeta	0	0	0	0	3	0.6	1.5	0	3	1.3	0.6	1.7	3	
Pseudopolydora paucibranchiata	Polychaeta	0	0	0	1	1	0.4	0.5	0	1	0.5	0.2	0.7	2	
Scolecopsis quinquentata	Polychaeta	0	0	0	4	0	0.8	2.0	0	4	1.8	0.8	2.3	4	
nemertea	Nemertea	0	0	0	2	0	0.4	1.0	0	2	0.9	0.4	1.1	2	
Musculista senhousi	Bivalvia	1	0	5	0	6	2.4	3.0	0	6	2.9	1.3	3.7	12	
Ampithoe sp.	Gammaridea	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Hyale frequens	Gammaridea	1	1	1	1	0	0.8	0.5	0	1	0.4	0.2	0.6	4	
Rudilemboides stenopropodus	Amphipoda	5	7	4	5	6	5.4	5.5	4	7	1.1	0.5	1.5	27	
Lembo sp.	Gammaridea	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Acuminodeutopus heteruropus	Amphipoda	8	8	7	6	13	8.4	9.5	6	13	2.7	1.2	3.5	42	
Synchelidium rectipalium	Gammaridea	2	1	0	4	8	3.0	4.0	0	8	3.2	1.4	4.1	15	
Monoculodes hartmanae	Amphipoda	3	0	0	1	5	1.8	2.5	0	5	2.2	1.0	2.8	9	
Leptognathia sp.	Tanaidacea	2	2	4	4	2	2.8	3.0	2	4	1.1	0.5	1.4	14	
Zeuxo normani	Tanaidacea	1	0	1	1	0	0.6	0.5	0	1	0.5	0.2	0.7	3	
Amphilocheidae	Gammaridea	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Campylaspis rubromaculata	Cumacea	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Euphilomedes carcharodonta	Ostracoda	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Parasterope barnesi	Ostracoda	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Holothuroid	Holothuroidea	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Anemone	Anthozoa	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
<b>Total Fauna</b>		<b>30</b>	<b>80</b>	<b>37</b>	<b>32</b>	<b>65</b>	<b>109</b>	<b>64.6</b>	<b>70.5</b>	<b>32</b>	<b>109</b>	<b>31.8</b>	<b>14.2</b>	<b>40.8</b>	<b>323</b>
<b>Total Polychaetes</b>		<b>13</b>	<b>53</b>	<b>14</b>	<b>10</b>	<b>41</b>	<b>69</b>	<b>37.4</b>	<b>39.5</b>	<b>10</b>	<b>69</b>	<b>25.3</b>	<b>11.3</b>	<b>32.5</b>	<b>187</b>
<b>Total Molluscs</b>		<b>1</b>	<b>1</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>6</b>	<b>2.4</b>	<b>3.0</b>	<b>0</b>	<b>6</b>	<b>2.9</b>	<b>1.3</b>	<b>3.7</b>	<b>12</b>
<b>Total Crustaceans</b>		<b>13</b>	<b>24</b>	<b>23</b>	<b>17</b>	<b>22</b>	<b>34</b>	<b>24.0</b>	<b>25.5</b>	<b>17</b>	<b>34</b>	<b>6.2</b>	<b>2.8</b>	<b>8.0</b>	<b>120</b>
<b>Total Echinoderms</b>		<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.2</b>	<b>0.5</b>	<b>0</b>	<b>1</b>	<b>0.4</b>	<b>0.2</b>	<b>0.6</b>	<b>1</b>
<b>Total Species</b>		<b>30</b>	<b>20</b>	<b>13</b>	<b>13</b>	<b>17</b>	<b>16</b>	<b>15.8</b>	<b>16.5</b>	<b>13</b>	<b>20</b>	<b>2.9</b>	<b>1.3</b>	<b>3.8</b>	<b>79</b>

37 Swartz (Marina)		815	816	817	815.1	815.2								
Mediomastus californiensis	Polychaeta	5	8	6	11	21	10.2	13.0	5	21	6.5	2.9	8.3	51
Acuminodeutopus heteruropus	Amphipoda	14	9	6	3	2	6.8	8.0	2	14	4.9	2.2	6.3	34
Exogone lourei	Polychaeta	2	28	0	1	1	6.4	14.0	0	28	12.1	5.4	15.5	32
Leitoscoloplos pugettensis	Polychaeta	4	8	1	1	4	3.6	4.5	1	8	2.9	1.3	3.7	18
Rudilemboides stenopropodus	Amphipoda	4	4	1	5	3	3.4	3.0	1	5	1.5	0.7	1.9	17

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		Number 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
Musculista senhousei	Bivalvia	2	6	2	0	6	3.2	3.0	0	6	2.7	1.2	3.4	16
Eranno lagunae	Polychaeta	3	4	3	2	1	2.6	2.5	1	4	1.1	0.5	1.5	13
Prionospio heterobranchia	Polychaeta	2	2	1	3	3	2.2	2.0	1	3	0.8	0.4	1.1	11
Pista alata	Polychaeta	1	3	0	2	2	1.6	1.5	0	3	1.1	0.5	1.5	8
Diplocirrus sp(p).	Polychaeta	1	2	2	2	0	1.4	1.0	0	2	0.9	0.4	1.1	7
Scoletoma tetraura	Polychaeta	0	0	3	4	0	1.4	2.0	0	4	1.9	0.9	2.5	7
Pseudopolydora paucibranchiata	Polychaeta	1	3	0	0	0	0.8	1.5	0	3	1.3	0.6	1.7	4
Anemone	Anthozoa	1	0	0	2	1	0.8	1.0	0	2	0.8	0.4	1.1	4
Exogone uniformis	Polychaeta	0	2	1	0	0	0.6	1.0	0	2	0.9	0.4	1.1	3
Neanthes acuminata	Polychaeta	1	1	0	1	0	0.6	0.5	0	1	0.5	0.2	0.7	3
Euphilomedes carcharodonta	Ostracoda	0	0	2	0	1	0.6	1.0	0	2	0.9	0.4	1.1	3
Odontosyllis phosphorea	Polychaeta	0	0	0	1	1	0.4	0.5	0	1	0.5	0.2	0.7	2
Monoculodes hartmanae	Amphipoda	0	2	0	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2
Heterophoxus oculatus	Gammaridea	0	1	0	0	1	0.4	0.5	0	1	0.5	0.2	0.7	2
Euchone limnicola	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Eupolymnia sp(p).	Polychaeta	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Exogone sp(p).	Polychaeta	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Glycera americana	Polychaeta	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Scolecopsis quinqueidentata	Polychaeta	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Scoloplos acmeceps	Polychaeta	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
nemertea	Nemertea	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Mayerella banksia	Amphipoda	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Heptacarpus sp. A	Decapoda	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Zeuxo noronani	Tanaidacea	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
<b>Total Fauna</b>		<b>29</b>	<b>43</b>	<b>88</b>	<b>28</b>	<b>40</b>	<b>49.4</b>	<b>58.0</b>	<b>28</b>	<b>88</b>	<b>22.8</b>	<b>10.2</b>	<b>29.3</b>	<b>247</b>
<b>Total Polychaetes</b>		<b>18</b>	<b>20</b>	<b>65</b>	<b>17</b>	<b>29</b>	<b>33.0</b>	<b>41.0</b>	<b>17</b>	<b>65</b>	<b>19.1</b>	<b>8.6</b>	<b>24.6</b>	<b>165</b>
<b>Total Molluscs</b>		<b>1</b>	<b>2</b>	<b>6</b>	<b>2</b>	<b>0</b>	<b>3.2</b>	<b>3.0</b>	<b>0</b>	<b>6</b>	<b>2.7</b>	<b>1.2</b>	<b>3.4</b>	<b>16</b>
<b>Total Crustaceans</b>		<b>8</b>	<b>20</b>	<b>17</b>	<b>9</b>	<b>8</b>	<b>12.2</b>	<b>13.5</b>	<b>7</b>	<b>20</b>	<b>5.9</b>	<b>2.6</b>	<b>7.6</b>	<b>61</b>
<b>Total Species</b>		<b>29</b>	<b>15</b>	<b>20</b>	<b>11</b>	<b>15</b>	<b>15.0</b>	<b>15.5</b>	<b>11</b>	<b>20</b>	<b>3.2</b>	<b>1.4</b>	<b>4.2</b>	<b>75</b>

41 Swartz (Glorietta Bay)

		821	822	823	821.1	821.2								
Capitella capitata complex	Polychaeta	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Diplocirrus sp(p).	Polychaeta	4	1	1	7	6	3.8	4.0	1	7	2.8	1.2	3.6	19
Dorvillea longicornis	Polychaeta	3	10	10	0	5	5.6	5.0	0	10	4.4	2.0	5.6	28
Eranno lagunae	Polychaeta	7	3	2	4	4	4.0	4.5	2	7	1.9	0.8	2.4	20
Euchone limnicola	Polychaeta	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Exogone lourei	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1

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		Number per core					Summary Statistics							
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CI.	sum
<i>Leitoscoloplos pugettensis</i>	Polychaeta	27	10	18	15	6	15.2	16.5	6	27	8.0	3.6	10.3	76
Lumbrineridae, unident.	Polychaeta	0	3	12	1	0	3.2	6.0	0	12	5.1	2.3	6.5	16
<i>Mediomastus californiensis</i>	Polychaeta	24	27	22	36	29	27.6	29.0	22	36	5.4	2.4	7.0	138
<i>Nephtys cornuta</i>	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
<i>Pherusa capulata</i>	Polychaeta	0	2	0	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2
<i>Pista alata</i>	Polychaeta	5	12	3	0	4	4.8	6.0	0	12	4.4	2.0	5.7	24
<i>Polydora cornuta</i>	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
<i>Prionospio heterobranchia</i>	Polychaeta	5	5	7	4	7	5.6	5.5	4	7	1.3	0.6	1.7	28
<i>Pseudopolydora paucibranchiata</i>	Polychaeta	4	0	1	0	0	1.0	2.0	0	4	1.7	0.8	2.2	5
<i>Scolecopsis quinquentata</i>	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
<i>Scoletoma tetraura</i>	Polychaeta	2	10	2	0	0	2.8	5.0	0	10	4.1	1.9	5.3	14
<i>Scoloplos acmeiceps</i>	Polychaeta	0	0	0	3	0	0.6	1.5	0	3	1.3	0.6	1.7	3
nemertea		0	1	0	0	1	0.4	0.5	0	1	0.5	0.2	0.7	2
<i>Musculista senhousi</i>	Bivalvia	7	79	96	0	8	38.0	48.0	0	96	45.7	20.4	58.7	190
<i>Paradexamine</i> sp.	Amphipod	1	1	0	0	0	0.4	0.5	0	1	0.5	0.2	0.7	2
<i>Zeuxo normani</i>	Tanaidacea	0	1	0	1	0	0.4	0.5	0	1	0.5	0.2	0.7	2
<i>Acuminoleutopus heteruropus</i>	Amphipoda	0	0	6	1	13	4.0	6.5	0	13	5.6	2.5	7.2	20
<i>Rudilemboides stenopropodus</i>	Amphipoda	0	0	5	1	17	4.6	8.5	0	17	7.2	3.2	9.3	23
<i>Amphideutopus oculatus</i>	Amphipoda	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
<i>Synchelidium rectipalmmum</i>	Gammaridea	0	0	2	0	3	1.0	1.5	0	3	1.4	0.6	1.8	5
<i>Monoculodes hartmanae</i>	Amphipoda	0	1	1	1	0	0.6	0.5	0	1	0.5	0.2	0.7	3
<i>Ancmone</i>	Anthozoa	0	0	0	4	2	1.2	2.0	0	4	1.8	0.8	2.3	6
<b>Total Fauna</b>		<b>28</b>	<b>91</b>	<b>166</b>	<b>190</b>	<b>78</b>	<b>126.6</b>	<b>134.0</b>	<b>78</b>	<b>190</b>	<b>48.9</b>	<b>21.8</b>	<b>62.8</b>	<b>633</b>
<b>Total Polychaetes</b>		<b>18</b>	<b>83</b>	<b>83</b>	<b>80</b>	<b>63</b>	<b>75.8</b>	<b>73.0</b>	<b>63</b>	<b>83</b>	<b>8.9</b>	<b>4.0</b>	<b>11.5</b>	<b>379</b>
<b>Total Molluscs</b>		<b>1</b>	<b>7</b>	<b>79</b>	<b>96</b>	<b>0</b>	<b>38.0</b>	<b>48.0</b>	<b>0</b>	<b>96</b>	<b>45.7</b>	<b>20.4</b>	<b>58.7</b>	<b>190</b>
<b>Total Crustaceans</b>		<b>7</b>	<b>1</b>	<b>3</b>	<b>14</b>	<b>4</b>	<b>11.2</b>	<b>17.5</b>	<b>1</b>	<b>34</b>	<b>13.7</b>	<b>6.1</b>	<b>17.6</b>	<b>56</b>
<b>Total Species</b>		<b>28</b>	<b>17</b>	<b>15</b>	<b>13</b>	<b>12</b>	<b>14.6</b>	<b>14.5</b>	<b>12</b>	<b>17</b>	<b>2.1</b>	<b>0.9</b>	<b>2.7</b>	<b>73</b>

<b>K Swartz (Naval Base 04)</b>		<b>862</b>	<b>863</b>	<b>864</b>	<b>862.1</b>	<b>862.2</b>								
<i>Aphelochaeta multifilis</i>	Polychaeta	0	0	17	0	0	3.4	8.5	0	17	7.6	3.4	9.8	17
<i>Cirifomia luxuriosa</i>	Polychaeta	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
<i>Dorvillea longicornis</i>	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
<i>Eranno lagunae</i>	Polychaeta	1	4	0	1	5	2.2	2.5	0	5	2.2	1.0	2.8	11
<i>Exogone lourei</i>	Polychaeta	1	0	0	0	1	0.4	0.5	0	1	0.5	0.2	0.7	2
<i>Leitoscoloplos pugettensis</i>	Polychaeta	4	17	7	8	7	8.6	10.5	4	17	4.9	2.2	6.3	43
<i>Mediomastus californiensis</i>	Polychaeta	1	3	0	1	1	1.2	1.5	0	3	1.1	0.5	1.4	6
<i>Neanthes acuminata</i>	Polychaeta	0	1	3	0	0	0.8	1.5	0	3	1.3	0.6	1.7	4

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		Number per core					Summary Statistics							
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CI	sum
Odontosyllis phosphorea	Polychaeta	0	0	1	2	1	0.8	1.0	0	2	0.8	0.4	1.1	4
Prionospio heterobranchia	Polychaeta	5	4	0	2	4	3.0	2.5	0	5	2.0	0.9	2.6	15
Scoletoma tetraura	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
nemertea	Nemertea	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Musculista senhousei	Bivalvia	3	4	5	10	10	6.4	6.5	3	10	3.4	1.5	4.3	32
Crepidula fornicata	Gastropoda	0	1	0	0	1	0.4	0.5	0	1	0.5	0.2	0.7	2
Acuminodeutopus heteruropus	Amphipoda	2	0	0	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2
Amphideutopus oculus	Amphipoda	6	0	0	2	0	1.6	3.0	0	6	2.6	1.2	3.4	8
Rudilemboides stenopropodus	Amphipoda	2	0	0	7	1	2.0	3.5	0	7	2.9	1.3	3.7	10
Grandidierella japonica	Amphipoda	0	0	1	2	4	1.4	2.0	0	4	1.7	0.7	2.2	7
Zeuxo normani	Tanaidacea	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Paranthura elegans	Isopoda	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Heptacarpus sp. A	Decapoda	0	0	1	1	1	0.6	0.5	0	1	0.5	0.2	0.7	3
<b>Total Fauna</b>		<b>21</b>	<b>25</b>	<b>35</b>	<b>36</b>	<b>37</b>	<b>34.4</b>	<b>32.0</b>	<b>25</b>	<b>39</b>	<b>5.5</b>	<b>2.4</b>	<b>7.0</b>	<b>172</b>
<b>Total Polychaetes</b>		<b>11</b>	<b>12</b>	<b>30</b>	<b>28</b>	<b>14</b>	<b>21.0</b>	<b>21.0</b>	<b>12</b>	<b>30</b>	<b>8.1</b>	<b>3.6</b>	<b>10.4</b>	<b>105</b>
<b>Total Molluscs</b>		<b>2</b>	<b>3</b>	<b>5</b>	<b>5</b>	<b>10</b>	<b>6.8</b>	<b>7.0</b>	<b>3</b>	<b>11</b>	<b>3.5</b>	<b>1.6</b>	<b>4.5</b>	<b>34</b>
<b>Total Crustaceans</b>		<b>7</b>	<b>10</b>	<b>0</b>	<b>3</b>	<b>12</b>	<b>6.4</b>	<b>6.0</b>	<b>0</b>	<b>12</b>	<b>4.9</b>	<b>2.2</b>	<b>6.3</b>	<b>32</b>
<b>Total Species</b>		<b>21</b>	<b>9</b>	<b>8</b>	<b>8</b>	<b>11</b>	<b>10.0</b>	<b>11.0</b>	<b>8</b>	<b>14</b>	<b>2.5</b>	<b>1.1</b>	<b>3.3</b>	<b>50</b>

NSB-M1 (Sub Base C2)		871	872	873	871.1	871.2								
Ampharete labrops	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Aphelocheata multifilis	Polychaeta	0	1	0	1	0	0.4	0.5	0	1	0.5	0.2	0.7	2
Cossura candida	Polychaeta	10	4	1	1	4	4.0	5.5	1	10	3.7	1.6	4.7	20
Eranno lagunae	Polychaeta	1	11	5	2	7	5.2	6.0	1	11	4.0	1.8	5.2	26
Glycera americana	Polychaeta	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Leitoscoloplos pugettensis	Polychaeta	10	21	7	7	12	11.4	14.0	7	21	5.8	2.6	7.4	57
Lumbrineridae, unident.	Polychaeta	0	1	0	0	1	0.4	0.5	0	1	0.5	0.2	0.7	2
Mediomastus californiensis	Polychaeta	2	3	0	7	4	3.2	3.5	0	7	2.6	1.2	3.3	16
Melinna oculata	Polychaeta	0	0	0	1	1	0.4	0.5	0	1	0.5	0.2	0.7	2
Metasychis disparidentata	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Monticellina sp. C	Polychaeta	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Monticellina tessellata	Polychaeta	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Neanthes acuminata	Polychaeta	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Nephtys comuta	Polychaeta	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Paraprionospio pinnata	Polychaeta	0	1	0	2	0	0.6	1.0	0	2	0.9	0.4	1.1	3
Prionospio heterobranchia	Polychaeta	3	2	0	4	2	2.2	2.0	0	4	1.5	0.7	1.9	11
Prionospio lighti	Polychaeta	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1



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		Number per core					Summary Statistics								
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CI.	sum	
Scoletoma erecta	Polychaeta	2	1	3	2	5	2.6	3.0	1	5	1.5	0.7	1.9	13	
nemertea	Nemertea	1	3	1	0	0	1.0	1.5	0	3	1.2	0.5	1.6	5	
oligochaeta	Oligochaeta	2	0	1	2	0	1.0	1.0	0	2	1.0	0.4	1.3	5	
Mactra californica	Bivalvia	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Theora fragilis	Bivalvia	0	1	0	2	1	0.8	1.0	0	2	0.8	0.4	1.1	4	
Laevicardium substriatum	Bivalvia	1	1	4	2	0	1.6	2.0	0	4	1.5	0.7	1.9	8	
Tagelus subteres	Bivalvia	0	2	0	2	1	1.0	1.0	0	2	1.0	0.4	1.3	5	
Nassarius perpinguis	Gastropoda	0	1	0	0	3	0.8	1.5	0	3	1.3	0.6	1.7	4	
Macoma nausta	Bivalvia	1	0	0	1	0	0.4	0.5	0	1	0.5	0.2	0.7	2	
Macoma sp.	Bivalvia	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Cryptomya californica	Bivalvia	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Cooperella subdiaphana	Bivalvia	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Aglaja sp.	Gastropoda	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Sulcoretusa xystrum	Gastropoda	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Musculista senhousi	Bivalvia	0	0	2	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2	
Euphilomedes carcharodonta	Ostracoda	10	1	12	9	5	7.4	6.5	1	12	4.4	2.0	5.6	37	
Cylichnella inculta	Gastropoda	1	0	1	0	2	0.8	1.0	0	2	0.8	0.4	1.1	4	
Ampelisea cristata	Gammaridea	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Rudilemboides stenopropodus	Amphipoda	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Parasterope barnesi	Ostracoda	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Diastylis sp.	Cumacea	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Neastacilla californica	Isopoda	0	2	0	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2	
Nuculana taphria	Bivalvia	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Odostomia sp.	Gastropoda	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1	
Bivalve	Bivalvia	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1	
ophiuroid	Ophiuroidea	0	2	0	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2	
<b>Total Fauna</b>		<b>43</b>	<b>47</b>	<b>64</b>	<b>41</b>	<b>50</b>	<b>51</b>	<b>50.6</b>	<b>52.5</b>	<b>41</b>	<b>64</b>	<b>8.4</b>	<b>3.8</b>	<b>10.9</b>	<b>253</b>
<b>Total Polychaetes</b>		<b>18</b>	<b>29</b>	<b>48</b>	<b>18</b>	<b>28</b>	<b>37</b>	<b>32.0</b>	<b>33.0</b>	<b>18</b>	<b>48</b>	<b>11.2</b>	<b>5.0</b>	<b>14.4</b>	<b>160</b>
<b>Total Molluscs</b>		<b>16</b>	<b>4</b>	<b>6</b>	<b>9</b>	<b>10</b>	<b>9</b>	<b>7.6</b>	<b>7.0</b>	<b>4</b>	<b>10</b>	<b>2.5</b>	<b>1.1</b>	<b>3.2</b>	<b>38</b>
<b>Total Crustaceans</b>		<b>6</b>	<b>11</b>	<b>5</b>	<b>12</b>	<b>10</b>	<b>5</b>	<b>8.6</b>	<b>8.5</b>	<b>5</b>	<b>12</b>	<b>3.4</b>	<b>1.5</b>	<b>4.3</b>	<b>43</b>
<b>Total Echinoderms</b>		<b>1</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.4</b>	<b>1.0</b>	<b>0</b>	<b>2</b>	<b>0.9</b>	<b>0.4</b>	<b>1.1</b>	<b>2</b>
<b>Total Species</b>		<b>43</b>	<b>15</b>	<b>23</b>	<b>14</b>	<b>20</b>	<b>16</b>	<b>17.6</b>	<b>18.5</b>	<b>14</b>	<b>23</b>	<b>3.8</b>	<b>1.7</b>	<b>4.9</b>	<b>88</b>

**P Swartz (Naval Base 012)**

		<b>868</b>	<b>869</b>	<b>870</b>	<b>868.1</b>	<b>868.2</b>								
Caulerliella sp(p).	Polychaeta	0	1	0	1	0	0.4	0.5	0	1	0.5	0.2	0.7	2
Cossura candida	Polychaeta	0	0	0	1	1	0.4	0.5	0	1	0.5	0.2	0.7	2
Dorvillea longicornis	Polychaeta	1	0	0	1	0	0.4	0.5	0	1	0.5	0.2	0.7	2

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		Number per core					Summary Statistics							
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CI.	sum
Diplocirrus sp(p).	Polychaeta	0	8	1	0	5	2.8	4.0	0	8	3.6	1.6	4.6	14
Eranno lagunae	Polychaeta	1	4	1	4	7	3.4	4.0	1	7	2.5	1.1	3.2	17
Euchone limnicola	Polychaeta	4	0	0	3	4	2.2	2.0	0	4	2.0	0.9	2.6	11
Exogone lourei	Polychaeta	2	0	1	0	0	0.6	1.0	0	2	0.9	0.4	1.1	3
Leitoscoloplos pugettensis	Polychaeta	3	26	5	2	5	8.2	14.0	2	26	10.0	4.5	12.9	41
Lumbrineridae, unident.	Polychaeta	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Mediomastus californiensis	Polychaeta	0	3	8	3	14	5.6	7.0	0	14	5.5	2.5	7.1	28
Odontosyllis phosphorea	Polychaeta	1	1	0	0	0	0.4	0.5	0	1	0.5	0.2	0.7	2
Paraprionospio pinnata	Polychaeta	0	0	0	0	3	0.6	1.5	0	3	1.3	0.6	1.7	3
Pista alata	Polychaeta	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Prionospio heterobranchia	Polychaeta	9	8	7	10	7	8.2	8.5	7	10	1.3	0.6	1.7	41
Pseudopolydora paucibranchiata	Polychaeta	2	0	0	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2
Scolelepis quinquedentata	Polychaeta	0	0	2	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2
Scoletoma erecta	Polychaeta	0	0	0	3	0	0.6	1.5	0	3	1.3	0.6	1.7	3
Scoletoma tetraura	Polychaeta	2	1	0	1	1	1.0	1.0	0	2	0.7	0.3	0.9	5
Theora fragilis	Bivalvia	3	10	1	2	0	3.2	5.0	0	10	4.0	1.8	5.1	16
Laevicardium substriatum	Bivalvia	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Musculista senhousi	Bivalvia	0	2	0	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2
Theora fragilis	Bivalvia	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Parasterope barnesi	Ostracoda	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Euphilomedes carcharodonta	Ostracoda	1	2	2	0	0	1.0	1.0	0	2	1.0	0.4	1.3	5
Grandidictella japonica	Amphipoda	10	0	0	1	0	2.2	5.0	0	10	4.4	2.0	5.6	11
Synchelidium rectipalmum	Gammaridea	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Rudilemboides stenopropodus	Amphipoda	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Heptacarpus sp. A	Decapoda	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
<b>Total Fauna</b>		<b>28</b>	<b>40</b>	<b>70</b>	<b>30</b>	<b>32</b>	<b>44.0</b>	<b>50.0</b>	<b>30</b>	<b>70</b>	<b>16.2</b>	<b>7.2</b>	<b>20.8</b>	<b>220</b>
<b>Total Polychaetes</b>		<b>18</b>	<b>25</b>	<b>54</b>	<b>25</b>	<b>29</b>	<b>36.0</b>	<b>39.5</b>	<b>25</b>	<b>54</b>	<b>13.6</b>	<b>6.1</b>	<b>17.4</b>	<b>180</b>
<b>Total Molluscs</b>		<b>4</b>	<b>4</b>	<b>12</b>	<b>2</b>	<b>0</b>	<b>4.0</b>	<b>6.0</b>	<b>0</b>	<b>12</b>	<b>4.7</b>	<b>2.1</b>	<b>6.0</b>	<b>20</b>
<b>Total Crustaceans</b>		<b>6</b>	<b>11</b>	<b>4</b>	<b>3</b>	<b>1</b>	<b>4.0</b>	<b>6.0</b>	<b>1</b>	<b>11</b>	<b>4.1</b>	<b>1.8</b>	<b>5.3</b>	<b>20</b>
<b>Total Species</b>		<b>28</b>	<b>13</b>	<b>15</b>	<b>11</b>	<b>10</b>	<b>12.2</b>	<b>12.5</b>	<b>10</b>	<b>15</b>	<b>1.9</b>	<b>0.9</b>	<b>2.5</b>	<b>61</b>

SDNI- N5 (Carrier Base V2)		899	1000	1001	899.1	899.2								
Aphelochoeta multifilis	Polychaeta	0	0	0	2	1	0.6	1.0	0	2	0.9	0.4	1.1	3
Armandia brevis	Polychaeta	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Autolytus sp(p).	Polychaeta	2	0	0	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2
Cossura candida	Polychaeta	0	0	1	0	1	0.4	0.5	0	1	0.5	0.2	0.7	2
Diplocirrus sp(p).	Polychaeta	4	0	7	0	4	3.0	3.5	0	7	3.0	1.3	3.9	15

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		Number per core					Summary Statistics							
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CI.	sum
Dorvillea longicomis	Polychaeta	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Eranno lagunae	Polychaeta	3	1	7	3	5	3.8	4.0	1	7	2.3	1.0	2.9	19
Exogone lourei	Polychaeta	1	15	0	16	1	6.6	8.0	0	16	8.1	3.6	10.5	33
Fabricinuda limicola	Polychaeta	4	0	1	18	0	4.6	9.0	0	18	7.7	3.4	9.9	23
Harmothoe hirsuta	Polychaeta	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Harmothoe imbricata	Polychaeta	0	2	0	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2
Leitoscoloplos pugettensis	Polychaeta	1	1	6	0	8	3.2	4.0	0	8	3.6	1.6	4.6	16
Lumbrineridae, unident.	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Mediomastus californiensis	Polychaeta	1	1	0	1	1	0.8	0.5	0	1	0.4	0.2	0.6	4
Melinna oculata	Polychaeta	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Neanthes acuminata	Polychaeta	2	6	0	1	0	1.8	3.0	0	6	2.5	1.1	3.2	9
Nephtys cornuta	Polychaeta	0	0	3	0	0	0.6	1.5	0	3	1.3	0.6	1.7	3
Nereididae, unident.	Polychaeta	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Paraprionospio pinnata	Polychaeta	0	0	2	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2
Pherusa capulata	Polychaeta	1	8	0	0	0	1.8	4.0	0	8	3.5	1.6	4.5	9
Pista alata	Polychaeta	0	0	1	1	0	0.4	0.5	0	1	0.5	0.2	0.7	2
Polyopthalmus pictus	Polychaeta	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Prionospio heterobranchia	Polychaeta	6	4	1	8	2	4.2	4.5	1	8	2.9	1.3	3.7	21
Pseudopolydora paucibranchiata	Polychaeta	1	30	6	43	0	16.0	21.5	0	43	19.4	8.7	24.9	80
Scoletoma erecta	Polychaeta	0	0	0	0	2	0.4	1.0	0	2	0.9	0.4	1.1	2
Scyphoproctus sp(p).	Polychaeta	13	17	0	5	0	7.0	8.5	0	17	7.7	3.4	9.9	35
Spiophanes missionensis	Polychaeta	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
nemertea	Nemertea	3	1	0	2	0	1.2	1.5	0	3	1.3	0.6	1.7	6
Musculista senhousi	Bivalvia	16	16	4	6	8	10.0	10.0	4	16	5.7	2.5	7.3	50
Theora fragilis	Bivalvia	0	0	1	0	3	0.8	1.5	0	3	1.3	0.6	1.7	4
Crepidula fornicata	Gastropoda	9	4	0	1	3	3.4	4.5	0	9	3.5	1.6	4.5	17
Laevicardium substriatum	Bivalvia	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Lyonsia californica	Bivalvia	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Parasterope barnesi	Ostracoda	1	10	0	2	0	2.6	5.0	0	10	4.2	1.9	5.4	13
Euphilomedes carcharodonta	Ostracoda	1	1	1	0	1	0.8	0.5	0	1	0.4	0.2	0.6	4
Synchelidium rectipalium	Gammaridea	0	0	1	0	1	0.4	0.5	0	1	0.5	0.2	0.7	2
Amphideutopus oculatus	Amphipoda	16	1	12	0	0	5.8	8.0	0	16	7.6	3.4	9.8	29
Acuminodentopus heteruopus	Amphipoda	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Rudilemboides stenopropodus	Amphipoda	3	2	6	0	1	2.4	3.0	0	6	2.3	1.0	3.0	12
Zeuxo normani	Tanaidacea	0	2	0	5	0	1.4	2.5	0	5	2.2	1.0	2.8	7
Lophopanopeus bellus diegensis	Decapoda	0	1	0	1	0	0.4	0.5	0	1	0.5	0.2	0.7	2
Lembos sp.	Gammaridea	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1

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		Number per core					Summary Statistics								
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CI	sum	
Mysid	Mysidacea	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Podocerus cristatus	Gammaridea	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Paranthura elegans	Isopoda	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Pleustidae	Amphipoda	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
<b>Total Fauna</b>		<b>46</b>	<b>91</b>	<b>128</b>	<b>62</b>	<b>120</b>	<b>43</b>	<b>88.8</b>	<b>85.5</b>	<b>43</b>	<b>128</b>	<b>36.5</b>	<b>16.3</b>	<b>46.9</b>	<b>444</b>
<b>Total Polychaetes</b>		<b>27</b>	<b>39</b>	<b>87</b>	<b>37</b>	<b>101</b>	<b>26</b>	<b>58.0</b>	<b>63.5</b>	<b>26</b>	<b>101</b>	<b>33.6</b>	<b>15.0</b>	<b>43.2</b>	<b>290</b>
<b>Total Molluscs</b>		<b>5</b>	<b>26</b>	<b>20</b>	<b>5</b>	<b>8</b>	<b>14</b>	<b>14.6</b>	<b>15.5</b>	<b>5</b>	<b>26</b>	<b>8.6</b>	<b>3.8</b>	<b>11.0</b>	<b>73</b>
<b>Total Crustaceans</b>		<b>13</b>	<b>23</b>	<b>20</b>	<b>20</b>	<b>9</b>	<b>3</b>	<b>15.0</b>	<b>13.0</b>	<b>3</b>	<b>23</b>	<b>8.6</b>	<b>3.8</b>	<b>11.0</b>	<b>75</b>
<b>Total Species</b>		<b>46</b>	<b>22</b>	<b>24</b>	<b>18</b>	<b>21</b>	<b>16</b>	<b>20.2</b>	<b>20.0</b>	<b>16</b>	<b>24</b>	<b>3.2</b>	<b>1.4</b>	<b>4.1</b>	<b>101</b>

12 Swartz (Downtown Anch) REF		878	879	880	878.1	878.2								
Cossura candida	Polychaeta	0	0	1	3	0	0.8	1.5	0	3	1.3	0.6	1.7	4
Diplocirus sp(p).	Polychaeta	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Eranno lagunae	Polychaeta	6	3	17	9	11	9.2	10.0	3	17	5.3	2.4	6.8	46
Exogone lourei	Polychaeta	1	1	2	1	0	1.0	1.0	0	2	0.7	0.3	0.9	5
Leitoscoloplos pugettensis	Polychaeta	3	1	9	9	18	8.0	9.5	1	18	6.6	3.0	8.5	40
Lumbrineridae, unident.	Polychaeta	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Mediomastus californiensis	Polychaeta	1	0	2	1	5	1.8	2.5	0	5	1.9	0.9	2.5	9
Nephtys comuta	Polychaeta	0	0	1	1	1	0.6	0.5	0	1	0.5	0.2	0.7	3
Paraprionospio pinnata	Polychaeta	0	0	0	0	2	0.4	1.0	0	2	0.9	0.4	1.1	2
Pista alata	Polychaeta	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Prionospio heterobranchia	Polychaeta	0	2	4	1	2	1.8	2.0	0	4	1.5	0.7	1.9	9
Pseudopolydora paucibranchiata	Polychaeta	1	6	0	0	3	2.0	3.0	0	6	2.5	1.1	3.3	10
Scoletoma erecta	Polychaeta	6	1	4	0	0	2.2	3.0	0	6	2.7	1.2	3.4	11
Scoletoma tetraura	Polychaeta	0	0	0	1	3	0.8	1.5	0	3	1.3	0.6	1.7	4
nemertea	Nemertea	1	0	1	0	0	0.4	0.5	0	1	0.5	0.2	0.7	2
Theora fragilis	Bivalvia	0	0	2	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2
Trachycardium quadragenarium	Bivalvia	0	0	1	0	1	0.4	0.5	0	1	0.5	0.2	0.7	2
Cylichnella inculta	Gastropoda	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Musculista senhousci	Bivalvia	35	10	0	0	0	9.0	17.5	0	35	15.2	6.8	19.5	45
Parasterope barnesi	Ostracoda	1	1	0	0	0	0.4	0.5	0	1	0.5	0.2	0.7	2
Grandidierella japonica	Amphipoda	6	1	1	1	0	1.8	3.0	0	6	2.4	1.1	3.1	9
Euphilomedes carcharodonta	Ostracoda	0	0	4	2	7	2.6	3.5	0	7	3.0	1.3	3.8	13
Synchelidium rectipalium	Gammaridea	0	2	2	1	1	1.2	1.0	0	2	0.8	0.4	1.1	6
Monoculodes hartmanae	Amphipoda	0	3	1	0	0	0.8	1.5	0	3	1.3	0.6	1.7	4
Acuminodeutopus heteruopus	Amphipoda	0	5	16	2	2	5.0	8.0	0	16	6.4	2.9	8.2	25
Amphideutopus oculatus	Amphipoda	0	1	1	0	1	0.6	0.5	0	1	0.5	0.2	0.7	3

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		Number per core					Summary Statistics								
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95% C.I.	sum	
Rudilemboides stenopropodus	Amphipoda	0	8	1	1	2	2.4	4.0	0	8	3.2	1.4	4.1	12	
Orchomene sp.	Gammaridea	0	1	1	0	0	0.4	0.5	0	1	0.5	0.2	0.7	2	
Hyale frequens	Gammaridea	0	2	0	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2	
Heptacarpus sp. A	Decapoda	0	1	0	0	1	0.4	0.5	0	1	0.5	0.2	0.7	2	
Zeuxo normani	Tanaidacea	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
<b>Total Fauna</b>		<b>31</b>	<b>61</b>	<b>53</b>	<b>72</b>	<b>33</b>	<b>60</b>	<b>55.8</b>	<b>52.5</b>	<b>33</b>	<b>72</b>	<b>14.4</b>	<b>6.5</b>	<b>18.6</b>	<b>279</b>
<b>Total Polychaetes</b>		<b>14</b>	<b>18</b>	<b>17</b>	<b>40</b>	<b>26</b>	<b>45</b>	<b>29.2</b>	<b>31.0</b>	<b>17</b>	<b>45</b>	<b>12.8</b>	<b>5.7</b>	<b>16.4</b>	<b>146</b>
<b>Total Molluscs</b>		<b>4</b>	<b>35</b>	<b>10</b>	<b>4</b>	<b>0</b>	<b>1</b>	<b>10.0</b>	<b>17.5</b>	<b>0</b>	<b>35</b>	<b>14.5</b>	<b>6.5</b>	<b>18.7</b>	<b>50</b>
<b>Total Crustaceans</b>		<b>12</b>	<b>7</b>	<b>26</b>	<b>27</b>	<b>7</b>	<b>14</b>	<b>16.2</b>	<b>17.0</b>	<b>7</b>	<b>27</b>	<b>9.8</b>	<b>4.4</b>	<b>12.6</b>	<b>81</b>
<b>Total Species</b>		<b>31</b>	<b>10</b>	<b>21</b>	<b>20</b>	<b>13</b>	<b>15</b>	<b>15.8</b>	<b>15.5</b>	<b>10</b>	<b>21</b>	<b>4.7</b>	<b>2.1</b>	<b>6.0</b>	<b>79</b>

Mission Bay A3 REF		853	854	855	853.1	853.2								
Capitella capitata	Polychaeta	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Cossura candida	Polychaeta	0	0	0	3	3	1.2	1.5	0	3	1.6	0.7	2.1	6
Eranno lagunae	Polychaeta	2	2	3	0	0	1.4	1.5	0	3	1.3	0.6	1.7	7
Exogone lourei	Polychaeta	2	0	0	0	1	0.6	1.0	0	2	0.9	0.4	1.1	3
Glycera americana	Polychaeta	0	1	0	1	0	0.4	0.5	0	1	0.5	0.2	0.7	2
Leitoscoloplos pugettensis	Polychaeta	0	0	0	1	1	0.4	0.5	0	1	0.5	0.2	0.7	2
Megalomma pigmentum	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Pherusa capulata	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Prionospio heterobranchia	Polychaeta	5	6	10	8	6	7.0	7.5	5	10	2.0	0.9	2.6	35
Pseudopolydora paucibranchiata nemertea	Nemertea	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
oligochaeta	Oligochaeta	3	4	3	40	1	10.2	20.5	1	40	16.7	7.5	21.5	51
phoronida	Phoronida	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Theora fragilis	Bivalvia	6	2	8	0	6	4.4	4.0	0	8	3.3	1.5	4.2	22
Musculista senhousi	Bivalvia	2	0	0	1	1	0.8	1.0	0	2	0.8	0.4	1.1	4
Cylichnella inculta	Gastropoda	2	4	9	4	9	5.6	5.5	2	9	3.2	1.4	4.1	28
Euphilomedes carcharodonta	Ostracoda	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Hyale frequens	Gammaridea	0	0	2	2	0	0.8	1.0	0	2	1.1	0.5	1.4	4
Ampithoe sp.	Gammaridea	0	0	3	0	0	0.6	1.5	0	3	1.3	0.6	1.7	3
Rudilemboides stenopropodus	Amphipoda	0	0	3	1	0	0.8	1.5	0	3	1.3	0.6	1.7	4
Paranthurus elegans	Isopoda	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Lembos sp.	Gammaridea	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Monoculodes hartmanae	Amphipoda	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Mayerella banksia	Amphipoda	0	0	2	1	0	0.6	1.0	0	2	0.9	0.4	1.1	3
Paradexamine sp.	Amphipod	0	0	0	2	0	0.4	1.0	0	2	0.9	0.4	1.1	2

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		Number per core					Summary Statistics							
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CI	sum
Holothuroid	Holothuroidea	1	6	9	7	1	4.8	5.0	1	9	3.6	1.6	4.7	24
Ancinone	Anthozoa	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
<b>Total Fauna</b>		<b>27</b>	<b>28</b>	<b>28</b>	<b>54</b>	<b>72</b>	<b>42.4</b>	<b>50.0</b>	<b>28</b>	<b>72</b>	<b>19.9</b>	<b>8.9</b>	<b>25.5</b>	<b>212</b>
<b>Total Polychaetes</b>		<b>10</b>	<b>10</b>	<b>9</b>	<b>15</b>	<b>14</b>	<b>12.0</b>	<b>12.0</b>	<b>9</b>	<b>15</b>	<b>2.5</b>	<b>1.1</b>	<b>3.3</b>	<b>60</b>
<b>Total Molluscs</b>		<b>3</b>	<b>10</b>	<b>6</b>	<b>17</b>	<b>5</b>	<b>10.8</b>	<b>11.0</b>	<b>5</b>	<b>17</b>	<b>5.5</b>	<b>2.5</b>	<b>7.1</b>	<b>54</b>
<b>Total Crustaceans</b>		<b>9</b>	<b>3</b>	<b>1</b>	<b>10</b>	<b>6</b>	<b>4.0</b>	<b>5.0</b>	<b>0</b>	<b>10</b>	<b>4.1</b>	<b>1.8</b>	<b>5.2</b>	<b>20</b>
<b>Total Echinoderms</b>		<b>1</b>	<b>1</b>	<b>6</b>	<b>9</b>	<b>7</b>	<b>4.8</b>	<b>5.0</b>	<b>1</b>	<b>9</b>	<b>3.6</b>	<b>1.6</b>	<b>4.7</b>	<b>24</b>
<b>Total Species</b>		<b>27</b>	<b>13</b>	<b>10</b>	<b>12</b>	<b>13</b>	<b>11.6</b>	<b>11.5</b>	<b>10</b>	<b>13</b>	<b>1.5</b>	<b>0.7</b>	<b>1.9</b>	<b>58</b>

Mission Bay A4 REF		859	860	861	859.1	859.2								
Armandia brevis	Polychaeta	0	1	1	1	0	0.6	0.5	0	1	0.5	0.2	0.7	3
Diplocirrus sp(p).	Polychaeta	0	1	0	0	3	0.8	1.5	0	3	1.3	0.6	1.7	4
Eranno lagunae	Polychaeta	1	1	1	4	6	2.6	3.5	1	6	2.3	1.0	3.0	13
Eteone sp(p).	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Glycera americana	Polychaeta	0	0	2	1	0	0.6	1.0	0	2	0.9	0.4	1.1	3
Leitoscoloplos pugettensis	Polychaeta	5	1	5	2	7	4.0	4.0	1	7	2.4	1.1	3.1	20
Mediomastus californiensis	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Megalomma pigmentum	Polychaeta	1	0	1	0	0	0.4	0.5	0	1	0.5	0.2	0.7	2
Pista alata	Polychaeta	1	5	4	2	1	2.6	3.0	1	5	1.8	0.8	2.3	13
Prionospio heterobranchia	Polychaeta	1	4	2	5	4	3.2	3.0	1	5	1.6	0.7	2.1	16
Prionospio steenstrupi	Polychaeta	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Pseudopolydora paucibranchiata	Polychaeta	0	0	0	0	2	0.4	1.0	0	2	0.9	0.4	1.1	2
Scoelepis quinquedentata	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Scoletoma tetraura	Polychaeta	0	0	0	0	2	0.4	1.0	0	2	0.9	0.4	1.1	2
nemertea	Nemertea	0	0	0	0	2	0.4	1.0	0	2	0.9	0.4	1.1	2
oligochaeta	Oligochaeta	0	0	2	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2
phoronida	Phoronida	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Musculista senhousci	Bivalvia	0	2	0	1	0	0.6	1.0	0	2	0.9	0.4	1.1	3
Theora fragilis	Bivalvia	1	1	0	0	0	0.4	0.5	0	1	0.5	0.2	0.7	2
Cylichnella inculta	Gastropoda	0	2	0	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2
Collisela depicta	Gastropoda	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Serolis carinata	Isopoda	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Heterophoxus oculatus	Gammaridea	0	1	1	3	1	1.2	1.5	0	3	1.1	0.5	1.4	6
Paranthurus elegans	Isopoda	1	1	0	0	0	0.4	0.5	0	1	0.5	0.2	0.7	2
Leptognathia sp.	Tanaidacea	0	2	0	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2
Lembos sp.	Gammaridea	0	3	2	0	0	1.0	1.5	0	3	1.4	0.6	1.8	5
Microjassa litotes	Amphipoda	0	2	0	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2

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		Number per core					Summary Statistics							
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CI	sum
Podocerus cristatus	Gammaridea	0	2	0	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2
Hyale frequens	Gammaridea	1	7	1	0	0	1.8	3.5	0	7	2.9	1.3	3.8	9
Amphilochidae	Gammaridea	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Ampithoe sp.	Gammaridea	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Synchelidium rectipalpmum	Gammaridea	0	0	0	0	2	0.4	1.0	0	2	0.9	0.4	1.1	2
Mysid	Mysidacea	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Caprella californica	Amphipoda	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Ophiuroid	Ophiuroidea	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Anemone	Anthozoa	3	0	0	0	0	0.6	1.5	0	3	1.3	0.6	1.7	3
Holothuroid	Holothuroidea	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
<b>Total Fauna</b>		<b>37</b>	<b>17</b>	<b>41</b>	<b>22</b>	<b>22</b>	<b>27.0</b>	<b>29.0</b>	<b>17</b>	<b>41</b>	<b>9.8</b>	<b>4.4</b>	<b>12.6</b>	<b>135</b>
<b>Total Polychaetes</b>		<b>14</b>	<b>9</b>	<b>13</b>	<b>16</b>	<b>16</b>	<b>16.4</b>	<b>18.5</b>	<b>9</b>	<b>28</b>	<b>7.1</b>	<b>3.2</b>	<b>9.1</b>	<b>82</b>
<b>Total Molluscs</b>		<b>4</b>	<b>1</b>	<b>6</b>	<b>0</b>	<b>1</b>	<b>1.6</b>	<b>3.0</b>	<b>0</b>	<b>6</b>	<b>2.5</b>	<b>1.1</b>	<b>3.2</b>	<b>8</b>
<b>Total Crustaceans</b>		<b>13</b>	<b>3</b>	<b>21</b>	<b>4</b>	<b>4</b>	<b>7.0</b>	<b>12.0</b>	<b>3</b>	<b>21</b>	<b>7.8</b>	<b>3.5</b>	<b>10.1</b>	<b>35</b>
<b>Total Echinoderms</b>		<b>2</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0.4</b>	<b>0.5</b>	<b>0</b>	<b>1</b>	<b>0.5</b>	<b>0.2</b>	<b>0.7</b>	<b>2</b>
<b>Total Species</b>		<b>37</b>	<b>11</b>	<b>21</b>	<b>11</b>	<b>11</b>	<b>13.4</b>	<b>16.0</b>	<b>11</b>	<b>21</b>	<b>4.3</b>	<b>1.9</b>	<b>5.6</b>	<b>67</b>

Mission Bay A8 REF		856	857	858	856.1	856.2								
Amphiteis scaphobranchiata	Polychaeta	1	0	0	1	0	0.4	0.5	0	1	0.5	0.2	0.7	2
Apistobranchus sp(p).	Polychaeta	5	12	9	26	6	11.6	15.5	5	26	8.5	3.8	10.9	58
Cossura candida	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Diplocirrus sp(p).	Polychaeta	20	19	16	17	8	16.0	14.0	8	20	4.7	2.1	6.1	80
Eranno lagunae	Polychaeta	11	3	1	11	7	6.6	6.0	1	11	4.6	2.0	5.9	33
Eteone sp(p).	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Euclymeninae spp. indet.	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Exogone lourei	Polychaeta	3	3	0	1	0	1.4	1.5	0	3	1.5	0.7	1.9	7
Glycera americana	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Harmothoe imbricata	Polychaeta	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Leitoscoloplos pugettensis	Polychaeta	4	6	13	2	12	7.4	7.5	2	13	4.9	2.2	6.3	37
Lumbrineridae, unident.	Polychaeta	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Mediomastus californiensis	Polychaeta	4	7	7	5	12	7.0	8.0	4	12	3.1	1.4	4.0	35
Metasychis disparidentata	Polychaeta	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Monticellina tessellata	Polychaeta	1	1	0	0	2	0.8	1.0	0	2	0.8	0.4	1.1	4
Nephtys caecoides	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Paraprionospio pinnata	Polychaeta	0	0	0	2	0	0.4	1.0	0	2	0.9	0.4	1.1	2
Pista alata	Polychaeta	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Praxillella pacifica	Polychaeta	2	0	4	0	1	1.4	2.0	0	4	1.7	0.7	2.2	7

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		Number per core					Summary Statistics								
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CI	sum	
Prionospio heterobranchia	Polychaeta	24	19	14	32	18	21.4	23.0	14	32	6.9	3.1	8.9	107	
Prionospio steenstrupi	Polychaeta	0	2	2	4	0	1.6	2.0	0	4	1.7	0.7	2.2	8	
Pseudopolydora paucibranchiata	Polychaeta	0	1	0	0	2	0.6	1.0	0	2	0.9	0.4	1.1	3	
Scoletoma tetraura	Polychaeta	4	6	9	7	12	7.6	8.0	4	12	3.0	1.4	3.9	38	
Spiophanes missionensis	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1	
Streblospio benedicti	Polychaeta	3	0	0	0	0	0.6	1.5	0	3	1.3	0.6	1.7	3	
nemertea	Nemertea	2	1	0	2	1	1.2	1.0	0	2	0.8	0.4	1.1	6	
Theora fragilis	Bivalvia	0	1	0	1	0	0.4	0.5	0	1	0.5	0.2	0.7	2	
Musculista senhousci	Bivalvia	2	2	1	1	0	1.2	1.0	0	2	0.8	0.4	1.1	6	
Siliqua lucida	Bivalvia	1	1	1	0	0	0.6	0.5	0	1	0.5	0.2	0.7	3	
Nuculana taphria	Bivalvia	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Monoculodes hartmanae	Amphipoda	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Amphideutopus oculatus	Amphipoda	10	9	1	19	0	7.8	9.5	0	19	7.7	3.5	9.9	39	
Rudilemboides stenopropodus	Amphipoda	3	0	0	1	0	0.8	1.5	0	3	1.3	0.6	1.7	4	
Orchomene pacifica	Gammaridea	0	0	0	5	0	1.0	2.5	0	5	2.2	1.0	2.9	5	
Orchomene sp.	Gammaridea	0	1	1	0	0	0.4	0.5	0	1	0.5	0.2	0.7	2	
Corophium acherusicum	Gammaridea	10	2	1	10	0	4.6	5.0	0	10	5.0	2.2	6.4	23	
Heterophoxus oculatus	Gammaridea	9	3	8	4	0	4.8	4.5	0	9	3.7	1.7	4.8	24	
Leptognathia sp.	Tanaidacea	0	1	1	0	0	0.4	0.5	0	1	0.5	0.2	0.7	2	
Euphilomedes carcharodonta	Ostracoda	15	3	9	2	1	6.0	8.0	1	15	5.9	2.6	7.6	30	
Asteropella slatteryi	Ostracoda	0	1	0	1	1	0.6	0.5	0	1	0.5	0.2	0.7	3	
Diastylis sp.	Cumacea	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Amphitoe sp.	Gammaridea	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Holothuroid	Holothuroidea	3	0	0	1	0	0.8	1.5	0	3	1.3	0.6	1.7	4	
Ophiuroid	Ophiuroidea	0	1	1	1	1	0.8	0.5	0	1	0.4	0.2	0.6	4	
<b>Total Fauna</b>		<b>44</b>	<b>141</b>	<b>108</b>	<b>102</b>	<b>157</b>	<b>87</b>	<b>119.0</b>	<b>122.0</b>	<b>87</b>	<b>157</b>	<b>29.0</b>	<b>13.0</b>	<b>37.3</b>	<b>595</b>
<b>Total Polychaetes</b>		<b>25</b>	<b>85</b>	<b>80</b>	<b>77</b>	<b>109</b>	<b>83</b>	<b>86.8</b>	<b>93.0</b>	<b>77</b>	<b>109</b>	<b>12.8</b>	<b>5.7</b>	<b>16.4</b>	<b>434</b>
<b>Total Molluscs</b>		<b>4</b>	<b>3</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>2.4</b>	<b>2.0</b>	<b>0</b>	<b>4</b>	<b>1.5</b>	<b>0.7</b>	<b>1.9</b>	<b>12</b>
<b>Total Crustaceans</b>		<b>12</b>	<b>48</b>	<b>22</b>	<b>21</b>	<b>42</b>	<b>2</b>	<b>27.0</b>	<b>25.0</b>	<b>2</b>	<b>48</b>	<b>18.4</b>	<b>8.2</b>	<b>23.6</b>	<b>135</b>
<b>Total Echinoderms</b>		<b>2</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>1.6</b>	<b>2.0</b>	<b>1</b>	<b>3</b>	<b>0.9</b>	<b>0.4</b>	<b>1.1</b>	<b>8</b>
<b>Total Species</b>		<b>44</b>	<b>25</b>	<b>26</b>	<b>21</b>	<b>24</b>	<b>17</b>	<b>22.6</b>	<b>21.5</b>	<b>17</b>	<b>26</b>	<b>3.6</b>	<b>1.6</b>	<b>4.7</b>	<b>113</b>

San Diego River BI REF		881	882	883	881.1	881.2								
Capitella capitata complex	Polychaeta	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Polydora nuchalis	Polychaeta	10	6	0	5	1	4.4	5.0	0	10	4.0	1.8	5.2	22
Streblospio benedicti	Polychaeta	17	5	1	39	6	13.6	20.0	1	39	15.4	6.9	19.8	68
insect larva		1	1	0	1	0	0.6	0.5	0	1	0.5	0.2	0.7	3



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		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CI.	sum
oligochaeta	Oligochaeta	0	0	2	3	0	1.0	1.5	0	3	1.4	0.6	1.8	5
Corophium acherusicum	Gammaridea	2	2	1	3	2	2.0	2.0	1	3	0.7	0.3	0.9	10
Grandidierella japonica	Amphipoda	7	2	1	3	6	3.8	4.0	1	7	2.6	1.2	3.3	19
Aglaja sp.	Gastropoda	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Podocerus cristatus	Gammaridea	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
<b>Total Fauna</b>		<b>9</b>	<b>37</b>	<b>16</b>	<b>5</b>	<b>57</b>	<b>26.0</b>	<b>31.0</b>	<b>5</b>	<b>57</b>	<b>20.9</b>	<b>9.3</b>	<b>26.8</b>	<b>130</b>
<b>Total Polychaetes</b>		<b>3</b>	<b>27</b>	<b>11</b>	<b>1</b>	<b>45</b>	<b>18.2</b>	<b>23.0</b>	<b>1</b>	<b>45</b>	<b>17.8</b>	<b>8.0</b>	<b>22.9</b>	<b>91</b>
<b>Total Molluscs</b>		<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0.2</b>	<b>0.5</b>	<b>0</b>	<b>1</b>	<b>0.4</b>	<b>0.2</b>	<b>0.6</b>	<b>1</b>
<b>Total Crustaceans</b>		<b>3</b>	<b>9</b>	<b>4</b>	<b>2</b>	<b>7</b>	<b>6.0</b>	<b>5.5</b>	<b>2</b>	<b>9</b>	<b>2.9</b>	<b>1.3</b>	<b>3.7</b>	<b>30</b>
<b>Total Species</b>		<b>9</b>	<b>5</b>	<b>5</b>	<b>4</b>	<b>9</b>	<b>5.4</b>	<b>6.5</b>	<b>4</b>	<b>9</b>	<b>2.1</b>	<b>0.9</b>	<b>2.7</b>	<b>27</b>

Stormdrain EM (Grape St.) REF

		827	828	829	827.1	827.2								
Cossura candida	Polychaeta	0	1	0	0	1	0.4	0.5	0	1	0.5	0.2	0.7	2
Diplocirrus sp(p).	Polychaeta	2	1	0	1	0	0.8	1.0	0	2	0.8	0.4	1.1	4
Dorvillea longicornis	Polychaeta	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Eranno lagunae	Polychaeta	4	3	5	5	6	4.6	4.5	3	6	1.1	0.5	1.5	23
Euchone limnicola	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Exogone lourei	Polychaeta	0	1	10	4	9	4.8	5.0	0	10	4.5	2.0	5.8	24
Exogone uniformis	Polychaeta	0	0	3	0	0	0.6	1.5	0	3	1.3	0.6	1.7	3
Leitoscoloplos pugettensis	Polychaeta	1	2	2	2	8	3.0	4.5	1	8	2.8	1.3	3.6	15
Lumbrineridae, unident.	Polychaeta	0	0	2	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2
Mediomastus californiensis	Polychaeta	5	8	2	1	8	4.8	4.5	1	8	3.3	1.5	4.2	24
Neanthes acuminata	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Nephtys comuta	Polychaeta	3	2	1	0	0	1.2	1.5	0	3	1.3	0.6	1.7	6
Paraprionospio pinnata	Polychaeta	0	0	2	1	0	0.6	1.0	0	2	0.9	0.4	1.1	3
Pista alata	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Prionospio heterobranchia	Polychaeta	3	2	4	8	5	4.4	5.0	2	8	2.3	1.0	3.0	22
Prionospio steenstrupi	Polychaeta	2	0	0	0	1	0.6	1.0	0	2	0.9	0.4	1.1	3
Pseudopolydora paucibranchiata	Polychaeta	0	5	6	6	4	4.2	3.0	0	6	2.5	1.1	3.2	21
Scolecopsis quinqueidentata	Polychaeta	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Scoloplos acmeceps	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Spiophanes missionensis	Polychaeta	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
nemertea	Nemertea	0	0	0	4	0	0.8	2.0	0	4	1.8	0.8	2.3	4
oligochaeta	Oligochaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Theora fragilis	Bivalvia	2	0	0	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2
Acuminodeutopus heteruropus	Amphipoda	1	4	12	11	4	6.4	6.5	1	12	4.8	2.2	6.2	32
Amphideutopus oculatus	Amphipoda	3	2	12	12	5	6.8	7.0	2	12	4.9	2.2	6.3	34

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		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CI	sum
Rudilemboides stenopropodus	Amphipoda	1	6	14	4	1	5.2	7.5	1	14	5.4	2.4	6.9	26
Synchelidium rectipalmum	Gammaridea	0	1	1	0	0	0.4	0.5	0	1	0.5	0.2	0.7	2
Grandidierella japonica	Amphipoda	0	1	4	3	0	1.6	2.0	0	4	1.8	0.8	2.3	8
Monoculodes hartmanae	Amphipoda	0	0	1	2	2	1.0	1.0	0	2	1.0	0.4	1.3	5
Leptognathia sp.	Tanaidacea	0	0	1	2	1	0.8	1.0	0	2	0.8	0.4	1.1	4
Zeuxo normani	Tanaidacea	0	3	12	13	2	6.0	6.5	0	13	6.0	2.7	7.8	30
Alpheus californiensis	Decapoda	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Mayerella banksia	Amphipoda	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
<b>Total Fauna</b>		<b>33</b>	<b>29</b>	<b>45</b>	<b>95</b>	<b>80</b>	<b>61.8</b>	<b>62.0</b>	<b>29</b>	<b>95</b>	<b>26.4</b>	<b>11.8</b>	<b>34.0</b>	<b>309</b>
<b>Total Polychaetes</b>		<b>20</b>	<b>22</b>	<b>27</b>	<b>38</b>	<b>28</b>	<b>31.8</b>	<b>33.0</b>	<b>22</b>	<b>44</b>	<b>9.0</b>	<b>4.0</b>	<b>11.5</b>	<b>159</b>
<b>Total Molluscs</b>		<b>1</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.4</b>	<b>1.0</b>	<b>0</b>	<b>2</b>	<b>0.9</b>	<b>0.4</b>	<b>1.1</b>	<b>2</b>
<b>Total Crustaceans</b>		<b>10</b>	<b>5</b>	<b>18</b>	<b>57</b>	<b>48</b>	<b>28.6</b>	<b>31.0</b>	<b>5</b>	<b>57</b>	<b>22.6</b>	<b>10.1</b>	<b>29.0</b>	<b>143</b>
<b>Total Species</b>		<b>33</b>	<b>13</b>	<b>18</b>	<b>19</b>	<b>17</b>	<b>16.8</b>	<b>16.0</b>	<b>13</b>	<b>19</b>	<b>2.3</b>	<b>1.0</b>	<b>2.9</b>	<b>84</b>

Long Beach Outer Harbor REF		<u>884</u>	<u>885</u>	<u>886</u>	<u>884.1</u>	<u>884.2</u>								
Acmira catherinae	Polychaeta	0	2	0	1	1	0.8	1.0	0	2	0.8	0.4	1.1	4
Acmira horikoshii	Polychaeta	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Amaeana occidentalis	Polychaeta	1	1	0	0	2	0.8	1.0	0	2	0.8	0.4	1.1	4
Aphelochaeta monilaris	Polychaeta	1	1	0	1	0	0.8	1.0	0	2	0.8	0.4	1.1	4
Aphelochaeta multifilis	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Apistobranchus sp(p).	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Chaetozone corona	Polychaeta	1	0	0	2	1	0.8	1.0	0	2	0.8	0.4	1.1	4
Cossura candida	Polychaeta	9	39	12	26	20	21.2	24.0	9	39	12.0	5.4	15.4	106
Eranno lagunae	Polychaeta	0	1	0	1	1	0.6	0.5	0	1	0.5	0.2	0.7	3
Euefymeninae, unident.	Polychaeta	0	2	0	0	2	0.8	1.0	0	2	1.1	0.5	1.4	4
Laonice cirrata	Polychaeta	0	0	0	1	1	0.4	0.5	0	1	0.5	0.2	0.7	2
Leitoscoloplos pugettensis	Polychaeta	0	0	0	1	2	0.6	1.0	0	2	0.9	0.4	1.1	3
Malmgreniella maeginitiei	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Mediomastus californiensis	Polychaeta	0	2	0	4	0	1.2	2.0	0	4	1.8	0.8	2.3	6
Metasychis disparidentata	Polychaeta	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Monticellina sp. C	Polychaeta	1	6	2	4	1	2.8	3.5	1	6	2.2	1.0	2.8	14
Nephtys caecoides	Polychaeta	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Nephtys cornuta	Polychaeta	1	1	1	1	0	0.8	0.5	0	1	0.4	0.2	0.6	4
Paraprionospio pinnata	Polychaeta	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Pista sp(p).	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Scoletoma tetraura	Polychaeta	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Streblosoma sp. B	Polychaeta	0	0	0	1	1	0.4	0.5	0	1	0.5	0.2	0.7	2

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		Number per core					Summary Statistics							
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CI	sum
Terebellides californica	Polychaeta	0	1	0	1	3	1.0	1.5	0	3	1.2	0.5	1.6	5
nemertea	Nemertea	0	1	1	3	2	1.4	1.5	0	3	1.1	0.5	1.5	7
Theora fragilis	Bivalvia	1	1	1	1	1	1.0	1.0	1	1	0.0	0.0	0.0	5
Aglaja sp.	Gastropoda	0	1	1	0	1	0.6	0.5	0	1	0.5	0.2	0.7	3
Euphilomedes carcharodonta	Ostracoda	8	0	1	0	0	1.8	4.0	0	8	3.5	1.6	4.5	9
Diastylis sp.	Cumacea	1	2	1	0	0	0.8	1.0	0	2	0.8	0.4	1.1	4
Parasterope barnesi	Ostracoda	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Anemone	Anthozoa	0	0	0	0	2	0.4	1.0	0	2	0.9	0.4	1.1	2
<b>Total Fauna</b>		<b>30</b>	<b>26</b>	<b>65</b>	<b>20</b>	<b>51</b>	<b>41.0</b>	<b>42.5</b>	<b>20</b>	<b>65</b>	<b>18.3</b>	<b>8.2</b>	<b>23.6</b>	<b>205</b>
<b>Total Polychaetes</b>		<b>23</b>	<b>16</b>	<b>59</b>	<b>15</b>	<b>47</b>	<b>34.8</b>	<b>37.0</b>	<b>15</b>	<b>59</b>	<b>19.3</b>	<b>8.6</b>	<b>24.8</b>	<b>174</b>
<b>Total Molluscs</b>		<b>2</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>1.6</b>	<b>1.5</b>	<b>1</b>	<b>2</b>	<b>0.5</b>	<b>0.2</b>	<b>0.7</b>	<b>8</b>
<b>Total Crustaceans</b>		<b>3</b>	<b>9</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>2.8</b>	<b>4.5</b>	<b>0</b>	<b>9</b>	<b>3.7</b>	<b>1.7</b>	<b>4.8</b>	<b>14</b>
<b>Total Species</b>		<b>30</b>	<b>11</b>	<b>18</b>	<b>8</b>	<b>16</b>	<b>14.0</b>	<b>13.0</b>	<b>8</b>	<b>18</b>	<b>4.3</b>	<b>1.9</b>	<b>5.5</b>	<b>70</b>

Lower Main Channel REF		830	831	832	830.1	830.2								
Acmira catherinae	Polychaeta	4	0	2	1	4	2.2	2.0	0	4	1.8	0.8	2.3	11
Amaeana occidentalis	Polychaeta	0	1	1	1	0	0.6	0.5	0	1	0.5	0.2	0.7	3
Amphiteis scaphobranchiata	Polychaeta	4	0	0	0	0	0.8	2.0	0	4	1.8	0.8	2.3	4
Aphelochaeta monilaris	Polychaeta	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Aphelochaeta multifilis	Polychaeta	0	1	1	2	2	1.2	1.0	0	2	0.8	0.4	1.1	6
Chaetozone corona	Polychaeta	4	5	3	0	4	3.2	2.5	0	5	1.9	0.9	2.5	16
Chone mollis	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Cossura candida	Polychaeta	3	125	3	14	27	34.4	64.0	3	125	51.6	23.1	66.3	172
Diopatra tridentata	Polychaeta	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Diopatra sp(p).	Polychaeta	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Eranno lagunae	Polychaeta	3	0	2	1	3	1.8	1.5	0	3	1.3	0.6	1.7	9
Euchone limnicola	Polychaeta	5	1	0	0	3	1.8	2.5	0	5	2.2	1.0	2.8	9
Euclymeninae, unident.	Polychaeta	0	0	2	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2
Exogone lourei	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Glycera americana	Polychaeta	0	0	1	1	0	0.4	0.5	0	1	0.5	0.2	0.7	2
Laonice cirrata	Polychaeta	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Leitoscoloplos pugettensis	Polychaeta	0	0	0	1	4	1.0	2.0	0	4	1.7	0.8	2.2	5
Levinsenia gracilis	Polychaeta	1	6	0	0	0	1.4	3.0	0	6	2.6	1.2	3.4	7
Lumbrineridae, unident.	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Lysippe labiata	Polychaeta	1	0	0	1	0	0.4	0.5	0	1	0.5	0.2	0.7	2
Mediomastus californiensis	Polychaeta	2	5	2	5	0	2.8	2.5	0	5	2.2	1.0	2.8	14
Melinna oculata	Polychaeta	0	0	3	0	0	0.6	1.5	0	3	1.3	0.6	1.7	3

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		Number per core					Summary Statistics							
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CI.	sum
Metasychis disparidentata	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Monticellina dorsobranchialis	Polychaeta	1	1	1	1	2	1.2	1.5	1	2	0.4	0.2	0.6	6
Monticellina sp. C	Polychaeta	13	24	25	15	7	16.8	16.0	7	25	7.6	3.4	9.8	84
Nephtys comuta	Polychaeta	0	6	0	4	0	2.0	3.0	0	6	2.8	1.3	3.6	10
Nereis procerca	Polychaeta	1	0	2	0	3	1.2	1.5	0	3	1.3	0.6	1.7	6
Notomastus tenuis	Polychaeta	0	0	2	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2
Paramage scutata	Polychaeta	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Paraprionospio pinnata	Polychaeta	1	0	2	3	5	2.2	2.5	0	5	1.9	0.9	2.5	11
Pectinaria californiensis	Polychaeta	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Pista sp(p).	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Podarkeopsis glabra	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Podarkeopsis perkinsi	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Poecilochaetus johnsoni	Polychaeta	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Polydora socialis	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Prionospio heterobranchia	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Prionospio lighti	Polychaeta	0	0	1	1	0	0.4	0.5	0	1	0.5	0.2	0.7	2
Prionospio steenstrupi	Polychaeta	1	0	0	2	0	0.6	1.0	0	2	0.9	0.4	1.1	3
Scoletoma tetraura	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Sigambra tentaculata	Polychaeta	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Spiophanes missionensis	Polychaeta	1	0	1	0	0	0.4	0.5	0	1	0.5	0.2	0.7	2
Sthenelanelia uniformis	Polychaeta	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Streblosoma sp. B	Polychaeta	12	0	6	0	0	3.6	6.0	0	12	5.4	2.4	6.9	18
Terebellides californica	Polychaeta	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
nemertea	Nemertea	1	0	2	3	5	2.2	2.5	0	5	1.9	0.9	2.5	11
Theora fragilis	Bivalvia	0	7	0	1	3	2.2	3.5	0	7	2.9	1.3	3.8	11
Amphideutopus oculatus	Amphipoda	3	0	0	1	8	2.4	4.0	0	8	3.4	1.5	4.3	12
Euphilomedes carcharodonta	Ostracoda	4	1	0	0	0	1.0	2.0	0	4	1.7	0.8	2.2	5
Ampelisca cristata	Gammaridea	0	0	0	0	2	0.4	1.0	0	2	0.9	0.4	1.1	2
Synchelidium sp.	Gammaridea	0	0	0	0	2	0.4	1.0	0	2	0.9	0.4	1.1	2
Scleroplax granulata	Decapoda	3	0	0	0	0	0.6	1.5	0	3	1.3	0.6	1.7	3
Neotrypaea californiensis	Decapoda	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Mactra californica	Bivalvia	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Compsomyx subdiaphana	Bivalvia	0	0	0	1	1	0.4	0.5	0	1	0.5	0.2	0.7	2
Mysella sp.	Bivalvia	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
spionid	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Ophiuroid	Ophiuroidea	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Anemone	Anthozoa	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1

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		Number per core					Summary Statistics								
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CI	sum	
Diastylis sp.	Cumacea	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Penatulacea	Anthozoa	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
<b>Total Fauna</b>		<b>61</b>	<b>76</b>	<b>185</b>	<b>69</b>	<b>64</b>	<b>91</b>	<b>97.0</b>	<b>124.5</b>	<b>64</b>	<b>185</b>	<b>50.2</b>	<b>22.5</b>	<b>64.6</b>	<b>485</b>
<b>Total Polychaetes</b>		<b>46</b>	<b>63</b>	<b>177</b>	<b>64</b>	<b>57</b>	<b>69</b>	<b>86.0</b>	<b>117.0</b>	<b>57</b>	<b>177</b>	<b>51.0</b>	<b>22.8</b>	<b>65.6</b>	<b>430</b>
<b>Total Molluscs</b>		<b>4</b>	<b>1</b>	<b>7</b>	<b>1</b>	<b>2</b>	<b>4</b>	<b>3.0</b>	<b>4.0</b>	<b>1</b>	<b>7</b>	<b>2.5</b>	<b>1.1</b>	<b>3.3</b>	<b>15</b>
<b>Total Crustaceans</b>		<b>7</b>	<b>11</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>12</b>	<b>5.2</b>	<b>6.5</b>	<b>1</b>	<b>12</b>	<b>5.8</b>	<b>2.6</b>	<b>7.4</b>	<b>26</b>
<b>Total Echinoderms</b>		<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0.2</b>	<b>0.5</b>	<b>0</b>	<b>1</b>	<b>0.4</b>	<b>0.2</b>	<b>0.6</b>	<b>1</b>
<b>Total Species</b>		<b>61</b>	<b>28</b>	<b>14</b>	<b>26</b>	<b>24</b>	<b>23</b>	<b>23.0</b>	<b>21.0</b>	<b>14</b>	<b>28</b>	<b>5.4</b>	<b>2.4</b>	<b>6.9</b>	<b>115</b>

Off Cabrillo Beach REF		1006	1007	1008	1006	1006								
Armandia brevis	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Chaetozone corona	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Cossura candida	Polychaeta	50	11	28	18	14	24.2	30.5	11	50	15.8	7.1	20.3	121
Eranno lagunae	Polychaeta	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Glycera americana	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Leitoscoloplos pugettensis	Polychaeta	1	0	0	0	1	0.4	0.5	0	1	0.5	0.2	0.7	2
Lumbrineridae, unident.	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Mediomastus californiensis	Polychaeta	11	3	7	1	7	5.8	6.0	1	11	3.9	1.7	5.0	29
Nephtys caecoides	Polychaeta	1	0	1	0	0	0.4	0.5	0	1	0.5	0.2	0.7	2
Nephtys comuta	Polychaeta	1	0	0	1	0	0.4	0.5	0	1	0.5	0.2	0.7	2
Paraprionospio pinnata	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Prionospio lighti	Polychaeta	0	0	6	0	6	2.4	3.0	0	6	3.3	1.5	4.2	12
Pseudopolydora paucibranchiata nemertea	Polychaeta	2	0	0	0	5	1.4	2.5	0	5	2.2	1.0	2.8	7
Macoma cf yoldiformis	Bivalvia	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Theora fragilis	Bivalvia	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Olivella baetica	Gastropoda	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Euphilomedes carcharodonta	Ostracoda	10	2	32	30	12	17.2	17.0	2	32	13.2	5.9	16.9	86
Rudilemboides stenopropodus	Amphipoda	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Amphideutopus oculus	Amphipoda	4	0	6	1	3	2.8	3.0	0	6	2.4	1.1	3.1	14
Listriella goleta	Gammaridea	2	0	2	3	0	1.4	1.5	0	3	1.3	0.6	1.7	7
Corophium heteroceratum	Gammaridea	7	4	1	11	8	6.2	6.0	1	11	3.8	1.7	4.9	31
Mayerella banksia	Amphipoda	0	1	1	0	0	0.4	0.5	0	1	0.5	0.2	0.7	2
Grandidierella japonica	Amphipoda	0	0	2	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2
Neotrypaea californiensis	Decapoda	0	0	1	0	1	0.4	0.5	0	1	0.5	0.2	0.7	2
Lophopanopeus bellus diegensis	Decapoda	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Diastylis sp.	Cumacea	0	0	0	1	2	0.6	1.0	0	2	0.9	0.4	1.1	3

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		Number per core					Summary Statistics							
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CI	sum
<i>Scleroplax granulata</i>	Decapoda	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
<b>Total Fauna</b>		<b>28</b>	<b>93</b>	<b>24</b>	<b>89</b>	<b>66</b>	<b>67.0</b>	<b>58.5</b>	<b>24</b>	<b>93</b>	<b>27.5</b>	<b>12.3</b>	<b>35.4</b>	<b>335</b>
<b>Total Polychaetes</b>		<b>13</b>	<b>69</b>	<b>15</b>	<b>42</b>	<b>20</b>	<b>36.2</b>	<b>42.0</b>	<b>15</b>	<b>69</b>	<b>21.3</b>	<b>9.5</b>	<b>27.4</b>	<b>181</b>
<b>Total Molluscs</b>		<b>3</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0.6</b>	<b>1.0</b>	<b>0</b>	<b>2</b>	<b>0.9</b>	<b>0.4</b>	<b>1.1</b>	<b>3</b>
<b>Total Crustaceans</b>		<b>11</b>	<b>23</b>	<b>7</b>	<b>47</b>	<b>46</b>	<b>30.0</b>	<b>27.0</b>	<b>7</b>	<b>47</b>	<b>16.8</b>	<b>7.5</b>	<b>21.6</b>	<b>150</b>
<b>Total Species</b>		<b>28</b>	<b>14</b>	<b>8</b>	<b>13</b>	<b>8</b>	<b>11.4</b>	<b>11.0</b>	<b>8</b>	<b>14</b>	<b>3.1</b>	<b>1.4</b>	<b>4.0</b>	<b>57</b>

Palos Verdes (Swartz 6) REF		1002	1003	1004	1002	1002								
<i>Aphelochaeta multifilis</i>	Polychaete	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
<i>Cossura candida</i>	Polychaete	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
<i>Diplocirrus</i> sp.(p).	Polychaete	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
<i>Eranno lagunae</i>	Polychaete	1	1	0	1	2	1.0	1.0	0	2	0.7	0.3	0.9	5
<i>Glycera americana</i>	Polychaete	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
<i>Glycera nana</i>	Polychaete	0	2	1	0	0	0.6	1.0	0	2	0.9	0.4	1.1	3
<i>Goniada brunnea</i>	Polychaete	2	0	0	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2
<i>Hesperonoe</i> sp.(p).	Polychaete	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
<i>Marphysa disjuncta</i>	Polychaete	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
<i>Mediomastus californiensis</i>	Polychaete	0	0	1	1	0	0.4	0.5	0	1	0.5	0.2	0.7	2
<i>Myriochele</i> sp. M	Polychaete	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
<i>Paramage scutata</i>	Polychaete	0	0	0	2	0	0.4	1.0	0	2	0.9	0.4	1.1	2
<i>Paraprionospio pinnata</i>	Polychaete	0	0	1	1	0	0.4	0.5	0	1	0.5	0.2	0.7	2
<i>Pectinaria californiensis</i>	Polychaete	0	1	0	0	2	0.6	1.0	0	2	0.9	0.4	1.1	3
<i>Pholoe glabra</i>	Polychaete	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
<i>Pista alata</i>	Polychaete	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
<i>Podarkeopsis perkinsi</i>	Polychaete	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
<i>Prionospio steenstrupi</i>	Polychaete	3	2	1	1	0	1.4	1.5	0	3	1.1	0.5	1.5	7
<i>Spiophanes berkeleyorum</i>	Polychaete	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
<i>Spiophanes missionensis</i>	Polychaete	5	3	0	4	1	2.6	2.5	0	5	2.1	0.9	2.7	13
<i>Sithenelais tertialabra</i>	Polychaete	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
<i>Tenonia priops</i>	Polychaete	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Terebellidae, unident.	Polychaete	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
<i>Terebellides californica</i>	Polychaete	0	0	1	2	0	0.6	1.0	0	2	0.9	0.4	1.1	3
nemertea	Nemertea	1	0	1	0	0	0.4	0.5	0	1	0.5	0.2	0.7	2
<i>Parvilucina tenuisculpta</i>	Bivalvia	2	2	8	3	1	3.2	4.5	1	8	2.8	1.2	3.6	16
<i>Euphilomedes producta</i>	Ostracoda	10	0	16	7	1	6.8	8.0	0	16	6.6	3.0	8.5	34
<i>Euphilomedes carcharodonta</i>	Ostracoda	1	1	0	0	0	0.4	0.5	0	1	0.5	0.2	0.7	2
<i>Ampelisca hancocki</i>	Amphipoda	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1

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		Number per core					Summary Statistics								
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CI	sum	
Corophium heteroceratum	Gammaridea	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Heterophoxus oculatus	Gammaridea	0	1	0	1	1	0.6	0.5	0	1	0.5	0.2	0.7	3	
Eudorella pacifica	Cumacea	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Munnogonium californiense	Isopoda	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Leptognathia sp.	Tanaidacea	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Photis sp.	Gammaridea	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Ophiuroid	Ophiuroidea	1	1	3	0	3	1.6	1.5	0	3	1.3	0.6	1.7	8	
<b>Total Fauna</b>		<b>36</b>	<b>30</b>	<b>19</b>	<b>38</b>	<b>28</b>	<b>12</b>	<b>25.4</b>	<b>25.0</b>	<b>12</b>	<b>38</b>	<b>10.1</b>	<b>4.5</b>	<b>13.0</b>	<b>127</b>
<b>Total Polychaetes</b>		<b>24</b>	<b>14</b>	<b>12</b>	<b>9</b>	<b>15</b>	<b>6</b>	<b>11.2</b>	<b>10.5</b>	<b>6</b>	<b>15</b>	<b>3.7</b>	<b>1.7</b>	<b>4.8</b>	<b>56</b>
<b>Total Molluscs</b>		<b>1</b>	<b>2</b>	<b>2</b>	<b>8</b>	<b>3</b>	<b>1</b>	<b>3.2</b>	<b>4.5</b>	<b>1</b>	<b>8</b>	<b>2.8</b>	<b>1.2</b>	<b>3.6</b>	<b>16</b>
<b>Total Crustaceans</b>		<b>9</b>	<b>12</b>	<b>4</b>	<b>17</b>	<b>10</b>	<b>2</b>	<b>9.0</b>	<b>9.5</b>	<b>2</b>	<b>17</b>	<b>6.1</b>	<b>2.7</b>	<b>7.8</b>	<b>45</b>
<b>Total Echinoderms</b>		<b>1</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>1.6</b>	<b>1.5</b>	<b>0</b>	<b>3</b>	<b>1.3</b>	<b>0.6</b>	<b>1.7</b>	<b>8</b>
<b>Total Species</b>		<b>36</b>	<b>13</b>	<b>14</b>	<b>14</b>	<b>15</b>	<b>8</b>	<b>12.8</b>	<b>11.5</b>	<b>8</b>	<b>15</b>	<b>2.8</b>	<b>1.2</b>	<b>3.6</b>	<b>64</b>

<b>West Basin Entrance REF</b>		<b>834</b>	<b>835</b>	<b>836</b>	<b>834.1</b>	<b>834.2</b>								
Acmira catherinae	Polychaeta	2	0	3	0	0	1.0	1.5	0	3	1.4	0.6	1.8	5
Amaeana occidentalis	Polychaeta	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Amphicteis scaphobranchiata	Polychaeta	1	0	0	1	0	0.4	0.5	0	1	0.5	0.2	0.7	2
Aphelochaeta monilaris	Polychaeta	1	1	1	1	0	0.8	0.5	0	1	0.4	0.2	0.6	4
Aphelochaeta multifilis	Polychaeta	1	2	1	4	5	2.6	3.0	1	5	1.8	0.8	2.3	13
Apoprionospio pygmaea	Polychaeta	1	0	1	0	0	0.4	0.5	0	1	0.5	0.2	0.7	2
Chaetozone corona	Polychaeta	1	3	3	1	6	2.8	3.5	1	6	2.0	0.9	2.6	14
Chone mollis	Polychaeta	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Cossura candida	Polychaeta	52	32	77	7	15	36.6	42.0	7	77	28.4	12.7	36.5	183
Eranno lagunae	Polychaeta	2	5	0	0	0	1.4	2.5	0	5	2.2	1.0	2.8	7
Euchone lunnicola	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Euclymeninae, unident.	Polychaeta	1	0	0	2	1	0.8	1.0	0	2	0.8	0.4	1.1	4
Glycera americana	Polychaeta	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1
Goniada sp(p).	Polychaeta	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Laonice cirrata	Polychaeta	0	0	2	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2
Leitoscoloplos pugettensis	Polychaeta	3	4	6	1	0	2.8	3.0	0	6	2.4	1.1	3.1	14
Levinsenia gracilis	Polychaeta	1	0	2	0	0	0.6	1.0	0	2	0.9	0.4	1.1	3
Marphysa disjuncta	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1
Mediomastus californiensis	Polychaeta	3	2	3	2	2	2.4	2.5	2	3	0.5	0.2	0.7	12
Monticellina dorsobranchialis	Polychaeta	4	1	2	3	1	2.2	2.5	1	4	1.3	0.6	1.7	11
Monticellina sp. C	Polychaeta	2	4	11	6	4	5.4	6.5	2	11	3.4	1.5	4.4	27
Nephtys comuta	Polychaeta	1	1	3	0	4	1.8	2.0	0	4	1.6	0.7	2.1	9

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		Number per core					Summary Statistics								
		rep 1	rep 2	rep 3	rep 4	rep 5	mean	median	min	max	St. Dev.	S.E.	95%CI	sum	
Nereis procer	Polychaeta	0	0	0	2	0	0.4	1.0	0	2	0.9	0.4	1.1	2	
Paramage scutata	Polychaeta	0	0	2	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2	
Paraprionospio pinnata	Polychaeta	2	3	1	1	0	1.4	1.5	0	3	1.1	0.5	1.5	7	
Parougia caeca	Polychaeta	1	0	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Podarkeopsis glabra	Polychaeta	1	0	1	0	0	0.4	0.5	0	1	0.5	0.2	0.7	2	
Polydora socialis	Polychaeta	0	0	0	1	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Prionospio steenstrupi	Polychaeta	0	0	2	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2	
Prionospio lighti	Polychaeta	0	1	0	0	1	0.4	0.5	0	1	0.5	0.2	0.7	2	
Scoletoma tetraura	Polychaeta	0	0	1	1	0	0.4	0.5	0	1	0.5	0.2	0.7	2	
Streblosoma sp. B	Polychaeta	1	1	0	1	1	0.8	0.5	0	1	0.4	0.2	0.6	4	
Spiophanes berkeleyorum	Polychaeta	0	1	0	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Tenonia priops	Polychaeta	0	1	0	0	1	0.4	0.5	0	1	0.5	0.2	0.7	2	
Terebellides californica	Polychaeta	0	0	5	0	0	1.0	2.5	0	5	2.2	1.0	2.9	5	
nemertea	Nemertea	1	4	4	0	0	1.8	2.0	0	4	2.0	0.9	2.6	9	
Theora fragilis	Bivalvia	2	7	6	0	2	3.4	3.5	0	7	3.0	1.3	3.8	17	
Turbonilla sp.	Gastropoda	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1	
Euphilomedes carcharodonta	Ostracoda	0	0	0	0	1	0.2	0.5	0	1	0.4	0.2	0.6	1	
Acuminodeutopus heteruropus	Amphipoda	1	1	0	0	0	0.4	0.5	0	1	0.5	0.2	0.7	2	
Amphideutopus oculus	Amphipoda	1	6	1	0	4	2.4	3.0	0	6	2.5	1.1	3.2	12	
Corophium heteroceratum	Gammaridea	0	0	0	0	7	1.4	3.5	0	7	3.1	1.4	4.0	7	
Gnathia crenulatifrons	Isopoda	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Ampelisca brevisimulata	Amphipoda	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Ophiuroid	Ophiuroidea	0	0	0	0	2	0.4	1.0	0	2	0.9	0.4	1.1	2	
Holothuroid	Holothuroidea	0	0	1	0	0	0.2	0.5	0	1	0.4	0.2	0.6	1	
Aglaja sp.	Gastropoda	2	0	0	0	0	0.4	1.0	0	2	0.9	0.4	1.1	2	
<b>Total Fauna</b>		<b>47</b>	<b>89</b>	<b>81</b>	<b>142</b>	<b>35</b>	<b>60</b>	<b>81.4</b>	<b>88.5</b>	<b>35</b>	<b>142</b>	<b>39.8</b>	<b>17.8</b>	<b>51.2</b>	<b>407</b>
<b>Total Polychaetes</b>		<b>35</b>	<b>82</b>	<b>63</b>	<b>128</b>	<b>35</b>	<b>43</b>	<b>70.2</b>	<b>81.5</b>	<b>35</b>	<b>128</b>	<b>37.1</b>	<b>16.6</b>	<b>47.7</b>	<b>351</b>
<b>Total Molluscs</b>		<b>3</b>	<b>4</b>	<b>7</b>	<b>6</b>	<b>0</b>	<b>3</b>	<b>4.0</b>	<b>3.5</b>	<b>0</b>	<b>7</b>	<b>2.7</b>	<b>1.2</b>	<b>3.5</b>	<b>20</b>
<b>Total Crustaceans</b>		<b>6</b>	<b>2</b>	<b>7</b>	<b>3</b>	<b>0</b>	<b>12</b>	<b>4.8</b>	<b>6.0</b>	<b>0</b>	<b>12</b>	<b>4.8</b>	<b>2.1</b>	<b>6.1</b>	<b>24</b>
<b>Total Echinoderms</b>		<b>2</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>0.6</b>	<b>1.0</b>	<b>0</b>	<b>2</b>	<b>0.9</b>	<b>0.4</b>	<b>1.1</b>	<b>3</b>
<b>Total Species</b>		<b>47</b>	<b>25</b>	<b>20</b>	<b>26</b>	<b>16</b>	<b>19</b>	<b>21.2</b>	<b>21.0</b>	<b>16</b>	<b>26</b>	<b>4.2</b>	<b>1.9</b>	<b>5.4</b>	<b>106</b>



**Appendix D**

**Toxicity Data**

Section I

Amphipod Survival

Percent Amphipod Survival for Solid Phase Test

STANUM	STATION	IDORG	DATE	LEG	TYPE	METADATA	CTRL	RA_MN	RA_SD	RA_SG	RASITE_MN	RASITE_SD	RASITE_SG
90006.0	23 SWARTZ	155	10/13/92	5	-9	-9	-9	82.00	13.00	*	-9	-9	-9
90019.0	E DE LAPPE	168	10/13/92	5	-9	-9	-9	76.00	18.50	*	-9	-9	-9
90021.0	K SWARTZ	170	10/13/92	5	-9	-9	-9	62.00	14.00	*	-9	-9	-9
90031.0	BG SCHROEDER SITE G	180	10/13/92	5	-9	-9	-9	62.00	9.70	*	-9	-9	-9
90038.0	CC	187	10/13/92	5	-9	-9	-9	67.00	7.60	*	-9	-9	-9
90071.0	BAIT BARGE	220	10/13/92	5	-9	-9	-9	75.00	13.70	*	-9	-9	-9
90101.0	SCRIPPS PIER	250	10/13/92	5	-9	-9	-9	77.00	10.40	*	-9	-9	-9
90036.0	STORM DRAIN- ROHR CHANNEL	185	10/14/92	5	-9	-9	-9	27.00	17.90	*	-9	-9	-9
90053.0	35 SWARTZ	202	10/14/92	5	-9	-9	-9	66.00	12.40	*	-9	-9	-9
90054.0	36 SWARTZ	203	10/14/92	5	-9	-9	-9	73.00	9.10	*	-9	-9	-9
90001.0	11 SWARTZ	150	10/27/92	6	-9	-9	-9	75.00	7.10	*	-9	-9	-9
90002.0	12 SWARTZ	151	10/27/92	6	-9	-9	-9	85.00	12.70	*	-9	-9	-9
90016.0	42 SWARTZ	165	10/27/92	6	-9	-9	-9	75.00	7.10	*	-9	-9	-9
90049.0	8B	198	10/27/92	6	-9	-9	-9	80.00	11.70	*	-9	-9	-9
90056.0	8A SWARTZ	205	10/27/92	6	-9	-9	-9	87.00	10.40	*	-9	-9	-9
90063.0	THOMPSON SITE 205	212	10/27/92	6	-9	-9	-9	87.00	9.70	*	-9	-9	-9
90003.0	14 SWARTZ	152	10/28/92	6	-9	-9	-9	72.00	7.60	*	-9	-9	-9
90004.0	15 SWARTZ	153	10/28/92	6	-9	-9	-9	60.00	3.50	*	-9	-9	-9
90010.0	31 SWARTZ	159	10/28/92	6	-9	-9	-9	39.00	25.60	*	-9	-9	-9
90011.0	33 SWARTZ	160	10/28/92	6	-9	-9	-9	73.00	9.70	*	-9	-9	-9
90013.0	37 SWARTZ	162	10/28/92	6	-9	-9	-9	72.00	7.60	*	-9	-9	-9
90017.0	C DELAPPE	166	10/28/92	6	-9	-9	-9	64.00	9.60	*	-9	-9	-9
90048.0	6 SWARTZ	197	10/28/92	6	-9	-9	-9	82.00	11.50	*	-9	-9	-9
90051.0	16 SWARTZ	200	10/28/92	6	-9	-9	-9	77.00	7.60	*	-9	-9	-9
90052.0	32 SWARTZ	201	10/28/92	6	-9	-9	-9	84.00	11.40	*	-9	-9	-9
90007.0	25 SWARTZ	156	11/10/92	7	-9	-9	-9	37.00	13.50	*	-9	-9	-9
90008.0	27 SWARTZ	157	11/10/92	7	-9	-9	-9	29.00	6.50	*	-9	-9	-9
90009.0	28 SWARTZ	158	11/10/92	7	-9	-9	-9	0.00	0.00	*	-9	-9	-9
90022.0	P SWARTZ	171	11/10/92	7	-9	-9	-9	38.00	22.80	*	-9	-9	-9
90026.0	SDNI-N18	175	11/10/92	7	-9	-9	-9	85.00	6.10	*	-9	-9	-9
90027.0	NSB-S1	176	11/10/92	7	-9	-9	-9	59.00	8.90	*	-9	-9	-9
90028.0	NSB-M1	177	11/10/92	7	-9	-9	-9	58.00	5.70	*	-9	-9	-9
90029.0	NSB-R1	178	11/10/92	7	-9	-9	-9	51.00	11.40	*	-9	-9	-9
90023.0	NM SANDBAG	172	11/11/92	7	-9	-9	-9	32.00	21.40	*	-9	-9	-9
90024.0	SDNI-N1	173	11/11/92	7	-9	-9	-9	40.00	9.40	*	-9	-9	-9
90025.0	SDNI-N5	174	11/11/92	7	-9	-9	-9	7.00	4.50	*	-9	-9	-9
90050.0	10 SWARTZ	199	11/11/92	7	-9	-9	-9	47.00	12.00	*	-9	-9	-9
90055.0	43 SWARTZ	204	11/11/92	7	-9	-9	-9	37.00	16.00	*	-9	-9	-9
90102.0	HARBOR BRIDGE 71A	256	11/11/92	7	-9	-9	-9	14.00	6.50	*	-9	-9	-9
90103.0	SCRIPPS TRIANGLE	257	11/11/92	7	-9	-9	-9	-9	-9	-9	-9	-9	-9
90005.0	21 SWARTZ	154	1/26/93	12	-9	-9	-9	55.00	12.70	*	-9	-9	-9
90014.0	38 SWARTZ	163	1/26/93	12	-9	-9	-9	64.00	13.90	*	-9	-9	-9
90018.0	D DE LAPPE	167	1/26/93	12	-9	-9	-9	76.00	6.50	*	-9	-9	-9
90020.0	G DE LAPPE	169	1/26/93	12	-9	-9	-9	49.00	12.40	*	-9	-9	-9

Percent Amphipod Survival for Solid Phase Test

STANUM	STATION	IDORG	DATE	LEG	TYPE	METADATA	CTRL	RA_MN	RA_SD	RA_SG	RASITE_MN	RASITE_SD	RASITE_SG
90030.0	BF SCHROEDER SITE F	179	1/26/93	12	-9	-9	-9	47.00	9.10	*	-9	-9	-9
90032.0	BM SCHROEDER SITE M	181	1/26/93	12	-9	-9	-9	67.00	15.70	*	-9	-9	-9
90037.0	STORM DRAIN EM- GRAPE STREET	186	1/26/93	12	-9	-9	-9	73.00	14.00	*	-9	-9	-9
90039.0	CL	188	1/26/93	12	-9	-9	-9	38.00	8.40	*	-9	-9	-9
90043.0	CORONADO WHARF	192	1/26/93	12	-9	-9	-9	29.00	8.20	*	-9	-9	-9
90104.0	WEST BASIN ENTRANCE (71C) REF	275	1/26/93	12	-9	-9	-9	13.00	8.40	*	-9	-9	-9
90012.0	34 SWARTZ	161	1/27/93	12	-9	-9	-9	53.00	11.00	*	-9	-9	-9
90015.0	41 SWARTZ	164	1/27/93	12	-9	-9	-9	59.00	10.20	*	-9	-9	-9
90040.0	SWEETWATER MARSH SD BAY	189	1/27/93	12	-9	-9	-9	73.00	11.50	*	-9	-9	-9
90041.0	SOUTH SD BAY WETLANDS- OTAY R.	190	1/27/93	12	-9	-9	-9	74.00	8.20	*	-9	-9	-9
90057.0	5 SDG&E	206	1/27/93	12	-9	-9	-9	25.00	8.70	*	-9	-9	-9
90058.0	7 SDG&E	207	1/27/93	12	-9	-9	-9	84.00	8.90	*	-9	-9	-9
93105.0	MISSION BAY A1 (x1)	700	3/23/93	15	-9	-9	CB	78.00	11.50	*	-9	-9	-9
93106.0	MISSION BAY A2 (x1)	701	3/23/93	15	-9	-9	CB	82.00	17.60	NS	-9	-9	-9
93107.0	MISSION BAY A3 (x1)	702	3/23/93	15	-9	-9	CD	90.00	0.00	-7	-9	-9	-9
93108.0	MISSION BAY A4 (x1)	703	3/23/93	15	-9	-9	CD	90.00	7.10	NS	-9	-9	-9
93109.0	MISSION BAY A5 (x1)	704	3/23/93	15	-9	-9	CD	92.00	2.90	NS	-9	-9	-9
93110.0	MISSION BAY A6 (x1)	705	3/23/93	15	-9	-9	CD	97.00	2.90	NS	-9	-9	-9
93112.0	MISSION BAY A8 (x1)	707	3/23/93	15	-9	-9	CD	95.00	7.10	NS	-9	-9	-9
93113.0	MISSION BAY A9 (x1)	708	3/23/93	15	-9	-9	CD	98.00	2.90	NS	-9	-9	-9
93114.0	MISSION BAY A10 (x1)	709	3/23/93	15	-9	-9	CD	93.00	2.90	NS	-9	-9	-9
93115.0	MISSION BAY A11 (x1)	710	3/23/93	15	-9	-9	CD	93.00	7.60	NS	-9	-9	-9
93116.0	SAN DIEGO RIVER B1 (x4)	711	3/23/93	15	-9	-9	CB	88.00	3.50	NS	-9	-9	-9
93117.0	SAN DIEGO RIVER B2 (x2)	712	3/23/93	15	-9	-9	CB	90.00	5.00	NS	-9	-9	-9
93111.0	MISSION BAY A7 (x3)	706	3/24/93	15	-9	-9	CD	85.00	5.00	NS	-9	-9	-9
90002.0	12 SWARTZ	719	3/24/93	15	-9	-9	CD	85.00	5.00	NS	-9	-9	-9
90037.0	STORMDRAIN EM- GRAPE STREET	720	3/24/93	15	-9	-9	CB	93.00	3.50	NS	-9	-9	-9
90015.0	41 SWARTZ	721	3/24/93	15	-9	-9	CD	88.00	7.60	NS	-9	-9	-9
90012.0	34 SWARTZ	722	3/24/93	15	-9	-9	CB	85.00	7.10	NS	-9	-9	-9
90057.0	5 SDG&E	723	3/24/93	15	-9	-9	-9	88.00	10.40	NS	-9	-9	-9
90052.0	32 SWARTZ	724	3/24/93	15	-9	-9	CB	90.00	7.10	NS	-9	-9	-9
93118.0	TIJUANA R. ESTUARY HH1 (x2)	713	3/25/93	15	-9	-9	CB	30.00	18.00	*	-9	-9	-9
93119.0	TIJUANA R. ESTUARY HH1 (x1)	714	3/25/93	15	-9	-9	CB	22.00	5.80	*	-9	-9	-9
93120.0	TIJUANA R. ESTUARY HH2 (x1)	715	3/25/93	15	-9	-9	CB	85.00	0.00	-7	-9	-9	-9
93121.0	TIJUANA R. ESTUARY HH2 (x5)	716	3/25/93	15	-9	-9	CB	85.00	5.00	NS	-9	-9	-9
93126.0	SILVER STRAND FF7 (x2)	729	4/6/93	16	-9	-9	CB	75.00	19.00	*	-9	-9	-9
93127.0	SOUTH BAY GG2 (x1)	730	4/6/93	16	-9	-9	CB	74.00	17.80	*	-9	-9	-9
93129.0	SOUTH BAY GG4 (x1)	732	4/6/93	16	-9	-9	CB	70.00	7.90	*	-9	-9	-9
90014.0	38 SCHWARTZ	733	4/6/93	16	-9	-9	CB	81.00	10.20	NS	-9	-9	-9
93131.0	CORONADO CAYS T1 (x1)	734	4/6/93	16	-9	-9	CB	49.00	13.40	*	-9	-9	-9
93132.0	CORONADO CAYS T3 (x1)	735	4/6/93	16	-9	-9	CB	66.00	22.20	*	-9	-9	-9
93133.0	CHANNEL-NAVAL BASE Z1 (x1)	736	4/6/93	16	-9	-9	CD	81.00	8.90	*	-9	-9	-9
93134.0	SOUTH SHORE-MOUTH BB2 (x1)	737	4/6/93	16	-9	-9	CD	92.00	9.10	NS	-9	-9	-9
93135.0	SOUTH SHORE-MOUTH BB3 (x1)	738	4/6/93	16	-9	-9	CD	81.00	9.60	NS	-9	-9	-9

Percent Amphipod Survival for Solid Phase Test

STANUM	STATION	IDORG	DATE	LEG	TYPE	METADATA	CTRL	RA_MN	RA_SD	RA_SG	RASITE_MN	RASITE_SD	RASITE_SG
93136.0	NORTH SHORE-MOUTH CC2 (x1)	739	4/6/93	16	-9	-9	CD	70.00	13.20	*	-9	-9	-9
93138.0	SHELTER ISLAND E3 (x2)	741	4/6/93	16	-9	-9	CD	29.00	24.10	*	-9	-9	-9
93128.0	SOUTHBAY GG5 (x1)	750	4/6/93	16	-9	-9	CB	59.00	11.90	*	-9	-9	-9
93122.0	SOUTH SHORE-CORONADO DD3 (x1)	725	4/7/93	16	-9	-9	CD	23.00	14.40	*	-9	-9	-9
93123.0	SILVER STRAND FF1 (x1)	726	4/7/93	16	-9	-9	CD	69.00	6.50	*	-9	-9	-9
93124.0	SILVER STRAND FF2 (x1)	727	4/7/93	16	-9	-9	CD	79.00	11.50	NS	-9	-9	-9
93125.0	SILVER STRAND FF4 (x4)	728	4/7/93	16	-9	-9	CD	52.00	13.20	*	-9	-9	-9
90006.0	23 SCHWARTZ	731	4/7/93	16	-9	-9	CD	78.00	16.00	NS	-9	-9	-9
93137.0	NORTH SHORE-MOUTH CC3 (x1)	740	4/7/93	16	-9	-9	CD	75.00	11.70	*	-9	-9	-9
93139.0	COMMERCIAL BASIN F1 (x1)	742	4/7/93	16	-9	-9	CD	80.00	15.40	NS	-9	-9	-9
93140.0	COMMERCIAL BASIN F2 (x1)	743	4/7/93	16	-9	-9	CD	54.00	11.40	*	-9	-9	-9
93141.0	COMMERCIAL BASIN F3 (x1)	744	4/7/93	16	-9	-9	CD	50.00	10.60	*	-9	-9	-9
90018.0	D DE LAPPE	748	4/7/93	16	-9	-9	CD	19.00	10.20	*	-9	-9	-9
90030.0	BF SCHROEDER SITE F	749	4/7/93	16	-9	-9	CD	43.00	4.50	*	-9	-9	-9
93148.0	CHANNEL-CORONADO Y1 (x2)	751	4/7/93	16	-9	-9	CD	47.00	16.00	*	-9	-9	-9
93142.0	SOUTH SHORE-CORONADO DD1(X1)	752	4/7/93	16	-9	-9	CD	53.00	22.50	*	-9	-9	-9
93144.0	CAMPBELL SHIPYARDS N1 (x1)	754	4/20/93	17	-9	-9	CD	67.00	7.60	*	-9	-9	-9
93145.0	CAMPBELL SHIPYARDS N2 (x1)	755	4/20/93	17	-9	-9	CD	67.00	9.10	*	-9	-9	-9
93146.0	GLORIETTA BAY U2 (x1)	756	4/20/93	17	-9	-9	CD	75.00	7.90	*	-9	-9	-9
93147.0	GLORIETTA BAY U3 (x1)	757	4/20/93	17	-9	-9	CB	53.00	5.70	*	-9	-9	-9
93149.0	CHANNEL-MOUTH X1 (x1)	758	4/20/93	17	-9	-9	CD	90.00	7.10	NS	-9	-9	-9
93150.0	CHANNEL-NAVAL BASE Z1 (x2)	759	4/20/93	17	-9	-9	CD	79.00	21.60	*	-9	-9	-9
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	760	4/20/93	17	-9	-9	-9	61.00	13.90	*	-9	-9	-9
93152.0	SOUTH SHORE-MOUTH BB1 (x1)	761	4/20/93	17	-9	-9	CD	91.00	7.40	NS	-9	-9	-9
93154.0	NORTH SHORE-MOUTH CC4 (x1)	763	4/20/93	17	-9	-9	CD	31.00	20.70	*	-9	-9	-9
93155.0	SOUTH SHORE-CORONADO DD2 (x1)	764	4/20/93	17	-9	-9	CD	73.00	4.50	*	-9	-9	-9
93156.0	NORTH SHORE-CORONADO EE1 (x1)	765	4/20/93	17	-9	-9	CD	81.00	11.40	*	-9	-9	-9
93157.0	NORTH SHORE-CORONADO EE2 (x1)	766	4/20/93	17	-9	-9	CD	56.00	18.20	*	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1)	767	4/20/93	17	-9	-9	-9	49.00	22.50	*	-9	-9	-9
93159.0	SOUTH BAY GG3 (x1)	768	4/20/93	17	-9	-9	CD	21.00	8.20	*	-9	-9	-9
93160.0	CHANNEL-SOUTH BAY AA2(x1)BLIND	773	4/20/93	17	-9	-9	CD	43.00	15.20	*	-9	-9	-9
93143.0	FUEL PIERS D1 (x1)	753	4/21/93	17	-9	-9	CD	64.00	10.80	*	-9	-9	-9
93153.0	NORTH SHORE-MOUTH CC1 (x1)	762	4/21/93	17	-9	-9	CD	53.00	17.90	*	-9	-9	-9
93161.0	SUB BASE C1 (x1)	774	5/4/93	18	-9	-9	CD	89.00	9.60	NS	-9	-9	-9
93162.0	SUB BASE C3 (x1)	775	5/4/93	18	-9	-9	CD	53.00	20.20	*	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)	776	5/4/93	18	-9	-9	CD	86.00	8.20	NS	-9	-9	-9
93164.0	SHELTER ISLAND E1 (x1)	777	5/4/93	18	-9	-9	CD	52.00	14.40	*	-9	-9	-9
93165.0	NAVY ESTUARY G1 (x1)	778	5/4/93	18	-9	-9	-9	66.00	23.00	*	-9	-9	-9
93166.0	NAVY ESTUARY G2 (x1)	779	5/4/93	18	-9	-9	-9	20.00	14.10	*	-9	-9	-9
93167.0	NAVY ESTUARY G3 (x1)	780	5/4/93	18	-9	-9	-9	71.00	17.80	*	-9	-9	-9
93169.0	EAST BASIN I2 (x1)	782	5/4/93	18	-9	-9	CD	57.00	33.70	*	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)	784	5/4/93	18	-9	-9	CD	66.00	20.40	*	-9	-9	-9
93172.0	SILVER STRAND FF3 (x1)	785	5/4/93	18	-9	-9	CD	74.00	26.80	NS	-9	-9	-9
93173.0	SILVER STRAND FF6 (x1)	786	5/4/93	18	-9	-9	-9	78.00	14.80	NS	-9	-9	-9

Percent Amphipod Survival for Solid Phase Test

STANUM	STATION	IDORG	DATE	LEG	TYPE	METADATA	CTRL	RA_MN	RA_SD	RA_SG	RASITE_MN	RASITE_SD	RASITE_SG
93168.0	WEST BASIN H2 (x1)	781	5/5/93	18	-9	-9	CD	54.00	28.60	*	-9	-9	-9
93170.0	CHOLLAS CREEK P1 (x2)	783	5/5/93	18	-9	-9	CD	82.00	11.50	*	-9	-9	-9
93174.0	TIJUANA R. ESTUARY HH3 (x2)	787	5/5/93	18	-9	-9	CD	6.00	8.90	*	-9	-9	-9
93175.0	TIJUANA R. ESTUARY HH3 (x3)	788	5/5/93	18	-9	-9	CB	10.00	14.10	*	-9	-9	-9
93176.0	MARINE TERMINAL R6 (x1) BLIND	794	5/6/93	18	-9	-9	CD	64.00	12.90	*	-9	-9	-9
93177.0	NAVAL SHIPYARDS O1 (x1)	795	5/26/93	19	-9	-9	CD1	50.00	19.40	*	-9	-9	-9
93178.0	NAVAL SHIPYARDS O2 (x1)	796	5/26/93	19	-9	-9	CD1	20.00	15.00	*	-9	-9	-9
93179.0	NAVAL SHIPYARDS O3 (x1)	797	5/26/93	19	-9	-9	CD2	20.00	3.50	*	-9	-9	-9
93181.0	NAVAL SHIPYARDS O6 (x1)	799	5/26/93	19	-9	-9	CD2	45.00	23.20	*	-9	-9	-9
93182.0	NAVAL SHIPYARDS O8 (x4)	800	5/26/93	19	-9	-9	CD2	67.00	26.80	*	-9	-9	-9
93183.0	NAVAL SHIPYARDS O9 (x1)	801	5/26/93	19	-9	-9	CD2	57.00	25.10	*	-9	-9	-9
93184.0	NAVAL SHIPYARDS O11 (x1)	802	5/26/93	19	-9	-9	CD2	53.00	25.10	*	-9	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)	803	5/26/93	19	-9	-9	CD2	84.00	6.50	*	-9	-9	-9
93186.0	FUEL PIER D4 (x1)	804	5/26/93	19	-9	-9	CD2	71.00	6.50	*	-9	-9	-9
93187.0	MARINE TERMINAL R2 (x1)	805	5/26/93	19	-9	-9	CD2	55.00	11.70	*	-9	-9	-9
93188.0	CARRIER BASE V1 (x2)	806	5/26/93	19	-9	-9	CD1	37.00	28.60	*	-9	-9	-9
93189.0	NAVAL SHIPYARDS O15 (x1) BLIND	814	5/26/93	19	-9	-9	CD1	58.00	15.70	*	-9	-9	-9
90051.0	16 SWARTZ (INTERCONT. MARINA)	818	6/15/93	20	-9	-9	-9	1.00	2.00	*	-9	-9	-9
93192.0	INTERCONT. MARINA M1 (x2)	819	6/15/93	20	-9	-9	-9	84.00	8.00	*	-9	-9	-9
93193.0	INTERCONT. MARINA M1 (x1)	820	6/15/93	20	-9	-9	-9	89.00	5.00	NS	-9	-9	-9
90037.0	STORMDRAIN EM (GRAPE ST.)-REP1	827	6/15/93	20	-9	-9	-9	93.00	3.00	NS	-9	-9	-9
90037.0	STORMDRAIN EM (GRAPE ST.)-REP2	828	6/15/93	20	-9	-9	-9	91.00	5.00	NS	-9	-9	-9
90037.0	STORMDRAIN EM (GRAPE ST.)-REP3	829	6/15/93	20	-9	-9	-9	88.00	8.00	NS	-9	-9	-9
93198.0	INTERCONT. MARINA M2(x1) BLIND	833	6/15/93	20	-9	-9	-9	81.00	13.00	NS	-9	-9	-9
90013.0	37 SWARTZ (MARINA)	815	6/16/93	20	-9	-9	-9	81.00	8.00	*	-9	-9	-9
93190.0	MARINA III (x1)	816	6/16/93	20	-9	-9	-9	87.00	12.00	NS	-9	-9	-9
93191.0	MARINA III (x3)	817	6/16/93	20	-9	-9	-9	80.00	6.00	*	-9	-9	-9
90015.0	41 SWARTZ (GLORIETTA BAY)	821	6/16/93	20	-9	-9	-9	60.00	35.00	NS	-9	-9	-9
93194.0	GLORIETTA BAY U1 (x1)	822	6/16/93	20	-9	-9	-9	89.00	7.00	NS	-9	-9	-9
93195.0	GLORIETTA BAY U1 (x2)	823	6/16/93	20	-9	-9	-9	81.00	9.00	*	-9	-9	-9
90012.0	34 SWARTZ (C.V. YACHT BASIN)	824	6/16/93	20	-9	-9	-9	57.00	16.00	*	-9	-9	-9
93196.0	CHULA V. YACHT BASIN S1 (x1)	825	6/16/93	20	-9	-9	-9	76.00	14.00	*	-9	-9	-9
93197.0	CHULA V. YACHT BASIN S1 (x3)	826	6/16/93	20	-9	-9	-9	79.00	4.00	*	-9	-9	-9
90053.0	35 SWARTZ (CORONADO CAYS)	843	7/20/93	21	-9	-9	-9	75.00	11.00	*	-9	-9	-9
93203.0	CORONADO CAYS T2 (x1)	844	7/20/93	21	-9	-9	-9	68.00	16.00	*	-9	-9	-9
93204.0	CORONADO CAYS T2 (x2)	845	7/20/93	21	-9	-9	-9	82.00	17.00	NS	-9	-9	-9
90003.0	14 SWARTZ (DOWNTOWN PIERS)	848	7/20/93	21	-9	-9	-9	70.00	27.00	NS	-9	-9	-9
93205.0	DOWNTOWN PIERS K1 (x9)	847	7/20/93	21	-9	-9	-9	84.00	10.00	NS	-9	-9	-9
93206.0	DOWNTOWN PIERS K1 (x11)	848	7/20/93	21	-9	-9	-9	95.00	6.00	NS	-9	-9	-9
90004.0	15 SWARTZ (G ST. PIER MARINA)	849	7/20/93	21	-9	-9	-9	77.00	15.00	NS	-9	-9	-9
93207.0	G ST. PIER MARINA L1 (x4)	850	7/20/93	21	-9	-9	-9	89.00	7.00	NS	-9	-9	-9
93208.0	G ST. PIER MARINA L1 (x5)	851	7/20/93	21	-9	-9	-9	83.00	8.00	NS	-9	-9	-9
93209.0	DOWNTOWN PIERS K4 BLIND (x4)	852	7/20/93	21	-9	-9	CD	93.00	8.00	NS	-9	-9	-9
93107.0	MISSION BAY A3 (x1)-REP 1	853	7/21/93	21	-9	-9	CD	57.00	14.00	*	-9	-9	-9

Percent Amphipod Survival for Solid Phase Test

STANUM	STATION	IDORG	DATE	LEG	TYPE	METADATA	CTRL	RA_MN	RA_SD	RA_SG	RASITE_MN	RASITE_SD	RASITE_SG
93107.0	MISSION BAY A3 (x1)-REP 2	854	7/21/93	21	-9	-9	CD	77.00	17.00	NS	-9	-9	-9
93107.0	MISSION BAY A3 (x1)-REP 3	855	7/21/93	21	-9	-9	CD	73.00	17.00	*	-9	-9	-9
93112.0	MISSION BAY A8 (x1)-REP 1	856	7/21/93	21	-9	-9	CD	96.00	5.00	NS	-9	-9	-9
93112.0	MISSION BAY A8 (x1)-REP 2	857	7/21/93	21	-9	-9	CD	98.00	3.00	NS	-9	-9	-9
93112.0	MISSION BAY A8 (x1)-REP 3	858	7/21/93	21	-9	-9	CD	94.00	5.00	NS	-9	-9	-9
93108.0	MISSION BAY A4 (x1)-REP 1	859	7/21/93	21	-9	-9	CD	80.00	16.00	NS	-9	-9	-9
93108.0	MISSION BAY A4 (x1)-REP 2	860	7/21/93	21	-9	-9	CD	69.00	14.00	*	-9	-9	-9
93108.0	MISSION BAY A4 (x1)-REP 3	861	7/21/93	21	-9	-9	CD	75.00	6.00	*	-9	-9	-9
90050.0	10 SWARTZ (WEST BASIN)	837	8/3/93	21	-9	-9	CD	76.00	18.00	NS	-9	-9	-9
93199.0	WEST BASIN H1 (x1)	838	8/3/93	21	-9	-9	CD	77.00	16.00	NS	-9	-9	-9
93200.0	WEST BASIN H1 (x4)	839	8/3/93	21	-9	-9	CD	50.00	36.00	NS	-9	-9	-9
90001.0	11 SWARTZ (EAST BASIN)	840	8/3/93	21	-9	-9	CD	86.00	9.00	NS	-9	-9	-9
93201.0	EAST BASIN I1 (x1)	841	8/3/93	21	-9	-9	CD	87.00	9.00	NS	-9	-9	-9
93202.0	EAST BASIN I1 (x5)	842	8/3/93	21	-9	-9	CD	83.00	6.00	NS	-9	-9	-9
93180.0	NAVAL BASE/SHIPYARDS O5 (x1)	798	8/4/93	22	-9	-9	-9	81.00	10.00	*	-9	-9	-9
90021.0	K SWARTZ (NAVAL BASE O4)	862	8/4/93	22	-9	-9	-9	93.00	6.00	NS	-9	-9	-9
93210.0	NAVAL BASE/SHIPYARDS O4 (x1)	863	8/4/93	22	-9	-9	-9	37.00	33.00	*	-9	-9	-9
93211.0	NAVAL BASE/SHIPYARDS O4 (x2)	864	8/4/93	22	-9	-9	-9	86.00	10.00	NS	-9	-9	-9
90006.0	23 SWARTZ (NAVAL BASE O7)	865	8/4/93	22	-9	-9	-9	92.00	8.00	NS	-9	-9	-9
93212.0	NAVAL BASE/SHIPYARDS O7 (x1)	866	8/4/93	22	-9	-9	-9	91.00	10.00	NS	-9	-9	-9
93213.0	NAVAL BASE/SHIPYARDS O7 (x4)	867	8/4/93	22	-9	-9	-9	94.00	8.00	NS	-9	-9	-9
90022.0	P SWARTZ (NAVAL BASE O12)	868	8/4/93	22	-9	-9	CD	91.00	5.00	NS	-9	-9	-9
93214.0	NAVAL BASE/SHIPYARDS O12 (x3)	869	8/4/93	22	-9	-9	CD	93.00	4.00	NS	-9	-9	-9
93215.0	NAVAL BASE/SHIPYARDS O12 (x4)	870	8/4/93	22	-9	-9	CD	86.00	12.00	NS	-9	-9	-9
90028.0	NSB-M1 (SUB BASE C2)	871	8/4/93	22	-9	-9	-9	84.00	11.00	NS	-9	-9	-9
93216.0	SUB BASE C2 (x1)	872	8/4/93	22	-9	-9	-9	93.00	8.00	NS	-9	-9	-9
93217.0	SUB BASE C2 (x3)	873	8/4/93	22	-9	-9	-9	81.00	13.00	*	-9	-9	-9
93218.0	SUB BASE C2 (x11) BLIND	874	8/4/93	22	-9	-9	-9	84.00	7.00	*	-9	-9	-9
93116.0	SAN DIEGO RIVER B1 (x4)-REP 1	881	8/5/93	22	-9	-9	CB	92.00	8.00	NS	-9	-9	-9
93116.0	SAN DIEGO RIVER B1 (x4)-REP 2	882	8/5/93	22	-9	-9	CD	92.00	6.00	NS	-9	-9	-9
93116.0	SAN DIEGO RIVER B1 (x4)-REP 3	883	8/5/93	22	-9	-9	CD	78.00	10.00	*	-9	-9	-9
90052.0	32 SWARTZ(SWEETWATER CH)-REP 1	875	8/18/93	22	-9	-9	CD	71.00	11.00	*	-9	-9	-9
93219.0	SWEETWATER CH. JJ1 (x1)-REP 2	876	8/18/93	22	-9	-9	CD	31.00	27.00	*	-9	-9	-9
93220.0	SWEETWATER CH. JJ1 (x8)-REP 3	877	8/18/93	22	-9	-9	CD	81.00	12.00	*	-9	-9	-9
90002.0	12 SWARTZ(DOWNTOWN ANCH)-REP 1	878	8/18/93	22	-9	-9	CD	15.00	14.00	*	-9	-9	-9
93221.0	DOWNTOWN ANCH. J1 (x1)-REP 2	879	8/18/93	22	-9	-9	CD	83.00	10.00	*	-9	-9	-9
93222.0	DOWNTOWN ANCH. J1 (x2)-REP 3	880	8/18/93	22	-9	-9	CD	88.00	10.00	NS	-9	-9	-9
90007.0	25 SWARTZ (NAVAL BASE/SY O10)	887	8/17/93	23	-9	-9	CD	86.00	10.00	NS	-9	-9	-9
93223.0	NAVAL BASE/SHIPYARD O10 (x2)	888	8/17/93	23	-9	-9	CD	79.00	7.00	NS	-9	-9	-9
93224.0	NAVAL BASE/SHIPYARD O10(x6)	889	8/17/93	23	-9	-9	CD	90.00	6.00	NS	-9	-9	-9
90008.0	27 SWARTZ (NAVAL BASE/SH O13)	890	8/17/93	23	-9	-9	CD	92.00	8.00	NS	-9	-9	-9
93225.0	NAVAL BASE/SHIPYARD O13 (x1)	891	8/17/93	23	-9	-9	CD	81.00	13.00	NS	-9	-9	-9
93226.0	NAVAL BASE/SHIPYARD O13 (x3)	892	8/17/93	23	-9	-9	CD	91.00	7.00	NS	-9	-9	-9
90009.0	28 SWARTZ (7TH ST CHANNEL Q1)	893	8/17/93	23	-9	-9	CD	5.00	7.00	*	-9	-9	-9

Percent Amphipod Survival for Solid Phase Test

STANUM	STATION	IDORG	DATE	LEG	TYPE	METADATA	CTRL	RA_MN	RA_SD	RA_SG	RASITE_MN	RASITE_SD	RASITE_SG
93227.0	SEVENTH ST CHANNEL Q1 (x5)	894	8/17/93	23	-9	-9	CD	79.00	15.00	NS	-9	-9	-9
93228.0	SEVENTH ST CHANNEL Q1 (x6)	895	8/17/93	23	-9	-9	CD	2.00	3.00	*	-9	-9	-9
90010.0	31 SWARTZ (MARINE TERMINAL R3)	896	8/17/93	23	-9	-9	-9	86.00	13.00	NS	-9	-9	-9
93229.0	MARINE TERMINAL R3 (x1)	897	8/17/93	23	-9	-9	-9	70.00	20.00	*	-9	-9	-9
93230.0	MARINE TERMINAL R3 (x3)	898	8/17/93	23	-9	-9	-9	63.00	37.00	NS	-9	-9	-9
90025.0	SDNI-N5 (CARRIER BASE V2)	899	8/18/93	23	-9	-9	-9	37.00	36.00	*	-9	-9	-9
93231.0	CARRIER BASE V2 (x6)	1000	8/18/93	23	-9	-9	-9	74.00	12.00	*	-9	-9	-9
93232.0	CARRIER BASE V2 (x7)	1001	8/18/93	23	-9	-9	-9	35.00	40.00	*	-9	-9	-9
93132.0	CORONADO CAYS T3 (x1)	1025	1/18/94	24	SAM	toxmeta.wpd	-9	47.00	20.19	-9	-9	-9	-9
93129.0	SOUTH BAY GG4 (x1)	1026	1/18/94	24	SAM	toxmeta.wpd	-9	57.00	16.81	-9	-9	-9	-9
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	1027	1/18/94	24	SAM	toxmeta.wpd	-9	50.00	9.35	-9	-9	-9	-9
93127.0	SOUTH BAY GG2 (x1)	1028	1/18/94	24	SAM	toxmeta.wpd	-9	47.00	4.47	-9	-9	-9	-9
93139.0	COMMERCIAL BASIN F1 (x1)	1030	1/18/94	24	SAM	toxmeta.wpd	-9	68.00	12.55	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)	1031	1/18/94	24	SAM	toxmeta.wpd	-9	62.00	27.29	-9	-9	-9	-9
93128.0	SOUTHBAY GG5 (x1)	1033	1/18/94	24	SAM	toxmeta.wpd	-9	27.00	13.51	-9	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1) REP 1	1035	1/18/94	24	SAM	toxmeta.wpd	-9	33.00	22.53	-9	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1) REP 2	1036	1/18/94	24	SAM	toxmeta.wpd	-9	39.00	8.22	-9	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1) REP 3	1037	1/18/94	24	SAM	toxmeta.wpd	-9	46.00	23.82	-9	-9	-9	-9
93122.0	S.S.- CORONADO DD3 (x1) REP 1	1013	1/19/94	24	SAM	toxmeta.wpd	-9	33.00	24.14	-9	-9	-9	-9
93122.0	S.S.- CORONADO DD3 (x1) REP 2	1014	1/19/94	24	FR	toxmeta.wpd	-9	51.00	17.46	-9	-9	-9	-9
93122.0	S.S.- CORONADO DD3 (x1) REP 3	1015	1/19/94	24	FR	toxmeta.wpd	-9	51.00	29.24	-9	-9	-9	-9
93125.0	SILVER STRAND FF4 (x4) REP 1	1016	1/19/94	24	SAM	toxmeta.wpd	-9	38.00	21.97	-9	-9	-9	-9
93125.0	SILVER STRAND FF4 (x4) REP 2	1017	1/19/94	24	FR	toxmeta.wpd	-9	22.00	33.28	-9	-9	-9	-9
93125.0	SILVER STRAND FF4 (x4) REP 3	1018	1/19/94	24	FR	toxmeta.wpd	-9	22.00	26.12	-9	-9	-9	-9
90057.0	5 SDG&E REP 1	1019	1/19/94	24	SAM	toxmeta.wpd	-9	41.00	22.75	-9	-9	-9	-9
90057.0	5 SDG&E REP 2	1020	1/19/94	24	FR	toxmeta.wpd	-9	39.00	15.57	-9	-9	-9	-9
90057.0	5 SDG&E REP 3	1021	1/19/94	24	FR	toxmeta.wpd	-9	31.00	13.87	-9	-9	-9	-9
93117.0	SAN DIEGO RIVER B2 (x2)	1029	1/19/94	24	SAM	toxmeta.wpd	-9	0.00	0.00	-9	-9	-9	-9
93120.0	TIJUANA R. ESTUARY HH2 (x1)	1032	1/19/94	24	SAM	toxmeta.wpd	-9	81.00	12.94	-9	-9	-9	-9
93121.0	TIJUANA R. ESTUARY HH2 (x5)	1034	1/19/94	24	SAM	toxmeta.wpd	-9	73.00	13.51	-9	-9	-9	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 1	1022	1/20/94	24	SAM	toxmeta.wpd	-9	0.00	0.00	-9	-9	-9	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 2	1023	1/20/94	24	FR	toxmeta.wpd	-9	87.00	10.37	-9	-9	-9	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 3	1024	1/20/94	24	FR	toxmeta.wpd	-9	1.00	2.24	-9	-9	-9	-9
90020.0	G DE LAPPE-REP 1	1104	3/1/94	27	SAM	toxmeta.wpd	-9	65.00	14.58	-9	-9	-9	-9
90020.0	G DE LAPPE-REP 2	1105	3/1/94	27	FR	toxmeta.wpd	-9	59.00	34.89	-9	-9	-9	-9
90020.0	G DE LAPPE-REP 3	1106	3/1/94	27	FR	toxmeta.wpd	-9	57.00	16.43	-9	-9	-9	-9
90022.0	P SWARTZ-REP 1	1107	3/1/94	27	SAM	toxmeta.wpd	-9	58.00	10.37	-9	-9	-9	-9
90022.0	P SWARTZ-REP 2	1108	3/1/94	27	FR	toxmeta.wpd	-9	61.00	8.94	-9	-9	-9	-9
90022.0	P SWARTZ-REP 3	1109	3/1/94	27	FR	toxmeta.wpd	-9	54.00	8.22	-9	-9	-9	-9
90029.0	NSB-R1-REP 1	1113	3/1/94	27	SAM	toxmeta.wpd	-9	84.00	13.87	-9	-9	-9	-9
90029.0	NSB-R1-REP 2	1114	3/1/94	27	FR	toxmeta.wpd	-9	83.00	7.58	-9	-9	-9	-9
90029.0	NSB-R1-REP 3	1115	3/1/94	27	FR	toxmeta.wpd	-9	69.00	24.85	-9	-9	-9	-9
90024.0	SDNI-N1-REP 1	1116	3/1/94	27	SAM	toxmeta.wpd	-9	58.00	12.55	-9	-9	-9	-9
90024.0	SDNI-N1-REP 2	1117	3/1/94	27	FR	toxmeta.wpd	-9	62.00	7.58	-9	-9	-9	-9



Percent Amphipod Survival for Solid Phase Test

STANUM	STATION	IDORG	DATE	LEG	TYPE	METADATA	CTRL	RA_MN	RA_SD	RA_SG	RASITE_MN	RASITE_SD	RASITE_SG
90024.0	SDNI-N1-REP 3	1118	3/1/94	27	FR	toxmeta.wpd	-9	70.00	16.20	-9	-9	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)	1125	3/1/94	27	SAM	toxmeta.wpd	-9	70.00	11.73	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)	1126	3/1/94	27	SAM	toxmeta.wpd	-9	84.00	10.84	-9	-9	-9	-9
93161.0	SUB BASE C1 (x1)	1127	3/1/94	27	SAM	toxmeta.wpd	-9	69.00	33.24	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)	1128	3/1/94	27	SAM	toxmeta.wpd	-9	48.00	31.54	-9	-9	-9	-9
90013.0	37 SWARTZ-REP 1	1098	3/2/94	27	SAM	toxmeta.wpd	-9	74.00	16.73	-9	-9	-9	-9
90013.0	37 SWARTZ-REP 2	1099	3/2/94	27	FR	toxmeta.wpd	-9	48.00	13.96	-9	-9	-9	-9
90013.0	37 SWARTZ-REP 3	1100	3/2/94	27	FR	toxmeta.wpd	-9	57.00	21.39	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)-REP 1	1101	3/2/94	27	SAM	toxmeta.wpd	-9	57.00	23.61	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)-REP 2	1102	3/2/94	27	FR	toxmeta.wpd	-9	25.00	16.96	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)-REP 3	1103	3/2/94	27	FR	toxmeta.wpd	-9	49.00	2.24	-9	-9	-9	-9
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 1	1110	3/2/94	27	SAM	toxmeta.wpd	-9	53.00	15.25	-9	-9	-9	-9
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 2	1111	3/2/94	27	FR	toxmeta.wpd	-9	48.00	17.54	-9	-9	-9	-9
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 3	1112	3/2/94	27	FR	toxmeta.wpd	-9	65.00	20.31	-9	-9	-9	-9
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 1	1119	3/2/94	27	SAM	toxmeta.wpd	-9	61.00	13.87	-9	-9	-9	-9
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 2	1120	3/2/94	27	FR	toxmeta.wpd	-9	66.00	5.48	-9	-9	-9	-9
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 3	1121	3/2/94	27	FR	toxmeta.wpd	-9	67.00	14.40	-9	-9	-9	-9
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 1	1122	3/2/94	27	SAM	toxmeta.wpd	-9	44.00	24.08	-9	-9	-9	-9
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 2	1123	3/2/94	27	FR	toxmeta.wpd	-9	51.00	12.94	-9	-9	-9	-9
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 3	1124	3/2/94	27	FR	toxmeta.wpd	-9	78.00	19.24	-9	-9	-9	-9
90052.0	32 SWARTZ(SWEETWATER CH)-REP 1	1129	3/15/94	28	SAM	toxmeta.wpd	-9	73.00	13.51	-9	-9	-9	-9
90052.0	32 SWARTZ(SWEETWATER CH)-REP 2	1130	3/15/94	28	FR	toxmeta.wpd	-9	57.00	9.08	-9	-9	-9	-9
90052.0	32 SWARTZ(SWEETWATER CH)-REP 3	1131	3/15/94	28	FR	toxmeta.wpd	-9	51.00	18.17	-9	-9	-9	-9
93131.0	CORONADO CAYS T1 (x1)-REP 1	1138	3/15/94	28	SAM	toxmeta.wpd	-9	49.00	27.48	-9	-9	-9	-9
93131.0	CORONADO CAYS T1 (x1)-REP 2	1139	3/15/94	28	FR	toxmeta.wpd	-9	55.00	14.58	-9	-9	-9	-9
93131.0	CORONADO CAYS T1 (x1)-REP 3	1140	3/15/94	28	FR	toxmeta.wpd	-9	66.00	13.87	-9	-9	-9	-9
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP1	1141	3/15/94	28	SAM	toxmeta.wpd	-9	62.00	10.37	-9	-9	-9	-9
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP2	1142	3/15/94	28	FR	toxmeta.wpd	-9	64.00	19.49	-9	-9	-9	-9
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP3	1143	3/15/94	28	FR	toxmeta.wpd	-9	65.00	13.23	-9	-9	-9	-9
90030.0	BF SCHROEDER SITE F-REP 1	1144	3/15/94	28	SAM	toxmeta.wpd	-9	70.00	12.25	-9	-9	-9	-9
90030.0	BF SCHROEDER SITE F-REP 2	1145	3/15/94	28	FR	toxmeta.wpd	-9	76.00	9.62	-9	-9	-9	-9
90030.0	BF SCHROEDER SITE F-REP 3	1146	3/15/94	28	FR	toxmeta.wpd	-9	68.00	18.23	-9	-9	-9	-9
93159.0	SOUTH BAY GG3 (x1)-REP 1	1147	3/15/94	28	SAM	toxmeta.wpd	-9	65.00	14.14	-9	-9	-9	-9
93159.0	SOUTH BAY GG3 (x1)-REP 2	1148	3/15/94	28	FR	toxmeta.wpd	-9	86.00	5.48	-9	-9	-9	-9
93159.0	SOUTH BAY GG3 (x1)-REP 3	1149	3/15/94	28	FR	toxmeta.wpd	-9	79.00	8.22	-9	-9	-9	-9
90043.0	CORONADO WHARF-REP 1	1156	3/15/94	28	SAM	toxmeta.wpd	-9	33.00	30.74	-9	-9	-9	-9
90043.0	CORONADO WHARF-REP 2	1157	3/15/94	28	FR	toxmeta.wpd	-9	43.00	16.05	-9	-9	-9	-9
90043.0	CORONADO WHARF-REP 3	1158	3/15/94	28	FR	toxmeta.wpd	-9	74.00	11.94	-9	-9	-9	-9
93120.0	TIJUANA R. EST. HH2 (x1)-REP 1	1132	3/16/94	28	SAM	toxmeta.wpd	-9	89.00	4.18	-9	-9	-9	-9
93120.0	TIJUANA R. EST. HH2 (x1)-REP 2	1133	3/16/94	28	FR	toxmeta.wpd	-9	92.00	8.37	-9	-9	-9	-9
93120.0	TIJUANA R. EST. HH2 (x1)-REP 3	1134	3/16/94	28	FR	toxmeta.wpd	-9	87.00	9.08	-9	-9	-9	-9
93121.0	TIJUANA R. EST. HH2 (x5)-REP 1	1135	3/16/94	28	SAM	toxmeta.wpd	-9	87.00	12.04	-9	-9	-9	-9
93121.0	TIJUANA R. EST. HH2 (x5)-REP 2	1136	3/16/94	28	FR	toxmeta.wpd	-9	82.00	13.51	-9	-9	-9	-9
93121.0	TIJUANA R. EST. HH2 (x5)-REP 3	1137	3/16/94	28	FR	toxmeta.wpd	-9	94.00	8.22	-9	-9	-9	-9

Percent Amphipod Survival for Solid Phase Test

STANUM	STATION	IDORG	DATE	LEG	TYPE	METADATA	CTRL	RA_MN	RA_SD	RA_SG	RASITE_MN	RASITE_SD	RASITE_SG
93174.0	TIJUANA R. EST. HH3 (x2)-REP 1	1150	3/16/94	28	SAM	toxmeta.wpd	-9	64.00	25.35	-9	-9	-9	-9
93174.0	TIJUANA R. EST. HH3 (x2)-REP 2	1151	3/16/94	28	FR	toxmeta.wpd	-9	77.00	9.75	-9	-9	-9	-9
93174.0	TIJUANA R. EST. HH3 (x2)-REP 3	1152	3/16/94	28	FR	toxmeta.wpd	-9	80.00	15.41	-9	-9	-9	-9
93166.0	NAVY ESTUARY G2 (x1)-REP 1	1153	3/16/94	28	SAM	toxmeta.wpd	-9	52.00	16.43	-9	-9	-9	-9
93166.0	NAVY ESTUARY G2 (x1)-REP 2	1154	3/16/94	28	FR	toxmeta.wpd	-9	63.00	21.97	-9	-9	-9	-9
93166.0	NAVY ESTUARY G2 (x1)-REP 3	1155	3/16/94	28	FR	toxmeta.wpd	-9	57.00	7.58	-9	-9	-9	-9
90037.0	STORMDRAIN EM(GRAPE ST.)-REP 1	1159	3/29/94	29	SAM	toxmeta.wpd	-9	86.00	4.18	-9	-9	-9	-9
90037.0	STORMDRAIN EM(GRAPE ST.)-REP 2	1160	3/29/94	29	FR	toxmeta.wpd	-9	91.00	8.94	-9	-9	-9	-9
90037.0	STORMDRAIN EM(GRAPE ST.)-REP 3	1161	3/29/94	29	FR	toxmeta.wpd	-9	85.00	10.00	-9	-9	-9	-9
93148.0	CHANNEL-CORONADO Y1 (x2)-REP 1	1162	3/29/94	29	SAM	toxmeta.wpd	-9	85.00	14.14	-9	-9	-9	-9
93148.0	CHANNEL-CORONADO Y1 (x2)-REP 2	1163	3/29/94	29	FR	toxmeta.wpd	-9	88.00	9.08	-9	-9	-9	-9
93148.0	CHANNEL-CORONADO Y1 (x2)-REP 3	1164	3/29/94	29	FR	toxmeta.wpd	-9	92.00	4.47	-9	-9	-9	-9
93138.0	SHELTER ISLAND E3 (x2)-REP 1	1165	3/29/94	29	SAM	toxmeta.wpd	-9	86.00	9.62	-9	-9	-9	-9
93138.0	SHELTER ISLAND E3 (x2)-REP 2	1166	3/29/94	29	FR	toxmeta.wpd	-9	86.00	4.18	-9	-9	-9	-9
93138.0	SHELTER ISLAND E3 (x2)-REP 3	1167	3/29/94	29	FR	toxmeta.wpd	-9	72.00	8.37	-9	-9	-9	-9
93141.0	COMMERCIAL BASIN F3 (x1)-REP 1	1168	3/29/94	29	SAM	toxmeta.wpd	-9	79.00	17.10	-9	-9	-9	-9
93141.0	COMMERCIAL BASIN F3 (x1)-REP 2	1169	3/29/94	29	FR	toxmeta.wpd	-9	79.00	4.18	-9	-9	-9	-9
93141.0	COMMERCIAL BASIN F3 (x1)-REP 3	1170	3/29/94	29	FR	toxmeta.wpd	-9	70.00	17.68	-9	-9	-9	-9
90018.0	D DE LAPPE-REP 1	1183	3/29/94	29	SAM	toxmeta.wpd	-9	87.00	7.58	-9	-9	-9	-9
90018.0	D DE LAPPE-REP 2	1184	3/29/94	29	FR	toxmeta.wpd	-9	99.00	2.24	-9	-9	-9	-9
90018.0	D DE LAPPE-REP 3	1185	3/29/94	29	FR	toxmeta.wpd	-9	87.00	6.71	-9	-9	-9	-9
90104.0	WEST BASIN ENTRANCE(71C)-REP 1	1186	3/29/94	29	SAM	toxmeta.wpd	-9	72.00	41.02	-9	-9	-9	-9
90104.0	WEST BASIN ENTRANCE(71C)-REP 2	1187	3/29/94	29	FR	toxmeta.wpd	-9	86.00	12.94	-9	-9	-9	-9
90104.0	WEST BASIN ENTRANCE(71C)-REP 3	1188	3/29/94	29	FR	toxmeta.wpd	-9	87.00	4.47	-9	-9	-9	-9
93107.0	MISSION BAY A3 (x1)-REP 1	1180	3/30/94	29	SAM	toxmeta.wpd	-9	92.00	2.74	-9	-9	-9	-9
93107.0	MISSION BAY A3 (x1)-REP 2	1181	3/30/94	29	FR	toxmeta.wpd	-9	92.00	4.47	-9	-9	-9	-9
93107.0	MISSION BAY A3 (x1)-REP 3	1182	3/30/94	29	FR	toxmeta.wpd	-9	87.00	13.04	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)-REP 1	1303	5/18/94	32	SAM	toxmeta.wpd	-9	97.00	4.47	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)-REP 2	1304	5/18/94	32	FR	toxmeta.wpd	-9	95.00	5.00	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)-REP 3	1305	5/18/94	32	FR	toxmeta.wpd	-9	48.00	44.81	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)-REP 1	1306	5/18/94	32	SAM	toxmeta.wpd	-9	89.00	6.52	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)-REP 2	1307	5/18/94	32	FR	toxmeta.wpd	-9	74.00	42.19	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)-REP 3	1308	5/18/94	32	FR	toxmeta.wpd	-9	69.00	32.29	-9	-9	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)-REP 1	1309	5/18/94	32	SAM	toxmeta.wpd	-9	90.00	10.61	-9	-9	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)-REP 2	1310	5/18/94	32	FR	toxmeta.wpd	-9	91.00	9.62	-9	-9	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)-REP 3	1311	5/18/94	32	FR	toxmeta.wpd	-9	89.00	8.94	-9	-9	-9	-9
93161.0	SUB BASE C1 (x1)-REP 1	1312	5/18/94	32	SAM	toxmeta.wpd	-9	94.00	4.18	-9	-9	-9	-9
93161.0	SUB BASE C1 (x1)-REP 2	1313	5/18/94	32	FR	toxmeta.wpd	-9	96.00	4.18	-9	-9	-9	-9
93161.0	SUB BASE C1 (x1)-REP 3	1314	5/18/94	32	FR	toxmeta.wpd	-9	93.00	10.37	-9	-9	-9	-9
90013.0	37 SWARTZ	1318	5/18/94	32	SAM	toxmeta.wpd	-9	87.00	13.51	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)	1319	5/18/94	32	SAM	toxmeta.wpd	-9	73.00	2.74	-9	-9	-9	-9
90052.0	32 SWARTZ	1320	5/18/94	32	SAM	toxmeta.wpd	-9	66.00	37.15	-9	-9	-9	-9

Percent Amphipod Survival for Solid Phase Test (cont.)

STANUM	STATION	IDORG	DATE	LEG	RA_OTNH3	RA_OUNH3	RA_OH2S	RA_ITNH3	RA_IUNH3	RA_IH2S	RABATCH	RADATAQC
90006.0	23 SWARTZ	155	10/13/92	5	-9	0.180	-9	-9	-9	-9	-9	-9
90019.0	E DE LAPPE	168	10/13/92	5	-9	0.544	-9	-9	-9	-9	-9	-9
90021.0	K SWARTZ	170	10/13/92	5	-9	1.651	-9	-9	-9	-9	-9	-9
90031.0	BG SCHROEDER SITE G	180	10/13/92	5	-9	0.046	-9	-9	-9	-9	-9	-9
90038.0	CC	187	10/13/92	5	-9	0.714	-9	-9	-9	-9	-9	-9
90071.0	BAIT BARGE	220	10/13/92	5	-9	0.402	-9	-9	-9	-9	-9	-9
90101.0	SCRIPPS PIER	250	10/13/92	5	-9	0.127	-9	-9	-9	-9	-9	-9
90036.0	STORM DRAIN- ROHR CHANNEL	185	10/14/92	5	-9	0.894	-9	-9	-9	-9	-9	-9
90053.0	35 SWARTZ	202	10/14/92	5	-9	0.933	-9	-9	-9	-9	-9	-9
90054.0	36 SWARTZ	203	10/14/92	5	-9	0.035	-9	-9	-9	-9	-9	-9
90001.0	11 SWARTZ	150	10/27/92	6	-9	0.367	-9	-9	-9	-9	-9	-9
90002.0	12 SWARTZ	151	10/27/92	6	-9	0.039	-9	-9	-9	-9	-9	-9
90016.0	42 SWARTZ	165	10/27/92	6	-9	0.320	-9	-9	-9	-9	-9	-9
90049.0	8B	198	10/27/92	6	-9	0.155	-9	-9	-9	-9	-9	-9
90056.0	8A SWARTZ	205	10/27/92	6	-9	0.584	-9	-9	-9	-9	-9	-9
90063.0	THOMPSON SITE 205	212	10/27/92	6	-9	0.034	-9	-9	-9	-9	-9	-9
90003.0	14 SWARTZ	152	10/28/92	6	-9	0.040	-9	-9	-9	-9	-9	-9
90004.0	15 SWARTZ	153	10/28/92	6	-9	0.900	-9	-9	-9	-9	-9	-9
90010.0	31 SWARTZ	159	10/28/92	6	-9	1.291	-9	-9	-9	-9	-9	-9
90011.0	33 SWARTZ	160	10/28/92	6	-9	0.056	-9	-9	-9	-9	-9	-9
90013.0	37 SWARTZ	162	10/28/92	6	-9	0.134	-9	-9	-9	-9	-9	-9
90017.0	C DELAPPE	166	10/28/92	6	-9	0.840	-9	-9	-9	-9	-9	-9
90048.0	6 SWARTZ	197	10/28/92	6	-9	0.038	-9	-9	-9	-9	-9	-9
90051.0	16 SWARTZ	200	10/28/92	6	-9	0.055	-9	-9	-9	-9	-9	-9
90052.0	32 SWARTZ	201	10/28/92	6	-9	0.040	-9	-9	-9	-9	-9	-9
90007.0	25 SWARTZ	156	11/10/92	7	-9	0.004	-9	-9	-9	-9	-9	-9
90008.0	27 SWARTZ	157	11/10/92	7	-9	0.010	-9	-9	-9	-9	-9	-9
90009.0	28 SWARTZ	158	11/10/92	7	-9	0.002	-9	-9	-9	-9	-9	-9
90022.0	P SWARTZ	171	11/10/92	7	-9	0.008	-9	-9	-9	-9	-9	-9
90026.0	SDNI-N18	175	11/10/92	7	-9	0.189	-9	-9	-9	-9	-9	-9
90027.0	NSB-S1	176	11/10/92	7	-9	0.028	-9	-9	-9	-9	-9	-9
90028.0	NSB-M1	177	11/10/92	7	-9	0.006	-9	-9	-9	-9	-9	-9
90029.0	NSB-R1	178	11/10/92	7	-9	0.081	-9	-9	-9	-9	-9	-9
90023.0	NM SANDBAG	172	11/11/92	7	-9	0.378	-9	-9	-9	-9	-9	-9
90024.0	SDNI-N1	173	11/11/92	7	-9	0.684	-9	-9	-9	-9	-9	-9
90025.0	SDNI-N5	174	11/11/92	7	-9	0.925	-9	-9	-9	-9	-9	-9
90050.0	10 SWARTZ	199	11/11/92	7	-9	0.004	-9	-9	-9	-9	-9	-9
90055.0	43 SWARTZ	204	11/11/92	7	-9	0.075	-9	-9	-9	-9	-9	-9
90102.0	HARBOR BRIDGE 71A	256	11/11/92	7	-9	0.113	-9	-9	-9	-9	-9	-9
90103.0	SCRIPPS TRIANGLE	257	11/11/92	7	-9	-9	-9	-9	-9	-9	-9	-9
90005.0	21 SWARTZ	154	1/26/93	12	-9	0.030	-9	-9	-9	-9	-9	-9
90014.0	38 SWARTZ	163	1/26/93	12	-9	0.098	-9	-9	-9	-9	-9	-9
90018.0	D DE LAPPE	167	1/26/93	12	-9	0.012	-9	-9	-9	-9	-9	-9
90020.0	G DE LAPPE	169	1/26/93	12	-9	0.020	-9	-9	-9	-9	-9	-9

Percent Amphipod Survival for Solid Phase Test (cont.)

STANUM	STATION	IDORG	DATE	LEG	RA_OTNH3	RA_OUNH3	RA_OH2S	RA_ITNH3	RA_IUNH3	RA_IH2S	RABATCH	RADATAQC
90030.0	BF SCHROEDER SITE F	179	1/26/93	12	-9	0.066	-9	-9	-9	-9	-9	-9
90032.0	BM SCHROEDER SITE M	181	1/26/93	12	-9	0.007	-9	-9	-9	-9	-9	-9
90037.0	STORM DRAIN EM- GRAPE STREET	186	1/26/93	12	-9	0.058	-9	-9	-9	-9	-9	-9
90039.0	CL	188	1/26/93	12	-9	0.090	-9	-9	-9	-9	-9	-9
90043.0	CORONADO WHARF	192	1/26/93	12	-9	0.684	-9	-9	-9	-9	-9	-9
90104.0	WEST BASIN ENTRANCE (71C) REF	275	1/26/93	12	-9	1.046	-9	-9	-9	-9	-9	-9
90012.0	34 SWARTZ	161	1/27/93	12	-9	0.010	-9	-9	-9	-9	-9	-9
90015.0	41 SWARTZ	164	1/27/93	12	-9	0.088	-9	-9	-9	-9	-9	-9
90040.0	SWEETWATER MARSH SD BAY	189	1/27/93	12	-9	0.103	-9	-9	-9	-9	-9	-9
90041.0	SOUTH SD BAY WETLANDS- OTAY R.	190	1/27/93	12	-9	0.016	-9	-9	-9	-9	-9	-9
90057.0	5 SDG&E	206	1/27/93	12	-9	0.011	-9	-9	-9	-9	-9	-9
90058.0	7 SDG&E	207	1/27/93	12	-9	0.005	-9	-9	-9	-9	-9	-9
93105.0	MISSION BAY A1 (x1)	700	3/23/93	15	-9	0.064	0.0042	-9	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)	701	3/23/93	15	-9	0.152	0.0059	-9	-9	-9	-9	-9
93107.0	MISSION BAY A3 (x1)	702	3/23/93	15	-9	0.059	0.0006	-9	-9	-9	-9	-9
93108.0	MISSION BAY A4 (x1)	703	3/23/93	15	-9	0.008	0.0002	-9	-9	-9	-9	-9
93109.0	MISSION BAY A5 (x1)	704	3/23/93	15	-9	0.048	0.0003	-9	-9	-9	-9	-9
93110.0	MISSION BAY A6 (x1)	705	3/23/93	15	-9	0.074	0.0003	-9	-9	-9	-9	-9
93112.0	MISSION BAY A8 (x1)	707	3/23/93	15	-9	0.088	0.0007	-9	-9	-9	-9	-9
93113.0	MISSION BAY A9 (x1)	708	3/23/93	15	-9	0.020	0.0006	-9	-9	-9	-9	-9
93114.0	MISSION BAY A10 (x1)	709	3/23/93	15	-9	0.042	0.0003	-9	-9	-9	-9	-9
93115.0	MISSION BAY A11 (x1)	710	3/23/93	15	-9	0.016	0.0008	-9	-9	-9	-9	-9
93116.0	SAN DIEGO RIVER B1 (x4)	711	3/23/93	15	-9	0.137	0.0893	-9	-9	-9	-9	-9
93117.0	SAN DIEGO RIVER B2 (x2)	712	3/23/93	15	-9	0.133	0.0023	-9	-9	-9	-9	-9
93111.0	MISSION BAY A7 (x3)	706	3/24/93	15	-9	0.061	0.0001	-9	-9	-9	-9	-9
90002.0	12 SWARTZ	719	3/24/93	15	-9	1.059	0.0265	-9	-9	-9	-9	-9
90037.0	STORMDRAIN EM- GRAPE STREET	720	3/24/93	15	-9	0.685	0.0002	-9	-9	-9	-9	-9
90015.0	41 SWARTZ	721	3/24/93	15	-9	0.417	0.0011	-9	-9	-9	-9	-9
90012.0	34 SWARTZ	722	3/24/93	15	-9	0.419	0.0008	-9	-9	-9	-9	-9
90057.0	5 SDG&E	723	3/24/93	15	-9	0.017	0.0017	-9	-9	-9	-9	-9
90052.0	32 SWARTZ	724	3/24/93	15	-9	0.026	0.0001	-9	-9	-9	-9	-9
93118.0	TIJUANA R. ESTUARY HH1 (x2)	713	3/25/93	15	-9	0.187	0.0005	-9	-9	-9	-9	-9
93119.0	TIJUANA R. ESTUARY HH1 (x1)	714	3/25/93	15	-9	0.224	0.0015	-9	-9	-9	-9	-9
93120.0	TIJUANA R. ESTUARY HH2 (x1)	715	3/25/93	15	-9	0.087	0.0002	-9	-9	-9	-9	-9
93121.0	TIJUANA R. ESTUARY HH2 (x5)	716	3/25/93	15	-9	0.010	0.0016	-9	-9	-9	-9	-9
93126.0	SILVER STRAND FF7 (x2)	729	4/6/93	16	-9	0.143	-9	-9	-9	-9	-9	-9
93127.0	SOUTH BAY GG2 (x1)	730	4/6/93	16	-9	0.019	-9	-9	-9	-9	-9	-9
93129.0	SOUTH BAY GG4 (x1)	732	4/6/93	16	-9	0.016	-9	-9	-9	-9	-9	-9
90014.0	38 SCHWARTZ	733	4/6/93	16	-9	0.088	-9	-9	-9	-9	-9	-9
93131.0	CORONADO CAYS T1 (x1)	734	4/6/93	16	-9	0.052	-9	-9	-9	-9	-9	-9
93132.0	CORONADO CAYS T3 (x1)	735	4/6/93	16	-9	0.008	-9	-9	-9	-9	-9	-9
93133.0	CHANNEL-NAVAL BASE Z1 (x1)	736	4/6/93	16	-9	0.029	-9	-9	-9	-9	-9	-9
93134.0	SOUTH SHORE-MOUTH BB2 (x1)	737	4/6/93	16	-9	0.012	-9	-9	-9	-9	-9	-9
93135.0	SOUTH SHORE-MOUTH BB3 (x1)	738	4/6/93	16	-9	0.010	-9	-9	-9	-9	-9	-9

Percent Amphipod Survival for Solid Phase Test (cont.)

STANUM	STATION	IDORG	DATE	LEG	RA_OTNH3	RA_OUNH3	RA_OH2S	RA_ITNH3	RA_IUNH3	RA_IH2S	RABATCH	RADATAQC
93136.0	NORTH SHORE-MOUTH CC2 (x1)	739	4/6/93	16	-9	0.013	-9	-9	-9	-9	-9	-9
93138.0	SHELTER ISLAND E3 (x2)	741	4/6/93	16	-9	0.020	-9	-9	-9	-9	-9	-9
93128.0	SOUTHBAY GG5 (x1)	750	4/6/93	16	-9	0.013	-9	-9	-9	-9	-9	-9
93122.0	SOUTH SHORE-CORONADO DD3 (x1)	725	4/7/93	16	-9	0.740	-9	-9	-9	-9	-9	-9
93123.0	SILVER STRAND FF1 (x1)	726	4/7/93	16	-9	0.167	-9	-9	-9	-9	-9	-9
93124.0	SILVER STRAND FF2 (x1)	727	4/7/93	16	-9	0.012	-9	-9	-9	-9	-9	-9
93125.0	SILVER STRAND FF4 (x4)	728	4/7/93	16	-9	0.485	-9	-9	-9	-9	-9	-9
90006.0	23 SCHWARTZ	731	4/7/93	16	-9	0.013	-9	-9	-9	-9	-9	-9
93137.0	NORTH SHORE-MOUTH CC3 (x1)	740	4/7/93	16	-9	0.010	-9	-9	-9	-9	-9	-9
93139.0	COMMERCIAL BASIN F1 (x1)	742	4/7/93	16	-9	0.043	-9	-9	-9	-9	-9	-9
93140.0	COMMERCIAL BASIN F2 (x1)	743	4/7/93	16	-9	0.017	-9	-9	-9	-9	-9	-9
93141.0	COMMERCIAL BASIN F3 (x1)	744	4/7/93	16	-9	0.313	-9	-9	-9	-9	-9	-9
90018.0	D DE LAPPE	748	4/7/93	16	-9	0.039	-9	-9	-9	-9	-9	-9
90030.0	BF SCHROEDER SITE F	749	4/7/93	16	-9	0.204	-9	-9	-9	-9	-9	-9
93148.0	CHANNEL-CORONADO Y1 (x2)	751	4/7/93	16	-9	0.525	-9	-9	-9	-9	-9	-9
93142.0	SOUTH SHORE-CORONADO DD1(X1)	752	4/7/93	16	-9	0.380	-9	-9	-9	-9	-9	-9
93144.0	CAMPBELL SHIPYARDS N1 (x1)	754	4/20/93	17	-9	0.051	-9	-9	-9	-9	-9	-9
93145.0	CAMPBELL SHIPYARDS N2 (x1)	755	4/20/93	17	-9	0.129	-9	-9	-9	-9	-9	-9
93146.0	GLORIETTA BAY U2 (x1)	756	4/20/93	17	-9	0.040	-9	-9	-9	-9	-9	-9
93147.0	GLORIETTA BAY U3 (x1)	757	4/20/93	17	-9	0.121	-9	-9	-9	-9	-9	-9
93149.0	CHANNEL-MOUTH X1 (x1)	758	4/20/93	17	-9	0.037	-9	-9	-9	-9	-9	-9
93150.0	CHANNEL-NAVAL BASE Z1 (x2)	759	4/20/93	17	-9	0.022	-9	-9	-9	-9	-9	-9
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	760	4/20/93	17	-9	0.016	-9	-9	-9	-9	-9	-9
93152.0	SOUTH SHORE-MOUTH BB1 (x1)	761	4/20/93	17	-9	0.037	-9	-9	-9	-9	-9	-9
93154.0	NORTH SHORE-MOUTH CC4 (x1)	763	4/20/93	17	-9	0.836	-9	-9	-9	-9	-9	-9
93155.0	SOUTH SHORE-CORONADO DD2 (x1)	764	4/20/93	17	-9	0.150	-9	-9	-9	-9	-9	-9
93156.0	NORTH SHORE-CORONADO EE1 (x1)	765	4/20/93	17	-9	0.076	-9	-9	-9	-9	-9	-9
93157.0	NORTH SHORE-CORONADO EE2 (x1)	766	4/20/93	17	-9	0.454	-9	-9	-9	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1)	767	4/20/93	17	-9	0.651	-9	-9	-9	-9	-9	-9
93159.0	SOUTH BAY GG3 (x1)	768	4/20/93	17	-9	0.675	-9	-9	-9	-9	-9	-9
93160.0	CHANNEL-SOUTH BAY AA2(x1)BLIND	773	4/20/93	17	-9	0.093	-9	-9	-9	-9	-9	-9
93143.0	FUEL PIERS D1 (x1)	753	4/21/93	17	-9	0.159	-9	-9	-9	-9	-9	-9
93153.0	NORTH SHORE-MOUTH CC1 (x1)	762	4/21/93	17	-9	0.096	-9	-9	-9	-9	-9	-9
93161.0	SUB BASE C1 (x1)	774	5/4/93	18	-9	0.660	-9	-9	-9	-9	-9	-9
93162.0	SUB BASE C3 (x1)	775	5/4/93	18	-9	0.585	-9	-9	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)	776	5/4/93	18	-9	0.477	-9	-9	-9	-9	-9	-9
93164.0	SHELTER ISLAND E1 (x1)	777	5/4/93	18	-9	0.429	-9	-9	-9	-9	-9	-9
93165.0	NAVY ESTUARY G1 (x1)	778	5/4/93	18	-9	0.203	-9	-9	-9	-9	-9	-9
93166.0	NAVY ESTUARY G2 (x1)	779	5/4/93	18	-9	1.129	-9	-9	-9	-9	-9	-9
93167.0	NAVY ESTUARY G3 (x1)	780	5/4/93	18	-9	0.100	-9	-9	-9	-9	-9	-9
93169.0	EAST BASIN I2 (x1)	782	5/4/93	18	-9	1.688	-9	-9	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)	784	5/4/93	18	-9	0.018	-9	-9	-9	-9	-9	-9
93172.0	SILVER STRAND FF3 (x1)	785	5/4/93	18	-9	0.097	-9	-9	-9	-9	-9	-9
93173.0	SILVER STRAND FF6 (x1)	786	5/4/93	18	-9	0.027	-9	-9	-9	-9	-9	-9

## Percent Amphipod Survival for Solid Phase Test (cont.)

STANUM	STATION	IDORG	DATE	LEG	RA_OTNH3	RA_OUNH3	RA_OH2S	RA_ITNH3	RA_IUNH3	RA_IH2S	RABATCH	RADATAQC
93168.0	WEST BASIN H2 (x1)	781	5/5/93	18	-9	0.214	-9	-9	-9	-9	-9	-9
93170.0	CHOLLAS CREEK P1 (x2)	783	5/5/93	18	-9	0.021	-9	-9	-9	-9	-9	-9
93174.0	TIJUANA R. ESTUARY HH3 (x2)	787	5/5/93	18	-9	0.282	-9	-9	-9	-9	-9	-9
93175.0	TIJUANA R. ESTUARY HH3 (x3)	788	5/5/93	18	-9	0.141	-9	-9	-9	-9	-9	-9
93176.0	MARINE TERMINAL R6 (x1) BLIND	794	5/6/93	18	-9	0.254	-9	-9	-9	-9	-9	-9
93177.0	NAVAL SHIPYARDS O1 (x1)	795	5/26/93	19	-9	0.023	-9	-9	-9	-9	-9	-9
93178.0	NAVAL SHIPYARDS O2 (x1)	796	5/26/93	19	-9	0.350	-9	-9	-9	-9	-9	-9
93179.0	NAVAL SHIPYARDS O3 (x1)	797	5/26/93	19	-9	0.539	-9	-9	-9	-9	-9	-9
93181.0	NAVAL SHIPYARDS O6 (x1)	799	5/26/93	19	-9	0.042	-9	-9	-9	-9	-9	-9
93182.0	NAVAL SHIPYARDS O8 (x4)	800	5/26/93	19	-9	0.166	-9	-9	-9	-9	-9	-9
93183.0	NAVAL SHIPYARDS O9 (x1)	801	5/26/93	19	-9	0.068	-9	-9	-9	-9	-9	-9
93184.0	NAVAL SHIPYARDS O11 (x1)	802	5/26/93	19	-9	0.070	-9	-9	-9	-9	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)	803	5/26/93	19	-9	0.075	-9	-9	-9	-9	-9	-9
93186.0	FUEL PIER D4 (x1)	804	5/26/93	19	-9	0.059	-9	-9	-9	-9	-9	-9
93187.0	MARINE TERMINAL R2 (x1)	805	5/26/93	19	-9	0.035	-9	-9	-9	-9	-9	-9
93188.0	CARRIER BASE V1 (x2)	806	5/26/93	19	-9	2.593	-9	-9	-9	-9	-9	-9
93189.0	NAVAL SHIPYARDS O15 (x1) BLIND	814	5/26/93	19	-9	1.063	-9	-9	-9	-9	-9	-9
90051.0	16 SWARTZ (INTERCONT. MARINA)	818	6/15/93	20	-9	3.340	0.0010	-9	-9	-9	-9	-9
93192.0	INTERCONT. MARINA M1 (x2)	819	6/15/93	20	-9	0.745	0.0005	-9	-9	-9	-9	-9
93193.0	INTERCONT. MARINA M1 (x1)	820	6/15/93	20	-9	1.232	0.0008	-9	-9	-9	-9	-9
90037.0	STORMDRAIN EM (GRAPE ST.)-REP1	827	6/15/93	20	-9	0.251	0.0002	-9	-9	-9	-9	-9
90037.0	STORMDRAIN EM (GRAPE ST.)-REP2	828	6/15/93	20	-9	0.272	0.0004	-9	-9	-9	-9	-9
90037.0	STORMDRAIN EM (GRAPE ST.)-REP3	829	6/15/93	20	-9	0.299	0.0003	-9	-9	-9	-9	-9
93198.0	INTERCONT. MARINA M2(x1) BLIND	833	6/15/93	20	-9	2.269	0.0008	-9	-9	-9	-9	-9
90013.0	37 SWARTZ (MARINA)	815	6/16/93	20	-9	0.124	0.0014	-9	-9	-9	-9	-9
93190.0	MARINA III (x1)	816	6/16/93	20	-9	1.134	0.0008	-9	-9	-9	-9	-9
93191.0	MARINA III (x3)	817	6/16/93	20	-9	0.216	0.0010	-9	-9	-9	-9	-9
90015.0	41 SWARTZ (GLORIETTA BAY)	821	6/16/93	20	-9	1.405	0.0006	-9	-9	-9	-9	-9
93194.0	GLORIETTA BAY U1 (x1)	822	6/16/93	20	-9	0.305	0.0006	-9	-9	-9	-9	-9
93195.0	GLORIETTA BAY U1 (x2)	823	6/16/93	20	-9	0.628	0.0028	-9	-9	-9	-9	-9
90012.0	34 SWARTZ (C.V. YACHT BASIN)	824	6/16/93	20	-9	0.334	0.0002	-9	-9	-9	-9	-9
93196.0	CHULA V. YACHT BASIN S1 (x1)	825	6/16/93	20	-9	0.260	0.0003	-9	-9	-9	-9	-9
93197.0	CHULA V. YACHT BASIN S1 (x3)	826	6/16/93	20	-9	0.165	0.0003	-9	-9	-9	-9	-9
90053.0	35 SWARTZ (CORONADO CAYS)	843	7/20/93	21	-9	0.017	-8	-9	-9	-9	-9	-9
93203.0	CORONADO CAYS T2 (x1)	844	7/20/93	21	-9	0.012	-8	-9	-9	-9	-9	-9
93204.0	CORONADO CAYS T2 (x2)	845	7/20/93	21	-9	0.062	-8	-9	-9	-9	-9	-9
90003.0	14 SWARTZ (DOWNTOWN PIERS)	846	7/20/93	21	-9	0.084	-8	-9	-9	-9	-9	-9
93205.0	DOWNTOWN PIERS K1 (x9)	847	7/20/93	21	-9	0.167	-8	-9	-9	-9	-9	-9
93206.0	DOWNTOWN PIERS K1 (x11)	848	7/20/93	21	-9	0.048	-8	-9	-9	-9	-9	-9
90004.0	15 SWARTZ (G ST. PIER MARINA)	849	7/20/93	21	-9	0.220	-8	-9	-9	-9	-9	-9
93207.0	G ST. PIER MARINA L1 (x4)	850	7/20/93	21	-9	0.173	-8	-9	-9	-9	-9	-9
93208.0	G ST. PIER MARINA L1 (x5)	851	7/20/93	21	-9	0.064	-8	-9	-9	-9	-9	-9
93209.0	DOWNTOWN PIERS K4 BLIND (x4)	852	7/20/93	21	-9	0.044	-8	-9	-9	-9	-9	-9
93107.0	MISSION BAY A3 (x1)-REP 1	853	7/21/93	21	-9	0.075	-8	-9	-9	-9	-9	-9



Percent Amphipod Survival for Solid Phase Test (cont.)

STANUM	STATION	IDORG	DATE	LEG	RA_OTNH3	RA_OUNH3	RA_OH2S	RA_ITNH3	RA_IUNH3	RA_IH2S	RABATCH	RADATAQC
93227.0	SEVENTH ST CHANNEL Q1 (x5)	894	8/17/93	23	-9	0.076	-8	-9	-9	-9	-9	-9
93228.0	SEVENTH ST CHANNEL Q1 (x6)	895	8/17/93	23	-9	0.010	-8	-9	-9	-9	-9	-9
90010.0	31 SWARTZ (MARINE TERMINAL R3)	896	8/17/93	23	-9	0.077	-8	-9	-9	-9	-9	-9
93229.0	MARINE TERMINAL R3 (x1)	897	8/17/93	23	-9	0.109	-8	-9	-9	-9	-9	-9
93230.0	MARINE TERMINAL R3 (x3)	898	8/17/93	23	-9	0.056	-8	-9	-9	-9	-9	-9
90025.0	SDNI-N5 (CARRIER BASE V2)	899	8/18/93	23	-9	0.643	-8	-9	-9	-9	-9	-9
93231.0	CARRIER BASE V2 (x6)	1000	8/18/93	23	-9	0.360	-8	-9	-9	-9	-9	-9
93232.0	CARRIER BASE V2 (x7)	1001	8/18/93	23	-9	0.773	-8	-9	-9	-9	-9	-9
93132.0	CORONADO CAYS T3 (x1)	1025	1/18/94	24	0.360	0.004	-8	-9	-9	-9	B024RASR01	-3
93129.0	SOUTH BAY GG4 (x1)	1026	1/18/94	24	1.900	0.104	-8	-9	-9	-9	B024RASR01	-3
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	1027	1/18/94	24	1.100	0.081	-8	-9	-9	-9	B024RASR01	-3
93127.0	SOUTH BAY GG2 (x1)	1028	1/18/94	24	1.100	0.096	-8	-9	-9	-9	B024RASR01	-3
93139.0	COMMERCIAL BASIN F1 (x1)	1030	1/18/94	24	2.100	0.149	-8	-9	-9	-9	B024RASR01	-3
93106.0	MISSION BAY A2 (x1)	1031	1/18/94	24	0.770	0.039	-8	-9	-9	-9	B024RASR01	-3
93128.0	SOUTHBAY GG5 (x1)	1033	1/18/94	24	0.740	0.031	-8	-9	-9	-9	B024RASR01	-3
93158.0	SOUTH BAY GG1 (x1) REP 1	1035	1/18/94	24	1.800	0.043	-8	-9	-9	-9	B024RASR01	-3
93158.0	SOUTH BAY GG1 (x1) REP 2	1036	1/18/94	24	3.600	0.108	-8	-9	-9	-9	B024RASR01	-3
93158.0	SOUTH BAY GG1 (x1) REP 3	1037	1/18/94	24	2.400	0.072	-8	-9	-9	-9	B024RASR01	-3
93122.0	S.S.- CORONADO DD3 (x1) REP 1	1013	1/19/94	24	22.000	0.463	-8	-9	0.000	-9	B024RASR01	-3
93122.0	S.S.- CORONADO DD3 (x1) REP 2	1014	1/19/94	24	4.700	0.103	0.0163	-9	-9	-9	B024RASR01	-3
93122.0	S.S.- CORONADO DD3 (x1) REP 3	1015	1/19/94	24	6.800	0.119	-8	-9	-9	-9	B024RASR01	-3
93125.0	SILVER STRAND FF4 (x4) REP 1	1016	1/19/94	24	28.000	0.514	-8	-9	-9	-9	B024RASR01	-3
93125.0	SILVER STRAND FF4 (x4) REP 2	1017	1/19/94	24	47.000	0.720	-8	-9	-9	-9	B024RASR01	-3
93125.0	SILVER STRAND FF4 (x4) REP 3	1018	1/19/94	24	23.000	0.484	1.2744	-9	-9	-9	B024RASR01	-3
90057.0	5 SDG&E REP 1	1019	1/19/94	24	1.700	0.046	-8	-9	-9	-9	B024RASR01	-3
90057.0	5 SDG&E REP 2	1020	1/19/94	24	1.000	0.011	0.0132	-9	-9	-9	B024RASR01	-3
90057.0	5 SDG&E REP 3	1021	1/19/94	24	1.500	0.032	-8	-9	-9	-9	B024RASR01	-3
93117.0	SAN DIEGO RIVER B2 (x2)	1029	1/19/94	24	3.500	0.110	0.0125	-9	-9	-9	B024RASR01	-3
93120.0	TIJUANA R. ESTUARY HH2 (x1)	1032	1/19/94	24	5.600	0.230	-8	-9	-9	-9	B024RASR01	-3
93121.0	TIJUANA R. ESTUARY HH2 (x5)	1034	1/19/94	24	4.100	0.188	-8	-9	-9	-9	B024RASR01	-3
90036.0	STORMDRAIN EA (ROHR CH.) REP 1	1022	1/20/94	24	7.100	0.136	0.0679	-9	-9	-9	B024RASR01	-3
90036.0	STORMDRAIN EA (ROHR CH.) REP 2	1023	1/20/94	24	4.100	0.099	-8	-9	-9	-9	B024RASR01	-3
90036.0	STORMDRAIN EA (ROHR CH.) REP 3	1024	1/20/94	24	5.400	0.119	-8	-9	-9	-9	B024RASR01	-3
90020.0	G DE LAPPE-REP 1	1104	3/1/94	27	1.800	0.086	0.0006	-9	-9	-9	B027RASA01	-3
90020.0	G DE LAPPE-REP 2	1105	3/1/94	27	2.700	0.087	0.0007	-9	-9	-9	B027RASA01	-3
90020.0	G DE LAPPE-REP 3	1106	3/1/94	27	0.990	0.049	0.0009	-9	-9	-9	B027RASA01	-3
90022.0	P SWARTZ-REP 1	1107	3/1/94	27	0.830	0.061	0.0003	-9	-9	-9	B027RASA01	-3
90022.0	P SWARTZ-REP 2	1108	3/1/94	27	1.400	0.073	0.0008	-9	-9	-9	B027RASA01	-3
90022.0	P SWARTZ-REP 3	1109	3/1/94	27	0.500	0.038	0.0008	-9	-9	-9	B027RASA01	-3
90029.0	NSB-R1-REP 1	1113	3/1/94	27	6.800	0.256	0.0013	-9	-9	-9	B027RASA01	-3
90029.0	NSB-R1-REP 2	1114	3/1/94	27	2.500	0.131	0.0005	-9	-9	-9	B027RASA01	-3
90029.0	NSB-R1-REP 3	1115	3/1/94	27	4.100	0.188	0.0010	-9	-9	-9	B027RASA01	-3
90024.0	SDNI-N1-REP 1	1116	3/1/94	27	1.600	0.067	0.0006	-9	-9	-9	B027RASA01	-3
90024.0	SDNI-N1-REP 2	1117	3/1/94	27	1.500	0.062	0.0006	-9	-9	-9	B027RASA01	-3



## Percent Amphipod Survival for Solid Phase Test (cont.)

STANUM	STATION	IDORG	DATE	LEG	RA	OTNH3	RA	OUNH3	RA	OH2S	RA	ITNH3	RA	IUNH3	RA	IH2S	RABATCH	RADATAQC
90024.0	SDNI-N1-REP 3	1118	3/1/94	27	3.300	0.114	0.0004	-9	-9	-9	B027RASA01	-3						
93185.0	NAVAL SHIPYARDS O14 (x1)	1125	3/1/94	27	2.300	0.090	0.0006	-9	-9	-9	B027RASA01	-3						
93163.0	FUEL PIERS D2 (x2)	1126	3/1/94	27	4.400	0.216	0.0003	-9	-9	-9	B027RASA01	-3						
93161.0	SUB BASE C1 (x1)	1127	3/1/94	27	2.300	0.090	0.0008	-9	-9	-9	B027RASA01	-3						
93171.0	MARINE TERMINAL R1 (x1)	1128	3/1/94	27	0.670	0.036	0.0007	-9	-9	-9	B027RASA01	-3						
90013.0	37 SWARTZ-REP 1	1098	3/2/94	27	0.310	0.011	0.0004	-9	-9	-9	B027RASA01	-3						
90013.0	37 SWARTZ-REP 2	1099	3/2/94	27	0.400	0.022	0.0010	-9	-9	-9	B027RASA01	-3						
90013.0	37 SWARTZ-REP 3	1100	3/2/94	27	1.100	0.067	0.0002	-9	-9	-9	B027RASA01	-3						
93106.0	MISSION BAY A2 (x1)-REP 1	1101	3/2/94	27	1.200	0.105	0.0004	-9	-9	-9	B027RASA01	-3						
93106.0	MISSION BAY A2 (x1)-REP 2	1102	3/2/94	27	1.900	0.106	0.0007	-9	-9	-9	B027RASA01	-3						
93106.0	MISSION BAY A2 (x1)-REP 3	1103	3/2/94	27	1.500	0.109	0.0003	-9	-9	-9	B027RASA01	-3						
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 1	1110	3/2/94	27	1.000	0.071	0.0008	-9	-9	-9	B027RASA01	-3						
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 2	1111	3/2/94	27	0.580	0.021	0.0007	-9	-9	-9	B027RASA01	-3						
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 3	1112	3/2/94	27	0.820	0.037	0.0003	-9	-9	-9	B027RASA01	-3						
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 1	1119	3/2/94	27	4.300	0.185	0.0022	-9	-9	-9	B027RASA01	-3						
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 2	1120	3/2/94	27	4.400	0.145	-8	-9	-9	-9	B027RASA01	-3						
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 3	1121	3/2/94	27	5.000	0.168	0.0007	-9	-9	-9	B027RASA01	-3						
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 1	1122	3/2/94	27	1.500	0.059	0.0003	-9	-9	-9	B027RASA01	-3						
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 2	1123	3/2/94	27	1.100	0.049	-8	-9	-9	-9	B027RASA01	-3						
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 3	1124	3/2/94	27	2.800	0.115	-8	-9	-9	-9	B027RASA01	-3						
90052.0	32 SWARTZ(SWEETWATER CH)-REP 1	1129	3/15/94	28	0.630	0.040	0.0051	-9	-9	-9	B028RASA01	-3						
90052.0	32 SWARTZ(SWEETWATER CH)-REP 2	1130	3/15/94	28	0.350	0.058	0.0040	-9	-9	-9	B028RASA01	-3						
90052.0	32 SWARTZ(SWEETWATER CH)-REP 3	1131	3/15/94	28	0.560	0.090	0.0029	-9	-9	-9	B028RASA01	-3						
93131.0	CORONADO CAYS T1 (x1)-REP 1	1138	3/15/94	28	2.130	0.171	0.0058	-9	-9	-9	B028RASA01	-3						
93131.0	CORONADO CAYS T1 (x1)-REP 2	1139	3/15/94	28	1.690	0.161	0.0049	-9	-9	-9	B028RASA01	-3						
93131.0	CORONADO CAYS T1 (x1)-REP 3	1140	3/15/94	28	2.250	0.205	0.0009	-9	-9	-9	B028RASA01	-3						
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP1	1141	3/15/94	28	0.540	0.069	0.0023	-9	-9	-9	B028RASA01	-3						
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP2	1142	3/15/94	28	0.180	0.033	0.0036	-9	-9	-9	B028RASA01	-3						
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP3	1143	3/15/94	28	0.200	0.017	0.0026	-9	-9	-9	B028RASA01	-3						
90030.0	BF SCHROEDER SITE F-REP 1	1144	3/15/94	28	1.700	0.192	0.0012	-9	-9	-9	B028RASA01	-3						
90030.0	BF SCHROEDER SITE F-REP 2	1145	3/15/94	28	3.830	0.616	0.0025	-9	-9	-9	B028RASA01	-3						
90030.0	BF SCHROEDER SITE F-REP 3	1146	3/15/94	28	0.640	0.017	0.0013	-9	-9	-9	B028RASA01	-3						
93159.0	SOUTH BAY GG3 (x1)-REP 1	1147	3/15/94	28	0.950	0.069	0.0048	-9	-9	-9	B028RASA01	-3						
93159.0	SOUTH BAY GG3 (x1)-REP 2	1148	3/15/94	28	0.540	0.076	0.0010	-9	-9	-9	B028RASA01	-3						
93159.0	SOUTH BAY GG3 (x1)-REP 3	1149	3/15/94	28	0.870	0.132	0.0020	-9	-9	-9	B028RASA01	-3						
90043.0	CORONADO WHARF-REP 1	1156	3/15/94	28	5.110	0.423	0.0016	-9	-9	-9	B028RASA01	-3						
90043.0	CORONADO WHARF-REP 2	1157	3/15/94	28	2.840	0.224	0.0030	-9	-9	-9	B028RASA01	-3						
90043.0	CORONADO WHARF-REP 3	1158	3/15/94	28	1.230	0.144	0.0031	-9	-9	-9	B028RASA01	-3						
93120.0	TIJUANA R. EST. HH2 (x1)-REP 1	1132	3/16/94	28	3.080	0.346	0.0042	-9	-9	-9	B028RASA01	-3						
93120.0	TIJUANA R. EST. HH2 (x1)-REP 2	1133	3/16/94	28	3.740	0.637	0.0113	-9	-9	-9	B028RASA01	-3						
93120.0	TIJUANA R. EST. HH2 (x1)-REP 3	1134	3/16/94	28	2.310	0.287	0.0097	-9	-9	-9	B028RASA01	-3						
93121.0	TIJUANA R. EST. HH2 (x5)-REP 1	1135	3/16/94	28	2.050	0.148	0.0070	-9	-9	-9	B028RASA01	-3						
93121.0	TIJUANA R. EST. HH2 (x5)-REP 2	1136	3/16/94	28	5.490	0.683	0.0065	-9	-9	-9	B028RASA01	-3						
93121.0	TIJUANA R. EST. HH2 (x5)-REP 3	1137	3/16/94	28	3.790	0.312	0.0084	-9	-9	-9	B028RASA01	-3						

Percent Amphipod Survival for Solid Phase Test (cont.)

STANUM	STATION	IDORG	DATE	LEG	RA_OTNH3	RA_OUNH3	RA_OH2S	RA_ITNH3	RA_IUNH3	RA_IH2S	RABATCH	RADATAQC
93174.0	TIJUANA R. EST. HH3 (x2)-REP 1	1150	3/16/94	28	0.940	0.203	0.0028	-9	-9	-9	B028RASA01	-3
93174.0	TIJUANA R. EST. HH3 (x2)-REP 2	1151	3/16/94	28	1.000	0.174	0.0136	-9	-9	-9	B028RASA01	-3
93174.0	TIJUANA R. EST. HH3 (x2)-REP 3	1152	3/16/94	28	0.730	0.084	0.0044	-9	-9	-9	B028RASA01	-3
93166.0	NAVY ESTUARY G2 (x1)-REP 1	1153	3/16/94	28	0.390	0.060	0.0018	-9	-9	-9	B028RASA01	-3
93166.0	NAVY ESTUARY G2 (x1)-REP 2	1154	3/16/94	28	0.650	0.092	0.0011	-9	-9	-9	B028RASA01	-3
93166.0	NAVY ESTUARY G2 (x1)-REP 3	1155	3/16/94	28	0.900	0.112	0.0022	-9	-9	-9	B028RASA01	-3
90037.0	STORMDRAIN EM(GRAPE ST.)-REP 1	1159	3/29/94	29	1.400	0.059	0.0014	-9	-9	-9	B029RASA01	-3
90037.0	STORMDRAIN EM(GRAPE ST.)-REP 2	1160	3/29/94	29	0.860	0.030	0.0029	-9	-9	-9	B029RASA01	-3
90037.0	STORMDRAIN EM(GRAPE ST.)-REP 3	1161	3/29/94	29	7.700	0.290	0.0010	-9	-9	-9	B029RASA01	-3
93148.0	CHANNEL-CORONADO Y1 (x2)-REP 1	1162	3/29/94	29	3.600	0.111	0.0033	-9	-9	-9	B029RASA01	-3
93148.0	CHANNEL-CORONADO Y1 (x2)-REP 2	1163	3/29/94	29	0.850	0.025	0.0007	-9	-9	-9	B029RASA01	-3
93148.0	CHANNEL-CORONADO Y1 (x2)-REP 3	1164	3/29/94	29	0.830	0.024	0.0029	-9	-9	-9	B029RASA01	-3
93138.0	SHELTER ISLAND E3 (x2)-REP 1	1165	3/29/94	29	4.700	0.129	0.0016	-9	-9	-9	B029RASA01	-3
93138.0	SHELTER ISLAND E3 (x2)-REP 2	1166	3/29/94	29	1.700	0.067	0.0027	-9	-9	-9	B029RASA01	-3
93138.0	SHELTER ISLAND E3 (x2)-REP 3	1167	3/29/94	29	3.100	0.107	0.0011	-9	-9	-9	B029RASA01	-3
93141.0	COMMERCIAL BASIN F3 (x1)-REP 1	1168	3/29/94	29	8.300	0.286	0.0013	-9	-9	-9	B029RASA01	-3
93141.0	COMMERCIAL BASIN F3 (x1)-REP 2	1169	3/29/94	29	1.800	0.080	0.0013	-9	-9	-9	B029RASA01	-3
93141.0	COMMERCIAL BASIN F3 (x1)-REP 3	1170	3/29/94	29	1.800	0.057	0.0004	-9	-9	-9	B029RASA01	-3
90018.0	D DE LAPPE-REP 1	1183	3/29/94	29	2.800	0.079	0.0013	-9	-9	-9	B029RASA01	-3
90018.0	D DE LAPPE-REP 2	1184	3/29/94	29	0.720	0.019	0.0007	-9	-9	-9	B029RASA01	-3
90018.0	D DE LAPPE-REP 3	1185	3/29/94	29	1.400	0.041	0.0003	-9	-9	-9	B029RASA01	-3
90104.0	WEST BASIN ENTRANCE(71C)-REP 1	1186	3/29/94	29	1.900	0.068	-8	-9	-9	-9	B029RASA01	-3
90104.0	WEST BASIN ENTRANCE(71C)-REP 2	1187	3/29/94	29	4.900	0.184	0.0009	-9	-9	-9	B029RASA01	-3
90104.0	WEST BASIN ENTRANCE(71C)-REP 3	1188	3/29/94	29	2.300	0.095	0.0011	-9	-9	-9	B029RASA01	-3
93107.0	MISSION BAY A3 (x1)-REP 1	1180	3/30/94	29	0.640	0.020	0.0011	-9	-9	-9	B029RASA01	-3
93107.0	MISSION BAY A3 (x1)-REP 2	1181	3/30/94	29	0.760	0.026	0.0008	-9	-9	-9	B029RASA01	-3
93107.0	MISSION BAY A3 (x1)-REP 3	1182	3/30/94	29	1.100	0.039	0.0013	-9	-9	-9	B029RASA01	-3
93163.0	FUEL PIERS D2 (x2)-REP 1	1303	5/18/94	32	3.600	0.173	0.0020	13.000	0.108	0.0114	B032RASA01	-3
93163.0	FUEL PIERS D2 (x2)-REP 2	1304	5/18/94	32	3.800	0.163	0.0036	12.000	0.091	0.0085	B032RASA01	-3
93163.0	FUEL PIERS D2 (x2)-REP 3	1305	5/18/94	32	4.300	0.215	0.0020	13.000	0.090	0.0165	B032RASA01	-3
93171.0	MARINE TERMINAL R1 (x1)-REP 1	1306	5/18/94	32	1.100	0.053	0.0026	3.300	0.022	0.0047	B032RASA01	-3
93171.0	MARINE TERMINAL R1 (x1)-REP 2	1307	5/18/94	32	0.350	0.011	0.0035	1.900	0.011	0.0103	B032RASA01	-3
93171.0	MARINE TERMINAL R1 (x1)-REP 3	1308	5/18/94	32	0.330	0.012	0.0012	2.700	0.021	0.0031	B032RASA01	-3
93185.0	NAVAL SHIPYARDS O14 (x1)-REP 1	1309	5/18/94	32	0.310	0.011	0.0009	2.000	0.029	0.0012	B032RASA01	-3
93185.0	NAVAL SHIPYARDS O14 (x1)-REP 2	1310	5/18/94	32	0.280	0.016	0.0021	2.400	0.019	0.0068	B032RASA01	-3
93185.0	NAVAL SHIPYARDS O14 (x1)-REP 3	1311	5/18/94	32	0.250	0.006	0.0024	1.400	0.012	0.0043	B032RASA01	-3
93161.0	SUB BASE C1 (x1)-REP 1	1312	5/18/94	32	3.200	0.099	0.0019	17.000	0.151	0.0104	B032RASA01	-3
93161.0	SUB BASE C1 (x1)-REP 2	1313	5/18/94	32	1.700	0.061	0.0024	7.600	0.050	0.0156	B032RASA01	-3
93161.0	SUB BASE C1 (x1)-REP 3	1314	5/18/94	32	3.300	0.133	0.0029	11.000	0.060	0.0223	B032RASA01	-3
90013.0	37 SWARTZ	1318	5/18/94	32	0.500	0.017	0.0026	2.500	0.015	0.0086	B032RASA01	-3
93106.0	MISSION BAY A2 (x1)	1319	5/18/94	32	5.000	0.172	0.0041	12.000	0.087	0.0117	B032RASA01	-3
90052.0	32 SWARTZ	1320	5/18/94	32	0.480	0.016	0.0027	2.700	0.025	0.0032	B032RASA01	-3

Section II  
Urchin Fertilization

Percent Urchin Fertilization for each of Three Porewater Dilutions (100%, 50%, 25%)

STANUM	STATION	IDORG	DATE	LEG	SPPF100_MN	SPPF100_SD	SPPF100_SG	SPPF100NH3	SPPF100H2S	SPPF50_MN	SPPF50_SD	SPPF50_SG
90006.0	23 SWARTZ	155	10/13/92	5	3.70	1.20	*	0.072	-8	-9	-9	-9
90019.0	E DE LAPPE	168	10/13/92	5	3.40	3.50	*	0.064	-8	-9	-9	-9
90021.0	K SWARTZ	170	10/13/92	5	1.00	0.80	*	0.046	-8	-9	-9	-9
90031.0	BG SCHROEDER SITE G	180	10/13/92	5	2.60	0.90	*	0.056	-8	-9	-9	-9
90038.0	CC	187	10/13/92	5	2.50	1.60	*	0.046	-8	-9	-9	-9
90071.0	BAIT BARGE	220	10/13/92	5	22.30	7.40	*	0.169	-8	-9	-9	-9
90101.0	SCRIPPS PIER	250	10/13/92	5	2.80	2.00	*	0.095	-8	-9	-9	-9
90036.0	STORM DRAIN- ROHR CHANNEL	185	10/14/92	5	0.80	1.30	*	1.616	0.0006	-9	-9	-9
90053.0	35 SWARTZ	202	10/14/92	5	0.50	0.50	*	0.029	-8	-9	-9	-9
90054.0	36 SWARTZ	203	10/14/92	5	0.00	0.00	*	0.030	-8	-9	-9	-9
90001.0	11 SWARTZ	150	10/27/92	6	7.80	4.70	*	0.022	-8	-9	-9	-9
90002.0	12 SWARTZ	151	10/27/92	6	18.90	6.30	*	0.069	-8	-9	-9	-9
90016.0	42 SWARTZ	165	10/27/92	6	5.10	2.60	*	0.073	-8	-9	-9	-9
90049.0	8B	198	10/27/92	6	12.30	6.60	*	0.173	-8	-9	-9	-9
90056.0	8A SWARTZ	205	10/27/92	6	46.90	7.90	*	0.251	-8	-9	-9	-9
90063.0	THOMPSON SITE 205	212	10/27/92	6	7.30	2.10	*	0.065	-8	-9	-9	-9
90003.0	14 SWARTZ	152	10/28/92	6	3.00	2.10	*	0.104	-8	-9	-9	-9
90004.0	15 SWARTZ	153	10/28/92	6	6.40	3.90	*	0.059	-8	-9	-9	-9
90010.0	31 SWARTZ	159	10/28/92	6	3.90	2.30	*	0.061	-8	-9	-9	-9
90011.0	33 SWARTZ	160	10/28/92	6	6.30	2.50	*	0.048	-8	-9	-9	-9
90013.0	37 SWARTZ	162	10/28/92	6	28.60	5.40	*	0.039	-8	-9	-9	-9
90017.0	C DELAPPE	166	10/28/92	6	1.30	0.90	*	0.113	-8	-9	-9	-9
90048.0	6 SWARTZ	197	10/28/92	6	7.50	5.30	*	0.042	-8	-9	-9	-9
90051.0	16 SWARTZ	200	10/28/92	6	20.00	11.50	*	0.082	-8	-9	-9	-9
90052.0	32 SWARTZ	201	10/28/92	6	15.80	3.40	*	0.023	-8	-9	-9	-9
90007.0	25 SWARTZ	156	11/10/92	7	23.00	2.10	*	0.015	-8	-9	-9	-9
90008.0	27 SWARTZ	157	11/10/92	7	98.70	1.10	NS	0.035	-8	-9	-9	-9
90009.0	28 SWARTZ	158	11/10/92	7	15.00	6.40	*	0.037	-8	-9	-9	-9
90022.0	P SWARTZ	171	11/10/92	7	98.30	1.90	NS	0.159	-8	-9	-9	-9
90026.0	SDNI-N18	175	11/10/92	7	0.00	0.00	*	0.097	-8	-9	-9	-9
90027.0	NSB-S1	176	11/10/92	7	73.50	4.20	*	0.187	-8	-9	-9	-9
90028.0	NSB-M1	177	11/10/92	7	95.90	2.20	NS	0.235	-8	-9	-9	-9
90029.0	NSB-R1	178	11/10/92	7	98.20	2.60	NS	0.199	-8	-9	-9	-9
90023.0	NM SANDBAG	172	11/11/92	7	77.00	7.90	*	0.064	-8	-9	-9	-9
90024.0	SDNI-N1	173	11/11/92	7	98.10	0.70	NS	0.085	-8	-9	-9	-9
90025.0	SDNI-N5	174	11/11/92	7	88.90	4.90	*	0.072	-8	-9	-9	-9
90050.0	10 SWARTZ	199	11/11/92	7	1.30	1.10	*	0.048	-8	-9	-9	-9
90055.0	43 SWARTZ	204	11/11/92	7	80.60	3.90	*	0.074	-8	-9	-9	-9
90102.0	HARBOR BRIDGE 71A	256	11/11/92	7	12.50	5.70	*	0.079	-8	-9	-9	-9
90103.0	SCRIPPS TRIANGLE	257	11/11/92	7	94.10	3.10	NS	0.100	-8	-9	-9	-9
90005.0	21 SWARTZ	154	1/26/93	12	33.90	13.40	*	-9	-8	-9	-9	-9
90014.0	38 SWARTZ	163	1/26/93	12	89.40	13.50	NS	-9	-8	-9	-9	-9
90018.0	D DE LAPPE	167	1/26/93	12	93.30	14.40	NS	-9	-8	-9	-9	-9
90020.0	G DE LAPPE	169	1/26/93	12	59.80	11.10	*	-9	-8	-9	-9	-9
90030.0	BF SCHROEDER SITE F	179	1/26/93	12	94.00	6.80	NS	-9	-8	-9	-9	-9

Percent Urchin Fertilization for each of Three Porewater Dilutions (100%, 50%, 25%)

STANUM	STATION	IDORG	DATE	LEG	SPPF100_MN	SPPF100_SD	SPPF100_SG	SPPF100NH3	SPPF100H2S	SPPF50_MN	SPPF50_SD	SPPF50_SG
90032.0	BM SCHROEDER SITE M	181	1/26/93	12	56.30	10.70	.	-9	-8	-9	-9	-9
90037.0	STORM DRAIN EM- GRAPE STREET	186	1/26/93	12	95.80	2.50	NS	-9	-8	-9	-9	-9
90039.0	CL	188	1/26/93	12	0.60	0.90	.	-9	-8	-9	-9	-9
90043.0	CORONADO WHARF	192	1/26/93	12	70.70	4.90	.	-9	-8	-9	-9	-9
90104.0	WEST BASIN ENTRANCE (71C) REF	275	1/26/93	12	98.30	1.20	NS	-9	-9	-9	-9	-9
90012.0	34 SWARTZ	161	1/27/93	12	94.90	2.80	NS	-9	-8	-9	-9	-9
90015.0	41 SWARTZ	164	1/27/93	12	97.50	1.10	NS	-9	-8	-9	-9	-9
90040.0	SWEETWATER MARSH SD BAY	189	1/27/93	12	-9	-9	-9	-9	-9	-9	-9	-9
90041.0	SOUTH SD BAY WETLANDS- OTAY R.	190	1/27/93	12	-9	-9	-9	-9	-9	-9	-9	-9
90057.0	5 SDG&E	206	1/27/93	12	93.80	3.50	NS	-9	-8	-9	-9	-9
90058.0	7 SDG&E	207	1/27/93	12	-9	-9	-9	-9	-9	-9	-9	-9
93105.0	MISSION BAY A1 (x1)	700	3/23/93	15	3.70	5.70	.	0.044	-8	49.80	22.80	.
93106.0	MISSION BAY A2 (x1)	701	3/23/93	15	39.80	47.30	.	0.019	-8	48.10	11.20	.
93107.0	MISSION BAY A3 (x1)	702	3/23/93	15	76.40	6.10	NS	0.010	-8	99.70	0.60	NS
93108.0	MISSION BAY A4 (x1)	703	3/23/93	15	96.50	1.10	NS	0.008	-8	96.30	2.40	NS
93109.0	MISSION BAY A5 (x1)	704	3/23/93	15	86.30	5.00	NS	0.016	-8	93.90	4.30	.
93110.0	MISSION BAY A6 (x1)	705	3/23/93	15	33.70	56.70	.	0.041	-8	16.90	3.70	.
93112.0	MISSION BAY A8 (x1)	707	3/23/93	15	50.20	14.50	.	0.028	-8	90.60	2.30	.
93113.0	MISSION BAY A9 (x1)	708	3/23/93	15	98.50	1.90	NS	0.012	-8	96.00	2.40	NS
93114.0	MISSION BAY A10 (x1)	709	3/23/93	15	56.20	13.60	.	0.012	-8	71.00	9.70	.
93115.0	MISSION BAY A11 (x1)	710	3/23/93	15	99.00	1.10	NS	0.013	-8	99.00	1.00	NS
93116.0	SAN DIEGO RIVER B1 (x4)	711	3/23/93	15	96.00	2.00	NS	0.007	-8	71.30	6.80	NS
93117.0	SAN DIEGO RIVER B2 (x2)	712	3/23/93	15	9.10	12.40	.	-8	-8	6.40	4.30	.
93111.0	MISSION BAY A7 (x3)	706	3/24/93	15	50.50	13.70	.	0.026	-8	36.00	12.80	.
90002.0	12 SWARTZ	719	3/24/93	15	0.00	0.00	.	0.099	-8	0.70	0.60	.
90037.0	STORMDRAIN EM- GRAPE STREET	720	3/24/93	15	66.60	49.90	NS	0.040	-8	96.30	4.20	NS
90015.0	41 SWARTZ	721	3/24/93	15	84.70	0.40	NS	-9	-8	82.70	9.00	.
90012.0	34 SWARTZ	722	3/24/93	15	63.60	7.30	.	0.006	-8	84.70	7.30	.
90057.0	5 SDG&E	723	3/24/93	15	1.60	2.80	.	0.007	-8	0.70	0.60	.
90052.0	32 SWARTZ	724	3/24/93	15	86.00	14.00	NS	0.069	-8	60.00	25.20	NS
93118.0	TIJUANA R. ESTUARY HH1 (x2)	713	3/25/93	15	22.70	3.80	.	0.052	0.0100	35.30	13.60	.
93119.0	TIJUANA R. ESTUARY HH1 (x1)	714	3/25/93	15	96.70	1.20	NS	0.073	-8	92.30	8.60	NS
93120.0	TIJUANA R. ESTUARY HH2 (x1)	715	3/25/93	15	0.00	0.00	.	0.021	-8	41.70	12.50	.
93121.0	TIJUANA R. ESTUARY HH2 (x5)	716	3/25/93	15	0.00	0.00	.	0.016	-8	40.00	32.10	.
93126.0	SILVER STRAND FF7 (x2)	729	4/6/93	16	23.60	13.30	.	0.044	-8	54.60	8.00	.
93127.0	SOUTH BAY GG2 (x1)	730	4/6/93	16	8.00	4.30	.	0.059	-8	48.50	23.50	.
93129.0	SOUTH BAY GG4 (x1)	732	4/6/93	16	4.80	0.90	.	0.032	-8	11.50	8.40	.
90014.0	38 SCHWARTZ	733	4/6/93	16	0.00	0.00	.	0.069	-8	0.00	0.00	.
93131.0	CORONADO CAYS T1 (x1)	734	4/6/93	16	58.90	4.20	.	0.015	-8	50.00	6.60	.
93132.0	CORONADO CAYS T3 (x1)	735	4/6/93	16	40.20	9.90	.	0.018	-8	32.60	2.40	.
93133.0	CHANNEL-NAVAL BASE Z1 (x1)	736	4/6/93	16	19.20	11.40	.	0.017	-8	59.90	4.40	.
93134.0	SOUTH SHORE-MOUTH BB2 (x1)	737	4/6/93	16	2.80	1.50	.	0.054	-8	23.00	2.60	.
93135.0	SOUTH SHORE-MOUTH BB3 (x1)	738	4/6/93	16	8.70	5.80	.	0.041	-8	13.10	4.10	.
93136.0	NORTH SHORE-MOUTH CC2 (x1)	739	4/6/93	16	24.20	9.30	.	0.071	-8	8.60	4.90	.
93138.0	SHELTER ISLAND E3 (x2)	741	4/6/93	16	1.60	1.50	.	0.029	-8	32.40	7.80	.

Percent Urchin Fertilization for each of Three Porewater Dilutions (100%, 50%, 25%)

STANUM	STATION	IDORG	DATE	LEG	SPPF100_MN	SPPF100_SD	SPPF100_SG	SPPF100NH3	SPPF100H2S	SPPF50_MN	SPPF50_SD	SPPF50_SG
93128.0	SOUTHBAY GG5 (x1)	750	4/6/93	16	0.00	0.00	*	0.024	-8	0.60	0.50	*
93122.0	SOUTH SHORE-CORONADO DD3 (x1)	725	4/7/93	16	60.20	2.00	*	0.124	-8	43.00	4.80	*
93123.0	SILVER STRAND FF1 (x1)	726	4/7/93	16	1.90	3.30	*	0.056	-8	96.00	0.30	*
93124.0	SILVER STRAND FF2 (x1)	727	4/7/93	16	43.60	4.30	*	0.045	-8	52.50	16.40	*
93125.0	SILVER STRAND FF4 (x4)	728	4/7/93	16	0.00	0.00	*	0.113	-8	1.70	0.80	*
90006.0	23 SCHWARTZ	731	4/7/93	16	0.00	0.00	*	0.052	-8	0.00	0.00	*
93137.0	NORTH SHORE-MOUTH CC3 (x1)	740	4/7/93	16	8.30	5.40	*	0.037	-8	13.20	10.90	*
93139.0	COMMERCIAL BASIN F1 (x1)	742	4/7/93	16	9.00	5.30	*	0.058	-8	2.30	1.50	*
93140.0	COMMERCIAL BASIN F2 (x1)	743	4/7/93	16	0.30	0.60	*	0.035	-8	60.90	6.80	*
93141.0	COMMERCIAL BASIN F3 (x1)	744	4/7/93	16	5.90	2.80	*	0.084	-8	14.70	2.00	*
90018.0	D DE LAPPE	748	4/7/93	16	32.60	21.90	*	0.043	-8	64.30	8.10	*
90030.0	BF SCHROEDER SITE F	749	4/7/93	16	1.20	2.20	*	0.065	-8	0.30	0.60	*
93148.0	CHANNEL-CORONADO Y1 (x2)	751	4/7/93	16	33.90	8.60	*	0.066	-8	8.60	5.80	*
93142.0	SOUTH SHORE-CORONADO DD1(X1)	752	4/7/93	16	0.00	0.00	*	0.082	-8	80.20	15.40	*
93144.0	CAMPBELL SHIPYARDS N1 (x1)	754	4/20/93	17	94.30	0.90	*	0.057	0.0003	46.00	22.30	*
93145.0	CAMPBELL SHIPYARDS N2 (x1)	755	4/20/93	17	0.30	0.40	*	0.083	0.0003	7.40	5.80	*
93146.0	GLORIETTA BAY U2 (x1)	756	4/20/93	17	27.50	7.00	*	0.080	0.0003	66.30	4.80	*
93147.0	GLORIETTA BAY U3 (x1)	757	4/20/93	17	2.10	0.80	*	0.083	0.0003	12.90	6.40	*
93149.0	CHANNEL-MOUTH X1 (x1)	758	4/20/93	17	34.50	6.00	*	0.099	0.0003	43.90	6.00	*
93150.0	CHANNEL-NAVAL BASE Z1 (x2)	759	4/20/93	17	18.60	6.50	*	0.064	0.0005	18.70	9.50	*
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	760	4/20/93	17	35.10	20.30	*	0.080	0.0005	28.80	6.60	*
93152.0	SOUTH SHORE-MOUTH BB1 (x1)	761	4/20/93	17	4.20	4.20	*	0.065	0.0005	18.70	5.60	*
93154.0	NORTH SHORE-MOUTH CC4 (x1)	763	4/20/93	17	63.60	16.60	*	0.074	0.0008	65.10	11.70	*
93155.0	SOUTH SHORE-CORONADO DD2 (x1)	764	4/20/93	17	0.20	0.30	*	0.151	0.0007	17.10	19.50	*
93156.0	NORTH SHORE-CORONADO EE1 (x1)	765	4/20/93	17	47.80	2.20	*	0.068	0.0009	56.30	20.40	*
93157.0	NORTH SHORE-CORONADO EE2 (x1)	766	4/20/93	17	9.70	0.40	*	0.141	0.0009	27.40	6.10	*
93158.0	SOUTH BAY GG1 (x1)	767	4/20/93	17	13.40	9.30	*	0.084	0.0006	41.60	8.30	*
93159.0	SOUTH BAY GG3 (x1)	768	4/20/93	17	32.40	7.80	*	0.095	0.0008	20.90	11.50	*
93160.0	CHANNEL-SOUTH BAY AA2(x1)BLIND	773	4/20/93	17	16.70	2.20	*	0.060	0.0012	18.80	13.10	*
93143.0	FUEL PIERS D1 (x1)	753	4/21/93	17	62.80	15.50	*	0.186	0.0003	22.90	12.70	*
93153.0	NORTH SHORE-MOUTH CC1 (x1)	762	4/21/93	17	81.40	18.50	*	0.083	0.0007	78.20	14.90	*
93161.0	SUB BASE C1 (x1)	774	5/4/93	18	70.10	6.70	*	0.187	0.0068	95.40	6.30	NS
93162.0	SUB BASE C3 (x1)	775	5/4/93	18	27.90	5.40	*	0.186	0.0011	89.40	4.10	*
93163.0	FUEL PIERS D2 (x2)	776	5/4/93	18	37.20	23.60	*	0.115	0.0001	91.70	7.60	NS
93164.0	SHELTER ISLAND E1 (x1)	777	5/4/93	18	24.00	3.70	*	0.062	-8	95.40	2.30	*
93165.0	NAVY ESTUARY G1 (x1)	778	5/4/93	18	25.00	11.70	*	0.023	-8	95.30	2.70	*
93166.0	NAVY ESTUARY G2 (x1)	779	5/4/93	18	0.00	0.00	*	0.045	-8	63.70	15.90	*
93167.0	NAVY ESTUARY G3 (x1)	780	5/4/93	18	73.50	3.30	*	0.023	-8	71.60	43.50	NS
93169.0	EAST BASIN I2 (x1)	782	5/4/93	18	19.90	6.60	*	0.045	-8	76.40	19.70	NS
93171.0	MARINE TERMINAL R1 (x1)	784	5/4/93	18	9.90	8.90	*	0.033	-8	69.40	20.60	*
93172.0	SILVER STRAND FF3 (x1)	785	5/4/93	18	62.50	12.50	*	0.021	-8	49.70	2.20	*
93173.0	SILVER STRAND FF6 (x1)	786	5/4/93	18	56.80	9.00	*	0.014	-8	80.00	8.80	*
93168.0	WEST BASIN H2 (x1)	781	5/5/93	18	61.90	3.90	*	0.015	-8	97.70	2.00	*
93170.0	CHOLLAS CREEK P1 (x2)	783	5/5/93	18	66.10	24.20	*	0.016	-8	83.40	9.70	*
93174.0	TIJUANA R ESTUARY HH3 (x2)	787	5/5/93	18	0.00	0.00	*	0.043	-8	0.00	0.00	*

Percent Urchin Fertilization for each of Three Porewater Dilutions (100%, 50%, 25%)

STANUM	STATION	IDORG	DATE	LEG	SPPF100_MN	SPPF100_SD	SPPF100_SG	SPPF100NH3	SPPF100H2S	SPPF50_MN	SPPF50_SD	SPPF50_SG
93175.0	TIJUANA R. ESTUARY HH3 (x3)	788	5/5/93	18	5.00	5.20	.	0.103	-8	61.10	21.00	.
93176.0	MARINE TERMINAL R6 (x1) BLIND	794	5/6/93	18	70.30	10.80	.	0.045	-8	82.90	11.70	.
93177.0	NAVAL SHIPYARDS O1 (x1)	795	5/26/93	19	0.00	0.00	.	0.048	-8	31.40	54.40	.
93178.0	NAVAL SHIPYARDS O2 (x1)	796	5/26/93	19	0.00	0.00	.	0.027	-8	17.70	5.00	.
93179.0	NAVAL SHIPYARDS O3 (x1)	797	5/26/93	19	0.00	0.00	.	0.020	-8	71.40	3.00	NS
93181.0	NAVAL SHIPYARDS O6 (x1)	799	5/26/93	19	9.50	8.50	.	-8	-8	2.30	2.40	.
93182.0	NAVAL SHIPYARDS O8 (x4)	800	5/26/93	19	0.00	0.00	.	0.020	-8	0.00	0.00	.
93183.0	NAVAL SHIPYARDS O9 (x1)	801	5/26/93	19	82.70	7.40	NS	0.060	-8	83.80	6.40	NS
93184.0	NAVAL SHIPYARDS O11 (x1)	802	5/26/93	19	40.40	26.60	.	0.022	-8	66.00	15.30	NS
93185.0	NAVAL SHIPYARDS O14 (x1)	803	5/26/93	19	85.00	7.00	NS	0.039	-8	87.10	2.10	NS
93186.0	FUEL PIER D4 (x1)	804	5/26/93	19	55.80	32.90	.	0.041	-8	69.50	11.20	NS
93187.0	MARINE TERMINAL R2 (x1)	805	5/26/93	19	0.00	0.00	.	0.025	-8	42.20	26.30	.
93188.0	CARRIER BASE V1 (x2)	806	5/26/93	19	65.30	17.40	.	0.023	-8	53.70	14.20	.
93189.0	NAVAL SHIPYARDS O15 (x1) BLIND	814	5/26/93	19	0.00	0.00	.	0.033	-8	27.80	24.00	.
90051.0	16 SWARTZ (INTERCONT. MARINA)	818	6/15/93	20	78.50	6.70	NS	0.222	-8	90.10	6.80	NS
93192.0	INTERCONT. MARINA M1 (x2)	819	6/15/93	20	0.30	0.60	.	0.041	-8	0.90	0.90	.
93193.0	INTERCONT. MARINA M1 (x1)	820	6/15/93	20	65.40	4.50	.	0.068	-8	76.30	11.70	NS
90037.0	STORMDRAIN EM (GRAPE ST.)-REP1	827	6/15/93	20	18.90	13.70	.	0.044	-8	30.80	8.10	.
90037.0	STORMDRAIN EM (GRAPE ST.)-REP2	828	6/15/93	20	22.40	5.90	.	0.083	-8	71.00	11.70	.
90037.0	STORMDRAIN EM (GRAPE ST.)-REP3	829	6/15/93	20	55.80	16.00	.	0.096	-8	54.50	9.40	.
93198.0	INTERCONT. MARINA M2(x1) BLIND	833	6/15/93	20	74.00	6.20	.	0.046	-8	59.40	13.80	.
90013.0	37 SWARTZ (MARINA)	815	6/16/93	20	80.30	10.70	NS	-8	0.0007	82.80	4.00	NS
93190.0	MARINA II1 (x1)	816	6/16/93	20	54.80	15.80	.	0.112	0.0001	61.60	17.10	.
93191.0	MARINA II1 (x3)	817	6/16/93	20	25.50	7.10	.	0.074	-8	50.90	18.20	.
90015.0	41 SWARTZ (GLORIETTA BAY)	821	6/16/93	20	85.50	11.30	NS	0.089	-8	73.50	12.00	NS
93194.0	GLORIETTA BAY U1 (x1)	822	6/16/93	20	80.00	9.70	NS	0.097	-8	72.60	7.20	.
93195.0	GLORIETTA BAY U1 (x2)	823	6/16/93	20	65.70	9.30	.	0.038	-8	49.80	11.30	.
90012.0	34 SWARTZ (C.V. YACHT BASIN)	824	6/16/93	20	37.50	7.10	.	0.060	-8	57.40	5.50	.
93196.0	CHULA V. YACHT BASIN S1 (x1)	825	6/16/93	20	19.90	6.20	.	0.104	-8	59.30	25.30	.
93197.0	CHULA V. YACHT BASIN S1 (x3)	826	6/16/93	20	53.30	16.60	.	0.050	-8	63.10	14.60	.
90053.0	35 SWARTZ (CORONADO CAYS)	843	7/20/93	21	31.50	5.70	.	0.043	-8	39.90	9.70	.
93203.0	CORONADO CAYS T2 (x1)	844	7/20/93	21	86.30	10.70	NS	0.085	-8	91.40	5.70	NS
93204.0	CORONADO CAYS T2 (x2)	845	7/20/93	21	27.60	18.40	.	0.030	-8	66.10	17.80	NS
90003.0	14 SWARTZ (DOWNTOWN PIERS)	846	7/20/93	21	49.80	39.30	NS	0.053	-8	63.10	14.80	.
93205.0	DOWNTOWN PIERS K1 (x9)	847	7/20/93	21	55.40	27.30	NS	0.090	-8	27.00	20.00	.
93206.0	DOWNTOWN PIERS K1 (x11)	848	7/20/93	21	86.90	12.40	NS	0.053	-8	64.70	18.00	NS
90004.0	15 SWARTZ (G ST. PIER MARINA)	849	7/20/93	21	45.50	15.30	NS	0.077	-8	18.70	4.40	.
93207.0	G ST. PIER MARINA L1 (x4)	850	7/20/93	21	75.20	18.50	NS	0.021	-8	45.60	7.50	.
93208.0	G ST. PIER MARINA L1 (x5)	851	7/20/93	21	91.00	10.70	NS	0.040	0.0001	3.10	1.40	.
93209.0	DOWNTOWN PIERS K4 BLIND (x4)	852	7/20/93	21	83.80	20.20	NS	0.079	-8	21.60	10.00	.
93107.0	MISSION BAY A3 (x1)-REP 1	853	7/21/93	21	0.50	0.90	.	0.009	-8	0.00	0.00	.
93107.0	MISSION BAY A3 (x1)-REP 2	854	7/21/93	21	90.70	0.90	.	0.040	-8	49.80	41.70	NS
93107.0	MISSION BAY A3 (x1)-REP 3	855	7/21/93	21	97.30	3.10	NS	0.100	-8	51.90	8.10	.
93112.0	MISSION BAY A8 (x1)-REP 1	856	7/21/93	21	94.20	8.40	NS	0.055	-8	31.30	12.30	.
93112.0	MISSION BAY A8 (x1)-REP 2	857	7/21/93	21	97.80	0.20	NS	0.111	-8	75.30	17.70	NS

Percent Urchin Fertilization for each of Three Porewater Dilutions (100%, 50%, 25%)

STANUM	STATION	IDORG	DATE	LEG	SPPF100_MN	SPPF100_SD	SPPF100_SG	SPPF100NH3	SPPF100H2S	SPPF50_MN	SPPF50_SD	SPPF50_SG
93112.0	MISSION BAY A8 (x1)-REP 3	858	7/21/93	21	95.00	5.50	NS	0.046	-8	78.30	12.30	NS
93108.0	MISSION BAY A4 (x1)-REP 1	859	7/21/93	21	90.10	11.80	NS	0.108	-8	89.20	10.50	NS
93108.0	MISSION BAY A4 (x1)-REP 2	860	7/21/93	21	92.80	1.00	*	0.082	-8	64.80	24.60	NS
93108.0	MISSION BAY A4 (x1)-REP 3	861	7/21/93	21	97.70	1.50	NS	0.064	-8	71.90	21.20	NS
90050.0	10 SWARTZ (WEST BASIN)	837	8/3/93	21	96.00	0.30	NS	0.161	-8	93.90	4.50	NS
93199.0	WEST BASIN H1 (x1)	838	8/3/93	21	69.60	20.20	NS	0.108	-8	67.70	45.00	NS
93200.0	WEST BASIN H1 (x4)	839	8/3/93	21	45.80	38.80	NS	0.202	-8	88.20	13.00	NS
90001.0	11 SWARTZ (EAST BASIN)	840	8/3/93	21	48.20	45.90	NS	0.105	-8	67.40	28.50	NS
93201.0	EAST BASIN I1 (x1)	841	8/3/93	21	55.10	31.10	NS	0.165	-8	77.20	1.20	*
93202.0	EAST BASIN I1 (x5)	842	8/3/93	21	81.60	30.20	NS	0.266	-8	91.90	4.00	NS
93180.0	NAVAL BASE/SHIPYARDS O5 (x1)	798	8/4/93	22	5.20	3.90	*	0.024	-8	27.40	15.60	*
90021.0	K SWARTZ (NAVAL BASE O4)	862	8/4/93	22	97.40	1.90	NS	0.036	-8	93.70	7.70	NS
93210.0	NAVAL BASE/SHIPYARDS O4 (x1)	863	8/4/93	22	35.70	7.00	*	0.018	-8	83.80	2.40	*
93211.0	NAVAL BASE/SHIPYARDS O4 (x2)	864	8/4/93	22	77.30	11.90	*	0.023	-8	70.20	34.90	NS
90006.0	23 SWARTZ (NAVAL BASE O7)	865	8/4/93	22	17.10	7.30	*	0.023	-8	33.40	24.80	*
93212.0	NAVAL BASE/SHIPYARDS O7 (x1)	866	8/4/93	22	0.00	0.00	*	0.033	-8	58.20	31.80	NS
93213.0	NAVAL BASE/SHIPYARDS O7 (x4)	867	8/4/93	22	93.40	4.90	NS	0.054	-8	95.10	3.50	NS
90022.0	P SWARTZ (NAVAL BASE O12)	868	8/4/93	22	97.70	1.50	NS	0.038	-8	97.20	1.90	NS
93214.0	NAVAL BASE/SHIPYARDS O12 (x3)	869	8/4/93	22	4.10	3.20	*	0.031	-8	28.80	9.10	*
93215.0	NAVAL BASE/SHIPYARDS O12 (x4)	870	8/4/93	22	90.80	10.90	NS	0.016	-8	88.50	7.50	NS
90028.0	NSB-M1 (SUB BASE C2)	871	8/4/93	22	99.40	1.10	NS	0.093	-8	96.10	2.50	NS
93216.0	SUB BASE C2 (x1)	872	8/4/93	22	34.00	3.10	*	0.182	-8	98.80	1.30	NS
93217.0	SUB BASE C2 (x3)	873	8/4/93	22	44.30	9.50	*	0.094	-8	75.70	8.30	*
93218.0	SUB BASE C2 (x11) BLIND	874	8/4/93	22	8.00	2.30	*	0.067	-8	37.20	20.00	*
93116.0	SAN DIEGO RIVER B1 (x4)-REP 1	881	8/5/93	22	0.00	0.00	*	0.122	-8	4.10	1.80	*
93116.0	SAN DIEGO RIVER B1 (x4)-REP 2	882	8/5/93	22	14.30	12.90	*	0.062	-8	92.70	3.10	NS
93116.0	SAN DIEGO RIVER B1 (x4)-REP 3	883	8/5/93	22	85.90	6.70	*	0.075	-8	97.70	1.50	NS
90052.0	32 SWARTZ(SWEETWATER CH)-REP 1	875	8/18/93	22	4.60	2.00	*	0.055	-8	16.80	5.00	*
93219.0	SWEETWATER CH JJ1 (x1)-REP 2	876	8/18/93	22	1.30	1.50	*	0.053	-8	47.30	29.30	NS
93220.0	SWEETWATER CH. JJ1 (x8)-REP 3	877	8/18/93	22	25.90	12.10	*	0.034	-8	79.30	18.20	NS
90002.0	12 SWARTZ(DOWNTOWN ANCH)-REP 1	878	8/18/93	22	1.00	1.70	*	0.045	-8	6.70	4.00	*
93221.0	DOWNTOWN ANCH. J1 (x1)-REP 2	879	8/18/93	22	12.30	8.20	*	0.027	-8	54.10	21.90	*
93222.0	DOWNTOWN ANCH. J1 (x2)-REP 3	880	8/18/93	22	84.00	7.20	*	0.014	-8	92.10	0.80	NS
90007.0	25 SWARTZ (NAVAL BASE/SY O10)	887	8/17/93	23	54.70	11.70	*	0.023	-8	37.80	2.80	*
93223.0	NAVAL BASE/SHIPYARD O10 (x2)	888	8/17/93	23	99.70	0.50	NS	0.019	-8	1.30	1.50	*
93224.0	NAVAL BASE/SHIPYARD O10(x6)	889	8/17/93	23	88.10	4.80	NS	0.007	-8	63.80	25.50	NS
90008.0	27 SWARTZ (NAVAL BASE/SH O13)	890	8/17/93	23	23.50	7.00	*	0.017	0.0043	23.80	4.00	*
93225.0	NAVAL BASE/SHIPYARD O13 (x1)	891	8/17/93	23	8.70	3.70	*	0.020	0.0002	24.70	7.50	*
93226.0	NAVAL BASE/SHIPYARD O13 (x3)	892	8/17/93	23	63.50	24.30	NS	0.040	-8	97.30	2.50	NS
90009.0	28 SWARTZ (7TH ST CHANNEL Q1)	893	8/17/93	23	1.30	1.50	*	0.033	-8	18.20	1.30	*
93227.0	SEVENTH ST CHANNEL Q1 (x5)	894	8/17/93	23	0.00	0.00	*	0.104	-8	1.00	1.70	*
93228.0	SEVENTH ST CHANNEL Q1 (x6)	895	8/17/93	23	91.90	7.80	NS	0.028	-8	76.30	18.30	NS
90010.0	31 SWARTZ (MARINE TERMINAL R3)	896	8/17/93	23	54.30	30.70	NS	0.019	-8	40.20	4.90	*
93229.0	MARINE TERMINAL R3 (x1)	897	8/17/93	23	0.30	0.60	*	0.066	-8	4.90	1.90	*
93230.0	MARINE TERMINAL R3 (x3)	898	8/17/93	23	84.30	14.80	NS	0.064	-8	45.60	42.20	NS









Percent Urchin Fertilization for each of Three Porewater Dilutions (100%, 50%, 25%) (Cont.)

STANUM	STATION	IDORG	DATE	LEG	SPPF25_MN	SPPF25_SD	SPPF25_SG	SPPFQC
90006.0	23 SWARTZ	155	10/13/92	5	-9	-9	-9	-6
90019.0	E DE LAPPE	168	10/13/92	5	-9	-9	-9	-6
90021.0	K SWARTZ	170	10/13/92	5	-9	-9	-9	-6
90031.0	BG SCHROEDER SITE G	180	10/13/92	5	-9	-9	-9	-6
90038.0	CC	187	10/13/92	5	-9	-9	-9	-6
90071.0	BAIT BARGE	220	10/13/92	5	-9	-9	-9	-6
90101.0	SCRIPPS PIER	250	10/13/92	5	-9	-9	-9	-6
90036.0	STORM DRAIN- ROHR CHANNEL	185	10/14/92	5	-9	-9	-9	-6
90053.0	35 SWARTZ	202	10/14/92	5	-9	-9	-9	-6
90054.0	36 SWARTZ	203	10/14/92	5	-9	-9	-9	-6
90001.0	11 SWARTZ	150	10/27/92	6	-9	-9	-9	-6
90002.0	12 SWARTZ	151	10/27/92	6	-9	-9	-9	-6
90016.0	42 SWARTZ	165	10/27/92	6	-9	-9	-9	-6
90049.0	8B	198	10/27/92	6	-9	-9	-9	-6
90056.0	8A SWARTZ	205	10/27/92	6	-9	-9	-9	-6
90063.0	THOMPSON SITE 205	212	10/27/92	6	-9	-9	-9	-6
90003.0	14 SWARTZ	152	10/28/92	6	-9	-9	-9	-6
90004.0	15 SWARTZ	153	10/28/92	6	-9	-9	-9	-6
90010.0	31 SWARTZ	159	10/28/92	6	-9	-9	-9	-6
90011.0	33 SWARTZ	160	10/28/92	6	-9	-9	-9	-6
90013.0	37 SWARTZ	162	10/28/92	6	-9	-9	-9	-6
90017.0	C DELAPPE	166	10/28/92	6	-9	-9	-9	-6
90048.0	6 SWARTZ	197	10/28/92	6	-9	-9	-9	-6
90051.0	16 SWARTZ	200	10/28/92	6	-9	-9	-9	-6
90052.0	32 SWARTZ	201	10/28/92	6	-9	-9	-9	-6
90007.0	25 SWARTZ	156	11/10/92	7	-9	-9	-9	-6
90008.0	27 SWARTZ	157	11/10/92	7	-9	-9	-9	-6
90009.0	28 SWARTZ	158	11/10/92	7	-9	-9	-9	-6
90022.0	P SWARTZ	171	11/10/92	7	-9	-9	-9	-6
90026.0	SDNI-N18	175	11/10/92	7	-9	-9	-9	-6
90027.0	NSB-S1	176	11/10/92	7	-9	-9	-9	-6
90028.0	NSB-M1	177	11/10/92	7	-9	-9	-9	-6
90029.0	NSB-R1	178	11/10/92	7	-9	-9	-9	-6
90023.0	NM SANDBAG	172	11/11/92	7	-9	-9	-9	-6
90024.0	SDNI-N1	173	11/11/92	7	-9	-9	-9	-6
90025.0	SDNI-N5	174	11/11/92	7	-9	-9	-9	-6
90050.0	10 SWARTZ	199	11/11/92	7	-9	-9	-9	-6
90055.0	43 SWARTZ	204	11/11/92	7	-9	-9	-9	-6
90102.0	HARBOR BRIDGE 71A	256	11/11/92	7	-9	-9	-9	-6
90103.0	SCRIPPS TRIANGLE	257	11/11/92	7	-9	-9	-9	-6
90005.0	21 SWARTZ	154	1/26/93	12	-9	-9	-9	-6
90014.0	38 SWARTZ	163	1/26/93	12	-9	-9	-9	-6
90018.0	D DE LAPPE	167	1/26/93	12	-9	-9	-9	-6
90020.0	G DE LAPPE	169	1/26/93	12	-9	-9	-9	-6
90030.0	BF SCHROEDER SITE F	179	1/26/93	12	-9	-9	-9	-6

Percent Urchin Fertilization for each of Three Porewater Dilutions (100%, 50%, 25%) (Cont.)

STANUM	STATION	IDORG	DATE	LEG	SPPF25_MN	SPPF25_SD	SPPF25_SG	SPPFQC
90032.0	BM SCHROEDER SITE M	181	1/26/93	12	-9	-9	-9	-6
90037.0	STORM DRAIN EM- GRAPE STREET	186	1/26/93	12	-9	-9	-9	-6
90039.0	CL	188	1/26/93	12	-9	-9	-9	-6
90043.0	CORONADO WHARF	192	1/26/93	12	-9	-9	-9	-6
90104.0	WEST BASIN ENTRANCE (71C) REF	275	1/26/93	12	-9	-9	-9	-6
90012.0	34 SWARTZ	161	1/27/93	12	-9	-9	-9	-6
90015.0	41 SWARTZ	164	1/27/93	12	-9	-9	-9	-6
90040.0	SWEETWATER MARSH SD BAY	189	1/27/93	12	-9	-9	-9	-9
90041.0	SOUTH SD BAY WETLANDS- OTAY R.	190	1/27/93	12	-9	-9	-9	-9
90057.0	5 SDG&E	206	1/27/93	12	-9	-9	-9	-6
90058.0	7 SDG&E	207	1/27/93	12	-9	-9	-9	-9
93105.0	MISSION BAY A1 (x1)	700	3/23/93	15	78.60	10.90	.	-6
93106.0	MISSION BAY A2 (x1)	701	3/23/93	15	63.70	17.60	.	-6
93107.0	MISSION BAY A3 (x1)	702	3/23/93	15	98.70	0.60	NS	-6
93108.0	MISSION BAY A4 (x1)	703	3/23/93	15	99.40	1.10	NS	-6
93109.0	MISSION BAY A5 (x1)	704	3/23/93	15	93.90	5.60	NS	-6
93110.0	MISSION BAY A6 (x1)	705	3/23/93	15	73.20	7.50	.	-6
93112.0	MISSION BAY A6 (x1)	707	3/23/93	15	91.70	0.70	.	-6
93113.0	MISSION BAY A9 (x1)	708	3/23/93	15	99.00	1.00	NS	-6
93114.0	MISSION BAY A10 (x1)	709	3/23/93	15	80.60	10.90	.	-6
93115.0	MISSION BAY A11 (x1)	710	3/23/93	15	99.40	0.50	NS	-6
93116.0	SAN DIEGO RIVER B1 (x4)	711	3/23/93	15	97.00	3.50	NS	-6
93117.0	SAN DIEGO RIVER B2 (x2)	712	3/23/93	15	48.00	13.50	.	-6
93111.0	MISSION BAY A7 (x3)	706	3/24/93	15	70.70	20.10	.	-6
90002.0	12 SWARTZ	719	3/24/93	15	67.70	26.60	NS	-6
90037.0	STORMDRAIN EM- GRAPE STREET	720	3/24/93	15	94.10	1.80	NS	-6
90015.0	41 SWARTZ	721	3/24/93	15	94.20	1.80	.	-6
90012.0	34 SWARTZ	722	3/24/93	15	89.00	9.70	.	-6
90057.0	5 SDG&E	723	3/24/93	15	0.00	0.00	.	-6
90052.0	32 SWARTZ	724	3/24/93	15	94.70	5.10	NS	-6
93118.0	TIJUANA R. ESTUARY HH1 (x2)	713	3/25/93	15	77.30	15.90	NS	-6
93119.0	TIJUANA R. ESTUARY HH1 (x1)	714	3/25/93	15	97.00	2.60	NS	-6
93120.0	TIJUANA R. ESTUARY HH2 (x1)	715	3/25/93	15	97.00	2.60	NS	-6
93121.0	TIJUANA R. ESTUARY HH2 (x5)	716	3/25/93	15	88.30	8.70	NS	-6
93126.0	SILVER STRAND FF7 (x2)	729	4/6/93	16	26.30	6.00	.	-6
93127.0	SOUTH BAY GG2 (x1)	730	4/6/93	16	52.70	2.10	.	-6
93129.0	SOUTH BAY GG4 (x1)	732	4/6/93	16	27.20	15.30	.	-6
90014.0	38 SCHWARTZ	733	4/6/93	16	1.20	1.40	.	-6
93131.0	CORONADO CAYS T1 (x1)	734	4/6/93	16	68.40	19.60	.	-6
93132.0	CORONADO CAYS T3 (x1)	735	4/6/93	16	43.90	4.30	.	-6
93133.0	CHANNEL-NAVAL BASE Z1 (x1)	736	4/6/93	16	57.30	7.40	.	-6
93134.0	SOUTH SHORE-MOUTH BB2 (x1)	737	4/6/93	16	66.00	33.20	.	-6
93135.0	SOUTH SHORE-MOUTH BB3 (x1)	738	4/6/93	16	37.60	14.40	.	-6
93136.0	NORTH SHORE-MOUTH CC2 (x1)	739	4/6/93	16	36.80	16.70	.	-6
93138.0	SHELTER ISLAND E3 (x2)	741	4/6/93	16	73.30	6.70	.	-6

Percent Urchin Fertilization for each of Three Porewater Dilutions (100%, 50%, 25%) (Cont.)

STANUM	STATION	IDORG	DATE	LEG	SPPF25_MN	SPPF25_SD	SPPF25_SG	SPPFQC
93128.0	SOUTHBAY GG5 (x1)	750	4/6/93	16	0.90	0.90	*	-6
93122.0	SOUTH SHORE-CORONADO DD3 (x1)	725	4/7/93	16	79.60	15.90	*	-6
93123.0	SILVER STRAND FF1 (x1)	726	4/7/93	16	27.00	13.10	*	-6
93124.0	SILVER STRAND FF2 (x1)	727	4/7/93	16	83.20	3.70	*	-6
93125.0	SILVER STRAND FF4 (x4)	728	4/7/93	16	33.90	26.00	*	-6
90006.0	23 SCHWARTZ	731	4/7/93	16	2.00	2.60	*	-6
93137.0	NORTH SHORE-MOUTH CC3 (x1)	740	4/7/93	16	12.80	2.70	*	-6
93139.0	COMMERCIAL BASIN F1 (x1)	742	4/7/93	16	5.50	1.30	*	-6
93140.0	COMMERCIAL BASIN F2 (x1)	743	4/7/93	16	41.80	7.00	*	-6
93141.0	COMMERCIAL BASIN F3 (x1)	744	4/7/93	16	46.50	17.40	*	-6
90018.0	D DE LAPPE	748	4/7/93	16	54.60	16.60	*	-6
90030.0	BF SCHROEDER SITE F	749	4/7/93	16	36.30	22.30	*	-6
93148.0	CHANNEL-CORONADO Y1 (x2)	751	4/7/93	16	7.50	2.60	*	-6
93142.0	SOUTH SHORE-CORONADO DD1(X1)	752	4/7/93	16	30.90	7.50	*	-6
93144.0	CAMPBELL SHIPYARDS N1 (x1)	754	4/20/93	17	39.90	20.90	*	-6
93145.0	CAMPBELL SHIPYARDS N2 (x1)	755	4/20/93	17	1.60	1.50	*	-6
93146.0	GLORIETTA BAY U2 (x1)	756	4/20/93	17	63.10	24.00	*	-6
93147.0	GLORIETTA BAY U3 (x1)	757	4/20/93	17	42.20	4.40	*	-6
93149.0	CHANNEL-MOUTH X1 (x1)	758	4/20/93	17	73.00	7.10	*	-6
93150.0	CHANNEL-NAVAL BASE Z1 (x2)	759	4/20/93	17	32.40	8.00	*	-6
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	760	4/20/93	17	64.40	5.10	*	-6
93152.0	SOUTH SHORE-MOUTH BB1 (x1)	761	4/20/93	17	41.80	19.00	*	-6
93154.0	NORTH SHORE-MOUTH CC4 (x1)	763	4/20/93	17	37.10	16.80	*	-6
93155.0	SOUTH SHORE-CORONADO DD2 (x1)	764	4/20/93	17	31.50	14.00	*	-6
93156.0	NORTH SHORE-CORONADO EE1 (x1)	765	4/20/93	17	36.40	5.00	*	-6
93157.0	NORTH SHORE-CORONADO EE2 (x1)	766	4/20/93	17	19.60	0.80	*	-6
93158.0	SOUTH BAY GG1 (x1)	767	4/20/93	17	67.20	10.20	*	-6
93159.0	SOUTH BAY GG3 (x1)	768	4/20/93	17	64.20	2.10	*	-6
93160.0	CHANNEL-SOUTH BAY AA2(x1)BLIND	773	4/20/93	17	64.30	6.00	*	-6
93143.0	FUEL PIERS D1 (x1)	753	4/21/93	17	20.60	16.90	*	-6
93153.0	NORTH SHORE-MOUTH CC1 (x1)	762	4/21/93	17	73.90	15.10	*	-6
93161.0	SUB BASE C1 (x1)	774	5/4/93	18	97.70	1.10	NS	-6
93162.0	SUB BASE C3 (x1)	775	5/4/93	18	91.80	12.60	NS	-6
93163.0	FUEL PIERS D2 (x2)	776	5/4/93	18	97.70	3.20	NS	-6
93164.0	SHELTER ISLAND E1 (x1)	777	5/4/93	18	96.90	3.80	NS	-6
93165.0	NAVY ESTUARY G1 (x1)	778	5/4/93	18	96.60	2.10	*	-6
93166.0	NAVY ESTUARY G2 (x1)	779	5/4/93	18	95.20	4.50	NS	-6
93167.0	NAVY ESTUARY G3 (x1)	780	5/4/93	18	71.60	43.50	NS	-6
93169.0	EAST BASIN I2 (x1)	782	5/4/93	18	71.70	11.00	*	-6
93171.0	MARINE TERMINAL R1 (x1)	784	5/4/93	18	65.70	13.90	*	-6
93172.0	SILVER STRAND FF3 (x1)	785	5/4/93	18	32.70	11.10	*	-6
93173.0	SILVER STRAND FF6 (x1)	786	5/4/93	18	69.00	13.70	*	-6
93168.0	WEST BASIN H2 (x1)	781	5/5/93	18	98.40	1.00	NS	-6
93170.0	CHOLLAS CREEK P1 (x2)	783	5/5/93	18	69.10	28.10	NS	-6
93174.0	TIJUANA R. ESTUARY HH3 (x2)	787	5/5/93	18	0.00	0.00	*	-6

Percent Urchin Fertilization for each of Three Porewater Dilutions (100%, 50%, 25%) (Cont.)

STANUM	STATION	IDORG	DATE	LEG	SPPF25_MN	SPPF25_SD	SPPF25_SG	SPPFQC
93175.0	TIJUANA R. ESTUARY HH3 (x3)	788	5/5/93	18	95.80	1.20	.	-6
93176.0	MARINE TERMINAL R6 (x1) BLIND	794	5/6/93	18	93.10	1.90	.	-6
93177.0	NAVAL SHIPYARDS O1 (x1)	795	5/26/93	19	19.60	13.50	.	-6
93178.0	NAVAL SHIPYARDS O2 (x1)	796	5/26/93	19	34.90	10.60	.	-6
93179.0	NAVAL SHIPYARDS O3 (x1)	797	5/26/93	19	89.10	6.30	NS	-6
93181.0	NAVAL SHIPYARDS O6 (x1)	799	5/26/93	19	0.70	1.20	.	-6
93182.0	NAVAL SHIPYARDS O8 (x4)	800	5/26/93	19	1.00	1.70	.	-6
93183.0	NAVAL SHIPYARDS O9 (x1)	801	5/26/93	19	93.60	4.60	NS	-6
93184.0	NAVAL SHIPYARDS O11 (x1)	802	5/26/93	19	90.00	5.50	NS	-6
93185.0	NAVAL SHIPYARDS O14 (x1)	803	5/26/93	19	86.20	18.10	NS	-6
93186.0	FUEL PIER D4 (x1)	804	5/26/93	19	95.10	1.80	NS	-6
93187.0	MARINE TERMINAL R2 (x1)	805	5/26/93	19	93.00	7.90	NS	-6
93188.0	CARRIER BASE V1 (x2)	806	5/26/93	19	79.10	6.30	NS	-6
93189.0	NAVAL SHIPYARDS O15 (x1) BLIND	814	5/26/93	19	76.60	12.80	NS	-6
90051.0	16 SWARTZ (INTERCONT. MARINA)	818	6/15/93	20	87.10	7.40	NS	-6
93192.0	INTERCONT. MARINA M1 (x2)	819	6/15/93	20	9.80	2.20	.	-6
93193.0	INTERCONT. MARINA M1 (x1)	820	6/15/93	20	65.10	11.70	.	-6
90037.0	STORMDRAIN EM (GRAPE ST.)-REP1	827	6/15/93	20	21.00	8.30	.	-6
90037.0	STORMDRAIN EM (GRAPE ST.)-REP2	828	6/15/93	20	52.40	1.70	.	-6
90037.0	STORMDRAIN EM (GRAPE ST.)-REP3	829	6/15/93	20	55.40	15.20	.	-6
93198.0	INTERCONT. MARINA M2(x1) BLIND	833	6/15/93	20	81.70	13.90	NS	-6
90013.0	37 SWARTZ (MARINA)	815	6/16/93	20	92.90	4.60	NS	-6
93190.0	MARINA II1 (x1)	816	6/16/93	20	85.00	6.20	NS	-6
93191.0	MARINA II1 (x3)	817	6/16/93	20	62.30	6.70	.	-6
90015.0	41 SWARTZ (GLORIETTA BAY)	821	6/16/93	20	75.90	4.50	.	-6
93194.0	GLORIETTA BAY U1 (x1)	822	6/16/93	20	62.50	17.60	.	-6
93195.0	GLORIETTA BAY U1 (x2)	823	6/16/93	20	71.60	4.80	.	-6
90012.0	34 SWARTZ (C.V. YACHT BASIN)	824	6/16/93	20	78.30	8.90	NS	-6
93196.0	CHULA V. YACHT BASIN S1 (x1)	825	6/16/93	20	77.10	6.80	NS	-6
93197.0	CHULA V. YACHT BASIN S1 (x3)	826	6/16/93	20	82.10	13.40	NS	-6
90053.0	35 SWARTZ (CORONADO CAYS)	843	7/20/93	21	47.00	35.90	NS	-6
93203.0	CORONADO CAYS T2 (x1)	844	7/20/93	21	89.90	1.10	NS	-6
93204.0	CORONADO CAYS T2 (x2)	845	7/20/93	21	51.40	13.30	.	-6
90003.0	14 SWARTZ (DOWNTOWN PIERS)	846	7/20/93	21	62.00	40.80	NS	-6
93205.0	DOWNTOWN PIERS K1 (x9)	847	7/20/93	21	42.40	6.60	.	-6
93206.0	DOWNTOWN PIERS K1 (x11)	848	7/20/93	21	48.40	36.40	NS	-6
90004.0	15 SWARTZ (G ST. PIER MARINA)	849	7/20/93	21	41.90	1.60	.	-6
93207.0	G ST. PIER MARINA L1 (x4)	850	7/20/93	21	78.30	8.50	.	-6
93208.0	G ST. PIER MARINA L1 (x5)	851	7/20/93	21	90.00	4.40	NS	-6
93209.0	DOWNTOWN PIERS K4 BLIND (x4)	852	7/20/93	21	19.80	2.80	.	-6
93107.0	MISSION BAY A3 (x1)-REP 1	853	7/21/93	21	30.10	46.30	NS	-6
93107.0	MISSION BAY A3 (x1)-REP 2	854	7/21/93	21	95.20	5.10	NS	-6
93107.0	MISSION BAY A3 (x1)-REP 3	855	7/21/93	21	94.50	2.20	NS	-6
93112.0	MISSION BAY A8 (x1)-REP 1	856	7/21/93	21	34.70	13.80	.	-6
93112.0	MISSION BAY A8 (x1)-REP 2	857	7/21/93	21	83.90	14.90	NS	-6

Percent Urchin Fertilization for each of Three Porewater Dilutions (100%, 50%, 25%) (Cont.)

STANUM	STATION	IDORG	DATE	LEG	SPPF25_MN	SPPF25_SD	SPPF25_SG	SPPFQC
93112 0	MISSION BAY A8 (x1)-REP 3	858	7/21/93	21	89.50	14.40	NS	-6
93108 0	MISSION BAY A4 (x1)-REP 1	859	7/21/93	21	84.50	17.10	NS	-6
93108 0	MISSION BAY A4 (x1)-REP 2	860	7/21/93	21	56.20	35.20	NS	-6
93108 0	MISSION BAY A4 (x1)-REP 3	861	7/21/93	21	44.10	17.60	*	-6
90050 0	10 SWARTZ (WEST BASIN)	837	8/3/93	21	91.50	9.80	NS	-6
93199 0	WEST BASIN H1 (x1)	838	8/3/93	21	44.20	30.30	NS	-6
93200 0	WEST BASIN H1 (x4)	839	8/3/93	21	88.50	7.10	NS	-6
90001 0	11 SWARTZ (EAST BASIN)	840	8/3/93	21	98.40	0.90	NS	-6
93201 0	EAST BASIN I1 (x1)	841	8/3/93	21	68.90	21.80	NS	-6
93202 0	EAST BASIN I1 (x5)	842	8/3/93	21	84.50	7.30	NS	-6
93180 0	NAVAL BASE/SHIPYARDS O5 (x1)	798	8/4/93	22	66.50	7.20	*	-6
90021 0	K SWARTZ (NAVAL BASE O4)	862	8/4/93	22	91.90	5.70	NS	-6
93210 0	NAVAL BASE/SHIPYARDS O4 (x1)	863	8/4/93	22	93.40	2.00	NS	-6
93211 0	NAVAL BASE/SHIPYARDS O4 (x2)	864	8/4/93	22	81.60	21.40	NS	-6
90006 0	23 SWARTZ (NAVAL BASE O7)	865	8/4/93	22	74.30	15.00	*	-6
93212 0	NAVAL BASE/SHIPYARDS O7 (x1)	866	8/4/93	22	68.80	28.00	NS	-6
93213 0	NAVAL BASE/SHIPYARDS O7 (x4)	867	8/4/93	22	90.00	12.20	NS	-6
90022 0	P SWARTZ (NAVAL BASE O12)	868	8/4/93	22	83.50	26.90	NS	-6
93214 0	NAVAL BASE/SHIPYARDS O12 (x3)	869	8/4/93	22	75.10	5.10	*	-6
93215 0	NAVAL BASE/SHIPYARDS O12 (x4)	870	8/4/93	22	60.80	50.60	NS	-6
90028 0	NSB-M1 (SUB BASE C2)	871	8/4/93	22	98.10	0.80	NS	-6
93216 0	SUB BASE C2 (x1)	872	8/4/93	22	99.70	0.50	NS	-6
93217 0	SUB BASE C2 (x3)	873	8/4/93	22	89.00	15.00	NS	-6
93218 0	SUB BASE C2 (x11) BLIND	874	8/4/93	22	87.00	11.70	NS	-6
93116 0	SAN DIEGO RIVER B1 (x4)-REP 1	881	8/5/93	22	25.60	10.00	*	-6
93116 0	SAN DIEGO RIVER B1 (x4)-REP 2	882	8/5/93	22	96.40	3.00	NS	-6
93116 0	SAN DIEGO RIVER B1 (x4)-REP 3	883	8/5/93	22	29.40	5.70	*	-6
90052 0	32 SWARTZ(SWEETWATER CH)-REP 1	875	8/18/93	22	21.90	13.20	*	-6
93219 0	SWEETWATER CH. JJ1 (x1)-REP 2	876	8/18/93	22	60.40	11.70	*	-6
93220 0	SWEETWATER CH. JJ1 (x8)-REP 3	877	8/18/93	22	74.30	8.60	*	-6
90002 0	12 SWARTZ(DOWNTOWN ANCH)-REP 1	878	8/18/93	22	1.00	1.00	*	-6
93221 0	DOWNTOWN ANCH. J1 (x1)-REP 2	879	8/18/93	22	54.30	20.90	*	-6
93222 0	DOWNTOWN ANCH. J1 (x2)-REP 3	880	8/18/93	22	87.20	4.00	*	-6
90007 0	25 SWARTZ (NAVAL BASE/SY O10)	887	8/17/93	23	50.80	14.10	*	-6
93223 0	NAVAL BASE/SHIPYARD O10 (x2)	888	8/17/93	23	97.30	1.70	NS	-6
93224 0	NAVAL BASE/SHIPYARD O10(x6)	889	8/17/93	23	89.70	14.10	NS	-6
90008 0	27 SWARTZ (NAVAL BASE/SH O13)	890	8/17/93	23	40.60	11.60	*	-6
93225 0	NAVAL BASE/SHIPYARD O13 (x1)	891	8/17/93	23	70.20	47.10	NS	-6
93226 0	NAVAL BASE/SHIPYARD O13 (x3)	892	8/17/93	23	44.00	28.90	NS	-6
90009 0	28 SWARTZ (7TH ST CHANNEL Q1)	893	8/17/93	23	83.00	24.00	NS	-6
93227 0	SEVENTH ST CHANNEL Q1 (x5)	894	8/17/93	23	56.90	6.20	*	-6
93228 0	SEVENTH ST CHANNEL Q1 (x6)	895	8/17/93	23	81.60	20.50	NS	-6
90010 0	31 SWARTZ (MARINE TERMINAL R3)	896	8/17/93	23	81.70	7.00	*	-6
93229 0	MARINE TERMINAL R3 (x1)	897	8/17/93	23	4.30	3.10	*	-6
93230 0	MARINE TERMINAL R3 (x3)	898	8/17/93	23	87.30	11.30	NS	-6



Percent Urchin Fertilization for each of Three Porewater Dilutions (100%, 50%, 25%) (Cont.)

STANUM	STATION	IDORG	DATE	LEG	SPPF25_MN	SPPF25_SD	SPPF25_SG	SPPFQC
90025.0	SDNI-NS (CARRIER BASE V2)	899	8/18/93	23	75.90	39.20	NS	-6
93231.0	CARRIER BASE V2 (x6)	1000	8/18/93	23	90.90	9.90	NS	-6
93232.0	CARRIER BASE V2 (x7)	1001	8/18/93	23	59.70	40.00	NS	-6
93132.0	CORONADO CAYS T3 (x1)	1025	1/18/94	24	-9	-9	-9	-9
93129.0	SOUTH BAY GG4 (x1)	1026	1/18/94	24	-9	-9	-9	-9
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	1027	1/18/94	24	-9	-9	-9	-9
93127.0	SOUTH BAY GG2 (x1)	1028	1/18/94	24	-9	-9	-9	-9
93139.0	COMMERCIAL BASIN F1 (x1)	1030	1/18/94	24	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)	1031	1/18/94	24	-9	-9	-9	-9
93128.0	SOUTHBAY GG5 (x1)	1033	1/18/94	24	-9	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1) REP 1	1035	1/18/94	24	-9	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1) REP 2	1036	1/18/94	24	-9	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1) REP 3	1037	1/18/94	24	-9	-9	-9	-9
93122.0	S.S.- CORONADO DD3 (x1) REP 1	1013	1/19/94	24	-9	-9	-9	-9
93122.0	S.S.- CORONADO DD3 (x1) REP 2	1014	1/19/94	24	-9	-9	-9	-9
93122.0	S.S.- CORONADO DD3 (x1) REP 3	1015	1/19/94	24	-9	-9	-9	-9
93125.0	SILVER STRAND FF4 (x4) REP 1	1016	1/19/94	24	-9	-9	-9	-9
93125.0	SILVER STRAND FF4 (x4) REP 2	1017	1/19/94	24	-9	-9	-9	-9
93125.0	SILVER STRAND FF4 (x4) REP 3	1018	1/19/94	24	-9	-9	-9	-9
90057.0	5 SDG&E REP 1	1019	1/19/94	24	-9	-9	-9	-9
90057.0	5 SDG&E REP 2	1020	1/19/94	24	-9	-9	-9	-9
90057.0	5 SDG&E REP 3	1021	1/19/94	24	-9	-9	-9	-9
93117.0	SAN DIEGO RIVER B2 (x2)	1029	1/19/94	24	-9	-9	-9	-9
93120.0	TIJUANA R. ESTUARY HH2 (x1)	1032	1/19/94	24	-9	-9	-9	-9
93121.0	TIJUANA R. ESTUARY HH2 (x5)	1034	1/19/94	24	-9	-9	-9	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 1	1022	1/20/94	24	-9	-9	-9	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 2	1023	1/20/94	24	-9	-9	-9	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 3	1024	1/20/94	24	-9	-9	-9	-9
90020.0	G DE LAPPE-REP 1	1104	3/1/94	27	-9	-9	-9	-9
90020.0	G DE LAPPE-REP 2	1105	3/1/94	27	-9	-9	-9	-9
90020.0	G DE LAPPE-REP 3	1106	3/1/94	27	-9	-9	-9	-9
90022.0	P SWARTZ-REP 1	1107	3/1/94	27	-9	-9	-9	-9
90022.0	P SWARTZ-REP 2	1108	3/1/94	27	-9	-9	-9	-9
90022.0	P SWARTZ-REP 3	1109	3/1/94	27	-9	-9	-9	-9
90029.0	NSB-R1-REP 1	1113	3/1/94	27	-9	-9	-9	-9
90029.0	NSB-R1-REP 2	1114	3/1/94	27	-9	-9	-9	-9
90029.0	NSB-R1-REP 3	1115	3/1/94	27	-9	-9	-9	-9
90024.0	SDNI-N1-REP 1	1116	3/1/94	27	-9	-9	-9	-9
90024.0	SDNI-N1-REP 2	1117	3/1/94	27	-9	-9	-9	-9
90024.0	SDNI-N1-REP 3	1118	3/1/94	27	-9	-9	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)	1125	3/1/94	27	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)	1126	3/1/94	27	-9	-9	-9	-9
93161.0	SUB BASE C1 (x1)	1127	3/1/94	27	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)	1128	3/1/94	27	-9	-9	-9	-9
90013.0	37 SWARTZ-REP 1	1098	3/2/94	27	-9	-9	-9	-9

Percent Urchin Fertilization for each of Three Porewater Dilutions (100%, 50%, 25%) (Cont.)

STANUM	STATION	IDORG	DATE	LEG	SPPF25_MN	SPPF25_SD	SPPF25_SG	SPPFQC
90013.0	37 SWARTZ-REP 2	1099	3/2/94	27	-9	-9	-9	-9
90013.0	37 SWARTZ-REP 3	1100	3/2/94	27	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)-REP 1	1101	3/2/94	27	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)-REP 2	1102	3/2/94	27	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)-REP 3	1103	3/2/94	27	-9	-9	-9	-9
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 1	1110	3/2/94	27	-9	-9	-9	-9
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 2	1111	3/2/94	27	-9	-9	-9	-9
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 3	1112	3/2/94	27	-9	-9	-9	-9
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 1	1119	3/2/94	27	-9	-9	-9	-9
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 2	1120	3/2/94	27	-9	-9	-9	-9
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 3	1121	3/2/94	27	-9	-9	-9	-9
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 1	1122	3/2/94	27	-9	-9	-9	-9
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 2	1123	3/2/94	27	-9	-9	-9	-9
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 3	1124	3/2/94	27	-9	-9	-9	-9
90052.0	32 SWARTZ(SWEETWATER CH)-REP 1	1129	3/15/94	28	-9	-9	-9	-9
90052.0	32 SWARTZ(SWEETWATER CH)-REP 2	1130	3/15/94	28	-9	-9	-9	-9
90052.0	32 SWARTZ(SWEETWATER CH)-REP 3	1131	3/15/94	28	-9	-9	-9	-9
93131.0	CORONADO CAYS T1 (x1)-REP 1	1138	3/15/94	28	-9	-9	-9	-9
93131.0	CORONADO CAYS T1 (x1)-REP 2	1139	3/15/94	28	-9	-9	-9	-9
93131.0	CORONADO CAYS T1 (x1)-REP 3	1140	3/15/94	28	-9	-9	-9	-9
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP1	1141	3/15/94	28	-9	-9	-9	-9
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP2	1142	3/15/94	28	-9	-9	-9	-9
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP3	1143	3/15/94	28	-9	-9	-9	-9
90030.0	BF SCHROEDER SITE F-REP 1	1144	3/15/94	28	-9	-9	-9	-9
90030.0	BF SCHROEDER SITE F-REP 2	1145	3/15/94	28	-9	-9	-9	-9
90030.0	BF SCHROEDER SITE F-REP 3	1146	3/15/94	28	-9	-9	-9	-9
93159.0	SOUTH BAY GG3 (x1)-REP 1	1147	3/15/94	28	-9	-9	-9	-9
93159.0	SOUTH BAY GG3 (x1)-REP 2	1148	3/15/94	28	-9	-9	-9	-9
93159.0	SOUTH BAY GG3 (x1)-REP 3	1149	3/15/94	28	-9	-9	-9	-9
90043.0	CORONADO WHARF-REP 1	1156	3/15/94	28	-9	-9	-9	-9
90043.0	CORONADO WHARF-REP 2	1157	3/15/94	28	-9	-9	-9	-9
90043.0	CORONADO WHARF-REP 3	1158	3/15/94	28	-9	-9	-9	-9
93120.0	TIJUANA R. EST. HH2 (x1)-REP 1	1132	3/16/94	28	-9	-9	-9	-9
93120.0	TIJUANA R. EST. HH2 (x1)-REP 2	1133	3/16/94	28	-9	-9	-9	-9
93120.0	TIJUANA R. EST. HH2 (x1)-REP 3	1134	3/16/94	28	-9	-9	-9	-9
93121.0	TIJUANA R. EST. HH2 (x5)-REP 1	1135	3/16/94	28	-9	-9	-9	-9
93121.0	TIJUANA R. EST. HH2 (x5)-REP 2	1136	3/16/94	28	-9	-9	-9	-9
93121.0	TIJUANA R. EST. HH2 (x5)-REP 3	1137	3/16/94	28	-9	-9	-9	-9
93174.0	TIJUANA R. EST. HH3 (x2)-REP 1	1150	3/16/94	28	-9	-9	-9	-9
93174.0	TIJUANA R. EST. HH3 (x2)-REP 2	1151	3/16/94	28	-9	-9	-9	-9
93174.0	TIJUANA R. EST. HH3 (x2)-REP 3	1152	3/16/94	28	-9	-9	-9	-9
93166.0	NAVY ESTUARY G2 (x1)-REP 1	1153	3/16/94	28	-9	-9	-9	-9
93166.0	NAVY ESTUARY G2 (x1)-REP 2	1154	3/16/94	28	-9	-9	-9	-9
93166.0	NAVY ESTUARY G2 (x1)-REP 3	1155	3/16/94	28	-9	-9	-9	-9
90037.0	STORMDRAIN EM(GRAPE ST.)-REP 1	1159	3/29/94	29	-9	-9	-9	-9

Percent Urchin Fertilization for each of Three Porewater Dilutions (100%, 50%, 25%) (Cont.)

STANUM	STATION	IDORG	DATE	LEG	SPPF25_MN	SPPF25_SD	SPPF25_SG	SPPFQC
90037.0	STORMDRAIN EM(GRAPE ST.)-REP 2	1160	3/29/94	29	-9	-9	-9	-9
90037.0	STORMDRAIN EM(GRAPE ST.)-REP 3	1161	3/29/94	29	-9	-9	-9	-9
93148.0	CHANNEL-CORONADO Y1 (x2)-REP 1	1162	3/29/94	29	-9	-9	-9	-9
93148.0	CHANNEL-CORONADO Y1 (x2)-REP 2	1163	3/29/94	29	-9	-9	-9	-9
93148.0	CHANNEL-CORONADO Y1 (x2)-REP 3	1164	3/29/94	29	-9	-9	-9	-9
93138.0	SHELTER ISLAND E3 (x2)-REP 1	1165	3/29/94	29	-9	-9	-9	-9
93138.0	SHELTER ISLAND E3 (x2)-REP 2	1166	3/29/94	29	-9	-9	-9	-9
93138.0	SHELTER ISLAND E3 (x2)-REP 3	1167	3/29/94	29	-9	-9	-9	-9
93141.0	COMMERCIAL BASIN F3 (x1)-REP 1	1168	3/29/94	29	-9	-9	-9	-9
93141.0	COMMERCIAL BASIN F3 (x1)-REP 2	1169	3/29/94	29	-9	-9	-9	-9
93141.0	COMMERCIAL BASIN F3 (x1)-REP 3	1170	3/29/94	29	-9	-9	-9	-9
90018.0	D DE LAPPE-REP 1	1183	3/29/94	29	-9	-9	-9	-9
90018.0	D DE LAPPE-REP 2	1184	3/29/94	29	-9	-9	-9	-9
90018.0	D DE LAPPE-REP 3	1185	3/29/94	29	-9	-9	-9	-9
90104.0	WEST BASIN ENTRANCE(71C)-REP 1	1186	3/29/94	29	-9	-9	-9	-9
90104.0	WEST BASIN ENTRANCE(71C)-REP 2	1187	3/29/94	29	-9	-9	-9	-9
90104.0	WEST BASIN ENTRANCE(71C)-REP 3	1188	3/29/94	29	-9	-9	-9	-9
93107.0	MISSION BAY A3 (x1)-REP 1	1180	3/30/94	29	-9	-9	-9	-9
93107.0	MISSION BAY A3 (x1)-REP 2	1181	3/30/94	29	-9	-9	-9	-9
93107.0	MISSION BAY A3 (x1)-REP 3	1182	3/30/94	29	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)-REP 1	1303	5/18/94	32	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)-REP 2	1304	5/18/94	32	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)-REP 3	1305	5/18/94	32	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)-REP 1	1306	5/18/94	32	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)-REP 2	1307	5/18/94	32	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)-REP 3	1308	5/18/94	32	-9	-9	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)-REP 1	1309	5/18/94	32	-9	-9	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)-REP 2	1310	5/18/94	32	-9	-9	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)-REP 3	1311	5/18/94	32	-9	-9	-9	-9
93161.0	SUB BASE C1 (x1)-REP 1	1312	5/18/94	32	-9	-9	-9	-9
93161.0	SUB BASE C1 (x1)-REP 2	1313	5/18/94	32	-9	-9	-9	-9
93161.0	SUB BASE C1 (x1)-REP 3	1314	5/18/94	32	-9	-9	-9	-9
90013.0	37 SWARTZ	1318	5/18/94	32	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)	1319	5/18/94	32	-9	-9	-9	-9
90052.0	32 SWARTZ	1320	5/18/94	32	-9	-9	-9	-9

Section III  
Urchin Development



Percent Urchin Development for each of Three Porewater Dilutions (100%, 50%, 25%)

STANUM	STATION	IDORG	DATE	LEG	SPPD100_MN	SPPD100_SD	SPPD100_SG	SPPD100NH3	SPPD100H2S	SPPD50_MN	SPPD50_SD	SPPD50_SG
90032.0	BM SCHROEDER SITE M	181	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9
90037.0	STORM DRAIN EM- GRAPE STREET	186	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9
90039.0	CL	188	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9
90043.0	CORONADO WHARF	192	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9
90104.0	WEST BASIN ENTRANCE (71C) REF	275	1/26/93	12	-9	-9	-9	-9	-9	-9	-9	-9
90012.0	34 SWARTZ	161	1/27/93	12	-9	-9	-9	-9	-9	-9	-9	-9
90015.0	41 SWARTZ	164	1/27/93	12	-9	-9	-9	-9	-9	-9	-9	-9
90040.0	SWEETWATER MARSH SD BAY	189	1/27/93	12	-9	-9	-9	-9	-9	-9	-9	-9
90041.0	SOUTH SD BAY WETLANDS- OTAY R.	190	1/27/93	12	-9	-9	-9	-9	-9	-9	-9	-9
90057.0	5 SDG&E	206	1/27/93	12	-9	-9	-9	-9	-9	-9	-9	-9
90058.0	7 SDG&E	207	1/27/93	12	-9	-9	-9	-9	-9	-9	-9	-9
93105.0	MISSION BAY A1 (x1)	700	3/23/93	15	91.50	1.80	NS	0.066	-8	88.50	9.70	NS
93106.0	MISSION BAY A2 (x1)	701	3/23/93	15	81.50	10.00	NS	0.010	-8	96.70	1.40	NS
93107.0	MISSION BAY A3 (x1)	702	3/23/93	15	94.50	5.10	NS	0.155	-8	93.70	5.60	NS
93108.0	MISSION BAY A4 (x1)	703	3/23/93	15	50.00	46.20	NS	0.054	-8	96.20	1.90	NS
93109.0	MISSION BAY A5 (x1)	704	3/23/93	15	0.00	0.00	*	0.046	-8	16.90	15.00	*
93110.0	MISSION BAY A6 (x1)	705	3/23/93	15	0.00	0.00	*	0.185	-8	0.00	0.00	*
93112.0	MISSION BAY A8 (x1)	707	3/23/93	15	0.00	0.00	*	0.086	-8	0.00	0.00	*
93113.0	MISSION BAY A9 (x1)	708	3/23/93	15	0.00	0.00	*	0.084	-8	0.70	1.30	*
93114.0	MISSION BAY A10 (x1)	709	3/23/93	15	0.00	0.00	*	0.067	-8	0.00	0.00	*
93115.0	MISSION BAY A11 (x1)	710	3/23/93	15	0.00	0.00	*	0.098	-8	0.00	0.00	*
93116.0	SAN DIEGO RIVER B1 (x4)	711	3/23/93	15	1.30	2.30	*	0.130	0.0031	50.00	45.20	NS
93117.0	SAN DIEGO RIVER B2 (x2)	712	3/23/93	15	95.60	2.00	NS	0.012	-8	96.40	2.20	NS
93111.0	MISSION BAY A7 (x3)	706	3/24/93	15	0.00	0.00	*	0.135	-8	0.00	0.00	*
90002.0	12 SWARTZ	719	3/24/93	15	0.00	0.00	*	0.271	-8	0.00	0.00	*
90037.0	STORMDRAIN EM- GRAPE STREET	720	3/24/93	15	0.00	0.00	*	0.046	-8	11.10	19.20	*
90015.0	41 SWARTZ	721	3/24/93	15	0.00	0.00	*	0.042	-8	3.70	3.20	*
90012.0	34 SWARTZ	722	3/24/93	15	89.90	9.50	NS	0.012	-8	92.90	3.50	NS
90057.0	5 SDG&E	723	3/24/93	15	-9	-9	-9	-9	-9	-9	-9	-9
90052.0	32 SWARTZ	724	3/24/93	15	83.70	8.40	NS	0.058	-8	96.70	3.00	NS
93118.0	TIJUANA R. ESTUARY HH1 (x2)	713	3/25/93	15	1.30	2.30	*	0.058	-8	75.40	31.80	NS
93119.0	TIJUANA R. ESTUARY HH1 (x1)	714	3/25/93	15	0.00	0.00	*	0.119	0.0013	34.50	38.00	NS
93120.0	TIJUANA R. ESTUARY HH2 (x1)	715	3/25/93	15	64.20	54.80	NS	0.023	-8	91.50	5.80	NS
93121.0	TIJUANA R. ESTUARY HH2 (x5)	716	3/25/93	15	95.50	4.80	NS	0.018	-8	98.60	0.40	NS
93126.0	SILVER STRAND FF7 (x2)	729	4/6/93	16	0.00	0.00	*	0.175	0.0061	28.40	30.80	NS
93127.0	SOUTH BAY GG2 (x1)	730	4/6/93	16	9.60	8.70	*	0.085	0.0023	43.90	15.30	*
93129.0	SOUTH BAY GG4 (x1)	732	4/6/93	16	31.90	35.40	NS	0.045	0.0015	71.70	14.00	*
90014.0	38 SCHWARTZ	733	4/6/93	16	0.00	0.00	*	0.122	0.0040	0.00	0.00	*
93131.0	CORONADO CAYS T1 (x1)	734	4/6/93	16	5.90	10.20	*	0.019	0.0023	92.40	5.40	NS
93132.0	CORONADO CAYS T3 (x1)	735	4/6/93	16	75.40	9.10	NS	0.019	0.0032	93.50	2.40	NS
93133.0	CHANNEL-NAVAL BASE Z1 (x1)	736	4/6/93	16	0.30	0.60	*	0.066	-8	3.30	4.90	*
93134.0	SOUTH SHORE-MOUTH BB2 (x1)	737	4/6/93	16	64.50	56.00	NS	0.159	-8	37.70	42.80	NS
93135.0	SOUTH SHORE-MOUTH BB3 (x1)	738	4/6/93	16	30.00	51.90	NS	0.144	-8	63.50	55.10	NS
93136.0	NORTH SHORE-MOUTH CC2 (x1)	739	4/6/93	16	31.00	53.80	NS	0.232	-8	47.10	41.00	NS
93138.0	SHELTER ISLAND E3 (x2)	741	4/6/93	16	0.00	0.00	*	0.053	-8	0.00	0.00	*

Percent Urchin Development for each of Three Porewater Dilutions (100%, 50%, 25%)

STANUM	STATION	IDORG	DATE	LEG	SPPD100_MN	SPPD100_SD	SPPD100_SG	SPPD100NH3	SPPD100H2S	SPPD50_MN	SPPD50_SD	SPPD50_SG
93128.0	SOUTHBAY GG5 (x1)	750	4/6/93	16	94.80	3.00	NS	0.025	0.0017	94.30	1.70	NS
93122.0	SOUTH SHORE-CORONADO DD3 (x1)	725	4/7/93	16	1.00	1.70	*	0.300	-8	0.00	0.00	*
93123.0	SILVER STRAND FF1 (x1)	726	4/7/93	16	0.00	0.00	*	0.188	-8	0.00	0.00	*
93124.0	SILVER STRAND FF2 (x1)	727	4/7/93	16	0.00	0.00	*	0.058	-8	17.00	25.30	*
93125.0	SILVER STRAND FF4 (x4)	728	4/7/93	16	0.00	0.00	*	0.196	-8	0.00	0.00	*
90006.0	23 SCHWARTZ	731	4/7/93	16	0.00	0.00	*	0.135	-8	80.60	16.00	NS
93137.0	NORTH SHORE-MOUTH CC3 (x1)	740	4/7/93	16	35.80	53.70	NS	0.126	-8	76.90	26.50	NS
93139.0	COMMERCIAL BASIN F1 (x1)	742	4/7/93	16	0.00	0.00	*	0.026	-8	0.00	0.00	*
93140.0	COMMERCIAL BASIN F2 (x1)	743	4/7/93	16	0.00	0.00	*	0.038	-8	21.10	18.30	*
93141.0	COMMERCIAL BASIN F3 (x1)	744	4/7/93	16	31.10	53.80	NS	0.046	-8	0.00	0.00	*
90018.0	O DE LAPPE	748	4/7/93	16	0.00	0.00	*	0.032	-8	15.00	13.70	*
90030.0	BF SCHROEDER SITE F	749	4/7/93	16	28.50	49.30	NS	0.034	-8	0.00	0.00	*
93148.0	CHANNEL-CORONADO Y1 (x2)	751	4/7/93	16	0.00	0.00	*	0.112	-8	0.00	0.00	*
93142.0	SOUTH SHORE-CORONADO DD1(X1)	752	4/7/93	16	0.00	0.00	*	0.038	-8	0.00	0.00	*
93144.0	CAMPBELL SHIPYARDS N1 (x1)	754	4/20/93	17	0.00	0.00	*	0.010	0.0104	0.00	0.00	*
93145.0	CAMPBELL SHIPYARDS N2 (x1)	755	4/20/93	17	0.00	0.00	*	0.022	0.0029	0.00	0.00	*
93146.0	GLORietta BAY U2 (x1)	756	4/20/93	17	0.00	0.00	*	0.012	0.0047	1.00	1.70	*
93147.0	GLORietta BAY U3 (x1)	757	4/20/93	17	1.50	2.60	*	0.051	0.0053	15.00	6.50	*
93149.0	CHANNEL-MOUTH X1 (x1)	758	4/20/93	17	0.00	0.00	*	0.061	0.0030	20.30	25.20	NS
93150.0	CHANNEL-NAVAL BASE Z1 (x2)	759	4/20/93	17	39.80	12.90	*	0.020	0.0018	96.10	1.00	NS
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	760	4/20/93	17	0.00	0.00	*	0.000	0.0005	92.30	2.10	*
93152.0	SOUTH SHORE-MOUTH BB1 (x1)	761	4/20/93	17	0.00	0.00	*	0.154	0.0029	11.90	16.70	*
93154.0	NORTH SHORE-MOUTH CC4 (x1)	763	4/20/93	17	0.00	0.00	*	0.045	0.0056	0.00	0.00	*
93155.0	SOUTH SHORE-CORONADO DD2 (x1)	764	4/20/93	17	0.00	0.00	*	0.043	0.0114	0.00	0.00	*
93156.0	NORTH SHORE-CORONADO EE1 (x1)	765	4/20/93	17	0.00	0.00	*	0.021	0.0051	94.40	3.30	NS
93157.0	NORTH SHORE-CORONADO EE2 (x1)	766	4/20/93	17	0.00	0.00	*	0.084	0.0024	0.00	0.00	*
93158.0	SOUTH BAY GG1 (x1)	767	4/20/93	17	0.00	0.00	*	0.084	0.0006	0.00	0.00	*
93159.0	SOUTH BAY GG3 (x1)	768	4/20/93	17	0.00	0.00	*	0.057	0.0028	0.00	0.00	*
93160.0	CHANNEL-SOUTH BAY AA2(x1)BLIND	773	4/20/93	17	0.00	0.00	*	0.040	0.0014	96.70	1.20	NS
93143.0	FUEL PIERS D1 (x1)	753	4/21/93	17	2.80	4.90	*	0.106	0.0010	94.30	5.70	NS
93153.0	NORTH SHORE-MOUTH CC1 (x1)	762	4/21/93	17	0.70	1.20	*	0.050	0.0036	54.40	27.00	NS
93161.0	SUB BASE C1 (x1)	774	5/4/93	18	0.00	0.00	*	0.118	-8	52.80	31.50	NS
93162.0	SUB BASE C3 (x1)	775	5/4/93	18	0.00	0.00	*	0.261	-8	96.50	3.50	NS
93163.0	FUEL PIERS D2 (x2)	776	5/4/93	18	0.00	0.00	*	0.105	-8	56.40	49.20	NS
93164.0	SHELTER ISLAND E1 (x1)	777	5/4/93	18	68.80	34.30	NS	0.127	-8	93.90	5.40	NS
93165.0	NAVY ESTUARY G1 (x1)	778	5/4/93	18	36.10	7.40	*	0.046	-8	96.80	1.40	NS
93166.0	NAVY ESTUARY G2 (x1)	779	5/4/93	18	0.00	0.00	*	0.172	-8	0.00	0.00	*
93167.0	NAVY ESTUARY G3 (x1)	780	5/4/93	18	6.30	6.60	*	0.036	-8	50.10	3.20	*
93169.0	EAST BASIN I2 (x1)	782	5/4/93	18	0.00	0.00	*	0.149	-8	77.50	13.10	NS
93171.0	MARINE TERMINAL R1 (x1)	784	5/4/93	18	95.50	1.70	NS	0.036	-8	88.30	9.30	NS
93172.0	SILVER STRAND FF3 (x1)	785	5/4/93	18	95.00	2.80	NS	0.054	-8	90.80	4.10	NS
93173.0	SILVER STRAND FF6 (x1)	786	5/4/93	18	21.10	11.20	*	0.032	-8	75.70	3.60	*
93168.0	WEST BASIN H2 (x1)	781	5/5/93	18	88.70	4.10	NS	0.017	-8	95.20	2.30	NS
93170.0	CHOLLAS CREEK P1 (x2)	783	5/5/93	18	96.40	1.60	NS	0.053	-8	92.80	4.80	NS
93174.0	TUJANA R. ESTUARY HH3 (x2)	787	5/5/93	18	0.00	0.00	*	0.093	-8	93.20	5.30	NS

Percent Urchin Development for each of Three Porewater Dilutions (100%, 50%, 25%)

STANUM	STATION	IDORG	DATE	LEG	SPPD100_MN	SPPD100_SD	SPPD100_SG	SPPD100NH3	SPPD100H2S	SPPD50_MN	SPPD50_SD	SPPD50_SG
93175.0	TIJUANA R. ESTUARY HH3 (x3)	788	5/5/93	18	1.70	2.90	.	0.123	-8	85.50	6.40	NS
93176.0	MARINE TERMINAL R6 (x1) BLIND	794	5/6/93	18	87.90	6.00	NS	0.031	-8	96.40	1.80	NS
93177.0	NAVAL SHIPYARDS O1 (x1)	795	5/26/93	19	90.80	2.10	NS	0.062	-8	89.40	7.10	NS
93178.0	NAVAL SHIPYARDS O2 (x1)	796	5/26/93	19	0.00	0.00	.	0.051	-8	0.00	0.00	.
93179.0	NAVAL SHIPYARDS O3 (x1)	797	5/26/93	19	0.00	0.00	.	0.036	0.0193	52.80	14.60	.
93181.0	NAVAL SHIPYARDS O6 (x1)	799	5/26/93	19	0.00	0.00	.	0.050	0.0021	93.80	1.40	NS
93182.0	NAVAL SHIPYARDS O8 (x4)	800	5/26/93	19	0.00	0.00	.	0.083	0.0041	0.00	0.00	.
93183.0	NAVAL SHIPYARDS O9 (x1)	801	5/26/93	19	90.30	2.40	NS	0.072	0.0030	97.90	1.00	NS
93184.0	NAVAL SHIPYARDS O11 (x1)	802	5/26/93	19	52.70	20.10	.	0.037	0.0026	97.20	2.80	NS
93185.0	NAVAL SHIPYARDS O14 (x1)	803	5/26/93	19	0.00	0.00	.	0.027	0.0031	28.80	23.50	.
93186.0	FUEL PIER D4 (x1)	804	5/26/93	19	0.00	0.00	.	0.066	0.0044	8.30	7.60	.
93187.0	MARINE TERMINAL R2 (x1)	805	5/26/93	19	0.00	0.00	.	0.013	0.0208	0.00	0.00	.
93188.0	CARRIER BASE V1 (x2)	808	5/26/93	19	0.00	0.00	.	0.125	0.0012	0.00	0.00	.
93189.0	NAVAL SHIPYARDS O15 (x1) BLIND	814	5/26/93	19	0.00	0.00	.	0.066	-8	0.00	0.00	.
90051.0	18 SWARTZ (INTERCONT. MARINA)	818	6/15/93	20	0.00	0.00	.	0.250	-8	0.00	0.00	.
93192.0	INTERCONT. MARINA M1 (x2)	819	6/15/93	20	0.00	0.00	.	0.041	-8	21.00	15.30	.
93193.0	INTERCONT. MARINA M1 (x1)	820	6/15/93	20	0.00	0.00	.	0.068	-8	0.00	0.00	.
90037.0	STORMDRAIN EM (GRAPE ST.)-REP1	827	6/15/93	20	0.00	0.00	.	0.044	-8	2.30	2.00	.
90037.0	STORMDRAIN EM (GRAPE ST.)-REP2	828	6/15/93	20	0.00	0.00	.	0.083	-8	0.00	0.00	.
90037.0	STORMDRAIN EM (GRAPE ST.)-REP3	829	6/15/93	20	0.00	0.00	.	0.096	-8	0.00	0.00	.
93198.0	INTERCONT. MARINA M2(x1) BLIND	833	6/15/93	20	0.00	0.00	.	0.073	-8	0.00	0.00	.
90013.0	37 SWARTZ (MARINA)	815	6/16/93	20	0.00	0.00	.	0.021	0.0007	0.00	0.00	.
93190.0	MARINA I11 (x1)	816	6/16/93	20	0.00	0.00	.	0.112	0.0001	0.00	0.00	.
93191.0	MARINA I11 (x3)	817	6/16/93	20	0.00	0.00	.	0.074	-8	0.00	0.00	.
90015.0	41 SWARTZ (GLORIETTA BAY)	821	6/16/93	20	0.00	0.00	.	0.089	-8	0.00	0.00	.
93194.0	GLORIETTA BAY U1 (x1)	822	6/16/93	20	0.00	0.00	.	0.097	-8	0.00	0.00	.
93195.0	GLORIETTA BAY U1 (x2)	823	6/16/93	20	0.00	0.00	.	0.038	-8	0.00	0.00	.
90012.0	34 SWARTZ (C.V. YACHT BASIN)	824	6/16/93	20	0.00	0.00	.	0.060	-8	1.50	2.70	.
93196.0	CHULA V. YACHT BASIN S1 (x1)	825	6/16/93	20	78.90	2.80	NS	0.104	-8	89.50	2.60	NS
93197.0	CHULA V. YACHT BASIN S1 (x3)	826	6/16/93	20	0.00	0.00	.	0.050	-8	90.00	2.30	NS
90053.0	35 SWARTZ (CORONADO CAYS)	843	7/20/93	21	0.00	0.00	.	0.036	-8	0.00	0.00	.
93203.0	CORONADO CAYS T2 (x1)	844	7/20/93	21	0.00	0.00	.	0.028	-8	56.80	50.20	NS
93204.0	CORONADO CAYS T2 (x2)	845	7/20/93	21	0.00	0.00	.	0.040	-8	0.00	0.00	.
90003.0	14 SWARTZ (DOWNTOWN PIERS)	846	7/20/93	21	0.00	0.00	.	0.063	-8	0.00	0.00	.
93205.0	DOWNTOWN PIERS K1 (x9)	847	7/20/93	21	0.00	0.00	.	0.067	-8	0.00	0.00	.
93206.0	DOWNTOWN PIERS K1 (x11)	848	7/20/93	21	0.00	0.00	.	0.071	-8	0.00	0.00	.
90004.0	15 SWARTZ (G ST. PIER MARINA)	849	7/20/93	21	0.00	0.00	.	0.094	-8	0.00	0.00	.
93207.0	G ST. PIER MARINA L1 (x4)	850	7/20/93	21	0.00	0.00	.	0.032	-8	0.00	0.00	.
93208.0	G ST. PIER MARINA L1 (x5)	851	7/20/93	21	0.00	0.00	.	0.046	-8	0.00	0.00	.
93209.0	DOWNTOWN PIERS K4 BLIND (x4)	852	7/20/93	21	0.00	0.00	.	0.048	-8	0.00	0.00	.
93107.0	MISSION BAY A3 (x1) REP 1	853	7/21/93	21	0.00	0.00	.	0.004	-8	0.00	0.00	.
93107.0	MISSION BAY A3 (x1)-REP 2	854	7/21/93	21	91.60	2.10	NS	0.062	-8	90.20	2.50	NS
93107.0	MISSION BAY A3 (x1)-REP 3	855	7/21/93	21	71.50	7.80	NS	0.130	-8	80.20	16.70	NS
93112.0	MISSION BAY A8 (x1)-REP 1	856	7/21/93	21	0.00	0.00	.	0.083	-8	0.00	0.00	.
93112.0	MISSION BAY A8 (x1)-REP 2	857	7/21/93	21	49.90	41.50	NS	0.403	-8	37.60	33.20	NS



Percent Urchl Development for each of Three Porewater Dilutions (100%, 50%, 25%)

STANUM	STATION	IDORG	DATE	LEG	SPPD100_MN	SPPD100_SD	SPPD100_SG	SPPD100NH3	SPPD100H2S	SPPD50_MN	SPPD50_SD	SPPD50_SG
93112.0	MISSION BAY A8 (x1)-REP 3	858	7/21/93	21	0.00	0.00	*	0.014	-8	1.70	2.90	*
93108.0	MISSION BAY A4 (x1)-REP 1	859	7/21/93	21	79.10	10.70	NS	0.032	-8	88.50	3.70	NS
93108.0	MISSION BAY A4 (x1)-REP 2	860	7/21/93	21	0.00	0.00	*	0.037	-8	0.70	1.20	*
93108.0	MISSION BAY A4 (x1)-REP 3	861	7/21/93	21	0.00	0.00	*	0.045	-8	40.90	45.20	NS
90050.0	10 SWARTZ (WEST BASIN)	837	8/3/93	21	86.20	3.90	NS	0.077	-8	90.40	3.60	NS
93199.0	WEST BASIN H1 (x1)	838	8/3/93	21	50.70	27.50	NS	0.066	-8	84.40	6.80	NS
93200.0	WEST BASIN H1 (x4)	839	8/3/93	21	45.00	36.90	NS	0.189	-8	78.10	8.10	NS
90001.0	11 SWARTZ (EAST BASIN)	840	8/3/93	21	68.00	4.50	*	0.319	-8	90.20	2.20	NS
93201.0	EAST BASIN I1 (x1)	841	8/3/93	21	0.00	0.00	*	0.340	-8	0.00	0.00	*
93202.0	EAST BASIN I1 (x5)	842	8/3/93	21	0.00	0.00	*	0.157	-8	26.40	35.20	NS
93180.0	NAVAL BASE/SHIPYARDS O5 (x1)	798	8/4/93	22	0.00	0.00	*	0.036	-8	81.40	14.70	NS
90021.0	K SWARTZ (NAVAL BASE O4)	862	8/4/93	22	15.30	11.70	*	0.041	-8	92.20	5.90	NS
93210.0	NAVAL BASE/SHIPYARDS O4 (x1)	863	8/4/93	22	0.00	0.00	*	0.065	-8	0.00	0.00	*
93211.0	NAVAL BASE/SHIPYARDS O4 (x2)	864	8/4/93	22	0.00	0.00	*	0.040	-8	69.50	3.60	*
90006.0	23 SWARTZ (NAVAL BASE O7)	865	8/4/93	22	0.00	0.00	*	0.021	-8	83.80	3.30	*
93212.0	NAVAL BASE/SHIPYARDS O7 (x1)	866	8/4/93	22	0.00	0.00	*	0.044	-8	0.00	0.00	*
93213.0	NAVAL BASE/SHIPYARDS O7 (x4)	867	8/4/93	22	2.80	4.80	*	0.052	-8	0.00	0.00	*
90022.0	P SWARTZ (NAVAL BASE O12)	868	8/4/93	22	80.70	7.80	NS	0.031	0.0018	96.40	2.00	NS
93214.0	NAVAL BASE/SHIPYARDS O12 (x3)	869	8/4/93	22	0.00	0.00	*	0.070	0.0006	94.60	2.30	NS
93215.0	NAVAL BASE/SHIPYARDS O12 (x4)	870	8/4/93	22	43.00	26.40	NS	0.010	-8	95.30	0.90	NS
90028.0	NSB-M1 (SUB BASE C2)	871	8/4/93	22	0.00	0.00	*	0.098	-8	49.80	2.70	*
93216.0	SUB BASE C2 (x1)	872	8/4/93	22	0.00	0.00	*	0.110	-8	4.30	3.80	*
93217.0	SUB BASE C2 (x3)	873	8/4/93	22	0.00	0.00	*	0.121	-8	85.10	5.90	*
93218.0	SUB BASE C2 (x11) BLIND	874	8/4/93	22	3.30	3.50	*	0.064	0.0015	85.80	5.00	NS
93116.0	SAN DIEGO RIVER B1 (x4)-REP 1	881	8/5/93	22	0.00	0.00	*	0.264	0.0147	0.00	0.00	*
93116.0	SAN DIEGO RIVER B1 (x4)-REP 2	882	8/5/93	22	0.00	0.00	*	0.370	0.0008	0.00	0.00	*
93116.0	SAN DIEGO RIVER B1 (x4)-REP 3	883	8/5/93	22	0.00	0.00	*	0.410	0.0010	10.70	8.00	*
90052.0	32 SWARTZ(SWEETWATER CH)-REP 1	875	8/18/93	22	8.90	15.40	*	0.060	-8	0.00	0.00	*
93219.0	SWEETWATER CH. JJ1 (x1)-REP 2	876	8/18/93	22	0.00	0.00	*	0.054	-8	0.00	0.00	*
93220.0	SWEETWATER CH. JJ1 (x8)-REP 3	877	8/18/93	22	0.00	0.00	*	0.032	-8	0.00	0.00	*
90002.0	12 SWARTZ(DOWNTOWN ANCH)-REP 1	878	8/18/93	22	0.00	0.00	*	0.067	-8	0.00	0.00	*
93221.0	DOWNTOWN ANCH. J1 (x1)-REP 2	879	8/18/93	22	0.00	0.00	*	0.018	-8	68.70	25.80	NS
93222.0	DOWNTOWN ANCH. J1 (x2)-REP 3	880	8/18/93	22	0.00	0.00	*	0.019	-8	18.10	3.50	*
90007.0	25 SWARTZ (NAVAL BASE/SY O10)	887	8/17/93	23	97.50	2.80	NS	0.048	0.0009	98.40	0.60	NS
93223.0	NAVAL BASE/SHIPYARD O10 (x2)	888	8/17/93	23	95.30	3.40	NS	0.060	0.0001	94.20	4.30	NS
93224.0	NAVAL BASE/SHIPYARD O10(x6)	889	8/17/93	23	80.70	13.70	NS	0.025	0.0021	96.60	1.30	NS
90008.0	27 SWARTZ (NAVAL BASE/SH O13)	890	8/17/93	23	96.00	2.60	NS	0.024	0.0026	96.60	1.60	NS
93225.0	NAVAL BASE/SHIPYARD O13 (x1)	891	8/17/93	23	93.10	1.10	NS	0.067	0.0015	93.80	1.60	NS
93226.0	NAVAL BASE/SHIPYARD O13 (x3)	892	8/17/93	23	58.50	28.20	NS	0.080	-8	96.40	0.50	NS
90009.0	28 SWARTZ (7TH ST CHANNEL Q1)	893	8/17/93	23	54.40	21.50	*	0.074	0.0023	93.00	0.20	NS
93227.0	SEVENTH ST CHANNEL Q1 (x5)	894	8/17/93	23	13.30	13.70	*	0.119	0.0014	92.60	1.50	NS
93228.0	SEVENTH ST CHANNEL Q1 (x6)	895	8/17/93	23	93.00	3.20	NS	0.079	0.0012	93.80	1.10	NS
90010.0	31 SWARTZ (MARINE TERMINAL R3)	896	8/17/93	23	0.00	0.00	*	0.063	0.0005	19.30	33.50	*
93229.0	MARINE TERMINAL R3 (x1)	897	8/17/93	23	42.40	27.20	*	0.047	0.0001	28.90	23.30	*
93230.0	MARINE TERMINAL R3 (x3)	898	8/17/93	23	0.00	0.00	*	0.032	-8	8.30	14.30	*







Percent Urchin Development for each of Three Porewater Dilutions (100%, 50%, 25%) (cont.)

STANUM	STATION	IDORG	DATE	LEG	SPPD25_MN	SPPD25_SD	SPPD25_SG	SPPDBATCH	SPPDQC
90008.0	23 SWARTZ	155	10/13/92	5	-9	-9	-9	-9	-9
90019.0	E DE LAPPE	168	10/13/92	5	-9	-9	-9	-9	-9
90021.0	K SWARTZ	170	10/13/92	5	-9	-9	-9	-9	-9
90031.0	BG SCHROEDER SITE G	180	10/13/92	5	-9	-9	-9	-9	-9
90038.0	CC	187	10/13/92	5	-9	-9	-9	-9	-9
90071.0	BAIT BARGE	220	10/13/92	5	-9	-9	-9	-9	-9
90101.0	SCRIPPS PIER	250	10/13/92	5	-9	-9	-9	-9	-9
90036.0	STORM DRAIN- ROHR CHANNEL	185	10/14/92	5	-9	-9	-9	-9	-9
90053.0	35 SWARTZ	202	10/14/92	5	-9	-9	-9	-9	-9
90054.0	36 SWARTZ	203	10/14/92	5	-9	-9	-9	-9	-9
90001.0	11 SWARTZ	150	10/27/92	6	-9	-9	-9	-9	-9
90002.0	12 SWARTZ	151	10/27/92	6	-9	-9	-9	-9	-9
90016.0	42 SWARTZ	165	10/27/92	6	-9	-9	-9	-9	-9
90049.0	8B	198	10/27/92	6	-9	-9	-9	-9	-9
90056.0	8A SWARTZ	205	10/27/92	6	-9	-9	-9	-9	-9
90063.0	THOMPSON SITE 205	212	10/27/92	6	-9	-9	-9	-9	-9
90003.0	14 SWARTZ	152	10/28/92	6	-9	-9	-9	-9	-9
90004.0	15 SWARTZ	153	10/28/92	6	-9	-9	-9	-9	-9
90010.0	31 SWARTZ	159	10/28/92	6	-9	-9	-9	-9	-9
90011.0	33 SWARTZ	160	10/28/92	6	-9	-9	-9	-9	-9
90013.0	37 SWARTZ	162	10/28/92	6	-9	-9	-9	-9	-9
90017.0	C DELAPPE	166	10/28/92	6	-9	-9	-9	-9	-9
90048.0	6 SWARTZ	197	10/28/92	6	-9	-9	-9	-9	-9
90051.0	18 SWARTZ	200	10/28/92	6	-9	-9	-9	-9	-9
90052.0	32 SWARTZ	201	10/28/92	6	-9	-9	-9	-9	-9
90007.0	25 SWARTZ	156	11/10/92	7	-9	-9	-9	-9	-9
90008.0	27 SWARTZ	157	11/10/92	7	-9	-9	-9	-9	-9
90009.0	28 SWARTZ	158	11/10/92	7	-9	-9	-9	-9	-9
90022.0	P SWARTZ	171	11/10/92	7	-9	-9	-9	-9	-9
90028.0	SDNI-N18	175	11/10/92	7	-9	-9	-9	-9	-9
90027.0	NSB-S1	176	11/10/92	7	-9	-9	-9	-9	-9
90028.0	NSB-M1	177	11/10/92	7	-9	-9	-9	-9	-9
90029.0	NSB-R1	178	11/10/92	7	-9	-9	-9	-9	-9
90023.0	NM SANDBAG	172	11/11/92	7	-9	-9	-9	-9	-9
90024.0	SDNI-N1	173	11/11/92	7	-9	-9	-9	-9	-9
90025.0	SDNI-N5	174	11/11/92	7	-9	-9	-9	-9	-9
90050.0	10 SWARTZ	199	11/11/92	7	-9	-9	-9	-9	-9
90055.0	43 SWARTZ	204	11/11/92	7	-9	-9	-9	-9	-9
90102.0	HARBOR BRIDGE 71A	258	11/11/92	7	-9	-9	-9	-9	-9
90103.0	SCRIPPS TRIANGLE	257	11/11/92	7	-9	-9	-9	-9	-9
90005.0	21 SWARTZ	154	1/26/93	12	-9	-9	-9	-9	-9
90014.0	38 SWARTZ	163	1/26/93	12	-9	-9	-9	-9	-9
90018.0	D DE LAPPE	167	1/26/93	12	-9	-9	-9	-9	-9
90020.0	G DE LAPPE	169	1/26/93	12	-9	-9	-9	-9	-9

Percent Urchin Development for each of Three Porewater Dilutions (100%, 50%, 25%) (cont.)

STANUM	STATION	IDORG	DATE	LEG	SPPD25_MN	SPPD25_SD	SPPD25_SG	SPPDBATCH	SPPDQC
90030.0	BF SCHROEDER SITE F	179	1/26/93	12	-9	-9	-9	-9	-9
90032.0	BM SCHROEDER SITE M	181	1/26/93	12	-9	-9	-9	-9	-9
90037.0	STORM DRAIN EM- GRAPE STREET	186	1/26/93	12	-9	-9	-9	-9	-9
90039.0	CL	188	1/26/93	12	-9	-9	-9	-9	-9
90043.0	CORONADO WHARF	192	1/26/93	12	-9	-9	-9	-9	-9
90104.0	WEST BASIN ENTRANCE (71C) REF	275	1/26/93	12	-9	-9	-9	-9	-9
90012.0	34 SWARTZ	181	1/27/93	12	-9	-9	-9	-9	-9
90015.0	41 SWARTZ	164	1/27/93	12	-9	-9	-9	-9	-9
90040.0	SWEETWATER MARSH SD BAY	189	1/27/93	12	-9	-9	-9	-9	-9
90041.0	SOUTH SD BAY WETLANDS- OTAY R.	190	1/27/93	12	-9	-9	-9	-9	-9
90057.0	5 SDG&E	208	1/27/93	12	-9	-9	-9	-9	-9
90058.0	7 SDG&E	207	1/27/93	12	-9	-9	-9	-9	-9
93105.0	MISSION BAY A1 (x1)	700	3/23/93	15	83.50	12.90	NS	B015SPDA01	-4
93106.0	MISSION BAY A2 (x1)	701	3/23/93	15	94.30	1.50	NS	B015SPDA01	-4
93107.0	MISSION BAY A3 (x1)	702	3/23/93	15	95.20	3.70	NS	B015SPDA01	-4
93108.0	MISSION BAY A4 (x1)	703	3/23/93	15	92.70	5.30	NS	B015SPDA01	-4
93109.0	MISSION BAY A5 (x1)	704	3/23/93	15	75.40	17.00	NS	B015SPDA01	-4
93110.0	MISSION BAY A6 (x1)	705	3/23/93	15	0.00	0.00	*	B015SPDA01	-4
93112.0	MISSION BAY A8 (x1)	707	3/23/93	15	22.80	19.30	*	B015SPDA01	-4
93113.0	MISSION BAY A9 (x1)	708	3/23/93	15	5.60	5.00	*	B015SPDA01	-4
93114.0	MISSION BAY A10 (x1)	709	3/23/93	15	1.70	2.20	*	B015SPDA01	-4
93115.0	MISSION BAY A11 (x1)	710	3/23/93	15	12.60	11.10	*	B015SPDA01	-4
93116.0	SAN DIEGO RIVER B1 (x4)	711	3/23/93	15	41.50	47.60	NS	B015SPDA01	-4
93117.0	SAN DIEGO RIVER B2 (x2)	712	3/23/93	15	98.00	1.80	NS	B015SPDA01	-4
93111.0	MISSION BAY A7 (x3)	706	3/24/93	15	31.20	54.10	NS	B015SPDA01	-4
90002.0	12 SWARTZ	719	3/24/93	15	0.70	1.10	*	B015SPDA01	-4
90037.0	STORMDRAIN EM- GRAPE STREET	720	3/24/93	15	7.70	10.80	*	B015SPDA01	-4
90015.0	41 SWARTZ	721	3/24/93	15	66.10	27.00	NS	B015SPDA01	-4
90012.0	34 SWARTZ	722	3/24/93	15	89.30	5.50	NS	B015SPDA01	-4
90057.0	5 SDG&E	723	3/24/93	15	-9	-9	-9	-9	-9
90052.0	32 SWARTZ	724	3/24/93	15	95.00	3.70	NS	B015SPDA01	-4
93118.0	TIJUANA R. ESTUARY HH1 (x2)	713	3/25/93	15	95.30	4.10	NS	B015SPDA01	-4
93119.0	TIJUANA R. ESTUARY HH1 (x1)	714	3/25/93	15	93.50	3.40	NS	B015SPDA01	-4
93120.0	TIJUANA R. ESTUARY HH2 (x1)	715	3/25/93	15	93.30	3.80	NS	B015SPDA01	-4
93121.0	TIJUANA R. ESTUARY HH2 (x5)	716	3/25/93	15	91.60	2.00	NS	B015SPDA01	-4
93128.0	SILVER STRAND FF7 (x2)	729	4/6/93	16	75.30	16.60	NS	B016SPDA23	-4
93127.0	SOUTH BAY GG2 (x1)	730	4/6/93	16	97.10	0.90	NS	B016SPDA23	-4
93129.0	SOUTH BAY GG4 (x1)	732	4/6/93	16	92.70	2.60	NS	B016SPDA23	-4
90014.0	38 SCHWARTZ	733	4/6/93	16	0.00	0.00	*	B016SPDA23	-4
93131.0	CORONADO CAYS T1 (x1)	734	4/8/93	16	95.20	0.80	NS	B016SPDA23	-4
93132.0	CORONADO CAYS T3 (x1)	735	4/6/93	16	88.00	1.80	NS	B016SPDA23	-4
93133.0	CHANNEL-NAVAL BASE Z1 (x1)	736	4/8/93	16	69.00	13.10	*	B018SPDA01	-4
93134.0	SOUTH SHORE-MOUTH BB2 (x1)	737	4/6/93	18	97.50	0.50	NS	B016SPDA01	-4
93135.0	SOUTH SHORE-MOUTH BB3 (x1)	738	4/6/93	16	98.10	0.90	NS	B016SPDA01	-4

Percent Urchin Development for each of Three Porewater Dilutions (100%, 50%, 25%) (cont.)

STANUM	STATION	IDORG	DATE	LEG	SPPD25_MN	SPPD25_SD	SPPD25_SG	SPPDBATCH	SPPDQC
93136.0	NORTH SHORE-MOUTH CC2 (x1)	739	4/6/93	16	93.90	3.80	NS	B016SPDA01	-4
93138.0	SHELTER ISLAND E3 (x2)	741	4/6/93	16	9.50	16.50	*	B016SPDA01	-4
93128.0	SOUTHBAY GG5 (x1)	750	4/6/93	16	92.70	3.70	NS	B016SPDA23	-4
93122.0	SOUTH SHORE-CORONADO DD3 (x1)	725	4/7/93	16	0.00	0.00	*	B016SPDA01	-4
93123.0	SILVER STRAND FF1 (x1)	726	4/7/93	16	0.00	0.00	*	B016SPDA01	-4
93124.0	SILVER STRAND FF2 (x1)	727	4/7/93	16	64.50	28.40	NS	B016SPDA01	-4
93125.0	SILVER STRAND FF4 (x4)	728	4/7/93	16	0.00	0.00	*	B016SPDA01	-4
80008.0	23 SCHWARTZ	731	4/7/93	18	96.40	1.50	NS	B016SPDA01	-4
93137.0	NORTH SHORE-MOUTH CC3 (x1)	740	4/7/93	16	95.10	3.80	NS	B016SPDA01	-4
93139.0	COMMERCIAL BASIN F1 (x1)	742	4/7/93	16	42.00	16.50	*	B016SPDA01	-4
93140.0	COMMERCIAL BASIN F2 (x1)	743	4/7/93	16	67.10	34.00	NS	B016SPDA01	-4
93141.0	COMMERCIAL BASIN F3 (x1)	744	4/7/93	18	0.00	0.00	*	B016SPDA01	-4
90018.0	D DE LAPPE	748	4/7/93	18	16.00	12.80	*	B016SPDA01	-4
90030.0	BF SCHROEDER SITE F	749	4/7/93	16	0.70	1.10	*	B016SPDA01	-4
93148.0	CHANNEL-CORONADO Y1 (x2)	751	4/7/93	16	0.00	0.00	*	B016SPDA01	-4
93142.0	SOUTH SHORE-CORONADO DD1(X1)	752	4/7/93	16	0.00	0.00	*	B016SPDA01	-4
93144.0	CAMPBELL SHIPYARDS N1 (x1)	754	4/20/93	17	1.70	2.90	*	B017SPDA22	-4
93145.0	CAMPBELL SHIPYARDS N2 (x1)	755	4/20/93	17	95.50	1.50	NS	B017SPDA22	-4
93146.0	GLORIETTA BAY U2 (x1)	756	4/20/93	17	88.20	9.70	NS	B017SPDA22	-4
93147.0	GLORIETTA BAY U3 (x1)	757	4/20/93	17	93.30	2.30	NS	B017SPDA22	-4
93149.0	CHANNEL-MOUTH X1 (x1)	758	4/20/93	17	58.60	20.00	NS	B017SPDA22	-3
93150.0	CHANNEL-NAVAL BASE Z1 (x2)	759	4/20/93	17	92.50	1.60	NS	B017SPDA22	-4
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	760	4/20/93	17	-9	-9	-9	-9	-9
93152.0	SOUTH SHORE-MOUTH BB1 (x1)	761	4/20/93	17	82.80	9.60	NS	B017SPDA22	-3
93154.0	NORTH SHORE-MOUTH CC4 (x1)	763	4/20/93	17	0.00	0.00	*	B017SPDA22	-4
93155.0	SOUTH SHORE-CORONADO DD2 (x1)	764	4/20/93	17	0.00	0.00	*	B017SPDA22	-4
93156.0	NORTH SHORE-CORONADO EE1 (x1)	765	4/20/93	17	94.30	1.50	NS	B017SPDA22	-4
93157.0	NORTH SHORE-CORONADO EE2 (x1)	766	4/20/93	17	6.30	10.90	*	B017SPDA22	-4
93158.0	SOUTH BAY GG1 (x1)	767	4/20/93	17	-9	-9	-9	-9	-9
93159.0	SOUTH BAY GG3 (x1)	768	4/20/93	17	0.00	0.00	*	B017SPDA22	-4
93160.0	CHANNEL-SOUTH BAY AA2(x1)BLIND	773	4/20/93	17	95.50	4.20	NS	B017SPDA22	-4
93143.0	FUEL PIERS D1 (x1)	753	4/21/93	17	95.40	2.00	NS	B017SPDA22	-4
93153.0	NORTH SHORE-MOUTH CC1 (x1 )	762	4/21/93	17	93.80	1.50	NS	B017SPDA22	-4
93161.0	SUB BASE C1 (x1)	774	5/4/93	18	82.80	18.90	NS	B018SPDA01	-4
93162.0	SUB BASE C3 (x1)	775	5/4/93	18	90.40	10.60	NS	B018SPDA01	-4
93163.0	FUEL PIERS D2 (x2)	776	5/4/93	18	96.90	3.80	NS	B018SPDA01	-4
93164.0	SHELTER ISLAND E1 (x1)	777	5/4/93	18	92.00	2.70	NS	B018SPDA01	-4
93165.0	NAVY ESTUARY G1 (x1)	778	5/4/93	18	-9	-9	-9	-9	-9
93166.0	NAVY ESTUARY G2 (x1)	779	5/4/93	18	-9	-9	-9	-9	-9
93167.0	NAVY ESTUARY G3 (x1)	780	5/4/93	18	-9	-9	-9	-9	-9
93169.0	EAST BASIN I2 (x1)	782	5/4/93	18	80.40	11.40	NS	B018SPDA01	-4
93171.0	MARINE TERMINAL R1 (x1)	784	5/4/93	18	88.10	2.80	NS	B018SPDA01	-4
93172.0	SILVER STRAND FF3 (x1)	785	5/4/93	18	80.30	6.30	NS	B018SPDA01	-4
93173.0	SILVER STRAND FF6 (x1)	786	5/4/93	18	-9	-9	-9	-9	-9

Percent Urchin Development for each of Three Porewater Dilutions (100%, 50%, 25%) (cont.)

STANUM	STATION	IDORG	DATE	LEG	SPPD25_MN	SPPD25_SD	SPPD25_SG	SPPDBATCH	SPPDQC
93168.0	WEST BASIN H2 (x1)	781	5/5/93	18	91.40	7.60	NS	B018SPDA01	-4
93170.0	CHOLLAS CREEK P1 (x2)	783	5/5/93	18	89.30	1.60	NS	B018SPDA01	-4
93174.0	TIJUANA R. ESTUARY HH3 (x2)	787	5/5/93	18	93.30	5.90	NS	B018SPDA01	-4
93175.0	TIJUANA R. ESTUARY HH3 (x3)	788	5/5/93	18	50.80	42.70	NS	B018SPDA01	-4
93176.0	MARINE TERMINAL R6 (x1) BLIND	794	5/6/93	18	96.50	1.10	NS	B018SPDA01	-4
93177.0	NAVAL SHIPYARDS O1 (x1)	785	5/26/93	19	84.10	2.60	NS	B021SPDA19	-4
93178.0	NAVAL SHIPYARDS O2 (x1)	796	5/26/93	19	18.00	25.20	NS	B021SPDA19	-4
93179.0	NAVAL SHIPYARDS O3 (x1)	797	5/26/93	19	86.20	0.60	NS	B016SPDA23	-4
93181.0	NAVAL SHIPYARDS O6 (x1)	799	5/26/93	19	95.30	2.00	NS	B016SPDA23	-4
93182.0	NAVAL SHIPYARDS O8 (x4)	800	5/26/93	19	13.40	4.50	*	B016SPDA23	-4
93183.0	NAVAL SHIPYARDS O9 (x1)	801	5/26/93	19	95.40	3.90	NS	B016SPDA23	-4
93184.0	NAVAL SHIPYARDS O11 (x1)	802	5/26/93	19	95.00	1.50	NS	B016SPDA23	-4
93185.0	NAVAL SHIPYARDS O14 (x1)	803	5/26/93	19	94.20	2.00	NS	B016SPDA23	-4
93188.0	FUEL PIER D4 (x1)	804	5/26/93	19	96.40	2.80	NS	B016SPDA23	-4
93187.0	MARINE TERMINAL R2 (x1)	805	5/26/93	19	81.40	24.30	NS	B016SPDA23	-4
93188.0	CARRIER BASE V1 (x2)	806	5/26/93	19	0.00	0.00	*	B021SPDA19	-4
93189.0	NAVAL SHIPYARDS O15 (x1) BLIND	814	5/26/93	19	0.00	0.00	*	B021SPDA19	-4
90051.0	18 SWARTZ (INTERCONT. MARINA)	818	6/15/93	20	0.00	0.00	*	-9	-9
93182.0	INTERCONT. MARINA M1 (x2)	819	6/15/93	20	92.70	6.30	NS	-9	-9
93193.0	INTERCONT. MARINA M1 (x1)	820	6/15/93	20	0.00	0.00	*	-9	-9
90037.0	STORMDRAIN EM (GRAPE ST.)-REP1	827	6/15/93	20	41.00	7.80	*	-9	-9
90037.0	STORMDRAIN EM (GRAPE ST.)-REP2	828	6/15/93	20	0.00	0.00	*	-9	-9
90037.0	STORMDRAIN EM (GRAPE ST.)-REP3	829	6/15/93	20	0.00	0.00	*	-9	-9
93198.0	INTERCONT. MARINA M2(x1) BLIND	833	6/15/93	20	0.00	0.00	*	-9	-9
90013.0	37 SWARTZ (MARINA)	815	6/16/93	20	73.80	9.90	NS	-9	-9
93190.0	MARINA I11 (x1)	816	6/16/93	20	59.40	8.80	*	-9	-9
93191.0	MARINA I11 (x3)	817	6/16/93	20	89.20	4.30	NS	-9	-9
90015.0	41 SWARTZ (GLORIETTA BAY)	821	6/16/93	20	0.00	0.00	*	-9	-9
93194.0	GLORIETTA BAY U1 (x1)	822	6/16/93	20	46.30	7.10	*	-9	-9
93195.0	GLORIETTA BAY U1 (x2)	823	6/16/93	20	0.00	0.00	*	-9	-9
90012.0	34 SWARTZ (C.V. YACHT BASIN)	824	6/16/93	20	91.50	3.20	NS	-9	-9
93196.0	CHULA V. YACHT BASIN S1 (x1)	825	6/16/93	20	92.40	4.10	NS	-9	-9
93197.0	CHULA V. YACHT BASIN S1 (x3)	826	6/16/93	20	91.50	6.20	NS	-9	-9
90053.0	35 SWARTZ (CORONADO CAYS)	843	7/20/93	21	29.00	25.50	*	-9	-9
93203.0	CORONADO CAYS T2 (x1)	844	7/20/93	21	91.90	2.00	NS	-9	-9
93204.0	CORONADO CAYS T2 (x2)	845	7/20/93	21	0.00	0.00	*	-9	-9
90003.0	14 SWARTZ (DOWNTOWN PIERS)	846	7/20/93	21	19.00	33.00	NS	-9	-9
93205.0	DOWNTOWN PIERS K1 (x9)	847	7/20/93	21	0.00	0.00	*	-9	-9
93206.0	DOWNTOWN PIERS K1 (x11)	848	7/20/93	21	0.00	0.00	*	-9	-9
90004.0	15 SWARTZ (G ST. PIER MARINA)	849	7/20/93	21	0.00	0.00	*	-9	-9
93207.0	G ST. PIER MARINA L1 (x4)	850	7/20/93	21	0.00	0.00	*	-9	-9
93208.0	G ST. PIER MARINA L1 (x5)	851	7/20/93	21	0.00	0.00	*	-9	-9
93209.0	DOWNTOWN PIERS K4 BLIND (x4)	852	7/20/93	21	81.50	8.60	NS	B021SPDA19	-4
93107.0	MISSION BAY A3 (x1)-REP 1	853	7/21/93	21	42.50	38.40	NS	B021SPDA19	-4



Percent Urchin Development for each of Three Porewater Dilutions (100%, 50%, 25%) (cont.)

STANUM	STATION	IDORG	DATE	LEG	SPPD25_MN	SPPD25_SD	SPPD25_SG	SPPDBATCH	SPPDQC
93107.0	MISSION BAY A3 (x1)-REP 2	854	7/21/93	21	92.10	7.60	NS	B021SPDA19	-4
93107.0	MISSION BAY A3 (x1)-REP 3	855	7/21/93	21	92.10	1.30	NS	B021SPDA19	-4
93112.0	MISSION BAY A8 (x1)-REP 1	856	7/21/93	21	20.20	1.50	*	B021SPDA19	-4
93112.0	MISSION BAY A8 (x1)-REP 2	857	7/21/93	21	89.00	4.30	NS	B021SPDA19	-4
93112.0	MISSION BAY A8 (x1)-REP 3	858	7/21/93	21	53.60	48.80	NS	B021SPDA19	-4
93108.0	MISSION BAY A4 (x1)-REP 1	859	7/21/93	21	90.80	6.00	NS	B021SPDA19	-4
93108.0	MISSION BAY A4 (x1)-REP 2	860	7/21/93	21	78.50	15.80	NS	B021SPDA19	-4
93108.0	MISSION BAY A4 (x1)-REP 3	861	7/21/93	21	92.40	3.90	NS	B021SPDA19	-4
90050.0	10 SWARTZ (WEST BASIN)	837	8/3/93	21	89.60	3.00	NS	B021SPDA19	-4
93199.0	WEST BASIN H1 (x1)	838	8/3/93	21	90.90	1.90	NS	B021SPDA19	-4
93200.0	WEST BASIN H1 (x4)	839	8/3/93	21	85.50	6.60	NS	B021SPDA19	-4
90001.0	11 SWARTZ (EAST BASIN)	840	8/3/93	21	92.20	3.40	NS	B021SPDA19	-4
93201.0	EAST BASIN I1 (x1)	841	8/3/93	21	61.90	32.40	NS	B021SPDA19	-4
93202.0	EAST BASIN I1 (x5)	842	8/3/93	21	67.20	17.50	NS	B021SPDA19	-4
93180.0	NAVAL BASE/SHIPYARDS O5 (x1)	798	8/4/93	22	92.90	2.50	NS	-9	-9
90021.0	K SWARTZ (NAVAL BASE O4)	862	8/4/93	22	93.30	2.80	NS	-9	-9
93210.0	NAVAL BASE/SHIPYARDS O4 (x1)	863	8/4/93	22	53.10	22.50	NS	-9	-9
93211.0	NAVAL BASE/SHIPYARDS O4 (x2)	864	8/4/93	22	92.70	3.80	NS	-9	-9
90006.0	23 SWARTZ (NAVAL BASE O7)	865	8/4/93	22	88.50	6.20	NS	-9	-9
93212.0	NAVAL BASE/SHIPYARDS O7 (x1)	866	8/4/93	22	0.70	1.20	*	-9	-9
93213.0	NAVAL BASE/SHIPYARDS O7 (x4)	867	8/4/93	22	84.50	11.70	NS	-9	-9
90022.0	P SWARTZ (NAVAL BASE O12)	868	8/4/93	22	90.80	3.80	NS	B017SPDA22	-4
93214.0	NAVAL BASE/SHIPYARDS O12 (x3)	869	8/4/93	22	94.10	2.40	NS	B017SPDA22	-4
93215.0	NAVAL BASE/SHIPYARDS O12 (x4)	870	8/4/93	22	94.00	4.10	NS	B017SPDA22	-4
90028.0	NSB-M1 (SUB BASE C2)	871	8/4/93	22	92.40	3.40	NS	-9	-9
93216.0	SUB BASE C2 (x1)	872	8/4/93	22	75.30	8.70	*	-9	-9
93217.0	SUB BASE C2 (x3)	873	8/4/93	22	96.50	1.10	NS	-9	-9
93218.0	SUB BASE C2 (x11) BLIND	874	8/4/93	22	91.20	5.30	NS	-9	-9
93116.0	SAN DIEGO RIVER B1 (x4)-REP 1	881	8/5/93	22	0.00	0.00	*	B017SPDA22	-4
93116.0	SAN DIEGO RIVER B1 (x4)-REP 2	882	8/5/93	22	96.90	3.80	NS	B017SPDA22	-4
93116.0	SAN DIEGO RIVER B1 (x4)-REP 3	883	8/5/93	22	98.40	1.20	NS	B017SPDA22	-4
90052.0	32 SWARTZ(SWEETWATER CH)-REP 1	875	8/18/93	22	-9	-9	-9.0	B017SPDA22	-4
93219.0	SWEETWATER CH. JJ1 (x1)-REP 2	876	8/18/93	22	15.30	10.00	*	B017SPDA22	-4
93220.0	SWEETWATER CH. JJ1 (x8)-REP 3	877	8/18/93	22	7.20	8.60	*	B017SPDA22	-4
90002.0	12 SWARTZ(DOWNTOWN ANCH)-REP 1	878	8/18/93	22	0.00	0.00	*	B017SPDA22	-4
93221.0	DOWNTOWN ANCH. J1 (x1)-REP 2	879	8/18/93	22	94.70	1.70	NS	B017SPDA22	-4
93222.0	DOWNTOWN ANCH. J1 (x2)-REP 3	880	8/18/93	22	95.10	4.20	NS	B017SPDA22	-4
90007.0	25 SWARTZ (NAVAL BASE/SY O10)	887	8/17/93	23	92.50	3.20	NS	B016SPDA23	-4
93223.0	NAVAL BASE/SHIPYARD O10 (x2)	888	8/17/93	23	94.80	3.00	NS	B016SPDA23	-4
93224.0	NAVAL BASE/SHIPYARD O10(x6)	889	8/17/93	23	93.80	4.50	NS	B016SPDA23	-4
90008.0	27 SWARTZ (NAVAL BASE/SH O13)	890	8/17/93	23	97.80	1.30	NS	B016SPDA23	-4
93225.0	NAVAL BASE/SHIPYARD O13 (x1)	891	8/17/93	23	93.00	3.30	NS	B016SPDA23	-4
93226.0	NAVAL BASE/SHIPYARD O13 (x3)	892	8/17/93	23	98.20	1.40	NS	B016SPDA23	-4
90009.0	28 SWARTZ (7TH ST CHANNEL Q1)	893	8/17/93	23	94.30	4.10	NS	B016SPDA23	-4

Percent Urchin Development for each of Three Porewater Dilutions (100%, 50%, 25%) (cont.)

STANUM	STATION	IDORG	DATE	LEG	SPPD25 MN	SPPD25 SD	SPPD25 SG	SPPDBATCH	SPPDQC
93227.0	SEVENTH ST CHANNEL Q1 (x5)	894	8/17/93	23	91.60	3.30	NS	B016SPDA23	-4
93228.0	SEVENTH ST CHANNEL Q1 (x6)	895	8/17/93	23	87.90	3.90	NS	B016SPDA23	-4
90010.0	31 SWARTZ (MARINE TERMINAL R3)	896	8/17/93	23	66.90	16.10	.	-9	-9
93229.0	MARINE TERMINAL R3 (x1)	897	8/17/93	23	94.90	2.00	NS	-9	-9
93230.0	MARINE TERMINAL R3 (x3)	898	8/17/93	23	82.80	6.30	.	-9	-9
90025.0	SDNI-N5 (CARRIER BASE V2)	899	8/18/93	23	55.90	9.00	.	-9	-9
93231.0	CARRIER BASE V2 (x6)	1000	8/18/93	23	0.00	0.00	.	-9	-9
93232.0	CARRIER BASE V2 (x7)	1001	8/18/93	23	44.90	39.00	.	-9	-9
93132.0	CORONADO CAYS T3 (x1)	1025	1/18/94	24	-9	-9	-9	-9	-9
93129.0	SOUTH BAY GG4 (x1)	1026	1/18/94	24	-9	-9	-9	-9	-9
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	1027	1/18/94	24	-9	-9	-9	-9	-9
93127.0	SOUTH BAY GG2 (x1)	1028	1/18/94	24	-9	-9	-9	-9	-9
93139.0	COMMERCIAL BASIN F1 (x1)	1030	1/18/94	24	-9	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)	1031	1/18/94	24	-9	-9	-9	-9	-9
93128.0	SOUTHBAY GG5 (x1)	1033	1/18/94	24	-9	-9	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1) REP 1	1035	1/18/94	24	-9	-9	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1) REP 2	1036	1/18/94	24	-9	-9	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1) REP 3	1037	1/18/94	24	-9	-9	-9	-9	-9
93122.0	S.S.- CORONADO DD3 (x1) REP 1	1013	1/19/94	24	-9	-9	-9	-9	-9
93122.0	S.S.- CORONADO DD3 (x1) REP 2	1014	1/19/94	24	-9	-9	-9	-9	-9
93122.0	S.S.- CORONADO DD3 (x1) REP 3	1015	1/19/94	24	-9	-9	-9	-9	-9
93125.0	SILVER STRAND FF4 (x4) REP 1	1016	1/19/94	24	-9	-9	-9	-9	-9
93125.0	SILVER STRAND FF4 (x4) REP 2	1017	1/19/94	24	-9	-9	-9	-9	-9
93125.0	SILVER STRAND FF4 (x4) REP 3	1018	1/19/94	24	-9	-9	-9	-9	-9
90057.0	5 SDG&E REP 1	1019	1/19/94	24	-9	-9	-9	-9	-9
90057.0	5 SDG&E REP 2	1020	1/19/94	24	-9	-9	-9	-9	-9
90057.0	5 SDG&E REP 3	1021	1/19/94	24	-9	-9	-9	-9	-9
93117.0	SAN DIEGO RIVER B2 (x2)	1029	1/19/94	24	-9	-9	-9	-9	-9
93120.0	TIJUANA R. ESTUARY HH2 (x1)	1032	1/19/94	24	-9	-9	-9	-9	-9
93121.0	TIJUANA R. ESTUARY HH2 (x5)	1034	1/19/94	24	-9	-9	-9	-9	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 1	1022	1/20/94	24	-9	-9	-9	-9	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 2	1023	1/20/94	24	-9	-9	-9	-9	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 3	1024	1/20/94	24	-9	-9	-9	-9	-9
90020.0	G DE LAPPE-REP 1	1104	3/1/94	27	-9	-9	-9	-9	-9
90020.0	G DE LAPPE-REP 2	1105	3/1/94	27	-9	-9	-9	-9	-9
90020.0	G DE LAPPE-REP 3	1106	3/1/94	27	-9	-9	-9	-9	-9
90022.0	P SWARTZ-REP 1	1107	3/1/94	27	-9	-9	-9	-9	-9
90022.0	P SWARTZ-REP 2	1108	3/1/94	27	-9	-9	-9	-9	-9
90022.0	P SWARTZ-REP 3	1109	3/1/94	27	-9	-9	-9	-9	-9
90029.0	NSB-R1-REP 1	1113	3/1/94	27	-9	-9	-9	-9	-9
90029.0	NSB-R1-REP 2	1114	3/1/94	27	-9	-9	-9	-9	-9
90029.0	NSB-R1-REP 3	1115	3/1/94	27	-9	-9	-9	-9	-9
90024.0	SDNI-N1-REP 1	1116	3/1/94	27	-9	-9	-9	-9	-9
90024.0	SDNI-N1-REP 2	1117	3/1/94	27	-9	-9	-9	-9	-9

Percent Urchin Development for each of Three Porewater Dilutions (100%, 50%, 25%) (cont.)

STANUM	STATION	IDORG	DATE	LEG	SPPD25_MN	SPPD25_SD	SPPD25_SG	SPPDBATCH	SPPDQC
90024.0	SDNI-N1-REP 3	1118	3/1/94	27	-9	-9	-9	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)	1125	3/1/94	27	-9	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)	1126	3/1/94	27	-9	-9	-9	-9	-9
93161.0	SUB BASE C1 (x1)	1127	3/1/94	27	-9	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)	1128	3/1/94	27	-9	-9	-9	-9	-9
90013.0	37 SWARTZ-REP 1	1098	3/2/94	27	-9	-9	-9	-9	-9
90013.0	37 SWARTZ-REP 2	1099	3/2/94	27	-9	-9	-9	-9	-9
80013.0	37 SWARTZ-REP 3	1100	3/2/94	27	-9	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)-REP 1	1101	3/2/94	27	-9	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)-REP 2	1102	3/2/94	27	-9	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)-REP 3	1103	3/2/94	27	-9	-9	-9	-9	-9
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 1	1110	3/2/94	27	-9	-9	-9	-9	-9
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 2	1111	3/2/94	27	-9	-9	-9	-9	-9
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 3	1112	3/2/94	27	-9	-9	-9	-9	-9
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 1	1119	3/2/94	27	-9	-9	-9	-9	-9
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 2	1120	3/2/94	27	-9	-9	-9	-9	-9
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 3	1121	3/2/94	27	-9	-9	-9	-9	-9
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 1	1122	3/2/94	27	-9	-9	-9	-9	-9
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 2	1123	3/2/94	27	-9	-9	-9	-9	-9
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 3	1124	3/2/94	27	-9	-9	-9	-9	-9
90052.0	32 SWARTZ(SWEETWATER CH)-REP 1	1129	3/15/94	28	-9	-9	-9	-9	-9
90052.0	32 SWARTZ(SWEETWATER CH)-REP 2	1130	3/15/94	28	-9	-9	-9	-9	-9
90052.0	32 SWARTZ(SWEETWATER CH)-REP 3	1131	3/15/94	28	-9	-9	-9	-9	-9
93131.0	CORONADO CAYS T1 (x1)-REP 1	1138	3/15/94	28	-9	-9	-9	-9	-9
93131.0	CORONADO CAYS T1 (x1)-REP 2	1139	3/15/94	28	-9	-9	-9	-9	-9
93131.0	CORONADO CAYS T1 (x1)-REP 3	1140	3/15/94	28	-9	-9	-9	-9	-9
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP1	1141	3/15/94	28	-9	-9	-9	-9	-9
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP2	1142	3/15/94	28	-9	-9	-9	-9	-9
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP3	1143	3/15/94	28	-9	-9	-9	-9	-9
90030.0	BF SCHROEDER SITE F-REP 1	1144	3/15/94	28	-9	-9	-9	-9	-9
90030.0	BF SCHROEDER SITE F-REP 2	1145	3/15/94	28	-9	-9	-9	-9	-9
90030.0	BF SCHROEDER SITE F-REP 3	1146	3/15/94	28	-9	-9	-9	-9	-9
93159.0	SOUTH BAY GG3 (x1)-REP 1	1147	3/15/94	28	-9	-9	-9	-9	-9
93159.0	SOUTH BAY GG3 (x1)-REP 2	1148	3/15/94	28	-9	-9	-9	-9	-9
93159.0	SOUTH BAY GG3 (x1)-REP 3	1149	3/15/94	28	-9	-9	-9	-9	-9
90043.0	CORONADO WHARF-REP 1	1156	3/15/94	28	-9	-9	-9	-9	-9
90043.0	CORONADO WHARF-REP 2	1157	3/15/94	28	-9	-9	-9	-9	-9
90043.0	CORONADO WHARF-REP 3	1158	3/15/94	28	-9	-9	-9	-9	-9
93120.0	TIJUANA R. EST. HH2 (x1)-REP 1	1132	3/16/94	28	-9	-9	-9	-9	-9
93120.0	TIJUANA R. EST. HH2 (x1)-REP 2	1133	3/16/94	28	-9	-9	-9	-9	-9
93120.0	TIJUANA R. EST. HH2 (x1)-REP 3	1134	3/16/94	28	-9	-9	-9	-9	-9
93121.0	TIJUANA R. EST. HH2 (x5)-REP 1	1135	3/16/94	28	-9	-9	-9	-9	-9
93121.0	TIJUANA R. EST. HH2 (x5)-REP 2	1136	3/16/94	28	-9	-9	-9	-9	-9
93121.0	TIJUANA R. EST. HH2 (x5)-REP 3	1137	3/16/94	28	-9	-9	-9	-9	-9

Percent Urchin Development for each of Three Porewater Dilutions (100%, 50%, 25%) (cont.)

STANUM	STATION	IDORG	DATE	LEG	SPPD25_MN	SPPD25_SD	SPPD25_SG	SPPDBATCH	SPPDQC
93174.0	TIJUANA R. EST. HH3 (x2)-REP 1	1150	3/16/94	28	-9	-9	-9	-9	-9
93174.0	TIJUANA R. EST. HH3 (x2)-REP 2	1151	3/16/94	28	-9	-9	-9	-9	-9
93174.0	TIJUANA R. EST. HH3 (x2)-REP 3	1152	3/16/94	28	-9	-9	-9	-9	-9
93166.0	NAVY ESTUARY G2 (x1)-REP 1	1153	3/16/94	28	-9	-9	-9	-9	-9
93166.0	NAVY ESTUARY G2 (x1)-REP 2	1154	3/16/94	28	-9	-9	-9	-9	-9
93166.0	NAVY ESTUARY G2 (x1)-REP 3	1155	3/16/94	28	-9	-9	-9	-9	-9
90037.0	STORMDRAIN EM(GRAPE ST.)-REP 1	1159	3/29/94	29	-9	-9	-9	-9	-9
90037.0	STORMDRAIN EM(GRAPE ST.)-REP 2	1160	3/29/94	29	-9	-9	-9	-9	-9
90037.0	STORMDRAIN EM(GRAPE ST.)-REP 3	1161	3/29/94	29	-9	-9	-9	-9	-9
93148.0	CHANNEL-CORONADO Y1 (x2)-REP 1	1162	3/29/94	29	-9	-9	-9	-9	-9
93148.0	CHANNEL-CORONADO Y1 (x2)-REP 2	1163	3/29/94	29	-9	-9	-9	-9	-9
93148.0	CHANNEL-CORONADO Y1 (x2)-REP 3	1164	3/29/94	29	-9	-9	-9	-9	-9
93138.0	SHELTER ISLAND E3 (x2)-REP 1	1165	3/29/94	29	-9	-9	-9	-9	-9
93138.0	SHELTER ISLAND E3 (x2)-REP 2	1166	3/29/94	29	-9	-9	-9	-9	-9
93138.0	SHELTER ISLAND E3 (x2)-REP 3	1167	3/29/94	29	-9	-9	-9	-9	-9
93141.0	COMMERCIAL BASIN F3 (x1)-REP 1	1168	3/29/94	29	-9	-9	-9	-9	-9
93141.0	COMMERCIAL BASIN F3 (x1)-REP 2	1169	3/29/94	29	-9	-9	-9	-9	-9
93141.0	COMMERCIAL BASIN F3 (x1)-REP 3	1170	3/29/94	29	-9	-9	-9	-9	-9
90018.0	D DE LAPPE-REP 1	1183	3/29/94	29	-9	-9	-9	-9	-9
90018.0	D DE LAPPE-REP 2	1184	3/29/94	29	-9	-9	-9	-9	-9
90018.0	D DE LAPPE-REP 3	1185	3/29/94	29	-9	-9	-9	-9	-9
90104.0	WEST BASIN ENTRANCE(71C)-REP 1	1186	3/29/94	29	-9	-9	-9	-9	-9
90104.0	WEST BASIN ENTRANCE(71C)-REP 2	1187	3/29/94	29	-9	-9	-9	-9	-9
90104.0	WEST BASIN ENTRANCE(71C)-REP 3	1188	3/29/94	29	-9	-9	-9	-9	-9
93107.0	MISSION BAY A3 (x1)-REP 1	1180	3/30/94	29	-9	-9	-9	-9	-9
93107.0	MISSION BAY A3 (x1)-REP 2	1181	3/30/94	29	-9	-9	-9	-9	-9
93107.0	MISSION BAY A3 (x1)-REP 3	1182	3/30/94	29	-9	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)-REP 1	1303	5/18/94	32	-9	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)-REP 2	1304	5/18/94	32	-9	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)-REP 3	1305	5/18/94	32	-9	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)-REP 1	1306	5/18/94	32	-9	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)-REP 2	1307	5/18/94	32	-9	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)-REP 3	1308	5/18/94	32	-9	-9	-9	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)-REP 1	1309	5/18/94	32	-9	-9	-9	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)-REP 2	1310	5/18/94	32	-9	-9	-9	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)-REP 3	1311	5/18/94	32	-9	-9	-9	-9	-9
93161.0	SUB BASE C1 (x1)-REP 1	1312	5/18/94	32	-9	-9	-9	-9	-9
93161.0	SUB BASE C1 (x1)-REP 2	1313	5/18/94	32	-9	-9	-9	-9	-9
93161.0	SUB BASE C1 (x1)-REP 3	1314	5/18/94	32	-9	-9	-9	-9	-9
90013.0	37 SWARTZ	1318	5/18/94	32	-9	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)	1319	5/18/94	32	-9	-9	-9	-9	-9
90052.0	32 SWARTZ	1320	5/18/94	32	-9	-9	-9	-9	-9

Section IV

Urchin Mitosis

Percent Abnormal Mitosis of Urchin Embryos in Porewater

STANUM	STATION	IDORG	DATE	LEG	SPPC100_MN	SPPC100_SD	SPPC100_SG	SPPC100NH3	SPPC100H2S
90006.0	23 SWARTZ	155	10/13/92	5	-7	-7	-7.00	0.072	-8
90019.0	E DE LAPPE	168	10/13/92	5	-7	-7	-7.00	0.064	-8
90021.0	K SWARTZ	170	10/13/92	5	-7	-7	-7.00	0.046	-8
90031.0	BG SCHROEDER SITE G	180	10/13/92	5	-7	-7	-7.00	0.056	-8
90038.0	CC	187	10/13/92	5	-7	-7	-7.00	0.046	-8
90071.0	BAIT BARGE	220	10/13/92	5	-7	-7	-7.00	0.169	-8
90101.0	SCRIPPS PIER	250	10/13/92	5	-7	-7	-7.00	0.095	-8
90036.0	STORM DRAIN- ROHR CHANNEL	185	10/14/92	5	-7	-7	-7.00	1.616	0.0006
90053.0	35 SWARTZ	202	10/14/92	5	-7	-7	-7.00	0.029	-8
90054.0	36 SWARTZ	203	10/14/92	5	-7	-7	-7.00	0.030	-8
90001.0	11 SWARTZ	150	10/27/92	6	-9	-9	-9	-9	-9
90002.0	12 SWARTZ	151	10/27/92	6	-9	-9	-9	-9	-9
90016.0	42 SWARTZ	165	10/27/92	6	-9	-9	-9	-9	-9
90049.0	8B	198	10/27/92	6	-9	-9	-9	-9	-9
90056.0	8A SWARTZ	205	10/27/92	6	-9	-9	-9	-9	-9
90063.0	THOMPSON SITE 205	212	10/27/92	6	-9	-9	-9	-9	-9
90003.0	14 SWARTZ	152	10/28/92	6	-9	-9	-9	-9	-9
90004.0	15 SWARTZ	153	10/28/92	6	-9	-9	-9	-9	-9
90010.0	31 SWARTZ	159	10/28/92	6	-9	-9	-9	-9	-9
90011.0	33 SWARTZ	160	10/28/92	6	-9	-9	-9	-9	-9
90013.0	37 SWARTZ	162	10/28/92	6	-9	-9	-9	-9	-9
90017.0	C DELAPPE	166	10/28/92	6	-9	-9	-9	-9	-9
90048.0	6 SWARTZ	197	10/28/92	6	-9	-9	-9	-9	-9
90051.0	16 SWARTZ	200	10/28/92	6	-9	-9	-9	-9	-9
90052.0	32 SWARTZ	201	10/28/92	6	-9	-9	-9	-9	-9
90007.0	25 SWARTZ	156	11/10/92	7	71.00	0.00	.	0.015	-8
90008.0	27 SWARTZ	157	11/10/92	7	87.00	0.00	NS	0.035	-8
90009.0	28 SWARTZ	158	11/10/92	7	83.00	0.00	NS	0.037	-8
90022.0	P SWARTZ	171	11/10/92	7	-7	-7	-7.00	0.159	-8
90026.0	SDNI-N18	175	11/10/92	7	-7	-7	-7.00	0.097	-8
90027.0	NSB-S1	176	11/10/92	7	-7	-7	-7.00	0.187	-8
90028.0	NSB-M1	177	11/10/92	7	-7	-7	-7.00	0.235	-8
90029.0	NSB-R1	178	11/10/92	7	-7	-7	-7.00	0.199	-8
90023.0	NM SANDBAG	172	11/11/92	7	-7	-7	-7.00	0.064	-8
90024.0	SDNI-N1	173	11/11/92	7	-7	-7	-7.00	0.085	-8
90025.0	SDNI-N5	174	11/11/92	7	-7	-7	-7.00	0.072	-8
90050.0	10 SWARTZ	199	11/11/92	7	73.00	0.00	.	0.048	-8
90055.0	43 SWARTZ	204	11/11/92	7	-7	-7	-7.00	0.074	-8
90102.0	HARBOR BRIDGE 71A	256	11/11/92	7	-7	-7	-7.00	0.079	-8
90103.0	SCRIPPS TRIANGLE	257	11/11/92	7	-7	-7	-7.00	0.100	-8
90005.0	21 SWARTZ	154	1/26/93	12	-9	-9	-9	-9	-9
90014.0	38 SWARTZ	163	1/26/93	12	-9	-9	-9	-9	-9
90018.0	D DE LAPPE	167	1/26/93	12	-9	-9	-9	-9	-9
90020.0	G DE LAPPE	169	1/26/93	12	-9	-9	-9	-9	-9

Percent Abnormal Mitosis of Urchin Embryos in Porewater

STANUM	STATION	IDORG	DATE	LEG	SPPC100_MN	SPPC100_SD	SPPC100_SG	SPPC100NH3	SPPC100H2S
90030.0	BF SCHROEDER SITE F	179	1/26/93	12	-9	-9	-9	-9	-9
90032.0	BM SCHROEDER SITE M	181	1/26/93	12	-9	-9	-9	-9	-9
90037.0	STORM DRAIN EM- GRAPE STREET	186	1/26/93	12	-9	-9	-9	-9	-9
90039.0	CL	188	1/26/93	12	-9	-9	-9	-9	-9
90043.0	CORONADO WHARF	192	1/26/93	12	-9	-9	-9	-9	-9
90104.0	WEST BASIN ENTRANCE (71C) REF	275	1/26/93	12	-9	-9	-9	-9	-9
90012.0	34 SWARTZ	161	1/27/93	12	-9	-9	-9	-9	-9
90015.0	41 SWARTZ	164	1/27/93	12	-9	-9	-9	-9	-9
90040.0	SWEETWATER MARSH SD BAY	189	1/27/93	12	-9	-9	-9	-9	-9
90041.0	SOUTH SD BAY WETLANDS- OTAY R.	190	1/27/93	12	-9	-9	-9	-9	-9
90057.0	5 SDG&E	206	1/27/93	12	-9	-9	-9	-9	-9
90058.0	7 SDG&E	207	1/27/93	12	-9	-9	-9	-9	-9
93105.0	MISSION BAY A1 (x1)	700	3/23/93	15	-9	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)	701	3/23/93	15	-9	-9	-9	-9	-9
93107.0	MISSION BAY A3 (x1)	702	3/23/93	15	-9	-9	-9	-9	-9
93108.0	MISSION BAY A4 (x1)	703	3/23/93	15	-9	-9	-9	-9	-9
93109.0	MISSION BAY A5 (x1)	704	3/23/93	15	-9	-9	-9	-9	-9
93110.0	MISSION BAY A6 (x1)	705	3/23/93	15	-9	-9	-9	-9	-9
93112.0	MISSION BAY A8 (x1)	707	3/23/93	15	-9	-9	-9	-9	-9
93113.0	MISSION BAY A9 (x1)	708	3/23/93	15	-9	-9	-9	-9	-9
93114.0	MISSION BAY A10 (x1)	709	3/23/93	15	-9	-9	-9	-9	-9
93115.0	MISSION BAY A11 (x1)	710	3/23/93	15	-9	-9	-9	-9	-9
93116.0	SAN DIEGO RIVER B1 (x4)	711	3/23/93	15	-9	-9	-9	-9	-9
93117.0	SAN DIEGO RIVER B2 (x2)	712	3/23/93	15	-9	-9	-9	-9	-9
93111.0	MISSION BAY A7 (x3)	706	3/24/93	15	-9	-9	-9	-9	-9
90002.0	12 SWARTZ	719	3/24/93	15	-9	-9	-9	-9	-9
90037.0	STORMDRAIN EM- GRAPE STREET	720	3/24/93	15	-9	-9	-9	-9	-9
90015.0	41 SWARTZ	721	3/24/93	15	-9	-9	-9	-9	-9
90012.0	34 SWARTZ	722	3/24/93	15	-9	-9	-9	-9	-9
90057.0	5 SDG&E	723	3/24/93	15	-9	-9	-9	-9	-9
90052.0	32 SWARTZ	724	3/24/93	15	-9	-9	-9	-9	-9
93118.0	TIJUANA R. ESTUARY HH1 (x2)	713	3/25/93	15	-9	-9	-9	-9	-9
93119.0	TIJUANA R. ESTUARY HH1 (x1)	714	3/25/93	15	-9	-9	-9	-9	-9
93120.0	TIJUANA R. ESTUARY HH2 (x1)	715	3/25/93	15	-9	-9	-9	-9	-9
93121.0	TIJUANA R. ESTUARY HH2 (x5)	716	3/25/93	15	-9	-9	-9	-9	-9
93126.0	SILVER STRAND FF7 (x2)	729	4/6/93	16	-9	-9	-9	-9	-9
93127.0	SOUTH BAY GG2 (x1)	730	4/6/93	16	-9	-9	-9	-9	-9
93129.0	SOUTH BAY GG4 (x1)	732	4/6/93	16	-9	-9	-9	-9	-9
90014.0	38 SCHWARTZ	733	4/6/93	16	-9	-9	-9	-9	-9
93131.0	CORONADO CAYS T1 (x1)	734	4/6/93	16	-9	-9	-9	-9	-9
93132.0	CORONADO CAYS T3 (x1)	735	4/6/93	16	-9	-9	-9	-9	-9
93133.0	CHANNEL-NAVAL BASE Z1 (x1)	736	4/6/93	16	-9	-9	-9	-9	-9
93134.0	SOUTH SHORE-MOUTH BB2 (x1)	737	4/6/93	16	-9	-9	-9	-9	-9
93135.0	SOUTH SHORE-MOUTH BB3 (x1)	738	4/6/93	16	-9	-9	-9	-9	-9

Percent Abnormal Mitosis of Urchin Embryos in Porewater

STANUM	STATION	IDORG	DATE	LEG	SPPC100_MN	SPPC100_SD	SPPC100_SG	SPPC100NH3	SPPC100H2S
93136.0	NORTH SHORE-MOUTH CC2 (x1)	739	4/6/93	16	-9	-9	-9	-9	-9
93138.0	SHELTER ISLAND E3 (x2)	741	4/6/93	16	-9	-9	-9	-9	-9
93128.0	SOUTHBAY GG5 (x1)	750	4/6/93	16	-9	-9	-9	-9	-9
93122.0	SOUTH SHORE-CORONADO DD3 (x1)	725	4/7/93	16	-9	-9	-9	-9	-9
93123.0	SILVER STRAND FF1 (x1)	726	4/7/93	16	-9	-9	-9	-9	-9
93124.0	SILVER STRAND FF2 (x1)	727	4/7/93	16	-9	-9	-9	-9	-9
93125.0	SILVER STRAND FF4 (x4)	728	4/7/93	16	-9	-9	-9	-9	-9
90006.0	23 SCHWARTZ	731	4/7/93	16	-9	-9	-9	-9	-9
93137.0	NORTH SHORE-MOUTH CC3 (x1)	740	4/7/93	16	-9	-9	-9	-9	-9
93139.0	COMMERCIAL BASIN F1 (x1)	742	4/7/93	16	-9	-9	-9	-9	-9
93140.0	COMMERCIAL BASIN F2 (x1)	743	4/7/93	16	-9	-9	-9	-9	-9
93141.0	COMMERCIAL BASIN F3 (x1)	744	4/7/93	16	-9	-9	-9	-9	-9
90018.0	D DE LAPPE	748	4/7/93	16	-9	-9	-9	-9	-9
90030.0	BF SCHROEDER SITE F	749	4/7/93	16	-9	-9	-9	-9	-9
93148.0	CHANNEL-CORONADO Y1 (x2)	751	4/7/93	16	-9	-9	-9	-9	-9
93142.0	SOUTH SHORE-CORONADO DD1(X1)	752	4/7/93	16	-9	-9	-9	-9	-9
93144.0	CAMPBELL SHIPYARDS N1 (x1)	754	4/20/93	17	-9	-9	-9	-9	-9
93145.0	CAMPBELL SHIPYARDS N2 (x1)	755	4/20/93	17	-9	-9	-9	-9	-9
93146.0	GLORIETTA BAY U2 (x1)	756	4/20/93	17	-9	-9	-9	-9	-9
93147.0	GLORIETTA BAY U3 (x1)	757	4/20/93	17	-9	-9	-9	-9	-9
93149.0	CHANNEL-MOUTH X1 (x1)	758	4/20/93	17	-9	-9	-9	-9	-9
93150.0	CHANNEL-NAVAL BASE Z1 (x2)	759	4/20/93	17	-9	-9	-9	-9	-9
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	760	4/20/93	17	-9	-9	-9	-9	-9
93152.0	SOUTH SHORE-MOUTH BB1 (x1)	761	4/20/93	17	-9	-9	-9	-9	-9
93154.0	NORTH SHORE-MOUTH CC4 (x1)	763	4/20/93	17	-9	-9	-9	-9	-9
93155.0	SOUTH SHORE-CORONADO DD2 (x1)	764	4/20/93	17	-9	-9	-9	-9	-9
93156.0	NORTH SHORE-CORONADO EE1 (x1)	765	4/20/93	17	-9	-9	-9	-9	-9
93157.0	NORTH SHORE-CORONADO EE2 (x1)	766	4/20/93	17	-9	-9	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1)	767	4/20/93	17	-9	-9	-9	-9	-9
93159.0	SOUTH BAY GG3 (x1)	768	4/20/93	17	-9	-9	-9	-9	-9
93160.0	CHANNEL-SOUTH BAY AA2(x1)BLIND	773	4/20/93	17	-9	-9	-9	-9	-9
93143.0	FUEL PIERS D1 (x1)	753	4/21/93	17	-9	-9	-9	-9	-9
93153.0	NORTH SHORE-MOUTH CC1 (x1)	762	4/21/93	17	-9	-9	-9	-9	-9
93161.0	SUB BASE C1 (x1)	774	5/4/93	18	-9	-9	-9	-9	-9
93162.0	SUB BASE C3 (x1)	775	5/4/93	18	-9	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)	776	5/4/93	18	-9	-9	-9	-9	-9
93164.0	SHELTER ISLAND E1 (x1)	777	5/4/93	18	-9	-9	-9	-9	-9
93165.0	NAVY ESTUARY G1 (x1)	778	5/4/93	18	-9	-9	-9	-9	-9
93166.0	NAVY ESTUARY G2 (x1)	779	5/4/93	18	-9	-9	-9	-9	-9
93167.0	NAVY ESTUARY G3 (x1)	780	5/4/93	18	-9	-9	-9	-9	-9
93169.0	EAST BASIN I2 (x1)	782	5/4/93	18	-9	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)	784	5/4/93	18	-9	-9	-9	-9	-9
93172.0	SILVER STRAND FF3 (x1)	785	5/4/93	18	-9	-9	-9	-9	-9
93173.0	SILVER STRAND FF6 (x1)	786	5/4/93	18	-9	-9	-9	-9	-9



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STANUM	STATION	IDORG	DATE	LEG	SPPC100_MN	SPPC100_SD	SPPC100_SG	SPPC100NH3	SPPC100H2S
93168.0	WEST BASIN H2 (x1)	781	5/5/93	18	-9	-9	-9	-9	-9
93170.0	CHOLLAS CREEK P1 (x2)	783	5/5/93	18	-9	-9	-9	-9	-9
93174.0	TIJUANA R. ESTUARY HH3 (x2)	787	5/5/93	18	-9	-9	-9	-9	-9
93175.0	TIJUANA R. ESTUARY HH3 (x3)	788	5/5/93	18	-9	-9	-9	-9	-9
93176.0	MARINE TERMINAL R6 (x1) BLIND	794	5/6/93	18	-9	-9	-9	-9	-9
93177.0	NAVAL SHIPYARDS O1 (x1)	795	5/26/93	19	-9	-9	-9	-9	-9
93178.0	NAVAL SHIPYARDS O2 (x1)	796	5/26/93	19	-9	-9	-9	-9	-9
93179.0	NAVAL SHIPYARDS O3 (x1)	797	5/26/93	19	-9	-9	-9	-9	-9
93181.0	NAVAL SHIPYARDS O6 (x1)	799	5/26/93	19	-9	-9	-9	-9	-9
93182.0	NAVAL SHIPYARDS O8 (x4)	800	5/26/93	19	-9	-9	-9	-9	-9
93183.0	NAVAL SHIPYARDS O9 (x1)	801	5/26/93	19	-9	-9	-9	-9	-9
93184.0	NAVAL SHIPYARDS O11 (x1)	802	5/26/93	19	-9	-9	-9	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)	803	5/26/93	19	-9	-9	-9	-9	-9
93186.0	FUEL PIER D4 (x1)	804	5/26/93	19	-9	-9	-9	-9	-9
93187.0	MARINE TERMINAL R2 (x1)	805	5/26/93	19	-9	-9	-9	-9	-9
93188.0	CARRIER BASE V1 (x2)	806	5/26/93	19	-9	-9	-9	-9	-9
93189.0	NAVAL SHIPYARDS O15 (x1) BLIND	814	5/26/93	19	-9	-9	-9	-9	-9
90051.0	16 SWARTZ (INTERCONT. MARINA)	818	6/15/93	20	-9	-9	-9	-9	-9
93192.0	INTERCONT. MARINA M1 (x2)	819	6/15/93	20	-9	-9	-9	-9	-9
93193.0	INTERCONT. MARINA M1 (x1)	820	6/15/93	20	-9	-9	-9	-9	-9
90037.0	STORMDRAIN EM (GRAPE ST.)-REP1	827	6/15/93	20	-9	-9	-9	-9	-9
90037.0	STORMDRAIN EM (GRAPE ST.)-REP2	828	6/15/93	20	-9	-9	-9	-9	-9
90037.0	STORMDRAIN EM (GRAPE ST.)-REP3	829	6/15/93	20	-9	-9	-9	-9	-9
93198.0	INTERCONT. MARINA M2(x1) BLIND	833	6/15/93	20	-9	-9	-9	-9	-9
90013.0	37 SWARTZ (MARINA)	815	6/16/93	20	-9	-9	-9	-9	-9
93190.0	MARINA III (x1)	816	6/16/93	20	-9	-9	-9	-9	-9
93191.0	MARINA III (x3)	817	6/16/93	20	-9	-9	-9	-9	-9
90015.0	41 SWARTZ (GLORIETTA BAY)	821	6/16/93	20	-9	-9	-9	-9	-9
93194.0	GLORIETTA BAY U1 (x1)	822	6/16/93	20	-9	-9	-9	-9	-9
93195.0	GLORIETTA BAY U1 (x2)	823	6/16/93	20	-9	-9	-9	-9	-9
90012.0	34 SWARTZ (C.V. YACHT BASIN)	824	6/16/93	20	-9	-9	-9	-9	-9
93196.0	CHULA V. YACHT BASIN S1 (x1)	825	6/16/93	20	-9	-9	-9	-9	-9
93197.0	CHULA V. YACHT BASIN S1 (x3)	826	6/16/93	20	-9	-9	-9	-9	-9
90053.0	35 SWARTZ (CORONADO CAYS)	843	7/20/93	21	-9	-9	-9	-9	-9
93203.0	CORONADO CAYS T2 (x1)	844	7/20/93	21	-9	-9	-9	-9	-9
93204.0	CORONADO CAYS T2 (x2)	845	7/20/93	21	-9	-9	-9	-9	-9
90003.0	14 SWARTZ (DOWNTOWN PIERS)	846	7/20/93	21	-9	-9	-9	-9	-9
93205.0	DOWNTOWN PIERS K1 (x9)	847	7/20/93	21	-9	-9	-9	-9	-9
93206.0	DOWNTOWN PIERS K1 (x11)	848	7/20/93	21	-9	-9	-9	-9	-9
90004.0	15 SWARTZ (G ST. PIER MARINA)	849	7/20/93	21	-9	-9	-9	-9	-9
93207.0	G ST. PIER MARINA L1 (x4)	850	7/20/93	21	-9	-9	-9	-9	-9
93208.0	G ST. PIER MARINA L1 (x5)	851	7/20/93	21	-9	-9	-9	-9	-9
93209.0	DOWNTOWN PIERS K4 BLIND (x4)	852	7/20/93	21	-9	-9	-9	-9	-9
93107.0	MISSION BAY A3 (x1)-REP 1	853	7/21/93	21	-9	-9	-9	-9	-9

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93107.0	MISSION BAY A3 (x1)-REP 2	854	7/21/93	21	-9	-9	-9	-9	-9
93107.0	MISSION BAY A3 (x1)-REP 3	855	7/21/93	21	-9	-9	-9	-9	-9
93112.0	MISSION BAY A8 (x1)-REP 1	856	7/21/93	21	-9	-9	-9	-9	-9
93112.0	MISSION BAY A8 (x1)-REP 2	857	7/21/93	21	-9	-9	-9	-9	-9
93112.0	MISSION BAY A8 (x1)-REP 3	858	7/21/93	21	-9	-9	-9	-9	-9
93108.0	MISSION BAY A4 (x1)-REP 1	859	7/21/93	21	-9	-9	-9	-9	-9
93108.0	MISSION BAY A4 (x1)-REP 2	860	7/21/93	21	-9	-9	-9	-9	-9
93108.0	MISSION BAY A4 (x1)-REP 3	861	7/21/93	21	-9	-9	-9	-9	-9
90050.0	10 SWARTZ (WEST BASIN)	837	8/3/93	21	-9	-9	-9	-9	-9
93199.0	WEST BASIN H1 (x1)	838	8/3/93	21	-9	-9	-9	-9	-9
93200.0	WEST BASIN H1 (x4)	839	8/3/93	21	-9	-9	-9	-9	-9
90001.0	11 SWARTZ (EAST BASIN)	840	8/3/93	21	-9	-9	-9	-9	-9
93201.0	EAST BASIN I1 (x1)	841	8/3/93	21	-9	-9	-9	-9	-9
93202.0	EAST BASIN I1 (x5)	842	8/3/93	21	-9	-9	-9	-9	-9
93180.0	NAVAL BASE/SHIPYARDS O5 (x1)	798	8/4/93	22	-9	-9	-9	-9	-9
90021.0	K SWARTZ (NAVAL BASE O4)	862	8/4/93	22	-9	-9	-9	-9	-9
93210.0	NAVAL BASE/SHIPYARDS O4 (x1)	863	8/4/93	22	-9	-9	-9	-9	-9
93211.0	NAVAL BASE/SHIPYARDS O4 (x2)	864	8/4/93	22	-9	-9	-9	-9	-9
90006.0	23 SWARTZ (NAVAL BASE O7)	865	8/4/93	22	-9	-9	-9	-9	-9
93212.0	NAVAL BASE/SHIPYARDS O7 (x1)	866	8/4/93	22	-9	-9	-9	-9	-9
93213.0	NAVAL BASE/SHIPYARDS O7 (x4)	867	8/4/93	22	-9	-9	-9	-9	-9
90022.0	P SWARTZ (NAVAL BASE O12)	868	8/4/93	22	-9	-9	-9	-9	-9
93214.0	NAVAL BASE/SHIPYARDS O12 (x3)	869	8/4/93	22	-9	-9	-9	-9	-9
93215.0	NAVAL BASE/SHIPYARDS O12 (x4)	870	8/4/93	22	-9	-9	-9	-9	-9
90028.0	NSB-M1 (SUB BASE C2)	871	8/4/93	22	-9	-9	-9	-9	-9
93216.0	SUB BASE C2 (x1)	872	8/4/93	22	-9	-9	-9	-9	-9
93217.0	SUB BASE C2 (x3)	873	8/4/93	22	-9	-9	-9	-9	-9
93218.0	SUB BASE C2 (x11) BLIND	874	8/4/93	22	-9	-9	-9	-9	-9
93116.0	SAN DIEGO RIVER B1 (x4)-REP 1	881	8/5/93	22	-9	-9	-9	-9	-9
93116.0	SAN DIEGO RIVER B1 (x4)-REP 2	882	8/5/93	22	-9	-9	-9	-9	-9
93116.0	SAN DIEGO RIVER B1 (x4)-REP 3	883	8/5/93	22	-9	-9	-9	-9	-9
90052.0	32 SWARTZ(SWEETWATER CH)-REP 1	875	8/18/93	22	-9	-9	-9	-9	-9
93219.0	SWEETWATER CH. JJ1 (x1)-REP 2	876	8/18/93	22	-9	-9	-9	-9	-9
93220.0	SWEETWATER CH. JJ1 (x8)-REP 3	877	8/18/93	22	-9	-9	-9	-9	-9
90002.0	12 SWARTZ(DOWNTOWN ANCH)-REP 1	878	8/18/93	22	-9	-9	-9	-9	-9
93221.0	DOWNTOWN ANCH. J1 (x1)-REP 2	879	8/18/93	22	-9	-9	-9	-9	-9
93222.0	DOWNTOWN ANCH. J1 (x2)-REP 3	880	8/18/93	22	-9	-9	-9	-9	-9
90007.0	25 SWARTZ (NAVAL BASE/SY O10)	887	8/17/93	23	-9	-9	-9	-9	-9
93223.0	NAVAL BASE/SHIPYARD O10 (x2)	888	8/17/93	23	-9	-9	-9	-9	-9
93224.0	NAVAL BASE/SHIPYARD O10(x6)	889	8/17/93	23	-9	-9	-9	-9	-9
90008.0	27 SWARTZ (NAVAL BASE/SH O13)	890	8/17/93	23	-9	-9	-9	-9	-9
93225.0	NAVAL BASE/SHIPYARD O13 (x1)	891	8/17/93	23	-9	-9	-9	-9	-9
93226.0	NAVAL BASE/SHIPYARD O13 (x3)	892	8/17/93	23	-9	-9	-9	-9	-9
90009.0	28 SWARTZ (7TH ST CHANNEL Q1)	893	8/17/93	23	-9	-9	-9	-9	-9

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93227.0	SEVENTH ST CHANNEL Q1 (x5)	894	8/17/93	23	-9	-9	-9	-9	-9
93228.0	SEVENTH ST CHANNEL Q1 (x6)	895	8/17/93	23	-9	-9	-9	-9	-9
90010.0	31 SWARTZ (MARINE TERMINAL R3)	896	8/17/93	23	-9	-9	-9	-9	-9
93229.0	MARINE TERMINAL R3 (x1)	897	8/17/93	23	-9	-9	-9	-9	-9
93230.0	MARINE TERMINAL R3 (x3)	898	8/17/93	23	-9	-9	-9	-9	-9
90025.0	SDNI-N5 (CARRIER BASE V2)	899	8/18/93	23	-9	-9	-9	-9	-9
93231.0	CARRIER BASE V2 (x6)	1000	8/18/93	23	-9	-9	-9	-9	-9
93232.0	CARRIER BASE V2 (x7)	1001	8/18/93	23	-9	-9	-9	-9	-9
93132.0	CORONADO CAYS T3 (x1)	1025	1/18/94	24	-9	-9	-9	-9	-9
93129.0	SOUTH BAY GG4 (x1)	1026	1/18/94	24	-9	-9	-9	-9	-9
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	1027	1/18/94	24	-9	-9	-9	-9	-9
93127.0	SOUTH BAY GG2 (x1)	1028	1/18/94	24	-9	-9	-9	-9	-9
93139.0	COMMERCIAL BASIN F1 (x1)	1030	1/18/94	24	-9	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)	1031	1/18/94	24	-9	-9	-9	-9	-9
93128.0	SOUTHBAY GG5 (x1)	1033	1/18/94	24	-9	-9	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1) REP 1	1035	1/18/94	24	-9	-9	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1) REP 2	1036	1/18/94	24	-9	-9	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1) REP 3	1037	1/18/94	24	-9	-9	-9	-9	-9
93122.0	S.S.- CORONADO DD3 (x1) REP 1	1013	1/19/94	24	-9	-9	-9	-9	-9
93122.0	S.S.- CORONADO DD3 (x1) REP 2	1014	1/19/94	24	-9	-9	-9	-9	-9
93122.0	S.S.- CORONADO DD3 (x1) REP 3	1015	1/19/94	24	-9	-9	-9	-9	-9
93125.0	SILVER STRAND FF4 (x4) REP 1	1016	1/19/94	24	-9	-9	-9	-9	-9
93125.0	SILVER STRAND FF4 (x4) REP 2	1017	1/19/94	24	-9	-9	-9	-9	-9
93125.0	SILVER STRAND FF4 (x4) REP 3	1018	1/19/94	24	-9	-9	-9	-9	-9
90057.0	5 SDG&E REP 1	1019	1/19/94	24	-9	-9	-9	-9	-9
90057.0	5 SDG&E REP 2	1020	1/19/94	24	-9	-9	-9	-9	-9
90057.0	5 SDG&E REP 3	1021	1/19/94	24	-9	-9	-9	-9	-9
93117.0	SAN DIEGO RIVER B2 (x2)	1029	1/19/94	24	-9	-9	-9	-9	-9
93120.0	TIJUANA R. ESTUARY HH2 (x1)	1032	1/19/94	24	-9	-9	-9	-9	-9
93121.0	TIJUANA R. ESTUARY HH2 (x5)	1034	1/19/94	24	-9	-9	-9	-9	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 1	1022	1/20/94	24	-9	-9	-9	-9	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 2	1023	1/20/94	24	-9	-9	-9	-9	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 3	1024	1/20/94	24	-9	-9	-9	-9	-9
90020.0	G DE LAPPE-REP 1	1104	3/1/94	27	-9	-9	-9	-9	-9
90020.0	G DE LAPPE-REP 2	1105	3/1/94	27	-9	-9	-9	-9	-9
90020.0	G DE LAPPE-REP 3	1106	3/1/94	27	-9	-9	-9	-9	-9
90022.0	P SWARTZ-REP 1	1107	3/1/94	27	-9	-9	-9	-9	-9
90022.0	P SWARTZ-REP 2	1108	3/1/94	27	-9	-9	-9	-9	-9
90022.0	P SWARTZ-REP 3	1109	3/1/94	27	-9	-9	-9	-9	-9
90029.0	NSB-R1-REP 1	1113	3/1/94	27	-9	-9	-9	-9	-9
90029.0	NSB-R1-REP 2	1114	3/1/94	27	-9	-9	-9	-9	-9
90029.0	NSB-R1-REP 3	1115	3/1/94	27	-9	-9	-9	-9	-9
90024.0	SDNI-N1-REP 1	1116	3/1/94	27	-9	-9	-9	-9	-9
90024.0	SDNI-N1-REP 2	1117	3/1/94	27	-9	-9	-9	-9	-9

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90024.0	SDNI-N1-REP 3	1118	3/1/94	27	-9	-9	-9	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)	1125	3/1/94	27	-9	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)	1126	3/1/94	27	-9	-9	-9	-9	-9
93161.0	SUB BASE C1 (x1)	1127	3/1/94	27	-9	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)	1128	3/1/94	27	-9	-9	-9	-9	-9
90013.0	37 SWARTZ-REP 1	1098	3/2/94	27	-9	-9	-9	-9	-9
90013.0	37 SWARTZ-REP 2	1099	3/2/94	27	-9	-9	-9	-9	-9
90013.0	37 SWARTZ-REP 3	1100	3/2/94	27	-9	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)-REP 1	1101	3/2/94	27	-9	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)-REP 2	1102	3/2/94	27	-9	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)-REP 3	1103	3/2/94	27	-9	-9	-9	-9	-9
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 1	1110	3/2/94	27	-9	-9	-9	-9	-9
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 2	1111	3/2/94	27	-9	-9	-9	-9	-9
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 3	1112	3/2/94	27	-9	-9	-9	-9	-9
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 1	1119	3/2/94	27	-9	-9	-9	-9	-9
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 2	1120	3/2/94	27	-9	-9	-9	-9	-9
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 3	1121	3/2/94	27	-9	-9	-9	-9	-9
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 1	1122	3/2/94	27	-9	-9	-9	-9	-9
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 2	1123	3/2/94	27	-9	-9	-9	-9	-9
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 3	1124	3/2/94	27	-9	-9	-9	-9	-9
90052.0	32 SWARTZ(SWEETWATER CH)-REP 1	1129	3/15/94	28	-9	-9	-9	-9	-9
90052.0	32 SWARTZ(SWEETWATER CH)-REP 2	1130	3/15/94	28	-9	-9	-9	-9	-9
90052.0	32 SWARTZ(SWEETWATER CH)-REP 3	1131	3/15/94	28	-9	-9	-9	-9	-9
93131.0	CORONADO CAYS T1 (x1)-REP 1	1138	3/15/94	28	-9	-9	-9	-9	-9
93131.0	CORONADO CAYS T1 (x1)-REP 2	1139	3/15/94	28	-9	-9	-9	-9	-9
93131.0	CORONADO CAYS T1 (x1)-REP 3	1140	3/15/94	28	-9	-9	-9	-9	-9
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP1	1141	3/15/94	28	-9	-9	-9	-9	-9
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP2	1142	3/15/94	28	-9	-9	-9	-9	-9
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP3	1143	3/15/94	28	-9	-9	-9	-9	-9
90030.0	BF SCHROEDER SITE F-REP 1	1144	3/15/94	28	-9	-9	-9	-9	-9
90030.0	BF SCHROEDER SITE F-REP 2	1145	3/15/94	28	-9	-9	-9	-9	-9
90030.0	BF SCHROEDER SITE F-REP 3	1148	3/15/94	28	-9	-9	-9	-9	-9
93159.0	SOUTH BAY GG3 (x1)-REP 1	1147	3/15/94	28	-9	-9	-9	-9	-9
93159.0	SOUTH BAY GG3 (x1)-REP 2	1148	3/15/94	28	-9	-9	-9	-9	-9
93159.0	SOUTH BAY GG3 (x1)-REP 3	1149	3/15/94	28	-9	-9	-9	-9	-9
90043.0	CORONADO WHARF-REP 1	1156	3/15/94	28	-9	-9	-9	-9	-9
90043.0	CORONADO WHARF-REP 2	1157	3/15/94	28	-9	-9	-9	-9	-9
90043.0	CORONADO WHARF-REP 3	1158	3/15/94	28	-9	-9	-9	-9	-9
93120.0	TIJUANA R. EST. HH2 (x1)-REP 1	1132	3/16/94	28	-9	-9	-9	-9	-9
93120.0	TIJUANA R. EST. HH2 (x1)-REP 2	1133	3/16/94	28	-9	-9	-9	-9	-9
93120.0	TIJUANA R. EST. HH2 (x1)-REP 3	1134	3/16/94	28	-9	-9	-9	-9	-9
93121.0	TIJUANA R. EST. HH2 (x5)-REP 1	1135	3/16/94	28	-9	-9	-9	-9	-9
93121.0	TIJUANA R. EST. HH2 (x5)-REP 2	1136	3/16/94	28	-9	-9	-9	-9	-9
93121.0	TIJUANA R. EST. HH2 (x5)-REP 3	1137	3/16/94	28	-9	-9	-9	-9	-9

Percent Abnormal Mitosis of Urchin Embryos in Porewater

STANUM	STATION	IDORG	DATE	LEG	SPPC100_MN	SPPC100_SD	SPPC100_SG	SPPC100NH3	SPPC100H2S
93174.0	TIJUANA R. EST. HH3 (x2)-REP 1	1150	3/16/94	28	-9	-9	-9	-9	-9
93174.0	TIJUANA R. EST. HH3 (x2)-REP 2	1151	3/16/94	28	-9	-9	-9	-9	-9
93174.0	TIJUANA R. EST. HH3 (x2)-REP 3	1152	3/16/94	28	-9	-9	-9	-9	-9
93166.0	NAVY ESTUARY G2 (x1)-REP 1	1153	3/16/94	28	-9	-9	-9	-9	-9
93166.0	NAVY ESTUARY G2 (x1)-REP 2	1154	3/16/94	28	-9	-9	-9	-9	-9
93166.0	NAVY ESTUARY G2 (x1)-REP 3	1155	3/16/94	28	-9	-9	-9	-9	-9
90037.0	STORMDRAIN EM(GRAPE ST.)-REP 1	1159	3/29/94	29	-9	-9	-9	-9	-9
90037.0	STORMDRAIN EM(GRAPE ST.)-REP 2	1160	3/29/94	29	-9	-9	-9	-9	-9
90037.0	STORMDRAIN EM(GRAPE ST.)-REP 3	1161	3/29/94	29	-9	-9	-9	-9	-9
93148.0	CHANNEL-CORONADO Y1 (x2)-REP 1	1162	3/29/94	29	-9	-9	-9	-9	-9
93148.0	CHANNEL-CORONADO Y1 (x2)-REP 2	1163	3/29/94	29	-9	-9	-9	-9	-9
93148.0	CHANNEL-CORONADO Y1 (x2)-REP 3	1164	3/29/94	29	-9	-9	-9	-9	-9
93138.0	SHELTER ISLAND E3 (x2)-REP 1	1165	3/29/94	29	-9	-9	-9	-9	-9
93138.0	SHELTER ISLAND E3 (x2)-REP 2	1166	3/29/94	29	-9	-9	-9	-9	-9
93138.0	SHELTER ISLAND E3 (x2)-REP 3	1167	3/29/94	29	-9	-9	-9	-9	-9
93141.0	COMMERCIAL BASIN F3 (x1)-REP 1	1168	3/29/94	29	-9	-9	-9	-9	-9
93141.0	COMMERCIAL BASIN F3 (x1)-REP 2	1169	3/29/94	29	-9	-9	-9	-9	-9
93141.0	COMMERCIAL BASIN F3 (x1)-REP 3	1170	3/29/94	29	-9	-9	-9	-9	-9
90018.0	D DE LAPPE-REP 1	1183	3/29/94	29	-9	-9	-9	-9	-9
90018.0	D DE LAPPE-REP 2	1184	3/29/94	29	-9	-9	-9	-9	-9
90018.0	D DE LAPPE-REP 3	1185	3/29/94	29	-9	-9	-9	-9	-9
90104.0	WEST BASIN ENTRANCE(71C)-REP 1	1186	3/29/94	29	-9	-9	-9	-9	-9
90104.0	WEST BASIN ENTRANCE(71C)-REP 2	1187	3/29/94	29	-9	-9	-9	-9	-9
90104.0	WEST BASIN ENTRANCE(71C)-REP 3	1188	3/29/94	29	-9	-9	-9	-9	-9
93107.0	MISSION BAY A3 (x1)-REP 1	1180	3/30/94	29	-9	-9	-9	-9	-9
93107.0	MISSION BAY A3 (x1)-REP 2	1181	3/30/94	29	-9	-9	-9	-9	-9
93107.0	MISSION BAY A3 (x1)-REP 3	1182	3/30/94	29	-9	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)-REP 1	1303	5/18/94	32	-9	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)-REP 2	1304	5/18/94	32	-9	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)-REP 3	1305	5/18/94	32	-9	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)-REP 1	1306	5/18/94	32	-9	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)-REP 2	1307	5/18/94	32	-9	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)-REP 3	1308	5/18/94	32	-9	-9	-9	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)-REP 1	1309	5/18/94	32	-9	-9	-9	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)-REP 2	1310	5/18/94	32	-9	-9	-9	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)-REP 3	1311	5/18/94	32	-9	-9	-9	-9	-9
93161.0	SUB BASE C1 (x1)-REP 1	1312	5/18/94	32	-9	-9	-9	-9	-9
93161.0	SUB BASE C1 (x1)-REP 2	1313	5/18/94	32	-9	-9	-9	-9	-9
93161.0	SUB BASE C1 (x1)-REP 3	1314	5/18/94	32	-9	-9	-9	-9	-9
90013.0	37 SWARTZ	1318	5/18/94	32	-9	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)	1319	5/18/94	32	-9	-9	-9	-9	-9
90052.0	32 SWARTZ	1320	5/18/94	32	-9	-9	-9	-9	-9

Section V

Abalone Development

Percent Normal Development of Abalone Larvae in Subsurface Water

STANUM	STATION	IDORG	DATE	LEG	HRS100_MN	HRS100_SD	HRS100_SG	HRS100_NH3
90006.0	23 SWARTZ	155	10/13/92	5	95.80	3.00	NS	-8
90019.0	E DE LAPPE	168	10/13/92	5	95.90	1.00	NS	-8
90021.0	K SWARTZ	170	10/13/92	5	96.30	2.90	NS	-8
90031.0	BG SCHROEDER SITE G	180	10/13/92	5	95.00	3.30	NS	-8
90038.0	CC	187	10/13/92	5	97.30	1.70	NS	-8
90071.0	BAIT BARGE	220	10/13/92	5	95.70	2.20	NS	-8
90101.0	SCRIPPS PIER	250	10/13/92	5	96.40	1.70	NS	-8
90036.0	STORM DRAIN- ROHR CHANNEL	185	10/14/92	5	93.30	2.10	NS	-8
90053.0	35 SWARTZ	202	10/14/92	5	96.50	2.10	NS	-8
90054.0	36 SWARTZ	203	10/14/92	5	96.00	1.60	NS	-8
90001.0	11 SWARTZ	150	10/27/92	6	54.00	6.60	*	0.012
90002.0	12 SWARTZ	151	10/27/92	6	66.20	8.70	*	0.008
90016.0	42 SWARTZ	165	10/27/92	6	73.30	4.20	NS	-8
90049.0	8B	198	10/27/92	6	81.90	3.60	NS	-8
90056.0	8A SWARTZ	205	10/27/92	6	79.20	6.50	NS	-8
90063.0	THOMPSON SITE 205	212	10/27/92	6	82.60	6.50	NS	-8
90003.0	14 SWARTZ	152	10/28/92	6	67.50	10.30	*	0.006
90004.0	15 SWARTZ	153	10/28/92	6	64.00	27.60	*	-8
90010.0	31 SWARTZ	159	10/28/92	6	56.80	4.70	*	-8
90011.0	33 SWARTZ	160	10/28/92	6	47.30	5.70	*	-8
90013.0	37 SWARTZ	162	10/28/92	6	52.60	6.60	*	-8
90017.0	C DELAPPE	166	10/28/92	6	67.10	3.30	*	0.003
90048.0	6 SWARTZ	197	10/28/92	6	77.20	3.30	NS	-8
90051.0	16 SWARTZ	200	10/28/92	6	65.80	5.30	*	-8
90052.0	32 SWARTZ	201	10/28/92	6	56.00	3.60	*	-8
90007.0	25 SWARTZ	156	11/10/92	7	94.20	3.10	NS	0.066
90008.0	27 SWARTZ	157	11/10/92	7	96.80	2.90	NS	0.022
90009.0	28 SWARTZ	158	11/10/92	7	97.70	1.70	NS	0.012
90022.0	P SWARTZ	171	11/10/92	7	97.30	1.80	NS	0.008
90026.0	SDNI-N18	175	11/10/92	7	94.20	4.00	NS	0.006
90027.0	NSB-S1	176	11/10/92	7	95.60	2.50	NS	0.010
90028.0	NSB-M1	177	11/10/92	7	95.90	1.00	NS	0.005
90029.0	NSB-R1	178	11/10/92	7	97.10	1.50	NS	0.005
90023.0	NM SANDBAG	172	11/11/92	7	96.50	2.10	NS	0.009
90024.0	SDNI-N1	173	11/11/92	7	95.50	1.70	NS	0.005
90025.0	SDNI-N5	174	11/11/92	7	96.90	2.30	NS	0.004
90050.0	10 SWARTZ	199	11/11/92	7	68.60	13.50	*	0.003
90055.0	43 SWARTZ	204	11/11/92	7	95.30	2.90	NS	0.004
90102.0	HARBOR BRIDGE 71A	256	11/11/92	7	95.10	2.20	NS	0.003
90103.0	SCRIPPS TRIANGLE	257	11/11/92	7	98.30	1.20	NS	0.004
90005.0	21 SWARTZ	154	1/26/93	12	97.80	1.20	NS	-8
90014.0	38 SWARTZ	163	1/26/93	12	-9	-9	-9	-9
90018.0	D DE LAPPE	167	1/26/93	12	98.30	0.90	NS	-8
90020.0	G DE LAPPE	169	1/26/93	12	-9	-9	-9	-9

Percent Normal Development of Abalone Larvae in Subsurface Water

STANUM	STATION	IDORG	DATE	LEG	HRS100_MN	HRS100_SD	HRS100_SG	HRS100_NH3
90030.0	BF SCHROEDER SITE F	179	1/26/93	12	85.10	31.10	NS	-8
90032.0	BM SCHROEDER SITE M	181	1/26/93	12	98.10	2.30	NS	-8
90037.0	STORM DRAIN EM- GRAPE STREET	186	1/26/93	12	96.90	1.10	NS	-8
90039.0	CL	188	1/26/93	12	67.40	40.50	NS	-8
90043.0	CORONADO WHARF	192	1/26/93	12	-9	-9	-9	-9
90104.0	WEST BASIN ENTRANCE (71C) REF	275	1/26/93	12	64.40	45.50	NS	-8
90012.0	34 SWARTZ	161	1/27/93	12	-9	-9	-9	-9
90015.0	41 SWARTZ	164	1/27/93	12	97.70	1.70	NS	-8
90040.0	SWEETWATER MARSH SD BAY	189	1/27/93	12	-9	-9	-9	-9
90041.0	SOUTH SD BAY WETLANDS- OTAY R.	190	1/27/93	12	-9	-9	-9	-9
90057.0	5 SDG&E	206	1/27/93	12	-9	-9	-9	-9
90058.0	7 SDG&E	207	1/27/93	12	-9	-9	-9	-9
93105.0	MISSION BAY A1 (x1)	700	3/23/93	15	96.30	1.10	NS	0.014
93106.0	MISSION BAY A2 (x1)	701	3/23/93	15	-9	-9	-9	-9
93107.0	MISSION BAY A3 (x1)	702	3/23/93	15	-9	-9	-9	-9
93108.0	MISSION BAY A4 (x1)	703	3/23/93	15	-9	-9	-9	-9
93109.0	MISSION BAY A5 (x1)	704	3/23/93	15	-9	-9	-9	-9
93110.0	MISSION BAY A6 (x1)	705	3/23/93	15	-9	-9	-9	-9
93112.0	MISSION BAY A8 (x1)	707	3/23/93	15	-9	-9	-9	-9
93113.0	MISSION BAY A9 (x1)	708	3/23/93	15	-9	-9	-9	-9
93114.0	MISSION BAY A10 (x1)	709	3/23/93	15	-9	-9	-9	-9
93115.0	MISSION BAY A11 (x1)	710	3/23/93	15	96.90	1.60	NS	0.019
93116.0	SAN DIEGO RIVER B1 (x4)	711	3/23/93	15	-9	-9	-9	-9
93117.0	SAN DIEGO RIVER B2 (x2)	712	3/23/93	15	-9	-9	-9	-9
93111.0	MISSION BAY A7 (x3)	706	3/24/93	15	-9	-9	-9	-9
90002.0	12 SWARTZ	719	3/24/93	15	-9	-9	-9	-9
90037.0	STORMDRAIN EM- GRAPE STREET	720	3/24/93	15	-9	-9	-9	-9
90015.0	41 SWARTZ	721	3/24/93	15	-9	-9	-9	-9
90012.0	34 SWARTZ	722	3/24/93	15	-9	-9	-9	-9
90057.0	5 SDG&E	723	3/24/93	15	-9	-9	-9	-9
90052.0	32 SWARTZ	724	3/24/93	15	-9	-9	-9	-9
93118.0	TIJUANA R. ESTUARY HH1 (x2)	713	3/25/93	15	-9	-9	-9	-9
93119.0	TIJUANA R. ESTUARY HH1 (x1)	714	3/25/93	15	-9	-9	-9	-9
93120.0	TIJUANA R. ESTUARY HH2 (x1)	715	3/25/93	15	96.60	1.90	NS	0.019
93121.0	TIJUANA R. ESTUARY HH2 (x5)	716	3/25/93	15	96.60	1.70	NS	0.037
93126.0	SILVER STRAND FF7 (x2)	729	4/6/93	16	-9	-9	-9	-9
93127.0	SOUTH BAY GG2 (x1)	730	4/6/93	16	-9	-9	-9	-9
93129.0	SOUTH BAY GG4 (x1)	732	4/6/93	16	-9	-9	-9	-9
90014.0	38 SCHWARTZ	733	4/6/93	16	96.70	1.40	NS	-8
93131.0	CORONADO CAYS T1 (x1)	734	4/6/93	16	-9	-9	-9	-9
93132.0	CORONADO CAYS T3 (x1)	735	4/6/93	16	-9	-9	-9	-9
93133.0	CHANNEL-NAVAL BASE Z1 (x1)	736	4/6/93	16	-9	-9	-9	-9
93134.0	SOUTH SHORE-MOUTH BB2 (x1)	737	4/6/93	16	-9	-9	-9	-9
93135.0	SOUTH SHORE-MOUTH BB3 (x1)	738	4/6/93	16	-9	-9	-9	-9



Percent Normal Development of Abalone Larvae in Subsurface Water

STANUM	STATION	IDORG	DATE	LEG	HRS100_MN	HRS100_SD	HRS100_SG	HRS100_NH3
93136.0	NORTH SHORE-MOUTH CC2 (x1)	739	4/6/93	16	-9	-9	-9	-9
93138.0	SHELTER ISLAND E3 (x2)	741	4/6/93	16	-9	-9	-9	-9
93128.0	SOUTHBAY GG5 (x1)	750	4/6/93	16	-9	-9	-9	-9
93122.0	SOUTH SHORE-CORONADO DD3 (x1)	725	4/7/93	16	-9	-9	-9	-9
93123.0	SILVER STRAND FF1 (x1)	726	4/7/93	16	-9	-9	-9	-9
93124.0	SILVER STRAND FF2 (x1)	727	4/7/93	16	-9	-9	-9	-9
93125.0	SILVER STRAND FF4 (x4)	728	4/7/93	16	-9	-9	-9	-9
90006.0	23 SCHWARTZ	731	4/7/93	16	96.20	3.10	NS	-8
93137.0	NORTH SHORE-MOUTH CC3 (x1)	740	4/7/93	16	-9	-9	-9	-9
93139.0	COMMERCIAL BASIN F1 (x1)	742	4/7/93	16	-9	-9	-9	-9
93140.0	COMMERCIAL BASIN F2 (x1)	743	4/7/93	16	-9	-9	-9	-9
93141.0	COMMERCIAL BASIN F3 (x1)	744	4/7/93	16	-9	-9	-9	-9
90018.0	D DE LAPPE	748	4/7/93	16	96.10	1.40	NS	-8
90030.0	BF SCHROEDER SITE F	749	4/7/93	16	97.80	1.20	NS	0.003
93148.0	CHANNEL-CORONADO Y1 (x2)	751	4/7/93	16	-9	-9	-9	-9
93142.0	SOUTH SHORE-CORONADO DD1(X1)	752	4/7/93	16	-9	-9	-9	-9
93144.0	CAMPBELL SHIPYARDS N1 (x1)	754	4/20/93	17	-9	-9	-9	-9
93145.0	CAMPBELL SHIPYARDS N2 (x1)	755	4/20/93	17	-9	-9	-9	-9
93146.0	GLORIETTA BAY U2 (x1)	756	4/20/93	17	-9	-9	-9	-9
93147.0	GLORIETTA BAY U3 (x1)	757	4/20/93	17	-9	-9	-9	-9
93149.0	CHANNEL-MOUTH X1 (x1)	758	4/20/93	17	-9	-9	-9	-9
93150.0	CHANNEL-NAVAL BASE Z1 (x2)	759	4/20/93	17	-9	-9	-9	-9
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	760	4/20/93	17	-9	-9	-9	-9
93152.0	SOUTH SHORE-MOUTH BB1 (x1)	761	4/20/93	17	-9	-9	-9	-9
93154.0	NORTH SHORE-MOUTH CC4 (x1)	763	4/20/93	17	-9	-9	-9	-9
93155.0	SOUTH SHORE-CORONADO DD2 (x1)	764	4/20/93	17	-9	-9	-9	-9
93156.0	NORTH SHORE-CORONADO EE1 (x1)	765	4/20/93	17	-9	-9	-9	-9
93157.0	NORTH SHORE-CORONADO EE2 (x1)	766	4/20/93	17	-9	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1)	767	4/20/93	17	-9	-9	-9	-9
93159.0	SOUTH BAY GG3 (x1)	768	4/20/93	17	-9	-9	-9	-9
93160.0	CHANNEL-SOUTH BAY AA2(x1)BLIND	773	4/20/93	17	-9	-9	-9	-9
93143.0	FUEL PIERS D1 (x1)	753	4/21/93	17	-9	-9	-9	-9
93153.0	NORTH SHORE-MOUTH CC1 (x1)	762	4/21/93	17	-9	-9	-9	-9
93161.0	SUB BASE C1 (x1)	774	5/4/93	18	-9	-9	-9	-9
93162.0	SUB BASE C3 (x1)	775	5/4/93	18	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)	776	5/4/93	18	-9	-9	-9	-9
93164.0	SHELTER ISLAND E1 (x1)	777	5/4/93	18	-9	-9	-9	-9
93165.0	NAVY ESTUARY G1 (x1)	778	5/4/93	18	-9	-9	-9	-9
93166.0	NAVY ESTUARY G2 (x1)	779	5/4/93	18	-9	-9	-9	-9
93167.0	NAVY ESTUARY G3 (x1)	780	5/4/93	18	-9	-9	-9	-9
93169.0	EAST BASIN I2 (x1)	782	5/4/93	18	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)	784	5/4/93	18	-9	-9	-9	-9
93172.0	SILVER STRAND FF3 (x1)	785	5/4/93	18	-9	-9	-9	-9
93173.0	SILVER STRAND FF6 (x1)	786	5/4/93	18	-9	-9	-9	-9

## Percent Normal Development of Abalone Larvae in Subsurface Water

STANUM	STATION	IDORG	DATE	LEG	HRS100_MN	HRS100_SD	HRS100_SG	HRS100_NH3
93168.0	WEST BASIN H2 (x1)	781	5/5/93	18	-9	-9	-9	-9
93170.0	CHOLLAS CREEK P1 (x2)	783	5/5/93	18	-9	-9	-9	-9
93174.0	TIJUANA R. ESTUARY HH3 (x2)	787	5/5/93	18	-9	-9	-9	-9
93175.0	TIJUANA R. ESTUARY HH3 (x3)	788	5/5/93	18	-9	-9	-9	-9
93176.0	MARINE TERMINAL R6 (x1) BLIND	794	5/6/93	18	-9	-9	-9	-9
93177.0	NAVAL SHIPYARDS O1 (x1)	795	5/26/93	19	-9	-9	-9	-9
93178.0	NAVAL SHIPYARDS O2 (x1)	796	5/26/93	19	-9	-9	-9	-9
93179.0	NAVAL SHIPYARDS O3 (x1)	797	5/26/93	19	-9	-9	-9	-9
93181.0	NAVAL SHIPYARDS O6 (x1)	799	5/26/93	19	-9	-9	-9	-9
93182.0	NAVAL SHIPYARDS O8 (x4)	800	5/26/93	19	-9	-9	-9	-9
93183.0	NAVAL SHIPYARDS O9 (x1)	801	5/26/93	19	-9	-9	-9	-9
93184.0	NAVAL SHIPYARDS O11 (x1)	802	5/26/93	19	-9	-9	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)	803	5/26/93	19	-9	-9	-9	-9
93186.0	FUEL PIER D4 (x1)	804	5/26/93	19	-9	-9	-9	-9
93187.0	MARINE TERMINAL R2 (x1)	805	5/26/93	19	-9	-9	-9	-9
93188.0	CARRIER BASE V1 (x2)	806	5/26/93	19	-9	-9	-9	-9
93189.0	NAVAL SHIPYARDS O15 (x1) BLIND	814	5/26/93	19	-9	-9	-9	-9
90051.0	16 SWARTZ (INTERCONT. MARINA)	818	6/15/93	20	-9	-9	-9	-9
93192.0	INTERCONT. MARINA M1 (x2)	819	6/15/93	20	-9	-9	-9	-9
93193.0	INTERCONT. MARINA M1 (x1)	820	6/15/93	20	-9	-9	-9	-9
90037.0	STORMDRAIN EM (GRAPE ST.)-REP1	827	6/15/93	20	-9	-9	-9	-9
90037.0	STORMDRAIN EM (GRAPE ST.)-REP2	828	6/15/93	20	-9	-9	-9	-9
90037.0	STORMDRAIN EM (GRAPE ST.)-REP3	829	6/15/93	20	-9	-9	-9	-9
93198.0	INTERCONT. MARINA M2(x1) BLIND	833	6/15/93	20	-9	-9	-9	-9
90013.0	37 SWARTZ (MARINA)	815	6/16/93	20	-9	-9	-9	-9
93190.0	MARINA II1 (x1)	816	6/16/93	20	-9	-9	-9	-9
93191.0	MARINA II1 (x3)	817	6/16/93	20	-9	-9	-9	-9
90015.0	41 SWARTZ (GLORIETTA BAY)	821	6/16/93	20	-9	-9	-9	-9
93194.0	GLORIETTA BAY U1 (x1)	822	6/16/93	20	-9	-9	-9	-9
93195.0	GLORIETTA BAY U1 (x2)	823	6/16/93	20	-9	-9	-9	-9
90012.0	34 SWARTZ (C.V. YACHT BASIN)	824	6/16/93	20	-9	-9	-9	-9
93196.0	CHULA V. YACHT BASIN S1 (x1)	825	6/16/93	20	-9	-9	-9	-9
93197.0	CHULA V. YACHT BASIN S1 (x3)	826	6/16/93	20	-9	-9	-9	-9
90053.0	35 SWARTZ (CORONADO CAYS)	843	7/20/93	21	-9	-9	-9	-9
93203.0	CORONADO CAYS T2 (x1)	844	7/20/93	21	-9	-9	-9	-9
93204.0	CORONADO CAYS T2 (x2)	845	7/20/93	21	-9	-9	-9	-9
90003.0	14 SWARTZ (DOWNTOWN PIERS)	846	7/20/93	21	-9	-9	-9	-9
93205.0	DOWNTOWN PIERS K1 (x9)	847	7/20/93	21	-9	-9	-9	-9
93206.0	DOWNTOWN PIERS K1 (x11)	848	7/20/93	21	-9	-9	-9	-9
90004.0	15 SWARTZ (G ST. PIER MARINA)	849	7/20/93	21	-9	-9	-9	-9
93207.0	G ST. PIER MARINA L1 (x4)	850	7/20/93	21	-9	-9	-9	-9
93208.0	G ST. PIER MARINA L1 (x5)	851	7/20/93	21	-9	-9	-9	-9
93209.0	DOWNTOWN PIERS K4 BLIND (x4)	852	7/20/93	21	-9	-9	-9	-9
93107.0	MISSION BAY A3 (x1)-REP 1	853	7/21/93	21	-9	-9	-9	-9

Percent Normal Development of Abalone Larvae in Subsurface Water

STANUM	STATION	IDORG	DATE	LEG	HRS100_MN	HRS100_SD	HRS100_SG	HRS100_NH3
93107.0	MISSION BAY A3 (x1)-REP 2	854	7/21/93	21	-9	-9	-9	-9
93107.0	MISSION BAY A3 (x1)-REP 3	855	7/21/93	21	-9	-9	-9	-9
93112.0	MISSION BAY A8 (x1)-REP 1	856	7/21/93	21	-9	-9	-9	-9
93112.0	MISSION BAY A8 (x1)-REP 2	857	7/21/93	21	-9	-9	-9	-9
93112.0	MISSION BAY A8 (x1)-REP 3	858	7/21/93	21	-9	-9	-9	-9
93108.0	MISSION BAY A4 (x1)-REP 1	859	7/21/93	21	-9	-9	-9	-9
93108.0	MISSION BAY A4 (x1)-REP 2	860	7/21/93	21	-9	-9	-9	-9
93108.0	MISSION BAY A4 (x1)-REP 3	861	7/21/93	21	-9	-9	-9	-9
90050.0	10 SWARTZ (WEST BASIN)	837	8/3/93	21	86.69	4.51	NS	-9
93199.0	WEST BASIN H1 (x1)	838	8/3/93	21	90.53	4.67	NS	-9
93200.0	WEST BASIN H1 (x4)	839	8/3/93	21	83.92	8.34	NS	-9
90001.0	11 SWARTZ (EAST BASIN)	840	8/3/93	21	81.68	5.54	NS	-9
93201.0	EAST BASIN I1 (x1)	841	8/3/93	21	85.22	3.33	NS	-9
93202.0	EAST BASIN I1 (x5)	842	8/3/93	21	81.69	3.43	NS	-9
93180.0	NAVAL BASE/SHIPYARDS O5 (x1)	798	8/4/93	22	-9	-9	-9	-9
90021.0	K SWARTZ (NAVAL BASE O4)	862	8/4/93	22	-9	-9	-9	-9
93210.0	NAVAL BASE/SHIPYARDS O4 (x1)	863	8/4/93	22	-9	-9	-9	-9
93211.0	NAVAL BASE/SHIPYARDS O4 (x2)	864	8/4/93	22	-9	-9	-9	-9
90006.0	23 SWARTZ (NAVAL BASE O7)	865	8/4/93	22	-9	-9	-9	-9
93212.0	NAVAL BASE/SHIPYARDS O7 (x1)	866	8/4/93	22	-9	-9	-9	-9
93213.0	NAVAL BASE/SHIPYARDS O7 (x4)	867	8/4/93	22	-9	-9	-9	-9
90022.0	P SWARTZ (NAVAL BASE O12)	868	8/4/93	22	-9	-9	-9	-9
93214.0	NAVAL BASE/SHIPYARDS O12 (x3)	869	8/4/93	22	-9	-9	-9	-9
93215.0	NAVAL BASE/SHIPYARDS O12 (x4)	870	8/4/93	22	-9	-9	-9	-9
90028.0	NSB-M1 (SUB BASE C2)	871	8/4/93	22	-9	-9	-9	-9
93216.0	SUB BASE C2 (x1)	872	8/4/93	22	-9	-9	-9	-9
93217.0	SUB BASE C2 (x3)	873	8/4/93	22	-9	-9	-9	-9
93218.0	SUB BASE C2 (x11) BLIND	874	8/4/93	22	-9	-9	-9	-9
93116.0	SAN DIEGO RIVER B1 (x4)-REP 1	881	8/5/93	22	-9	-9	-9	-9
93116.0	SAN DIEGO RIVER B1 (x4)-REP 2	882	8/5/93	22	-9	-9	-9	-9
93116.0	SAN DIEGO RIVER B1 (x4)-REP 3	883	8/5/93	22	-9	-9	-9	-9
90052.0	32 SWARTZ(SWEETWATER CH)-REP 1	875	8/18/93	22	85.48	4.67	NS	-9
93219.0	SWEETWATER CH. JJ1 (x1)-REP 2	876	8/18/93	22	84.98	3.80	NS	-9
93220.0	SWEETWATER CH. JJ1 (x8)-REP 3	877	8/18/93	22	82.88	1.08	NS	-9
90002.0	12 SWARTZ(DOWNTOWN ANCH)-REP 1	878	8/18/93	22	-9	-9	-9	-9
93221.0	DOWNTOWN ANCH. J1 (x1)-REP 2	879	8/18/93	22	-9	-9	-9	-9
93222.0	DOWNTOWN ANCH. J1 (x2)-REP 3	880	8/18/93	22	-9	-9	-9	-9
90007.0	25 SWARTZ (NAVAL BASE/SY O10)	887	8/17/93	23	-9	-9	-9	-9
93223.0	NAVAL BASE/SHIPYARD O10 (x2)	888	8/17/93	23	-9	-9	-9	-9
93224.0	NAVAL BASE/SHIPYARD O10(x6)	889	8/17/93	23	-9	-9	-9	-9
90008.0	27 SWARTZ (NAVAL BASE/SH O13)	890	8/17/93	23	-9	-9	-9	-9
93225.0	NAVAL BASE/SHIPYARD O13 (x1)	891	8/17/93	23	-9	-9	-9	-9
93226.0	NAVAL BASE/SHIPYARD O13 (x3)	892	8/17/93	23	-9	-9	-9	-9
90009.0	28 SWARTZ (7TH ST CHANNEL Q1)	893	8/17/93	23	-9	-9	-9	-9

Percent Normal Development of Abalone Larvae in Subsurface Water

STANUM	STATION	IDORG	DATE	LEG	HRS100_MN	HRS100_SD	HRS100_SG	HRS100_NH3
93227.0	SEVENTH ST CHANNEL Q1 (x5)	894	8/17/93	23	-9	-9	-9	-9
93228.0	SEVENTH ST CHANNEL Q1 (x6)	895	8/17/93	23	-9	-9	-9	-9
90010.0	31 SWARTZ (MARINE TERMINAL R3)	896	8/17/93	23	-9	-9	-9	-9
93229.0	MARINE TERMINAL R3 (x1)	897	8/17/93	23	-9	-9	-9	-9
93230.0	MARINE TERMINAL R3 (x3)	898	8/17/93	23	-9	-9	-9	-9
90025.0	SDNI-N5 (CARRIER BASE V2)	899	8/18/93	23	-9	-9	-9	-9
93231.0	CARRIER BASE V2 (x6)	1000	8/18/93	23	-9	-9	-9	-9
93232.0	CARRIER BASE V2 (x7)	1001	8/18/93	23	-9	-9	-9	-9
93132.0	CORONADO CAYS T3 (x1)	1025	1/18/94	24	-9	-9	-9	-9
93129.0	SOUTH BAY GG4 (x1)	1026	1/18/94	24	-9	-9	-9	-9
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	1027	1/18/94	24	-9	-9	-9	-9
93127.0	SOUTH BAY GG2 (x1)	1028	1/18/94	24	-9	-9	-9	-9
93139.0	COMMERCIAL BASIN F1 (x1)	1030	1/18/94	24	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)	1031	1/18/94	24	-9	-9	-9	-9
93128.0	SOUTHBAY GG5 (x1)	1033	1/18/94	24	-9	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1) REP 1	1035	1/18/94	24	-9	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1) REP 2	1036	1/18/94	24	-9	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1) REP 3	1037	1/18/94	24	-9	-9	-9	-9
93122.0	S.S.- CORONADO DD3 (x1) REP 1	1013	1/19/94	24	-9	-9	-9	-9
93122.0	S.S.- CORONADO DD3 (x1) REP 2	1014	1/19/94	24	-9	-9	-9	-9
93122.0	S.S.- CORONADO DD3 (x1) REP 3	1015	1/19/94	24	-9	-9	-9	-9
93125.0	SILVER STRAND FF4 (x4) REP 1	1016	1/19/94	24	-9	-9	-9	-9
93125.0	SILVER STRAND FF4 (x4) REP 2	1017	1/19/94	24	-9	-9	-9	-9
93125.0	SILVER STRAND FF4 (x4) REP 3	1018	1/19/94	24	-9	-9	-9	-9
90057.0	5 SDG&E REP 1	1019	1/19/94	24	-9	-9	-9	-9
90057.0	5 SDG&E REP 2	1020	1/19/94	24	-9	-9	-9	-9
90057.0	5 SDG&E REP 3	1021	1/19/94	24	-9	-9	-9	-9
93117.0	SAN DIEGO RIVER B2 (x2)	1029	1/19/94	24	-9	-9	-9	-9
93120.0	TIJUANA R. ESTUARY HH2 (x1)	1032	1/19/94	24	-9	-9	-9	-9
93121.0	TIJUANA R. ESTUARY HH2 (x5)	1034	1/19/94	24	-9	-9	-9	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 1	1022	1/20/94	24	-9	-9	-9	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 2	1023	1/20/94	24	-9	-9	-9	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 3	1024	1/20/94	24	-9	-9	-9	-9
90020.0	G DE LAPPE-REP 1	1104	3/1/94	27	-9	-9	-9	-9
90020.0	G DE LAPPE-REP 2	1105	3/1/94	27	-9	-9	-9	-9
90020.0	G DE LAPPE-REP 3	1106	3/1/94	27	-9	-9	-9	-9
90022.0	P SWARTZ-REP 1	1107	3/1/94	27	-9	-9	-9	-9
90022.0	P SWARTZ-REP 2	1108	3/1/94	27	-9	-9	-9	-9
90022.0	P SWARTZ-REP 3	1109	3/1/94	27	-9	-9	-9	-9
90029.0	NSB-R1-REP 1	1113	3/1/94	27	-9	-9	-9	-9
90029.0	NSB-R1-REP 2	1114	3/1/94	27	-9	-9	-9	-9
90029.0	NSB-R1-REP 3	1115	3/1/94	27	-9	-9	-9	-9
90024.0	SDNI-N1-REP 1	1116	3/1/94	27	-9	-9	-9	-9
90024.0	SDNI-N1-REP 2	1117	3/1/94	27	-9	-9	-9	-9

Percent Normal Development of Abalone Larvae in Subsurface Water

STANUM	STATION	IDORG	DATE	LEG	HRS100_MN	HRS100_SD	HRS100_SG	HRS100_NH3
90024.0	SDNI-N1-REP 3	1118	3/1/94	27	-9	-9	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)	1125	3/1/94	27	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)	1126	3/1/94	27	-9	-9	-9	-9
93161.0	SUB BASE C1 (x1)	1127	3/1/94	27	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)	1128	3/1/94	27	-9	-9	-9	-9
90013.0	37 SWARTZ-REP 1	1098	3/2/94	27	-9	-9	-9	-9
90013.0	37 SWARTZ-REP 2	1099	3/2/94	27	-9	-9	-9	-9
90013.0	37 SWARTZ-REP 3	1100	3/2/94	27	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)-REP 1	1101	3/2/94	27	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)-REP 2	1102	3/2/94	27	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)-REP 3	1103	3/2/94	27	-9	-9	-9	-9
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 1	1110	3/2/94	27	-9	-9	-9	-9
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 2	1111	3/2/94	27	-9	-9	-9	-9
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 3	1112	3/2/94	27	-9	-9	-9	-9
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 1	1119	3/2/94	27	-9	-9	-9	-9
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 2	1120	3/2/94	27	-9	-9	-9	-9
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 3	1121	3/2/94	27	-9	-9	-9	-9
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 1	1122	3/2/94	27	-9	-9	-9	-9
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 2	1123	3/2/94	27	-9	-9	-9	-9
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 3	1124	3/2/94	27	-9	-9	-9	-9
90052.0	32 SWARTZ(SWEETWATER CH)-REP 1	1129	3/15/94	28	-9	-9	-9	-9
90052.0	32 SWARTZ(SWEETWATER CH)-REP 2	1130	3/15/94	28	-9	-9	-9	-9
90052.0	32 SWARTZ(SWEETWATER CH)-REP 3	1131	3/15/94	28	-9	-9	-9	-9
93131.0	CORONADO CAYS T1 (x1)-REP 1	1138	3/15/94	28	-9	-9	-9	-9
93131.0	CORONADO CAYS T1 (x1)-REP 2	1139	3/15/94	28	-9	-9	-9	-9
93131.0	CORONADO CAYS T1 (x1)-REP 3	1140	3/15/94	28	-9	-9	-9	-9
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP1	1141	3/15/94	28	-9	-9	-9	-9
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP2	1142	3/15/94	28	-9	-9	-9	-9
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP3	1143	3/15/94	28	-9	-9	-9	-9
90030.0	BF SCHROEDER SITE F-REP 1	1144	3/15/94	28	-9	-9	-9	-9
90030.0	BF SCHROEDER SITE F-REP 2	1145	3/15/94	28	-9	-9	-9	-9
90030.0	BF SCHROEDER SITE F-REP 3	1146	3/15/94	28	-9	-9	-9	-9
93159.0	SOUTH BAY GG3 (x1)-REP 1	1147	3/15/94	28	-9	-9	-9	-9
93159.0	SOUTH BAY GG3 (x1)-REP 2	1148	3/15/94	28	-9	-9	-9	-9
93159.0	SOUTH BAY GG3 (x1)-REP 3	1149	3/15/94	28	-9	-9	-9	-9
90043.0	CORONADO WHARF-REP 1	1156	3/15/94	28	-9	-9	-9	-9
90043.0	CORONADO WHARF-REP 2	1157	3/15/94	28	-9	-9	-9	-9
90043.0	CORONADO WHARF-REP 3	1158	3/15/94	28	-9	-9	-9	-9
93120.0	TIJUANA R. EST. HH2 (x1)-REP 1	1132	3/16/94	28	-9	-9	-9	-9
93120.0	TIJUANA R. EST. HH2 (x1)-REP 2	1133	3/16/94	28	-9	-9	-9	-9
93120.0	TIJUANA R. EST. HH2 (x1)-REP 3	1134	3/16/94	28	-9	-9	-9	-9
93121.0	TIJUANA R. EST. HH2 (x5)-REP 1	1135	3/16/94	28	-9	-9	-9	-9
93121.0	TIJUANA R. EST. HH2 (x5)-REP 2	1136	3/16/94	28	-9	-9	-9	-9
93121.0	TIJUANA R. EST. HH2 (x5)-REP 3	1137	3/16/94	28	-9	-9	-9	-9

Percent Normal Development of Abalone Larvae in Subsurface Water

STANUM	STATION	IDORG	DATE	LEG	HRS100_MN	HRS100_SD	HRS100_SG	HRS100_NH3
93174.0	TIJUANA R. EST. HH3 (x2)-REP 1	1150	3/16/94	28	-9	-9	-9	-9
93174.0	TIJUANA R. EST. HH3 (x2)-REP 2	1151	3/16/94	28	-9	-9	-9	-9
93174.0	TIJUANA R. EST. HH3 (x2)-REP 3	1152	3/16/94	28	-9	-9	-9	-9
93166.0	NAVY ESTUARY G2 (x1)-REP 1	1153	3/16/94	28	-9	-9	-9	-9
93166.0	NAVY ESTUARY G2 (x1)-REP 2	1154	3/16/94	28	-9	-9	-9	-9
93166.0	NAVY ESTUARY G2 (x1)-REP 3	1155	3/16/94	28	-9	-9	-9	-9
90037.0	STORMDRAIN EM(GRAPE ST.)-REP 1	1159	3/29/94	29	-9	-9	-9	-9
90037.0	STORMDRAIN EM(GRAPE ST.)-REP 2	1160	3/29/94	29	-9	-9	-9	-9
90037.0	STORMDRAIN EM(GRAPE ST.)-REP 3	1161	3/29/94	29	-9	-9	-9	-9
93148.0	CHANNEL-CORONADO Y1 (x2)-REP 1	1162	3/29/94	29	-9	-9	-9	-9
93148.0	CHANNEL-CORONADO Y1 (x2)-REP 2	1163	3/29/94	29	-9	-9	-9	-9
93148.0	CHANNEL-CORONADO Y1 (x2)-REP 3	1164	3/29/94	29	-9	-9	-9	-9
93138.0	SHELTER ISLAND E3 (x2)-REP 1	1165	3/29/94	29	-9	-9	-9	-9
93138.0	SHELTER ISLAND E3 (x2)-REP 2	1166	3/29/94	29	-9	-9	-9	-9
93138.0	SHELTER ISLAND E3 (x2)-REP 3	1167	3/29/94	29	-9	-9	-9	-9
93141.0	COMMERCIAL BASIN F3 (x1)-REP 1	1168	3/29/94	29	-9	-9	-9	-9
93141.0	COMMERCIAL BASIN F3 (x1)-REP 2	1169	3/29/94	29	-9	-9	-9	-9
93141.0	COMMERCIAL BASIN F3 (x1)-REP 3	1170	3/29/94	29	-9	-9	-9	-9
90018.0	D DE LAPPE-REP 1	1183	3/29/94	29	-9	-9	-9	-9
90018.0	D DE LAPPE-REP 2	1184	3/29/94	29	-9	-9	-9	-9
90018.0	D DE LAPPE-REP 3	1185	3/29/94	29	-9	-9	-9	-9
90104.0	WEST BASIN ENTRANCE(71C)-REP 1	1186	3/29/94	29	-9	-9	-9	-9
90104.0	WEST BASIN ENTRANCE(71C)-REP 2	1187	3/29/94	29	-9	-9	-9	-9
90104.0	WEST BASIN ENTRANCE(71C)-REP 3	1188	3/29/94	29	-9	-9	-9	-9
93107.0	MISSION BAY A3 (x1)-REP 1	1180	3/30/94	29	-9	-9	-9	-9
93107.0	MISSION BAY A3 (x1)-REP 2	1181	3/30/94	29	-9	-9	-9	-9
93107.0	MISSION BAY A3 (x1)-REP 3	1182	3/30/94	29	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)-REP 1	1303	5/18/94	32	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)-REP 2	1304	5/18/94	32	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)-REP 3	1305	5/18/94	32	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)-REP 1	1306	5/18/94	32	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)-REP 2	1307	5/18/94	32	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)-REP 3	1308	5/18/94	32	-9	-9	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)-REP 1	1309	5/18/94	32	-9	-9	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)-REP 2	1310	5/18/94	32	-9	-9	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)-REP 3	1311	5/18/94	32	-9	-9	-9	-9
93161.0	SUB BASE C1 (x1)-REP 1	1312	5/18/94	32	-9	-9	-9	-9
93161.0	SUB BASE C1 (x1)-REP 2	1313	5/18/94	32	-9	-9	-9	-9
93161.0	SUB BASE C1 (x1)-REP 3	1314	5/18/94	32	-9	-9	-9	-9
90013.0	37 SWARTZ	1318	5/18/94	32	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)	1319	5/18/94	32	-9	-9	-9	-9
90052.0	32 SWARTZ	1320	5/18/94	32	-9	-9	-9	-9

Section VI

Polychaete Growth and Survival

*Neanthes* Solid Phase Percent Survival

STANUM	STATION	IDORG	DATE	LEG	NASURV_MN	NASURV_SD	NASURV_SG
90006.0	23 SWARTZ	155	10/13/92	5	-9	-9	-9
90019.0	E DE LAPPE	168	10/13/92	5	-9	-9	-9
90021.0	K SWARTZ	170	10/13/92	5	-9	-9	-9
90031.0	BG SCHROEDER SITE G	180	10/13/92	5	-9	-9	-9
90038.0	CC	187	10/13/92	5	-9	-9	-9
90071.0	BAIT BARGE	220	10/13/92	5	-9	-9	-9
90101.0	SCRIPPS PIER	250	10/13/92	5	-9	-9	-9
90036.0	STORM DRAIN- ROHR CHANNEL	185	10/14/92	5	-9	-9	-9
90053.0	35 SWARTZ	202	10/14/92	5	-9	-9	-9
90054.0	36 SWARTZ	203	10/14/92	5	-9	-9	-9
90001.0	11 SWARTZ	150	10/27/92	6	100.00	0.00	NS
90002.0	12 SWARTZ	151	10/27/92	6	96.00	8.90	NS
90016.0	42 SWARTZ	165	10/27/92	6	100.00	0.00	NS
90049.0	8B	198	10/27/92	6	84.00	35.80	NS
90056.0	8A SWARTZ	205	10/27/92	6	80.00	20.00	NS
90063.0	THOMPSON SITE 205	212	10/27/92	6	100.00	0.00	NS
90003.0	14 SWARTZ	152	10/28/92	6	100.00	0.00	NS
90004.0	15 SWARTZ	153	10/28/92	6	64.00	21.90	.
90010.0	31 SWARTZ	159	10/28/92	6	100.00	0.00	NS
90011.0	33 SWARTZ	160	10/28/92	6	100.00	0.00	NS
90013.0	37 SWARTZ	162	10/28/92	6	92.00	11.00	NS
90017.0	C DELAPPE	166	10/28/92	6	92.00	18.00	NS
90048.0	6 SWARTZ	197	10/28/92	6	100.00	0.00	NS
90051.0	16 SWARTZ	200	10/28/92	6	92.00	18.00	NS
90052.0	32 SWARTZ	201	10/28/92	6	100.00	0.00	NS
90007.0	25 SWARTZ	156	11/10/92	7	-9	-9	-9
90008.0	27 SWARTZ	157	11/10/92	7	-9	-9	-9
90009.0	28 SWARTZ	158	11/10/92	7	-9	-9	-9
90022.0	P SWARTZ	171	11/10/92	7	-9	-9	-9
90026.0	SDNI-N18	175	11/10/92	7	-9	-9	-9
90027.0	NSB-S1	176	11/10/92	7	-9	-9	-9
90028.0	NSB-M1	177	11/10/92	7	-9	-9	-9
90029.0	NSB-R1	178	11/10/92	7	-9	-9	-9
90023.0	NM SANDBAG	172	11/11/92	7	-9	-9	-9
90024.0	SDNI-N1	173	11/11/92	7	-9	-9	-9
90025.0	SDNI-N5	174	11/11/92	7	-9	-9	-9
90050.0	10 SWARTZ	199	11/11/92	7	-9	-9	-9
90055.0	43 SWARTZ	204	11/11/92	7	-9	-9	-9
90102.0	HARBOR BRIDGE 71A	256	11/11/92	7	-9	-9	-9
90103.0	SCRIPPS TRIANGLE	257	11/11/92	7	-9	-9	-9
90005.0	21 SWARTZ	154	1/26/93	12	-9	-9	-9
90014.0	38 SWARTZ	163	1/26/93	12	-9	-9	-9
90018.0	D DE LAPPE	167	1/26/93	12	-9	-9	-9
90020.0	G DE LAPPE	169	1/26/93	12	-9	-9	-9



**Neanthes Solid Phase Percent Survival**

STANUM	STATION	IDORG	DATE	LEG	NASURV_MN	NASURV_SD	NASURV_SG
90030.0	BF SCHROEDER SITE F	179	1/26/93	12	-9	-9	-9
90032.0	BM SCHROEDER SITE M	181	1/26/93	12	-9	-9	-9
90037.0	STORM DRAIN EM- GRAPE STREET	186	1/26/93	12	-9	-9	-9
90039.0	CL	188	1/26/93	12	-9	-9	-9
90043.0	CORONADO WHARF	192	1/26/93	12	-9	-9	-9
90104.0	WEST BASIN ENTRANCE (71C) REF	275	1/26/93	12	-9	-9	-9
90012.0	34 SWARTZ	161	1/27/93	12	-9	-9	-9
90015.0	41 SWARTZ	164	1/27/93	12	-9	-9	-9
90040.0	SWEETWATER MARSH SD BAY	189	1/27/93	12	-9	-9	-9
90041.0	SOUTH SD BAY WETLANDS- OTAY R.	190	1/27/93	12	-9	-9	-9
90057.0	5 SDG&E	206	1/27/93	12	-9	-9	-9
90058.0	7 SDG&E	207	1/27/93	12	-9	-9	-9
93105.0	MISSION BAY A1 (x1)	700	3/23/93	15	-9	-9	-9
93106.0	MISSION BAY A2 (x1)	701	3/23/93	15	-9	-9	-9
93107.0	MISSION BAY A3 (x1)	702	3/23/93	15	-9	-9	-9
93108.0	MISSION BAY A4 (x1)	703	3/23/93	15	-9	-9	-9
93109.0	MISSION BAY A5 (x1)	704	3/23/93	15	-9	-9	-9
93110.0	MISSION BAY A6 (x1)	705	3/23/93	15	-9	-9	-9
93112.0	MISSION BAY A8 (x1)	707	3/23/93	15	-9	-9	-9
93113.0	MISSION BAY A9 (x1)	708	3/23/93	15	-9	-9	-9
93114.0	MISSION BAY A10 (x1)	709	3/23/93	15	-9	-9	-9
93115.0	MISSION BAY A11 (x1)	710	3/23/93	15	-9	-9	-9
93116.0	SAN DIEGO RIVER B1 (x4)	711	3/23/93	15	-9	-9	-9
93117.0	SAN DIEGO RIVER B2 (x2)	712	3/23/93	15	-9	-9	-9
93111.0	MISSION BAY A7 (x3)	706	3/24/93	15	-9	-9	-9
90002.0	12 SWARTZ	719	3/24/93	15	-9	-9	-9
90037.0	STORMDRAIN EM- GRAPE STREET	720	3/24/93	15	-9	-9	-9
90015.0	41 SWARTZ	721	3/24/93	15	-9	-9	-9
90012.0	34 SWARTZ	722	3/24/93	15	-9	-9	-9
90057.0	5 SDG&E	723	3/24/93	15	-9	-9	-9
90052.0	32 SWARTZ	724	3/24/93	15	-9	-9	-9
93118.0	TIJUANA R. ESTUARY HH1 (x2)	713	3/25/93	15	-9	-9	-9
93119.0	TIJUANA R. ESTUARY HH1 (x1)	714	3/25/93	15	-9	-9	-9
93120.0	TIJUANA R. ESTUARY HH2 (x1)	715	3/25/93	15	-9	-9	-9
93121.0	TIJUANA R. ESTUARY HH2 (x5)	716	3/25/93	15	-9	-9	-9
93128.0	SILVER STRAND FF7 (x2)	729	4/6/93	16	-9	-9	-9
93127.0	SOUTH BAY GG2 (x1)	730	4/6/93	16	-9	-9	-9
93129.0	SOUTH BAY GG4 (x1)	732	4/6/93	16	-9	-9	-9
90014.0	38 SCHWARTZ	733	4/6/93	16	-9	-9	-9
93131.0	CORONADO CAYS T1 (x1)	734	4/6/93	16	-9	-9	-9
93132.0	CORONADO CAYS T3 (x1)	735	4/6/93	16	-9	-9	-9
93133.0	CHANNEL-NAVAL BASE Z1 (x1)	736	4/6/93	16	-9	-9	-9
93134.0	SOUTH SHORE-MOUTH BB2 (x1)	737	4/8/93	16	-9	-9	-9
93135.0	SOUTH SHORE-MOUTH BB3 (x1)	738	4/6/93	16	-9	-9	-9

Neanthes Solid Phase Percent Survival

STANUM	STATION	IDORG	DATE	LEG	NASURV_MN	NASURV_SD	NASURV_SG
93136.0	NORTH SHORE-MOUTH CC2 (x1)	739	4/6/93	16	-9	-9	-9
93138.0	SHELTER ISLAND E3 (x2)	741	4/6/93	16	-9	-9	-9
93128.0	SOUTHBAY GG5 (x1)	750	4/6/93	16	-9	-9	-9
93122.0	SOUTH SHORE-CORONADO DD3 (x1)	725	4/7/93	16	-9	-9	-9
93123.0	SILVER STRAND FF1 (x1)	726	4/7/93	16	-9	-9	-9
93124.0	SILVER STRAND FF2 (x1)	727	4/7/93	16	-9	-9	-9
93125.0	SILVER STRAND FF4 (x4)	728	4/7/93	16	-9	-9	-9
90006.0	23 SCHWARTZ	731	4/7/93	16	-9	-9	-9
93137.0	NORTH SHORE-MOUTH CC3 (x1)	740	4/7/93	16	-9	-9	-9
93139.0	COMMERCIAL BASIN F1 (x1)	742	4/7/93	16	-9	-9	-9
93140.0	COMMERCIAL BASIN F2 (x1)	743	4/7/93	16	-9	-9	-9
93141.0	COMMERCIAL BASIN F3 (x1)	744	4/7/93	16	-9	-9	-9
90018.0	D DE LAPPE	748	4/7/93	16	-9	-9	-9
90030.0	BF SCHROEDER SITE F	749	4/7/93	16	-9	-9	-9
93148.0	CHANNEL-CORONADO Y1 (x2)	751	4/7/93	16	-9	-9	-9
93142.0	SOUTH SHORE-CORONADO DD1(X1)	752	4/7/93	16	-9	-9	-9
93144.0	CAMPBELL SHIPYARDS N1 (x1)	754	4/20/93	17	-9	-9	-9
93145.0	CAMPBELL SHIPYARDS N2 (x1)	755	4/20/93	17	-9	-9	-9
93146.0	GLORIETTA BAY U2 (x1)	756	4/20/93	17	-9	-9	-9
93147.0	GLORIETTA BAY U3 (x1)	757	4/20/93	17	-9	-9	-9
93149.0	CHANNEL-MOUTH X1 (x1)	758	4/20/93	17	-9	-9	-9
93150.0	CHANNEL-NAVAL BASE Z1 (x2)	759	4/20/93	17	-9	-9	-9
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	760	4/20/93	17	-9	-9	-9
93152.0	SOUTH SHORE-MOUTH BB1 (x1)	761	4/20/93	17	-9	-9	-9
93154.0	NORTH SHORE-MOUTH CC4 (x1)	763	4/20/93	17	-9	-9	-9
93155.0	SOUTH SHORE-CORONADO DD2 (x1)	764	4/20/93	17	-9	-9	-9
93156.0	NORTH SHORE-CORONADO EE1 (x1)	765	4/20/93	17	-9	-9	-9
93157.0	NORTH SHORE-CORONADO EE2 (x1)	766	4/20/93	17	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1)	767	4/20/93	17	-9	-9	-9
93159.0	SOUTH BAY GG3 (x1)	768	4/20/93	17	-9	-9	-9
93160.0	CHANNEL-SOUTH BAY AA2(x1)BLIND	773	4/20/93	17	-9	-9	-9
93143.0	FUEL PIERS D1 (x1)	753	4/21/93	17	-9	-9	-9
93153.0	NORTH SHORE-MOUTH CC1 (x1)	762	4/21/93	17	-9	-9	-9
93161.0	SUB BASE C1 (x1)	774	5/4/93	18	-9	-9	-9
93162.0	SUB BASE C3 (x1)	775	5/4/93	18	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)	776	5/4/93	18	-9	-9	-9
93164.0	SHELTER ISLAND E1 (x1)	777	5/4/93	18	-9	-9	-9
93165.0	NAVY ESTUARY G1 (x1)	778	5/4/93	18	-9	-9	-9
93166.0	NAVY ESTUARY G2 (x1)	779	5/4/93	18	-9	-9	-9
93167.0	NAVY ESTUARY G3 (x1)	780	5/4/93	18	-9	-9	-9
93169.0	EAST BASIN I2 (x1)	782	5/4/93	18	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)	784	5/4/93	18	-9	-9	-9
93172.0	SILVER STRAND FF3 (x1)	785	5/4/93	18	-9	-9	-9
93173.0	SILVER STRAND FF6 (x1)	788	5/4/93	18	-9	-9	-9

Neanthes Solid Phase Percent Survival

STANUM	STATION	IDORG	DATE	LEG	NASURV_MN	NASURV_SD	NASURV_SG
93168.0	WEST BASIN H2 (x1)	781	5/5/93	18	-9	-9	-9
93170.0	CHOLLAS CREEK P1 (x2)	783	5/5/93	18	-9	-9	-9
93174.0	TIJUANA R. ESTUARY HH3 (x2)	787	5/5/93	18	-9	-9	-9
93175.0	TIJUANA R. ESTUARY HH3 (x3)	788	5/5/93	18	-9	-9	-9
93176.0	MARINE TERMINAL R6 (x1) BLIND	794	5/6/93	18	-9	-9	-9
93177.0	NAVAL SHIPYARDS O1 (x1)	795	5/26/93	19	-9	-9	-9
93178.0	NAVAL SHIPYARDS O2 (x1)	796	5/26/93	19	-9	-9	-9
93179.0	NAVAL SHIPYARDS O3 (x1)	797	5/26/93	19	-9	-9	-9
93181.0	NAVAL SHIPYARDS O6 (x1)	799	5/26/93	19	-9	-9	-9
93182.0	NAVAL SHIPYARDS O8 (x4)	800	5/26/93	19	-9	-9	-9
93183.0	NAVAL SHIPYARDS O9 (x1)	801	5/26/93	19	-9	-9	-9
93184.0	NAVAL SHIPYARDS O11 (x1)	802	5/26/93	19	-9	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)	803	5/26/93	19	-9	-9	-9
93186.0	FUEL PIER D4 (x1)	804	5/26/93	19	-9	-9	-9
93187.0	MARINE TERMINAL R2 (x1)	805	5/26/93	19	-9	-9	-9
93188.0	CARRIER BASE V1 (x2)	806	5/26/93	19	-9	-9	-9
93189.0	NAVAL SHIPYARDS O15 (x1) BLIND	814	5/26/93	19	-9	-9	-9
90051.0	16 SWARTZ (INTERCONT. MARINA)	818	6/15/93	20	-9	-9	-9
93192.0	INTERCONT. MARINA M1 (x2)	819	6/15/93	20	-9	-9	-9
93193.0	INTERCONT. MARINA M1 (x1)	820	6/15/93	20	-9	-9	-9
90037.0	STORMDRAIN EM (GRAPE ST.)-REP1	827	6/15/93	20	-9	-9	-9
90037.0	STORMDRAIN EM (GRAPE ST.)-REP2	828	6/15/93	20	-9	-9	-9
90037.0	STORMDRAIN EM (GRAPE ST.)-REP3	829	6/15/93	20	-9	-9	-9
93198.0	INTERCONT. MARINA M2(x1) BLIND	833	6/15/93	20	-9	-9	-9
90013.0	37 SWARTZ (MARINA)	815	6/16/93	20	-9	-9	-9
93190.0	MARINA II1 (x1)	816	6/16/93	20	-9	-9	-9
93191.0	MARINA II1 (x3)	817	6/16/93	20	-9	-9	-9
90015.0	41 SWARTZ (GLORIETTA BAY)	821	6/16/93	20	-9	-9	-9
93194.0	GLORIETTA BAY U1 (x1)	822	6/16/93	20	-9	-9	-9
93195.0	GLORIETTA BAY U1 (x2)	823	6/16/93	20	-9	-9	-9
90012.0	34 SWARTZ (C.V. YACHT BASIN)	824	6/16/93	20	-9	-9	-9
93196.0	CHULA V. YACHT BASIN S1 (x1)	825	6/16/93	20	-9	-9	-9
93197.0	CHULA V. YACHT BASIN S1 (x3)	826	6/16/93	20	-9	-9	-9
90053.0	35 SWARTZ (CORONADO CAYS)	843	7/20/93	21	-9	-9	-9
93203.0	CORONADO CAYS T2 (x1)	844	7/20/93	21	-9	-9	-9
93204.0	CORONADO CAYS T2 (x2)	845	7/20/93	21	-9	-9	-9
90003.0	14 SWARTZ (DOWNTOWN PIERS)	846	7/20/93	21	100.00	0.00	NS
93205.0	DOWNTOWN PIERS K1 (x9)	847	7/20/93	21	88.00	17.90	NS
93206.0	DOWNTOWN PIERS K1 (x11)	848	7/20/93	21	88.00	17.90	NS
90004.0	15 SWARTZ (G ST. PIER MARINA)	849	7/20/93	21	96.00	8.90	NS
93207.0	G ST. PIER MARINA L1 (x4)	850	7/20/93	21	92.00	11.00	NS
93208.0	G ST. PIER MARINA L1 (x5)	851	7/20/93	21	92.00	11.00	NS
93209.0	DOWNTOWN PIERS K4 BLIND (x4)	852	7/20/93	21	-9	-9	-9
93107.0	MISSION BAY A3 (x1)-REP 1	853	7/21/93	21	-9	-9	-9

**Neanthes Solid Phase Percent Survival**

STANUM	STATION	IDORG	DATE	LEG	NASURV_MN	NASURV_SD	NASURV_SG
93107.0	MISSION BAY A3 (x1)-REP 2	854	7/21/93	21	-9	-9	-9
93107.0	MISSION BAY A3 (x1)-REP 3	855	7/21/93	21	-9	-9	-9
93112.0	MISSION BAY A8 (x1)-REP 1	856	7/21/93	21	-9	-9	-9
93112.0	MISSION BAY A8 (x1)-REP 2	857	7/21/93	21	-9	-9	-9
93112.0	MISSION BAY A8 (x1)-REP 3	858	7/21/93	21	-9	-9	-9
93108.0	MISSION BAY A4 (x1)-REP 1	859	7/21/93	21	-9	-9	-9
93108.0	MISSION BAY A4 (x1)-REP 2	860	7/21/93	21	-9	-9	-9
93108.0	MISSION BAY A4 (x1)-REP 3	861	7/21/93	21	-9	-9	-9
90050.0	10 SWARTZ (WEST BASIN)	837	8/3/93	21	-9	-9	-9
93199.0	WEST BASIN H1 (x1)	838	8/3/93	21	-9	-9	-9
93200.0	WEST BASIN H1 (x4)	839	8/3/93	21	-9	-9	-9
90001.0	11 SWARTZ (EAST BASIN)	840	8/3/93	21	-9	-9	-9
93201.0	EAST BASIN I1 (x1)	841	8/3/93	21	-9	-9	-9
93202.0	EAST BASIN I1 (x5)	842	8/3/93	21	-9	-9	-9
93180.0	NAVAL BASE/SHIPYARDS O5 (x1)	798	8/4/93	22	-9	-9	-9
90021.0	K SWARTZ (NAVAL BASE O4)	862	8/4/93	22	-9	-9	-9
93210.0	NAVAL BASE/SHIPYARDS O4 (x1)	863	8/4/93	22	-9	-9	-9
93211.0	NAVAL BASE/SHIPYARDS O4 (x2)	864	8/4/93	22	-9	-9	-9
90006.0	23 SWARTZ (NAVAL BASE O7)	865	8/4/93	22	-9	-9	-9
93212.0	NAVAL BASE/SHIPYARDS O7 (x1)	866	8/4/93	22	-9	-9	-9
93213.0	NAVAL BASE/SHIPYARDS O7 (x4)	867	8/4/93	22	-9	-9	-9
90022.0	P SWARTZ (NAVAL BASE O12)	868	8/4/93	22	-9	-9	-9
93214.0	NAVAL BASE/SHIPYARDS O12 (x3)	869	8/4/93	22	-9	-9	-9
93215.0	NAVAL BASE/SHIPYARDS O12 (x4)	870	8/4/93	22	-9	-9	-9
90028.0	NSB-M1 (SUB BASE C2)	871	8/4/93	22	-9	-9	-9
93216.0	SUB BASE C2 (x1)	872	8/4/93	22	-9	-9	-9
93217.0	SUB BASE C2 (x3)	873	8/4/93	22	-9	-9	-9
93218.0	SUB BASE C2 (x11) BLIND	874	8/4/93	22	-9	-9	-9
93116.0	SAN DIEGO RIVER B1 (x4)-REP 1	881	8/5/93	22	-9	-9	-9
93116.0	SAN DIEGO RIVER B1 (x4)-REP 2	882	8/5/93	22	-9	-9	-9
93116.0	SAN DIEGO RIVER B1 (x4)-REP 3	883	8/5/93	22	-9	-9	-9
90052.0	32 SWARTZ(SWEETWATER CH)-REP 1	875	8/18/93	22	100.00	0.00	NS
93219.0	SWEETWATER CH. JJ1 (x1)-REP 2	876	8/18/93	22	96.00	8.90	NS
93220.0	SWEETWATER CH. JJ1 (x8)-REP 3	877	8/18/93	22	48.00	50.20	NS
90002.0	12 SWARTZ(DOWNTOWN ANCH)-REP 1	878	8/18/93	22	68.00	41.50	NS
93221.0	DOWNTOWN ANCH. J1 (x1)-REP 2	879	8/18/93	22	84.00	16.70	NS
93222.0	DOWNTOWN ANCH. J1 (x2)-REP 3	880	8/18/93	22	100.00	0.00	NS
90007.0	25 SWARTZ (NAVAL BASE/SY O10)	887	8/17/93	23	100.00	0.00	NS
93223.0	NAVAL BASE/SHIPYARD O10 (x2)	888	8/17/93	23	96.00	8.90	NS
93224.0	NAVAL BASE/SHIPYARD O10(x6)	889	8/17/93	23	96.00	8.90	NS
90008.0	27 SWARTZ (NAVAL BASE/SH O13)	890	8/17/93	23	100.00	0.00	NS
93225.0	NAVAL BASE/SHIPYARD O13 (x1)	891	8/17/93	23	92.00	17.90	NS
93226.0	NAVAL BASE/SHIPYARD O13 (x3)	892	8/17/93	23	92.00	11.00	NS
90009.0	28 SWARTZ (7TH ST CHANNEL Q1)	893	8/17/93	23	100.00	0.00	NS

***Neanthes* Solid Phase Percent Survival**

STANUM	STATION	IDORG	DATE	LEG	NASURV_MN	NASURV_SD	NASURV_SG
93227.0	SEVENTH ST CHANNEL Q1 (x5)	894	8/17/93	23	96.00	8.90	NS
93228.0	SEVENTH ST CHANNEL Q1 (x6)	895	8/17/93	23	100.00	0.00	NS
90010.0	31 SWARTZ (MARINE TERMINAL R3)	896	8/17/93	23	100.00	0.00	NS
93229.0	MARINE TERMINAL R3 (x1)	897	8/17/93	23	92.00	17.90	NS
93230.0	MARINE TERMINAL R3 (x3)	898	8/17/93	23	88.00	17.90	NS
90025.0	SDNI-N5 (CARRIER BASE V2)	899	8/18/93	23	52.00	46.00	NS
93231.0	CARRIER BASE V2 (x6)	1000	8/18/93	23	88.00	17.90	NS
93232.0	CARRIER BASE V2 (x7)	1001	8/18/93	23	76.00	35.80	NS
93132.0	CORONADO CAYS T3 (x1)	1025	1/18/94	24	-9	-9	-9
93129.0	SOUTH BAY GG4 (x1)	1026	1/18/94	24	-9	-9	-9
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	1027	1/18/94	24	-9	-9	-9
93127.0	SOUTH BAY GG2 (x1)	1028	1/18/94	24	-9	-9	-9
93139.0	COMMERCIAL BASIN F1 (x1)	1030	1/18/94	24	-9	-9	-9
93106.0	MISSION BAY A2 (x1)	1031	1/18/94	24	-9	-9	-9
93128.0	SOUTHBAY GG5 (x1)	1033	1/18/94	24	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1) REP 1	1035	1/18/94	24	96.00	8.94	-9
93158.0	SOUTH BAY GG1 (x1) REP 2	1036	1/18/94	24	100.00	0.00	-9
93158.0	SOUTH BAY GG1 (x1) REP 3	1037	1/18/94	24	96.00	8.94	-9
93122.0	S.S.- CORONADO DD3 (x1) REP 1	1013	1/19/94	24	88.00	10.95	-9
93122.0	S.S.- CORONADO DD3 (x1) REP 2	1014	1/19/94	24	96.00	8.94	-9
93122.0	S.S.- CORONADO DD3 (x1) REP 3	1015	1/19/94	24	92.00	10.95	-9
93125.0	SILVER STRAND FF4 (x4) REP 1	1016	1/19/94	24	92.00	10.95	-9
93125.0	SILVER STRAND FF4 (x4) REP 2	1017	1/19/94	24	92.00	10.95	-9
93125.0	SILVER STRAND FF4 (x4) REP 3	1018	1/19/94	24	80.00	44.72	-9
90057.0	5 SDG&E REP 1	1019	1/19/94	24	96.00	8.94	-9
90057.0	5 SDG&E REP 2	1020	1/19/94	24	100.00	0.00	-9
90057.0	5 SDG&E REP 3	1021	1/19/94	24	100.00	0.00	-9
93117.0	SAN DIEGO RIVER B2 (x2)	1029	1/19/94	24	-9	-9	-9
93120.0	TIJUANA R. ESTUARY HH2 (x1)	1032	1/19/94	24	-9	-9	-9
93121.0	TIJUANA R. ESTUARY HH2 (x5)	1034	1/19/94	24	-9	-9	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 1	1022	1/20/94	24	72.00	33.47	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 2	1023	1/20/94	24	100.00	0.00	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 3	1024	1/20/94	24	80.00	24.49	-9
90020.0	G DE LAPPE-REP 1	1104	3/1/94	27	92.00	17.89	-9
90020.0	G DE LAPPE-REP 2	1105	3/1/94	27	76.00	43.36	-9
90020.0	G DE LAPPE-REP 3	1106	3/1/94	27	84.00	8.94	-9
90022.0	P SWARTZ-REP 1	1107	3/1/94	27	76.00	32.86	-9
90022.0	P SWARTZ-REP 2	1108	3/1/94	27	88.00	10.95	-9
90022.0	P SWARTZ-REP 3	1109	3/1/94	27	96.00	8.94	-9
90029.0	NSB-R1-REP 1	1113	3/1/94	27	88.00	26.83	-9
90029.0	NSB-R1-REP 2	1114	3/1/94	27	80.00	34.64	-9
90029.0	NSB-R1-REP 3	1115	3/1/94	27	84.00	35.78	-9
90024.0	SDNI-N1-REP 1	1116	3/1/94	27	96.00	8.94	-9
90024.0	SDNI-N1-REP 2	1117	3/1/94	27	80.00	34.64	-9

*Neanthes* Solid Phase Percent Survival

STANUM	STATION	IDORG	DATE	LEG	NASURV_MN	NASURV_SD	NASURV_SG
90024.0	SDNI-N1-REP 3	1118	3/1/94	27	96.00	8.94	-9
93185.0	NAVAL SHIPYARDS O14 (x1)	1125	3/1/94	27	96.00	8.94	-9
93163.0	FUEL PIERS D2 (x2)	1126	3/1/94	27	84.00	26.08	-9
93161.0	SUB BASE C1 (x1)	1127	3/1/94	27	100.00	0.00	-9
93171.0	MARINE TERMINAL R1 (x1)	1128	3/1/94	27	96.00	8.94	-9
90013.0	37 SWARTZ-REP 1	1098	3/2/94	27	84.00	16.73	-9
90013.0	37 SWARTZ-REP 2	1099	3/2/94	27	88.00	10.95	-9
90013.0	37 SWARTZ-REP 3	1100	3/2/94	27	92.00	10.95	-9
93106.0	MISSION BAY A2 (x1)-REP 1	1101	3/2/94	27	92.00	17.89	-9
93106.0	MISSION BAY A2 (x1)-REP 2	1102	3/2/94	27	72.00	26.83	-9
93106.0	MISSION BAY A2 (x1)-REP 3	1103	3/2/94	27	84.00	16.73	-9
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 1	1110	3/2/94	27	88.00	17.89	-9
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 2	1111	3/2/94	27	100.00	0.00	-9
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 3	1112	3/2/94	27	88.00	10.95	-9
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 1	1119	3/2/94	27	68.00	30.33	-9
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 2	1120	3/2/94	27	92.00	10.95	-9
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 3	1121	3/2/94	27	100.00	0.00	-9
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 1	1122	3/2/94	27	92.00	10.95	-9
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 2	1123	3/2/94	27	96.00	8.94	-9
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 3	1124	3/2/94	27	100.00	0.00	-9
90052.0	32 SWARTZ(SWEETWATER CH)-REP 1	1129	3/15/94	28	88.00	10.95	-9
90052.0	32 SWARTZ(SWEETWATER CH)-REP 2	1130	3/15/94	28	92.00	10.95	-9
90052.0	32 SWARTZ(SWEETWATER CH)-REP 3	1131	3/15/94	28	92.00	10.95	-9
93131.0	CORONADO CAYS T1 (x1)-REP 1	1138	3/15/94	28	76.00	16.73	-9
93131.0	CORONADO CAYS T1 (x1)-REP 2	1139	3/15/94	28	100.00	0.00	-9
93131.0	CORONADO CAYS T1 (x1)-REP 3	1140	3/15/94	28	96.00	8.94	-9
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP1	1141	3/15/94	28	96.00	8.94	-9
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP2	1142	3/15/94	28	84.00	21.91	-9
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP3	1143	3/15/94	28	100.00	0.00	-9
90030.0	BF SCHROEDER SITE F-REP 1	1144	3/15/94	28	72.00	22.80	-9
90030.0	BF SCHROEDER SITE F-REP 2	1145	3/15/94	28	88.00	17.89	-9
90030.0	BF SCHROEDER SITE F-REP 3	1146	3/15/94	28	92.00	10.95	-9
93159.0	SOUTH BAY GG3 (x1)-REP 1	1147	3/15/94	28	96.00	8.94	-9
93159.0	SOUTH BAY GG3 (x1)-REP 2	1148	3/15/94	28	100.00	0.00	-9
93159.0	SOUTH BAY GG3 (x1)-REP 3	1149	3/15/94	28	92.00	10.95	-9
90043.0	CORONADO WHARF-REP 1	1156	3/15/94	28	88.00	17.89	-9
90043.0	CORONADO WHARF-REP 2	1157	3/15/94	28	88.00	17.89	-9
90043.0	CORONADO WHARF-REP 3	1158	3/15/94	28	100.00	0.00	-9
93120.0	TIJUANA R. EST. HH2 (x1)-REP 1	1132	3/16/94	28	100.00	0.00	-9
93120.0	TIJUANA R. EST. HH2 (x1)-REP 2	1133	3/16/94	28	96.00	8.94	-9
93120.0	TIJUANA R. EST. HH2 (x1)-REP 3	1134	3/16/94	28	100.00	0.00	-9
93121.0	TIJUANA R. EST. HH2 (x5)-REP 1	1135	3/16/94	28	80.00	24.49	-9
93121.0	TIJUANA R. EST. HH2 (x5)-REP 2	1136	3/16/94	28	92.00	17.89	-9
93121.0	TIJUANA R. EST. HH2 (x5)-REP 3	1137	3/16/94	28	78.00	43.36	-9

*Neanthes* Solid Phase Percent Survival

STANUM	STATION	IDORG	DATE	LEG	NASURV_MN	NASURV_SD	NASURV_SG
93174.0	TIJUANA R. EST. HH3 (x2)-REP 1	1150	3/16/94	28	96.00	8.94	-9
93174.0	TIJUANA R. EST. HH3 (x2)-REP 2	1151	3/16/94	28	88.00	17.89	-9
93174.0	TIJUANA R. EST. HH3 (x2)-REP 3	1152	3/16/94	28	68.00	46.04	-9
93166.0	NAVY ESTUARY G2 (x1)-REP 1	1153	3/16/94	28	92.00	10.95	-9
93166.0	NAVY ESTUARY G2 (x1)-REP 2	1154	3/16/94	28	88.00	10.95	-9
93166.0	NAVY ESTUARY G2 (x1)-REP 3	1155	3/16/94	28	100.00	0.00	-9
90037.0	STORMDRAIN EM(GRAPE ST.)-REP 1	1159	3/29/94	29	92.00	10.95	-9
90037.0	STORMDRAIN EM(GRAPE ST.)-REP 2	1160	3/29/94	29	96.00	8.94	-9
90037.0	STORMDRAIN EM(GRAPE ST.)-REP 3	1161	3/29/94	29	96.00	8.94	-9
93148.0	CHANNEL-CORONADO Y1 (x2)-REP 1	1162	3/29/94	29	92.00	10.95	-9
93148.0	CHANNEL-CORONADO Y1 (x2)-REP 2	1163	3/29/94	29	100.00	0.00	-9
93148.0	CHANNEL-CORONADO Y1 (x2)-REP 3	1164	3/29/94	29	100.00	0.00	-9
93138.0	SHELTER ISLAND E3 (x2)-REP 1	1165	3/29/94	29	76.00	43.36	-9
93138.0	SHELTER ISLAND E3 (x2)-REP 2	1166	3/29/94	29	96.00	8.94	-9
93138.0	SHELTER ISLAND E3 (x2)-REP 3	1167	3/29/94	29	96.00	8.94	-9
93141.0	COMMERCIAL BASIN F3 (x1)-REP 1	1168	3/29/94	29	100.00	0.00	-9
93141.0	COMMERCIAL BASIN F3 (x1)-REP 2	1169	3/29/94	29	100.00	0.00	-9
93141.0	COMMERCIAL BASIN F3 (x1)-REP 3	1170	3/29/94	29	96.00	8.94	-9
90018.0	D DE LAPPE-REP 1	1183	3/29/94	29	72.00	43.82	-9
90018.0	D DE LAPPE-REP 2	1184	3/29/94	29	88.00	17.89	-9
90018.0	D DE LAPPE-REP 3	1185	3/29/94	29	100.00	0.00	-9
90104.0	WEST BASIN ENTRANCE(71C)-REP 1	1186	3/29/94	29	96.00	8.94	-9
90104.0	WEST BASIN ENTRANCE(71C)-REP 2	1187	3/29/94	29	100.00	0.00	-9
90104.0	WEST BASIN ENTRANCE(71C)-REP 3	1188	3/29/94	29	88.00	17.89	-9
93107.0	MISSION BAY A3 (x1)-REP 1	1180	3/30/94	29	100.00	0.00	-9
93107.0	MISSION BAY A3 (x1)-REP 2	1181	3/30/94	29	84.00	26.08	-9
93107.0	MISSION BAY A3 (x1)-REP 3	1182	3/30/94	29	92.00	10.95	-9
93163.0	FUEL PIERS D2 (x2)-REP 1	1303	5/18/94	32	96.00	8.94	-9
93163.0	FUEL PIERS D2 (x2)-REP 2	1304	5/18/94	32	80.00	14.14	-9
93163.0	FUEL PIERS D2 (x2)-REP 3	1305	5/18/94	32	96.00	8.94	-9
93171.0	MARINE TERMINAL R1 (x1)-REP 1	1306	5/18/94	32	100.00	0.00	-9
93171.0	MARINE TERMINAL R1 (x1)-REP 2	1307	5/18/94	32	100.00	0.00	-9
93171.0	MARINE TERMINAL R1 (x1)-REP 3	1308	5/18/94	32	100.00	0.00	-9
93185.0	NAVAL SHIPYARDS O14 (x1)-REP 1	1309	5/18/94	32	96.00	8.94	-9
93185.0	NAVAL SHIPYARDS O14 (x1)-REP 2	1310	5/18/94	32	100.00	0.00	-9
93185.0	NAVAL SHIPYARDS O14 (x1)-REP 3	1311	5/18/94	32	96.00	8.94	-9
93161.0	SUB BASE C1 (x1)-REP 1	1312	5/18/94	32	100.00	0.00	-9
93161.0	SUB BASE C1 (x1)-REP 2	1313	5/18/94	32	100.00	0.00	-9
93161.0	SUB BASE C1 (x1)-REP 3	1314	5/18/94	32	100.00	0.00	-9
90013.0	37 SWARTZ	1318	5/18/94	32	88.00	26.83	-9
93106.0	MISSION BAY A2 (x1)	1319	5/18/94	32	92.00	10.95	-9
90052.0	32 SWARTZ	1320	5/18/94	32	100.00	0.00	-9











Neanthes Solid Phase Weight Change (mg)

STANUM	STATION	IDORG	DATE	LEG	NAWT_MN	NAWT_SD	NAWT_SG	NA_OTNH3	NA_OUNH3	NA_OH2S	NA_ITNH3	NA_IUNH3	NA_IH2S
93107.0	MISSION BAY A3 (x1)-REP 2	854	7/21/93	21	-9	-9	-9	-9	-9	-9	-9	-9	-9
93107.0	MISSION BAY A3 (x1)-REP 3	855	7/21/93	21	-9	-9	-9	-9	-9	-9	-9	-9	-9
93112.0	MISSION BAY A8 (x1)-REP 1	856	7/21/93	21	-9	-9	-9	-9	-9	-9	-9	-9	-9
93112.0	MISSION BAY A8 (x1)-REP 2	857	7/21/93	21	-9	-9	-9	-9	-9	-9	-9	-9	-9
93112.0	MISSION BAY A8 (x1)-REP 3	858	7/21/93	21	-9	-9	-9	-9	-9	-9	-9	-9	-9
93108.0	MISSION BAY A4 (x1)-REP 1	859	7/21/93	21	-9	-9	-9	-9	-9	-9	-9	-9	-9
93108.0	MISSION BAY A4 (x1)-REP 2	860	7/21/93	21	-9	-9	-9	-9	-9	-9	-9	-9	-9
93108.0	MISSION BAY A4 (x1)-REP 3	861	7/21/93	21	-9	-9	-9	-9	-9	-9	-9	-9	-9
90050.0	10 SWARTZ (WEST BASIN)	837	8/3/93	21	-9	-9	-9	-9	-9	-9	-9	-9	-9
93199.0	WEST BASIN H1 (x1)	838	8/3/93	21	-9	-9	-9	-9	-9	-9	-9	-9	-9
93200.0	WEST BASIN H1 (x4)	839	8/3/93	21	-9	-9	-9	-9	-9	-9	-9	-9	-9
90001.0	11 SWARTZ (EAST BASIN)	840	8/3/93	21	-9	-9	-9	-9	-9	-9	-9	-9	-9
93201.0	EAST BASIN I1 (x1)	841	8/3/93	21	-9	-9	-9	-9	-9	-9	-9	-9	-9
93202.0	EAST BASIN I1 (x5)	842	8/3/93	21	-9	-9	-9	-9	-9	-9	-9	-9	-9
93180.0	NAVAL BASE/SHIPYARDS O5 (x1)	798	8/4/93	22	-9	-9	-9	-9	-9	-9	-9	-9	-9
90021.0	K SWARTZ (NAVAL BASE O4)	862	8/4/93	22	-9	-9	-9	-9	-9	-9	-9	-9	-9
93210.0	NAVAL BASE/SHIPYARDS O4 (x1)	863	8/4/93	22	-9	-9	-9	-9	-9	-9	-9	-9	-9
93211.0	NAVAL BASE/SHIPYARDS O4 (x2)	864	8/4/93	22	-9	-9	-9	-9	-9	-9	-9	-9	-9
90008.0	23 SWARTZ (NAVAL BASE O7)	865	8/4/93	22	-9	-9	-9	-9	-9	-9	-9	-9	-9
93212.0	NAVAL BASE/SHIPYARDS O7 (x1)	866	8/4/93	22	-9	-9	-9	-9	-9	-9	-9	-9	-9
93213.0	NAVAL BASE/SHIPYARDS O7 (x4)	867	8/4/93	22	-9	-9	-9	-9	-9	-9	-9	-9	-9
90022.0	P SWARTZ (NAVAL BASE O12)	868	8/4/93	22	-9	-9	-9	-9	-9	-9	-9	-9	-9
93214.0	NAVAL BASE/SHIPYARDS O12 (x3)	869	8/4/93	22	-9	-9	-9	-9	-9	-9	-9	-9	-9
93215.0	NAVAL BASE/SHIPYARDS O12 (x4)	870	8/4/93	22	-9	-9	-9	-9	-9	-9	-9	-9	-9
90028.0	NSB-M1 (SUB BASE C2)	871	8/4/93	22	-9	-9	-9	-9	-9	-9	-9	-9	-9
93216.0	SUB BASE C2 (x1)	872	8/4/93	22	-9	-9	-9	-9	-9	-9	-9	-9	-9
93217.0	SUB BASE C2 (x3)	873	8/4/93	22	-9	-9	-9	-9	-9	-9	-9	-9	-9
93218.0	SUB BASE C2 (x11) BLIND	874	8/4/93	22	-9	-9	-9	-9	-9	-9	-9	-9	-9
93118.0	SAN DIEGO RIVER B1 (x4)-REP 1	881	8/5/93	22	-9	-9	-9	-9	-9	-9	-9	-9	-9
93118.0	SAN DIEGO RIVER B1 (x4)-REP 2	882	8/5/93	22	-9	-9	-9	-9	-9	-9	-9	-9	-9
93118.0	SAN DIEGO RIVER B1 (x4)-REP 3	883	8/5/93	22	-9	-9	-9	-9	-9	-9	-9	-9	-9
90052.0	32 SWARTZ(SWEETWATER CH)-REP 1	875	8/18/93	22	10.80	1.10	*	-9	0.078	-8	-9	-9	-9
93219.0	SWEETWATER CH. JJ1 (x1)-REP 2	876	8/18/93	22	12.80	1.80	NS	-9	0.081	0.0011	-9	-9	-9
93220.0	SWEETWATER CH. JJ1 (x8)-REP 3	877	8/18/93	22	6.70	2.70	*	-9	1.074	0.0002	-9	-9	-9
90002.0	12 SWARTZ(DOWNTOWN ANCH)-REP 1	878	8/18/93	22	12.90	2.80	NS	-9	0.835	-8	-9	-9	-9
93221.0	DOWNTOWN ANCH. J1 (x1)-REP 2	879	8/18/93	22	8.70	1.30	*	-9	0.418	-8	-9	-9	-9
93222.0	DOWNTOWN ANCH. J1 (x2)-REP 3	880	8/18/93	22	12.30	2.40	NS	-9	0.132	-8	-9	-9	-9
90007.0	25 SWARTZ (NAVAL BASE/SY O10)	887	8/17/93	23	11.40	1.20	NS	-9	0.137	-8	-9	-9	-9
93223.0	NAVAL BASE/SHIPYARD O10 (x2)	888	8/17/93	23	12.60	2.50	NS	-9	0.098	-8	-9	-9	-9
93224.0	NAVAL BASE/SHIPYARD O10(x6)	889	8/17/93	23	13.10	2.60	NS	-9	0.082	-8	-9	-9	-9
90008.0	27 SWARTZ (NAVAL BASE/SH O13)	890	8/17/93	23	13.10	1.60	NS	-9	0.103	-8	-9	-9	-9
93225.0	NAVAL BASE/SHIPYARD O13 (x1)	891	8/17/93	23	11.00	1.60	NS	-9	0.090	-8	-9	-9	-9
93226.0	NAVAL BASE/SHIPYARD O13 (x3)	892	8/17/93	23	13.10	1.50	NS	-9	0.105	-8	-9	-9	-9
90009.0	28 SWARTZ (7TH ST CHANNEL Q1)	893	8/17/93	23	12.50	2.30	NS	-9	0.130	-8	-9	-9	-9

## Neanthes Solid Phase Weight Change (mg)

STANUM	STATION	IDORG	DATE	LEG	NAWT_MN	NAWT_SD	NAWT_SG	NA_OTNH3	NA_OUNH3	NA_OH2S	NA_ITNH3	NA_IUNH3	NA_IH2S
93227.0	SEVENTH ST CHANNEL Q1 (x5)	894	8/17/93	23	12.00	4.60	NS	-9	0.118	-8	-9	-9	-9
93228.0	SEVENTH ST CHANNEL Q1 (x6)	895	8/17/93	23	11.20	1.30	NS	-9	0.120	-8	-9	-9	-9
90010.0	31 SWARTZ (MARINE TERMINAL R3)	896	8/17/93	23	11.40	2.10	NS	-9	0.165	-8	-9	-9	-9
93229.0	MARINE TERMINAL R3 (x1)	897	8/17/93	23	11.20	3.10	NS	-9	0.317	-8	-9	-9	-9
93230.0	MARINE TERMINAL R3 (x3)	898	8/17/93	23	12.60	1.10	NS	-9	0.167	-8	-9	-9	-9
90025.0	SDNI-N5 (CARRIER BASE V2)	899	8/18/93	23	4.00	2.20	*	-9	1.735	0.0001	-9	-9	-9
93231.0	CARRIER BASE V2 (x6)	1000	8/18/93	23	9.30	3.90	NS	-9	1.395	0.0002	-9	-9	-9
93232.0	CARRIER BASE V2 (x7)	1001	8/18/93	23	8.90	1.90	*	-9	0.802	-8	-9	-9	-9
93132.0	CORONADO CAYS T3 (x1)	1025	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9
93129.0	SOUTH BAY GG4 (x1)	1026	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	1027	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9
93127.0	SOUTH BAY GG2 (x1)	1028	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9
93139.0	COMMERCIAL BASIN F1 (x1)	1030	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)	1031	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9
93128.0	SOUTHBAY GG5 (x1)	1033	1/18/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1) REP 1	1035	1/18/94	24	10.39	0.78	-9	11.000	0.512	-8	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1) REP 2	1036	1/18/94	24	10.11	1.74	-9	9.000	0.284	-8	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1) REP 3	1037	1/18/94	24	9.50	1.16	-9	9.000	0.318	-8	-9	-9	-9
93122.0	S.S.- CORONADO DD3 (x1) REP 1	1013	1/19/94	24	8.02	5.87	-9	19.000	0.976	-8	-9	-9	-9
93122.0	S.S.- CORONADO DD3 (x1) REP 2	1014	1/19/94	24	12.13	1.09	-9	8.000	0.288	-8	-9	-9	-9
93122.0	S.S.- CORONADO DD3 (x1) REP 3	1015	1/19/94	24	8.80	3.36	-9	12.000	0.710	-8	-9	-9	-9
93125.0	SILVER STRAND FF4 (x4) REP 1	1016	1/19/94	24	6.39	5.02	-9	40.000	1.397	-8	-9	-9	-9
93125.0	SILVER STRAND FF4 (x4) REP 2	1017	1/19/94	24	6.14	2.51	-9	21.000	0.717	-8	-9	-9	-9
93125.0	SILVER STRAND FF4 (x4) REP 3	1018	1/19/94	24	6.98	2.47	-9	19.000	0.568	-8	-9	-9	-9
90057.0	5 SDG&E REP 1	1019	1/19/94	24	15.08	4.51	-9	7.000	0.189	-8	-9	-9	-9
90057.0	5 SDG&E REP 2	1020	1/19/94	24	13.93	2.40	-9	5.000	0.179	-8	-9	-9	-9
90057.0	5 SDG&E REP 3	1021	1/19/94	24	11.60	1.53	-9	6.000	0.199	-8	-9	-9	-9
93117.0	SAN DIEGO RIVER B2 (x2)	1029	1/19/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9
93120.0	TJUANA R. ESTUARY HH2 (x1)	1032	1/19/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9
93121.0	TJUANA R. ESTUARY HH2 (x5)	1034	1/19/94	24	-9	-9	-9	-9	-9	-9	-9	-9	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 1	1022	1/20/94	24	8.84	2.94	-9	16.000	0.400	-8	-9	-9	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 2	1023	1/20/94	24	11.09	1.39	-9	9.000	0.329	-8	-9	-9	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 3	1024	1/20/94	24	11.26	4.78	-9	13.000	0.618	-8	-9	-9	-9
90020.0	G DE LAPPE-REP 1	1104	3/1/94	27	7.91	2.28	-9	9.000	0.447	0.0022	-9	-9	-9
90020.0	G DE LAPPE-REP 2	1105	3/1/94	27	12.69	2.12	-9	6.680	0.133	0.0008	-9	-9	-9
90020.0	G DE LAPPE-REP 3	1106	3/1/94	27	9.36	2.77	-9	5.870	0.227	0.0019	-9	-9	-9
90022.0	P SWARTZ-REP 1	1107	3/1/94	27	8.94	2.01	-9	6.600	0.281	0.0030	-9	-9	-9
90022.0	P SWARTZ-REP 2	1108	3/1/94	27	10.59	3.84	-9	6.890	0.161	0.0033	-9	-9	-9
90022.0	P SWARTZ-REP 3	1109	3/1/94	27	9.51	5.46	-9	4.750	0.220	0.0011	-9	-9	-9
90029.0	NSB-R1-REP 1	1113	3/1/94	27	8.96	3.83	-9	6.260	0.224	0.0041	-9	-9	-9
90029.0	NSB-R1-REP 2	1114	3/1/94	27	7.99	2.76	-9	7.110	0.271	0.0016	-9	-9	-9
90029.0	NSB-R1-REP 3	1115	3/1/94	27	7.60	4.03	-9	9.040	0.353	0.0044	-9	-9	-9
90024.0	SDNI-N1-REP 1	1116	3/1/94	27	7.71	1.26	-9	9.830	0.662	0.0050	-9	-9	-9
90024.0	SDNI-N1-REP 2	1117	3/1/94	27	8.40	1.30	-9	6.690	0.285	0.0027	-9	-9	-9

Neanthes Solid Phase Weight Change (mg)

STANUM	STATION	IDORG	DATE	LEG	NAWT_MN	NAWT_SD	NAWT_SG	NA_OTNH3	NA_OUNH3	NA_OH2S	NA_ITNH3	NA_IUNH3	NA_IH2S
90024.0	SDNI-N1-REP 3	1118	3/1/94	27	10.52	1.48	-9	6.100	0.181	0.0078	-9	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)	1125	3/1/94	27	9.06	1.50	-9	2.900	0.069	0.0015	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)	1128	3/1/94	27	11.25	3.65	-9	2.660	0.058	0.0011	-9	-9	-9
93161.0	SUB BASE C1 (x1)	1127	3/1/94	27	10.19	3.15	-9	8.600	0.164	0.0021	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)	1128	3/1/94	27	9.02	1.73	-9	4.100	0.076	0.0034	-9	-9	-9
90013.0	37 SWARTZ-REP 1	1098	3/2/94	27	9.48	5.29	-9	6.190	0.190	0.0045	-9	-9	-9
90013.0	37 SWARTZ-REP 2	1099	3/2/94	27	10.52	2.43	-9	10.500	0.328	0.0024	-9	-9	-9
90013.0	37 SWARTZ-REP 3	1100	3/2/94	27	9.94	3.94	-9	7.980	0.307	0.0033	-9	-9	-9
93106.0	MISSION BAY A2 (x1)-REP 1	1101	3/2/94	27	11.71	0.80	-9	9.000	0.321	0.0013	-9	-9	-9
93106.0	MISSION BAY A2 (x1)-REP 2	1102	3/2/94	27	12.95	4.18	-9	8.380	0.375	0.0012	-9	-9	-9
93106.0	MISSION BAY A2 (x1)-REP 3	1103	3/2/94	27	12.12	4.27	-9	5.620	0.253	0.0003	-9	-9	-9
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 1	1110	3/2/94	27	10.26	3.52	-9	5.400	0.176	0.0005	-9	-9	-9
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 2	1111	3/2/94	27	9.68	3.44	-9	5.330	0.180	0.0038	-9	-9	-9
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 3	1112	3/2/94	27	7.51	2.54	-9	5.700	0.190	0.0064	-9	-9	-9
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 1	1119	3/2/94	27	10.40	3.95	-9	12.000	0.383	0.0015	-9	-9	-9
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 2	1120	3/2/94	27	8.50	1.94	-9	14.000	0.428	0.0018	-9	-9	-9
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 3	1121	3/2/94	27	10.23	3.88	-9	9.080	0.222	0.0090	-9	-9	-9
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 1	1122	3/2/94	27	6.97	2.86	-9	9.100	0.254	0.0022	-9	-9	-9
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 2	1123	3/2/94	27	9.49	5.23	-9	5.060	0.177	0.0018	-9	-9	-9
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 3	1124	3/2/94	27	8.54	1.80	-9	4.900	0.266	0.0010	-9	-9	-9
90052.0	32 SWARTZ(SWEETWATER CH)-REP 1	1129	3/15/94	28	9.41	2.54	-9	1.050	0.041	0.0007	-9	-9	-9
90052.0	32 SWARTZ(SWEETWATER CH)-REP 2	1130	3/15/94	28	7.85	2.74	-9	0.330	0.015	0.0010	-9	-9	-9
90052.0	32 SWARTZ(SWEETWATER CH)-REP 3	1131	3/15/94	28	8.65	3.15	-9	3.900	0.166	0.0011	-9	-9	-9
93131.0	CORONADO CAYS T1 (x1)-REP 1	1138	3/15/94	28	8.16	4.16	-9	1.300	0.041	0.0018	-9	-9	-9
93131.0	CORONADO CAYS T1 (x1)-REP 2	1139	3/15/94	28	7.92	2.19	-9	2.900	0.104	0.0018	-9	-9	-9
93131.0	CORONADO CAYS T1 (x1)-REP 3	1140	3/15/94	28	7.99	1.96	-9	2.400	0.075	0.0025	-9	-9	-9
93180.0	CHANNEL-SOUTH BAY AA2(x1)-REP1	1141	3/15/94	28	6.22	2.40	-9	2.900	0.108	0.0012	-9	-9	-9
93180.0	CHANNEL-SOUTH BAY AA2(x1)-REP2	1142	3/15/94	28	8.92	3.73	-9	3.400	0.193	0.0012	-9	-9	-9
93180.0	CHANNEL-SOUTH BAY AA2(x1)-REP3	1143	3/15/94	28	7.02	1.99	-9	4.800	0.140	0.0011	-9	-9	-9
90030.0	BF SCHROEDER SITE F-REP 1	1144	3/15/94	28	7.20	4.90	-9	2.000	0.065	0.0036	-9	-9	-9
90030.0	BF SCHROEDER SITE F-REP 2	1145	3/15/94	28	8.19	2.94	-9	3.300	0.148	0.0004	-9	-9	-9
90030.0	BF SCHROEDER SITE F-REP 3	1146	3/15/94	28	5.70	1.72	-9	0.510	0.021	0.0017	-9	-9	-9
93159.0	SOUTH BAY GG3 (x1)-REP 1	1147	3/15/94	28	9.89	4.18	-9	5.300	0.247	0.0008	-9	-9	-9
93159.0	SOUTH BAY GG3 (x1)-REP 2	1148	3/15/94	28	7.71	1.78	-9	3.700	0.192	0.0005	-9	-9	-9
93159.0	SOUTH BAY GG3 (x1)-REP 3	1149	3/15/94	28	8.69	3.66	-9	7.100	0.232	0.0009	-9	-9	-9
90043.0	CORONADO WHARF-REP 1	1156	3/15/94	28	6.17	1.41	-9	14.000	0.571	0.0013	-9	-9	-9
90043.0	CORONADO WHARF-REP 2	1157	3/15/94	28	5.12	1.21	-9	13.000	0.618	0.0061	-9	-9	-9
90043.0	CORONADO WHARF-REP 3	1158	3/15/94	28	6.02	1.63	-9	9.700	0.442	0.0037	-9	-9	-9
93120.0	TIJUANA R. EST. HH2 (x1)-REP 1	1132	3/16/94	28	6.96	3.46	-9	6.000	0.229	0.0033	-9	-9	-9
93120.0	TIJUANA R. EST. HH2 (x1)-REP 2	1133	3/16/94	28	5.73	1.78	-9	7.800	0.281	0.0032	-9	-9	-9
93120.0	TIJUANA R. EST. HH2 (x1)-REP 3	1134	3/16/94	28	7.79	1.62	-9	7.500	0.313	0.0042	-9	-9	-9
93121.0	TIJUANA R. EST. HH2 (x5)-REP 1	1135	3/16/94	28	5.37	1.71	-9	6.000	0.261	0.0038	-9	-9	-9
93121.0	TIJUANA R. EST. HH2 (x5)-REP 2	1136	3/16/94	28	10.97	7.52	-9	6.700	0.279	0.0034	-9	-9	-9
93121.0	TIJUANA R. EST. HH2 (x5)-REP 3	1137	3/16/94	28	5.95	2.03	-9	5.990	0.244	0.0038	-9	-9	-9

Neanthes Solid Phase Weight Change (mg)

STANUM	STATION	IDORG	DATE	LEG	NAWT_MN	NAWT_SD	NAWT_SG	NA_OTNH3	NA_OUNH3	NA_OH2S	NA_ITNH3	NA_IUNH3	NA_IH2S
93174.0	TIJUANA R. EST. HH3 (x2)-REP 1	1150	3/16/94	28	6.55	1.50	-9	9.920	0.339	0.0080	-9	-9	-9
93174.0	TIJUANA R. EST. HH3 (x2)-REP 2	1151	3/16/94	28	4.54	1.27	-9	10.000	0.342	0.0065	-9	-9	-9
93174.0	TIJUANA R. EST. HH3 (x2)-REP 3	1152	3/16/94	28	6.10	1.23	-9	9.300	0.347	0.0050	-9	-9	-9
93166.0	NAVY ESTUARY G2 (x1)-REP 1	1153	3/16/94	28	7.51	2.87	-9	3.620	0.122	0.0015	-9	-9	-9
93166.0	NAVY ESTUARY G2 (x1)-REP 2	1154	3/16/94	28	8.62	2.10	-9	3.900	0.174	0.0007	-9	-9	-9
93166.0	NAVY ESTUARY G2 (x1)-REP 3	1155	3/16/94	28	10.98	3.96	-9	4.300	0.228	0.0012	-9	-9	-9
90037.0	STORMDRAIN EM(GRAPE ST.)-REP 1	1159	3/29/94	29	13.51	1.49	-9	7.980	0.333	0.0032	-9	-9	-9
90037.0	STORMDRAIN EM(GRAPE ST.)-REP 2	1160	3/29/94	29	10.48	3.48	-9	7.360	0.465	0.0020	-9	-9	-9
90037.0	STORMDRAIN EM(GRAPE ST.)-REP 3	1161	3/29/94	29	9.08	4.61	-9	8.910	0.527	0.0024	-9	-9	-9
93148.0	CHANNEL-CORONADO Y1 (x2)-REP 1	1162	3/29/94	29	15.58	4.75	-9	8.990	0.568	0.0015	-9	-9	-9
93148.0	CHANNEL-CORONADO Y1 (x2)-REP 2	1163	3/29/94	29	13.10	5.94	-9	7.500	0.234	0.0018	-9	-9	-9
93148.0	CHANNEL-CORONADO Y1 (x2)-REP 3	1164	3/29/94	29	10.90	2.65	-9	6.000	0.223	0.0025	-9	-9	-9
93138.0	SHELTER ISLAND E3 (x2)-REP 1	1165	3/29/94	29	13.04	3.97	-9	14.000	0.466	0.0038	-9	-9	-9
93138.0	SHELTER ISLAND E3 (x2)-REP 2	1166	3/29/94	29	11.40	2.38	-9	8.840	0.337	0.0039	-9	-9	-9
93138.0	SHELTER ISLAND E3 (x2)-REP 3	1167	3/29/94	29	12.98	4.52	-9	5.710	0.154	0.0032	-9	-9	-9
93141.0	COMMERCIAL BASIN F3 (x1)-REP 1	1168	3/29/94	29	9.84	2.08	-9	9.240	0.290	0.0036	-9	-9	-9
93141.0	COMMERCIAL BASIN F3 (x1)-REP 2	1169	3/29/94	29	12.32	1.89	-9	5.590	0.122	0.0027	-9	-9	-9
93141.0	COMMERCIAL BASIN F3 (x1)-REP 3	1170	3/29/94	29	8.60	2.30	-9	7.710	0.294	0.0025	-9	-9	-9
90018.0	D DE LAPPE-REP 1	1183	3/29/94	29	11.93	7.73	-9	5.800	0.189	0.0043	-9	-9	-9
90018.0	D DE LAPPE-REP 2	1184	3/29/94	29	10.17	4.28	-9	2.700	0.067	0.0045	-9	-9	-9
90018.0	D DE LAPPE-REP 3	1185	3/29/94	29	12.19	3.71	-9	2.290	0.078	0.0023	-9	-9	-9
90104.0	WEST BASIN ENTRANCE(71C)-REP 1	1188	3/29/94	29	12.54	3.86	-9	5.790	0.220	0.0037	-9	-9	-9
90104.0	WEST BASIN ENTRANCE(71C)-REP 2	1187	3/29/94	29	10.58	2.88	-9	7.120	0.233	0.0032	-9	-9	-9
90104.0	WEST BASIN ENTRANCE(71C)-REP 3	1188	3/29/94	29	13.35	4.46	-9	6.500	0.217	0.0041	-9	-9	-9
93107.0	MISSION BAY A3 (x1)-REP 1	1180	3/30/94	29	10.18	1.01	-9	4.270	0.112	0.0034	-9	-9	-9
93107.0	MISSION BAY A3 (x1)-REP 2	1181	3/30/94	29	12.07	5.41	-9	4.200	0.299	0.0023	-9	-9	-9
93107.0	MISSION BAY A3 (x1)-REP 3	1182	3/30/94	29	12.81	4.20	-9	4.850	0.367	0.0045	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)-REP 1	1303	5/18/94	32	8.43	1.81	-9	14.000	0.340	0.0026	13.000	0.157	0.0362
93163.0	FUEL PIERS D2 (x2)-REP 2	1304	5/18/94	32	7.46	2.04	-9	13.000	0.304	0.0028	12.000	0.133	0.0356
93163.0	FUEL PIERS D2 (x2)-REP 3	1305	5/18/94	32	6.53	0.86	-9	10.000	0.239	0.0031	13.000	0.131	0.0315
93171.0	MARINE TERMINAL R1 (x1)-REP 1	1306	5/18/94	32	7.48	1.70	-9	8.200	0.240	0.0024	3.300	0.032	0.0256
93171.0	MARINE TERMINAL R1 (x1)-REP 2	1307	5/18/94	32	8.27	2.57	-9	8.200	0.175	0.0015	4.000	0.022	0.0090
93171.0	MARINE TERMINAL R1 (x1)-REP 3	1308	5/18/94	32	8.14	1.97	-9	7.600	0.190	0.0016	2.900	0.031	0.0029
93185.0	NAVAL SHIPYARDS O14 (x1)-REP 1	1309	5/18/94	32	11.17	4.51	-9	8.700	0.208	0.0018	2.000	0.043	0.0026
93185.0	NAVAL SHIPYARDS O14 (x1)-REP 2	1310	5/18/94	32	9.36	2.08	-9	6.000	0.122	0.0013	2.400	0.027	0.0042
93185.0	NAVAL SHIPYARDS O14 (x1)-REP 3	1311	5/18/94	32	9.95	1.82	-9	13.000	0.310	0.0010	3.300	0.017	0.0076
93181.0	SUB BASE C1 (x1)-REP 1	1312	5/18/94	32	8.89	2.12	-9	14.000	0.327	0.0032	17.000	0.220	0.0173
93181.0	SUB BASE C1 (x1)-REP 2	1313	5/18/94	32	8.34	3.32	-9	8.800	0.157	0.0019	9.500	0.100	0.0673
93181.0	SUB BASE C1 (x1)-REP 3	1314	5/18/94	32	8.27	3.30	-9	9.200	0.275	0.0008	9.900	0.087	0.0163
90013.0	37 SWARTZ	1318	5/18/94	32	8.12	2.36	-9	8.700	0.145	0.0020	2.600	0.021	0.0021
93106.0	MISSION BAY A2 (x1)	1319	5/18/94	32	8.43	2.73	-9	7.400	0.181	0.0038	7.800	0.091	0.0475
90052.0	32 SWARTZ	1320	5/18/94	32	7.72	0.93	-9	12.000	0.328	0.0030	2.700	0.037	0.0059

Section VII  
Mussel Development  
in Subsurface Water



Percent Normal Shell Development of Mussel Larvae in Subsurface Water

STANUM	STATION	IDORG	DATE	LEG	MES100_MN	MES100_SD	MES100_SG	MES100_NH3
90006.0	23 SWARTZ	155	10/13/92	5	-9	-9	-9	-9
90019.0	E DE LAPPE	168	10/13/92	5	-9	-9	-9	-9
90021.0	K SWARTZ	170	10/13/92	5	-9	-9	-9	-9
90031.0	BG SCHROEDER SITE G	180	10/13/92	5	-9	-9	-9	-9
90038.0	CC	187	10/13/92	5	-9	-9	-9	-9
90071.0	BAIT BARGE	220	10/13/92	5	-9	-9	-9	-9
90101.0	SCRIPPS PIER	250	10/13/92	5	-9	-9	-9	-9
90036.0	STORM DRAIN- ROHR CHANNEL	185	10/14/92	5	-9	-9	-9	-9
90053.0	35 SWARTZ	202	10/14/92	5	-9	-9	-9	-9
90054.0	36 SWARTZ	203	10/14/92	5	-9	-9	-9	-9
90001.0	11 SWARTZ	150	10/27/92	6	-9	-9	-9	-9
90002.0	12 SWARTZ	151	10/27/92	6	-9	-9	-9	-9
90016.0	42 SWARTZ	165	10/27/92	6	-9	-9	-9	-9
90049.0	8B	198	10/27/92	6	-9	-9	-9	-9
90056.0	8A SWARTZ	205	10/27/92	6	-9	-9	-9	-9
90063.0	THOMPSON SITE 205	212	10/27/92	6	-9	-9	-9	-9
90003.0	14 SWARTZ	152	10/28/92	6	-9	-9	-9	-9
90004.0	15 SWARTZ	153	10/28/92	6	-9	-9	-9	-9
90010.0	31 SWARTZ	159	10/28/92	6	-9	-9	-9	-9
90011.0	33 SWARTZ	160	10/28/92	6	-9	-9	-9	-9
90013.0	37 SWARTZ	162	10/28/92	6	-9	-9	-9	-9
90017.0	C DELAPPE	166	10/28/92	6	-9	-9	-9	-9
90048.0	6 SWARTZ	197	10/28/92	6	-9	-9	-9	-9
90051.0	16 SWARTZ	200	10/28/92	6	-9	-9	-9	-9
90052.0	32 SWARTZ	201	10/28/92	6	-9	-9	-9	-9
90007.0	25 SWARTZ	156	11/10/92	7	-9	-9	-9	-9
90008.0	27 SWARTZ	157	11/10/92	7	-9	-9	-9	-9
90009.0	28 SWARTZ	158	11/10/92	7	-9	-9	-9	-9
90022.0	P SWARTZ	171	11/10/92	7	-9	-9	-9	-9
90026.0	SDNI-N18	175	11/10/92	7	-9	-9	-9	-9
90027.0	NSB-S1	176	11/10/92	7	-9	-9	-9	-9
90028.0	NSB-M1	177	11/10/92	7	-9	-9	-9	-9
90029.0	NSB-R1	178	11/10/92	7	-9	-9	-9	-9
90023.0	NM SANDBAG	172	11/11/92	7	-9	-9	-9	-9
90024.0	SDNI-N1	173	11/11/92	7	-9	-9	-9	-9
90025.0	SDNI-N5	174	11/11/92	7	-9	-9	-9	-9
90050.0	10 SWARTZ	199	11/11/92	7	-9	-9	-9	-9
90055.0	43 SWARTZ	204	11/11/92	7	-9	-9	-9	-9
90102.0	HARBOR BRIDGE 71A	256	11/11/92	7	-9	-9	-9	-9
90103.0	SCRIPPS TRIANGLE	257	11/11/92	7	-9	-9	-9	-9
90005.0	21 SWARTZ	154	1/26/93	12	-9	-9	-9	-9
90014.0	38 SWARTZ	163	1/26/93	12	100.00	0.00	NS	-8
90018.0	D DE LAPPE	167	1/26/93	12	-9	-9	-9	-9
90020.0	G DE LAPPE	169	1/26/93	12	100.00	0.00	NS	-8

## Percent Normal Shell Development of Mussel Larvae in Subsurface Water

STANUM	STATION	IDORG	DATE	LEG	MES100_MN	MES100_SD	MES100_SG	MES100_NH3
90030.0	BF SCHROEDER SITE F	179	1/26/93	12	-9	-9	-9	-9
90032.0	BM SCHROEDER SITE M	181	1/26/93	12	-9	-9	-9	-9
90037.0	STORM DRAIN EM- GRAPE STREET	186	1/26/93	12	-9	-9	-9	-9
90039.0	CL	188	1/26/93	12	-9	-9	-9	-9
90043.0	CORONADO WHARF	192	1/26/93	12	100.00	0.00	NS	-8
90104.0	WEST BASIN ENTRANCE (71C) REF	275	1/26/93	12	-9	-9	-9	-9
90012.0	34 SWARTZ	161	1/27/93	12	94.50	12.20	NS	-8
90015.0	41 SWARTZ	164	1/27/93	12	-9	-9	-9	-9
90040.0	SWEETWATER MARSH SD BAY	189	1/27/93	12	100.00	0.00	NS	-8
90041.0	SOUTH SD BAY WETLANDS- OTAY R.	190	1/27/93	12	100.00	0.00	NS	-8
90057.0	5 SDG&E	206	1/27/93	12	100.00	0.00	NS	-8
90058.0	7 SDG&E	207	1/27/93	12	100.00	0.00	NS	-8
93105.0	MISSION BAY A1 (x1)	700	3/23/93	15	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)	701	3/23/93	15	-9	-9	-9	-9
93107.0	MISSION BAY A3 (x1)	702	3/23/93	15	-9	-9	-9	-9
93108.0	MISSION BAY A4 (x1)	703	3/23/93	15	-9	-9	-9	-9
93109.0	MISSION BAY A5 (x1)	704	3/23/93	15	-9	-9	-9	-9
93110.0	MISSION BAY A6 (x1)	705	3/23/93	15	-9	-9	-9	-9
93112.0	MISSION BAY A8 (x1)	707	3/23/93	15	-9	-9	-9	-9
93113.0	MISSION BAY A9 (x1)	708	3/23/93	15	-9	-9	-9	-9
93114.0	MISSION BAY A10 (x1)	709	3/23/93	15	-9	-9	-9	-9
93115.0	MISSION BAY A11 (x1)	710	3/23/93	15	-9	-9	-9	-9
93116.0	SAN DIEGO RIVER B1 (x4)	711	3/23/93	15	-9	-9	-9	-9
93117.0	SAN DIEGO RIVER B2 (x2)	712	3/23/93	15	-9	-9	-9	-9
93111.0	MISSION BAY A7 (x3)	706	3/24/93	15	-9	-9	-9	-9
90002.0	12 SWARTZ	719	3/24/93	15	-9	-9	-9	-9
90037.0	STORMDRAIN EM- GRAPE STREET	720	3/24/93	15	-9	-9	-9	-9
90015.0	41 SWARTZ	721	3/24/93	15	-9	-9	-9	-9
90012.0	34 SWARTZ	722	3/24/93	15	-9	-9	-9	-9
90057.0	5 SDG&E	723	3/24/93	15	-9	-9	-9	-9
90052.0	32 SWARTZ	724	3/24/93	15	-9	-9	-9	-9
93118.0	TIJUANA R. ESTUARY HH1 (x2)	713	3/25/93	15	-9	-9	-9	-9
93119.0	TIJUANA R. ESTUARY HH1 (x1)	714	3/25/93	15	-9	-9	-9	-9
93120.0	TIJUANA R. ESTUARY HH2 (x1)	715	3/25/93	15	-9	-9	-9	-9
93121.0	TIJUANA R. ESTUARY HH2 (x5)	716	3/25/93	15	-9	-9	-9	-9
93126.0	SILVER STRAND FF7 (x2)	729	4/6/93	16	-9	-9	-9	-9
93127.0	SOUTH BAY GG2 (x1)	730	4/6/93	16	-9	-9	-9	-9
93129.0	SOUTH BAY GG4 (x1)	732	4/6/93	16	-9	-9	-9	-9
90014.0	38 SCHWARTZ	733	4/6/93	16	-9	-9	-9	-9
93131.0	CORONADO CAYS T1 (x1)	734	4/6/93	16	-9	-9	-9	-9
93132.0	CORONADO CAYS T3 (x1)	735	4/6/93	16	-9	-9	-9	-9
93133.0	CHANNEL-NAVAL BASE Z1 (x1)	736	4/6/93	16	-9	-9	-9	-9
93134.0	SOUTH SHORE-MOUTH BB2 (x1)	737	4/6/93	16	-9	-9	-9	-9
93135.0	SOUTH SHORE-MOUTH BB3 (x1)	738	4/6/93	16	-9	-9	-9	-9

Percent Normal Shell Development of Mussel Larvae in Subsurface Water

STANUM	STATION	IDORG	DATE	LEG	MES100_MN	MES100_SD	MES100_SG	MES100_NH3
93136.0	NORTH SHORE-MOUTH CC2 (x1)	739	4/6/93	16	-9	-9	-9	-9
93138.0	SHELTER ISLAND E3 (x2)	741	4/6/93	16	-9	-9	-9	-9
93128.0	SOUTHBAY GG5 (x1)	750	4/6/93	16	-9	-9	-9	-9
93122.0	SOUTH SHORE-CORONADO DD3 (x1)	725	4/7/93	16	-9	-9	-9	-9
93123.0	SILVER STRAND FF1 (x1)	726	4/7/93	16	-9	-9	-9	-9
93124.0	SILVER STRAND FF2 (x1)	727	4/7/93	16	-9	-9	-9	-9
93125.0	SILVER STRAND FF4 (x4)	728	4/7/93	16	-9	-9	-9	-9
90006.0	23 SCHWARTZ	731	4/7/93	16	-9	-9	-9	-9
93137.0	NORTH SHORE-MOUTH CC3 (x1)	740	4/7/93	16	-9	-9	-9	-9
93139.0	COMMERCIAL BASIN F1 (x1)	742	4/7/93	16	-9	-9	-9	-9
93140.0	COMMERCIAL BASIN F2 (x1)	743	4/7/93	16	-9	-9	-9	-9
93141.0	COMMERCIAL BASIN F3 (x1)	744	4/7/93	16	-9	-9	-9	-9
90018.0	D DE LAPPE	748	4/7/93	16	-9	-9	-9	-9
90030.0	BF SCHROEDER SITE F	749	4/7/93	16	-9	-9	-9	-9
93148.0	CHANNEL-CORONADO Y1 (x2)	751	4/7/93	16	-9	-9	-9	-9
93142.0	SOUTH SHORE-CORONADO DD1(X1)	752	4/7/93	16	-9	-9	-9	-9
93144.0	CAMPBELL SHIPYARDS N1 (x1)	754	4/20/93	17	-9	-9	-9	-9
93145.0	CAMPBELL SHIPYARDS N2 (x1)	755	4/20/93	17	-9	-9	-9	-9
93146.0	GLORIETTA BAY U2 (x1)	756	4/20/93	17	-9	-9	-9	-9
93147.0	GLORIETTA BAY U3 (x1)	757	4/20/93	17	-9	-9	-9	-9
93149.0	CHANNEL-MOUTH X1 (x1)	758	4/20/93	17	-9	-9	-9	-9
93150.0	CHANNEL-NAVAL BASE Z1 (x2)	759	4/20/93	17	-9	-9	-9	-9
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	760	4/20/93	17	-9	-9	-9	-9
93152.0	SOUTH SHORE-MOUTH BB1 (x1)	761	4/20/93	17	-9	-9	-9	-9
93154.0	NORTH SHORE-MOUTH CC4 (x1)	763	4/20/93	17	-9	-9	-9	-9
93155.0	SOUTH SHORE-CORONADO DD2 (x1)	764	4/20/93	17	-9	-9	-9	-9
93156.0	NORTH SHORE-CORONADO EE1 (x1)	765	4/20/93	17	-9	-9	-9	-9
93157.0	NORTH SHORE-CORONADO EE2 (x1)	766	4/20/93	17	-9	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1)	767	4/20/93	17	-9	-9	-9	-9
93159.0	SOUTH BAY GG3 (x1)	768	4/20/93	17	-9	-9	-9	-9
93160.0	CHANNEL-SOUTH BAY AA2(x1)BLIND	773	4/20/93	17	-9	-9	-9	-9
93143.0	FUEL PIERS D1 (x1)	753	4/21/93	17	-9	-9	-9	-9
93153.0	NORTH SHORE-MOUTH CC1 (x1 )	762	4/21/93	17	-9	-9	-9	-9
93161.0	SUB BASE C1 (x1)	774	5/4/93	18	-9	-9	-9	-9
93162.0	SUB BASE C3 (x1)	775	5/4/93	18	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)	776	5/4/93	18	-9	-9	-9	-9
93164.0	SHELTER ISLAND E1 (x1)	777	5/4/93	18	-9	-9	-9	-9
93165.0	NAVY ESTUARY G1 (x1)	778	5/4/93	18	-9	-9	-9	-9
93166.0	NAVY ESTUARY G2 (x1)	779	5/4/93	18	-9	-9	-9	-9
93167.0	NAVY ESTUARY G3 (x1)	780	5/4/93	18	-9	-9	-9	-9
93169.0	EAST BASIN I2 (x1)	782	5/4/93	18	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)	784	5/4/93	18	-9	-9	-9	-9
93172.0	SILVER STRAND FF3 (x1)	785	5/4/93	18	-9	-9	-9	-9
93173.0	SILVER STRAND FF6 (x1)	786	5/4/93	18	-9	-9	-9	-9

Percent Normal Shell Development of Mussel Larvae in Subsurface Water

STANUM	STATION	IDORG	DATE	LEG	MES100_MN	MES100_SD	MES100_SG	MES100_NH3
93168.0	WEST BASIN H2 (x1)	781	5/5/93	18	-9	-9	-9	-9
93170.0	CHOLLAS CREEK P1 (x2)	783	5/5/93	18	-9	-9	-9	-9
93174.0	TIJUANA R. ESTUARY HH3 (x2)	787	5/5/93	18	-9	-9	-9	-9
93175.0	TIJUANA R. ESTUARY HH3 (x3)	788	5/5/93	18	-9	-9	-9	-9
93176.0	MARINE TERMINAL R6 (x1) BLIND	794	5/6/93	18	-9	-9	-9	-9
93177.0	NAVAL SHIPYARDS O1 (x1)	795	5/26/93	19	-9	-9	-9	-9
93178.0	NAVAL SHIPYARDS O2 (x1)	796	5/26/93	19	-9	-9	-9	-9
93179.0	NAVAL SHIPYARDS O3 (x1)	797	5/26/93	19	-9	-9	-9	-9
93181.0	NAVAL SHIPYARDS O6 (x1)	799	5/26/93	19	-9	-9	-9	-9
93182.0	NAVAL SHIPYARDS O8 (x4)	800	5/26/93	19	-9	-9	-9	-9
93183.0	NAVAL SHIPYARDS O9 (x1)	801	5/26/93	19	-9	-9	-9	-9
93184.0	NAVAL SHIPYARDS O11 (x1)	802	5/26/93	19	-9	-9	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)	803	5/26/93	19	-9	-9	-9	-9
93186.0	FUEL PIER D4 (x1)	804	5/26/93	19	-9	-9	-9	-9
93187.0	MARINE TERMINAL R2 (x1)	805	5/26/93	19	-9	-9	-9	-9
93188.0	CARRIER BASE V1 (x2)	806	5/26/93	19	-9	-9	-9	-9
93189.0	NAVAL SHIPYARDS O15 (x1) BLIND	814	5/26/93	19	-9	-9	-9	-9
90051.0	16 SWARTZ (INTERCONT. MARINA)	818	6/15/93	20	-9	-9	-9	-9
93192.0	INTERCONT. MARINA M1 (x2)	819	6/15/93	20	-9	-9	-9	-9
93193.0	INTERCONT. MARINA M1 (x1)	820	6/15/93	20	-9	-9	-9	-9
90037.0	STORMDRAIN EM (GRAPE ST.)-REP1	827	6/15/93	20	-9	-9	-9	-9
90037.0	STORMDRAIN EM (GRAPE ST.)-REP2	828	6/15/93	20	-9	-9	-9	-9
90037.0	STORMDRAIN EM (GRAPE ST.)-REP3	829	6/15/93	20	-9	-9	-9	-9
93198.0	INTERCONT. MARINA M2(x1) BLIND	833	6/15/93	20	-9	-9	-9	-9
90013.0	37 SWARTZ (MARINA)	815	6/16/93	20	-9	-9	-9	-9
93190.0	MARINA I11 (x1)	816	6/16/93	20	-9	-9	-9	-9
93191.0	MARINA I11 (x3)	817	6/16/93	20	-9	-9	-9	-9
90015.0	41 SWARTZ (GLORIETTA BAY)	821	6/16/93	20	-9	-9	-9	-9
93194.0	GLORIETTA BAY U1 (x1)	822	6/16/93	20	-9	-9	-9	-9
93195.0	GLORIETTA BAY U1 (x2)	823	6/16/93	20	-9	-9	-9	-9
90012.0	34 SWARTZ (C.V. YACHT BASIN)	824	6/16/93	20	-9	-9	-9	-9
93196.0	CHULA V. YACHT BASIN S1 (x1)	825	6/16/93	20	-9	-9	-9	-9
93197.0	CHULA V. YACHT BASIN S1 (x3)	826	6/16/93	20	-9	-9	-9	-9
90053.0	35 SWARTZ (CORONADO CAYS)	843	7/20/93	21	-9	-9	-9	-9
93203.0	CORONADO CAYS T2 (x1)	844	7/20/93	21	-9	-9	-9	-9
93204.0	CORONADO CAYS T2 (x2)	845	7/20/93	21	-9	-9	-9	-9
90003.0	14 SWARTZ (DOWNTOWN PIERS)	846	7/20/93	21	-9	-9	-9	-9
93205.0	DOWNTOWN PIERS K1 (x9)	847	7/20/93	21	-9	-9	-9	-9
93206.0	DOWNTOWN PIERS K1 (x11)	848	7/20/93	21	-9	-9	-9	-9
90004.0	15 SWARTZ (G ST. PIER MARINA)	849	7/20/93	21	-9	-9	-9	-9
93207.0	G ST. PIER MARINA L1 (x4)	850	7/20/93	21	-9	-9	-9	-9
93208.0	G ST. PIER MARINA L1 (x5)	851	7/20/93	21	-9	-9	-9	-9
93209.0	DOWNTOWN PIERS K4 BLIND (x4)	852	7/20/93	21	-9	-9	-9	-9
93107.0	MISSION BAY A3 (x1)-REP 1	853	7/21/93	21	-9	-9	-9	-9

## Percent Normal Shell Development of Mussel Larvae in Subsurface Water

STANUM	STATION	IDORG	DATE	LEG	MES100_MN	MES100_SD	MES100_SG	MES100_NH3
93107.0	MISSION BAY A3 (x1)-REP 2	854	7/21/93	21	-9	-9	-9	-9
93107.0	MISSION BAY A3 (x1)-REP 3	855	7/21/93	21	-9	-9	-9	-9
93112.0	MISSION BAY A8 (x1)-REP 1	856	7/21/93	21	-9	-9	-9	-9
93112.0	MISSION BAY A8 (x1)-REP 2	857	7/21/93	21	-9	-9	-9	-9
93112.0	MISSION BAY A8 (x1)-REP 3	858	7/21/93	21	-9	-9	-9	-9
93108.0	MISSION BAY A4 (x1)-REP 1	859	7/21/93	21	-9	-9	-9	-9
93108.0	MISSION BAY A4 (x1)-REP 2	860	7/21/93	21	-9	-9	-9	-9
93108.0	MISSION BAY A4 (x1)-REP 3	861	7/21/93	21	-9	-9	-9	-9
90050.0	10 SWARTZ (WEST BASIN)	837	8/3/93	21	-9	-9	-9	-9
93199.0	WEST BASIN H1 (x1)	838	8/3/93	21	-9	-9	-9	-9
93200.0	WEST BASIN H1 (x4)	839	8/3/93	21	-9	-9	-9	-9
90001.0	11 SWARTZ (EAST BASIN)	840	8/3/93	21	-9	-9	-9	-9
93201.0	EAST BASIN I1 (x1)	841	8/3/93	21	-9	-9	-9	-9
93202.0	EAST BASIN I1 (x5)	842	8/3/93	21	-9	-9	-9	-9
93180.0	NAVAL BASE/SHIPYARDS O5 (x1)	798	8/4/93	22	-9	-9	-9	-9
90021.0	K SWARTZ (NAVAL BASE O4)	862	8/4/93	22	-9	-9	-9	-9
93210.0	NAVAL BASE/SHIPYARDS O4 (x1)	863	8/4/93	22	-9	-9	-9	-9
93211.0	NAVAL BASE/SHIPYARDS O4 (x2)	864	8/4/93	22	-9	-9	-9	-9
90006.0	23 SWARTZ (NAVAL BASE O7)	865	8/4/93	22	-9	-9	-9	-9
93212.0	NAVAL BASE/SHIPYARDS O7 (x1)	866	8/4/93	22	-9	-9	-9	-9
93213.0	NAVAL BASE/SHIPYARDS O7 (x4)	867	8/4/93	22	-9	-9	-9	-9
90022.0	P SWARTZ (NAVAL BASE O12)	868	8/4/93	22	-9	-9	-9	-9
93214.0	NAVAL BASE/SHIPYARDS O12 (x3)	869	8/4/93	22	-9	-9	-9	-9
93215.0	NAVAL BASE/SHIPYARDS O12 (x4)	870	8/4/93	22	-9	-9	-9	-9
90028.0	NSB-M1 (SUB BASE C2)	871	8/4/93	22	-9	-9	-9	-9
93216.0	SUB BASE C2 (x1)	872	8/4/93	22	-9	-9	-9	-9
93217.0	SUB BASE C2 (x3)	873	8/4/93	22	-9	-9	-9	-9
93218.0	SUB BASE C2 (x11) BLIND	874	8/4/93	22	-9	-9	-9	-9
93116.0	SAN DIEGO RIVER B1 (x4)-REP 1	881	8/5/93	22	-9	-9	-9	-9
93116.0	SAN DIEGO RIVER B1 (x4)-REP 2	882	8/5/93	22	-9	-9	-9	-9
93118.0	SAN DIEGO RIVER B1 (x4)-REP 3	883	8/5/93	22	-9	-9	-9	-9
90052.0	32 SWARTZ(SWEETWATER CH)-REP 1	875	8/18/93	22	-9	-9	-9	-9
93219.0	SWEETWATER CH. JJ1 (x1)-REP 2	876	8/18/93	22	-9	-9	-9	-9
93220.0	SWEETWATER CH. JJ1 (x8)-REP 3	877	8/18/93	22	-9	-9	-9	-9
90002.0	12 SWARTZ(DOWNTOWN ANCH)-REP 1	878	8/18/93	22	-9	-9	-9	-9
93221.0	DOWNTOWN ANCH. J1 (x1)-REP 2	879	8/18/93	22	-9	-9	-9	-9
93222.0	DOWNTOWN ANCH. J1 (x2)-REP 3	880	8/18/93	22	-9	-9	-9	-9
90007.0	25 SWARTZ (NAVAL BASE/SY O10)	887	8/17/93	23	-9	-9	-9	-9
93223.0	NAVAL BASE/SHIPYARD O10 (x2)	888	8/17/93	23	-9	-9	-9	-9
93224.0	NAVAL BASE/SHIPYARD O10(x6)	889	8/17/93	23	-9	-9	-9	-9
90008.0	27 SWARTZ (NAVAL BASE/SH O13)	890	8/17/93	23	-9	-9	-9	-9
93225.0	NAVAL BASE/SHIPYARD O13 (x1)	891	8/17/93	23	-9	-9	-9	-9
93226.0	NAVAL BASE/SHIPYARD O13 (x3)	892	8/17/93	23	-9	-9	-9	-9
90009.0	28 SWARTZ (7TH ST CHANNEL Q1)	893	8/17/93	23	-9	-9	-9	-9

Percent Normal Shell Development of Mussel Larvae in Subsurface Water

STANUM	STATION	IDORG	DATE	LEG	MES100_MN	MES100_SD	MES100_SG	MES100_NH3
93227.0	SEVENTH ST CHANNEL Q1 (x5)	894	8/17/93	23	-9	-9	-9	-9
93228.0	SEVENTH ST CHANNEL Q1 (x6)	895	8/17/93	23	-9	-9	-9	-9
90010.0	31 SWARTZ (MARINE TERMINAL R3)	896	8/17/93	23	-9	-9	-9	-9
93229.0	MARINE TERMINAL R3 (x1)	897	8/17/93	23	-9	-9	-9	-9
93230.0	MARINE TERMINAL R3 (x3)	898	8/17/93	23	-9	-9	-9	-9
90025.0	SDNI-N5 (CARRIER BASE V2)	899	8/18/93	23	-9	-9	-9	-9
93231.0	CARRIER BASE V2 (x6)	1000	8/18/93	23	-9	-9	-9	-9
93232.0	CARRIER BASE V2 (x7)	1001	8/18/93	23	-9	-9	-9	-9
93132.0	CORONADO CAYS T3 (x1)	1025	1/18/94	24	-9	-9	-9	-9
93129.0	SOUTH BAY GG4 (x1)	1026	1/18/94	24	-9	-9	-9	-9
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	1027	1/18/94	24	-9	-9	-9	-9
93127.0	SOUTH BAY GG2 (x1)	1028	1/18/94	24	-9	-9	-9	-9
93139.0	COMMERCIAL BASIN F1 (x1)	1030	1/18/94	24	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)	1031	1/18/94	24	-9	-9	-9	-9
93128.0	SOUTHBAY GG5 (x1)	1033	1/18/94	24	-9	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1) REP 1	1035	1/18/94	24	-9	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1) REP 2	1036	1/18/94	24	-9	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1) REP 3	1037	1/18/94	24	-9	-9	-9	-9
93122.0	S.S. - CORONADO DD3 (x1) REP 1	1013	1/19/94	24	-9	-9	-9	-9
93122.0	S.S. - CORONADO DD3 (x1) REP 2	1014	1/19/94	24	-9	-9	-9	-9
93122.0	S.S. - CORONADO DD3 (x1) REP 3	1015	1/19/94	24	-9	-9	-9	-9
93125.0	SILVER STRAND FF4 (x4) REP 1	1016	1/19/94	24	-9	-9	-9	-9
93125.0	SILVER STRAND FF4 (x4) REP 2	1017	1/19/94	24	-9	-9	-9	-9
93125.0	SILVER STRAND FF4 (x4) REP 3	1018	1/19/94	24	-9	-9	-9	-9
90057.0	5 SDG&E REP 1	1019	1/19/94	24	-9	-9	-9	-9
90057.0	5 SDG&E REP 2	1020	1/19/94	24	-9	-9	-9	-9
90057.0	5 SDG&E REP 3	1021	1/19/94	24	-9	-9	-9	-9
93117.0	SAN DIEGO RIVER B2 (x2)	1029	1/19/94	24	-9	-9	-9	-9
93120.0	TIJUANA R. ESTUARY HH2 (x1)	1032	1/19/94	24	-9	-9	-9	-9
93121.0	TIJUANA R. ESTUARY HH2 (x5)	1034	1/19/94	24	-9	-9	-9	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 1	1022	1/20/94	24	-9	-9	-9	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 2	1023	1/20/94	24	-9	-9	-9	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 3	1024	1/20/94	24	-9	-9	-9	-9
90020.0	G DE LAPPE-REP 1	1104	3/1/94	27	-9	-9	-9	-9
90020.0	G DE LAPPE-REP 2	1105	3/1/94	27	-9	-9	-9	-9
90020.0	G DE LAPPE-REP 3	1106	3/1/94	27	-9	-9	-9	-9
90022.0	P SWARTZ-REP 1	1107	3/1/94	27	-9	-9	-9	-9
90022.0	P SWARTZ-REP 2	1108	3/1/94	27	-9	-9	-9	-9
90022.0	P SWARTZ-REP 3	1109	3/1/94	27	-9	-9	-9	-9
90029.0	NSB-R1-REP 1	1113	3/1/94	27	-9	-9	-9	-9
90029.0	NSB-R1-REP 2	1114	3/1/94	27	-9	-9	-9	-9
90029.0	NSB-R1-REP 3	1115	3/1/94	27	-9	-9	-9	-9
90024.0	SDNI-N1-REP 1	1116	3/1/94	27	-9	-9	-9	-9
90024.0	SDNI-N1-REP 2	1117	3/1/94	27	-9	-9	-9	-9

## Percent Normal Shell Development of Mussel Larvae in Subsurface Water

STANUM	STATION	IDORG	DATE	LEG	MES100_MN	MES100_SD	MES100_SG	MES100_NH3
90024.0	SDNI-N1-REP 3	1118	3/1/94	27	-9	-9	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)	1125	3/1/94	27	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)	1126	3/1/94	27	-9	-9	-9	-9
93161.0	SUB BASE C1 (x1)	1127	3/1/94	27	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)	1128	3/1/94	27	-9	-9	-9	-9
90013.0	37 SWARTZ-REP 1	1098	3/2/94	27	-9	-9	-9	-9
90013.0	37 SWARTZ-REP 2	1099	3/2/94	27	-9	-9	-9	-9
90013.0	37 SWARTZ-REP 3	1100	3/2/94	27	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)-REP 1	1101	3/2/94	27	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)-REP 2	1102	3/2/94	27	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)-REP 3	1103	3/2/94	27	-9	-9	-9	-9
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 1	1110	3/2/94	27	-9	-9	-9	-9
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 2	1111	3/2/94	27	-9	-9	-9	-9
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 3	1112	3/2/94	27	-9	-9	-9	-9
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 1	1119	3/2/94	27	-9	-9	-9	-9
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 2	1120	3/2/94	27	-9	-9	-9	-9
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 3	1121	3/2/94	27	-9	-9	-9	-9
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 1	1122	3/2/94	27	-9	-9	-9	-9
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 2	1123	3/2/94	27	-9	-9	-9	-9
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 3	1124	3/2/94	27	-9	-9	-9	-9
90052.0	32 SWARTZ(SWEETWATER CH)-REP 1	1129	3/15/94	28	-9	-9	-9	-9
90052.0	32 SWARTZ(SWEETWATER CH)-REP 2	1130	3/15/94	28	-9	-9	-9	-9
90052.0	32 SWARTZ(SWEETWATER CH)-REP 3	1131	3/15/94	28	-9	-9	-9	-9
93131.0	CORONADO CAYS T1 (x1)-REP 1	1138	3/15/94	28	-9	-9	-9	-9
93131.0	CORONADO CAYS T1 (x1)-REP 2	1139	3/15/94	28	-9	-9	-9	-9
93131.0	CORONADO CAYS T1 (x1)-REP 3	1140	3/15/94	28	-9	-9	-9	-9
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP1	1141	3/15/94	28	-9	-9	-9	-9
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP2	1142	3/15/94	28	-9	-9	-9	-9
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP3	1143	3/15/94	28	-9	-9	-9	-9
90030.0	BF SCHROEDER SITE F-REP 1	1144	3/15/94	28	-9	-9	-9	-9
90030.0	BF SCHROEDER SITE F-REP 2	1145	3/15/94	28	-9	-9	-9	-9
90030.0	BF SCHROEDER SITE F-REP 3	1146	3/15/94	28	-9	-9	-9	-9
93159.0	SOUTH BAY GG3 (x1)-REP 1	1147	3/15/94	28	-9	-9	-9	-9
93159.0	SOUTH BAY GG3 (x1)-REP 2	1148	3/15/94	28	-9	-9	-9	-9
93159.0	SOUTH BAY GG3 (x1)-REP 3	1149	3/15/94	28	-9	-9	-9	-9
90043.0	CORONADO WHARF-REP 1	1156	3/15/94	28	-9	-9	-9	-9
90043.0	CORONADO WHARF-REP 2	1157	3/15/94	28	-9	-9	-9	-9
90043.0	CORONADO WHARF-REP 3	1158	3/15/94	28	-9	-9	-9	-9
93120.0	TIJUANA R. EST. HH2 (x1)-REP 1	1132	3/16/94	28	-9	-9	-9	-9
93120.0	TIJUANA R. EST. HH2 (x1)-REP 2	1133	3/16/94	28	-9	-9	-9	-9
93120.0	TIJUANA R. EST. HH2 (x1)-REP 3	1134	3/16/94	28	-9	-9	-9	-9
93121.0	TIJUANA R. EST. HH2 (x5)-REP 1	1135	3/16/94	28	-9	-9	-9	-9
93121.0	TIJUANA R. EST. HH2 (x5)-REP 2	1136	3/16/94	28	-9	-9	-9	-9
93121.0	TIJUANA R. EST. HH2 (x5)-REP 3	1137	3/16/94	28	-9	-9	-9	-9

Percent Normal Shell Development of Mussel Larvae in Subsurface Water

STANUM	STATION	IDORG	DATE	LEG	MES100_MN	MES100_SD	MES100_SG	MES100_NH3
93174.0	TIJUANA R. EST. HH3 (x2)-REP 1	1150	3/16/94	28	-9	-9	-9	-9
93174.0	TIJUANA R. EST. HH3 (x2)-REP 2	1151	3/16/94	28	-9	-9	-9	-9
93174.0	TIJUANA R. EST. HH3 (x2)-REP 3	1152	3/16/94	28	-9	-9	-9	-9
93166.0	NAVY ESTUARY G2 (x1)-REP 1	1153	3/16/94	28	-9	-9	-9	-9
93166.0	NAVY ESTUARY G2 (x1)-REP 2	1154	3/16/94	28	-9	-9	-9	-9
93166.0	NAVY ESTUARY G2 (x1)-REP 3	1155	3/16/94	28	-9	-9	-9	-9
90037.0	STORMDRAIN EM(GRAPE ST.)-REP 1	1159	3/29/94	29	-9	-9	-9	-9
90037.0	STORMDRAIN EM(GRAPE ST.)-REP 2	1160	3/29/94	29	-9	-9	-9	-9
90037.0	STORMDRAIN EM(GRAPE ST.)-REP 3	1161	3/29/94	29	-9	-9	-9	-9
93148.0	CHANNEL-CORONADO Y1 (x2)-REP 1	1162	3/29/94	29	-9	-9	-9	-9
93148.0	CHANNEL-CORONADO Y1 (x2)-REP 2	1163	3/29/94	29	-9	-9	-9	-9
93148.0	CHANNEL-CORONADO Y1 (x2)-REP 3	1164	3/29/94	29	-9	-9	-9	-9
93138.0	SHELTER ISLAND E3 (x2)-REP 1	1165	3/29/94	29	-9	-9	-9	-9
93138.0	SHELTER ISLAND E3 (x2)-REP 2	1166	3/29/94	29	-9	-9	-9	-9
93138.0	SHELTER ISLAND E3 (x2)-REP 3	1167	3/29/94	29	-9	-9	-9	-9
93141.0	COMMERCIAL BASIN F3 (x1)-REP 1	1168	3/29/94	29	-9	-9	-9	-9
93141.0	COMMERCIAL BASIN F3 (x1)-REP 2	1169	3/29/94	29	-9	-9	-9	-9
93141.0	COMMERCIAL BASIN F3 (x1)-REP 3	1170	3/29/94	29	-9	-9	-9	-9
90018.0	D DE LAPPE-REP 1	1183	3/29/94	29	-9	-9	-9	-9
90018.0	D DE LAPPE-REP 2	1184	3/29/94	29	-9	-9	-9	-9
90018.0	D DE LAPPE-REP 3	1185	3/29/94	29	-9	-9	-9	-9
90104.0	WEST BASIN ENTRANCE(71C)-REP 1	1186	3/29/94	29	-9	-9	-9	-9
90104.0	WEST BASIN ENTRANCE(71C)-REP 2	1187	3/29/94	29	-9	-9	-9	-9
90104.0	WEST BASIN ENTRANCE(71C)-REP 3	1188	3/29/94	29	-9	-9	-9	-9
93107.0	MISSION BAY A3 (x1)-REP 1	1180	3/30/94	29	-9	-9	-9	-9
93107.0	MISSION BAY A3 (x1)-REP 2	1181	3/30/94	29	-9	-9	-9	-9
93107.0	MISSION BAY A3 (x1)-REP 3	1182	3/30/94	29	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)-REP 1	1303	5/18/94	32	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)-REP 2	1304	5/18/94	32	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)-REP 3	1305	5/18/94	32	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)-REP 1	1306	5/18/94	32	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)-REP 2	1307	5/18/94	32	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)-REP 3	1308	5/18/94	32	-9	-9	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)-REP 1	1309	5/18/94	32	-9	-9	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)-REP 2	1310	5/18/94	32	-9	-9	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)-REP 3	1311	5/18/94	32	-9	-9	-9	-9
93181.0	SUB BASE C1 (x1)-REP 1	1312	5/18/94	32	-9	-9	-9	-9
93181.0	SUB BASE C1 (x1)-REP 2	1313	5/18/94	32	-9	-9	-9	-9
93181.0	SUB BASE C1 (x1)-REP 3	1314	5/18/94	32	-9	-9	-9	-9
90013.0	37 SWARTZ	1318	5/18/94	32	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)	1319	5/18/94	32	-9	-9	-9	-9
90052.0	32 SWARTZ	1320	5/18/94	32	-9	-9	-9	-9



Section VIII  
Mussel Development  
in Porewater

Percent Normal Shell Development of Mussel Larvae in Porewater Water

STANUM	STATION	IDORG	DATE	LEG	MEP100_MN	MEP100_SD	MEP100_SG	MEP100_NH3	MEP100_H2S
90006.0	23 SWARTZ	155	10/13/92	5	-9	-9	-9	-9	-9
90019.0	E DE LAPPE	168	10/13/92	5	-9	-9	-9	-9	-9
90021.0	K SWARTZ	170	10/13/92	5	-9	-9	-9	-9	-9
90031.0	BG SCHROEDER SITE G	180	10/13/92	5	-9	-9	-9	-9	-9
90038.0	CC	187	10/13/92	5	-9	-9	-9	-9	-9
90071.0	BAIT BARGE	220	10/13/92	5	-9	-9	-9	-9	-9
90101.0	SCRIPPS PIER	250	10/13/92	5	-9	-9	-9	-9	-9
90036.0	STORM DRAIN- ROHR CHANNEL	185	10/14/92	5	-9	-9	-9	-9	-9
90053.0	35 SWARTZ	202	10/14/92	5	-9	-9	-9	-9	-9
90054.0	36 SWARTZ	203	10/14/92	5	-9	-9	-9	-9	-9
90001.0	11 SWARTZ	150	10/27/92	6	-9	-9	-9	-9	-9
90002.0	12 SWARTZ	151	10/27/92	6	-9	-9	-9	-9	-9
90016.0	42 SWARTZ	165	10/27/92	6	-9	-9	-9	-9	-9
90049.0	8B	198	10/27/92	6	-9	-9	-9	-9	-9
90056.0	8A SWARTZ	205	10/27/92	6	-9	-9	-9	-9	-9
90063.0	THOMPSON SITE 205	212	10/27/92	6	-9	-9	-9	-9	-9
90003.0	14 SWARTZ	152	10/28/92	6	-9	-9	-9	-9	-9
90004.0	15 SWARTZ	153	10/28/92	6	-9	-9	-9	-9	-9
90010.0	31 SWARTZ	159	10/28/92	6	-9	-9	-9	-9	-9
90011.0	33 SWARTZ	160	10/28/92	6	-9	-9	-9	-9	-9
90013.0	37 SWARTZ	162	10/28/92	6	-9	-9	-9	-9	-9
90017.0	C DELAPPE	166	10/28/92	6	-9	-9	-9	-9	-9
90048.0	6 SWARTZ	197	10/28/92	6	-9	-9	-9	-9	-9
90051.0	16 SWARTZ	200	10/28/92	6	-9	-9	-9	-9	-9
90052.0	32 SWARTZ	201	10/28/92	6	-9	-9	-9	-9	-9
90007.0	25 SWARTZ	156	11/10/92	7	-9	-9	-9	-9	-9
90008.0	27 SWARTZ	157	11/10/92	7	-9	-9	-9	-9	-9
90009.0	28 SWARTZ	158	11/10/92	7	-9	-9	-9	-9	-9
90022.0	P SWARTZ	171	11/10/92	7	-9	-9	-9	-9	-9
90026.0	SDNI-N18	175	11/10/92	7	-9	-9	-9	-9	-9
90027.0	NSB-S1	176	11/10/92	7	-9	-9	-9	-9	-9
90028.0	NSB-M1	177	11/10/92	7	-9	-9	-9	-9	-9
90029.0	NSB-R1	178	11/10/92	7	-9	-9	-9	-9	-9
90023.0	NM SANDBAG	172	11/11/92	7	-9	-9	-9	-9	-9
90024.0	SDNI-N1	173	11/11/92	7	-9	-9	-9	-9	-9
90025.0	SDNI-N5	174	11/11/92	7	-9	-9	-9	-9	-9
90050.0	10 SWARTZ	199	11/11/92	7	-9	-9	-9	-9	-9
90055.0	43 SWARTZ	204	11/11/92	7	-9	-9	-9	-9	-9
90102.0	HARBOR BRIDGE 71A	256	11/11/92	7	-9	-9	-9	-9	-9
90103.0	SCRIPPS TRIANGLE	257	11/11/92	7	-9	-9	-9	-9	-9
90005.0	21 SWARTZ	154	1/26/93	12	-9	-9	-9	-9	-9
90014.0	38 SWARTZ	163	1/26/93	12	-9	-9	-9	-9	-9
90018.0	D DE LAPPE	167	1/26/93	12	-9	-9	-9	-9	-9
90020.0	G DE LAPPE	169	1/26/93	12	-9	-9	-9	-9	-9

Percent Normal Shell Development of Mussel Larvae in Porewater Water

STANUM	STATION	IDORG	DATE	LEG	MEP100_MN	MEP100_SD	MEP100_SG	MEP100_NH3	MEP100_H2S
90030.0	BF SCHROEDER SITE F	179	1/26/93	12	-9	-9	-9	-9	-9
90032.0	BM SCHROEDER SITE M	181	1/26/93	12	-9	-9	-9	-9	-9
90037.0	STORM DRAIN EM- GRAPE STREET	186	1/26/93	12	-9	-9	-9	-9	-9
90039.0	CL	188	1/26/93	12	-9	-9	-9	-9	-9
90043.0	CORONADO WHARF	192	1/26/93	12	-9	-9	-9	-9	-9
90104.0	WEST BASIN ENTRANCE (71C) REF	275	1/26/93	12	-9	-9	-9	-9	-9
90012.0	34 SWARTZ	161	1/27/93	12	-9	-9	-9	-9	-9
90015.0	41 SWARTZ	164	1/27/93	12	-9	-9	-9	-9	-9
90040.0	SWEETWATER MARSH SD BAY	189	1/27/93	12	0.10	0.30	*	0.061	-8
90041.0	SOUTH SD BAY WETLANDS- OTAY R.	190	1/27/93	12	98.30	3.80	NS	0.010	-8
90057.0	5 SDG&E	206	1/27/93	12	-9	-9	-9	-9	-9
90058.0	7 SDG&E	207	1/27/93	12	97.70	5.10	NS	0.017	-8
93105.0	MISSION BAY A1 (x1)	700	3/23/93	15	-9	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)	701	3/23/93	15	-9	-9	-9	-9	-9
93107.0	MISSION BAY A3 (x1)	702	3/23/93	15	-9	-9	-9	-9	-9
93108.0	MISSION BAY A4 (x1)	703	3/23/93	15	-9	-9	-9	-9	-9
93109.0	MISSION BAY A5 (x1)	704	3/23/93	15	-9	-9	-9	-9	-9
93110.0	MISSION BAY A6 (x1)	705	3/23/93	15	-9	-9	-9	-9	-9
93112.0	MISSION BAY A8 (x1)	707	3/23/93	15	-9	-9	-9	-9	-9
93113.0	MISSION BAY A9 (x1)	708	3/23/93	15	-9	-9	-9	-9	-9
93114.0	MISSION BAY A10 (x1)	709	3/23/93	15	-9	-9	-9	-9	-9
93115.0	MISSION BAY A11 (x1)	710	3/23/93	15	-9	-9	-9	-9	-9
93116.0	SAN DIEGO RIVER B1 (x4)	711	3/23/93	15	-9	-9	-9	-9	-9
93117.0	SAN DIEGO RIVER B2 (x2)	712	3/23/93	15	-9	-9	-9	-9	-9
93111.0	MISSION BAY A7 (x3)	706	3/24/93	15	-9	-9	-9	-9	-9
90002.0	12 SWARTZ	719	3/24/93	15	-9	-9	-9	-9	-9
90037.0	STORMDRAIN EM- GRAPE STREET	720	3/24/93	15	-9	-9	-9	-9	-9
90015.0	41 SWARTZ	721	3/24/93	15	-9	-9	-9	-9	-9
90012.0	34 SWARTZ	722	3/24/93	15	-9	-9	-9	-9	-9
90057.0	5 SDG&E	723	3/24/93	15	-9	-9	-9	-9	-9
90052.0	32 SWARTZ	724	3/24/93	15	-9	-9	-9	-9	-9
93118.0	TIJUANA R. ESTUARY HH1 (x2)	713	3/25/93	15	-9	-9	-9	-9	-9
93119.0	TIJUANA R. ESTUARY HH1 (x1)	714	3/25/93	15	-9	-9	-9	-9	-9
93120.0	TIJUANA R. ESTUARY HH2 (x1)	715	3/25/93	15	-9	-9	-9	-9	-9
93121.0	TIJUANA R. ESTUARY HH2 (x5)	716	3/25/93	15	-9	-9	-9	-9	-9
93126.0	SILVER STRAND FF7 (x2)	729	4/6/93	16	-9	-9	-9	-9	-9
93127.0	SOUTH BAY GG2 (x1)	730	4/6/93	16	-9	-9	-9	-9	-9
93129.0	SOUTH BAY GG4 (x1)	732	4/6/93	16	-9	-9	-9	-9	-9
90014.0	38 SCHWARTZ	733	4/6/93	16	-9	-9	-9	-9	-9
93131.0	CORONADO CAYS T1 (x1)	734	4/6/93	16	-9	-9	-9	-9	-9
93132.0	CORONADO CAYS T3 (x1)	735	4/6/93	16	-9	-9	-9	-9	-9
93133.0	CHANNEL-NAVAL BASE Z1 (x1)	736	4/6/93	16	-9	-9	-9	-9	-9
93134.0	SOUTH SHORE-MOUTH BB2 (x1)	737	4/6/93	16	-9	-9	-9	-9	-9
93135.0	SOUTH SHORE-MOUTH BB3 (x1)	738	4/6/93	16	-9	-9	-9	-9	-9

Percent Normal Shell Development of Mussel Larvae in Porewater Water

STANUM	STATION	IDORG	DATE	LEG	MEP100_MN	MEP100_SD	MEP100_SG	MEP100_NH3	MEP100_H2S
93136.0	NORTH SHORE-MOUTH CC2 (x1)	739	4/6/93	16	-9	-9	-9	-9	-9
93138.0	SHELTER ISLAND E3 (x2)	741	4/6/93	16	-9	-9	-9	-9	-9
93128.0	SOUTHBAY GG5 (x1)	750	4/6/93	16	-9	-9	-9	-9	-9
93122.0	SOUTH SHORE-CORONADO DD3 (x1)	725	4/7/93	16	-9	-9	-9	-9	-9
93123.0	SILVER STRAND FF1 (x1)	726	4/7/93	16	-9	-9	-9	-9	-9
93124.0	SILVER STRAND FF2 (x1)	727	4/7/93	16	-9	-9	-9	-9	-9
93125.0	SILVER STRAND FF4 (x4)	728	4/7/93	16	-9	-9	-9	-9	-9
90006.0	23 SCHWARTZ	731	4/7/93	16	-9	-9	-9	-9	-9
93137.0	NORTH SHORE-MOUTH CC3 (x1)	740	4/7/93	16	-9	-9	-9	-9	-9
93139.0	COMMERCIAL BASIN F1 (x1)	742	4/7/93	16	-9	-9	-9	-9	-9
93140.0	COMMERCIAL BASIN F2 (x1)	743	4/7/93	16	-9	-9	-9	-9	-9
93141.0	COMMERCIAL BASIN F3 (x1)	744	4/7/93	16	-9	-9	-9	-9	-9
90018.0	D DE LAPPE	748	4/7/93	16	-9	-9	-9	-9	-9
90030.0	BF SCHROEDER SITE F	749	4/7/93	16	-9	-9	-9	-9	-9
93148.0	CHANNEL-CORONADO Y1 (x2)	751	4/7/93	16	-9	-9	-9	-9	-9
93142.0	SOUTH SHORE-CORONADO DD1(X1)	752	4/7/93	16	-9	-9	-9	-9	-9
93144.0	CAMPBELL SHIPYARDS N1 (x1)	754	4/20/93	17	-9	-9	-9	-9	-9
93145.0	CAMPBELL SHIPYARDS N2 (x1)	755	4/20/93	17	-9	-9	-9	-9	-9
93146.0	GLORIETTA BAY U2 (x1)	756	4/20/93	17	-9	-9	-9	-9	-9
93147.0	GLORIETTA BAY U3 (x1)	757	4/20/93	17	-9	-9	-9	-9	-9
93149.0	CHANNEL-MOUTH X1 (x1)	758	4/20/93	17	-9	-9	-9	-9	-9
93150.0	CHANNEL-NAVAL BASE Z1 (x2)	759	4/20/93	17	-9	-9	-9	-9	-9
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	760	4/20/93	17	-9	-9	-9	-9	-9
93152.0	SOUTH SHORE-MOUTH BB1 (x1)	761	4/20/93	17	-9	-9	-9	-9	-9
93154.0	NORTH SHORE-MOUTH CC4 (x1)	763	4/20/93	17	-9	-9	-9	-9	-9
93155.0	SOUTH SHORE-CORONADO DD2 (x1)	764	4/20/93	17	-9	-9	-9	-9	-9
93156.0	NORTH SHORE-CORONADO EE1 (x1)	765	4/20/93	17	-9	-9	-9	-9	-9
93157.0	NORTH SHORE-CORONADO EE2 (x1)	766	4/20/93	17	-9	-9	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1)	767	4/20/93	17	-9	-9	-9	-9	-9
93159.0	SOUTH BAY GG3 (x1)	768	4/20/93	17	-9	-9	-9	-9	-9
93160.0	CHANNEL-SOUTH BAY AA2(x1)BLIND	773	4/20/93	17	-9	-9	-9	-9	-9
93143.0	FUEL PIERS D1 (x1)	753	4/21/93	17	-9	-9	-9	-9	-9
93153.0	NORTH SHORE-MOUTH CC1 (x1 )	762	4/21/93	17	-9	-9	-9	-9	-9
93161.0	SUB BASE C1 (x1)	774	5/4/93	18	-9	-9	-9	-9	-9
93162.0	SUB BASE C3 (x1)	775	5/4/93	18	-9	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)	776	5/4/93	18	-9	-9	-9	-9	-9
93164.0	SHELTER ISLAND E1 (x1)	777	5/4/93	18	-9	-9	-9	-9	-9
93165.0	NAVY ESTUARY G1 (x1)	778	5/4/93	18	-9	-9	-9	-9	-9
93166.0	NAVY ESTUARY G2 (x1)	779	5/4/93	18	-9	-9	-9	-9	-9
93167.0	NAVY ESTUARY G3 (x1)	780	5/4/93	18	-9	-9	-9	-9	-9
93169.0	EAST BASIN I2 (x1)	782	5/4/93	18	-9	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)	784	5/4/93	18	-9	-9	-9	-9	-9
93172.0	SILVER STRAND FF3 (x1)	785	5/4/93	18	-9	-9	-9	-9	-9
93173.0	SILVER STRAND FF6 (x1)	786	5/4/93	18	-9	-9	-9	-9	-9

Percent Normal Shell Development of Mussel Larvae in Porewater Water

STANUM	STATION	IDORG	DATE	LEG	MEP100_MN	MEP100_SD	MEP100_SG	MEP100_NH3	MEP100_H2S
93168.0	WEST BASIN H2 (x1)	781	5/5/93	18	-9	-9	-9	-9	-9
93170.0	CHOLLAS CREEK P1 (x2)	783	5/5/93	18	-9	-9	-9	-9	-9
93174.0	TIJUANA R. ESTUARY HH3 (x2)	787	5/5/93	18	-9	-9	-9	-9	-9
93175.0	TIJUANA R. ESTUARY HH3 (x3)	788	5/5/93	18	-9	-9	-9	-9	-9
93176.0	MARINE TERMINAL R6 (x1) BLIND	794	5/6/93	18	-9	-9	-9	-9	-9
93177.0	NAVAL SHIPYARDS O1 (x1)	795	5/26/93	19	-9	-9	-9	-9	-9
93178.0	NAVAL SHIPYARDS O2 (x1)	796	5/26/93	19	-9	-9	-9	-9	-9
93179.0	NAVAL SHIPYARDS O3 (x1)	797	5/26/93	19	-9	-9	-9	-9	-9
93181.0	NAVAL SHIPYARDS O6 (x1)	799	5/26/93	19	-9	-9	-9	-9	-9
93182.0	NAVAL SHIPYARDS O8 (x4)	800	5/26/93	19	-9	-9	-9	-9	-9
93183.0	NAVAL SHIPYARDS O9 (x1)	801	5/26/93	19	-9	-9	-9	-9	-9
93184.0	NAVAL SHIPYARDS O11 (x1)	802	5/26/93	19	-9	-9	-9	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)	803	5/26/93	19	-9	-9	-9	-9	-9
93186.0	FUEL PIER D4 (x1)	804	5/26/93	19	-9	-9	-9	-9	-9
93187.0	MARINE TERMINAL R2 (x1)	805	5/26/93	19	-9	-9	-9	-9	-9
93188.0	CARRIER BASE V1 (x2)	806	5/26/93	19	-9	-9	-9	-9	-9
93189.0	NAVAL SHIPYARDS O15 (x1) BLIND	814	5/26/93	19	-9	-9	-9	-9	-9
90051.0	16 SWARTZ (INTERCONT. MARINA)	818	6/15/93	20	-9	-9	-9	-9	-9
93192.0	INTERCONT. MARINA M1 (x2)	819	6/15/93	20	-9	-9	-9	-9	-9
93193.0	INTERCONT. MARINA M1 (x1)	820	6/15/93	20	-9	-9	-9	-9	-9
90037.0	STORMDRAIN EM (GRAPE ST.)-REP1	827	6/15/93	20	-9	-9	-9	-9	-9
90037.0	STORMDRAIN EM (GRAPE ST.)-REP2	828	6/15/93	20	-9	-9	-9	-9	-9
90037.0	STORMDRAIN EM (GRAPE ST.)-REP3	829	6/15/93	20	-9	-9	-9	-9	-9
93198.0	INTERCONT. MARINA M2(x1) BLIND	833	6/15/93	20	-9	-9	-9	-9	-9
90013.0	37 SWARTZ (MARINA)	815	6/16/93	20	-9	-9	-9	-9	-9
93190.0	MARINA I11 (x1)	816	6/16/93	20	-9	-9	-9	-9	-9
93191.0	MARINA I11 (x3)	817	6/16/93	20	-9	-9	-9	-9	-9
90015.0	41 SWARTZ (GLORIETTA BAY)	821	6/16/93	20	-9	-9	-9	-9	-9
93194.0	GLORIETTA BAY U1 (x1)	822	6/16/93	20	-9	-9	-9	-9	-9
93195.0	GLORIETTA BAY U1 (x2)	823	6/16/93	20	-9	-9	-9	-9	-9
90012.0	34 SWARTZ (C.V. YACHT BASIN)	824	6/16/93	20	-9	-9	-9	-9	-9
93196.0	CHULA V. YACHT BASIN S1 (x1)	825	6/16/93	20	-9	-9	-9	-9	-9
93197.0	CHULA V. YACHT BASIN S1 (x3)	826	6/16/93	20	-9	-9	-9	-9	-9
90053.0	35 SWARTZ (CORONADO CAYS)	843	7/20/93	21	-9	-9	-9	-9	-9
93203.0	CORONADO CAYS T2 (x1)	844	7/20/93	21	-9	-9	-9	-9	-9
93204.0	CORONADO CAYS T2 (x2)	845	7/20/93	21	-9	-9	-9	-9	-9
90003.0	14 SWARTZ (DOWNTOWN PIERS)	846	7/20/93	21	-9	-9	-9	-9	-9
93205.0	DOWNTOWN PIERS K1 (x9)	847	7/20/93	21	-9	-9	-9	-9	-9
93206.0	DOWNTOWN PIERS K1 (x11)	848	7/20/93	21	-9	-9	-9	-9	-9
90004.0	15 SWARTZ (G ST. PIER MARINA)	849	7/20/93	21	-9	-9	-9	-9	-9
93207.0	G ST. PIER MARINA L1 (x4)	850	7/20/93	21	-9	-9	-9	-9	-9
93208.0	G ST. PIER MARINA L1 (x5)	851	7/20/93	21	-9	-9	-9	-9	-9
93209.0	DOWNTOWN PIERS K4 BLIND (x4)	852	7/20/93	21	-9	-9	-9	-9	-9
93107.0	MISSION BAY A3 (x1)-REP 1	853	7/21/93	21	-9	-9	-9	-9	-9

Percent Normal Shell Development of Mussel Larvae in Porewater Water

STANUM	STATION	IDORG	DATE	LEG	MEP100_MN	MEP100_SD	MEP100_SG	MEP100_NH3	MEP100_H2S
93107.0	MISSION BAY A3 (x1)-REP 2	854	7/21/93	21	-9	-9	-9	-9	-9
93107.0	MISSION BAY A3 (x1)-REP 3	855	7/21/93	21	-9	-9	-9	-9	-9
93112.0	MISSION BAY A8 (x1)-REP 1	856	7/21/93	21	-9	-9	-9	-9	-9
93112.0	MISSION BAY A8 (x1)-REP 2	857	7/21/93	21	-9	-9	-9	-9	-9
93112.0	MISSION BAY A8 (x1)-REP 3	858	7/21/93	21	-9	-9	-9	-9	-9
93108.0	MISSION BAY A4 (x1)-REP 1	859	7/21/93	21	-9	-9	-9	-9	-9
93108.0	MISSION BAY A4 (x1)-REP 2	860	7/21/93	21	-9	-9	-9	-9	-9
93108.0	MISSION BAY A4 (x1)-REP 3	861	7/21/93	21	-9	-9	-9	-9	-9
90050.0	10 SWARTZ (WEST BASIN)	837	8/3/93	21	-9	-9	-9	-9	-9
93199.0	WEST BASIN H1 (x1)	838	8/3/93	21	-9	-9	-9	-9	-9
93200.0	WEST BASIN H1 (x4)	839	8/3/93	21	-9	-9	-9	-9	-9
90001.0	11 SWARTZ (EAST BASIN)	840	8/3/93	21	-9	-9	-9	-9	-9
93201.0	EAST BASIN I1 (x1)	841	8/3/93	21	-9	-9	-9	-9	-9
93202.0	EAST BASIN I1 (x5)	842	8/3/93	21	-9	-9	-9	-9	-9
93180.0	NAVAL BASE/SHIPYARDS O5 (x1)	798	8/4/93	22	-9	-9	-9	-9	-9
90021.0	K SWARTZ (NAVAL BASE O4)	862	8/4/93	22	-9	-9	-9	-9	-9
93210.0	NAVAL BASE/SHIPYARDS O4 (x1)	863	8/4/93	22	-9	-9	-9	-9	-9
93211.0	NAVAL BASE/SHIPYARDS O4 (x2)	864	8/4/93	22	-9	-9	-9	-9	-9
90006.0	23 SWARTZ (NAVAL BASE O7)	865	8/4/93	22	-9	-9	-9	-9	-9
93212.0	NAVAL BASE/SHIPYARDS O7 (x1)	866	8/4/93	22	-9	-9	-9	-9	-9
93213.0	NAVAL BASE/SHIPYARDS O7 (x4)	867	8/4/93	22	-9	-9	-9	-9	-9
90022.0	P SWARTZ (NAVAL BASE O12)	868	8/4/93	22	-9	-9	-9	-9	-9
93214.0	NAVAL BASE/SHIPYARDS O12 (x3)	869	8/4/93	22	-9	-9	-9	-9	-9
93215.0	NAVAL BASE/SHIPYARDS O12 (x4)	870	8/4/93	22	-9	-9	-9	-9	-9
90028.0	NSB-M1 (SUB BASE C2)	871	8/4/93	22	-9	-9	-9	-9	-9
93216.0	SUB BASE C2 (x1)	872	8/4/93	22	-9	-9	-9	-9	-9
93217.0	SUB BASE C2 (x3)	873	8/4/93	22	-9	-9	-9	-9	-9
93218.0	SUB BASE C2 (x11) BLIND	874	8/4/93	22	-9	-9	-9	-9	-9
93116.0	SAN DIEGO RIVER B1 (x4)-REP 1	881	8/5/93	22	-9	-9	-9	-9	-9
93116.0	SAN DIEGO RIVER B1 (x4)-REP 2	882	8/5/93	22	-9	-9	-9	-9	-9
93116.0	SAN DIEGO RIVER B1 (x4)-REP 3	883	8/5/93	22	-9	-9	-9	-9	-9
90052.0	32 SWARTZ(SWEETWATER CH)-REP 1	875	8/18/93	22	-9	-9	-9	-9	-9
93219.0	SWEETWATER CH. JJ1 (x1)-REP 2	876	8/18/93	22	-9	-9	-9	-9	-9
93220.0	SWEETWATER CH. JJ1 (x8)-REP 3	877	8/18/93	22	-9	-9	-9	-9	-9
90002.0	12 SWARTZ(DOWNTOWN ANCH)-REP 1	878	8/18/93	22	-9	-9	-9	-9	-9
93221.0	DOWNTOWN ANCH. J1 (x1)-REP 2	879	8/18/93	22	-9	-9	-9	-9	-9
93222.0	DOWNTOWN ANCH. J1 (x2)-REP 3	880	8/18/93	22	-9	-9	-9	-9	-9
90007.0	25 SWARTZ (NAVAL BASE/SY O10)	887	8/17/93	23	-9	-9	-9	-9	-9
93223.0	NAVAL BASE/SHIPYARD O10 (x2)	888	8/17/93	23	-9	-9	-9	-9	-9
93224.0	NAVAL BASE/SHIPYARD O10(x6)	889	8/17/93	23	-9	-9	-9	-9	-9
90008.0	27 SWARTZ (NAVAL BASE/SH O13)	890	8/17/93	23	-9	-9	-9	-9	-9
93225.0	NAVAL BASE/SHIPYARD O13 (x1)	891	8/17/93	23	-9	-9	-9	-9	-9
93226.0	NAVAL BASE/SHIPYARD O13 (x3)	892	8/17/93	23	-9	-9	-9	-9	-9
90009.0	28 SWARTZ (7TH ST CHANNEL Q1)	893	8/17/93	23	-9	-9	-9	-9	-9

Percent Normal Shell Development of Mussel Larvae in Porewater Water

STANUM	STATION	IDORG	DATE	LEG	MEP100_MN	MEP100_SD	MEP100_SG	MEP100_NH3	MEP100_H2S
93227.0	SEVENTH ST CHANNEL Q1 (x5)	894	8/17/93	23	-9	-9	-9	-9	-9
93228.0	SEVENTH ST CHANNEL Q1 (x6)	895	8/17/93	23	-9	-9	-9	-9	-9
90010.0	31 SWARTZ (MARINE TERMINAL R3)	896	8/17/93	23	-9	-9	-9	-9	-9
93229.0	MARINE TERMINAL R3 (x1)	897	8/17/93	23	-9	-9	-9	-9	-9
93230.0	MARINE TERMINAL R3 (x3)	898	8/17/93	23	-9	-9	-9	-9	-9
90025.0	SDNI-N5 (CARRIER BASE V2)	899	8/18/93	23	-9	-9	-9	-9	-9
93231.0	CARRIER BASE V2 (x6)	1000	8/18/93	23	-9	-9	-9	-9	-9
93232.0	CARRIER BASE V2 (x7)	1001	8/18/93	23	-9	-9	-9	-9	-9
93132.0	CORONADO CAYS T3 (x1)	1025	1/18/94	24	-9	-9	-9	-9	-9
93129.0	SOUTH BAY GG4 (x1)	1026	1/18/94	24	-9	-9	-9	-9	-9
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	1027	1/18/94	24	-9	-9	-9	-9	-9
93127.0	SOUTH BAY GG2 (x1)	1028	1/18/94	24	-9	-9	-9	-9	-9
93139.0	COMMERCIAL BASIN F1 (x1)	1030	1/18/94	24	-9	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)	1031	1/18/94	24	-9	-9	-9	-9	-9
93128.0	SOUTHBAY GG5 (x1)	1033	1/18/94	24	-9	-9	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1) REP 1	1035	1/18/94	24	-9	-9	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1) REP 2	1036	1/18/94	24	-9	-9	-9	-9	-9
93158.0	SOUTH BAY GG1 (x1) REP 3	1037	1/18/94	24	-9	-9	-9	-9	-9
93122.0	S.S.- CORONADO DD3 (x1) REP 1	1013	1/19/94	24	-9	-9	-9	-9	-9
93122.0	S.S.- CORONADO DD3 (x1) REP 2	1014	1/19/94	24	-9	-9	-9	-9	-9
93122.0	S.S.- CORONADO DD3 (x1) REP 3	1015	1/19/94	24	-9	-9	-9	-9	-9
93125.0	SILVER STRAND FF4 (x4) REP 1	1016	1/19/94	24	-9	-9	-9	-9	-9
93125.0	SILVER STRAND FF4 (x4) REP 2	1017	1/19/94	24	-9	-9	-9	-9	-9
93125.0	SILVER STRAND FF4 (x4) REP 3	1018	1/19/94	24	-9	-9	-9	-9	-9
90057.0	5 SDG&E REP 1	1019	1/19/94	24	-9	-9	-9	-9	-9
90057.0	5 SDG&E REP 2	1020	1/19/94	24	-9	-9	-9	-9	-9
90057.0	5 SDG&E REP 3	1021	1/19/94	24	-9	-9	-9	-9	-9
93117.0	SAN DIEGO RIVER B2 (x2)	1029	1/19/94	24	-9	-9	-9	-9	-9
93120.0	TIJUANA R. ESTUARY HH2 (x1)	1032	1/19/94	24	-9	-9	-9	-9	-9
93121.0	TIJUANA R. ESTUARY HH2 (x5)	1034	1/19/94	24	-9	-9	-9	-9	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 1	1022	1/20/94	24	-9	-9	-9	-9	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 2	1023	1/20/94	24	-9	-9	-9	-9	-9
90036.0	STORMDRAIN EA (ROHR CH.) REP 3	1024	1/20/94	24	-9	-9	-9	-9	-9
90020.0	G DE LAPPE-REP 1	1104	3/1/94	27	-9	-9	-9	-9	-9
90020.0	G DE LAPPE-REP 2	1105	3/1/94	27	-9	-9	-9	-9	-9
90020.0	G DE LAPPE-REP 3	1106	3/1/94	27	-9	-9	-9	-9	-9
90022.0	P SWARTZ-REP 1	1107	3/1/94	27	-9	-9	-9	-9	-9
90022.0	P SWARTZ-REP 2	1108	3/1/94	27	-9	-9	-9	-9	-9
90022.0	P SWARTZ-REP 3	1109	3/1/94	27	-9	-9	-9	-9	-9
90029.0	NSB-R1-REP 1	1113	3/1/94	27	-9	-9	-9	-9	-9
90029.0	NSB-R1-REP 2	1114	3/1/94	27	-9	-9	-9	-9	-9
90029.0	NSB-R1-REP 3	1115	3/1/94	27	-9	-9	-9	-9	-9
90024.0	SDNI-N1-REP 1	1116	3/1/94	27	-9	-9	-9	-9	-9
90024.0	SDNI-N1-REP 2	1117	3/1/94	27	-9	-9	-9	-9	-9

Percent Normal Shell Development of Mussel Larvae in Porewater Water

STANUM	STATION	IDORG	DATE	LEG	MEP100_MN	MEP100_SD	MEP100_SG	MEP100_NH3	MEP100_H2S
90024.0	SDNI-N1-REP 3	1118	3/1/94	27	-9	-9	-9	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)	1125	3/1/94	27	-9	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)	1126	3/1/94	27	-9	-9	-9	-9	-9
93161.0	SUB BASE C1 (x1)	1127	3/1/94	27	-9	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)	1128	3/1/94	27	-9	-9	-9	-9	-9
90013.0	37 SWARTZ-REP 1	1098	3/2/94	27	-9	-9	-9	-9	-9
90013.0	37 SWARTZ-REP 2	1099	3/2/94	27	-9	-9	-9	-9	-9
90013.0	37 SWARTZ-REP 3	1100	3/2/94	27	-9	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)-REP 1	1101	3/2/94	27	-9	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)-REP 2	1102	3/2/94	27	-9	-9	-9	-9	-9
93106.0	MISSION BAY A2 (x1)-REP 3	1103	3/2/94	27	-9	-9	-9	-9	-9
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 1	1110	3/2/94	27	-9	-9	-9	-9	-9
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 2	1111	3/2/94	27	-9	-9	-9	-9	-9
93181.0	NAVAL SHIPYARDS O6 (x1)-REP 3	1112	3/2/94	27	-9	-9	-9	-9	-9
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 1	1119	3/2/94	27	-9	-9	-9	-9	-9
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 2	1120	3/2/94	27	-9	-9	-9	-9	-9
93178.0	NAVAL SHIPYARDS O2 (x1)-REP 3	1121	3/2/94	27	-9	-9	-9	-9	-9
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 1	1122	3/2/94	27	-9	-9	-9	-9	-9
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 2	1123	3/2/94	27	-9	-9	-9	-9	-9
93179.0	NAVAL SHIPYARDS O3 (x1)-REP 3	1124	3/2/94	27	-9	-9	-9	-9	-9
90052.0	32 SWARTZ(SWEETWATER CH)-REP 1	1129	3/15/94	28	-9	-9	-9	-9	-9
90052.0	32 SWARTZ(SWEETWATER CH)-REP 2	1130	3/15/94	28	-9	-9	-9	-9	-9
90052.0	32 SWARTZ(SWEETWATER CH)-REP 3	1131	3/15/94	28	-9	-9	-9	-9	-9
93131.0	CORONADO CAYS T1 (x1)-REP 1	1138	3/15/94	28	-9	-9	-9	-9	-9
93131.0	CORONADO CAYS T1 (x1)-REP 2	1139	3/15/94	28	-9	-9	-9	-9	-9
93131.0	CORONADO CAYS T1 (x1)-REP 3	1140	3/15/94	28	-9	-9	-9	-9	-9
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP1	1141	3/15/94	28	-9	-9	-9	-9	-9
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP2	1142	3/15/94	28	-9	-9	-9	-9	-9
93160.0	CHANNEL-SOUTH BAY AA2(x1)-REP3	1143	3/15/94	28	-9	-9	-9	-9	-9
90030.0	BF SCHROEDER SITE F-REP 1	1144	3/15/94	28	-9	-9	-9	-9	-9
90030.0	BF SCHROEDER SITE F-REP 2	1145	3/15/94	28	-9	-9	-9	-9	-9
90030.0	BF SCHROEDER SITE F-REP 3	1146	3/15/94	28	-9	-9	-9	-9	-9
93159.0	SOUTH BAY GG3 (x1)-REP 1	1147	3/15/94	28	-9	-9	-9	-9	-9
93159.0	SOUTH BAY GG3 (x1)-REP 2	1148	3/15/94	28	-9	-9	-9	-9	-9
93159.0	SOUTH BAY GG3 (x1)-REP 3	1149	3/15/94	28	-9	-9	-9	-9	-9
90043.0	CORONADO WHARF-REP 1	1156	3/15/94	28	-9	-9	-9	-9	-9
90043.0	CORONADO WHARF-REP 2	1157	3/15/94	28	-9	-9	-9	-9	-9
90043.0	CORONADO WHARF-REP 3	1158	3/15/94	28	-9	-9	-9	-9	-9
93120.0	TIJUANA R. EST. HH2 (x1)-REP 1	1132	3/16/94	28	-9	-9	-9	-9	-9
93120.0	TIJUANA R. EST. HH2 (x1)-REP 2	1133	3/16/94	28	-9	-9	-9	-9	-9
93120.0	TIJUANA R. EST. HH2 (x1)-REP 3	1134	3/16/94	28	-9	-9	-9	-9	-9
93121.0	TIJUANA R. EST. HH2 (x5)-REP 1	1135	3/16/94	28	-9	-9	-9	-9	-9
93121.0	TIJUANA R. EST. HH2 (x5)-REP 2	1136	3/16/94	28	-9	-9	-9	-9	-9
93121.0	TIJUANA R. EST. HH2 (x5)-REP 3	1137	3/16/94	28	-9	-9	-9	-9	-9



Percent Normal Shell Development of Mussel Larvae in Porewater Water

STANUM	STATION	IDORG	DATE	LEG	MEP100_MN	MEP100_SD	MEP100_SG	MEP100_NH3	MEP100_H2S
93174.0	TIJUANA R. EST. HH3 (x2)-REP 1	1150	3/16/94	28	-9	-9	-9	-9	-9
93174.0	TIJUANA R. EST. HH3 (x2)-REP 2	1151	3/16/94	28	-9	-9	-9	-9	-9
93174.0	TIJUANA R. EST. HH3 (x2)-REP 3	1152	3/16/94	28	-9	-9	-9	-9	-9
93166.0	NAVY ESTUARY G2 (x1)-REP 1	1153	3/16/94	28	-9	-9	-9	-9	-9
93166.0	NAVY ESTUARY G2 (x1)-REP 2	1154	3/16/94	28	-9	-9	-9	-9	-9
93166.0	NAVY ESTUARY G2 (x1)-REP 3	1155	3/16/94	28	-9	-9	-9	-9	-9
90037.0	STORMDRAIN EM(GRAPE ST.)-REP 1	1159	3/29/94	29	-9	-9	-9	-9	-9
90037.0	STORMDRAIN EM(GRAPE ST.)-REP 2	1160	3/29/94	29	-9	-9	-9	-9	-9
90037.0	STORMDRAIN EM(GRAPE ST.)-REP 3	1161	3/29/94	29	-9	-9	-9	-9	-9
93148.0	CHANNEL-CORONADO Y1 (x2)-REP 1	1162	3/29/94	29	-9	-9	-9	-9	-9
93148.0	CHANNEL-CORONADO Y1 (x2)-REP 2	1163	3/29/94	29	-9	-9	-9	-9	-9
93148.0	CHANNEL-CORONADO Y1 (x2)-REP 3	1164	3/29/94	29	-9	-9	-9	-9	-9
93138.0	SHELTER ISLAND E3 (x2)-REP 1	1165	3/29/94	29	-9	-9	-9	-9	-9
93138.0	SHELTER ISLAND E3 (x2)-REP 2	1166	3/29/94	29	-9	-9	-9	-9	-9
93138.0	SHELTER ISLAND E3 (x2)-REP 3	1167	3/29/94	29	-9	-9	-9	-9	-9
93141.0	COMMERCIAL BASIN F3 (x1)-REP 1	1168	3/29/94	29	-9	-9	-9	-9	-9
93141.0	COMMERCIAL BASIN F3 (x1)-REP 2	1169	3/29/94	29	-9	-9	-9	-9	-9
93141.0	COMMERCIAL BASIN F3 (x1)-REP 3	1170	3/29/94	29	-9	-9	-9	-9	-9
90018.0	D DE LAPPE-REP 1	1183	3/29/94	29	-9	-9	-9	-9	-9
90018.0	D DE LAPPE-REP 2	1184	3/29/94	29	-9	-9	-9	-9	-9
90018.0	D DE LAPPE-REP 3	1185	3/29/94	29	-9	-9	-9	-9	-9
90104.0	WEST BASIN ENTRANCE(71C)-REP 1	1186	3/29/94	29	-9	-9	-9	-9	-9
90104.0	WEST BASIN ENTRANCE(71C)-REP 2	1187	3/29/94	29	-9	-9	-9	-9	-9
90104.0	WEST BASIN ENTRANCE(71C)-REP 3	1188	3/29/94	29	-9	-9	-9	-9	-9
93107.0	MISSION BAY A3 (x1)-REP 1	1180	3/30/94	29	-9	-9	-9	-9	-9
93107.0	MISSION BAY A3 (x1)-REP 2	1181	3/30/94	29	-9	-9	-9	-9	-9
93107.0	MISSION BAY A3 (x1)-REP 3	1182	3/30/94	29	-9	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)-REP 1	1303	5/18/94	32	-9	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)-REP 2	1304	5/18/94	32	-9	-9	-9	-9	-9
93163.0	FUEL PIERS D2 (x2)-REP 3	1305	5/18/94	32	-9	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)-REP 1	1306	5/18/94	32	-9	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)-REP 2	1307	5/18/94	32	-9	-9	-9	-9	-9
93171.0	MARINE TERMINAL R1 (x1)-REP 3	1308	5/18/94	32	-9	-9	-9	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)-REP 1	1309	5/18/94	32	-9	-9	-9	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)-REP 2	1310	5/18/94	32	-9	-9	-9	-9	-9
93185.0	NAVAL SHIPYARDS O14 (x1)-REP 3	1311	5/18/94	32	-9	-9	-9	-9	-9
93181.0	SUB BASE C1 (x1)-REP 1	1312	5/18/94	32	-9	-9	-9	-9	-9
93181.0	SUB BASE C1 (x1)-REP 2	1313	5/18/94	32	-9	-9	-9	-9	-9
93181.0	SUB BASE C1 (x1)-REP 3	1314	5/18/94	32	-9	-9	-9	-9	-9
90013.0	37 SWARTZ	1318	5/18/94	32	-9	-9	-9	-9	-9
93108.0	MISSION BAY A2 (x1)	1319	5/18/94	32	-9	-9	-9	-9	-9
90052.0	32 SWARTZ	1320	5/18/94	32	-9	-9	-9	-9	-9

**Appendix E**

**P450 RGS Response**

P450 RGS Response (ug/g)

STANUM	STATION	IDORG	DATE	LEG	BAP EQ	TTL_PAH
93131	CORONADO CAYS T1 (x1)	734	4/6/93	16	5.3	31704.30
93122	SOUTH SHORE- CORONADO DD3 (x1)	725	4/7/93	16	21.3	24663.44
93138	SHELTER ISLAND E3(x2)	741	4/6/93	16	23.5	11073.93
93141	COMMERCIAL BASIN F3 (x1)	744	4/7/93	16	47.9	49754.54
93147	GLORIETTA BAY U3 (x1)	757	4/20/93	17	25.3	16984.57
93164	SHELTER ISLAND E1 (x1)	777	5/4/93	18	9.2	36186.44
93166	NAVY ESTUARY G2 (x1)	779	5/4/93	18	23.5	66122.87
93188	CARRIER BASE V1 (x2)	806	5/26/93	19	37.0	26437.08
93184	NAVAL SHIPYARDS O11 (x1)	802	5/26/93	19	44.9	12060.20
93181	NAVAL SHIPYARDS O6 (x1)	799	5/26/93	19	64.3	6023.47
93179	NAVAL SHIPYARDS O3 (x1)	797	5/26/93	19	74.2	3184.60
93178	NAVAL SHIPYARDS O2 (x1)	796	5/26/93	19	100.0	721.65
93177	NAVAL SHIPYARDS O1 (x1)	795	5/26/93	19	103.0	495.57
93195	GLORIETTA BAY U1 (x2)	823	6/16/93	20	18.7	36524.24
93204	CORONADO CAYS T2 (x2)	845	7/20/93	21	8.3	14226.28
93203	CORONADO CAYS T2 (x1)	844	7/20/93	21	9.6	19548.62
93112	MISSION BAY A8 (x1)-REP 2	857	7/21/93	21	10.0	33571.20
93206	DOWNTOWN PIERS K1 (x11)	848	7/20/93	21	90.4	427.70
93219	SWEETWATER CH. JJ1 (x1)-REP 2	876	8/18/93	22	10.4	48411.17
90022	P SWARTZ (NAVAL BASE O12)	868	8/4/93	22	67.1	3007.19
93210	NAVAL BASE/SHIPYARDS O4 (x1)	863	8/4/93	22	74.6	1069.08
93213	NAVAL BASE/SHIPYARDS O7 (x4)	867	8/4/93	22	75.8	1373.57
93211	NAVAL BASE/SHIPYARDS O4 (x2)	864	8/4/93	22	97.5	155.97
93217	SUB BASE C2 (x3)	873	8/4/93	22	112.0	252.71
93232	CARRIER BASE V2 (x7)	1001	8/18/93	23	56.6	12596.40
93230	MARINE TERMINAL R3 (x3)	898	8/17/93	23	71.2	32112.70
93229	MARINE TERMINAL R3 (x1)	897	8/17/93	23	78.7	509.90
93223	NAVAL BASE/SHIPYARD O10 (x2)	888	8/17/93	23	82.9	2597.84
93225	NAVAL BASE/SHIPYARD O13 (x1)	891	8/17/93	23	88.3	1202.46
93228	SEVENTH ST CHANNEL Q1 (x6)	895	8/17/93	23	110.8	477.13

## **Appendix F**

### **Cumulative Distribution Frequencies Analysis**

Description of calculations for cumulative frequency distributions of percent area toxic.

The following identifies and describes each of the spreadsheet columns used to generate cumulative frequency functions for estimates of percent area toxic.

**Idorg** : lists all samples tested for each toxicity test protocol/pore water dilution.

**Block#**: lists assigned letter/number code for each area (block) based on EMAP block designations. See Figure 2.

**# samples/block**: lists total number of samples collected in given block.

**toxic**: "1" indicates sample toxicity based on EMAP definition (both significant difference from laboratory control and toxicity value <80% of control value). Blank cell indicates no significant toxicity.

**mn as % of control** : lists sample toxicity means normalized to percentage of the control value.

**Area/block** : Area in km<sup>2</sup> for block associated with each sample

**Area/sample** : Area in km<sup>2</sup> represented by each sample, calculated as: Block area/number of samples collected in given block.

**Area/sample as % of total** : Area represented by each sample as a percent of the total area sampled.

**Cum area/sample as % of total** : Cumulative area per sample as a percent of the total area sampled.

**% total area toxic/sample** : Area represented by each toxic sample as a percent of the total area.

**SUMS** : Numbers in this row show column totals. Sum of Area/sample gives total area sampled for a given toxicity test protocol. Sum of % of total area toxic/sample gives the total area defined as toxic for given test protocol /pore water dilution.

CDF calculations of percent area toxic for *Rhepoxynius* data

Stanum	Station	ldorg	Leg	Block#	# samps /blck	toxic	ra-mn as % of cntrl	Area/blck (km2)	Area/sample (km2)	Area/sample as % of total	Cum area/sample as % of total	% total area toxic (by sample)
93105.0	MISSION BAY A1 (x1)	700	15	A1	1		82.1	0.33	0.33	0.70	0.70	0.00
93114.0	MISSION BAY A10 (x1)	709	15	A10	1		97.9	0.16	0.16	0.34	1.04	0.00
93115.0	MISSION BAY A11 (x1)	710	15	A11	1		97.9	0.15	0.15	0.32	1.36	0.00
93106.0	MISSION BAY A2 (x1)	701	15	A2	1		86.3	0.58	0.58	1.24	2.60	0.00
93107.0	MISSION BAY A3 (x1)	702	15	A3	1		94.7	0.46	0.46	0.98	3.58	0.00
93108.0	MISSION BAY A4 (x1)	703	15	A4	1		94.7	0.99	0.99	2.11	5.69	0.00
93109.0	MISSION BAY A5 (x1)	704	15	A5	1		96.8	0.74	0.74	1.58	7.26	0.00
93110.0	MISSION BAY A6 (x1)	705	15	A6	1		102.1	1.11	1.11	2.36	9.63	0.00
93111.0	MISSION BAY A7 (x3)	706	15	A7	1		89.5	0.81	0.81	1.73	11.35	0.00
93112.0	MISSION BAY A8 (x1)	707	15	A8	1		100.0	0.18	0.18	0.38	11.74	0.00
93113.0	MISSION BAY A9 (x1)	708	15	A9	1		103.2	0.61	0.61	1.30	13.04	0.00
93116.0	SAN DIEGO RIVER B1 (x4)	711	15	B1	1		92.6	0.26	0.26	0.55	13.59	0.00
93117.0	SAN DIEGO RIVER B2 (x2)	712	15	B2	1		94.7	0.24	0.24	0.51	14.10	0.00
93118.0	TIJUANA R. ESTUARY HH1 (x2)	713	15	HH1	2	1	31.6	0.09	0.05	0.10	14.20	0.10
93119.0	TIJUANA R. ESTUARY HH1 (x1)	714	15	HH1	2	1	23.2	0.09	0.05	0.10	14.29	0.10
93120.0	TIJUANA R. ESTUARY HH2 (x1)	715	15	HH2	2		89.5	0.13	0.07	0.14	14.43	0.00
93121.0	TIJUANA R. ESTUARY HH2 (x5)	716	15	HH2	2		89.5	0.13	0.07	0.14	14.57	0.00
93134.0	SOUTH SHORE-MOUTH BB2 (x1)	737	16	BB2	1		97.9	0.54	0.54	1.15	15.72	0.00
93135.0	SOUTH SHORE-MOUTH BB3 (x1)	738	16	BB3	1		86.2	0.51	0.51	1.09	16.81	0.00
93136.0	NORTH SHORE-MOUTH CC2 (x1)	739	16	CC2	1	1	74.5	0.75	0.75	1.60	18.40	1.60
93137.0	NORTH SHORE-MOUTH CC3 (x1)	740	16	CC3	1	1	79.8	1.64	1.64	3.49	21.90	3.49
93142.0	SOUTH SHORE-CORONADO DD1(X1)	752	16	DD1	1	1	56.4	0.35	0.35	0.75	22.64	0.75
93122.0	SOUTH SHORE-CORONADO DD3 (x1)	725	16	DD3	1	1	24.5	0.43	0.43	0.92	23.56	0.92
93138.0	SHELTER ISLAND E3 (x2)	741	16	E3	1	1	30.9	0.28	0.28	0.60	24.15	0.60
93139.0	COMMERCIAL BASIN F1 (x1)	742	16	F1	1		85.1	0.11	0.11	0.23	24.39	0.00
93140.0	COMMERCIAL BASIN F2 (x1)	743	16	F2	1	1	57.4	0.15	0.15	0.32	24.71	0.32
93141.0	COMMERCIAL BASIN F3 (x1)	744	16	F3	1	1	53.2	0.13	0.13	0.28	24.98	0.28
93123.0	SILVER STRAND FF1 (x1)	726	16	FF1	1	1	73.4	0.36	0.36	0.77	25.75	0.77
93124.0	SILVER STRAND FF2 (x1)	727	16	FF2	1		84.0	0.35	0.35	0.75	26.50	0.00
93125.0	SILVER STRAND FF4 (x4)	728	16	FF4	1	1	55.3	0.48	0.48	1.02	27.52	1.02
93126.0	SILVER STRAND FF7 (x2)	729	16	FF7	1	1	79.8	3.70	3.70	7.88	35.40	7.88
93127.0	SOUTH BAY GG2 (x1)	730	16	GG2	1	1	78.7	1.70	1.70	3.62	39.02	3.62
93129.0	SOUTH BAY GG4 (x1)	732	16	GG4	1	1	74.5	1.56	1.56	3.32	42.34	3.32

CDF calculations of percent area toxic for *Rhepoxynius* data

Stanum	Station	Idorg	Leg	Block#	# samps /blk	toxic	ra-mn as % of cntrl	Area/blk (km2)	Area/sample (km2)	Area/sample as % of total	Cum area/sample	% total area toxic
93128.0	SOUTHBAY GG5 (x1)	750	16	GG5	1	1	62.8	0.54	0.54	1.15	43.49	1.15
93131.0	CORONADO CAYS T1 (x1)	734	16	T1	1	1	52.1	0.12	0.12	0.26	43.75	0.26
93132.0	CORONADO CAYS T3 (x1)	735	16	T3	1	1	70.2	0.11	0.11	0.23	43.98	0.23
93148.0	CHANNEL-CORONADO Y1 (x2)	751	16	Y1	1	1	50.0	1.94	1.94	4.13	48.12	4.13
93133.0	CHANNEL-NAVAL BASE Z1 (x1)	736	16	Z1	2		86.2	2.34	1.17	2.49	50.61	0.00
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	760	17	AA1	1	1	62.9	0.70	0.70	1.49	52.10	1.49
93152.0	SOUTH SHORE-MOUTH BB1 (x1)	761	17	BB1	1		93.8	0.51	0.51	1.09	53.18	0.00
93153.0	NORTH SHORE-MOUTH CC1 (x1)	762	17	CC1	1	1	54.6	1.00	1.00	2.13	55.31	2.13
93154.0	NORTH SHORE-MOUTH CC4 (x1)	763	17	CC4	1	1	32.0	1.66	1.66	3.54	58.85	3.54
93143.0	FUEL PIERS D1 (x1)	753	17	D1	1	1	66.0	0.02	0.02	0.04	58.89	0.04
93155.0	SOUTH SHORE-CORONADO DD2 (x1)	764	17	DD2	1	1	75.3	0.24	0.24	0.51	59.40	0.51
93156.0	NORTH SHORE-CORONADO EE1 (x1)	765	17	EE1	1		83.5	0.42	0.42	0.89	60.30	0.00
93157.0	NORTH SHORE-CORONADO EE2 (x1)	766	17	EE2	1	1	57.7	0.31	0.31	0.66	60.96	0.66
93158.0	SOUTH BAY GG1 (x1)	767	17	GG1	1	1	50.5	1.82	1.82	3.88	64.83	3.88
93159.0	SOUTH BAY GG3 (x1)	768	17	GG3	1	1	21.6	0.10	0.10	0.21	65.05	0.21
93144.0	CAMPBELL SHIPYARDS N1 (x1)	754	17	N1	1	1	69.1	0.05	0.05	0.11	65.15	0.11
93145.0	CAMPBELL SHIPYARDS N2 (x1)	755	17	N2	1	1	69.1	0.04	0.04	0.09	65.24	0.09
93146.0	GLORIETTA BAY U2 (x1)	756	17	U2	1	1	77.3	0.06	0.06	0.13	65.37	0.13
93147.0	GLORIETTA BAY U3 (x1)	757	17	U3	1	1	54.6	0.09	0.09	0.19	65.56	0.19
93149.0	CHANNEL-MOUTH X1 (x1)	758	17	X1	1		92.8	1.27	1.27	2.71	68.26	0.00
93150.0	CHANNEL-NAVAL BASE Z1 (x2)	759	17	Z1	2		81.4	2.34	1.17	2.49	70.76	0.00
93161.0	SUB BASE C1 (x1)	774	18	C1	1		94.7	0.03	0.03	0.06	70.82	0.00
93162.0	SUB BASE C3 (x1)	775	18	C3	1	1	56.4	0.04	0.04	0.09	70.91	0.09
93163.0	FUEL PIERS D2 (x2)	776	18	D2	1		91.5	0.05	0.05	0.11	71.01	0.00
93164.0	SHELTER ISLAND E1 (x1)	777	18	E1	1	1	55.3	0.46	0.46	0.98	71.99	0.98
93172.0	SILVER STRAND FF3 (x1)	785	18	FF3	1	1	78.7	0.46	0.46	0.98	72.97	0.98
93173.0	SILVER STRAND FF6 (x1)	786	18	FF6	1		83.0	2.99	2.99	6.37	79.34	0.00
93165.0	NAVY ESTUARY G1 (x1)	778	18	G1	1	1	70.2	0.07	0.07	0.15	79.49	0.15
93166.0	NAVY ESTUARY G2 (x1)	779	18	G2	1	1	21.3	0.05	0.05	0.11	79.60	0.11
93167.0	NAVY ESTUARY G3 (x1)	780	18	G3	1	1	75.5	0.10	0.10	0.21	79.81	0.21
93168.0	WEST BASIN H2 (x1)	781	18	H2	1	1	57.4	0.28	0.28	0.60	80.40	0.60
93175.0	TIJUANA R. ESTUARY HH3 (x3)	788	18	HH3	2	1	10.6	0.08	0.04	0.09	80.49	0.09
93174.0	TIJUANA R. ESTUARY HH3 (x2)	787	18	HH3	2	1	6.4	0.08	0.04	0.09	80.58	0.09
93169.0	EAST BASIN I2 (x1)	782	18	I2	1	1	60.6	0.10	0.10	0.21	80.79	0.21
93170.0	CHOLLAS CREEK P1 (x2)	783	18	P1	1		87.2	0.03	0.03	0.06	80.85	0.00

CDF calculations of percent area toxic for *Rhepoxynius* data

Stanum	Station	ldorg	Leg	Block#	# samps /blck	toxic	ra-mn as % of cntrl	Area/blck (km2)	Area/sample (km2)	Area/sample as % of total	Cum area/sample	% total area toxic
93171.0	MARINE TERMINAL R1 (x1)	784	18	R1	1	1	70.2	0.22	0.22	0.47	81.32	0.47
93186.0	FUEL PIER D4 (x1)	804	19	D4	1	1	74.7	0.02	0.02	0.04	81.36	0.04
93177.0	NAVAL SHIPYARDS O1 (x1)	795	19	O1	1	1	52.6	0.05	0.05	0.11	81.47	0.11
93184.0	NAVAL SHIPYARDS O11 (x1)	802	19	O11	1	1	55.8	0.09	0.09	0.19	81.66	0.19
93185.0	NAVAL SHIPYARDS O14 (x1)	803	19	O14	1		88.4	0.29	0.29	0.62	82.28	0.00
93178.0	NAVAL SHIPYARDS O2 (x1)	796	19	O2	1	1	21.1	0.04	0.04	0.09	82.36	0.09
93179.0	NAVAL SHIPYARDS O3 (x1)	797	19	O3	1	1	21.1	0.05	0.05	0.11	82.47	0.11
93181.0	NAVAL SHIPYARDS O6 (x1)	799	19	O6	1	1	47.4	0.09	0.09	0.19	82.66	0.19
93182.0	NAVAL SHIPYARDS O8 (x4)	800	19	O8	1	1	70.5	0.06	0.06	0.13	82.79	0.13
93183.0	NAVAL SHIPYARDS O9 (x1)	801	19	O9	1	1	60.0	0.18	0.18	0.38	83.17	0.38
93187.0	MARINE TERMINAL R2 (x1)	805	19	R2	1	1	57.9	0.27	0.27	0.58	83.75	0.58
93188.0	CARRIER BASE V1 (x2)	806	19	V1	1	1	38.9	0.06	0.06	0.13	83.88	0.13
93190.0	MARINA II1 (x1)	816	20	II1	2		91.6	0.08	0.04	0.09	83.96	0.00
93191.0	MARINA II1 (x3)	817	20	II1	2		84.2	0.08	0.04	0.09	84.05	0.00
93193.0	INTERCONT. MARINA M1 (x1)	820	20	M1	2		93.7	0.10	0.05	0.11	84.15	0.00
93192.0	INTERCONT. MARINA M1 (x2)	819	20	M1	2		88.4	0.10	0.05	0.11	84.26	0.00
93197.0	CHULA V. YACHT BASIN S1 (x3)	826	20	S1	2		83.2	0.18	0.09	0.19	84.45	0.00
93196.0	CHULA V. YACHT BASIN S1 (x1)	825	20	S1	2		80.0	0.18	0.09	0.19	84.64	0.00
93194.0	GLORIETTA BAY U1 (x1)	822	20	U1	2		93.7	0.06	0.03	0.06	84.71	0.00
93195.0	GLORIETTA BAY U1 (x2)	823	20	U1	2		85.3	0.06	0.03	0.06	84.77	0.00
93199.0	WEST BASIN H1 (x1)	838	21	H1	2		83.7	0.20	0.10	0.21	84.98	0.00
93200.0	WEST BASIN H1 (x4)	839	21	H1	2	1	54.3	0.20	0.10	0.21	85.20	0.21
93201.0	EAST BASIN I1 (x1)	841	21	I1	2		94.6	0.11	0.06	0.12	85.31	0.00
93202.0	EAST BASIN I1 (x5)	842	21	I1	2		90.2	0.11	0.06	0.12	85.43	0.00
93206.0	DOWNTOWN PIERS K1 (x11)	848	21	K1	2		103.3	0.06	0.03	0.06	85.50	0.00
93205.0	DOWNTOWN PIERS K1 (x9)	847	21	K1	2		91.3	0.06	0.03	0.06	85.56	0.00
93207.0	G ST. PIER MARINA L1 (x4)	850	21	L1	2		96.7	0.05	0.03	0.05	85.61	0.00
93208.0	G ST. PIER MARINA L1 (x5)	851	21	L1	2		90.2	0.05	0.03	0.05	85.67	0.00
93204.0	CORONADO CAYS T2 (x2)	845	21	T2	2		89.1	0.14	0.07	0.15	85.81	0.00
93203.0	CORONADO CAYS T2 (x1)	844	21	T2	2	1	73.9	0.14	0.07	0.15	85.96	0.15
93216.0	SUB BASE C2 (x1)	872	22	C2	2		96.9	0.02	0.01	0.02	85.99	0.00
93217.0	SUB BASE C2 (x3)	873	22	C2	2		84.4	0.02	0.01	0.02	86.01	0.00
93221.0	DOWNTOWN ANCH J1 (x1)-REF 2	879	22	J1	2		89.6	0.07	0.04	0.07	86.08	0.00
93222.0	DOWNTOWN ANCH J1 (x2)-REF 3	880	22	J1	2		91.7	0.07	0.04	0.07	86.16	0.00
93219.0	SWEETWATER CH JJ1 (x1)-REF 2	876	22	JJ1	2	1	33.3	6.00	3.00	6.39	92.55	6.39



CDF calculations of percent area toxic for *Rhepoxynius* data

Stanum	Station	Idorg	Leg	Block#	# samps /blk	toxic	ra-mn as % of cntrl	Area/blk (km2)	Area/sample (km2)	Area/sample as % of total	Cum area/sample	% total area toxic
93222.0	SWEETWATER CH JJ1 (x8)-REF 3	877	22	JJ1	2		87.5	6.00	3.00	6.39	98.94	0.00
93214.0	NAVAL BASE/SHIPYARDS O12 (x3)	869	22	O12	2		96.9	0.05	0.03	0.05	98.99	0.00
93215.0	NAVAL BASE/SHIPYARDS O12 (x4)	870	22	O12	2		91.7	0.05	0.03	0.05	99.04	0.00
93211.0	NAVAL BASE/SHIPYARDS O4 (x2)	864	22	O4	2		89.6	0.03	0.02	0.03	99.07	0.00
93210.0	NAVAL BASE/SHIPYARDS O4 (x1)	863	22	O4	2	1	38.5	0.03	0.02	0.03	99.11	0.03
93180.0	NAVAL BASE/SHIPYARDS O5 (x1)	798	22	O5	1		84.4	0.06	0.06	0.13	99.23	0.00
93213.0	NAVAL BASE/SHIPYARDS O7 (x4)	867	22	O7	2		97.9	0.06	0.03	0.06	99.30	0.00
93212.0	NAVAL BASE/SHIPYARDS O7 (x1)	866	22	O7	2		94.8	0.06	0.03	0.06	99.36	0.00
93224.0	NAVAL BASE/SHIPYARD O10(x6)	889	23	O10	2		98.9	0.09	0.05	0.10	99.46	0.00
93223.0	NAVAL BASE/SHIPYARD O10 (x2)	888	23	O10	2		86.8	0.09	0.05	0.10	99.55	0.00
93226.0	NAVAL BASE/SHIPYARD O13 (x3)	892	23	O13	2		100.0	0.09	0.05	0.10	99.65	0.00
93225.0	NAVAL BASE/SHIPYARD O13 (x1)	891	23	O13	2		89.0	0.09	0.05	0.10	99.74	0.00
93227.0	SEVENTH ST CHANNEL Q1 (x5)	894	23	Q1	2		86.8	0.04	0.02	0.04	99.79	0.00
93228.0	SEVENTH ST CHANNEL Q1 (x6)	895	23	Q1	2	1	2.2	0.04	0.02	0.04	99.83	0.04
93229.0	MARINE TERMINAL R3 (x1)	897	23	R3	2	1	76.9	0.05	0.03	0.05	99.88	0.05
93230.0	MARINE TERMINAL R3 (x3)	898	23	R3	2	1	69.2	0.05	0.03	0.05	99.94	0.05
93231.0	CARRIER BASE V2 (x6)	1000	23	V2	2		81.3	0.03	0.02	0.03	99.97	0.00
93232.0	CARRIER BASE V2 (x7)	1001	23	V2	2	1	38.5	0.03	0.02	0.03	100.00	0.03
	SUMS								46.95			56.36

CDF calculations of percent area toxic for urchin development data in 100% pore water

Stnum	Station	ldorg	Leg	Block#	# samp /bick	toxic	spd100-mn as % of control	Area/bick (km2)	Area/sample	Area/sample as % of total	Cum area/sample as % of total	% total area toxic (by sample)
93105.0	MISSION BAY A1 (x1)	700	15	A1	1		114.4	0.33	0.33	0.81	0.81	0.00
93106.0	MISSION BAY A2 (x1)	701	15	A2	1		101.9	0.58	0.58	1.42	2.23	0.00
93107.0	MISSION BAY A3 (x1)	702	15	A3	1		103.8	0.46	0.46	1.13	3.35	0.00
93108.0	MISSION BAY A4 (x1)	703	15	A4	1		54.9	0.99	0.99	2.42	5.77	0.00
93109.0	MISSION BAY A5 (x1)	704	15	A5	1	1	0.0	0.74	0.74	1.81	7.58	1.81
93110.0	MISSION BAY A6 (x1)	705	15	A6	1	1	0.0	1.11	1.11	2.72	10.30	2.72
93111.0	MISSION BAY A7 (x3)	706	15	A7	1	1	0.0	0.81	0.81	1.98	12.28	1.98
93112.0	MISSION BAY A8 (x1)	707	15	A8	1	1	0.0	0.18	0.18	0.44	12.72	0.44
93113.0	MISSION BAY A9 (x1)	708	15	A9	1	1	0.0	0.61	0.61	1.49	14.21	1.49
93114.0	MISSION BAY A10 (x1)	709	15	A10	1	1	0.0	0.16	0.16	0.39	14.60	0.39
93115.0	MISSION BAY A11 (x1)	710	15	A11	1	1	0.0	0.15	0.15	0.37	14.97	0.37
93116.0	SAN DIEGO RIVER B1 (x4)	711	15	B1	1	1	1.6	0.26	0.26	0.64	15.61	0.64
93117.0	SAN DIEGO RIVER B2 (x2)	712	15	B2	1		119.5	0.24	0.24	0.59	16.19	0.00
93118.0	TIJUANA R. ESTUARY HH1 (x2)	713	15	HH1	2	1	1.6	0.09	0.05	0.11	16.30	0.11
93119.0	TIJUANA R. ESTUARY HH1 (x1)	714	15	HH1	2	1	0.0	0.09	0.05	0.11	16.41	0.11
93120.0	TIJUANA R. ESTUARY HH2 (x1)	715	15	HH2	2		80.3	0.13	0.07	0.16	16.57	0.00
93121.0	TIJUANA R. ESTUARY HH2 (x5)	716	15	HH2	2		119.4	0.13	0.07	0.16	16.73	0.00
93122.0	SOUTH SHORE-CORONADO DD3 (x1)	725	16	DD3	1	1	1.0	0.43	0.43	1.05	17.78	1.05
93123.0	SILVER STRAND FF1 (x1)	726	16	FF1	1	1	0.0	0.36	0.36	0.88	18.66	0.88
93124.0	SILVER STRAND FF2 (x1)	727	16	FF2	1	1	0.0	0.35	0.35	0.86	19.52	0.86
93125.0	SILVER STRAND FF4 (x4)	728	16	FF4	1	1	0.0	0.48	0.48	1.17	20.69	1.17
93126.0	SILVER STRAND FF7 (x2)	729	16	FF7	1	1	0.0	3.70	3.70	9.05	29.75	9.05
93127.0	SOUTH BAY GG2 (x1)	730	16	GG2	1	1	10.9	1.70	1.70	4.16	33.90	4.16
93129.0	SOUTH BAY GG4 (x1)	732	16	GG4	1		35.4	1.56	1.56	3.82	37.72	0.00
93131.0	CORONADO CAYS T1 (x1)	734	16	T1	1	1	6.6	0.12	0.12	0.29	38.01	0.29
93132.0	CORONADO CAYS T3 (x1)	735	16	T3	1		83.8	0.11	0.11	0.27	38.28	0.00
93133.0	CHANNEL-NAVAL BASE Z1 (x1)	736	16	Z1	2	1	0.3	2.34	1.17	2.86	41.14	2.86
93134.0	SOUTH SHORE-MOUTH BB2 (x1)	737	16	BB2	1		66.5	0.54	0.54	1.32	42.47	0.00
93135.0	SOUTH SHORE-MOUTH BB3 (x1)	738	16	BB3	1		30.9	0.51	0.51	1.25	43.71	0.00
93136.0	NORTH SHORE-MOUTH CC2 (x1)	739	16	CC2	1		32.0	0.75	0.75	1.83	45.55	0.00
93137.0	NORTH SHORE-MOUTH CC3 (x1)	740	16	CC3	1		36.9	1.64	1.64	4.01	49.56	0.00
93138.0	SHELTER ISLAND E3 (x2)	741	16	E3	1	1	0.0	0.28	0.28	0.68	50.24	0.68
93139.0	COMMERCIAL BASIN F1 (x1)	742	16	F1	1	1	0.0	0.11	0.11	0.27	50.51	0.27

CDF calculations of percent area toxic for urchin development data in 100% pore water

Stanum	Station	Idorg	Leg	Block#	# samps /blck	toxic	spd100-mn as % of control	Area/blck (km2)	Area/sample	Area/sample as % of total	Cum area/sample as % of total	% total area toxic (by sample)
93140.0	COMMERCIAL BASIN F2 (x1)	743	16	F2	1	1	0.0	0.15	0.15	0.37	50.88	0.37
93141.0	COMMERCIAL BASIN F3 (x1)	744	16	F3	1		32.1	0.13	0.13	0.32	51.20	0.00
93128.0	SOUTHBAY GG5 (x1)	750	16	GG5	1		105.3	0.54	0.54	1.32	52.52	0.00
93148.0	CHANNEL-CORONADO Y1 (x2)	751	16	Y1	1	1	0.0	1.94	1.94	4.75	57.27	4.75
93142.0	SOUTH SHORE-CORONADO DD1(X1)	752	16	DD1	1	1	0.0	0.35	0.35	0.86	58.12	0.86
93143.0	FUEL PIERS D1 (x1)	753	17	D1	1	1	3.0	0.02	0.02	0.05	58.17	0.05
93144.0	CAMPBELL SHIPYARDS N1 (x1)	754	17	N1	1	1	0.0	0.05	0.05	0.12	58.29	0.12
93145.0	CAMPBELL SHIPYARDS N2 (x1)	755	17	N2	1	1	0.0	0.04	0.04	0.10	58.39	0.10
93146.0	GLORIETTA BAY U2 (x1)	756	17	U2	1	1	0.0	0.06	0.06	0.15	58.54	0.15
93147.0	GLORIETTA BAY U3 (x1)	757	17	U3	1	1	1.7	0.09	0.09	0.22	58.76	0.22
93149.0	CHANNEL-MOUTH X1 (x1)	758	17	X1	1	1	0.0	1.27	1.27	3.11	61.86	3.11
93150.0	CHANNEL-NAVAL BASE Z1 (x2)	759	17	Z1	2	1	43.3	2.34	1.17	2.86	64.73	2.86
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	760	17	AA1	1	1	0.0	0.70	0.70	1.71	66.44	1.71
93152.0	SOUTH SHORE-MOUTH BB1 (x1)	761	17	BB1	1	1	0.0	0.51	0.51	1.25	67.69	1.25
93153.0	NORTH SHORE-MOUTH CC1 (x1)	762	17	CC1	1	1	0.8	1.00	1.00	2.45	70.13	2.45
93154.0	NORTH SHORE-MOUTH CC4 (x1)	763	17	CC4	1	1	0.0	1.66	1.66	4.06	74.19	4.06
93155.0	SOUTH SHORE-CORONADO DD2 (x1)	764	17	DD2	1	1	0.0	0.24	0.24	0.59	74.78	0.59
93156.0	NORTH SHORE-CORONADO EE1 (x1)	765	17	EE1	1	1	0.0	0.42	0.42	1.03	75.81	1.03
93157.0	NORTH SHORE-CORONADO EE2 (x1)	766	17	EE2	1	1	0.0	0.31	0.31	0.76	76.57	0.76
93158.0	SOUTH BAY GG1 (x1)	767	17	GG1	1	1	0.0	1.82	1.82	4.45	81.02	4.45
93159.0	SOUTH BAY GG3 (x1)	768	17	GG3	1	1	0.0	0.10	0.10	0.24	81.26	0.24
93161.0	SUB BASE C1 (x1)	774	18	C1	1	1	0.0	0.03	0.03	0.07	81.34	0.07
93162.0	SUB BASE C3 (x1)	775	18	C3	1	1	0.0	0.04	0.04	0.10	81.43	0.10
93163.0	FUEL PIERS D2 (x2)	776	18	D2	1	1	0.0	0.05	0.05	0.12	81.56	0.12
93164.0	SHELTER ISLAND E1 (x1)	777	18	E1	1		74.8	0.46	0.46	1.13	82.68	0.00
93165.0	NAVY ESTUARY G1 (x1)	778	18	G1	1	1	37.6	0.07	0.07	0.17	82.85	0.17
93166.0	NAVY ESTUARY G2 (x1)	779	18	G2	1	1	0.0	0.05	0.05	0.12	82.97	0.12
93167.0	NAVY ESTUARY G3 (x1)	780	18	G3	1	1	6.6	0.10	0.10	0.24	83.22	0.24
93168.0	WEST BASIN H2 (x1)	781	18	H2	1		96.4	0.28	0.28	0.68	83.90	0.00
93169.0	EAST BASIN I2 (x1)	782	18	I2	1	1	0.0	0.10	0.10	0.24	84.15	0.24
93170.0	CHOLLAS CREEK P1 (x2)	783	18	P1	1		104.8	0.03	0.03	0.07	84.22	0.00
93171.0	MARINE TERMINAL R1 (x1)	784	18	R1	1		103.8	0.22	0.22	0.54	84.76	0.00
93172.0	SILVER STRAND FF3 (x1)	785	18	FF3	1		103.3	0.46	0.46	1.13	85.89	0.00
93173.0	SILVER STRAND FF6 (x1)	786	18	FF6	1	1	22.0	2.99	2.99	7.31	93.20	7.31

CDF calculations of percent area toxic for urchin development data in 100% pore water

Stanum	Station	Idorg	Leg	Block#	# samps /blk	toxic	spd100-mn as % of control	Area/blk (km2)	Area/sample	Area/sample as % of total	Cum area/sample as % of total	% total area toxic (by sample)
93174.0	TIJUANA R. ESTUARY HH3 (x2)	787	18	HH3	2	1	0.0	0.08	0.04	0.10	93.30	0.10
93175.0	TIJUANA R. ESTUARY HH3 (x3)	788	18	HH3	2	1	1.8	0.08	0.04	0.10	93.40	0.10
93177.0	NAVAL SHIPYARDS O1 (x1)	795	19	O1	1		105.6	0.05	0.05	0.12	93.52	0.00
93178.0	NAVAL SHIPYARDS O2 (x1)	796	19	O2	1	1	0.0	0.04	0.04	0.10	93.62	0.10
93179.0	NAVAL SHIPYARDS O3 (x1)	797	19	O3	1	1	0.0	0.05	0.05	0.12	93.74	0.12
93180.0	NAVAL BASE/SHIPYARDS O5 (x1)	798	22	O5	1	1	0.0	0.06	0.06	0.15	93.88	0.15
93181.0	NAVAL SHIPYARDS O6 (x1)	799	19	O6	1	1	0.0	0.09	0.09	0.22	94.10	0.22
93182.0	NAVAL SHIPYARDS O8 (x4)	800	19	O8	1	1	0.0	0.06	0.06	0.15	94.25	0.15
93183.0	NAVAL SHIPYARDS O9 (x1)	801	19	O9	1		100.3	0.18	0.18	0.44	94.69	0.00
93184.0	NAVAL SHIPYARDS O11 (x1)	802	19	O11	1	1	58.6	0.09	0.09	0.22	94.91	0.22
93185.0	NAVAL SHIPYARDS O14 (x1)	803	19	O14	1	1	0.0	0.29	0.29	0.71	95.62	0.71
93186.0	FUEL PIER D4 (x1)	804	19	D4	1	1	0.0	0.02	0.02	0.05	95.67	0.05
93187.0	MARINE TERMINAL R2 (x1)	805	19	R2	1	1	0.0	0.27	0.27	0.66	96.33	0.66
93188.0	CARRIER BASE V1 (x2)	806	19	V1	1	1	0.0	0.06	0.06	0.15	96.48	0.15
93190.0	MARINA II1 (x1)	816	20	II1	2	1	0.0	0.08	0.04	0.10	96.58	0.10
93191.0	MARINA II1 (x3)	817	20	II1	2	1	0.0	0.08	0.04	0.10	96.67	0.10
93192.0	INTERCONT. MARINA M1 (x2)	819	20	M1	2	1	0.0	0.10	0.05	0.12	96.80	0.12
93193.0	INTERCONT. MARINA M1 (x1)	820	20	M1	2	1	0.0	0.10	0.05	0.12	96.92	0.12
93194.0	GLORIETTA BAY U1 (x1)	822	20	U1	2	1	0.0	0.06	0.03	0.07	96.99	0.07
93195.0	GLORIETTA BAY U1 (x2)	823	20	U1	2	1	0.0	0.06	0.03	0.07	97.06	0.07
93196.0	CHULA V. YACHT BASIN S1 (x1)	825	20	S1	2		83.1	0.18	0.09	0.22	97.28	0.00
93197.0	CHULA V. YACHT BASIN S1 (x3)	826	20	S1	2	1	0.0	0.18	0.09	0.22	97.50	0.22
93199.0	WEST BASIN H1 (x1)	838	21	H1	2		59.0	0.20	0.10	0.24	97.75	0.00
93200.0	WEST BASIN H1 (x4)	839	21	H1	2		52.3	0.20	0.10	0.24	97.99	0.00
93201.0	EAST BASIN I1 (x1)	841	21	I1	2	1	0.0	0.11	0.06	0.13	98.13	0.13
93202.0	EAST BASIN I1 (x5)	842	21	I1	2	1	0.0	0.11	0.06	0.13	98.26	0.13
93203.0	CORONADO CAYS T2 (x1)	844	21	T2	2	1	0.0	0.14	0.07	0.17	98.43	0.17
93204.0	CORONADO CAYS T2 (x2)	845	21	T2	2	1	0.0	0.14	0.07	0.17	98.61	0.17
93205.0	DOWNTOWN PIERS K1 (x9)	847	21	K1	2	1	0.0	0.06	0.03	0.07	98.68	0.07
93206.0	DOWNTOWN PIERS K1 (x11)	848	21	K1	2	1	0.0	0.06	0.03	0.07	98.75	0.07
93207.0	G ST. PIER MARINA L1 (x4)	850	21	L1	2	1	0.0	0.05	0.03	0.06	98.81	0.06
93208.0	G ST. PIER MARINA L1 (x5)	851	21	L1	2	1	0.0	0.05	0.03	0.06	98.87	0.06
93210.0	NAVAL BASE/SHIPYARDS O4 (x1)	863	22	O4	2	1	0.0	0.03	0.02	0.04	98.91	0.04
93211.0	NAVAL BASE/SHIPYARDS O4 (x2)	864	22	O4	2	1	0.0	0.03	0.02	0.04	98.95	0.04

**CDF calculations of percent area toxic for urchin development data in 100% pore water**

Stanum	Station	Idorg	Leg	Block#	# samps /blck	toxic	spd100-mn as % of control	Area/blck (km2)	Area/sample	Area/sample as % of total	Cum area/sample as % of total	% total area toxic (by sample)
93212.0	NAVAL BASE/SHIPYARDS O7 (x1)	866	22	O7	2	1	0.0	0.06	0.03	0.07	99.02	0.07
93213.0	NAVAL BASE/SHIPYARDS O7 (x4)	867	22	O7	2	1	2.9	0.06	0.03	0.07	99.09	0.07
93214.0	NAVAL BASE/SHIPYARDS O12 (x3)	869	22	O12	2	1	0.0	0.05	0.03	0.06	99.16	0.06
93215.0	NAVAL BASE/SHIPYARDS O12 (x4)	870	22	O12	2		45.3	0.05	0.03	0.06	99.22	0.00
93216.0	SUB BASE C2 (x1)	872	22	C2	2	1	0.0	0.02	0.01	0.02	99.24	0.02
93217.0	SUB BASE C2 (x3)	873	22	C2	2	1	0.0	0.02	0.01	0.02	99.27	0.02
93223.0	NAVAL BASE/SHIPYARD O10 (x2)	888	23	O10	2		105.9	0.09	0.05	0.11	99.38	0.00
93224.0	NAVAL BASE/SHIPYARD O10(x6)	889	23	O10	2		89.7	0.09	0.05	0.11	99.49	0.00
93225.0	NAVAL BASE/SHIPYARD O13 (x1)	891	23	O13	2		103.4	0.09	0.05	0.11	99.60	0.00
93226.0	NAVAL BASE/SHIPYARD O13 (x3)	892	23	O13	2		65.0	0.09	0.05	0.11	99.71	0.00
93227.0	SEVENTH ST CHANNEL Q1 (x5)	894	23	Q1	2	1	14.8	0.04	0.02	0.05	99.76	0.05
93228.0	SEVENTH ST CHANNEL Q1 (x6)	895	23	Q1	2		103.3	0.04	0.02	0.05	99.80	0.00
93229.0	MARINE TERMINAL R3 (x1)	897	23	R3	2	1	44.2	0.05	0.03	0.06	99.87	0.06
93230.0	MARINE TERMINAL R3 (x3)	898	23	R3	2	1	0.0	0.05	0.03	0.06	99.93	0.06
93231.0	CARRIER BASE V2 (x6)	1000	23	V2	2	1	0.0	0.03	0.02	0.04	99.96	0.04
93232.0	CARRIER BASE V2 (x7)	1001	23	V2	2	1	3.4	0.03	0.02	0.04	100.00	0.04
	SUMS								40.88			73.81

CDF calculations of percent area toxic for urchin development data in 50% pore water

Stanum	Station	ldorg	Leg	Block#	# samps per block	toxic	spd50-mn as % of control	Area/blck (km2)	Area/sample	Area/sample as % of total	Cum area/sample as % of sample	% total area toxic (by sample)
93105.0	MISSION BAY A1 (x1)	700	15	A1	1		102.9	0.33	0.33	0.81	0.81	0.00
93114.0	MISSION BAY A10 (x1)	709	15	A10	1	1	0.0	0.16	0.16	0.39	1.20	0.39
93115.0	MISSION BAY A11 (x1)	710	15	A11	1	1	0.0	0.15	0.15	0.37	1.57	0.37
93106.0	MISSION BAY A2 (x1)	701	15	A2	1		112.4	0.58	0.58	1.42	2.98	0.00
93107.0	MISSION BAY A3 (x1)	702	15	A3	1		103.0	0.46	0.46	1.13	4.11	0.00
93108.0	MISSION BAY A4 (x1)	703	15	A4	1		105.7	0.99	0.99	2.42	6.53	0.00
93109.0	MISSION BAY A5 (x1)	704	15	A5	1	1	18.6	0.74	0.74	1.81	8.34	1.81
93110.0	MISSION BAY A6 (x1)	705	15	A6	1	1	0.0	1.11	1.11	2.72	11.06	2.72
93111.0	MISSION BAY A7 (x3)	706	15	A7	1	1	0.0	0.81	0.81	1.98	13.04	1.98
93112.0	MISSION BAY A8 (x1)	707	15	A8	1	1	0.0	0.18	0.18	0.44	13.48	0.44
93113.0	MISSION BAY A9 (x1)	708	15	A9	1	1	0.8	0.61	0.61	1.49	14.97	1.49
93116.0	SAN DIEGO RIVER B1 (x4)	711	15	B1	1		58.1	0.26	0.26	0.64	15.61	0.00
93117.0	SAN DIEGO RIVER B2 (x2)	712	15	B2	1		112.1	0.24	0.24	0.59	16.19	0.00
93118.0	TIJUANA R. ESTUARY HH1 (x2)	713	15	HH1	2		87.7	0.09	0.05	0.11	16.30	0.00
93119.0	TIJUANA R. ESTUARY HH1 (x1)	714	15	HH1	2		40.1	0.09	0.05	0.11	16.41	0.00
93120.0	TIJUANA R. ESTUARY HH2 (x1)	715	15	HH2	2		106.4	0.13	0.07	0.16	16.57	0.00
93121.0	TIJUANA R. ESTUARY HH2 (x5)	716	15	HH2	2		114.7	0.13	0.07	0.16	16.73	0.00
93134.0	SOUTH SHORE-MOUTH BB2 (x1)	737	16	BB2	1		38.9	0.54	0.54	1.32	18.05	0.00
93135.0	SOUTH SHORE-MOUTH BB3 (x1)	738	16	BB3	1		65.5	0.51	0.51	1.25	19.30	0.00
93136.0	NORTH SHORE-MOUTH CC2 (x1)	739	16	CC2	1		48.6	0.75	0.75	1.83	21.14	0.00
93137.0	NORTH SHORE-MOUTH CC3 (x1)	740	16	CC3	1		79.3	1.64	1.64	4.01	25.15	0.00
93142.0	SOUTH SHORE-CORONADO DD1(X1)	752	16	DD1	1	1	0.0	0.35	0.35	0.86	26.00	0.86
93122.0	SOUTH SHORE-CORONADO DD3 (x1)	725	16	DD3	1	1	0.0	0.43	0.43	1.05	27.05	1.05
93138.0	SHELTER ISLAND E3 (x2)	741	16	E3	1	1	0.0	0.28	0.28	0.68	27.74	0.68
93139.0	COMMERCIAL BASIN F1 (x1)	742	16	F1	1	1	0.0	0.11	0.11	0.27	28.01	0.27
93140.0	COMMERCIAL BASIN F2 (x1)	743	16	F2	1	1	21.8	0.15	0.15	0.37	28.38	0.37
93141.0	COMMERCIAL BASIN F3 (x1)	744	16	F3	1	1	0.0	0.13	0.13	0.32	28.69	0.32
93123.0	SILVER STRAND FF1 (x1)	726	16	FF1	1	1	0.0	0.36	0.36	0.88	29.57	0.88
93124.0	SILVER STRAND FF2 (x1)	727	16	FF2	1	1	17.5	0.35	0.35	0.86	30.43	0.86
93125.0	SILVER STRAND FF4 (x4)	728	16	FF4	1	1	0.0	0.48	0.48	1.17	31.60	1.17
93126.0	SILVER STRAND FF7 (x2)	729	16	FF7	1		30.9	3.70	3.70	9.05	40.66	0.00
93127.0	SOUTH BAY GG2 (x1)	730	16	GG2	1	1	47.7	1.70	1.70	4.16	44.81	4.16
93129.0	SOUTH BAY GG4 (x1)	732	16	GG4	1	1	77.9	1.56	1.56	3.82	48.63	3.82
93128.0	SOUTHBAY GG5 (x1)	750	16	GG5	1		102.5	0.54	0.54	1.32	49.95	0.00

**CDF calculations of percent area toxic for urchin development data in 50% pore water**

Stationum	Station	Idorg	Leg	Block#	# samps per block	toxic	spd50-mn as % of control	Area/blck (km2)	Area/sample	Area/sample as % of total	Cum area/sample as % of sample	% total area toxic (by sample)
93131.0	CORONADO CAYS T1 (x1)	734	16	T1	1		100.4	0.12	0.12	0.29	50.24	0.00
93132.0	CORONADO CAYS T3 (x1)	735	16	T3	1		101.6	0.11	0.11	0.27	50.51	0.00
93148.0	CHANNEL-CORONADO Y1 (x2)	751	16	Y1	1	1	0.0	1.94	1.94	4.75	55.26	4.75
93133.0	CHANNEL-NAVAL BASE Z1 (x1)	736	16	Z1	2	1	3.4	2.34	1.17	2.86	58.12	2.86
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	760	17	AA1	1		94.2	0.70	0.70	1.71	59.83	0.00
93152.0	SOUTH SHORE-MOUTH BB1 (x1)	761	17	BB1	1	1	12.9	0.51	0.51	1.25	61.08	1.25
93153.0	NORTH SHORE-MOUTH CC1 (x1)	762	17	CC1	1		59.1	1.00	1.00	2.45	63.53	0.00
93154.0	NORTH SHORE-MOUTH CC4 (x1)	763	17	CC4	1	1	0.0	1.66	1.66	4.06	67.59	4.06
93143.0	FUEL PIERS D1 (x1)	753	17	D1	1		102.5	0.02	0.02	0.05	67.64	0.00
93155.0	SOUTH SHORE-CORONADO DD2 (x1)	764	17	DD2	1	1	0.0	0.24	0.24	0.59	68.22	0.59
93156.0	NORTH SHORE-CORONADO EE1 (x1)	765	17	EE1	1		102.6	0.42	0.42	1.03	69.25	0.00
93157.0	NORTH SHORE-CORONADO EE2 (x1)	766	17	EE2	1	1	0.0	0.31	0.31	0.76	70.01	0.76
93158.0	SOUTH BAY GG1 (x1)	767	17	GG1	1	1	0.0	1.82	1.82	4.45	74.46	4.45
93159.0	SOUTH BAY GG3 (x1)	768	17	GG3	1	1	0.0	0.10	0.10	0.24	74.71	0.24
93144.0	CAMPBELL SHIPYARDS N1 (x1)	754	17	N1	1	1	0.0	0.05	0.05	0.12	74.83	0.12
93145.0	CAMPBELL SHIPYARDS N2 (x1)	755	17	N2	1	1	0.0	0.04	0.04	0.10	74.93	0.10
93146.0	GLORIETTA BAY U2 (x1)	756	17	U2	1	1	1.1	0.06	0.06	0.15	75.07	0.15
93147.0	GLORIETTA BAY U3 (x1)	757	17	U3	1	1	17.0	0.09	0.09	0.22	75.29	0.22
93149.0	CHANNEL-MOUTH X1 (x1)	758	17	X1	1		22.1	1.27	1.27	3.11	78.40	0.00
93150.0	CHANNEL-NAVAL BASE Z1 (x2)	759	17	Z1	2		104.5	2.34	1.17	2.86	81.26	0.00
93161.0	SUB BASE C1 (x1)	774	18	C1	1		57.4	0.03	0.03	0.07	81.34	0.00
93162.0	SUB BASE C3 (x1)	775	18	C3	1		104.9	0.04	0.04	0.10	81.43	0.00
93163.0	FUEL PIERS D2 (x2)	776	18	D2	1		61.3	0.05	0.05	0.12	81.56	0.00
93164.0	SHELTER ISLAND E1 (x1)	777	18	E1	1		102.1	0.46	0.46	1.13	82.68	0.00
93172.0	SILVER STRAND FF3 (x1)	785	18	FF3	1		98.7	0.46	0.46	1.13	83.81	0.00
93173.0	SILVER STRAND FF6 (x1)	786	18	FF6	1	1	78.9	2.99	2.99	7.31	91.12	7.31
93165.0	NAVY ESTUARY G1 (x1)	778	18	G1	1		100.8	0.07	0.07	0.17	91.29	0.00
93166.0	NAVY ESTUARY G2 (x1)	779	18	G2	1	1	0.0	0.05	0.05	0.12	91.41	0.12
93167.0	NAVY ESTUARY G3 (x1)	780	18	G3	1	1	52.2	0.10	0.10	0.24	91.66	0.24
93168.0	WEST BASIN H2 (x1)	781	18	H2	1		103.5	0.28	0.28	0.68	92.34	0.00
93174.0	TIJUANA R. ESTUARY HH3 (x2)	787	18	HH3	2		101.3	0.08	0.04	0.10	92.44	0.00
93175.0	TIJUANA R. ESTUARY HH3 (x3)	788	18	HH3	2		92.9	0.08	0.04	0.10	92.54	0.00
93169.0	EAST BASIN I2 (x1)	782	18	I2	1		84.2	0.10	0.10	0.24	92.78	0.00
93170.0	CHOLLAS CREEK P1 (x2)	783	18	P1	1		100.9	0.03	0.03	0.07	92.86	0.00
93171.0	MARINE TERMINAL R1 (x1)	784	18	R1	1		96.0	0.22	0.22	0.54	93.40	0.00

CDF calculations of percent area toxic for urchin development data in 50% pore water

Stanum	Station	Idorg	Leg	Block#	# samps per block	toxic	spd50-mn as % of control	Area/bick (km2)	Area/sample	Area/sample as % of total	Cum area/sample as % of sample	% total area toxic (by sample)
93186.0	FUEL PIER D4 (x1)	804	19	D4	1	1	9.2	0.02	0.02	0.05	93.44	0.05
93177.0	NAVAL SHIPYARDS O1 (x1)	795	19	O1	1		104.0	0.05	0.05	0.12	93.57	0.00
93184.0	NAVAL SHIPYARDS O11 (x1)	802	19	O11	1		108.0	0.09	0.09	0.22	93.79	0.00
93185.0	NAVAL SHIPYARDS O14 (x1)	803	19	O14	1	1	32.0	0.29	0.29	0.71	94.50	0.71
93178.0	NAVAL SHIPYARDS O2 (x1)	796	19	O2	1	1	0.0	0.04	0.04	0.10	94.59	0.10
93179.0	NAVAL SHIPYARDS O3 (x1)	797	19	O3	1	1	58.7	0.05	0.05	0.12	94.72	0.12
93181.0	NAVAL SHIPYARDS O6 (x1)	799	19	O6	1		104.2	0.09	0.09	0.22	94.94	0.00
93182.0	NAVAL SHIPYARDS O8 (x4)	800	19	O8	1	1	0.0	0.06	0.06	0.15	95.08	0.15
93183.0	NAVAL SHIPYARDS O9 (x1)	801	19	O9	1		108.8	0.18	0.18	0.44	95.52	0.00
93187.0	MARINE TERMINAL R2 (x1)	805	19	R2	1	1	0.0	0.27	0.27	0.66	96.18	0.66
93188.0	CARRIER BASE V1 (x2)	806	19	V1	1	1	0.0	0.06	0.06	0.15	96.33	0.15
93190.0	MARINA II1 (x1)	816	20	II1	2	1	0.0	0.08	0.04	0.10	96.43	0.10
93191.0	MARINA II1 (x3)	817	20	II1	2	1	0.0	0.08	0.04	0.10	96.53	0.10
93192.0	INTERCONT. MARINA M1 (x2)	819	20	M1	2	1	22.1	0.10	0.05	0.12	96.65	0.12
93193.0	INTERCONT. MARINA M1 (x1)	820	20	M1	2	1	0.0	0.10	0.05	0.12	96.77	0.12
93196.0	CHULA V. YACHT BASIN S1 (x1)	825	20	S1	2		94.2	0.18	0.09	0.22	96.99	0.00
93197.0	CHULA V. YACHT BASIN S1 (x3)	826	20	S1	2		94.7	0.18	0.09	0.22	97.21	0.00
93194.0	GLORIETTA BAY U1 (x1)	822	20	U1	2	1	0.0	0.06	0.03	0.07	97.28	0.07
93195.0	GLORIETTA BAY U1 (x2)	823	20	U1	2	1	0.0	0.06	0.03	0.07	97.36	0.07
93199.0	WEST BASIN H1 (x1)	838	21	H1	2		98.1	0.20	0.10	0.24	97.60	0.00
93200.0	WEST BASIN H1 (x4)	839	21	H1	2		90.8	0.20	0.10	0.24	97.85	0.00
93201.0	EAST BASIN I1 (x1)	841	21	I1	2	1	0.0	0.11	0.06	0.13	97.98	0.13
93202.0	EAST BASIN I1 (x5)	842	21	I1	2		30.7	0.11	0.06	0.13	98.12	0.00
93205.0	DOWNTOWN PIERS K1 (x9)	847	21	K1	2	1	0.0	0.06	0.03	0.07	98.19	0.07
93206.0	DOWNTOWN PIERS K1 (x11)	848	21	K1	2	1	0.0	0.06	0.03	0.07	98.26	0.07
93207.0	G ST. PIER MARINA L1 (x4)	850	21	L1	2	1	0.0	0.05	0.03	0.06	98.32	0.06
93208.0	G ST. PIER MARINA L1 (x5)	851	21	L1	2	1	0.0	0.05	0.03	0.06	98.39	0.06
93203.0	CORONADO CAYS T2 (x1)	844	21	T2	2		67.6	0.14	0.07	0.17	98.56	0.00
93204.0	CORONADO CAYS T2 (x2)	845	21	T2	2	1	0.0	0.14	0.07	0.17	98.73	0.17
93216.0	SUB BASE C2 (x1)	872	22	C2	2	1	4.5	0.02	0.01	0.02	98.75	0.02
93217.0	SUB BASE C2 (x3)	873	22	C2	2	1	68.5	0.02	0.01	0.02	98.78	0.02
93214.0	NAVAL BASE/SHIPYARDS O12 (x3)	869	22	O12	2		99.6	0.05	0.03	0.06	98.84	0.00
93215.0	NAVAL BASE/SHIPYARDS O12 (x4)	870	22	O12	2		100.3	0.05	0.03	0.06	98.90	0.00
93210.0	NAVAL BASE/SHIPYARDS O4 (x1)	863	22	O4	2	1	0.0	0.03	0.02	0.04	98.94	0.04
93211.0	NAVAL BASE/SHIPYARDS O4 (x2)	864	22	O4	2	1	73.2	0.03	0.02	0.04	98.97	0.04



**CDF calculations of percent area toxic for urchin development data in 50% pore water**

Stanum	Station	ldorg	Leg	Block#	# samps per block	toxic	spd50-mn as % of control	Area/blck (km2)	Area/sample	Area/sample as % of total	Cum area/sample as % of sample	% total area toxic (by sample)
93180.0	NAVAL BASE/SHIPYARDS O5 (x1)	798	22	O5	1		84.8	0.06	0.06	0.15	99.12	0.00
93212.0	NAVAL BASE/SHIPYARDS O7 (x1)	866	22	O7	2	1	0.0	0.06	0.03	0.07	99.19	0.07
93213.0	NAVAL BASE/SHIPYARDS O7 (x4)	867	22	O7	2	1	0.0	0.06	0.03	0.07	99.27	0.07
93223.0	NAVAL BASE/SHIPYARD O10 (x2)	888	23	O10	2		104.7	0.09	0.05	0.11	99.38	0.00
93224.0	NAVAL BASE/SHIPYARD O10(x6)	889	23	O10	2		107.3	0.09	0.05	0.11	99.49	0.00
93225.0	NAVAL BASE/SHIPYARD O13 (x1)	891	23	O13	2		104.2	0.09	0.05	0.11	99.60	0.00
93226.0	NAVAL BASE/SHIPYARD O13 (x3)	892	23	O13	2		107.1	0.09	0.05	0.11	99.71	0.00
93227.0	SEVENTH ST CHANNEL Q1 (x5)	894	23	Q1	2		102.9	0.04	0.02	0.05	99.76	0.00
93228.0	SEVENTH ST CHANNEL Q1 (x6)	895	23	Q1	2		104.2	0.04	0.02	0.05	99.80	0.00
93229.0	MARINE TERMINAL R3 (x1)	897	23	R3	2	1	28.0	0.05	0.03	0.06	99.87	0.06
93230.0	MARINE TERMINAL R3 (x3)	898	23	R3	2	1	8.6	0.05	0.03	0.06	99.93	0.06
93231.0	CARRIER BASE V2 (x6)	1000	23	V2	2	1	0.0	0.03	0.02	0.04	99.96	0.04
93232.0	CARRIER BASE V2 (x7)	1001	23	V2	2	1	0.0	0.03	0.02	0.04	100.00	0.04
	SUMS								40.88			54.42

CDF calculations of percent area toxic for urchin development in 25% pore water

Stanum	Station	Idorg	Leg	Block#	# samps /blck	toxic	mn-spd25 as % of control	Area/blck (km2)	Area/sample	Area/sample as % of total	Cum area/sample as % of total	% total area toxic (by sample)
93186.0	FUEL PIER D4 (x1)	804	19	D4	1		107.1	0.02	0.02	0.06	92.38	0.00
93177.0	NAVAL SHIPYARDS O1 (x1)	795	19	O1	1		109.4	0.05	0.05	0.14	92.52	0.00
93184.0	NAVAL SHIPYARDS O11 (x1)	802	19	O11	1		105.6	0.09	0.09	0.26	92.77	0.00
93185.0	NAVAL SHIPYARDS O14 (x1)	803	19	O14	1		104.7	0.29	0.29	0.83	93.60	0.00
93178.0	NAVAL SHIPYARDS O2 (x1)	796	19	O2	1		18.6	0.04	0.04	0.11	93.71	0.00
93179.0	NAVAL SHIPYARDS O3 (x1)	797	19	O3	1		106.9	0.05	0.05	0.14	93.85	0.00
93181.0	NAVAL SHIPYARDS O6 (x1)	799	19	O6	1		105.9	0.09	0.09	0.26	94.11	0.00
93182.0	NAVAL SHIPYARDS O8 (x4)	800	19	O8	1	1	14.9	0.06	0.06	0.17	94.28	0.17
93183.0	NAVAL SHIPYARDS O9 (x1)	801	19	O9	1		106.0	0.18	0.18	0.51	94.79	0.00
93187.0	MARINE TERMINAL R2 (x1)	805	19	R2	1		68.2	0.27	0.27	0.77	95.56	0.00
93188.0	CARRIER BASE V1 (x2)	806	19	V1	1	1	0.0	0.06	0.06	0.17	95.73	0.17
93190.0	MARINA II1 (x1)	816	20	II1	2	1	62.5	0.08	0.04	0.11	95.85	0.11
93191.0	MARINA II1 (x3)	817	20	II1	2		93.9	0.08	0.04	0.11	95.96	0.00
93192.0	INTERCONT. MARINA M1 (x2)	819	20	M1	2		97.6	0.10	0.05	0.14	96.10	0.00
93193.0	INTERCONT. MARINA M1 (x1)	820	20	M1	2	1	0.0	0.10	0.05	0.14	96.24	0.14
93196.0	CHULA V. YACHT BASIN S1 (x1)	825	20	S1	2		97.3	0.18	0.09	0.26	96.50	0.00
93197.0	CHULA V. YACHT BASIN S1 (x3)	826	20	S1	2		96.3	0.18	0.09	0.26	96.76	0.00
93194.0	GLORIETTA BAY U1 (x1)	822	20	U1	2	1	48.7	0.06	0.03	0.09	96.84	0.09
93195.0	GLORIETTA BAY U1 (x2)	823	20	U1	2	1	0.0	0.06	0.03	0.09	96.93	0.09
93199.0	WEST BASIN H1 (x1)	838	21	H1	2		105.7	0.20	0.10	0.28	97.21	0.00
93200.0	WEST BASIN H1 (x4)	839	21	H1	2		99.4	0.20	0.10	0.28	97.50	0.00
93201.0	EAST BASIN I1 (x1)	841	21	I1	2		72.0	0.11	0.06	0.16	97.65	0.00
93202.0	EAST BASIN I1 (x5)	842	21	I1	2		78.1	0.11	0.06	0.16	97.81	0.00
93205.0	DOWNTOWN PIERS K1 (x9)	847	21	K1	2	1	0.0	0.06	0.03	0.09	97.89	0.09
93206.0	DOWNTOWN PIERS K1 (x11)	848	21	K1	2	1	0.0	0.06	0.03	0.09	97.98	0.09
93207.0	G ST. PIER MARINA L1 (x4)	850	21	L1	2	1	0.0	0.05	0.03	0.07	98.05	0.07
93208.0	G ST. PIER MARINA L1 (x5)	851	21	L1	2	1	0.0	0.05	0.03	0.07	98.12	0.07
93203.0	CORONADO CAYS T2 (x1)	844	21	T2	2		109.4	0.14	0.07	0.20	98.32	0.00
93204.0	CORONADO CAYS T2 (x2)	845	21	T2	2	1	0.0	0.14	0.07	0.20	98.52	0.20
93216.0	SUB BASE C2 (x1)	872	22	C2	2		80.1	0.02	0.01	0.03	98.55	0.00
93217.0	SUB BASE C2 (x3)	873	22	C2	2		101.6	0.02	0.01	0.03	98.58	0.00
93214.0	NAVAL BASE/SHIPYARDS O12 (x3)	869	22	O12	2		102.3	0.05	0.03	0.07	98.65	0.00
93215.0	NAVAL BASE/SHIPYARDS O12 (x4)	870	22	O12	2		102.2	0.05	0.03	0.07	98.72	0.00
93210.0	NAVAL BASE/SHIPYARDS O4 (x1)	863	22	O4	2		55.9	0.03	0.02	0.04	98.76	0.00
93211.0	NAVAL BASE/SHIPYARDS O4 (x2)	864	22	O4	2		97.6	0.03	0.02	0.04	98.81	0.00

CDF calculations of percent area toxic for urchin development in 25% pore water

Stanum	Station	ldorg	Leg	Block#	# samps /blk	toxic	mn-spd25 as % of control	Area/blk (km2)	Area/sample	Area/sample as % of total	Cum area/sample as % of total	% total area toxic (by sample)
93131.0	CORONADO CAYS T1 (x1)	734	16	T1	1		97.1	0.12	0.12	0.34	58.44	0.00
93132.0	CORONADO CAYS T3 (x1)	735	16	T3	1		100.0	0.11	0.11	0.31	58.75	0.00
93148.0	CHANNEL-CORONADO Y1 (x2)	751	16	Y1	1	1	0.0	1.94	1.94	5.52	64.27	5.52
93133.0	CHANNEL-NAVAL BASE Z1 (x1)	736	16	Z1	2	1	71.1	2.34	1.17	3.33	67.60	3.33
93151.0	CHANNEL-SOUTH BAY AA1 (x1)	760	17	AA1	1						67.60	
93152.0	SOUTH SHORE-MOUTH BB1 (x1)	761	17	BB1	1		90.0	0.51	0.51	1.45	69.05	0.00
93153.0	NORTH SHORE-MOUTH CC1 (x1)	762	17	CC1	1		102.0	1.00	1.00	2.84	71.89	0.00
93154.0	NORTH SHORE-MOUTH CC4 (x1)	763	17	CC4	1	1	0.0	1.66	1.66	4.72	76.61	4.72
93143.0	FUEL PIERS D1 (x1)	753	17	D1	1		103.7	0.02	0.02	0.06	76.67	0.00
93155.0	SOUTH SHORE-CORONADO DD2 (x1)	764	17	DD2	1	1	0.0	0.24	0.24	0.68	77.35	0.68
93156.0	NORTH SHORE-CORONADO EE1 (x1)	765	17	EE1	1		102.5	0.42	0.42	1.19	78.55	0.00
93157.0	NORTH SHORE-CORONADO EE2 (x1)	766	17	EE2	1	1	6.8	0.31	0.31	0.88	79.43	0.88
93158.0	SOUTH BAY GG1 (x1)	767	17	GG1	1						79.43	
93159.0	SOUTH BAY GG3 (x1)	768	17	GG3	1	1	0.0	0.10	0.10	0.28	79.72	0.28
93144.0	CAMPBELL SHIPYARDS N1 (x1)	754	17	N1	1	1	1.8	0.05	0.05	0.14	79.86	0.14
93145.0	CAMPBELL SHIPYARDS N2 (x1)	755	17	N2	1		103.8	0.04	0.04	0.11	79.97	0.00
93146.0	GLORIETTA BAY U2 (x1)	756	17	U2	1		95.9	0.06	0.06	0.17	80.14	0.00
93147.0	GLORIETTA BAY U3 (x1)	757	17	U3	1		104.8	0.09	0.09	0.26	80.40	0.00
93149.0	CHANNEL-MOUTH X1 (x1)	758	17	X1	1		63.7	1.27	1.27	3.61	84.01	0.00
93150.0	CHANNEL-NAVAL BASE Z1 (x2)	759	17	Z1	2		100.5	2.34	1.17	3.33	87.34	0.00
93161.0	SUB BASE C1 (x1)	774	18	C1	1		90.0	0.03	0.03	0.09	87.43	0.00
93162.0	SUB BASE C3 (x1)	775	18	C3	1		98.3	0.04	0.04	0.11	87.54	0.00
93163.0	FUEL PIERS D2 (x2)	776	18	D2	1		105.3	0.05	0.05	0.14	87.68	0.00
93164.0	SHELTER ISLAND E1 (x1)	777	18	E1	1		100.0	0.46	0.46	1.31	88.99	0.00
93172.0	SILVER STRAND FF3 (x1)	785	18	FF3	1		98.2	0.46	0.46	1.31	90.30	0.00
93173.0	SILVER STRAND FF6 (x1)	786	18	FF6	1						90.30	
93165.0	NAVY ESTUARY G1 (x1)	778	18	G1	1						90.30	
93166.0	NAVY ESTUARY G2 (x1)	779	18	G2	1						90.30	
93167.0	NAVY ESTUARY G3 (x1)	780	18	G3	1						90.30	
93168.0	WEST BASIN H2 (x1)	781	18	H2	1		99.3	0.28	0.28	0.80	91.10	0.00
93174.0	TIJUANA R. ESTUARY HH3 (x2)	787	18	HH3	2		101.4	0.08	0.04	0.11	91.21	0.00
93175.0	TIJUANA R. ESTUARY HH3 (x3)	788	18	HH3	2		53.5	0.08	0.04	0.11	91.32	0.00
93169.0	EAST BASIN I2 (x1)	782	18	I2	1		87.4	0.10	0.10	0.28	91.61	0.00
93170.0	CHOLLAS CREEK P1 (x2)	783	18	P1	1		97.1	0.03	0.03	0.09	91.69	0.00
93171.0	MARINE TERMINAL R1 (x1)	784	18	R1	1		95.8	0.22	0.22	0.63	92.32	0.00

**CDF calculations of percent area toxic for urchin development in 25% pore water**

Stanum	Station	ldorg	Leg	Block#	# samps /blck	toxic	mn-spd25 as % of control	Area/blck (km2)	Area/sample	Area/sample as % of total	Cum area/sample as % of total	% total area toxic (by sample)
93186.0	FUEL PIER D4 (x1)	804	19	D4	1		107.1	0.02	0.02	0.06	92.38	0.00
93177.0	NAVAL SHIPYARDS O1 (x1)	795	19	O1	1		109.4	0.05	0.05	0.14	92.52	0.00
93184.0	NAVAL SHIPYARDS O11 (x1)	802	19	O11	1		105.6	0.09	0.09	0.26	92.77	0.00
93185.0	NAVAL SHIPYARDS O14 (x1)	803	19	O14	1		104.7	0.29	0.29	0.83	93.60	0.00
93178.0	NAVAL SHIPYARDS O2 (x1)	796	19	O2	1		18.6	0.04	0.04	0.11	93.71	0.00
93179.0	NAVAL SHIPYARDS O3 (x1)	797	19	O3	1		106.9	0.05	0.05	0.14	93.85	0.00
93181.0	NAVAL SHIPYARDS O6 (x1)	799	19	O6	1		105.9	0.09	0.09	0.26	94.11	0.00
93182.0	NAVAL SHIPYARDS O8 (x4)	800	19	O8	1	1	14.9	0.06	0.06	0.17	94.28	0.17
93183.0	NAVAL SHIPYARDS O9 (x1)	801	19	O9	1		106.0	0.18	0.18	0.51	94.79	0.00
93187.0	MARINE TERMINAL R2 (x1)	805	19	R2	1		68.2	0.27	0.27	0.77	95.56	0.00
93188.0	CARRIER BASE V1 (x2)	806	19	V1	1	1	0.0	0.06	0.06	0.17	95.73	0.17
93190.0	MARINA II1 (x1)	816	20	II1	2	1	62.5	0.08	0.04	0.11	95.85	0.11
93191.0	MARINA II1 (x3)	817	20	II1	2		93.9	0.08	0.04	0.11	95.96	0.00
93192.0	INTERCONT. MARINA M1 (x2)	819	20	M1	2		97.6	0.10	0.05	0.14	96.10	0.00
93193.0	INTERCONT. MARINA M1 (x1)	820	20	M1	2	1	0.0	0.10	0.05	0.14	96.24	0.14
93196.0	CHULA V. YACHT BASIN S1 (x1)	825	20	S1	2		97.3	0.18	0.09	0.26	96.50	0.00
93197.0	CHULA V. YACHT BASIN S1 (x3)	826	20	S1	2		96.3	0.18	0.09	0.26	96.76	0.00
93194.0	GLORIETTA BAY U1 (x1)	822	20	U1	2	1	48.7	0.06	0.03	0.09	96.84	0.09
93195.0	GLORIETTA BAY U1 (x2)	823	20	U1	2	1	0.0	0.06	0.03	0.09	96.93	0.09
93199.0	WEST BASIN H1 (x1)	838	21	H1	2		105.7	0.20	0.10	0.28	97.21	0.00
93200.0	WEST BASIN H1 (x4)	839	21	H1	2		99.4	0.20	0.10	0.28	97.50	0.00
93201.0	EAST BASIN I1 (x1)	841	21	I1	2		72.0	0.11	0.06	0.16	97.65	0.00
93202.0	EAST BASIN I1 (x5)	842	21	I1	2		78.1	0.11	0.06	0.16	97.81	0.00
93205.0	DOWNTOWN PIERS K1 (x9)	847	21	K1	2	1	0.0	0.06	0.03	0.09	97.89	0.09
93206.0	DOWNTOWN PIERS K1 (x11)	848	21	K1	2	1	0.0	0.06	0.03	0.09	97.98	0.09
93207.0	G ST. PIER MARINA L1 (x4)	850	21	L1	2	1	0.0	0.05	0.03	0.07	98.05	0.07
93208.0	G ST. PIER MARINA L1 (x5)	851	21	L1	2	1	0.0	0.05	0.03	0.07	98.12	0.07
93203.0	CORONADO CAYS T2 (x1)	844	21	T2	2		109.4	0.14	0.07	0.20	98.32	0.00
93204.0	CORONADO CAYS T2 (x2)	845	21	T2	2	1	0.0	0.14	0.07	0.20	98.52	0.20
93216.0	SUB BASE C2 (x1)	872	22	C2	2		80.1	0.02	0.01	0.03	98.55	0.00
93217.0	SUB BASE C2 (x3)	873	22	C2	2		101.6	0.02	0.01	0.03	98.58	0.00
93214.0	NAVAL BASE/SHIPYARDS O12 (x3)	869	22	O12	2		102.3	0.05	0.03	0.07	98.65	0.00
93215.0	NAVAL BASE/SHIPYARDS O12 (x4)	870	22	O12	2		102.2	0.05	0.03	0.07	98.72	0.00
93210.0	NAVAL BASE/SHIPYARDS O4 (x1)	863	22	O4	2		55.9	0.03	0.02	0.04	98.76	0.00
93211.0	NAVAL BASE/SHIPYARDS O4 (x2)	864	22	O4	2		97.6	0.03	0.02	0.04	98.81	0.00

**CDF calculations of percent area toxic for urchin development in 25% pore water**

Stanum	Station	ldorg	Leg	Block#	# samps /blk	toxic	mn-spd25 as % of control	Area/blk (km2)	Area/sample	Area/sample as % of total	Cum area/sample as % of total	% total area toxic (by sample)
93180.0	NAVAL BASE/SHIPYARDS O5 (x1)	798	22	O5	1		97.8	0.06	0.06	0.17	98.98	0.00
93212.0	NAVAL BASE/SHIPYARDS O7 (x1)	866	22	O7	2	1	0.7	0.06	0.03	0.09	99.06	0.09
93213.0	NAVAL BASE/SHIPYARDS O7 (x4)	867	22	O7	2		88.9	0.06	0.03	0.09	99.15	0.00
93223.0	NAVAL BASE/SHIPYARD O10 (x2)	888	23	O10	2		105.3	0.09	0.05	0.13	99.27	0.00
93224.0	NAVAL BASE/SHIPYARD O10(x6)	889	23	O10	2		104.2	0.09	0.05	0.13	99.40	0.00
93225.0	NAVAL BASE/SHIPYARD O13 (x1)	891	23	O13	2		103.3	0.09	0.05	0.13	99.53	0.00
93226.0	NAVAL BASE/SHIPYARD O13 (x3)	892	23	O13	2		106.9	0.09	0.05	0.13	99.66	0.00
93227.0	SEVENTH ST CHANNEL Q1 (x5)	894	23	Q1	2		101.8	0.04	0.02	0.06	99.72	0.00
93228.0	SEVENTH ST CHANNEL Q1 (x6)	895	23	Q1	2		97.7	0.04	0.02	0.06	99.77	0.00
93229.0	MARINE TERMINAL R3 (x1)	897	23	R3	2		98.9	0.05	0.03	0.07	99.84	0.00
93230.0	MARINE TERMINAL R3 (x3)	898	23	R3	2		86.3	0.05	0.03	0.07	99.91	0.00
93231.0	CARRIER BASE V2 (x6)	1000	23	V2	2	1	0.0	0.03	0.02	0.04	99.96	0.04
93232.0	CARRIER BASE V2 (x7)	1001	23	V2	2	1	46.8	0.03	0.02	0.04	100.00	0.04
	SUMS								35.15			29.39